



SPECIAL PLANNING COMMISSION MEETING AGENDA

Thursday, January 19, 2023

6:00 PM

**CITY COUNCIL CHAMBERS, CITY HALL
7351 ROSANNA STREET, GILROY, CA 95020**

Commissioners:

Manny Bhandal
manny.bhandal@cityofgilroy.org

Stefanie Elle
stefanie.elle@cityofgilroy.org

Joan Lewis
joan.lewis@cityofgilroy.org

Annedore Kushner
annedore.kushner@cityofgilroy.org

Adriana Leongardt
adriana.leongardt@cityofgilroy.org

Kelly Ramirez
kelly.ramirez@cityofgilroy.org

Michelle Montez
michelle.montez@cityofgilroy.org

Staff Liaison: Sharon Goei, Community Development Director | sharon.goei@cityofgilroy.org

Written comments can be submitted by email to planningdivision@cityofgilroy.org Please note that written comments will not be read out loud, but will be part of the written record.

Comments by the public will be taken on any agenda item before action is taken by the Planning Commission. Persons speaking on any matter are asked to state their name and address for the record. Public testimony is subject to reasonable regulations, including but not limited to time restrictions on particular issues and for each individual speaker. A minimum of 12 copies of materials should be provided to the Clerk for distribution to the Commission and Staff. Public comments are limited to no more than three-minutes, at the Chair's discretion.

Comments on any agenda item may be emailed to the Planning Division at planningdivision@cityofgilroy.org or mailed to the City of Gilroy, Community Development Department at City Hall, 7351 Rosanna Street, Gilroy, CA 95020. Comments received by the Planning Division by 1:00pm on the day of a Planning Commission meeting will be distributed to the Planning Commissioners prior to or at the meeting and are available for public inspection at the Planning Division counter at City Hall, 7351 Rosanna Street. Any correspondence received will be incorporated into the meeting record. Items received after the 1:00pm deadline will be provided to the Planning Commission as soon as practicable.

In compliance with the American Disabilities Act (ADA), the City will make reasonable arrangements to ensure accessibility to this meeting. If you need special assistance to participate in this meeting, please contact the City Clerk 72 hours prior to the meeting at (408) 846-0491. A sound enhancement system is available in the City Council Chambers.

If you challenge any planning or land use decision made at this meeting in court, you may be limited to raising only those issues you or someone else raised at the public hearing held at this

meeting, or in written correspondence delivered to the Planning Commission at, or prior to, the public hearing. Please take notice that the time within which to seek judicial review of any final administrative determination reached at this meeting is governed by Section 1094.6 of the California Code of Civil Procedure.

Persons who wish to speak on matters set for Public Hearing will be heard when the presiding officer calls for comments from those persons who are in support of or in opposition thereto. After persons have spoken, the hearing is closed and brought to the Planning Commission level for discussion and action. There is no further comment permitted from the audience unless requested by the Planning Commission.

A Closed Session may be called during this meeting pursuant to Government Code Section 54956.9(b)(1) if a point has been reached where, in the opinion of the legislative body of the City on the advice of its legal counsel, based on existing facts and circumstances, there is a significant exposure to litigation against the City.

Materials related to an item on this agenda submitted to the Planning Commission after distribution of the agenda packet are available for public inspection with the agenda packet in the lobby of Administration at City Hall, 7351 Rosanna Street during normal business hours. These materials are also available with the agenda packet on the City website at www.cityofgilroy.org

KNOW YOUR RIGHTS UNDER THE GILROY OPEN GOVERNMENT ORDINANCE.

Government's duty is to serve the public, reaching its decisions in full view of the public. Commissions, task forces, councils and other agencies of the City exist to conduct the people's business. This ordinance assures that deliberations are conducted before the people and that City operations are open to the people's review.

FOR MORE INFORMATION ON YOUR RIGHTS UNDER THE OPEN GOVERNMENT ORDINANCE, TO RECEIVE A FREE COPY OF THE ORDINANCE OR TO REPORT A VIOLATION OF THE ORDINANCE, CONTACT THE OPEN GOVERNMENT COMMISSION STAFF AT (408) 846-0204 or by email at cityclerk@cityofgilroy.org.

1. **OPENING (2022 Vice Chair)**
2. **PLEDGE OF ALLEGIANCE**
3. **REPORT ON POSTING THE AGENDA AND ROLL CALL**
4. **ELECT CHAIR AND VICE CHAIR FOR 2023**
5. **PUBLIC COMMENTS**

(Three-minute time limit). This portion of the meeting is reserved for persons desiring to address the Planning Commission on matters not on the agenda. The law does not permit the Planning Commission action or extended discussion of any item not on the agenda except under special circumstances. Comments on any agenda item may be emailed to the Planning Division at planningdivision@cityofgilroy.org or mailed to Community Development Department at City Hall, 7351 Rosanna Street, Gilroy, CA 95020. Comments received by the Planning Division by 1:00pm on the day of a Planning Commission meeting will be distributed to the Planning Commission prior to or at the meeting and available for public inspection with the agenda packet located in the lobby of Planning Division at City Hall, 7351 Rosanna Street prior to the meeting. Any correspondences received will be incorporated into the meeting record. Items received after 1:00pm deadline will be provided

to the Planning Commission as soon as practicable. All statements that require a response will be referred to staff for reply in writing.

PUBLIC HEARINGS FOR RELATED PROJECT APPLICATIONS WILL BE HEARD CONCURRENTLY AND ACTION WILL BE TAKEN INDIVIDUALLY. COMPANION PROJECTS UNDER NEW BUSINESS WILL BE TAKEN UP FOR ACTION PRIOR TO, OR IMMEDIATELY FOLLOWING THE RELATED PUBLIC HEARING. THIS REQUIRES DEVIATION IN THE ORDER OF BUSINESS AS NOTED WITHIN THE AGENDA.

6. CONSENT AGENDA

- 6.1. October 6, 2022 – Planning Commission Regular Meeting Minutes
 October 20, 2022 – Planning Commission Special Meeting Minutes

7. PUBLIC HEARINGS

- 7.1. Proposed Tentative Map to divide 6955 Camino Arroyo into two parcels, Application No. TM 22-05
 - 1. Staff Report: Kraig Tambornini, Senior Planner
 - 2. Open Public Hearing
 - 3. Close Public Hearing
 - 4. Planning Commission Disclosure of Ex-Parte Communications
 - 5. Possible Action:
 Staff has analyzed the proposed project, and recommends that the Planning Commission:
 - a) Recommend that the City Council, based on its independent analysis, determine that the proposed Tentative Map is exempt from further environmental review and qualifies for the State CEQA Guidelines Class 15 Exemption, Minor Land Divisions, because the proposed subdivision results in less than four parcels, is in conformance with the City's General Plan and Zoning, seeks no exceptions or variances, and all services and access to the resulting parcels is available; and
 - b) Adopt a resolution recommending that the City Council approve the proposed tentative map to divide the property known as APN 841-70-045 into two separate parcels.
- 7.2. Electronic Billboard Ordinance and Initial Study/Mitigated Negative Declaration (IS/MND) (Z 18-04)
 - 1. Staff Report: Cindy McCormick, Customer Service Manager
 - 2. Open Public Hearing
 - 3. Close Public Hearing
 - 4. Planning Commission Disclosure of Ex-Parte Communications
 - 5. Possible Action:
 Staff has analyzed the proposed project, and recommends that the Planning Commission:
 - a) Recommend that the City Council adopt the Mitigated Negative Declaration (MND), based on its independent analysis that MND was completed in compliance with the California Environmental Quality Act (CEQA); find that there is no substantial evidence that the project will have a significant effect on

the environment; and that the MND reflects the City's independent judgment and analysis; and

- b) Adopt a resolution recommending that the City Council adopt an ordinance (Z 18-04), approving changes to Section 30.37.30 (Prohibited Signs), Section 30.37.50 (Commercial and Industrial Districts), and Section 30.37.51 (Freeway Oriented Signs) and creating a new Zoning Ordinance Article LV (Electronic Billboards

8. **NEW BUSINESS**

- 8.1 Planning Commissioner Training – An overview of the role of the Planning Commissioner and the various rules, policies, and procedures that are components of a Planning Commission meeting (presentation will be provided at the meeting)

9. **INFORMATIONAL ITEMS**

- 9.1. Planning Division Staff Approvals

10. **PLANNING DIVISION REPORT**

11. **ASSISTANT CITY ATTORNEY REPORT**

12. **ADJOURNMENT** To the Next Meeting of February 2, 2023 at 6:00 PM

**Planning Commission
Regular Meeting
of
OCTOBER 6, 2022**

I. OPENING

Tonight's meeting was called to order by Vice Chair Kushner.

II. PLEDGE OF ALLEGIANCE

Commissioner Elle led the pledge of allegiance.

III. REPORT ON POSTING THE AGENDA AND ROLL CALL

Tonight's agenda was posted on Friday, September 30, 2022 at 3:26 pm.

Attendee Name	Title	Status	Arrived
Manny Bhandal	Chairperson	Absent	
Annedore Kushner	Vice Chair	Present	5:54 PM
Stefanie Elle	Planning Commissioner	Present	5:46 PM
Adriana Leongardt	Planning Commissioner	Present	5:51 PM
Joan Lewis	Planning Commissioner	Present	5:48 PM
Adilene Jezabel Moreno	Planning Commissioner	Present	5:53 PM

IV. PUBLIC COMMENTS

Vice Chair Kushner opened public comment for items not on the agenda.

Alberto Lustre spoke about labor standards as a requirement for future developments in the City of Gilroy supporting and benefiting local workers while balancing inflation.

There being no further speakers, Vice Chair Kushner closed public comment for items not on the agenda.

V. CONSENT AGENDA

Motion made by Commissioner Lewis; seconded by Commissioner Elle to approve the consent agenda.

5-0-0-1

RESULT:	APPROVE [UNANIMOUS]
MOVER:	Joan Lewis, Planning Commissioner
SECONDER:	Stefanie Elle, Planning Commissioner
AYES:	Kushner, Elle, Leongardt, Lewis, Moreno

VI. CONTINUED PUBLIC HEARINGS

No Items.

VII. SANTA CLARA VALLEY TRANSPORTATION AUTHORITY BICYCLE AND PEDESTRIAN ADVISORY COMMITTEE UPDATE

No report.

VIII. PUBLIC HEARINGS

- A. Staff has analyzed the proposed project, and recommends that the Planning Commission:
Adopt a resolution recommending that the City Council approve the Zone Change request Z 21-05; and
Adopt a resolution recommending that the City Council approve the Vesting Tentative Map request TM 21-04; and
Adopt a resolution recommending that the City Council approve the Architectural and Site Review Permit AS 21-17.

1. Staff Report: Kraig Tambornini, Senior Planner
2. Public Comment
3. Planning Commission Disclosure of Ex-Parte Communications
4. Possible Action:

a) Adopt a resolution recommending that the City Council approve the Zone Change request Z 21-05

Senior Planner Tambornini presented the staff report.

Vice Chair Kushner opened Public Comment.

The following speakers spoke:

Mae Valentino Pickett
Rodney Valentino Pickett
Blanca Ramirez
Renee Rocca

Vice Chair Kushner closed Public Comment.

Motion made by Vice Chair Kushner; seconded by Commissioner Elle to adopt a resolution recommending the City Council approve Z 21-05 Zone Change request.

4-1-0-1

RESULT:	APPROVE
MOVER:	Annedore Kushner
SECONDER:	Stefanie Elle
AYES:	Moreno, Lewis, Elle, Kushner
NAYS:	Leongardt

b) Adopt a resolution recommending that the City of Council approve the Vesting Tentative Map request TM 21-04

Motion made by Commissioner Lewis; seconded by Vice Chair Kushner to adopt a resolution recommending the City Council approve the Vesting Tentative Map request TM 21-04

4-1-0-1

RESULT:	APPROVE
MOVER:	Joan Lewis, Planning Commissioner
SECONDER:	Annedore Kushner, Vice Chair
AYES:	Elle, Moreno, Lewis, Kushner
NAYS:	Leongardt

c) Adopt a resolution recommending that the City Council approve the Architectural and Site Review Permit AS 21-17.

Motion made by Vice Chair Kushner; seconded by Commissioner Lewis to approve AS 21-17 with the following recommendations; explore temporary fencing to control dust, planting privacy trees on the east border line of the single-family homes along the development, add windows to garage doors, and changing to a lighter color palette, adding detail to the windows of the units, and consider adding a barrier such as a water curtain between development and the creek.

5-0-0-1

RESULT:	APPROVE
MOVER:	Annedore Kushner, Vice Chair
SECONDER:	Joan Lewis, Planning Commissioner
AYES:	Moreno, Elle, Lewis, Kushner, Leongardt

B. Staff has analyzed the proposed project, and recommends that the Planning Commission adopt a resolution, included with this agenda report, recommending that the City Council approve the proposed tentative map to divide 778 First Street into two parcels.

1. Staff Report: Jon Biggs, Special Assistant to City Administration
2. Public Comment
3. Planning Commission Disclosure of Ex-Parte Communications
4. Possible Action:

Senior Planner Tambornini presented the staff report.

Vice Chair Kushner opened Public Comment.

Public member James Polo spoke.

Vice Chair Kushner closed Public Comment.

The applicant Amanda Musy-Verdel spoke.

Motion made by Vice Chair Kushner; seconded by Commissioner Moreno.

5-0-0-1

RESULT:	APPROVE
MOVER:	Annedore Kushner, Vice Chair
SECONDER:	Adilene Jezabel Moreno, Planning Commissioner
AYES:	Elle, Moreno, Lewis, Kushner, Leongardt

IX. NEW BUSINESS

A. Annual Presentation to Council

1. Staff Report: Cindy McCormick, Customer Service Manager
2. Public Comment
3. Possible Action:

Accept report and provide feedback on any final edits to the presentation.

Customer Service Manager McCormick presented the staff report, including future training opportunities.

Commissioner Elle Suggested adding language about the green building features of the cold storage building. Staff agreed to update the slide with this information.

Motion made by Commissioner Elle; seconded by Commissioner Moreno to accept the report.

RESULT:	APPROVE
MOVER:	Stefanie Elle, Planning Commissioner
SECONDER:	Adilene Jezabel Moreno, Planning Commissioner
AYES:	Elle, Lewis, Kushner, Leongardt, Moreno

X. INFORMATIONAL ITEMS

There were no comments or questions from the Planning Commission regarding the project log.

A. Planning Current Project Log

XI. PRESENTATION BY MEMBERS OF THE PLANNING COMMISSION

None.

XII. REPORTS BY COMMISSION MEMBERS

Chair Bhandal - South County Joint Planning Advisory Committee

No report.

Vice Chair Kushner - Gilroy Downtown Business Association

No report.

XIII. PLANNING DIVISION REPORT

A discussion occurred amongst the Commissioners and Community Development Director Goei regarding the agenda layout.

Goei reminded the Commissioners of the upcoming Special Planning Commission meeting scheduled for Thursday, October 20, 2022 at 6:00 p.m.

Customer Service Manager McCormick spoke about starting mini training sessions at Planning Commission meetings.

XIV. ASSISTANT CITY ATTORNEY REPORT

Assistant Attorney Houston suggested conducting training during the Planning Commission meetings to include existing and new bills, with a broad overview training on housing bills.

Customer Service Manager suggested conducting a mini-training at each meeting, depending on the number of items on agenda.

XV. ADJOURNMENT to the Next Meeting of October 20, 2022 at 6:00 P.M.

Vice Chair Kushner adjourned the meeting at 8:05 p.m.

Lisa Hernandez, Office Assistant

**Planning Commission
Special Meeting
of
OCTOBER 20, 2022**

I. OPENING

Tonight's meeting was called to order by Chair Bhandal.

II. PLEDGE OF ALLEGIANCE

Chair Bhandal led the pledge of allegiance.

III. REPORT ON POSTING THE AGENDA AND ROLL CALL

Tonight's agenda was posted on Friday, October 14, 2022 at 2:46 pm.

Attendee Name	Title	Status	Arrived
Manny Bhandal	Chairperson	Present	5:45 PM
Annedore Kushner	Vice Chair	Present	5:45 PM
Stefanie Elle	Planning Commissioner	Present	5:40 PM
Adriana Leongardt	Planning Commissioner	Present	5:50 PM
Joan Lewis	Planning Commissioner	Present	5:45 PM
Adilene Jezabel Moreno	Planning Commissioner	Present	6:04 PM

IV. PUBLIC COMMENTS

Chair Bhandal opened public comment for items not on the agenda.

There being no speakers, Chair Bhandal closed public comment for items not on the agenda.

V. PUBLIC HEARINGS

A. Accept the report and provide direction to staff on the Draft Housing Element.

1. Staff Report: Cindy McCormick, Customer Service Manager
2. Public Comment
3. Planning Commission Disclosure of Ex-Parte Communications
4. Possible Action:

Customer Service Manager McCormick presented the report.

Motion made by Commissioner Lewis; seconded by Chair Bhandal to accept the report.

6-0-0-0

RESULT:	APPROVE [UNANIMOUS]
MOVER:	Joan Lewis, Planning Commissioner
SECONDER:	Manny Bhandal, Chairperson
AYES:	Bhandal, Kushner, Elle, Leongardt, Lewis, Moreno

VI. ADJOURNMENT to the Next Meeting of November 3, 2022 at 6:00 P.M.

Chair Bhandal adjourned the meeting at 7:05 p.m.

Lisa Hernandez, Office Assistant



Community Development Department

7351 Rosanna Street, Gilroy, California 95020-61197

Telephone: (408) 846-0451 Fax (408) 846-0429

<http://www.cityofgilroy.org>

DATE: January 19, 2023

TO: Planning Commission

FROM: Kraig Tambornini, Senior Planner *KT*

SUBJECT: Proposed Tentative Map to divide 6955 Camino Arroyo into two parcels, Application No. TM 22-05

RECOMMENDATION:

Staff has analyzed the proposed project, and recommends that the Planning Commission:

- a) Recommend that the City Council, based on its independent analysis, determine that the proposed Tentative Map is exempt from further environmental review and qualifies for the State CEQA Guidelines Class 15 Exemption, Minor Land Divisions, because the proposed subdivision results in less than four parcels, is in conformance with the City's General Plan and Zoning, seeks no exceptions or variances, and all services and access to the resulting parcels is available; and
- b) Adopt a resolution recommending that the City Council approve the proposed tentative map to divide the property known as APN 841-70-045 into two separate parcels.

PROJECT DESCRIPTION:

The applicant, Joseph Tichar, representing Joule Crossing Owner, LLC, is seeking approval of a Tentative Map Application, TM 22-05, that will subdivide an approximately 11.26 acre developed commercial lot into two parcels. Proposed parcel A would be 0.90 acres and contain an existing drive through restaurant and parking, and parcel B would be 10.36 acres containing multiple commercial buildings and parking. No new construction is proposed and the lots both maintain frontage and shared access from Camino Arroyo.

BACKGROUND:

Site and Surrounding Land Uses: The subject site is within the Gilroy Crossings shopping center located on the west side of Camino Arroyo and south of Hwy 152. The complex was approved as a commercial/industrial planned development (C3/M2/HC

PUD) under City applications TM 02-06, Z 02-06 and PUD AS 02-22. The entire PUD area includes 75.5 acres with lots on both sides of Camino Arroyo. The original tract map was approved in April 2003 for 16 lots. In 2004 a revised parcel map was recorded for the area that includes the subject lots.

Gilroy Crossings contains approximately 258,419 square feet of commercial development. The lots on the east side of Camino Arroyo are currently vacant and would be developed as Phase II of the PUD. The building on proposed Parcel A is adjacent to the Shell Gas Station lot at the corner of Camino Arroyo and Pacheco Pass Hwy.

Environmental Determination: The proposed subdivision is exempt from further environmental review and qualifies for the State CEQA Guidelines Class 15 Exemption, Minor Land Divisions, because the proposed subdivision results in less than four parcels, is in conformance with the City's General Plan and Zoning, seeks no exceptions or variances, and all services and access to the resulting parcels is available.

DISCUSSION AND ANALYSIS:

General Plan: The site is designated for retail commercial land uses and the proposed lot split would have no material effect on the use of the site. There are no General Plan policies directly relevant to a commercial lot split. The project could be considered consistent with Goal EP 3 "Maintain a supportive business climate that increases the City's ability to support expansion of existing businesses and attraction of new businesses" in that the lot split would provide separate ownership and financing options for Parcel A.

Zoning Consistency: The Gilroy Crossings PUD does not prohibit further subdivision of the lots, and there is no minimum lot size. The resulting lot would not create any substandard setback or parking conditions.

Tentative Map Consistency: The lot split is subject to review pursuant to State Subdivision Map Act and Gilroy City Code Chapter 21; which regulate the design of subdivisions and improvements to ensure orderly development is proposed. There are specific findings that must be made to deny a tentative map, pursuant to Government Code Section 66474.

As noted, the parcel size would not conflict with PUD zoning. The property line creating the two separate lots will be located down an existing site access drive aisle from Camino Arroyo. The new building would maintain access, onsite parking and street frontage as required by City codes. Reciprocal easements and agreements already apply to property within the complex, which would transfer to the new lot.

Site access and improvements will remain shared and mutually maintained by all property owners in the complex now and into the future. The minor lot split request does not trigger findings required for denial under Government Code Section 66474, has been conditioned appropriately and does not warrant any new conditions related to the uses or construction of physical improvements.

Public Outreach: Notices were provided in compliance with code requirements. The plans were routed to all departments and agencies with jurisdiction or interest over development. At least 10 days prior to the hearing notices were mailed to property owners within 300 feet of the site, published in the Gilroy Dispatch, and posted on-site.

Attachments:

1. Gilroy Crossing Proposed Tentative Parcel Map
2. Gilroy Crossing Current Parcel Map
3. Gilroy Crossing Original Tract map April 2003
4. Planning Commission Resolution TM 22-05

\\s:\bay_dev\174222004 - Gilroy Mapping (Roider Hill) - IAK CAD\VD\Sheets\TENTATIVE PARCEL MAP\Gilroy Crossing - Tentative Parcel Map.dwg
This document, together with the concepts and designs presented herein, is intended only for the specific purpose and client for which it was prepared. Reuse or improper reliance on this document without authorization and adaptation by Kinney-Horn and Associates, Inc. shall be without liability to Kinney-Horn and Associates, Inc.



 PROPOSED PARCEL BOUNDARY LINE
 EXISTING PARCEL LINE
 SITE PROPERTY LINE
 SHOPPING CENTER BOUNDARY LINE
 EASEMENT LINE
 SETBACK LINE

OWNER/DEVELOPER:	SURVEYOR
ELAN SIPPEL-FIELDMAN	BRETT CHAPPELL, PLS 7547
RAIDER HILL ADVISORS, INC.	CHAPPELL GEOMATICS
757 THIRD AVENUE, 15TH FLOOR	147 NORTH 1ST AVENUE
NEW YORK, NY 10017	OAKDALE, CA 95361
ESIPPELFELDMAN@RAIDERHILL.COM	BRETT@CHAPGEO.COM
(212) 223-9090	(209) 845-9694

JENNIFER KIRBY, P.E. 92530
KIMLEY-HORN AND ASSOCIATES, INC.
4637 CHABOT DRIVE, SUITE 350
PLEASANTON, CA 94588
JENNIFER.KIRBY@KIMLEY-HORN.COM
(669) 800-4168

1. SUBDIVISION NAME: FARALLON – GILROY CROSSING
TYPE OF SUBDIVISION: GENERAL SERVICES COMMERCIAL
ASSESSOR'S PARCEL NO.: 841-70-045
EXISTING LAND USE: RESTAURANT
PROPOSED LAND USE: RESTAURANT

2. COUNTY OF SANTA CLARA ASSESSOR MAPPING
BOOK: 770
PAGE: 1 & 2
PARCEL NUMBER: 841-70-045
3. PROPOSED NUMBER OF LOTS: 2
4. LAND AREA: 11.26 ACRES

THE BASIS OF BEARING FOR THIS SURVEY IS GRID NORTH PER CALIFORNIA COORDINATE SYSTEM, ZONE 3, CCS83, WHICH IS BASED OFF THE NORTHEASTERN LINE OF THE LOT 2 OF THE SUBJECT PROPERTY WHICH BEARS N00°52'33"E PER GPS COORDINATE OBSERVATIONS

THE LAND REFERRED TO IS SITUATED IN THE COUNTY OF SANTA CLARA, CITY OF GILROY, STATE OF CALIFORNIA, AND IS DESCRIBED AS FOLLOWS:

PARCEL TWO:
ALL OF PARCEL 1 AS SAID PARCEL IS SHOWN UPON THAT MAP ENTITLED, "PARCEL
3 AS SHOWN
AND DESCRIBED ON "CERTIFICATE OF COMPLIANCE NO. 2003-10" FILED IN
DOCUMENT NO. 17520707," WHICH MAP WAS FILED FOR RECORD IN THE OFFICE OF
THE RECORDER OF THE COUNTY OF SANTA CLARA, STATE OF CALIFORNIA ON MAY
12, 2004 IN BOOK 770 OF MAPS AT PAGES 1 AND 2.

ZONE: X
DESCRIPTION: 0.2% ANNUAL CHANCE FLOOD HAZARD, AREAS OF 1% ANNUAL CHANCE FLOOD WITH AVERAGE DEPTH LESS THAN ONE FOOT OR WITH DRAINAGE AREAS OF LESS THAN ONE SQUARE MILE

MAP NUMBER: 06085C0643H
COMMUNITY: CITY OF GILROY
PANEL: 060340
NUMBER: 0643
SUFFIX: H
EFFECTIVE DATE: 05/18/2009
REVISION DATE: NONE



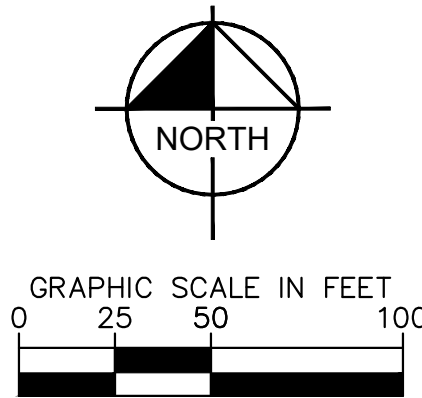
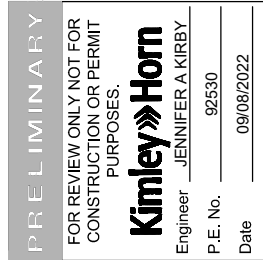
REQUIRED PARKING:
PER CITY OF GILROY MUNICIPAL CODE, CHAPTER 30.31, SECTION 30.31.25(A)

GROSS FLOOR AREA: 2,472 SF
PARKING RATIO: 1 SPACE PER 100 SF OF GROSS FLOOR AREA
2,472 SF * 1/100 = 25 PARKING SPACES REQUIRED

TOTAL PARKING: 54 SPACES
STANDARD PARKING: 52 SPACES
ACCESSIBLE PARKING: 2 SPACES (0 STD, 2 VAN)
PARKING RATIO: 1 SPACE PER 46 SF GROSS FLOOR AREA

I, _____, CERTIFY THAT THIS TENTATIVE MAP WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT IT COMPLIES WITH THE CITY OF GILROY SUBDIVISION ORDINANCE AND THE STATE MAP ACT.

I, _____, A LICENSED LAND SURVEYOR IN THE STATE OF CALIFORNIA
HEREBY STATE THAT THIS TENTATIVE MAP IS BASED UPON SURVEY UNDER MY
DIRECT SUPERVISION AND THAT IT COMPLIES WITH CITY OF GILROW SUBDIVISION
ORDINANCE AND STATE MAP ACT.

[illegible]

KHA PROJECT 197422005	DATE 09/08/2022	SCALE	AS SHOWN
		DESIGNED BY	CKC
		DRAWN BY	CKC
		CHECKED BY	JAK

GILROY CROSSING
6975 CAMINO ARROYO
GILROY, CA 95020

PROPOSED
TENTATIVE
PARCEL MAP

SHEET NUMBER
TM 1

PARCEL MAP

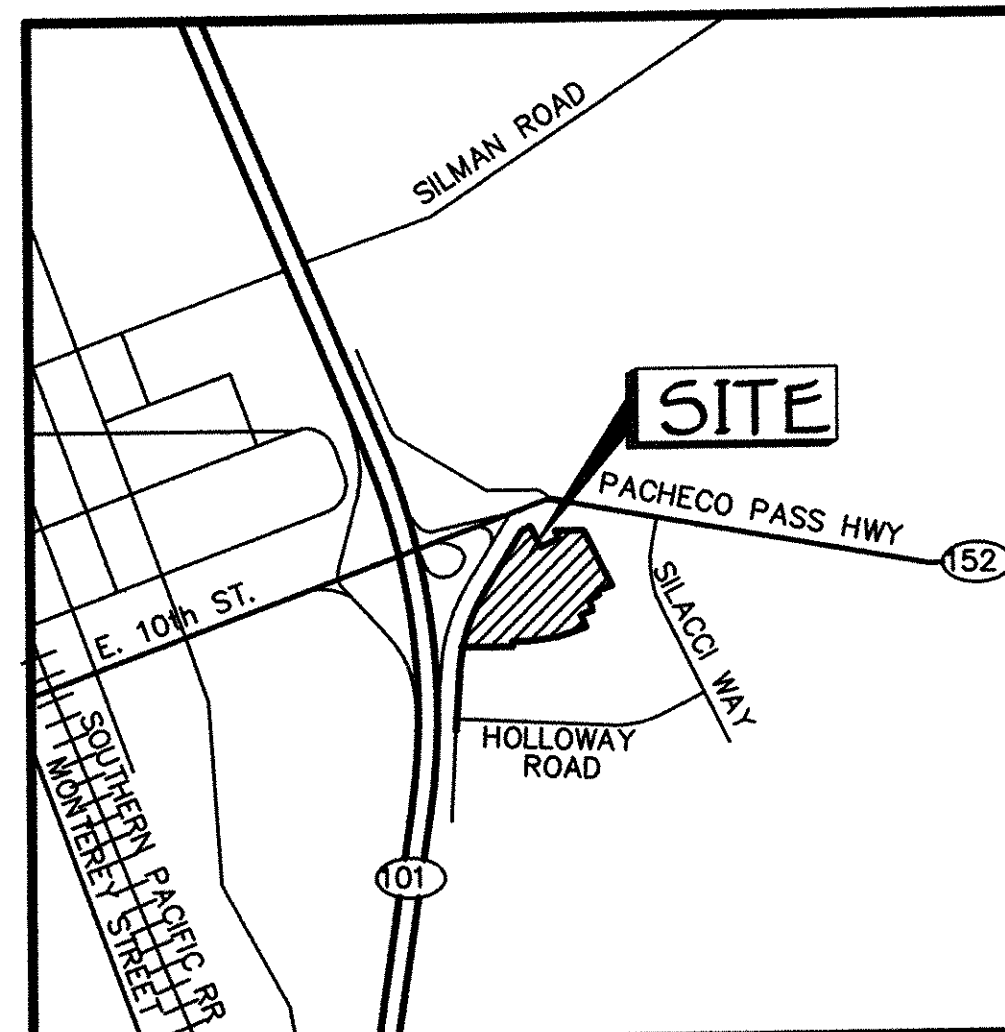
PARCEL 3 AS SHOWN AND DESCRIBED ON
"CERTIFICATE OF COMPLIANCE NO. 2003-10",
FILED IN DOCUMENT NO. 17520707.

CITY OF GILROY, COUNTY OF SANTA CLARA, STATE OF CALIFORNIA

MARCH 2004

BAKER WILLIAMS ENGINEERING GROUP

Sheet 1 of 2



VICINITY MAP

NO SCALE

OWNER'S STATEMENT

WE HEREBY STATE THAT WE ARE THE OWNERS OF OR HAVE SOME RIGHT, TITLE OR INTEREST IN AND TO THE REAL PROPERTY INCLUDED WITHIN THE DISTINCTIVE BORDER LINE SHOWN UPON THE HEREIN MAP; THAT WE ARE THE ONLY PERSONS WHOSE CONSENT IS NECESSARY TO PASS A CLEAR TITLE TO SAID REAL PROPERTY AS SET FORTH UNDER GOVERNMENT CODE, SECTION 66445(a); THAT WE HEREBY CONSENT TO THE PERPARATION AND FILING OF SAID PARCEL MAP AS SHOWN WITHIN THE DISTINCTIVE BORDER LINE.

SUBDIVIDER SHALL DEFEND, INDEMNIFY AND HOLD HARMLESS THE CITY, ITS CITY COUNCIL, PLANNING COMMISSION, AGENTS, OFFICERS AND EMPLOYEES FROM ANY CLAIM, ACTION OR PROCEEDING AGAINST THE CITY OR ITS CITY COUNCIL, PLANNING COMMISSION, AGENTS, OFFICERS OF EMPLOYEES TO ATTACK, SET ASIDE, VOID OR ANNUL AN APPROVAL OF THE CITY, CITY COUNCIL, PLANNING COMMISSION, OR OTHER BOARD, ADVISORY AGENCY OR LEGISLATIVE BODY CONCERNING THIS SUBDIVISION. CITY WILL PROMPTLY NOTIFY THE SUBDIVIDER OF ANY CLAIM, ACTION OR PROCEEDING AGAINST IT AND WILL COOPERATE FULLY IN THE DEFENSE. THIS CONDITION IS IMPOSED PURSUANT TO CALIFORNIA GOVERNMENT CODE SECTION 66474.9.

REGENCY REALTY GROUP, INC., A FLORIDA CORPORATION

BY: [Signature]
TITLE: VICE PRESIDENT, INVESTMENTS

NOTARY'S ACKNOWLEDGMENT:

STATE OF California)
COUNTY OF Santa Clara) SS

ON THIS 12th DAY OF March, 2004 BEFORE ME Jeff
Badstobner A NOTARY PUBLIC IN AND FOR
SAID COUNTY AND STATE, PERSONALLY APPEARED Peter
Kneeder PERSONALLY KNOWN TO ME (OR PROVED
TO ME ON BASIS OF SATISFACTORY EVIDENCE) TO BE THE PERSON WHOSE NAME(S)
IS/ARE SUBSCRIBED TO THE WITHIN INSTRUMENT AND ACKNOWLEDGED TO ME THAT
HE/SHE/IT/ THEY EXECUTED THE SAME IN HIS/HER/THEIR AUTHORIZED CAPACITY, AND THAT
BY HIS/HER/THEIR SIGNATURE ON THE INSTRUMENT THE PERSON(S) OR THE ENTITY
UPON BEHALF OF WHICH THE PERSON(S) ACTED, EXECUTED THE INSTRUMENT.

WITNESS MY HAND

MY COMMISSION EXPIRES 7/20/04
MY PRINCIPAL PLACE OF BUSINESS
IS IN San Jose COUNTY.

COMMISSION NUMBER 1271107

NOTARY PUBLIC SIGNATURE

PRINT NAME OF NOTARY

SURVEYOR'S STATEMENT:

THIS MAP WAS PREPARED BY ME OR UNDER MY DIRECTION AND WAS COMPILED FROM RECORD DATA IN CONFORMANCE WITH THE REQUIREMENTS OF THE SUBDIVISION MAP ACT AND LOCAL ORDINANCE AT THE REQUEST OF REGENCY REALTY GROUP INC., IN NOVEMBER, 2003. I HEREBY STATE THAT THIS PARCEL MAP CONFORMS TO THE APPROVED OR CONDITIONALLY APPROVED TENTATIVE MAP, IF ANY.

DATE: FEB. 23, 2004

[Signature]
MICHAEL F. WILLIAMS, L.S. 4732
EXPIRES: SEPTEMBER 30, 2005

**CITY ENGINEER'S STATEMENT:**

I HEREBY STATE THAT I HAVE EXAMINED THE HEREIN PARCEL MAP, THAT THE SUBDIVISION AS SHOWN IS SUBSTANTIALLY THE SAME AS IT APPEARED ON THE TENTATIVE MAP, AND ANY APPROVED ALTERATIONS THEREOF; THAT ALL PROVISIONS OF THE SUBDIVISION MAP ACT, AS AMENDED, AND OF ANY LOCAL ORDINANCE APPLICABLE AT THE TIME OF APPROVAL OF THE TENTATIVE MAP, HAVE BEEN COMPLIED WITH.

DATE: 3/24/04

[Signature]
RICHARD G. SMELSER
CITY ENGINEER
CITY OF GILROY, CALIFORNIA
R.C.E. NO. 39259
REGISTRATION EXPIRES: 12-31-2005

**CITY SURVEYOR'S STATEMENT:**

I HEREBY STATE THAT I HAVE EXAMINED THE HEREIN PARCEL MAP, AND THAT I AM SATISFIED THAT SAID MAP IS TECHNICALLY CORRECT.

DATE: 3/24/03

[Signature]
MICHAEL K. COOPER
ACTING CITY SURVEYOR
CITY OF GILROY, CALIFORNIA
HARRIS & ASSOCIATES
R.C.E. NO. 29072
EXP. 3-31-07

**RECORDER'S STATEMENT:**

FILED THIS 12th DAY OF MAY, 2004, AT 2:18 P. IN BOOK
770 OF MAPS, PAGES 142, SANTA CLARA COUNTY RECORDS, AT THE
REQUEST OF BAKER WILLIAMS ENGINEERING GROUP.

FILE NO. 17783486FEE \$ 10.00 PAID

BRENDA DAVIS
COUNTY RECORDER
SANTA CLARA COUNTY, CALIFORNIA

BY: [Signature]
DEPUTY

17783486

PARCEL MAP

PARCEL 3 AS SHOWN AND DESCRIBED ON
 "CERTIFICATE OF COMPLIANCE NO. 2003-10",
 FILED IN DOCUMENT NO. 17520707.

CITY OF GILROY, COUNTY OF SANTA CLARA, STATE OF CALIFORNIA

MARCH 2004

SCALE: 1" = 100'

BAKER WILLIAMS ENGINEERING GROUP

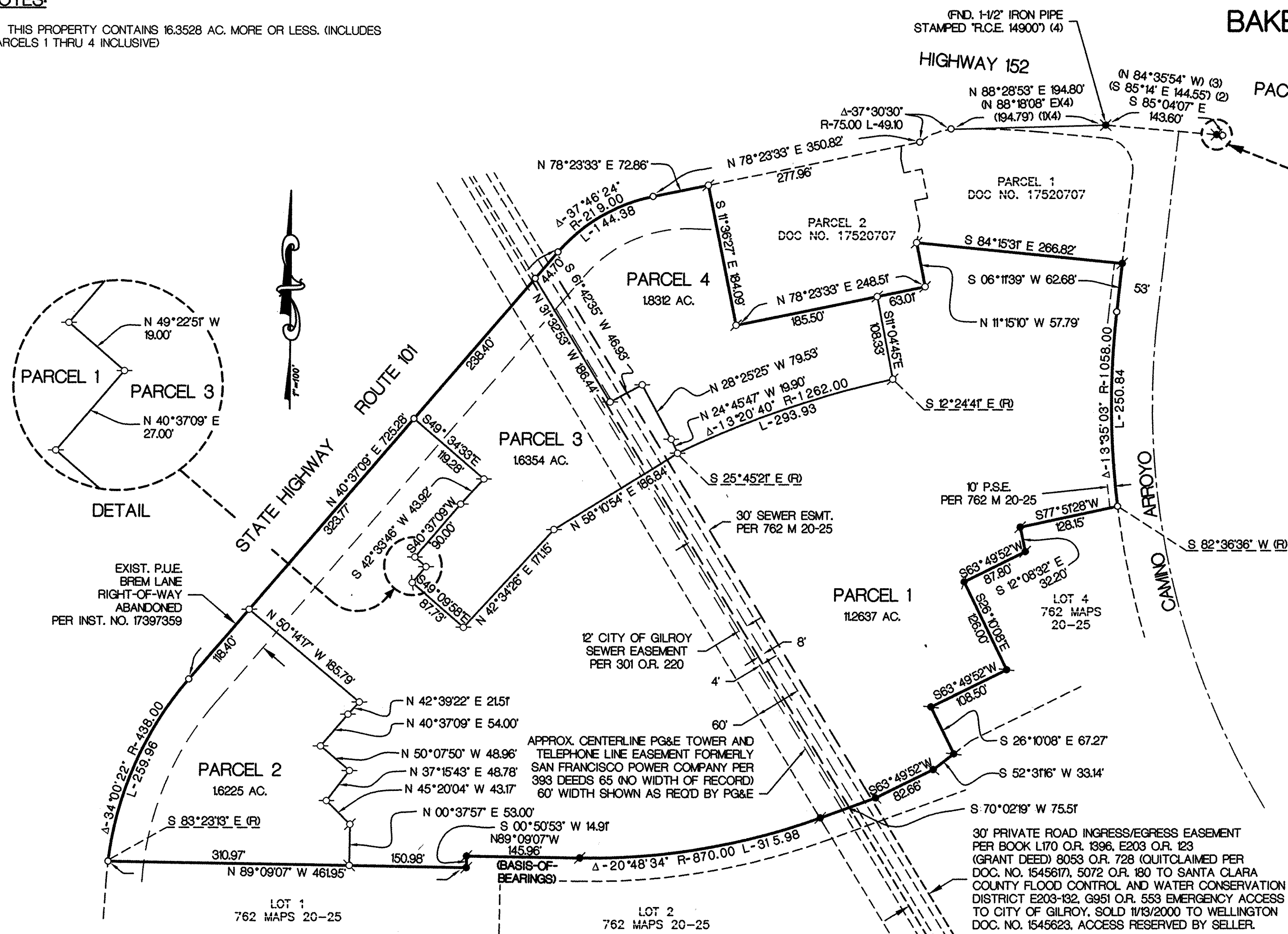
Sheet 2 of 2

BASIS OF BEARINGS:

THE BASIS OF BEARINGS FOR THIS SURVEY ARE IDENTICAL TO THE
 NORTH LINE OF LOT 1 AS SHOWN ON 762 M 20-25, AND WAS ESTABLISHED
 BY MONUMENTS FOUND AS SHOWN.

NOTES:

1) THIS PROPERTY CONTAINS 16,3528 AC. MORE OR LESS. (INCLUDES
 PARCELS 1 THRU 4 INCLUSIVE)

**LEGEND:**

- DIMENSION POINT
- ✱ MONUMENT FOUND AS NOTED
- ⊘ SET 3/4" REBAR W/ PLASTIC CAP STAMPED "LS 4732"
- ⊘ FND 3/4" REBAR W/ PLASTIC CAP STAMPED "LS 4732"
- (R) RADIAL LINE
- P.S.E. PUBLIC SERVICE EASEMENT

REFERENCES:

- (1) RECORD PER 762-M-20-25
- (2) RECORD PER TRACT 6997, 503-M-33 & 34
- (3) RECORD PER P.M. 300-M-53
- (4) RECORD PER P.M. 285-M-45

17783486

TRACT NO. 9487 Gilroy Crossing

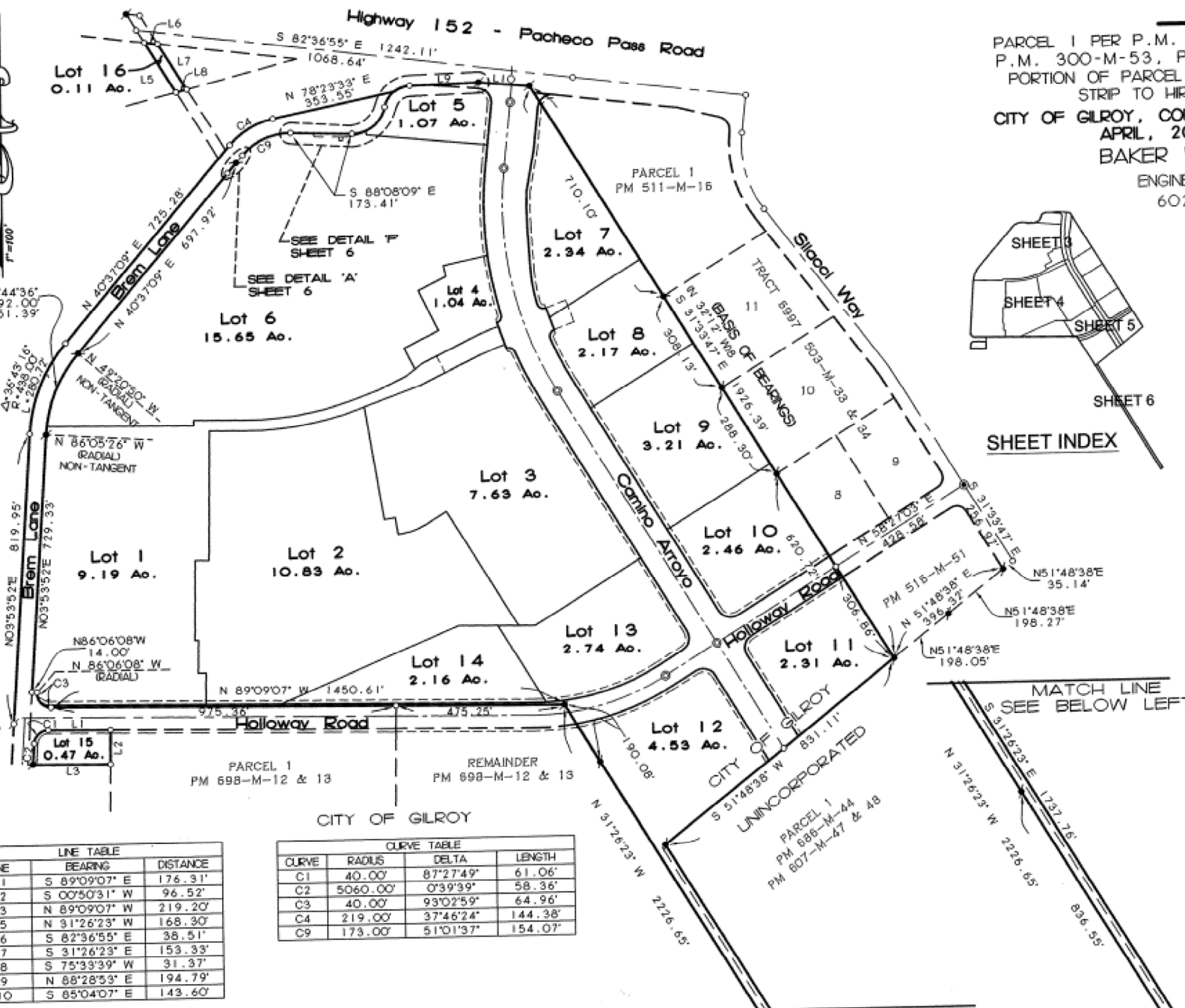
PARCEL 1 PER P.M. 285-M-45, PARCEL 1 AND PARCEL 2 PER P.M. 300-M-53, PORTION OF PARCEL 2 PER P.M. 607-M-48, PORTION OF PARCEL 1 R.S. 69-M-17 AND A PORTION OF 30' STRIP TO HIRASAKI, ET. AL. E 203 O.R. 123

CITY OF GILROY, COUNTY OF SANTA CLARA, STATE OF CALIFORNIA
APRIL, 2003 SCALE 1" = 200'

BAKER WILLIAMS ENGINEERING GROUP

ENGINEERING, SURVEYING AND PLANNING

6020 RUTLAND DRIVE, SUITE #19
CARMICHAEL, CA 95608



SHEET INDEX

LEGEND:

- MONUMENT FOUND AS NOTED
- SET 3/4" REBAR W/PLASTIC CAP STAMPED 1.5 47
- SET CITY STANDARD MONUMENT AND STAMPED 1.5
- FOUND CITY STANDARD MONUMENT
- DIMENSION POINT (NOTHING FOUND OR SET)
- RECORD PER P.M. 300-M-53
- RECORD PER P.M. 285-M-45
- RECORD PER CAL TRANS R.O.W. MAP
- RECORD PER P.M. 686-M-44
- RECORD PER P.M. 516-M-51
- RECORD PER P.M. 511-M-16
- RECORD PER P.M. 698-M-12 & 13
- RECORD PER TRACT 6997, 503-M-33 & 34
- RECORD PER P.M. 607-M-47 & 48
- RECORD PER R.S. 69-M-17
- RECORD PER DEED, BOOK 203, PAGE 123 O.

SURVEYOR'S NOTES:

- 1) REFERENCE IS HEREBY MADE TO "AREA TO BE DEDICATED" P.M. 300-53 AND P.M. 284-45. ACCORDING TO A SEARCH, THIS AREA HAS NOT BEEN EITHER DEDICATED OR ACCEPTED BY THE CITY OF GILROY AND IS BEING SHOWN AS A PORTION OF LOT 5 AND 6.
- 2) AN EASEMENT FOR POLES AND OVERHEAD WIRES RECORDED IN BOOK 201, PAGE 473 MAY AFFECT THIS PROPERTY. THE ACTUAL LOCATION CAN NOT BE DETERMINED FROM RECORD INFORMATION.

TABLE OF BEARINGS:

THESE BEARINGS FOR THIS SURVEY WERE ESTABLISHED BY MONUMENTS FOUND ALONG THE SOUTHWEST LINE OF TRACTS 33 & 34, BEING SHOWN OF RECORD AS N 32°12' W. BEARINGS HAVE BEEN ROTATED CLOCKWISE 00°38'13" TO FIT PLANE COORDINATE DATUM.

NOTES:

- 1.) THIS PROPERTY CONTAINS 74.8194 AC. GROSS MORE OR LESS. (INCLUDES LOTS 1 THRU 16 INCLUSIVE)

LINE	BEARING	DISTANCE
1	S 89°09'07" E	176.31'
2	S 00°30'31" W	96.52'
3	N 89°09'07" W	219.20'
4	N 31°26'23" W	168.90'
5	S 82°36'55" E	38.51'
6	S 31°26'23" E	153.33'
7	S 75°33'39" W	31.37'
8	N 88°28'53" E	194.79'
9	S 85°04'07" E	143.60'

CURVE	RADIUS	DELTA	LENGTH
C1	40.00'	87°27'49"	61.06'
C2	5060.00'	0°39'39"	58.36'
C3	40.00'	93°02'59"	64.96'
C4	219.00'	37°46'24"	144.38'
C9	173.00'	51°01'37"	154.07'

PARCEL 1
PM 686-M-44
PM 607-M-47 & 48

MATCH LINE
SEE ABOVE RIGHT

17166672

RESOLUTION NO. 2023-XX

A RESOLUTION OF THE PLANNING COMMISSION OF THE CITY OF GILROY RECOMMENDING TO THE CITY COUNCIL APPROVAL OF A TENTATIVE MAP TO SUBDIVIDE PROPERTY INTO TWO PARCELS, LOCATED AT 6955 CAMINO ARROYO, APN: 841-70-045 (FILE NUMBER TM 22-05)

WHEREAS, On October 10, 2022 an application was filed by Joseph Tichar representing Joule Crossing Owner, LLC proposing the subdivision of a parcel at 6955 Camino Arroyo within the C3/HC/M2-PUD, Commercial/Industrial Planned Unit Overlay zone district; and

WHEREAS, the application submittal was accepted as complete on November 9, 2022; and

WHEREAS, the proposed subdivision qualifies as exempt from further environmental review and qualifies for the State CEQA Guidelines Class 15 Exemption, Minor Land Divisions, because the proposed subdivision results in less than four parcels, is in conformance with the City's General Plan and Zoning, seeks no exceptions or variances, and all services and access to the resulting parcels is available; and

WHEREAS, the Planning Commission held a duly noticed public meeting on January 19, 2023 at which time the Planning Commission received and considered the staff report as well as all evidence received including written and oral public testimony related to the project; and

WHEREAS, the City may deny a tentative map only if, based upon substantial evidence in the record, it makes one or more of seven listed findings for denial prescribed by Government Code Section 66474. Staff has reviewed the findings and concluded that project denial based on these findings would not be supported, and alternatively, that each of the seven findings may be made to support approval of the project; and

WHEREAS, the location and custodian of the documents or other materials which constitute the record of proceedings upon which the project approval is based is the Community Development Department, Planning Division.

NOW, THEREFORE, BE IT RESOLVED that the Planning Commission of the City of Gilroy hereby finds as follows:

1. The proposed Tentative Map is consistent with the goals and policies of the City's General Plan and the General Services Commercial land use designation given that the commercial lot split would not require or result in any physical changes to the site use or improvements. Further, the site is not covered by a specific plan as specified in Government Code Section 65451.

2. The design or improvement of the proposed subdivision is consistent with the applicable general plan given that the parcel split does not involve any changes to existing land uses, and the lot size, shape and location complies with the 2040 General Plan General Services Commercial land use designation.
3. The site is physically suitable for the type of development given that the property is already developed with commercial uses in compliance with all codes and standards, does not require any modified improvements or restrictions, does not have unique physical constraints, the size and geometry of the property comply with all applicable codes and ordinances, and there are no exceptions requested or proposed to the site development standards.
4. The site is physically suitable for the proposed density of development, given that the resulting lots would accommodate existing buildings and parking required for the sites after subdivision, consistent with the City Zoning Ordinance and the 2040 General Plan commercial land use designation.
5. The design of the proposed subdivision TM 22-05 or the proposed improvements will not cause substantial environmental damage or injure fish or wildlife or their habitat given that the site is already developed and would not require any new or modified improvements, and is not in or adjacent to any sensitive habitat areas. No significant environmental impacts would occur as a result of this project.
6. The design of the subdivision or type of improvements is not likely to cause serious public health problems given that public utilities and infrastructure improvements to serve the proposed parcels are currently in place as evidenced by the existing development on the site. Further, the project is consistent with the City's Zoning Ordinance, the City's Subdivision and Land Development Code, and the State Subdivision Map Act in that the proposed subdivision does not alter the existing uses or result in parcel or development condition that would conflict with City regulations.
7. The design of the proposed subdivision or the type of improvements will not conflict with easements, acquired by the public at large, for access through or use of, property within the proposed subdivision. In this connection, the governing body may approve a map if it finds that alternate easements, for access or for use, will be provided, and that these will be substantially equivalent to ones previously acquired by the public. This subsection shall apply only to easements of record or to easements established by the judgment of a court of competent jurisdiction and no authority is hereby granted to a legislative body to determine that the public at large has acquired easements for access through or use of property within the proposed subdivision.
8. The project proposal qualifies for the State CEQA Guidelines Class 15 Exemption, Minor Land Divisions, because the proposed subdivision results in less than four parcels, is in conformance the City's General Plan and Zoning, seeks no exceptions or variances, and all services and access to the resulting parcels are available.

NOW, THEREFORE, BE IT FURTHER RESOLVED that the Planning Commission of the City of Gilroy hereby recommends to the Gilroy City Council approval of Tentative Map Application No. TM 22-05, subject to the conditions attached hereto as Exhibit A.

PASSED AND ADOPTED this 19th day of January, 2023 the following roll call vote:

AYES:

NOES:

ABSTAIN:

ABSENT:

ATTEST:

APPROVED:

Sharon Goei, Secretary

_____, Chairperson

EXHIBIT A

**TENTATIVE MAP CONDITIONS OF APPROVAL
GILROY CROSSING LOT SPLIT
TM 22-05**

PLANNING DIVISION CONDITIONS

*The following **GENERAL** conditions authorize specific terms of the project*

ENTITLEMENT(S).

1. **APPROVED PROJECT:** Tentative Parcel Map TM 22-05 approval is granted to subdivide 11.26 acres into two (2) commercial parcels as shown on the proposed map prepared by Kimley Horn, designated KHA project 197422005, with the title “Sheet TM 1, Gilroy Grossing, 6975 Camino Arroyo”, with preparation date 09/08/2022.

Any future adjustment or modification to the plans, including any changes made at time of building permit submittal, shall be considered by the Community Development Director or designee, may require separate discretionary approval, and shall conform to all City, State, and Federal requirements, including subsequent City Code requirements or policies adopted by City Council.

2. **COMPLIANCE WITH CONDITIONS:** If Developer, owner or tenant fails to comply with any of the conditions of this permit, the Developer, owner or tenant shall be subject to permit revocation or enforcement actions pursuant to the City Code. All costs associated with any such actions shall be the responsibility of Developer, owner or tenant.
3. **INDEMNIFICATION:** Developer agrees, as a condition of permit approval, at Developer’s own expense, to defend, indemnify, and hold harmless the City of Gilroy (“the City”) and its officers, contractors, consultants, attorneys, employees and agents from any and all claim(s), action(s) or proceeding(s) brought against the City or its officers, contractors, consultants, attorneys, employees, or agents to challenge, attack, set aside, void or annul the approval of this resolution or any condition attached thereto or any proceedings, acts or determinations taken, including actions taken under the California Environmental Quality Act of 1970, as amended, done or made prior to the approval of such resolution that were part of the approval process.

*The following conditions shall be met prior to the approval of the **FINAL MAP** or **PARCEL MAP**, or other deadline as specified in the condition.*

4. **TENTATIVE MAP:** An approved tentative parcel map, which shall expire twenty-four

(24) months from the approval date, may be extended pursuant to the provisions of the Map Act.

5. **COVENANTS, CONDITIONS, AND RESTRICTIONS:** Any covenants, conditions, and restrictions (CC&Rs) applicable to the project property shall be consistent with the terms of this permit and the City Code. If there is a conflict between the CC&Rs and the City Code or this permit, the City Code or this permit shall prevail.

PUBLIC WORKS CONDITIONS OF APPROVAL

The following conditions shall be met prior to the approval of the FINAL MAP or PARCEL MAP, or if another deadline is specified in a condition, at that time.

6. **DRIVEWAY ACCESS EASEMENT:** The applicant or owner shall dedicate reciprocal driveway ingress and egress easements. Said easements shall be approved by both affected property owners. The easements shall be approved by the City Engineer, recorded with the County Recorder's Office, and a recorded copy of the document returned to the City prior to any City permits. The easement may also be designated on any associated parcel or subdivision map. *(PUBLIC WORKS)*
7. **PARCEL MAP:** It shall be the applicant's responsibility to have a parcel map, prepared by a person authorized to practice land surveying in California, delineating all parcels created or deleted and all changes in lot lines in conformance with the Gilroy Municipal Code. The parcel map shall be approved by the Department of Public Works and recorded with the County Recorder's Office prior to the issuance of any City permits. A parcel map guarantee shall be submitted to the City, by the applicant's title company, prior to release of the parcel map to the title company for recordation. Prior to the City's release of the parcel map to the title company, the applicant may, at the discretion of the City Engineer, be required to submit to the City an electronic copy of the map in the AutoCAD Version being used by the City at the time of recordation. It is the applicant's responsibility to check with their title company and the County Recorder's Office to determine the time necessary to have the map recorded after City approval. *(PUBLIC WORKS)*



Community Development Department

Sharon Goei
DIRECTOR

7351 Rosanna Street, Gilroy, CA 95020-6197
Telephone: (408) 846-0451 | Fax: (408) 846-0429
cityofgilroy.org | planningdivision@cityofgilroy.org

DATE: January 19, 2023
TO: Planning Commission
FROM: Cindy McCormick, Customer Service Manager
SUBJECT: Electronic Billboard Ordinance and IS/MND (Z 18-04)

RECOMMENDATION:

Staff has analyzed the proposed project, and recommends that the Planning Commission:

- a) Recommend that the City Council adopt the Mitigated Negative Declaration (MND) and find that: the MND was completed in compliance with the California Environmental Quality Act (CEQA); there is no substantial evidence that the project will have a significant effect on the environment; and the MND reflects the City's independent judgment and analysis; and
- b) Adopt a resolution recommending that the City Council adopt an ordinance (Z 18-04), approving changes to Section 30.37.30 (Prohibited Signs), Section 30.37.50 (Commercial and Industrial Districts), and Section 30.37.51 (Freeway Oriented Signs) and creating a new Zoning Ordinance Article LV (Electronic Billboards).

BACKGROUND:

In 2018, an application was submitted to modify the City's Zoning Ordinance to allow an 80-foot tall, 1,200 square foot area electronic billboard sign on Automall Parkway. In September 2019, following 18-months of communications between the applicant and City staff/management, the application was tabled by the (former) City Administrator. The application remained on hold until September 14, 2020, when the Gilroy City Council held a public meeting to review the proposal and provide preliminary feedback to City staff in the evaluation of the proposal. The Council was generally receptive to this possibility; but had concerns about the total number allowed in the City, the height of the sign, and the location(s) where they would be permitted. The Council also wanted to ensure that such signage, if allowed, would benefit local City businesses, particularly regional-serving and high revenue generating businesses, such as auto dealerships and/or regional shopping centers including the Gilroy Outlets.

On March 15, 2021, staff presented several policy discussion points, including sign quantity, location, distance between signs, sign area, sign height, and whether such signage should be allowed off-site¹. The Council was also advised that the businesses who use the sign for advertisement would be out of the City's control since the sign would

¹ An example of an "on-site" sign would be an electronic billboard located on the Automall property and where the only advertisements displayed are for the dealerships located on the Automall property.

be owned and operated by a third party and it would be up to local businesses to pay for any advertisement space.

Existing City Code: The Gilroy Sign Ordinance does not currently allow off-site signage (other than real-estate signs) and has general restrictions for freeway-oriented signs and commercial signage (e.g., height and size limits). The Sign Ordinance also prohibits signs that utilize scrolling or moving text or images (i.e., electronic billboards). Allowance of such signs would require an amendment to City Code Sections 30.37.30 (Prohibited Signs), 30.37.50 (Commercial and Industrial districts), and 30.37.51 (Freeway Oriented Signs).

2040 General Plan: The Gilroy 2040 General Plan was adopted in November 2020 and has the following policies related to billboards and freeway signage. While the policies do not directly address digital media, the policies do permit freeway signage and billboards, so long as such signage has minimal negative impact on the visual environment.

Land Use Policy LU 4.11 Freeway Signage - Work with Caltrans to explore ways to increase directional signage to freeway commercial uses at U.S. 101 interchanges.

Land Use Policy LU 8.7 Signs and Billboards - Require the location of signs and billboards to respect the surrounding context in order to minimize any negative impact on the visual environment. Enforce sign regulations and design standards to reduce sign clutter and illegal signage along corridors.

A discussion of General Plan goals and policies is included in the analysis section of this staff report.

Environmental Assessment: In accordance with Section 15070 of the California Code of Regulations, the City of Gilroy Planning Division prepared an Initial Study for the project and determined that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent (e.g., mitigations from the MND). Therefore, the City has prepared a Mitigated Negative Declaration (MND) for the project in accordance with the California Environmental Quality Act (CEQA) of 1970, as amended, and the Thresholds of Significance adopted May 3, 2004 by the City of Gilroy. The public review period began on August 5, 2022 and ended on September 5, 2022. The City has prepared a Final MND with response to public comments. The Draft MND and Final MND with a response to public comments is attached to this staff report. If approved, the MND would apply to both the proposed ordinance and the proposed billboard proposed to be located at 6460 Automall Parkway. Approval of the MND does not constitute approval of the proposed billboard.

Process: The application for a proposed electronic billboard to be located at 6460 Automall Parkway (SP 21-08) will be processed as a separate application if the proposed Ordinance (Z 18-04) is approved. If approved by the City Council (following a recommendation by the Planning Commission), the Ordinance would take effect 30 days following the second reading of the Ordinance, which would be scheduled approximately two to four weeks following the initial public hearing with the City Council.

DISCUSSION AND ANALYSIS:

The Draft Ordinance being presented to the Planning Commission and City Council is based on feedback received from the Council in March 2021, as well as best practices in other cities. The March 15, 2021 Council staff report, which includes a summary of discussion points, is attached.

The following table provides a summary of the proposed Zoning Ordinance Article LV (Electronic Billboards). The complete draft, including proposed changes to City Code Sections 30.37.30, 30.37.50, and 30.37.51 is attached as Exhibit A to the Planning Commission resolution.

Draft Ordinance Summary	
Consistency with Local, State and Federal Law	
The owner and operator of the electronic billboard shall comply with all applicable federal, state, or local laws when constructing, operating, improving, maintaining, repairing, and removing the electronic billboard(s).	
City Agreement Requirements	
The owner/operator shall enter into a development agreement, operating agreement, lease agreement, contract, license or other accord in form acceptable to the City Attorney with the City ("City Agreement"), setting forth any required fees, revenues, terms, off-site advertisement criteria, content control standards, community service message provisions, community outreach requirements, maintenance standards, conditions that trigger billboard removal, and other covenants or restrictions needed to offset or mitigate the impacts of a proposed electronic billboard(s).	
Relocation	
Any electronic billboard(s) erected in accordance with this ordinance may be subsequently relocated to another location in accordance with the ordinance.	
Maximum Number	
A maximum of two (2) electronic billboard(s) may be permitted in the City of Gilroy.	
Minimum Distance Between Electronic Billboard(s)	
The minimum distance between electronic billboard(s) shall be 1.5 miles. All distances shall be measured along the nearest edge of the pavement between points directly opposite the signs along each side of the highway.	
Location	
Electronic billboards may be located on-site or off-site on private or public property, designated on the General Plan Land Use Diagram as General Services Commercial or City Gateway District. Electronic billboard(s) shall not be allowed in any area	

designated as "Landscaped Freeway", unless otherwise permitted by State law. No part of any electronic billboard(s) shall cross onto an adjacent private or public property.
Distance from Highway 101
The electronic billboard(s) shall be located within 660 feet of Highway 101.
Distance to and Visibility from residential and hotel uses
Electronic billboard(s) shall be placed at least 500 feet from any residential zone or residential use. To the extent possible, the electronic billboard(s) shall be located and oriented in a manner that avoids or minimizes the direct exposure of the display as viewed from adjacent or nearby residential or hotel uses.
Vehicular Safety
No electronic billboard(s) shall be placed, constructed or maintained on any property in the City of Gilroy if its location, size, nature, or type constitutes or tends to constitute a hazard to the safe and efficient operation of vehicles.
Maximum Height
The maximum height of any electronic billboard(s) including any architectural design elements shall be 75 feet as measured from grade at the base of the sign to the highest point of the sign structure, provided that the measured grade does not include fill or berms.
Maximum Digital Display Surface Area
The maximum total digital display surface shall be less than or equal to six hundred seventy-two (672) square feet per sign face, with no more than two sign faces per electronic billboard(s).
City Branding
Unless otherwise approved by the City Council, the electronic billboard(s) shall include the words "City of Gilroy" and/or the City insignia permanently affixed above the digital display area. This branding shall not be included in the maximum digital display surface area, but shall be included in the overall height.
Public Service Announcements
The City of Gilroy shall be permitted to use a minimum number or percentage of total unsold advertising spots for City events, public information, emergency alerts, and other similar public service announcements, in accordance with the City Agreement approved for the electronic billboard(s).

Emergency Alerts
Electronic billboard(s) shall be connected to the National Emergency Network and provide emergency information, including child abduction alerts (<i>i.e.</i> , "Amber Alerts"), in accordance with local and regional first responder protocols.
Content limitations
No electronic billboard(s) shall display any statements or words of an obscene, indecent or immoral character, or any picture or illustration of any human figure in such detail as to offend public morals or decency, or any other matter or thing of an obscene, indecent or immoral character, pursuant to Business and Professions Code Section 5402 and judicial decisions interpreting the same.
Message Standards
The Ordinance allows only still or static images or messages, requires a minimum display time of eight (8) seconds, and a maximum transition/blank screen time between still images of one (1) second.
Illumination Standards
The Ordinance includes illumination standards related to light intensity, auto-shut-off/black screen in case of malfunction, automatic dimming adjusted to ambient light conditions, orientation requirements, and brightness limitations based on best practices in other cities, the Outdoor Advertising Act, and the California Vehicle Code.
Permit Requirements
An electronic billboard permit and associated environmental review shall be required for the establishment and operation of an electronic billboard. The Ordinance includes required findings for approval and standard conditions of approval.
Public Hearings
The application shall require review by the Planning Commission. If recommended for approval, the application will be scheduled for a public hearing with the City Council, who has final authority on whether to approve the application. Alternatively, the Commission may also deny the application upon making substantial findings for denial through the public hearing process. If denied, the Planning Commission decision is final unless an appeal is filed by the applicant or an interested party. If appealed within twenty (20) days of the Planning commission decision, the City Council will review the application and may either approve, approve with modifications, or deny the application, upon making substantial findings for denial through the public hearing process.
Compliance Hearings
A minimum of three initial compliance hearings before the City Planning Commission and/or City Council shall be required as follows: (a) six months from the date of final

building permit issuance; (b) six months from the date of the first compliance hearing; and (c) 12 months from the date of the second compliance hearing. Upon a finding of substantial compliance, the Community Development Director may waive the second and/or third hearing. Following the initial compliance hearing(s), the owner/operator, and/or property lease holder shall be subject to subsequent compliance hearings before the City upon request, due to non-compliance.

City Agreement / Permit Violations

Upon finding that the electronic billboard(s) is not being operated in compliance with the City Agreement and/or all conditions of approval, the Community Development Director shall forward a copy of the findings of such violation to the Planning Commission for hearing. The applicant shall also be sent notice at least ten (10) days prior to the date of such hearing. If the Planning Commission finds that a violation has occurred, the electronic billboard(s) owner, operator, and/or property lease holder shall abate or remove the violation.

The proposed Zoning Text Amendment requires approval by the City Council upon recommendation of the Planning Commission. The following staff analysis demonstrates that the amendment carries out the general purpose of the Zoning Ordinance and applicable General Plan goals and policies. As such, the draft Planning Commission resolution includes a recommendation for approval.

General Plan Consistency: The proposed project is consistent with the following General Plan goals and policies:

<u>General Plan Goal / Policy</u>	<u>Consistency Analysis</u>
Land Use Goal LU 4: Encourage the growth and development of retail, office, service, and entertainment uses in Gilroy to provide jobs, support City services, and make Gilroy an attractive place to live.	The proposed electronic billboard ordinance provides existing and future retail, office, service, and entertainment uses in the City an opportunity to advertise and potentially grow their business. The draft ordinance includes a requirement that the City be permitted a minimum number or percentage of total unsold advertising spots for City events, public information, emergency alerts, and other similar public service announcements. A maximum of two (2) electronic billboards may be permitted in the City of Gilroy, with a minimum distance of 1.5 miles between the two electronic billboards. Electronic billboards shall also be placed at least 500 feet from any residential zone or residential use. Furthermore, to the extent possible, the electronic billboard(s) shall be located and oriented in a manner that avoids or minimizes the direct exposure of the display as viewed from adjacent or nearby residential or hotel uses.

Policy LU 4.11 Freeway Signage: Work with Caltrans to explore ways to increase directional signage to freeway commercial uses at U.S. 101 interchanges.	City staff coordinated with the California Department of Transportation (“Caltrans”) on the development of the draft ordinance and also provided Caltrans with a copy of the Draft Mitigated Negative Declaration for their review and comment. Per the draft Ordinance, the owner/operator of an electronic billboard shall obtain a permit from Caltrans and shall comply with all applicable federal, state, and local laws when constructing, operating, improving, maintaining, repairing, and removing the electronic billboard(s). Furthermore, electronic billboard(s) shall not be operated in such a fashion as to constitute a hazard to safe and efficient operation of vehicles on streets or freeways.
Land Use Goal LU 8: Support growth and development that preserves and strengthens the City’s historic, small-town character; provides and maintains safe, livable, and affordable neighborhoods; and creates beautiful places.	Electronic billboards will not be allowed in non-urbanized areas. There are no scenic resources that would be obstructed from permitted locations in the proposed Ordinance. With compliance to size, height, and location regulations, electronic billboard(s) would not substantially degrade the visual character or quality of public views. A maximum of two (2) electronic billboards may be permitted in the City of Gilroy, with a minimum distance of 1.5 miles between the two electronic billboards. Electronic billboards shall also be placed at least 500 feet from any residential zone or residential use. Furthermore, to the extent possible, the electronic billboard(s) shall be located and oriented in a manner that avoids or minimizes the direct exposure of the display as viewed from adjacent or nearby residential or hotel uses.
Policy LU 8.7 Signs and Billboards: Require the location of signs and billboards to respect the surrounding context in order to minimize any negative impact on the visual environment. Enforce sign regulations and design standards to reduce sign clutter and illegal signage along corridors.	The proposed Ordinance restricts the location of electronic billboard(s) to property with a General Services Commercial or City Gateway District land use designation and only allows up to two (2) signs in the entire City. The proposed Ordinance includes a finding requiring that electronic billboard(s) be architecturally compatible with the uses and structures on the site and in the surrounding area. The allowed height under the proposed Ordinance is consistent with the height approved for the Gilroy Crossing (Regency Center) pylon sign and the Pacheco Pass pylon sign. The proposed height allowance is also consistent with the recently approved Plaza Allium pylon sign. The total display area allowance (672 square feet) is less than the approved tenant sign area (864 square feet) for the Plaza Allium pylon sign.

Economic Prosperity Goal EP 3: Maintain a supportive business climate that increases the City's ability to support expansion of existing businesses and attraction of new businesses.	The proposed electronic billboard ordinance provides existing and future businesses in the City an opportunity to advertise and potentially expand their business. The ordinance provides Gilroy businesses an opportunity to advertise their goods and services to visitors and the local workforce, who may not reside in Gilroy but drive to Gilroy for employment at local businesses including retail establishments, restaurants, and offices, as well as schools and service organizations.
Policy EP 3.1 Promote Gilroy: Promote Gilroy as a place for business and industry, capitalizing on the City's location and numerous amenities, to encourage new businesses to locate here and to retain existing businesses.	The proposed electronic billboard ordinance provides Gilroy businesses and organizations such as Visit Gilroy, the Chamber of Commerce, and the Downtown Business Association an opportunity to advertise the City's numerous amenities including the future Ice Center at Gilroy Sports Park, Gilroy Gardens, the Recreation Gateway Area, Gourmet Alley, wineries, and golf courses. Similarly, the proposed Ordinance also supports Policy EP 6.1 Tourism Promotion, Policy EP 6.5 Wine Tourism, and Policy EP 6.7 Outdoor Recreation.
Policy EP 5.5 Outlet Mall: Promote the Gilroy Premium Outlets and other regional retail destinations.	The proposed electronic billboard ordinance provides the Gilroy Premium Outlets and other major regional retailers such as Gilroy Crossings and the Pacheco Pass Center an opportunity to advertise their goods and services to visitors and travelers.
Goal EP 6: Attract visitors and provide them with the amenities and services to make their stay enjoyable.	The proposed electronic billboard ordinance provides Gilroy businesses and organizations such as Visit Gilroy an opportunity to advertise the City's numerous amenities and services including hotels, the city's wineries and restaurants, and recreational amenities.
Policy EP 6.4 Events: Promote existing and new signature events that add to Gilroy's quality of life, enhance the City's image, and stimulate economic activity.	The City of Gilroy shall be permitted to use a minimum number or percentage of advertising spots for City events, public information, emergency alerts, and other similar public service announcements. The proposed electronic billboard ordinance also provides Gilroy businesses and organizations such as Visit Gilroy, the Chamber of Commerce, and the Downtown Business Association an opportunity to advertise events to the general public.

Zoning Ordinance Purpose: The Zoning Ordinance is the primary tool by which the city implements the policies of the General Plan. The Zoning Ordinance is, among other purposes, intended to protect and improve the established character and the social and economic stability of the City. The City's sign regulations (Article XXXVII) are, among other purposes, intended to provide minimum standards to safeguard life, health, property and the public welfare by regulating and controlling the location, placement, size, numbers, surface area, illumination, materials, and maintenance of signs and sign structures.

The existing Gilroy Sign Ordinance does not currently allow off-site advertising signs (other than real-estate signs) and has general restrictions for freeway-oriented signs and commercial signage (e.g., height and size limits). The Sign Ordinance also prohibits signs that utilize scrolling or moving text or images (i.e., electronic billboards). Therefore, the project requires an amendment to City Code Sections 30.37.30 (Prohibited Signs), 30.37.50 (Commercial and Industrial districts), and 30.37.51 (Freeway Oriented Signs).

Zoning Text Amendment Review: Pursuant to City Code Section 30.52.40, the Planning commission may recommend approval, or deny or deny without prejudice the requested ordinance amendment. If recommended for approval, the Planning Commission shall make findings demonstrating that the amendment is necessary to carry out the general purpose of the Zoning Ordinance and applicable General Plan goals and policies. If the Planning Commission denies the requested amendment, the applicant may appeal the decision to the City Council. In either case, the City Council shall conduct a public hearing within thirty (30) days of receipt of the Commission recommendation or written appeal or as soon thereafter as is practical. Pursuant to Section 30.52.60, the City Council may approve, modify or disapprove a proposed ordinance amendment. The approving ordinance or resolution of denial shall recite, among other things, the facts and reasons that, in the opinion of the City Council, make the approval, denial or denial without prejudice of the Ordinance amendment necessary to carry out the general purposes of the Zoning Ordinance and the General Plan. The action by the City Council shall be final and conclusive.

As discussed in the analysis section of this staff report, the attached draft resolution recommending approval demonstrates that the proposed text amendment carries out the general purpose of the Zoning Ordinance and applicable General Plan goals and policies.

PUBLIC NOTICING:

As required by law, a notice of intent to adopt a Mitigated Negative Declaration was advertised in The Gilroy Dispatch on Friday, August 5, 2022 (no less than 30 days prior to a decision on the MND). Individual property owners within 500 feet of the subject property where the electronic billboard is proposed were mailed copies of the notice of intent on August 1, 2022.

A community meeting to discuss the project was held on October 25, 2022. Individual

property owners within 1,600 feet of the subject property where the electronic billboard is proposed were mailed copies of the notice for the community meeting on October 13, 2022. The community meeting was advertised in The Gilroy Dispatch on Friday, October 21, 2022.

A notice of the January 19, 2023 Planning Commission meeting was advertised in The Gilroy Dispatch on Friday, January 6, 2023 (no less than 10 days prior to the meeting). Individual property owners within 500 feet of the subject property where the electronic billboard is proposed were mailed copies of the notice for the Public Hearing notice on January 5, 2023. The Planning Commission public hearing packets are available through the City's webpage.

Public Comments: The City received comment letters from 14 individuals/organizations (one commenter submitted comment letters on three separate dates). Three (3) individuals support the draft Ordinance, citing the ability to advertise local, regional, and national businesses, as well as local events and emergency communications. The remaining 11 individuals/organizations oppose the draft Ordinance, citing concerns related to aesthetics, astronomical pursuits, the billboard industry in general, driver safety, energy consumption, greenhouse gas emissions, light pollution, and light impacts on wildlife (e.g., birds) and human circadian rhythms. Many of the comments were addressed in the attached Draft Initial Study and Mitigated Negative Declaration (IS/MND). CEQA related comments received after the release of the Draft MND were subsequently addressed in the attached Final MND. The Final MND includes a response to CEQA related comment letters from John Bauters (8-24-22), Shani Kleinhaus/Audubon Society (9-6-22) and Dr. Paul D. Lynam/Lick Observatory (9-5-22). As a result of these letters, the Final MND amended Section 2.4, Biological Resources (page 41), mitigation measure BIO-7 (page 45) and Section 2.17, Transportation (page 98). These minor amendments and clarifications do not change the significance of any of the environmental issue conclusions within the Draft IS/MND, nor do they require changes to the draft Ordinance. In addition, the project applicant has submitted the attached response to comments as they relate to the MND (dated 9-29-22) and general concerns regarding light impacts and driver safety impacts (3-21-21). On 12-8-22, the applicant also submitted a list of benefits for the proposed billboard. A copy of all public comments received as of 1-3-22 is attached, including the three (3) comment letters related to CEQA as noted above.

CONCLUSION AND NEXT STEPS:

Staff recommends that the Planning Commission recommend approval of the draft changes to City Code, including a new Zoning Ordinance (Article LV, Electronic Billboards), as supported by the analysis in this staff report.

Alternatively, the Planning Commission can deny the application or recommend modifications to the Ordinance. If the Planning Commission recommends denial, the Commission shall recite the specific facts and evidential reasons why the Ordinance and text amendments do not carry out the general purposes of the Zoning Ordinance and the General Plan. If recommended for denial, the applicant can appeal the decision to the City Council who has final decision-making authority.

The recommendation of the Planning Commission shall be forwarded to the City Council. A Council hearing date is tentatively scheduled for February 20, 2023. If denied by the Council, the decision would be final. If approved by the Council, the Ordinance would take effect 30 days following the second reading of the Ordinance. If the Ordinance is approved, the application for a proposed electronic billboard at 6460 Automall Parkway (SP 21-08) would potentially be presented to the Planning Commission in March 2023 and the City Council in April 2023. The project would also be subject to a Development Agreement that would have to be approved by the City Council.

APPEAL PROCEDURE:

In accordance with Section 30.51.50 of the Gilroy City Code, the Planning Commission's decision may be appealed, in writing, to the City Council within 20 days of adoption of the resolution. Appeal forms may be obtained from the City Clerk and must be submitted with the appropriate fee before the end of the appeal period.

ATTACHMENTS:

1. Draft Planning Commission Resolution
2. Draft Initial Study / Mitigated Negative Declaration (IS/MND)
3. Final IS/MND with response to comments
4. Council Staff Report, 3-15-21
5. Applicant comments regarding Brightness and Road Safety, 3-21-21
6. Public Comments
7. Applicant response to CEQA comments, 9-29-22
8. Applicant comments regarding project benefits, 12-8-22

RESOLUTION NO. 2023-XX

A RESOLUTION OF THE PLANNING COMMISSION OF THE CITY OF GILROY RECOMMENDING THE CITY COUNCIL APPROVE AMENDMENTS TO THE GILROY CITY CODE, CHAPTER 30 (ZONING) SECTION 30.37.30 (PROHIBITED SIGNS), SECTION 30.37.50 (COMMERCIAL AND INDUSTRIAL DISTRICTS), AND SECTION 30.37.51 (FREEWAY ORIENTED SIGNS) AND CREATING ARTICLE LV (ELECTRONIC BILLBOARDS)

WHEREAS, the Gilroy City Code Chapter 30 (Zoning), Article XXXVII (Sign Regulations) currently prohibits electronic billboards within the city; and

WHEREAS, on May 4, 2018 an application was submitted by Mike Conrotto/Emsee Properties proposing an amendment to City Code Sections 30.37.30 (Prohibited Signs) and 30.37.51 (Freeway Oriented Signs) (“Project”); and

WHEREAS, the project would also require an amendment to City Code Section 30.37.50 (Commercial and Industrial Districts) and the creation of new City Code requirements for the establishment and operation of an electronic billboard (Article LV, Electronic Billboards); and

WHEREAS, On September 14, 2020 the Gilroy City Council held a public meeting to review the proposal and provide preliminary feedback to City staff in the evaluation of the proposal; and

WHEREAS, On March 15, 2021 the Gilroy City Council held a public meeting to review draft policy recommendations to regulate electronic billboards in the City of Gilroy and provide preliminary feedback to City staff in the continued evaluation of the proposal; and

WHEREAS, in accordance with Section 15070 of the California Code of Regulations, the City of Gilroy Planning Division prepared an Initial Study for the project and determined that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. Therefore, the City has prepared a Mitigated Negative Declaration (MND) for the project in accordance with the California Environmental Quality Act (CEQA) of 1970, as amended, and the Thresholds of Significance adopted May 3, 2004 by the City of Gilroy; and

WHEREAS, the public review period for the Draft MND began on August 5, 2022 and ended on September 5, 2022 and whereas the City prepared a Final MND with response to public comments; and

WHEREAS, on October 25, 2022 the City of Gilroy held an informational community meeting to provide an overview of the project and provide the public with an opportunity to ask questions on the project; and

WHEREAS, on January 19, 2023 the Planning Commission held a duly noticed public meeting, at which time the Planning Commission received and considered the staff report as well

as all evidence received including written and oral public testimony related to the proposed Zoning Amendment (Z 18-04); and

WHEREAS, the Planning Commission of the City of Gilroy has determined that the proposed Zoning Ordinance text amendment is necessary to carry out the general purpose of the Zoning Ordinance, which among other purposes is intended to protect and improve the established character and the social and economic stability of the City, and applicable General Plan goals and policies including Land Use Goals 4 and 8, land use policies LU 4.1 and LU 8.7, Economic Prosperity Goals 3 and 6, and Economic Prosperity policies EP 3.1, EP 5.5, EP 6.1, EP 6.4, EP 6.5, and EP 6.7; and

WHEREAS, the location and custodian of the documents or other materials which constitute the record of proceedings upon which the project approval is based is the Community Development Department, Planning Division.

NOW, THEREFORE, BE IT RESOLVED that the Planning Commission of the City of Gilroy hereby recommends to the City Council approval of application Z 18-04 for a Zoning Amendment modifying City Code Section 30.37.30 (Prohibited Signs), Section 30.37.50 (Commercial and Industrial Districts), and Section 30.37.51 (Freeway Oriented Signs) and creating a new Zoning Ordinance Article LV (Electronic Billboards);.

PASSED AND ADOPTED this 19th day of January, 2023 by the following roll call vote:

AYES:

NOES:

ABSENT:

ABSTAIN:

Sharon Goei,
Community Development Director

Manny Bhandal,
Chairperson

Exhibit A

ORDINANCE NO. 2023-XX

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF GILROY AMENDING THE GILROY CITY CODE, CHAPTER 30 (ZONING) SECTION 30.37.30 (PROHIBITED SIGNS), SECTION 30.37.50 (COMMERCIAL AND INDUSTRIAL DISTRICTS), AND SECTION 30.37.51 (FREEWAY ORIENTED SIGNS) AND CREATING ARTICLE LV (ELECTRONIC BILLBOARDS)

WHEREAS, the Gilroy City Code Chapter 30 (Zoning), Article XXXVII (Sign Regulations) currently prohibits electronic billboards within the city; and

WHEREAS, on May 4, 2018 an application was submitted by Mike Conrotto/Emsee Properties proposing an amendment to City Code Sections 30.37.30 (Prohibited Signs) and 30.37.51 (Freeway Oriented Signs) (“Project”); and

WHEREAS, the project would also require an amendment to City Code Section 30.37.50 (Commercial and Industrial Districts) and the creation of new City Code requirements for the establishment and operation of an electronic billboard (Article LV, Electronic Billboards); and

WHEREAS, On September 14, 2020 the Gilroy City Council held a public meeting to review the proposal and provide preliminary feedback to City staff in the evaluation of the proposal; and

WHEREAS, On March 15, 2021 the Gilroy City Council held a public meeting to review draft policy recommendations to regulate electronic billboards in the City of Gilroy and provide preliminary feedback to City staff in the continued evaluation of the proposal; and

WHEREAS, in accordance with Section 15070 of the California Code of Regulations, the City of Gilroy Planning Division prepared an Initial Study for the project and determined that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. Therefore, the City has prepared a Mitigated Negative Declaration (MND) for the project in accordance with the California Environmental Quality Act (CEQA) of 1970, as amended, and the Thresholds of Significance adopted May 3, 2004 by the City of Gilroy; and

WHEREAS, the public review period for the Draft MND began on August 5, 2022 and ended on September 5, 2022 and whereas the City prepared a Final MND with response to public comments; and

WHEREAS, on October 25, 2022 the City of Gilroy held an informational community meeting to provide an overview of the project and provide the public with an opportunity to ask questions on the project; and

WHEREAS, the Planning Commission held a duly noticed public hearing on December 1, 2022, in accordance with the City of Gilroy Zoning Ordinance Article LII, at which time the

Planning Commission received and considered the draft Zoning Code amendments and staff report pertaining to Zoning Amendment Z 18-04, took and considered the written and oral public testimony related to Zoning Amendment Z 18-04 and thereafter recommended that the City Council approve said amendments; and

WHEREAS, the City Council held a duly noticed public hearing on January 23, 2023, at which time the City Council received and considered Zoning Amendment file number Z 18-04, took and considered written and oral public testimony, the staff report, and all other documentation related to application Z 18-04; and

WHEREAS, in accordance with City of Gilroy Zoning Code Sections 30.52.40 and 30.52.60, the Planning Commission has recommended, and the City Council finds, that the proposed Zoning Ordinance text amendment is necessary to carry out the general purpose of the Zoning Ordinance, which among other purposes is intended to protect and improve the established character and the social and economic stability of the City, and applicable General Plan goals and policies including Land Use Goals 4 and 8, land use policies LU 4.1 and LU 8.7, Economic Prosperity Goals 3 and 6, and Economic Prosperity policies EP 3.1, EP 5.5, EP 6.1, EP 6.4, EP 6.5, and EP 6.7.

WHEREAS, the location and custodian of the documents or other materials which constitute the record of proceedings upon which the project approval is based is the office of the City Clerk.

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF GILROY DOES HEREBY ORDAIN AS FOLLOWS:

SECTION I

Gilroy City Code, Chapter 30, Zoning, Section 30.37.30 is hereby modified as follows:

Section 30.37.30 Regulations in all districts.

(a) Prohibited Signs. Except as otherwise provided in this chapter, the following signs shall be prohibited throughout the City of Gilroy:

- (1) Signs on or above the roof or projecting above the roof eave (other than a gable or mansard type roof) or canopy of a structure.
- (2) Signs projecting more than thirty-six (36) inches above the lowest edge of the eave of a gable or mansard type roof. A sign may be permitted on a vertical surface specifically designed to accommodate a sign, which is lower than the crest of the roof, if such sign area is approved by the planning director.
- (3) Flags, pennants, balloons, streamers, and objects designed to move with the wind, except for flags of the United States of America and the State of California on a flagpole for which a building permit has been issued and as exempted in sections 30.37.20(d)(20) (feather banner exemption) and 30.37.20(d)(19) (new vehicle sales exemption).
- (4) Lighted signs that flash on and off (except time and weather signs that change less than six (6) times per minute) and signs that utilize scrolling or moving text or images, except

as regulated under Article LV Electronic Billboards.

- (5) Any sign feature which moves or is designed to move, except for signs which rotate at less than six (6) revolutions per minute.
- (6) Lighted signs whose surface brightness is a detriment to surrounding property, prevents the peaceful enjoyment of life or presents a conflict with safe traffic movement; or advertising displays which emit audible sound, odor, or visible matter, **except as regulated under Article LV Electronic Billboards.**
- (7) Any sign which because of flashing lights, brilliant lighting, motion or apparent motion, shape, design, color or reflected light is a detriment to surrounding property or prevents the peaceful enjoyment of residential uses or presents a conflict with the traffic regulations or traffic safety, **except as regulated under Article LV Electronic Billboards.**
- (8) Any sign which has a design or lighting such that it might be mistaken for a traffic light or signal.
- (9) Signs located in such a manner as to obstruct free and clear vision or the view of any authorized traffic sign, signal or device.
- (10) Any sign which because of its location would prevent free and safe ingress to or egress from any door, window, fire escape, driveway, sidewalk, parking space or bike path, or would obstruct an outward view from any living area.
- (11) Any signs attached to a standpipe or fire escape.
- (12) Signs projecting into a public street, alley or identifiable pedestrian way more than twelve (12) inches excluding signs allowed on awnings.
- (13) Signs projecting into a public right-of-way having less than eight (8) feet clearance between the lowest edge of the sign and the sidewalk grade.
- (14) Signs projecting into a public street area that have less than fifteen (15) feet clearance between the lowest edge of the sign and the adjacent driveway or street grade.
- (15) New signs painted or existing signs repainted directly on any building or structure unless conforming to the requirements of this chapter.
- (16) Any off-site advertising sign, including billboards, in any district except as exempted in section 30.37.90 **and permitted in Article LV Electronic Billboards.**

SECTION II

Gilroy City Code, Chapter 30, Zoning, Section 30.37.50 is hereby modified as follows:

30.37.50 Signs in commercial and industrial districts.

Only signs meeting the following standards will be permitted in commercial or industrial districts, provided that all other applicable provisions of this chapter are also complied with:

(a) Signs shall be located and erected only upon the premises occupied by the person or business to be identified or advertised by such signs, **except as permitted in Article LV Electronic Billboards.** The location of all signs shall be in compliance with the building, electrical and fire prevention codes of the city as amended.

(b) The maximum permissible total sign area for all signs including freestanding signs (but excluding **electronic billboards**, master shopping center signs, and freeway signs), for all

commercial or industrial districts shall not exceed the maximum total sign area for each business, according to the following table:

	COLUMN 1	COLUMN 2
	Maximum total sign area permitted (in square feet) for each lineal foot of building frontage	Maximum total sign area permitted (in square feet) regardless of building frontage (except as provided in subsection (f) of this section)
PO and CCA districts	N/A	35
C1, TD and CD districts	1 1/2	75
DHD and DED districts	2	75
C3, HC, CM and GD districts	1 1/2	150
M1 and M2 districts	1	350

The permitted sign area may be mounted on a freestanding sign and on any side of a building, except no sign shall be mounted on the side of a building abutting and facing a freeway. The lineal footage of a building frontage shall be that distance of building facing a public street. The maximum sign area for buildings which front on more than one (1) street shall be calculated by using the longest of any one (1) such frontage. In a commercial or industrial complex where there are three (3) or more tenants, the maximum sign for each tenant may be calculated by using the greater of (1) the building elevation fronting a street or (2) the building elevation fronting directly on the parking lot for the commercial or industrial complex.

(c) The maximum number of freestanding signs shall be one (1) per business, building, or parcel, whichever is most restrictive. An individual business shall not be permitted to have a freestanding sign where there is a master shopping center or group sign. The area of the freestanding sign shall be included in the maximum area allowed. The maximum height for any freestanding sign shall be seven (7) feet, except for freeway-oriented signs, master shopping center signs, and specific subdivision and real estate signs regulated under this chapter.

Electronic Billboards are not considered a freestanding sign for the purposes of this Article.

SECTION III

Gilroy City Code, Chapter 30, Zoning, Section 30.37.51 is hereby modified as follows:

30.37.51 Freeway-oriented signs.

In certain instances, one (1) on-site freeway-oriented sign may be permitted in addition to one (1) monument sign. **Electronic Billboards are not considered a freestanding sign for the purposes of this Article. However, no freeway-oriented sign shall be allowed on property that already contains an electronic billboard.** The freeway-oriented sign shall not exceed sixty (60) feet in height and shall not exceed one hundred (100) square feet of sign area. The parcel on

which the freeway sign is to be located must meet all of the following criteria:

- (a) The parcel exceeds twenty thousand (20,000) square feet in land area.
- (b) The parcel is within six hundred sixty (660) feet of an off-ramp from U.S. 101.
- (c) The parcel is occupied by a use which is a permitted use in an HC highway commercial district.

Up to one hundred fifty (150) square feet of sign area for the freeway sign is permitted where additional freestanding signage is limited to one (1) monument sign not exceeding thirty-six (36) square feet in area.

SECTION IV

Gilroy City Code, Chapter 30, Zoning, **Article LV** Electronic Billboards is hereby proposed as follows:

Article LV (Electronic Billboards)

Section 30.55.10 Purpose and Intent

The purpose of this Article is to provide adequate signage for commercial businesses that have a regional customer base, establish procedures for the review and approval of electronic billboard(s), and specify development criteria to ensure that the permitting of electronic billboard(s) does not create visual clutter or create other operational impacts on surrounding uses, or the public health, safety or general welfare of the City.

Section 30.55.20 General Requirements

(a) **Consistency with Local, State and Federal Law.** The owner and operator of the electronic billboard shall comply with all applicable federal, state, or local laws when constructing, operating, improving, maintaining, repairing, and removing the electronic billboard(s), including the Highway Beautification Act of 1965 (23 U.S.C. § 131), the Outdoor Advertising Act (Cal. Bus. & Prof. Code § 5200 *et seq.*), and the regulations promulgated to implement the Outdoor Advertising Act (4 Cal. Code Regs. § 2242(c) *et seq.*).

(b) **Property Owner Consent.** No electronic billboard(s) shall be approved for any site without proof of legal or equitable interest in the site, and the written consent of the property owner, demonstrating the right to install and operate the electronic billboard(s) on the subject property.

(c) **City Agreement.** The owner/operator shall enter into a development agreement, operating agreement, lease agreement, contract, license or other accord in form acceptable to the City Attorney with the City ("City Agreement"), setting forth any required fees, revenues, terms, off-site advertisement criteria, content control standards, community service message provisions, community outreach requirements, maintenance standards, conditions that trigger billboard removal, and other covenants or restrictions needed to offset or mitigate the impacts of a proposed electronic billboard(s).

- 1) The City Administrator shall make recommendations to the city council regarding the type and content of the City Agreement. The city council shall have final City Agreement approval authority.
 - 2) Nothing contained in this Article shall require the City to negotiate and/or approve a City Agreement on terms that are unacceptable to the City or the City Attorney in their sole and absolute discretion.
 - 3) The City Agreement shall include requirements that applicants obtain all additional federal, state, and local permits and approvals necessary for installation.
 - 4) The City Agreement may include provisions requiring removal or replacement of other billboards owned by the owner/operator.
- (d) Relocation. Any electronic billboard(s) erected in accordance with this ordinance may be subsequently relocated to another location in accordance with this Article.
- (e) Maximum Number. A maximum of two (2) electronic billboard(s) may be permitted in the City of Gilroy.
- (f) Minimum Distance Between Electronic Billboard(s). The minimum distance between electronic billboard(s) shall be 1.5 miles. All distances shall be measured along the nearest edge of the pavement between points directly opposite the signs along each side of the highway.
- (g) Additional Standards and Provisions. Based on new or updated information or studies, the city council may amend the standards and other provisions set forth in this Article to mitigate effects on the visual environment or on residential properties or other sensitive receptors; to reduce driver distractions or other hazards to traffic; or to otherwise protect and promote the public health, safety, and welfare.

Section 30.55.30 Development Standards

- (a) Location.
- 1) Electronic billboards may be located on-site or off-site on private or public property, designated on the General Plan Land Use Diagram as General Services Commercial or City Gateway District.
 - 2) Electronic billboard(s) shall not be allowed in any area designated as "Landscaped Freeway" as defined under California Business & Professions Code Section 5216, unless otherwise permitted by State law.
 - 3) No part of any electronic billboard(s) shall cross onto an adjacent private or public property.
- (b) Distance from Highway 101. The electronic billboard(s) shall be located within 660 feet of Highway 101.

(c) Distance to and Visibility from Residential and Hotel Uses. Electronic billboard(s) shall be placed at least 500 feet from any residential zone or residential use. The measurement shall be from the closest edge of the billboard to the closest edge of the residential zone or closest property line on which a residential use is located. To the extent possible, the electronic billboard(s) shall be located and oriented in a manner that avoids or minimizes the direct exposure of the display as viewed from adjacent or nearby residential or hotel uses.

(d) Vehicular Safety. No electronic billboard(s) shall be placed, constructed or maintained on any property in the City of Gilroy if its location, size, nature, or type constitutes or tends to constitute a hazard to the safe and efficient operation of vehicles. Electronic billboard(s) operating in accordance with this Article, the Outdoor Advertising Act, the California Vehicle Code, and the City Agreement shall be deemed to be in compliance with this subsection.

(e) Maximum Height. The maximum height of any electronic billboard(s) including any architectural design elements shall be 75 feet as measured from grade at the base of the sign to the highest point of the sign structure, provided that the measured grade does not include fill or berms.

(f) Maximum Digital Display Surface Area. The maximum total digital display surface shall be less than or equal to six hundred seventy-two (672) square feet per sign face, with no more than two sign faces per electronic billboard(s).

(g) City Branding. Unless otherwise approved by the city council, the electronic billboard(s) shall include the words "City of Gilroy" and/or the City insignia permanently affixed above the digital display area. This branding shall not be included in the maximum digital display surface area, but shall be included in the overall height.

Section 30.55.40 Operational Standards

(a) Electronic billboard(s) shall conform to the requirements of the City Agreement and approved electronic billboard(s) permit.

(b) Public Service Announcements. The City of Gilroy shall be permitted to use a minimum number or percentage of advertising spots for City events, public information, emergency alerts, and other similar public service announcements, in accordance with the City Agreement approved for the electronic billboard(s).

(c) Emergency Alerts. Electronic billboard(s) shall be connected to the National Emergency Network and provide emergency information, including child abduction alerts (*i.e.*, "Amber Alerts"), in accordance with local and regional first responder protocols.

(d) Content limitations. No electronic billboard(s) shall display any statements or words of an obscene, indecent or immoral character, or any picture or illustration of any human figure in such detail as to offend public morals or decency, or any other matter or thing of

an obscene, indecent or immoral character, pursuant to Business and Professions Code Section 5402 and judicial decisions interpreting the same.

(e) Vehicular Safety. Electronic billboard(s) shall not be operated in such a fashion as to constitute a hazard to safe and efficient operation of vehicles on streets or freeways and shall comply with all applicable local, state, and federal laws and regulations. Electronic billboard(s) operating in accordance with this Article, the Outdoor Advertising Act, the California Vehicle Code, and the City Agreement shall be deemed to be in compliance with this subsection.

(f) Electronic billboard(s) shall not simulate or imitate any directional, warning, danger, or information sign, or any other display likely to be mistaken for any permitted sign intended or likely to be construed as giving warning to traffic, for example using such words or phrases as "stop" or "slow down."

(g) Electronic billboard(s) shall not incorporate or involve any red or blinking or intermittent lighting that may be mistaken for warning or danger signals nor shall its illumination impair the vision of travelers on the adjacent freeway and for roadways.

(h) Message Standards.

1) Static image/messages. Electronic billboard(s) shall display only still or static images or messages.

i. Static image/message(s) shall not include the varying of light intensity.

ii. Static image/message(s) shall not move or present the appearance of motion and shall not use flashing, scintillating, blinking, or traveling lights or any other means not providing constant illumination.

2) Minimum display time. Each image or message on the sign shall be displayed for a minimum of eight (8) seconds.

3) Maximum transition time. Transition or blank screen time between still images may not exceed one (1) second.

(i) Illumination Standards.

1) Light intensity. The intensity of each lighting element or lamp within the visual display or the electronic billboard(s) structure shall not impair the vision of drivers or travelers. Illumination shall be considered vision impairing when its brilliance exceeds the values set forth in section 21466.5 of the California Vehicle Code, or any successor statute or California Department of Transportation regulations.

2) Auto-off. The electronic billboard(s) shall be designed and operated with systems and monitoring in place to either turn the display off or show full black screen in the event of a malfunction.

- 3) Automatic dimming device. Electronic billboard(s) shall have a light sensing device that will automatically adjust the brightness as ambient light conditions change.
- 4) Illumination orientation. The electronic billboard(s) shall aim, focus and shield any illumination sufficiently to prevent glare or overcast of illumination into adjacent residential or hotel vantage points.
- 5) Brightness. The maximum intensity of light output produced by electronic billboard(s) display shall not exceed 0.3 foot-candles above the ambient light level at any time, as measured using a foot-candle meter at a distance of 250 feet, and shall otherwise comply with section 5403(g) of the Outdoor Advertising Act and section 21466.5 of the California Vehicle Code.

Section 30.55.50 Application Review procedures

- (a) Electronic Billboard(s) Permit. An electronic billboard(s) permit and associated environmental review shall be required for the establishment and operation of electronic billboard(s).
- (b) Application. Applications for establishment and operation of electronic billboard(s) shall be filed with the planning department on a form prescribed for this purpose by the City of Gilroy. A site development plan and architectural design drawings shall accompany the application. Such other pertinent information shall be included as may be required by the application filing requirements and deemed necessary to evaluate the application.
- (c) Permit Fees. Fees shall be charged on a time and materials basis and shall include payment for project review and preparation of documents, legal fees, CEQA fees, noticing fees, and any other fees deemed reasonably necessary to establish compliance with the requirements of this Article.
- (d) Planning Commission Public Hearing. The planning commission shall conduct a duly advertised public hearing to consider the application, pursuant to the provisions of Article LI. The planning commission shall announce its decision to recommend approval, or to deny or deny without prejudice the requested electronic billboard(s) application. In the case of a recommendation of approval, the planning commission shall adopt a resolution and make findings demonstrating that the application is necessary to carry out the general purpose of this Article and applicable general plan goals and policies. In the case of a recommendation of approval, the application will be scheduled for a city council hearing. The action of the planning commission denying the application shall be final and conclusive unless within twenty (20) days following the adoption of the resolution by the planning commission, an appeal in writing is filed with the clerk of the city council by the applicant or an interested party.

(e) City Council Public Hearing. If the planning commission adopts a resolution recommending approval or if a denial is appealed, the city council shall conduct a duly advertised public hearing pursuant to the provisions of Article LI. The city council may approve, modify or deny a proposed electronic billboard(s) application.

(f) Necessary Findings. To grant electronic billboard(s) approval, the council must make the following findings:

- 1) The location, design, and operation of the proposed electronic billboard(s) is consistent with the goals, objectives, purposes and provisions of the General Plan, the City Code, this Article, and any applicable policies, master plans, or specific plans;
- 2) The proposed electronic billboard(s) will promote both economic development and public benefits that would not otherwise accrue to the public in the absence of its installation;
- 3) The proposed electronic billboard(s) is architecturally compatible with the uses and structures on the site and in the surrounding area;
- 4) The proposed electronic billboard(s) will not create a hazard to vehicular or pedestrian traffic; and
- 5) The proposed electronic billboard(s) will not result in a threat to the general health, safety and welfare of City residents.

(g) Conditions. The granting of approval for electronic billboard(s) may include such conditions as the planning commission or city council deems reasonable and necessary under the circumstances to carry out the requirements of the General Plan, City Code, and the intent of this Article. The following conditions shall be standard on all electronic billboard(s) approvals, where applicable:

- 1) City Agreement. The owner/operator shall enter into a City Agreement with the City, as provided in Section 30.55.20(c) of this Article. The Permit shall not take effect until a City Agreement is executed by the owner/operator and the City.
- 2) Caltrans Off-Site Advertising Permit. The owner/operator shall obtain any required permit from the California Department of Transportation ("Caltrans") for any proposed electronic billboard(s). The electronic billboard(s) permit shall be conditioned to require the owner/operator to provide the City with a copy of the approved Caltrans permit prior to issuance of a building permit for construction of the electronic billboard(s).
- 3) Federal, State, and Local Laws. The owner/operator shall comply with all applicable federal, state, and local laws when constructing, operating, improving, maintaining, repairing, and removing the electronic billboard(s), including any applicable provisions of the Highway Beautification Act of 1965 (23 U.S.C. § 131),

the Outdoor Advertising Act (Cal. Bus. & Prof. Code, § 5200 *et seq.*), and the regulations promulgated to implement the Outdoor Advertising Act (4 Cal. Code Regs. § 2242(c) *et seq.*).

4) Operational Impacts. Operation of the electronic billboard shall not create significant adverse impacts on surrounding uses, or the public health, safety or general welfare of the City. Electronic Billboards operating in accordance with this Ordinance and in compliance with the City Agreement shall be deemed to be in compliance with this subsection.

5) Maintenance: The owner/operator shall ensure that the electronic billboard(s) and support structures do not provide an attractive nuisance and shall be continually maintained free from graffiti. The owner/operator shall ensure that maintenance service is available by telephone and able to respond to a repair call “24/7” in the event electronic billboard(s) becomes damaged or is malfunctioning.

6) Noise reduction. To the extent necessary, electronic billboard(s) shall incorporate noise reduction and attenuation remedies sufficient to limit any exterior intermittent noise level effects (intensity and frequency) in accordance with the standards of the City's City Code and General Plan.

7) Time Limits. If any application for which electronic billboard(s) approval has been granted has not obtained building permits within one (1) year from the date of notification of approval, the approval shall be deemed automatically revoked. Upon application, an extension of time may be granted by the city council.

8) Compliance Hearings. A minimum of three initial compliance hearings before the City planning commission and/or city council shall be required as follows: (a) six months from the date of final building permit issuance; (b) six months from the date of the first compliance hearing; and (c) 12 months from the date of the second compliance hearing. Upon a finding of substantial compliance, the Community Development Director may waive the second and/or third hearing. Following the initial compliance hearing(s), the owner/operator, and/or property lease holder shall be subject to subsequent compliance hearings before the City upon request, due to non-compliance.

9) City Agreement / Permit Violations. Upon finding that the electronic billboard(s) is not being operated in compliance with the City Agreement and/or all conditions of approval, the Community Development Director shall forward a copy of the findings of such violation to the planning commission for hearing. The applicant shall also be sent notice at least ten (10) days prior to the date of such hearing. If the planning commission finds that a violation has occurred, the electronic billboard(s) owner, operator, and/or property lease holder shall abate or remove the violation.

SECTION V

If any section, subsection, subdivision, sentence, clause, or phrase of this Ordinance is for any reason held to be unconstitutional or otherwise void or invalid by any court of competent jurisdiction, the validity of the remaining portion of this Ordinance shall not be affected thereby.

SECTION VI

Pursuant to section 608 of the Charter of the City of Gilroy, this Ordinance shall be in full force and effect thirty (30) days from and after the date of its adoption.

PASSED AND ADOPTED this __ day of __, 2023 by the following roll call vote:

AYES:	COUNCILMEMBERS:
NOES:	COUNCILMEMBERS:
ABSENT:	COUNCILMEMBERS:

APPROVED:

Marie Blankley, Mayor

ATTEST:

Thai Pham, City Clerk

Electronic Billboard Ordinance Project Initial Study/Mitigated Negative Declaration City of Gilroy, Santa Clara County, California

Prepared for:

City of Gilroy

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Report Date: August 4, 2022

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ACRONYMS AND ABBREVIATIONS

AB	Assembly Bill
AQP	Air Quality Plan
ARB	California Air Resources Board
ATCM	Airborne Toxics Control Measure
BAAQMD	Bay Area Air Quality Management District
BERD	Built Environmental Research Directory
BMP	Best Management Practice
CalEEMod	California Emissions Estimator Model
CAL FIRE	California Department of Forestry and Fire Protection
Caltrans	California Department of Transportation
CBC	California Building Standards Code
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CNDDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CNPSEI	California Native Plant Society Electronic Inventory
CO	Carbon Monoxide
CRHR	California Register of Historical Resources
dB	decibel
dBA	A-weighted decibel scale
DPM	diesel particulate matter
DTSC	Department of Toxic Substances Control
FCS	FirstCarbon Solutions
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Map
FMMP	Farmland Mapping and Monitoring Program
FTA	Federal Transit Administration
GFD	Gilroy Fire Department
GHG	greenhouse gas
IEA	International Energy Agency
IPaC	Information for Planning and Consultation
IS/MND	Initial Study/Mitigated Negative Declaration
kWh	kilowatt-hours

L _{dn}	day/night sound level
L _{eq}	equivalent continuous sound level
L _{max}	maximum instantaneous noise level
LED	light-emitting diode
LRA	Local Responsibility Area
MBTA	Migratory Bird Treaty Act
MM	Mitigation Measure
MT CO ₂ e	metric tons carbon dioxide equivalent
NAAQS	National Ambient Air Quality Standards
NAHC	California Native American Heritage Commission
NO _x	nitrogen oxide
NRHP	National Register of Historic Places
NWIC	Northwest Information Center
OAAA	Outdoor Advertising Association of America
OHP	California Office of Historic Preservation
PG&E	Pacific Gas and Electric Company
PM _{2.5}	particulate matter, including dust, 2.5 micrometers or less in diameter
PM ₁₀	particulate matter, including dust, 10 micrometers or less in diameter
PPV	peak particle velocity
ROG	reactive organic gases
RPS	renewable portfolio standard
SB	Senate Bill
SCRWA	South County Regional Wastewater Authority
SCVHP	Santa Clara Valley Habitat Plan
SR	State Route
TAC	toxic air contaminants
TCR	Tribal Cultural Resource
US-101	U.S. Highway 101
USDOT	United States Department of Transportation
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
UST	underground storage tank
VHFHSZ	Very High Fire Hazard Severity Zone
VMT	Vehicle Miles Traveled

SECTION 1: INTRODUCTION

1.1 - Purpose

The purpose of this Draft Initial Study/Mitigated Negative Declaration (Draft IS/MND) is to identify any potential environmental impacts that would result from implementation of the Electronic Billboard Ordinance Project (proposed project) in the City of Gilroy, California. Pursuant to California Environmental Quality Act (CEQA) Guidelines Section 15367, the City of Gilroy has discretionary authority over the proposed project and is the Lead Agency in the preparation of this Draft IS/MND and any additional environmental documentation required for the proposed project. The intended use of this document is to determine the level of environmental analysis required to adequately analyze the project pursuant to the requirements of CEQA and to provide the basis for input from public agencies, organizations, and interested members of the public.

The remainder of this section provides a brief description of the project location and the primary project characteristics. Section 2 includes an environmental checklist that provides an overview of the potential impacts that may result from project implementation, elaborates on the information contained in the environmental checklist, and provides justification for each checklist response. Section 3 contains the List of Preparers.

1.2 - Overview

Outfront Media (applicant) proposes to amend Section 30.37.30 (Prohibited Signs), Section 30.37.50 (Commercial and Industrial Districts), and Section 30.37.51 (Freeway Oriented Signs) of the Gilroy Municipal Code to allow up to two electronic billboards within specific areas of the City of Gilroy (City). The project would also create a new Zoning Code Ordinance (Article LV) related to electronic billboards which would permit up to two electronic billboards on property with a General Plan designation of General Services Commercial or City Gateway District, located within 660 feet of U.S. Highway 101 (US-101) or State Route (SR) 152.

In addition to the proposed Ordinance, the project includes an application for an electronic billboard within the Gilroy city limits. Exhibit 1 illustrates the proposed location for the electronic billboard, and Exhibit 2 depicts the General Plan land use map.

1.3 - Project Description

1.3.1 - Background

The City received an application for the construction of an electronic billboard on Automall Parkway and a code amendment request to allow for such billboard. At present, Article 37, the Gilroy Sign Ordinance (Sign Ordinance) does not allow off-site advertising signs (other than real estate signs) and has general restrictions for freeway-oriented signs and automobile dealership signs (e.g., height and size limits). The Sign Ordinance also prohibits electronic signs that utilize scrolling or moving text or images (e.g., changeable message signs). The Sign Ordinance does not currently address electronic billboards.

1.3.2 - Proposed Electronic Billboard Ordinance and Sign Ordinance Amendment

The project includes a new Electronic Billboard Ordinance (Article LV) and amendments to the City's existing Sign Ordinance Sections 30.37.30 (Prohibited Signs), 30.37.50 (Commercial and Industrial Districts), and 30.37.51 (Freeway Oriented Signs). At this time, only one electronic billboard application has been submitted, which would be processed under the new Ordinance as described in Section 1.3.3, below. Subsequent applications for an electronic billboard would require separate environmental review.

Under the draft Electronic Billboard Ordinance (proposed Ordinance), up to two electronic billboards would be allowed in the City. Permitted locations for electronic billboards would be property designated as General Services Commercial or City Gateway District and located within 660 feet of US-101 and SR-152. An Outdoor Advertising Permit would be required from the California Department of Transportation (Caltrans). As discussed below, the Sign Ordinance amendments would formalize height limits for such billboards and would also dictate the minimum distance between electronic billboards.

Per the proposed Ordinance, the electronic billboards shall not exceed a maximum height of 75 feet above freeway grade and shall have a maximum electronic billboard area of 672 square feet per side. The sign face display would not be allowed to change more often than every 8 seconds, and messages would be static (i.e., not moving or animated). The minimum permitted distance between the billboards shall be 1.5 miles.

In addition to the other requirements set forth in the proposed Ordinance, electronic billboard signs would comply with the requirements of the Outdoor Advertising Act and Regulations, California Business and Professions Code Section 5200 *et seq.*, and other State and federal statutes. Federal and State law would prevail in the case of any conflict between those laws and the ordinance.

The complete proposed text of the proposed Ordinance (Article LV) and the Sign Ordinance amendments is included in Appendix A.

1.3.3 - Proposed Electronic Billboard

As part of the implementation of the proposed Ordinance, the applicant proposes to construct one double-sided electronic billboard in the northwestern corner of an irregularly shaped parcel located at the 6400 block of Automall Parkway.¹ The 6-acre project parcel abuts US-101 to the east, the Princeville Channel and Auto Mall to the north, Automall Parkway and industrial uses to the west, and industrial uses to the south (Exhibit 3). The project parcel has a General Plan land use designation of General Services Commercial and is currently used for truck trailer parking across the majority of the site, with auto repair businesses in the southern portion of the site and a gas station in the northeastern corner of the site.

The proposed electronic billboard structure would be 75 feet in height (Exhibit 4). The electronic billboard would be V-shaped, with north- and south-facing light-emitting diode (LED) displays that

¹ There are multiple addresses associated with the subject property (Assessor's Parcel Number [APN]: 841-15-069).

would be visible to vehicles traveling on US-101. The displays on the billboard would be mounted on a supporting column that would be approximately 65 feet tall. The billboard frames would be 14 feet high and 48 feet wide (672 square feet in area). Galvanized steel platforms would be installed at the back of each face to provide access to the displays for maintenance purposes. An illuminated “Welcome to Gilroy” sign would be installed at the top of the column above the billboard.

1.3.4 - Relevant Lighting Regulations and Standards

The Caltrans Outdoor Advertising Act and Regulations 2011 Edition (Outdoor Advertising Act) addresses illumination generated by advertising displays by stating that displays may not “interfere with the effectiveness of, or obscure any official traffic sign, device, or signal . . . nor shall any advertising display cause beams or rays of light to be directed at the traveled ways if the light is of an intensity or brilliance as to cause glare or to impair the vision of any driver, or to interfere with any driver’s operation of a motor vehicle.” Caltrans regulations prohibit images on signs from changing more than once every four seconds.²

With respect to the brightness of signs, Business and Professions Code Section 5403(g) defines the brightness standard for changeable electronic variable message billboards in relation to Vehicle Code Section 21466.5, which provides:

No person shall place or maintain or display, upon or in view of any highway, any light of any color of such brilliance as to impair the vision of drivers upon the highway. A light source shall be considered vision impairing when its brilliance exceeds the values listed below.

The brightness reading of an objectionable light source shall be measured with a 1½-degree photoelectric brightness meter placed at the driver’s point of view. The maximum measured brightness of the light source within 10 degrees from the driver’s normal line of sight shall not be more than 1,000 times the minimum measured brightness in the driver’s field of view, except that when the minimum measured brightness in the field of view is 10 foot-lamberts or less, the measured brightness of the light source in foot-lambert shall not exceed 500 plus 100 times the angle, in degrees, between the driver’s line of sight and the light source.

The Outdoor Advertising Association of America (OAAA), however, recommends more conservative lighting intensity standards for billboards of the proposed size. The proposed Ordinance will require that electronic billboards be restricted to a maximum ambient light output level of 0.3 foot-candle, at a distance of 250 feet from the billboards, as recommended by the OAAA. The proposed Ordinance will also require that light levels emitted from the billboards would be set to adjust based upon ambient light conditions at any given time (i.e., nighttime versus daytime).

² California Department of Transportation (Caltrans). 2011. Outdoor Advertising Act and Regulations 2011 Edition. California Business Professional Code Sections 5200—5486.

1.4 - Required Discretionary and Ministerial Approvals

As mentioned previously, the City of Gilroy has discretionary authority over the proposed project and is the CEQA Lead Agency for the preparation of this Draft IS/MND. In order to implement the project, the applicant would need to secure the following permits/approvals:

- Adoption of the IS/MND
- Adoption of new Electronic Billboard Ordinance and Zoning Amendment
- Encroachment Permit (if public right-of-way is used)
- Outdoor Advertising Permit approval by Caltrans
- City Agreement (e.g., development agreement, operating agreement, lease agreement, contract, license, or other accord in form acceptable to the City of Gilroy City Attorney)
- Electronic Billboard Permit for the proposed electronic billboard
- Ministerial approvals, including building permits

Subsequent activities would be examined in light of the adopted Draft IS/MND to determine whether additional CEQA documentation would be required pursuant to Section 15162 of the CEQA Guidelines for subsequent approvals by the City and Caltrans, including the permits/approvals listed above.

1.5 - Intended Uses of this Document

This Draft IS/MND has been prepared to determine the appropriate scope and level of detail required in completing the environmental analysis for the proposed project. This document will also serve as a basis for soliciting comments and input from members of the public and public agencies regarding the proposed project. The Draft IS/MND will be circulated for a minimum of 30 days, during which comments concerning the analysis contained in the Draft IS/MND should be sent to:

Cindy McCormick, Senior Planner
City of Gilroy
7351 Rosanna Street
Gilroy, CA 95020
Phone: 408.846.0253
Email: cindy.mccormick@cityofgilroy.org

Exhibit 1: Regional Location Map

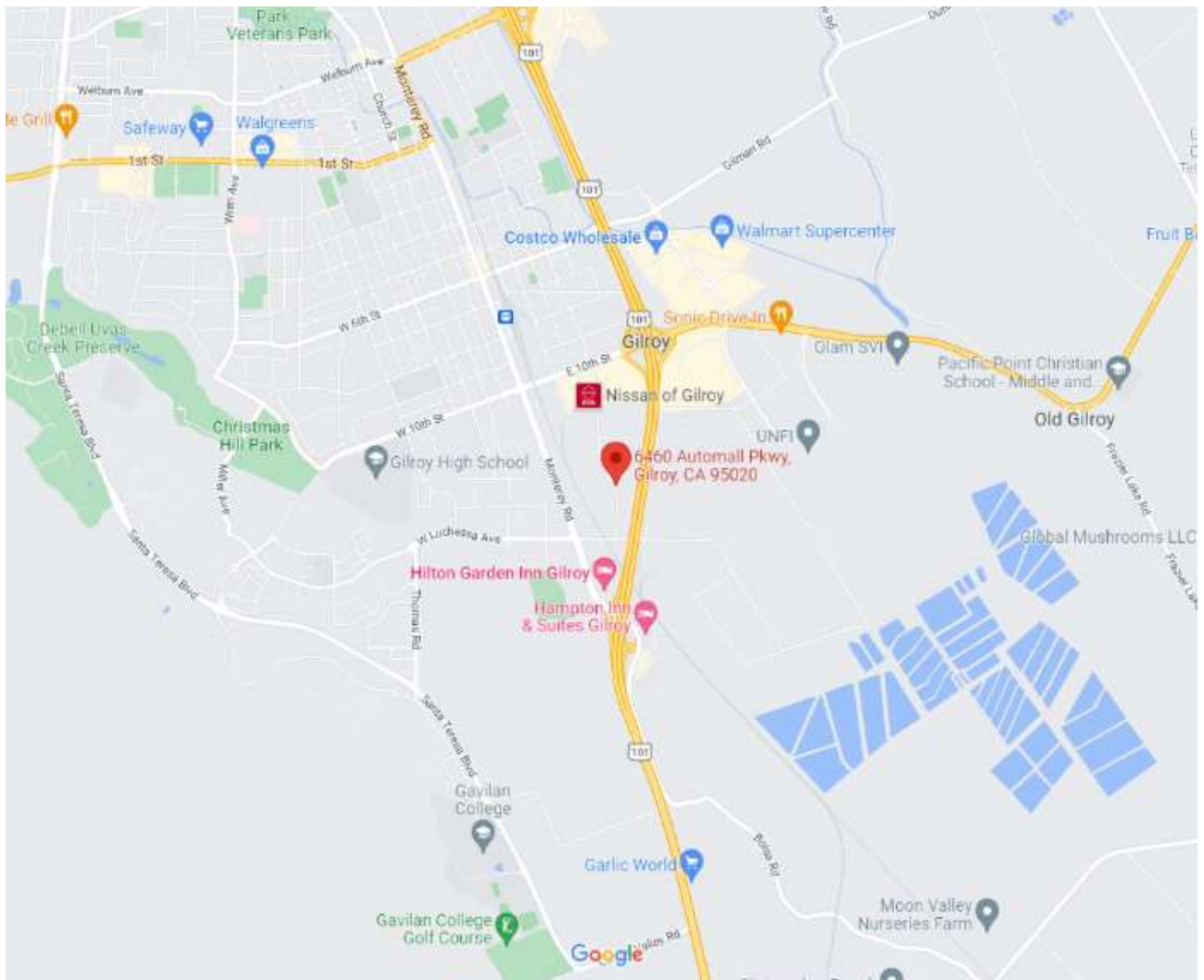


Exhibit 2: General Plan Land Use Map

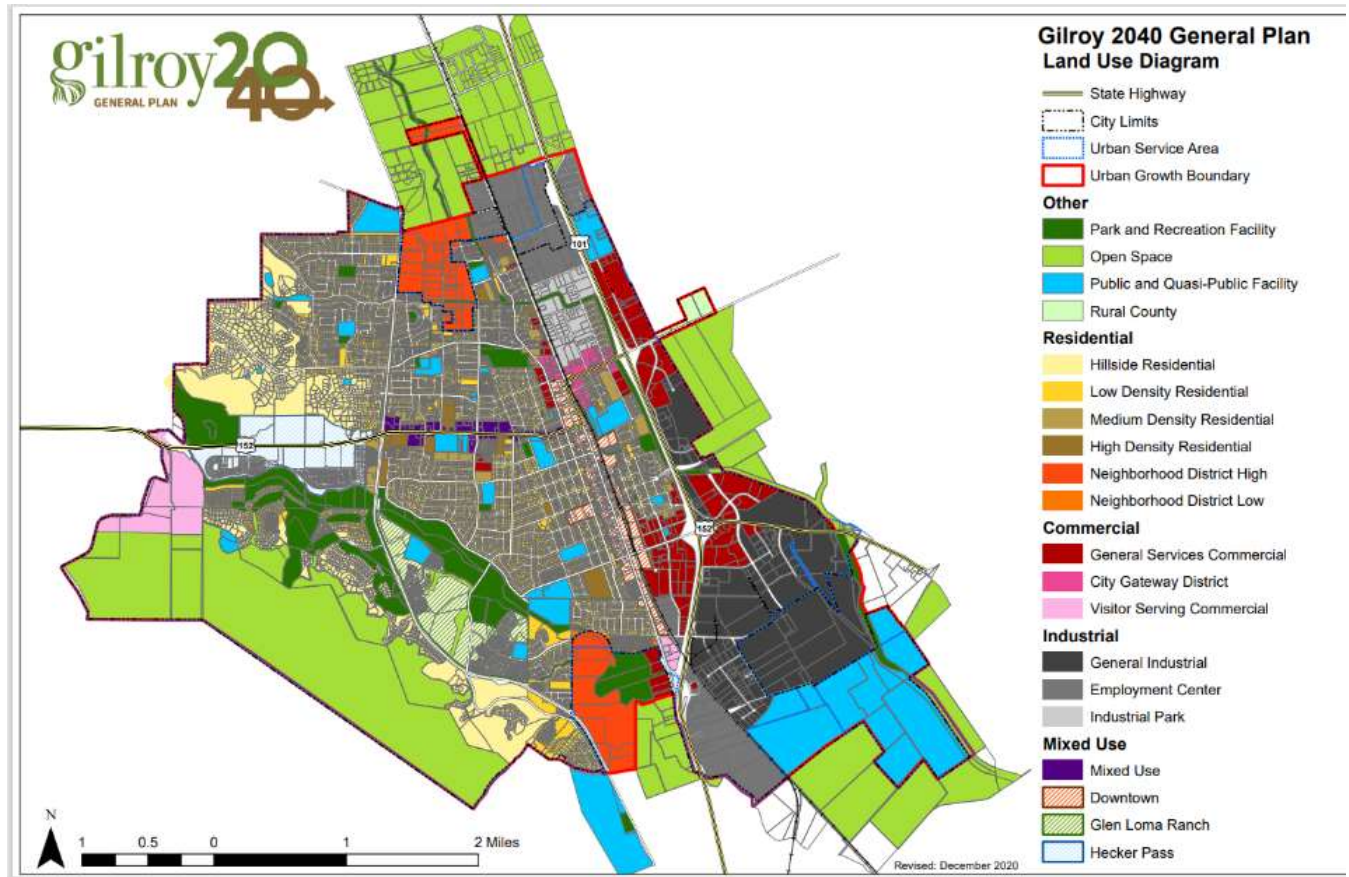


Exhibit 2a: Focused General Plan Land Use Map



[illegible]

54.00'

LEASE LINE

90°

SITE BENCHMARK
188.92
SET/MS

51.34'

LEASE AREA
3,600 SF

90°

ASPHALT

PROPOSED PYLON SIGN

188.00
AS
X

5'

LEASE LINE

73.08'

CHAIN LINK FENCE

S.C.V.W.D.

187.86
SET/MS

34.40'

CHAIN LINK FENCE

Exhibit 4: Proposed Billboard Height and Dimensions



SECTION 2: ENVIRONMENTAL CHECKLIST AND ENVIRONMENTAL EVALUATION

Environmental Factors Potentially Affected			
The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.			
☒ Aesthetics	☐ Agriculture and Forestry Resources	☒ Air Quality	
☒ Biological Resources	☒ Cultural Resources	☐ Energy	
☐ Geology/Soils	☐ Greenhouse Gas Emissions	☐ Hazards/Hazardous Materials	
☐ Hydrology/Water Quality	☐ Land Use/Planning	☐ Mineral Resources	
☐ Noise	☐ Population/Housing	☐ Public Services	
☐ Recreation	☐ Transportation	☒ Tribal Cultural Resources	
☐ Utilities/Services Systems	☐ Wildfire	☒ Mandatory Findings of Significance	
Environmental Determination			

On the basis of this initial evaluation:

- ☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- ☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- ☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- ☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measure based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- ☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Date: 08-05-2022

Signed: Cynthia McCormick

Environmental Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
2.1 Aesthetics <i>Except as provided in Public Resources Code Section 21099, would the project:</i>				
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic building within a State Scenic Highway?	☐	☐	☒	☐
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☒	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☒	☐	☐

Environmental Evaluation

Setting

The City of Gilroy is located in a valley bordered by the Diablo Mountains to the east and the Santa Cruz Mountains to the west. Visual character and scenic resources in the City are linked to the region's natural topography. Scenic resources in the City of Gilroy include Uvas Creek, Llagas Creek, vegetated portions of the Santa Cruz Mountains, and natural features along Miller Avenue and Hecker Pass Highway.³ Other scenic resources within the Sphere of Influence include farmland, hillsides, areas viewed from Hecker Pass Highway, Uvas Park Drive, and the City's principal gateway areas. Hecker Pass serves as the City's western gateway.

While there are no State Scenic Highways located in the City of Gilroy, there are three County-designated scenic routes—US-101, portions of SR-152 east and west of Gilroy, and Santa Teresa Boulevard—as identified by the City of Gilroy 2040 General Plan Final EIR.⁴ These routes, and Santa Teresa Boulevard, are described in the Santa Clara County Regional Parks and Scenic Highways Map⁵ as follows:

³ City of Gilroy. 2020. City of Gilroy 2040 General Plan. Page NCR-7-8.

⁴ City of Gilroy. 2020. City of Gilroy 2040 General Plan Final EIR. Page 3-5.

⁵ County of Santa Clara. 2008. Regional Parks and Scenic Highways Map Element of the Santa Clara County General Plan. Website: https://www.sccgov.org/sites/dpd/DocsForms/Documents/GP_Parks_ScenicRoads.pdf. Accessed September 16, 2021.

US-101: South Valley Freeway, countywide. This segment of US-101 passes through lands that remain primarily in agricultural and rural residential uses within the County, as well as through the City of Gilroy.

SR-152 (east): Pacheco Pass Highway, east from Ferguson Road. This highway is one of the most dramatically scenic gateways into south Santa Clara County; and

SR-152 (west): Hecker Pass Highway, from Santa Teresa Boulevard west to Mount Madonna Park and the Santa Cruz County line; and

Santa Teresa Boulevard: from US-101 south of Gilroy to Morgan Hill.

Areas within the City of Gilroy's Urban Growth Boundary are the only places in the City where electronic billboards would be allowed. The proposed electronic billboard's location would not affect scenic views because of its distance from scenic highways and scenic resources. The entire portion of US-101 that passes through the City of Gilroy is a County-designated scenic route, and is located within 660 feet of the proposed billboard site. The Pacheco Pass Highway SR-152 segment is located approximately 0.57-mile northeast of the proposed billboard site. The Hecker Pass Highway SR-152 segment is located approximately 2.63 miles northwest of the project site. Santa Teresa Boulevard is approximately 2.16 west of the proposed billboard site.

The analysis in this section is based, in part, on the Caltrans Outdoor Advertising Act and the Business and Professions Code Section 5403(g) for construction of electronic, LED billboards.

Would the project:

a) **Have a substantial adverse effect on a scenic vista?**

Less than significant impact.

Proposed Electronic Billboard Ordinance

As stated in the Project Description, the proposed Ordinance would allow up to two electronic billboards within the City, which would only be permitted on property designated as General Services Commercial or City Gateway District and within 660 feet of US-101 or SR-152. The nearest scenic vistas are located over a mile west of US-101 or over 4 miles southeast of the US-101. At the City's northern gateway (the US-101 entering the City of Gilroy), the nearest scenic vistas are the vegetated areas of the Santa Cruz Mountains, which begin approximately 2 miles north of the northern gateway. Because of the location requirements set forth in the proposed Ordinance, placement of any permitted electronic billboard under the proposed Ordinance would not have a substantial adverse effect on any scenic vista within city limits due to their distances from a scenic vista. Therefore, impacts would be less than significant.

Proposed Electronic Billboard

The project site is located in an urbanized area surrounded by industrial uses and the US-101. Scenic vistas are not visible from the project location. Therefore, impacts would be less than significant.

- b) **Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic building within a State Scenic Highway?**

Less than significant impact.

Proposed Electronic Billboard Ordinance

As stated in the Project Description, the proposed Ordinance and Sign Ordinance amendments would allow up to two billboards within the City, which would only be permitted on property designated as General Services Commercial or City Gateway District and within 660 feet of US-101 or SR-152. As stated in the setting subsection above, the US-101 segment that goes through the City of Gilroy is not a State Scenic Highway. At the City's northern gateway (US-101 entering the City of Gilroy), the nearest scenic resources are views adjacent to the US-101 that are associated with vegetated areas of the Santa Cruz Mountains. The vegetated areas visible from US-101 begin approximately 2 miles north of the northern gateway. Because of the requirements set forth in the proposed Ordinance, placement of any electronic billboard would not substantially damage scenic resources due to their distance from scenic resources or a State Scenic Highway. Therefore, impacts would be less than significant.

Proposed Electronic Billboard

There are neither rock outcroppings nor historic buildings located within the vicinity of the project site. The proposed electronic billboard would be located 200 feet west of US-101, outside of a State Scenic Highway. The proposed electronic billboard would not obstruct any views of US-101 as the proposed billboard site is located within an industrial area and there are no scenic resources that would be obstructed. Therefore, with compliance to size and height regulations, as well as the permitted locations set forth in the proposed Ordinance, the proposed electronic billboard would not obstruct any views surrounding the project area. Additionally, the proposed project would not involve the removal of any trees. As such, impacts would be less than significant.

- c) **In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?**

Less than significant impact.

Proposed Electronic Billboard Ordinance

The installation of electronic billboards would not be allowed in non-urbanized areas. Permitted locations are within the Urban Growth Boundary of the City. Additionally, the proposed Ordinance would be consistent with policies set forth in the Gilroy 2040 General Plan to reduce impacts on scenic resources within the City. Policies NCR 2.1—NCR 2.3 are specific to preserving views of the City of Gilroy's scenic assets, as viewed from designated scenic routes.⁶ Permitted locations set forth by the proposed Ordinance would not conflict with these policies.

Additionally, there are no scenic resources that would be obstructed from permitted locations in the proposed Ordinance. As previously mentioned, the nearest scenic resources are views adjacent to

⁶ City of Gilroy. 2020. City of Gilroy 2040 General Plan Final EIR. Page 3-16.

the US-101 that are associated with vegetated areas of the Santa Cruz Mountains. With compliance to size and height regulations, as well as the permitted locations set forth in the proposed Ordinance, the proposed project would not substantially degrade the visual character or quality of public views. Therefore, impacts would be less than significant.

Proposed Electronic Billboard

The project site is located in an urbanized area where the existing visual setting of the site consists of industrial uses adjacent to US-101, a heavily traveled roadway.

The proposed electronic billboard would comply with all design standards set forth in the proposed Electronic Billboard Ordinance. The proposed electronic billboard would also be consistent with the illumination intensity standards in the Caltrans Outdoor Advertising Act. The proposed project commits to a maximum ambient light output level of a 0.3 foot-candle at 250 feet from the billboard, which is a more conservative lighting intensity standard for electronic billboards of this proposed size when compared to State standards. For a frame of reference, 0.3 foot-candle is comparable in brightness to the light emanating from a computer monitor, and the light levels emitted from the proposed billboards would be programmed to adjust based upon ambient light conditions at any given time (i.e., nighttime versus daytime). Therefore, impacts would be less than significant.

d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Less than significant impact with mitigation incorporated.

Proposed Electronic Billboard Ordinance

The proposed Ordinance and Sign Ordinance amendments would allow up to two electronic billboards to be constructed within city limits. This would create a new source of substantial light or glare. However, all electronic billboards approved under the proposed Ordinance would be subject to federal, State, and local lighting regulations, including the illumination intensity standards in the Caltrans Outdoor Advertising Act. Additionally, the proposed Ordinance would require billboard projects to commit to a maximum ambient light output level of 0.3 foot-candle at 250 feet from the billboards, which is a more conservative lighting intensity standard for billboards of this proposed size when compared to State standards. In addition, it would require that the sign face display would not be allowed to change more often than every 8 seconds, and messages would be static (i.e., not moving or animated). As a result, impacts related to new sources of substantial light or glare would be less than significant.

Proposed Electronic Billboard

The nearest sensitive receptors to the project site are residential units at Monterey Gateway Apartments, located approximately 1,372 feet west of the site. There is also a gas station at the northwest corner of the project site. Nighttime light sources in this area include local street lighting, parking lot lighting at nearby auto dealerships, headlights from automobile traffic, highway lighting, and internal building lights.

As previously mentioned, the proposed project commits to a maximum ambient light output level of 0.3 foot-candle at 250 feet from the billboards, which is a more conservative lighting intensity standard for billboards of this proposed size when compared to State standards. At a distance of 1,372 feet, the apartment complex would not be adversely affected by the proposed electronic billboard.

The project would comply with the proposed Ordinance, which requires all electronic billboards to include an operating mechanism that turns off the display or turns it all black in the event of a malfunction. To ensure that the proposed billboard would not have a significant impact on the nearby sensitive uses, the proposed project would also implement Mitigation Measure (MM) AES-1, which requires that the electronic billboards' operational parameters are provided to the City for review and approval prior to initial operation.

Analysis of Driver Distraction

Driver distraction could occur due to the changing of electronic messages on the proposed LED billboards. Several federal and State regulations apply to the operation of electronic billboards, as discussed below. This data is provided for information purposes; it is not a CEQA threshold.

- California law allows LED billboards to operate at a minimum dwell time of no less than four seconds before the display may transition to the next image. This requirement is set forth in Business and Professions Code Section 5405(d)(1), which provides, in pertinent part, “. . . no message center display may include any illumination or message change that is in motion or appears to be in motion or that changes in intensity or exposes its message for less than 4 seconds.”
- The OAAA likewise recommends that billboards display a message for no less than 4 seconds.
- The Federal Highway Administration (FHWA), meanwhile, has approved of a similar dwell time standard. According to a FHWA memorandum, the acceptable range for the “[d]uration of each display is generally between 4 and 10 seconds—8 seconds is recommended.”

The proposed Ordinance would not allow the sign face display to change more often than every 8 seconds and messages would be static (i.e., not moving or animated). The proposed Ordinance would therefore ensure that construction of electronic billboards pursuant to the Ordinance would not exceed the relevant State and federal requirements and would therefore avoid any significant distraction on drivers. Thus, impacts would be less than significant with mitigation incorporated.

Mitigation Measures

MM AES-1 The signs' operational lighting parameters shall be provided to the City of Gilroy Community Development Department for review and approval prior to the regular operation of the light-emitting diode (LED) billboards, and shall be implemented by the project proponent to ensure a driver would not be adversely affected or impacted by trespass glare lighting.

Environmental Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
2.2 Agriculture and Forestry Resources <i>In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the State's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:</i>				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to nonagricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

Environmental Evaluation

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the State's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board (ARB).

Setting

The Farmland Mapping and Monitoring Program (FMMP) produces maps that display farmland in California. The Department of Conservation Inventory Map confirms that the parcels along US-101 and SR-152 that are designated General Services Commercial or City Gateway District are all classified as Urban and Built-Up Land.⁷ The nearest Prime Farmland is approximately 1,000 feet east of US-101.

Would the project:

- a) **Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use?**

No impact.

Proposed Electronic Billboard Ordinance

As stated in the Project Description, the two billboards that would potentially be allowed would only be permitted on property designated as General Services Commercial or City Gateway District. The proposed electronic billboard would not be located on a parcel that is designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. Therefore, no impact would occur.

Proposed Electronic Billboard

As discussed above, the project site is designated as “Urban and Built-Up Land.” Therefore, development of the proposed project would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to nonagricultural use. No impact would occur.

- b) **Conflict with existing zoning for agricultural use, or a Williamson Act contract?**

No impact.

Proposed Electronic Billboard Ordinance

Within the City, there are currently no active Williamson Act contracts; all properties under Williamson Act contracts are located outside of the Urban Growth Boundary.⁸ Therefore, project implementation would not conflict with existing zoning for agricultural use, nor would it conflict with any active Williamson Act contracts. No impact would occur.

Proposed Electronic Billboard

The General Plan land use designation for the project site is General Services Commercial and is not zoned for agricultural use.⁹ As discussed above, the project site is not encumbered by a Williamson Act contract. Thus, no impact would occur.

⁷ Department of Conservation. 2016. California Important Farmland Finder. Website: <https://maps.conservation.ca.gov/DLRP/CIFF/>. Accessed June 28, 2021.

⁸ County of Santa Clara. 2021. Williamson Act Properties. Website: <https://sccplanning.maps.arcgis.com/apps/webappviewer/index.html?id=1f39e32b4c0644b0915354c3e59778ce>. Accessed July 14, 2021.

⁹ City of Gilroy. 2020. Gilroy 2040 General Plan, Land Use Diagram.

- c) **Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?**

and

- d) **Result in the loss of forest land or conversion of forest land to non-forest use?**

No impact.

Proposed Electronic Billboard Ordinance

According to the California Public Resources Code, “forest land” is land that can support 10 percent native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits.¹⁰ Potential electronic billboards would only be permitted on properties designated as General Services Commercial or City Gateway District. None of the properties designated as General Services Commercial or City Gateway District along US-101 and SR-152 contain forest land. Therefore, the proposed Ordinance would not conflict with existing zoning or cause rezoning of any forest land. No impact would occur.

Proposed Electronic Billboard

The project site is designated as General Services Commercial and is not within a forest land zoning district. This condition precludes the possibility of a conflict with a forest zoning designation. The project site is developed with industrial uses and does not contain forest land. No impact related to conflict with forest land zoning or loss of forest land would occur.

- e) **Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to nonagricultural use or conversion of forest land to non-forest use?**

No impact.

Proposed Electronic Billboard Ordinance

As discussed previously, potential electronic billboards would only be permitted on properties designated as General Services Commercial or City Gateway District. In addition, potential electronic billboards would be located in developed areas along US-101 and SR-152 and would not be sited on farmlands or forest land. Therefore, the proposed project would not result in the conversion of Farmland to nonagricultural use or conversion of forest land to non-forest use. No impact would occur.

¹⁰ Thomson Reuters Westlaw. 2019. California Code, Public Resources Code–12220.

Proposed Electronic Billboard

The proposed project involves construction of one electronic billboard in an industrial area. No impact related to conversion of farmland and forestland would occur.

Mitigation Measures

None required.

Environmental Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
2.3 Air Quality <i>Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations.</i> <i>Would the project:</i>				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☒	☐	☐
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or State ambient air quality standard?	☐	☒	☐	☐
c) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
d) Result in other emissions (such as those leading to odors or) adversely affecting a substantial number of people?	☐	☐	☒	☐

Environmental Evaluation

Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations.

Setting

The proposed project is located within the San Francisco Bay Area Air Basin (Air Basin), which consists of the entirety of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, and Santa Clara counties; the western portion of Solano County; and the southern portion of Sonoma County. The Air Basin is characterized by complex terrain consisting of coastal mountain ranges, inland valleys, and bays. The regional climate of the Air Basin is characterized by mildly dry summers and moderately wet winters. The region experiences moderate humidity with wind patterns consisting of mild onshore breezes during the day. The location of a strong subtropical high-pressure cell located in the Pacific Ocean induces foggy mornings and moderate temperatures during the summer, as well as occasional rainstorms during the winter.

The air pollutants for which national and State standards have been promulgated and that are most relevant to air quality planning and regulation in the Bay Area include ozone, nitrogen oxides (NO_x), carbon monoxide (CO), particulate matter, including dust, 10 micrometers or less in diameter (PM₁₀), and particulate matter, including dust, 2.5 micrometers or less in diameter (PM_{2.5}). In addition, toxic air contaminants (TACs) are of concern in the Bay Area. Each of these pollutants is briefly described below. Other pollutants that are regulated but not considered an issue in the project area are sulfur

dioxide, vinyl chloride, sulfates, hydrogen sulfide, and lead; the proposed project would not emit substantial quantities of those pollutants, so they are not discussed further in this section.

- Ozone is a gas that is formed when reactive organic gases (ROG) and NO_x—both byproducts of internal combustion engine exhaust—undergo slow photochemical reactions in the presence of sunlight. Ozone concentrations are generally highest during the summer months when direct sunlight, light wind, and warm temperature conditions are conducive to its formation. Its effects can include the following: irritate respiratory system; reduce lung function; cause breathing pattern changes; reduce breathing capacity; inflame and damage cells that line the lungs; make lungs more susceptible to infection; aggravate asthma; aggravate other chronic lung diseases; cause permanent lung damage; cause some immunological changes; increase mortality risk; and cause vegetation and property damage.
- CO is a colorless, odorless gas produced by the incomplete combustion of fuels. CO concentrations tend to be the highest during winter mornings, with little to no wind, when surface-based inversions trap the pollutant at ground levels. Because CO is emitted directly from internal combustion engines—unlike ozone—and motor vehicles operating at slow speeds are the primary source of CO in the Bay Area, the highest ambient CO concentrations are generally found near congested transportation corridors and intersections. Potential health effects from CO ranges depending on exposure: slight headaches; nausea; aggravation of angina pectoris (chest pain) and other aspects of coronary heart disease; decreased exercise tolerance in persons with peripheral vascular disease and lung disease; impairment of central nervous system functions; possible increased risk to fetuses; and death.
- PM₁₀ and PM_{2.5} consist of extremely small, suspended particles or droplets 10 microns and 2.5 microns or smaller in diameter, respectively. Some sources of particulate matter, like pollen and windstorms, are naturally occurring. However, in populated areas, most particulate matter is caused by road dust, diesel soot, combustion products, abrasion of tires and brakes, and construction activities. Health effects from short-term exposure (hours per days) can include the following: irritation of the eyes, nose, throat; coughing; phlegm; chest tightness; shortness of breath; aggravation of existing lung disease causing asthma attacks and acute bronchitis; those affected with heart disease can suffer heart attacks and arrhythmias. Health effects from long-term exposure can include the following: reduced lung function; chronic bronchitis; changes in lung morphology; and death.
- TACs refer to a diverse group of air pollutants that can affect human health but have not had ambient air quality standards established for them. Diesel particulate matter (DPM) is a toxic air contaminant that is emitted from construction equipment and diesel-fueled vehicles and trucks. Some short-term (acute) effects of DPM exposure include eye, nose, throat, and lung irritation, coughs, headaches, light-headedness, and nausea. Studies have linked elevated particle levels in the air to increased hospital admissions, emergency room visits, asthma attacks, and premature deaths among those suffering from respiratory problems. Human studies on the carcinogenicity of DPM demonstrate an increased risk of lung cancer, although the increased risk cannot be clearly attributed to diesel exhaust exposure.

Construction and operation of the proposed project would be subject to applicable Bay Area Air Quality Management District (BAAQMD) rules and requirements. The BAAQMD CEQA Guidelines were developed to assist local jurisdictions and lead agencies in complying with the requirements of CEQA regarding potentially adverse impacts to air quality.¹¹

Would the project:

a) Conflict with or obstruct implementation of the applicable air quality plan?

Less than significant impact with mitigation incorporated.

Proposed Electronic Billboard Ordinance

The proposed Ordinance would only relate to new electronic billboard requirements and regulations. The updated text would not involve changes in the existing environment. Analysis specific to the construction of the proposed electronic billboard is discussed below.

Proposed Electronic Billboard

The 2017 Clean Air Plan is the currently applicable regional Air Quality Plan (AQP) for the Air Basin. The primary goals of the 2017 Clean Air Plan are to protect public health and protect the climate. The 2017 Clean Air Plan acknowledges that the BAAQMD's two stated goals of protection are closely related. As such, the 2017 Clean Air Plan identifies a wide range of control measures intended to decrease both criteria pollutants¹² and greenhouse gas (GHG) emissions.¹³ Because the proposed project does not involve population or employment growth, determining consistency with the 2017 Clean Air Plan involves assessing whether applicable control measures contained in the 2017 Clean Air Plan are implemented and whether implementation of the proposed project would disrupt or hinder implementation of AQP control measures. The control measures are organized into five categories: stationary and area source control measures, mobile source measures, transportation control measures, land use and local impact measures, and energy and climate measures. The control measures are geared toward traditional land uses (e.g., residential, commercial, and industrial uses) and buildings. None of the control measures contained in the 2017 Clean Air Plan are applicable to the operation of electronic billboards; however, all projects within BAAQMD's jurisdiction are required to implement the BAAQMD Best Management Practices (BMPs) during construction activities. As discussed in Impact 2.3(b), the proposed project would implement all BMPs for construction activities and would be consistent with the assumptions in the AQP after implementation of MM AIR-1. Furthermore, the proposed project would not include any special features that would disrupt or hinder implementation of the AQP control measures. Therefore, the proposed project would not conflict with or obstruct implementation of the 2017 Clean Air Plan. This impact would be less than significant after mitigation.

¹¹ Bay Area Air Quality Management District (BAAQMD). 2017. CEQA Guidelines. May. Website:

http://www.baaqmd.gov/~media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en. Accessed June 16, 2021.

¹² The EPA has established National Ambient Air Quality Standards (NAAQS) for six of the most common air pollutants—carbon monoxide, lead, ground-level ozone, particulate matter, nitrogen dioxide, and sulfur dioxide—known as “criteria” air pollutants (or simply “criteria pollutants”).

¹³ Bay Area Air Quality Management District (BAAQMD). 2017. Final 2017 Clean Air Plan. Website:

http://www.baaqmd.gov/~media/files/planning-and-research/plans/2017-clean-air-plan/attachment-a_-proposed-final-cap-vol-1-pdf.pdf?la=en. Accessed June 16, 2021.

- b) **Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or State ambient air quality standard?**

Less than significant impact with mitigation incorporated.

Proposed Electronic Billboard Ordinance

The proposed Ordinance would only relate to new electronic billboard requirements and regulations. The updated text would not involve changes in the existing environment. Analysis specific to the construction of the proposed electronic billboard is discussed below.

Proposed Electronic Billboard

The BAAQMD's thresholds of significance represent the allowable amount of emissions a project can generate without generating a cumulatively considerable contribution to regional air quality impacts. Therefore, a project that would not exceed the BAAQMD thresholds of significance on a project-level also would not be considered to result in a cumulatively considerable contribution to these regional air quality impacts. The region is non-attainment for the federal and State ozone standards, State PM₁₀ standards, and federal and State PM_{2.5} standards. Impacts related to construction and operations of the proposed project are addressed separately below.

Construction Emissions

Emissions from construction-related activities are generally short-term in duration but may still cause adverse air quality impacts. The proposed project would generate emissions from construction equipment exhaust, worker travel, and fugitive dust. These construction emissions include criteria air pollutants and precursors from the operation of heavy construction equipment. As discussed below, the proposed project's construction emissions would not exceed any significance threshold adopted for this project. Therefore, the proposed project would have a less than significant contribution to cumulative impacts during construction.

Construction Fugitive Dust

For all proposed projects, the BAAQMD requires the implementation of BMPs to ensure that construction-related fugitive dust emissions are considered less than significant. As such, the proposed project would be required to implement MM AIR-1 to ensure construction emission impacts are less than significant, which would apply the following BAAQMD BMPs during construction activities at the proposed new electronic billboard site:

- Exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered with non-potable water two times per day.
- All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
- All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
- All roadways, driveways, and sidewalks shall be paved as soon as possible.

- Idling times shall be minimized either by shutting equipment off when not in use or by reducing the maximum idling time to 5 minutes (as required by the California Airborne Toxics Control Measure Title 13, § 2485 of the California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.
- All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified visible emissions evaluator.
- A publicly visible sign shall be posted with the telephone number and person to contact at the City regarding dust complaints. This person shall respond and take corrective action within 48 hours of a complaint or issue notification. The BAAQMD's phone number shall also be visible to ensure compliance with applicable regulations.

Construction: ROG, NO_x, PM₁₀ (exhaust), and PM_{2.5} (exhaust)

Construction emissions were estimated for the activities associated with the installation of the proposed new electronic billboard. Based on applicant-provided information, it is expected that construction activities associated with the proposed project would last 2 to 4 weeks. The construction schedule used to estimate emissions is shown in Table 1. The off-road construction equipment list is shown by construction activity in Table 2. The exhaust emissions generated by construction equipment are based on the hours of operation, horsepower, and load factors of the equipment. The duration of construction activity and associated equipment represent a reasonable approximation of the expected construction fleet as required by CEQA Guidelines. The number of off-site trips assumed to occur during construction of the proposed project is shown in Table 3. Additional trips were included to account for the transport of construction material and equipment.

Table 1: Combined Construction Schedule

Phase	Total Number of Working Days
Proposed New Electronic Billboard Site	
Grading	2
Building Construction (Installation of Billboard)	19
Paving	2
Source: California Emissions Estimator Model (CalEEMod) Output (see Appendix B). ¹	
¹ The construction schedule in the CalEEMod Output is based on the anticipated schedule provided by the applicant. Because vehicle fuel use becomes more efficient through time in compliance with federal and State regulations, these dates support a conservative evaluation of potential impacts.	

Table 2: Construction Equipment Assumptions

Activity	Equipment	Amount	Hours per Day	Horsepower	Load Factor
Proposed New Electronic Billboard Site					
Grading	Bore/Drill Rigs	1	8	221	0.50
	Concrete/Industrial Saws	1	2	81	0.73
	Tractors/Loaders/Backhoes	1	3	97	0.37
Building Construction (Installation of Billboard)	Cranes	1	4	231	0.29
	Forklifts	1	6	89	0.20
Paving	Cement and Mortar Mixers	1	2	9	0.56
Source: California Emissions Estimator Model (CalEEMod) Output (see Appendix B).					

Table 3: Combined Construction Off-site Vehicle Trips

Construction Phase	Construction Vehicle Trips		
	Worker Trips per Day	Vendor Trips per Day	Total Haul Trips
Proposed New Electronic Billboard Site			
Grading	8	2	8
Building Construction (Installation of the Billboard)	8	2	0
Paving	8	2	0
Source: Source: California Emissions Estimator Model (CalEEMod) Output (see Appendix B).			

Annual project construction emissions prior to the application of mitigation are shown in Table 4. Average daily construction emissions are compared with the significance thresholds in Table 5.

Table 4: Annual Construction Emissions

Construction Phase	Tons/Year			
	ROG	NO _x	PM ₁₀ (Exhaust)	PM _{2.5} (Exhaust)
Proposed New Electronic Billboard Site				
Grading	<0.1	<0.1	<0.1	<0.1
Building Construction (Installation of Billboard)	<0.1	<0.1	<0.1	<0.1
Paving	<0.1	<0.1	<0.1	<0.1
Total Construction Emissions	<0.1	<0.1	<0.1	<0.1

Construction Phase	Tons/Year			
	ROG	NO _x	PM ₁₀ (Exhaust)	PM _{2.5} (Exhaust)
Notes: NO _x = oxides of nitrogen PM ₁₀ = particulate matter, including dust, 10 micrometers or less in diameter PM _{2.5} = particulate matter, including dust, 2.5 micrometers or less in diameter ROG = reactive organic gases Sums were calculated using unrounded numbers from the California Emissions Estimator Model (CalEEMod) Output. Source: CalEEMod Output (see Appendix B).				

Table 5: Average Daily Construction Emissions

Parameter	Air Pollutants			
	ROG	NO _x	PM ₁₀ ¹	PM _{2.5} ¹
Total Emissions (tons/year)	<0.1	<0.1	<0.1	<0.1
Total Emissions (lbs/year)	11.88	106.92	11.86	10.96
Average Daily Emissions (lbs/day) ²	0.03	0.23	0.03	0.02
Significance Threshold (lbs/day)	54	54	82	54
Exceeds Significance Threshold?	No	No	No	No
Notes: lbs = pounds NO _x = oxides of nitrogen PM ₁₀ = particulate matter, including dust, 10 micrometers or less in diameter PM _{2.5} = particulate matter, including dust, 2.5 micrometers or less in diameter ROG = reactive organic gases ¹ Exhaust only ² Calculated by dividing the total lbs by the total 23 working days of construction for the duration of construction. Calculations use unrounded totals. Source: California Emissions Estimator Model (CalEEMod) Output (see Appendix B).				

As shown in Table 5, the combined construction emissions from all components of the proposed project are well below the recommended thresholds of significance. Therefore, project construction would have a less than significant impact.

Operational Emissions

The proposed project would generate operational emissions principally from vehicle traffic due to maintenance vehicles accessing the site. The following analysis relates to localized and regional criteria pollutant impacts. Emissions resulting from various aspects of the proposed project are discussed separately below.

Operations: ROG, NO_x, PM₁₀, and PM_{2.5}

The BAAQMD has developed screening criteria whereby an agency can quickly determine whether a given development project has the potential to exceed adopted significance thresholds. If all

screening criteria are met by a proposed project, then the Lead Agency or applicant would not need to perform a detailed air quality assessment of their project's air pollutant emissions. Although the screening criteria do not include a category for billboards, a comparison to the land uses in that screening table can be used to inform the operational analysis. For comparison, the BAAQMD has determined that a multi-family apartment development would need to construct greater than 451 units to violate emission significance thresholds during project operation. During operation, the proposed project would operate a new electronic billboard, which would require minimal and irregular maintenance vehicle trips which would occur only as needed (less than once per month and likely only one vehicle). Additionally, project operations would not include other sources of emissions as the proposed project would be limited to the operation of an electronic billboard and would not include other land uses, such as an industrial processing facility or a gas station. As such, operation of the proposed project would entail significantly less activity than operation of a 451-unit apartment building. Accordingly, operational criteria pollutant emissions would not be anticipated to exceed the recommended thresholds of significance. Therefore, the proposed project's long-term operational impacts would be less than significant.

Operational CO Hotspots

CO emissions from project-related traffic would be the pollutant of greatest concern at the local level because congested intersections with large volumes of traffic have the greatest potential to cause high, localized concentrations of CO.

The BAAQMD recommends a screening analysis to determine whether a project has the potential to contribute to a CO hotspot. The screening criteria identify when subsequent site-specific CO dispersion modeling is necessary.

The BAAQMD considers a project's local CO emissions to be less than significant if one of the following screening criteria is met:

- The project is consistent with an applicable congestion management program established by the County congestion management agency for designated roads or highways, regional transportation plan, and local congestion management agency plans.
- The project traffic would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour.
- The project traffic would not increase traffic volumes at affected intersections to more than 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited (e.g., tunnel, parking garage, bridge underpass, natural or urban street canyon, or below-grade roadway).

Billboards require occasional upkeep and maintenance activities, which generate vehicle trips. The long-term operation of the proposed electronic billboard would include vehicle trips with minimal and irregular maintenance activities, occurring only as needed (less than once per month and likely only one vehicle). The expected increase in traffic would not substantially increase traffic volumes at any affected intersection. Therefore, the proposed project would not exceed the CO screening criteria. Furthermore, the adjacent roadways are not located in an area where vertical or horizontal

mixing is substantially limited. Therefore, based on the above criteria, the proposed project would have a less than significant impact related to CO hotspots.

c) Expose sensitive receptors to substantial pollutant concentrations?

Less than significant impact.

Proposed Electronic Billboard Ordinance

The proposed Ordinance would only relate to new electronic billboard requirements and regulations. The updated text would not involve changes in the existing environment. Analysis specific to the construction of the proposed electronic billboard is discussed below.

Proposed Electronic Billboard

The BAAQMD considers a sensitive receptor to be any facility or land use that includes members of the population who are particularly sensitive to the effects of air pollutants, such as children, the elderly, and people with illnesses. If a project is likely to be a place where people live, play, or convalesce, it should be considered a receptor. It should also be considered a receptor if sensitive individuals are likely to spend a significant amount of time there. Examples of receptors include residences, schools and school yards, parks and playgrounds, daycare centers, nursing homes, and medical facilities. Playgrounds could be play areas associated with parks or community centers. The proposed new electronic billboard site is located in the vicinity of sensitive receptors, including single-family homes. The closest sensitive receptors are existing homes located more than 1,180 feet to the west from where project components would be placed.

The following analysis evaluates whether the proposed project would result in construction or operational-period impacts to sensitive receptors. The following three criteria were applied to determine whether project emissions would result in less than significant impacts to sensitive receptors:

- **Criterion 1:** Construction of the project would not result in localized emissions that, if when combined with background emissions, would result in exceedance of any health-based air quality standard.
- **Criterion 2:** Operation of the project would not result in localized emissions that, if when combined with background emissions, would result in exceedance of any health-based air quality standard.
- **Criterion 3:** Construction of the project would not result in an exceedance of asbestos exposure.

Criterion 1: Project Construction Toxic Air Pollutants

The project would generate TACs, such as DPM, during construction due to the use of off-road construction equipment. DPM is represented as exhaust emissions of PM_{2.5} and PM₁₀. As shown in Table 5, project construction would emit at most 0.03 and 0.02 pounds per day of PM_{2.5} and PM₁₀. As discussed in Impact 2.3(b), emissions during construction would not exceed the BAAQMD's

significance thresholds for PM_{2.5} and PM₁₀ and would not be expected to result in concentrations that could exceed ambient air quality standards or contribute substantially to an existing exceedance of an ambient air quality standard. Therefore, construction of the proposed project would not result in significant emissions of TACs. Impacts relating to Criterion 1 would be less than significant.

Criterion 2: Project Operation Localized Emissions

The proposed project would entail the operation of an electronic billboard, which is not a land use which would result in substantial localized emissions. Maintenance would involve irregular trips to the sites, usually involving only one light vehicle. Furthermore, as discussed in Impact 2.3(b), the proposed project's operational vehicle trips would not result in an increase in traffic volumes such that a CO hotspot would occur. Therefore, the proposed project would not expose sensitive receptors to substantial criteria air pollutant concentrations during operation or result in localized emissions that, when combined with background emissions, would result in exceedance of any health-based air quality standard. Impacts relating to Criterion 2 would be less than significant.

Criterion 3: Asbestos from Demolition

As discussed in Section 8, Hazards and Hazardous Materials, there is no potential for asbestos-containing materials to be present within the project area because no structures currently exist in the project site. No impacts relating to Criterion 3 would occur.

- d) **Result in other emission (such as those leading to odors) adversely affecting a substantial number of people?**

Less than significant impact.

Proposed Electronic Billboard Ordinance

The proposed Ordinance would only relate to new electronic billboard requirements and regulations. The updated text would not involve changes in the existing environment. Analysis specific to the construction of the proposed electronic billboard is discussed below.

Proposed Electronic Billboard

The proposed electronic billboard would not be a source of other emissions, such as those leading to odors, during operations because an electronic billboard would not result in emissions of odors. For example, the project would not include sanitary sewer processing plants or coffee roasting facilities that generate significant odors. During construction, a limited number of diesel engines would be operated on the project site for limited durations. Diesel exhaust and ROGs from these diesel engines would be emitted during construction of the proposed project, which are objectionable to some; however, project construction is expected to be short-term (2 to 4 weeks), emissions would disperse rapidly from the project site, and diesel exhaust odors would be consistent with existing vehicle odors in the area. Considering this information, construction and operation of the proposed project would not create other emissions or odors adversely affecting a substantial number of people; impacts would be less than significant.

Mitigation Measures

MM AIR-1 In order to comply with the Bay Area Air Quality Management District (BAAQMD) Best Management Practices (BMPs) during construction, prior to issuance of grading and construction permits, the project applicant and construction contractor shall:

- Exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered with non-potable water two times per day.
- All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
- All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
- All roadways, driveways, and sidewalks shall be paved as soon as possible.
- Idling times shall be minimized either by shutting equipment off when not in use or by reducing the maximum idling time to 5 minutes (as required by the California Airborne Toxics Control Measure [ATCM] Title 13, § 2485 of the California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.
- All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified visible emissions evaluator.
- A publicly visible sign shall be posted with the telephone number and person to contact at the City regarding dust complaints. This person shall respond and take corrective action within 48 hours of a complaint or issue notification. The BAAQMD's phone number shall also be visible to ensure compliance with applicable regulations.

Environmental Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
2.4 Biological Resources <i>Would the project:</i>				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or United States Fish and Wildlife Service?	☐	☒	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Wildlife or United States Fish and Wildlife Service?	☐	☐	☐	☒
c) Have a substantial adverse effect on State or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☒	☐	☐
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of wildlife nursery sites?	☐	☐	☒	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan?	☐	☒	☐	☐

Environmental Evaluation

Setting

This section evaluates potential effects on biological resources that may result from the construction of one, 60-foot-high billboard within the northwestern corner of the project site. This section does not include a biological analysis of any other potential billboard projects permitted under the proposed Ordinance. Subsequent electronic billboards would be subject to environmental review prior to their approval. Prior to the field survey, an FCS Biologist reviewed the California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDDB), a special-status species

and plant community account database; the United States Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) system; and the California Native Plant Society (CNPS) Electronic Inventory (CNPSEI) of Rare and Endangered Vascular Plants of California database for the *Chittenden, California*, United States Geological Survey (USGS) 7.5-minute Topographic Quadrangle Map and the eight surrounding quadrangles (Appendix C). An on-site assessment of biological resources was completed by qualified FCS Biologist, Robert Carroll, on August 13, 2021.

The habitat present within the 6-acre project site can be categorized as Urban/Developed. This habitat is classified as areas that have been constructed upon or otherwise physically altered to an extent that native vegetation is no longer supported and retains no soil substrate. Developed land is characterized by permanent or semi-permanent structures, pavement, or hardscape, and landscaped areas that often require irrigation.

The project site is situated in a highly developed area and is currently used for truck trailer parking across the majority of the site, with auto repair businesses in the southern portion of the site and a gas station in the northeastern corner of the site.

The project site abuts US-101 to the east, the Princeville Channel and an Auto Mall to the north, Automall Parkway/Chestnut Street and industrial uses to the west, and industrial uses to the south (Exhibit 3). An approximate 6-foot-high chain link fence divides the Princeville Channel from the project site. The Princeville Channel provides drainage for the south and central portions of the City and is a tributary to Llagas Creek.¹⁴ The western edge of the project site, adjacent to Automall Parkway/Chestnut Street, contains various ornamental trees and planters commonly found in business parks. Vegetation observed within this area included spineless yucca (*Yucca elephantipesis*), willow (*Salix sp.*), and Mediterranean cypress (*Cupressus sempervirens*). Additionally, a row of olive trees (*Olea europaea*) is located off-site between US-101 and the project site. Outside of the western edge of the project site, the remaining areas are covered in hardscape and devoid of any vegetation.

Impact Analysis

Would the project:

- a) **Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or United States Fish and Wildlife Service?**

Less than significant with mitigation incorporated.

Proposed Electronic Billboard Ordinance

The proposed Ordinance would only relate to new electronic billboard requirements and regulations. The Ordinance would not involve changes to the existing environment and subsequent billboards

¹⁴ City of Gilroy Storm Drain System Master Plan. 2004. p.4-6

would be subject to environmental review prior to approval. Analysis specific to the construction of the proposed electronic billboard is discussed below.

Proposed Electronic Billboard

Special-status Plant Species Potentially Occurring within the Project Site

The potential for plant species to occur on the project site was evaluated based on the presence of suitable habitats, soil types, and occurrences recorded by the CNPS and CNDDDB listings in the generally vicinity of the site, as well as a site survey conducted by a qualified Biologist. The Special-status Plant Species Table (Table 1; Appendix C) provides a summary of the listing status, habitat requirements, and the potential for occurrence of other sensitive plant species that have been documented within the *Chittenden, California*, USGS 7.5-minute Topographic Quadrangle Map and the eight surrounding quadrangles. A total of eight special-status plant species were evaluated for their potential to occur within the project site.

The species evaluated in the Special-status Plant Species Evaluation Table require specific habitat conditions (e.g., vernal pools, riparian woodland, chaparral, serpentine outcrops, or valley and foothill grasslands) that are not present within the project site. Because of previous development, no special-status plant species have potential to occur within the project site; therefore, no special-status plant species would be impacted by the proposed electronic billboard.

Special-status Wildlife Species Potentially Occurring within the Project Site

The potential for wildlife species to occur on the project site was evaluated based on the presence of suitable habitats, and occurrences recorded by the CNDDDB in the generally vicinity of the site, as well as a site survey conducted by a qualified Biologist. The Special-status Wildlife Species Evaluation Table (Table 2; Appendix C) provides a summary of the listing status, habitat requirements, and the potential for occurrence of other sensitive wildlife species that have been documented within the *Chittenden, California*, USGS 7.5-minute Topographic Quadrangle Map and the eight surrounding quadrangles. A total of 11 special-status wildlife species were evaluated for their potential to occur within the project site. Of the 11 species evaluated, one species, white-tailed kite (*Elanus leucurus*) has the potential to occur within the project site. This species is discussed in further detail below.

White-tailed kite and other nesting birds

The white-tailed kite is listed by the State of California as a “fully protected.” This species’ preferred habitat includes rolling foothills and valley margins with scattered oaks and river bottomlands or marshes next to deciduous woodland. This species typically forages in open grasslands, meadows, or marshes. Often found perching and nesting in isolated, dense-topped trees. The project site and the adjacent vicinity contain planted trees that provide marginal nesting habitat. The general vicinity of the project site, specifically the vacant parcel to the east of Automall Parkway and north of the Princevalle Channel (approximately 850 feet northeast of the project site), contains undeveloped grassland habitat suitable for foraging. No white-tailed kite or other raptor nests were observed during the August 2021 field survey. The nearest recorded occurrence is 2.6 miles northeast of the project site.¹⁵

¹⁵ California Department of Fish and Wildlife (CDFW). 2021. CNDDDB RareFind 5 California Natural Diversity Database Query for Special-Status Species. Website: <https://map.dfg.ca.gov/rarefind/view/RareFind.aspx>. Accessed August 19, 2021.

Migrating birds can be affected by human-built structures because of their propensity to migrate at night, their low flight altitudes, and their tendency to be disoriented by artificial light, which makes them vulnerable to collision with obstructions that could potentially lead to injury or mortality. In addition, birds migrating at night can be strongly attracted to sources of artificial light, particularly during periods of inclement weather. The proposed electronic billboard would not create a substantial change in illumination levels as described above in Section 2.1 above. Baseline light sources in the project area include local street lighting, parking lot lighting, other illuminated billboards at nearby auto dealerships, headlights from automobile traffic, and highway lighting structures. The proposed electronic billboard would be consistent with the illumination intensity standards in the Caltrans Outdoor Advertising Act. The proposed electronic billboard would be limited to a maximum ambient light output level of 0.3 foot-candle at 250 feet from the billboard, which is a more conservative lighting intensity standard for electronic billboards of this proposed size when compared to State standards. Additionally, the proposed electronic billboard would not be allowed to change the sign face display more than every 8 seconds, and messages would be static (i.e., not moving, or animated) resulting in changing color patterns rather than a fixed unchanging light which may be more attractive to birds. For these reasons the proposed electronic billboard would not have a significant impact on the movement of migrating birds.

The trees present on the project site may provide suitable habitat for a variety of species of nesting birds. Construction activities that occur during the avian nesting season (generally February 1 to August 31) could disturb nesting sites for bird species including special-status species such as the white-tailed kite as well as birds protected under the Migratory Bird Treaty Act (MBTA) and the California Fish and Game Code. Given the potential for these species to occur on or near the project site, implementation of MM BIO-1 through MM BIO-4 would reduce potential impacts to white-tailed kite and other nesting birds to less than significant by requiring pre-construction surveys and implementation of nest protection buffers to avoid disturbance of any active nests.

- b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Wildlife or United States Fish and Wildlife Service?**

No Impact.

Proposed Electronic Billboard Ordinance

The proposed Ordinance would only relate to new electronic billboard requirements and regulations. The Ordinance would not involve changes to the existing environment and subsequent electronic billboards would be subject to environmental review prior to approval. Analysis specific to the construction of the proposed electronic billboard is discussed below.

Proposed Electronic Billboard

The project site is developed and contains urban/developed land cover. However, the Princevalle Channel is located approximately 50 feet north of the project site. The man-made Channel has been excavated within upland habitat for the purpose of storm drainage for the City. The Channel is not applicable to this resource category and is discussed in further detail in Checklist Question C below.

The project site does not contain riparian habitat or other sensitive natural communities identified in local or regional plans, policies, and regulations or by the CDFW or USFWS and no impacts would occur from the proposed electronic billboard.

- c) **Have a substantial adverse effect on State or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?**

Less than significant with mitigation incorporated.

Proposed Electronic Billboard Ordinance

The proposed Ordinance would only relate to new electronic billboard requirements and regulations. The Ordinance would not involve changes to the existing environment and subsequent electronic billboards would be subject to environmental review prior to approval. Analysis specific to the construction of the proposed electronic billboard is discussed below.

Proposed Electronic Billboard

The Princevalle Channel is located approximately 50 feet north of the project site and is a tributary to Llagas Creek, which flows into the Pajaro River, which empties into Monterey Bay, a traditional navigable water of the United States. While the project site does not contain State or federally protected wetlands, construction of the proposed electronic billboard has the potential for indirect (temporary) adverse impacts to the aquatic habitat of the Channel. Potential temporary indirect impacts (during construction) include pollutant loading, increased erosion and sedimentation, and debris dispersal into the Channel. Implementation of MM BIO-5 and MM BIO-6 would reduce potential indirect adverse impacts to the aquatic habitat of the Channel to less than significant levels through avoidance and minimization measures.

- d) **Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of wildlife nursery sites?**

Less than significant impact.

Proposed Electronic Billboard Ordinance

The proposed Ordinance would only relate to new electronic billboard requirements and regulations. The Ordinance would not involve changes to the existing environment and subsequent billboards would be subject to environmental review prior to approval. Analysis specific to the construction of the proposed electronic billboard is discussed below.

Proposed Electronic Billboard

US-101 borders the project site to the east and Automall Parkway/Chestnut Street borders the project site to the west. The project site is bounded by a chain link fencing to the north, east, and south. These factors along with existing urban developments within the general project vicinity limit wildlife movement through the project site. Additionally, the project site is not part of or within a

wildlife movement corridor. As such, the proposed electronic billboard would not substantially interfere with the movement of wildlife, and impacts would be less than significant.

- e) **Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?**

No impact.

Proposed Electronic Billboard Ordinance

The proposed Ordinance would only relate to new electronic billboard requirements and regulations. The Ordinance would not involve changes to the existing environment and subsequent billboards would be subject to environmental review prior to approval. Analysis specific to the construction of the proposed electronic billboard is discussed below.

Proposed Electronic Billboard

The proposed electronic billboard would be erected in the northeastern corner of the project site, in an area which is already fully developed with hardscaping. No trees or vegetation would be removed because of project construction. As such, the proposed electronic billboard would not conflict with any local policies or ordinances protecting biological resources. No impacts would occur.

- f) **Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan?**

Less than significant with mitigation incorporated.

Proposed Electronic Billboard Ordinance

The proposed Ordinance would only relate to new electronic billboard requirements and regulations. The Ordinance would not involve changes to the existing environment and subsequent billboards would be subject to environmental review prior to approval. Analysis specific to the construction of the proposed electronic billboard is discussed below.

Proposed Electronic Billboard

The project site is located within the Santa Clara Valley Habitat Plan (SCVHP). The project site is within the "Urban-Suburban" land cover as defined by the SCVHP and is not located in any special-status plant and wildlife survey areas, or fee zone. With implementation of MM BIO-7, the proposed electronic billboard would not conflict with any policies of the SCVHP. The land cover type and the absence of plant and wildlife survey areas has been confirmed on the ground through the survey conducted by a qualified Biologist, as required by the SCVHP. Therefore, with implementation of MM BIO-7, potential impacts regarding adopted conservation plans would be reduced to a less than significant level.

Mitigation Measures

- MM BIO-1** If possible, to prevent impacts to the Fish and Game Code and/or Migratory Bird Treaty Act (MBTA)-protected birds, including nesting raptors, and their nests, construction work should occur outside the nesting season (generally between

February 1 and August 31). If construction (including tree and vegetation removal) cannot be conducted outside the nesting season, pre-construction surveys shall be conducted no more than 5 days before the start of work to verify the absence of active nests.

- MM BIO-2** If an active nest of a special-status bird species is located during pre-construction surveys, the United States Fish and Wildlife Service (USFWS) and/or California Department of Fish and Wildlife (CDFW) (as appropriate) shall be notified regarding the status of the nest.
- MM BIO-3** For nests of all species protected under Fish and Game Code and/or Migratory Bird Treaty Act (MBTA), construction activities shall be restricted as necessary to avoid disturbance of the nest until the young have left the nest, or the United States Fish and Wildlife Service (USFWS) and/or California Department of Fish and Wildlife (CDFW) (as appropriate) deem disturbance potential to be minimal. Restrictions may include establishment of exclusion zones (no ingress of personnel or equipment at a minimum radius of 100 feet around an active raptor nest and an appropriate radius around an active protected bird nest depending on the species and disturbance level as determined by a qualified Biologist) or alteration of the construction schedule.
- MM BIO-4** A qualified Biologist shall provide appropriate protection buffer sizes and locations, and the applicant shall physically mark the protection buffers using signs, environmentally sensitive area fencing, pin flags, and/or flagging tape. The buffer zone shall be maintained around the active nest site(s) until the young have fledged and are foraging independently.
- MM BIO-5** No substances toxic to fish and wildlife shall be discharged or allowed to leach into Princevalle Channel. Reasonable precautions to protect aquatic habitats of Princevalle Channel from pollution with harmful materials (e.g., fuels, oils, lubricants, and solvents) shall be implemented. Specifically, all potentially hazardous materials shall be controlled, cleaned up, and properly disposed of in accordance with the project's water quality control permits and plans. Materials deleterious or toxic to fish and wildlife including, but not limited to, asphalt, tires, concrete, construction materials, treated wood, and creosote containing materials shall not be stockpiled within 100 feet of the Princevalle Channel. Refueling and maintenance areas for equipment shall be limited to areas 100 feet from the Princevalle Channel.
- MM BIO-6** At no time shall silt-laden runoff be allowed to enter the Princevalle Channel. Erosion control measures shall be utilized throughout all phases of construction where sediment runoff from the project may enter Princevalle Channel. Best Management Practices (BMPs) to avoid erosion and uncontrolled stormwater runoff shall be implemented. BMPs typically include silt fencing, coir rolls, and/or straw bale dikes.

- MM BIO-7** The project applicant shall submit a Santa Clara Valley Habitat Plan (SCVHP) Coverage Screening Form to the Planning Department for review and shall complete subsequent forms, reports, and/or studies as needed.

Environmental Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
2.5 Cultural Resources and Tribal Cultural Resources				
<i>Would the project:</i>				
a) Cause a substantial adverse change in the significance of a historical resource as pursuant to Section 15064.5?	☐	☒	☐	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	☐	☒	☐	☐
c) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☒	☐	☐
<i>Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:</i>				
d) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k), or	☐	☒	☐	☐
e) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☒	☐	☐

Environmental Evaluation

Setting

This section describes the existing cultural resources setting and potential effects from project implementation on the project site and its surrounding area. This section does not include a cultural analysis of any other potential billboard projects permitted under the proposed Ordinance. Subsequent billboards would be subject to environmental review prior to their approval. Descriptions and analysis in this section are based on information provided by the California Native American Heritage Commission (NAHC), Northwest Information Center (NWIC), National Register of Historic Places (NRHP), California Register of Historical Resources (CRHR), California Historic Landmarks list, California Points of Historical Interest list, Built Environmental Research Directory (BERD), and the California Historical Resources Inventory. Non-confidential records search results and other correspondence are included in Appendix D.

Northwest Information Center

A records search and literature review were conducted on August 18, 2021, at the NWIC located at Sonoma State University located in Rohnert Park, California for the project site and a 0.5-mile radius surrounding it. The purpose of this review was to access existing cultural resource survey reports, archaeological site records, historic aerial photographs, and historic maps and evaluate whether any previously documented prehistoric or historic archaeological sites, architectural resources, cultural landscapes, or other resources exist within or near the project site.

The results of the records search indicate that there are two recorded historic cultural resources within the 0.5-mile search radius, none of which are located within the project site. In addition, 25 area-specific survey reports are on file with the NWIC for the 0.5-mile search radius, but none within the project site itself, suggesting that the project site has not been previously surveyed for cultural resources. A records search map identifying the project boundaries and a 0.5-mile search radius along with relevant non-confidential records search results can be found in Appendix D.

Pedestrian Survey and Site Visit

On August 26, 2021, FCS conducted a pedestrian survey to determine the presence of any unrecorded cultural resources within the project site. During the pedestrian survey, all areas of the exposed ground surface were examined for prehistoric artifacts (e.g., fire-affected rock, milling tools, flaked stone tools, tool-making debris, ceramics), soil discoloration and depressions that might indicate the presence of a cultural midden, faunal and human osteological remains, and features indicative of the former presence of structures or buildings (e.g., postholes, standing exterior walls, foundations) or historic debris (e.g., glass, metal, ceramics). All areas of proposed development were inspected for culturally modified soils or other indicators of potential historic or prehistoric resources.

The project site was surveyed using east/west transects spaced at 15-meter intervals. Survey conditions were documented using digital photographs and field notes. The majority of the site consisted of garages and automobile repair facilities. The existing ground cover was completely hardscaped, and visibility of native soil was almost non-existent. The developed nature of the project site suggests that it has been previously excavated. No historic or prehistoric artifacts, cultural resources, or raw materials commonly used in the manufacture of tools (e.g., obsidian, Franciscan chert, etc.) were found within the project site. Pedestrian survey photos for the project site can be found in Appendix D.

Native American Heritage Commission

On August 20, 2021, FCS contacted the NAHC to determine whether any sacred sites were located within the project site or its vicinity. A response was received on September 9, 2021, indicating that the Sacred Lands File search produced a positive result for Native American cultural resources in the project area. The NAHC included a list of nine tribal representatives available for consultation. To ensure that all Native American knowledge and concerns over potential Tribal Cultural Resources (TCRs) that may be affected by the proposed project are addressed, a letter containing project information was sent to each tribal representative on September 14, 2021. FCS received a response

on September 14, 2021, from the Tamien Nation deferring to other tribes in the area regarding potential TCRs that may be affected by the project. No additional responses have been received to date. NAHC correspondence and copies of the NAHC letters can be found in Appendix D.

Assembly Bill 52

Assembly Bill (AB) 52 was signed into law on September 25, 2014, and provides that any public or private “project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment.” TCRs include “[s]ites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are eligible for inclusion in the CRHR or included in a local register of historical resources.” Under prior law, TCRs were typically addressed under the umbrella of “cultural resources,” as discussed above. AB 52 formally added the category of “tribal cultural resources” to CEQA and extends the consultation and confidentiality requirements to all projects, rather than just projects subject to Senate Bill (SB) 18.

The parties must consult in good faith, and consultation is deemed concluded when either: (1) the parties agree to measures to mitigate or avoid a significant impact on a TCR (if such a significant impact exists); or (2) when a party concludes that mutual agreement cannot be reached. Mitigation measures agreed upon during consultation must be recommended for inclusion in the environmental document. AB 52 also identifies mitigation measures that may be considered to avoid significant impacts if there is no agreement on appropriate mitigation. Recommended measures include:

- Preservation in place
- Protecting the cultural character and integrity of the resource
- Protecting the traditional use of the resource
- Protecting the confidentiality of the resource
- Permanent conservation easements with culturally appropriate management criteria

In compliance with AB 52, the City distributed letters to Native American tribes that have previously requested notification for AB 52 consultation, notifying each tribe of the opportunity to consult with the City regarding the proposed project. Consultation letters were mailed on November 23, 2021. The tribes have 30 days from receipt of the letter to respond to the City’s consultation invitation. At the time of this publication, no response has been received.

Cultural Resources

Would the project:

- a) **Cause a substantial adverse change in the significance of a historical resource as pursuant to Section 15064.5?**

Less than significant impact with mitigation incorporated.

Proposed Electronic Billboard Ordinance

The proposed Ordinance would only relate to new electronic billboard requirements and regulations. The Ordinance would not involve changes to the existing environment and subsequent billboards

would be subject to environmental review prior to approval. Analysis specific to the construction of the proposed electronic billboard is discussed below.

Proposed Electronic Billboard

CEQA Guidelines Section 15064.5 defines “historical resources” as resources listed in the CRHR, a local register, determined significant by the Lead Agency, or determined to be eligible by the California Historical Resources Commission for listing in the CRHR. The criteria for eligibility are generally set by the National Historic Preservation Act of 1966, which established the NRHP, and which recognizes properties that are significant at the federal, State, and local levels. To be eligible for listing in the NRHP and CRHR, a district, site, building, structure, or object must possess integrity of location, design, setting, materials, workmanship, feeling, and association relative to American history, architecture, archaeology, engineering, or culture. In addition, unless the property possesses exceptional significance, it must be at least 50 years old to be eligible.

The results of the NWIC record search indicated that there are two recorded historical resources within a 0.5-mile radius of the project area, none of which are located in the project site itself. No additional unrecorded historical resources were found during the pedestrian survey of the project site. FCS therefore considers the potential for the proposed project to have an adverse effect on historical resources to be low.

While unlikely, subsurface construction activities always have the potential to destroy or damage previously undiscovered historical resources. Historic resources can include wood, stone, foundations, and other structural remains; debris-filled wells or privies; and deposits of wood, glass, ceramics, and other refuse. Accordingly, implementation of MM CUL-1 would reduce potential impacts to historic resources that may be discovered during project construction to a less than significant level.

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?

Less than significant impact with mitigation incorporated.

Proposed Electronic Billboard Ordinance

The proposed Ordinance would only relate to new electronic billboard requirements and regulations. The Ordinance would not involve changes to the existing environment and subsequent billboards would be subject to environmental review prior to approval. Analysis specific to the construction of the proposed electronic billboard is discussed below.

Proposed Electronic Billboard

Section 15064.5 of the CEQA Guidelines defines significant archaeological resources as resources that meet the criteria for historical resources, as discussed above, or resources that constitute unique archaeological resources. A project-related significant adverse effect could occur if a project were to affect archaeological resources that fall under either of these categories.

The proposed billboard construction would require subsurface construction activities. The NWIC record search results indicate that there are no known archaeological resources within the project site or the 0.5-mile radius of the project area and the pedestrian survey did not find any evidence of potential undiscovered archaeological resources. However, the project site's proximity to a creek increases the potential for the inadvertent discovery of archaeological resources during subsurface construction. Such resources could consist of but are not limited to stone, bone, wood, or shell artifacts or features, including hearths and structural elements. While FCS considers the potential for encountering archaeological resources during subsurface construction to be low, implementation of MM CUL-1 would ensure that the potential impact to resources is reduced to a less than significant level.

c) Disturb any human remains, including those interred outside of formal cemeteries?

Less than significant impact with mitigation incorporated.

Proposed Electronic Billboard Ordinance

The proposed Ordinance would only relate to new electronic billboard requirements and regulations. The Ordinance would not involve changes to the existing environment and subsequent billboards would be subject to environmental review prior to approval. Analysis specific to the construction of the proposed electronic billboard is discussed below.

Proposed Electronic Billboard

The proposed project would require subsurface construction activities. While it is highly unlikely that human remains exist within or near the project site, there is always a possibility that subsurface construction activities associated with the proposed project, such as grading or trenching, could potentially damage or destroy previously undiscovered human remains. In the event of the accidental discovery or recognition of any human remains, CEQA Guidelines Section 15064.5, Health and Safety Code Section 7050.5, and Public Resources Code Sections 5097.94 and 5097.98 must be followed. MM CUL-2 further specifies the procedures to follow in the event human remains are uncovered. Along with compliance with required guidelines and statutes, implementation of MM CUL-2 would reduce potential impacts on human remains to a less than significant level.

Tribal Cultural Resources

Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

d) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k), or

Less than significant impact with mitigation incorporated.

Proposed Electronic Billboard Ordinance

The proposed Ordinance would only relate to new electronic billboard requirements and regulations. The Ordinance would not involve changes to the existing environment and subsequent billboards would be subject to environmental review prior to approval. Analysis specific to the construction of the proposed electronic billboard is discussed below.

Proposed Electronic Billboard

A review of the CRHR, local registers of historic resources, and NWIC record search results failed to identify any previously listed TCRs that may be adversely affected by the proposed project. However, the NAHC Sacred Lands File did produce a positive result for TCRs within the project area. The NAHC included a list of nine tribal representatives available for consultation. To ensure that all Native American knowledge and concerns over potential TCRs that may be affected by the proposed project are addressed, a letter containing project information was sent to each tribal representative on September 14, 2021. FCS received a response from the Tamien Nation deferring to other tribes in the area regarding potential TCRs that may be affected by the project. Should any undiscovered TCRs be encountered during project construction, implementation of MM CUL-1 and MM CUL-2, which address cultural resources monitoring and inadvertent discovery of human remains, would reduce potential impacts on TCRs to a less than significant level.

- e) **A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.**

Less than significant impact with mitigation incorporated. In compliance with AB 52, the City distributed letters to Native American tribes that have previously requested notification for AB 52 consultation, notifying each tribe of the opportunity to consult with the City regarding the proposed project. Consultation letters were mailed on November 23, 2021. The tribes have 30 days from receipt of the letter to respond to the City's consultation invitation. As of the date of this document, no responses had been received. Should any undiscovered TCRs be encountered during project construction, implementation of MM CUL-1 and MM CUL-2, which address cultural resources monitoring and inadvertent discovery of human remains, would reduce potential impacts on TCRs to a less than significant level.

Mitigation Measures

- MM CUL-1** An Archaeologist who meets the Secretary of the Interior's Professional Qualification Standards for archaeology should be present to monitor initial phases of ground disturbance. This may be followed by regular periodic or "spot-check" archaeological monitoring as determined by the Archaeologist. In the event a potentially significant cultural resource is encountered during subsurface earthwork activities, all construction activities within a 100-foot radius of the find shall cease and workers should avoid altering the materials until an Archaeologist who meets the Secretary

of Interior's Professional Qualification Standards for archaeology has evaluated the find. The applicant shall include a standard inadvertent discovery clause in every construction contract to inform contractors of this requirement.

The qualified Archaeologist shall make recommendations to the Lead Agency on the measures that shall be implemented to protect the discovered resources, including but not limited to excavation and evaluation of the finds in accordance with Section 15064.5 of the CEQA Guidelines. Potentially significant cultural resources include, but are not limited to, stone, bone, glass, wood, or shell artifacts or features, including hearths, structural remains, or historic dumpsites. Any previously undiscovered resources found during construction within the project site shall be recorded on appropriate California Department of Parks and Recreation (DPR) 523 forms and will be submitted to the City of Gilroy, the Northwest Information Center (NWIC), and the California Office of Historic Preservation (OHP), as required.

MM CUL-2 In the event of an accidental discovery or recognition of any human remains, Public Resource Code Section 5097.98 must be followed. In this instance, once project-related earthmoving begins and if there is accidental discovery or recognition of any human remains, the following steps shall be taken:

There shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until the Santa Clara County Coroner is contacted to determine whether the remains are Native American and if an investigation of the cause of death is required. If the Coroner determines the remains to be Native American, the Coroner shall contact the Native American Heritage Commission (NAHC) within 24 hours, and the NAHC shall identify the person or persons it believes to be the "most likely descendant" of the deceased Native American. The most likely descendant may make recommendations to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in Public Resource Code Section 5097.98, or

Where the following conditions occur, the landowner or his/her authorized representative shall rebury the Native American human remains and associated grave goods with appropriate dignity either in accordance with the recommendations of the most likely descendant or on the project area in a location not subject to further subsurface disturbance:

- The NAHC is unable to identify a most likely descendant or the most likely descendant failed to make a recommendation within 48 hours after being notified by the NAHC;
- The descendant identified fails to make a recommendation; or
- The landowner or his authorized representative rejects the recommendation of the descendant, and the mediation by the NAHC fails to provide measures acceptable to the landowner.

Environmental Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
2.6 Energy <i>Would the project:</i>				
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☒	☐
b) Conflict with or obstruct a State or local plan for renewable energy or energy efficiency?	☐	☐	☒	☐

Environmental Evaluation

Setting

Energy Basics

Energy use, especially through fossil fuel consumption and combustion, relates directly to environmental quality since it can adversely affect air quality and generate GHG emissions that contribute to climate change. Electrical power is generated through a variety of sources, including fossil fuel combustion, hydropower, wind, solar, biofuels, and others. Natural gas is widely used to heat buildings, prepare food in restaurants and residences, and fuel vehicles, among other uses. Fuel use for transportation is related to the fuel efficiency of cars, trucks, and public transportation; choice of different travel modes such as auto, carpool, and public transit; and miles traveled by these modes, and generally based on petroleum-based fuels such as diesel and gasoline. Electric vehicles may not have any direct emissions but do have indirect emissions via the source of electricity generated to power the vehicle. Construction and routine operation and maintenance of transportation infrastructure also consume energy.

Would the project:

- a) **Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?**

Less than significant impact.

Proposed Electronic Billboard Ordinance

The proposed Ordinance would only relate to new electronic billboard requirements and regulations. The Ordinance would not involve changes to the existing environment and subsequent billboards would be subject to environmental review prior to approval. Analysis specific to the construction of the proposed electronic billboard is discussed below.

Proposed Electronic Billboard

A discussion of the proposed project's energy use is presented below. Energy use consumed by the proposed project is primarily based on comparison with similar electronic billboard development projects and empirical studies which are publicly available. For the purpose of this energy analysis, the anticipated operational electricity consumption relies on information provided by the applicant. Energy calculations and supporting information are included as part of Appendix B of this Draft IS/MND.

Construction

During construction, the proposed project would result in energy consumption through the combustion of fossil fuels in construction vehicles, worker commute vehicles, and construction equipment, and the use of electricity for temporary buildings, lighting, and other sources. No natural gas would be utilized as part of construction. Fossil fuels used for construction vehicles and other energy-consuming equipment would be used during grading, paving, and building construction activities. The types of equipment could include gasoline- and diesel-powered construction and transportation equipment, including trucks, bulldozers, frontend loaders, forklifts, and cranes. Other equipment could include electrically driven equipment such as pumps and other tools.

Based on the California Emissions Estimator Model (CalEEMod) estimates for the proposed project, (see modeling output files in Appendix B), construction-related worker vehicle trips would consume an estimated 103 gallons of diesel and gasoline, combined, and construction-related equipment would consume an estimated 739 gallons of diesel and gasoline, combined, during project construction. Additionally, single-wide mobile office trailers, generally ranging in size from 160 square feet to 720 square feet, are commonly used in construction staging areas. The use of a 720-square-foot construction trailer would consume approximately 779 kilowatt-hours (kWh) during the 23-day construction schedule (see Appendix B for calculations).

Limitations on idling of vehicles and equipment and requirements that equipment be properly maintained would result in fuel savings. California Code of Regulations Title 13, Sections 2449(d)(3) and 2485 limit idling from both on-road and off-road diesel-powered equipment and are enforced by the ARB. In addition, given the cost of fuel, contractors and owners have a strong financial incentive to avoid wasteful, inefficient, and unnecessary consumption of energy during construction.

Because of the temporary nature of construction and the financial incentives for developers and contractors to implement energy-efficient practices, project construction activities would not result in wasteful, inefficient, and unnecessary consumption of energy. Therefore, the construction-related impact related to fuel and electricity consumption would be less than significant.

Operation

Electricity and Natural Gas

Building operations for the proposed project would involve energy consumption for lighting and cooling fans. Based on applicant-provided information, the proposed two-sided LED billboard would be operated 24 hours per day, 365 days per year, which would result in an estimated 52,400 kWh. The proposed project is not anticipated to result in wasteful, inefficient, or unnecessary electricity

consumption as the electronic billboard would require electricity to operate and would not facilitate greater electricity consumption beyond that required for their passive operative design. Moreover, the electronic billboard would not consume natural gas and would rely on increasingly renewable energy sources consistent with SB 100. Therefore, the operational impact related to building electricity and natural gas consumption would be less than significant.

Fuel

Long-term operational energy consumption related to fuel consumption would be very minimal because the only vehicle trips would be from irregular and infrequent maintenance vehicle trips. Maintenance vehicle trips associated with the proposed project are anticipated to occur once every 1 to 2 months at most and would not result in wasteful, inefficient, or significant energy use. This impact would be less than significant.

b) Conflict with or obstruct a State or local plan for renewable energy or energy efficiency?

Less than significant impact.

Proposed Electronic Billboard Ordinance

The proposed Ordinance would only relate to new electronic billboard requirements and regulations. The Ordinance would not involve changes to the existing environment and subsequent billboards would be subject to environmental review prior to approval. Analysis specific to the construction of the proposed electronic billboard is discussed below.

Proposed Electronic Billboard

A discussion of the proposed project's potential to conflict with or obstruct a State or local plan for renewable energy or energy efficiency is presented below.

Construction

As described above, construction activities would involve energy consumption in various forms and would be limited by California regulations such as California Code of Regulations Title 13, Sections 2449(d)(3) and 2485 which limit idling from both on-road and off-road diesel-powered equipment and are enforced by the ARB. The proposed project would be required to comply with these regulations. There are no renewable energy standards applicable to construction activities for the proposed project.

Thus, it is anticipated that construction of the proposed project would not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing energy use or increasing the use of renewable energy. Therefore, impacts would be less than significant.

Operation

Additionally, the proposed project would consume electricity delivered by a California utility during operation. According to SB 100, California's renewable portfolio standard (RPS) requires that 100 percent of electricity retail sales in California be sourced with renewable energy sources by 2045.

Pacific Gas and Electric Company (PG&E) would provide the delivery of electricity to the proposed project through the existing grid. SB 32 mandates a Statewide GHG emissions reduction goal to 40 percent below 1990 levels by the year 2030. Further, Executive Order B-55-18 establishes a new Statewide goal to achieve carbon neutrality by 2045 at the latest and maintain net negative emissions after 2045.¹⁶ Therefore, the proposed project would receive electricity from a utility company that meets California's RPS requirements as well as the State requirements through 2045.

In addition, the proposed project would be designed and constructed in accordance with the applicable State's Title 24 energy efficiency standards. Part 11, Chapter 4 and 5 of the State Title 24 energy efficiency standards establishes mandatory measures for nonresidential buildings, including material conservation and resource efficiency. The proposed project would be required to comply with these mandatory measures and would be constructed in accordance with City standards. Thus, the proposed project would not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing energy use or increasing the use of renewable energy. This impact would be less than significant.

Mitigation Measures

None required.

¹⁶ State of California. Governor Edmund G. Brown. September 10, 2018. <https://www.ca.gov/archive/gov39/wp-content/uploads/2018/09/9.10.18-Executive-Order.pdf>. Accessed September 13, 2021.

Environmental Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
2.7 Geology and Soils <i>Would the project:</i>				
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☒	☐
ii) Strong seismic ground shaking?	☐	☐	☒	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv) Landslides?	☐	☐	☒	☐
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☒	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☐	☒	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	☒

Environmental Evaluation

Setting

According to the Gilroy General Plan, the three major active faults that cross the County of Santa Clara include the San Andreas, Calaveras, and Hayward Faults.

The Calaveras Fault is approximately 4.1 miles east of the project site and the San Andreas Fault is approximately 7.2 miles southwest of the project site. The Hayward Fault is over 30 miles north of the project site. The Carnadero Fault runs through the City. It has not been defined as active by the USGS, but the County of Santa Clara has mapped Fault Rupture Zones along the Fault.¹⁷

The project site is located within a seismically active region and strong ground shaking would be expected during the lifetime of the project, which could damage future improvements on the site and expose people to injury. Since the City of Gilroy lies primarily within a seismically active zone, the three major nearby earthquake faults have produced earthquakes throughout recorded history (approximately 200 years) in the City.¹⁸ Although the City of Gilroy's risk associated with these faults is minor to moderate, the California Building Standards Code (CBC) contains special standards and regulations to ensure construction will be designed to withstand seismic activity. The City is located within Seismic Zone D, which is expected to experience significant effects from earthquakes, and which requires stringent standards for seismic design.¹⁹

Seismic-related ground failure most commonly occurs in areas underlain by loose, unconsolidated (e.g., sandy soils) and high groundwater levels. According to City of Gilroy 2040 General Plan EIR, the project site is not located within a State-designated Liquefaction Hazard Zone; however, the nearest liquefaction zone is approximately 900 feet east of the project site.²⁰ The liquefaction hazard areas in the City are along Uvas Creek and Llagas Creek. There are small landslide hazard areas in the northwestern and southwestern areas of the City.²¹

Would the project:

- a) **Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury or death involving:**
 - i) **Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.**

Less than significant impact.

Proposed Electronic Billboard Ordinance

The proposed Ordinance includes regulations for height, sign area, and permitted locations of electronic billboards.

The closest active faults to the City are the San Andreas, Calaveras, and Hayward Faults. Both the San Andreas and Calaveras Faults are defined as "active" by the State Department of Conservation. The Carnadero Fault runs through the City. It has not been defined as active by the USGS, but the County

¹⁷ City of Gilroy. 2020. Gilroy 2040 General Plan EIR. 3.6 Geologic Hazards. Website: <https://www.cityofgilroy.org/DocumentCenter/View/11308/Draft-EIR-Gilroy-2040-General-Plan-?bidId=>. Accessed September 22, 2021.

¹⁸ City of Gilroy. 2020. City of Gilroy 2040 General Plan, Potential Hazards Element. Page PH-6.

¹⁹ City of Gilroy. 2020. City of Gilroy 2040 General Plan Draft EIR. Page 3-188.

²⁰ City of Gilroy. 2020. City of Gilroy 2040 General Plan Draft EIR. Page 3-185.

²¹ City of Gilroy. 2020. Gilroy 2040 General Plan, Potential Hazards. Page PH-6.

of Santa Clara has mapped Fault Rupture Zones along the Fault.²² However, proposed locations of electronic billboards are not located within the Fault Rupture Zone.²³ Furthermore, all electronic billboards approved under the proposed Ordinance would be required to adhere to the the most recently adopted California Building Code and would be subject to environmental review prior to approval. Therefore, impacts would be less than significant.

Proposed Electronic Billboard

The project site would not be located within the Fault Rupture Zone.²⁴ To ensure the installation of the billboard is conducted safely, construction and design would be undertaken using standard engineering and seismic safety design techniques in accordance with the the most recently adopted California Building Code. As such, impacts would be less than significant.

ii) Strong seismic ground shaking?

Less than significant impact.

Proposed Electronic Billboard Ordinance

As previously described in Impact 2.7(a)(i), the entirety of the City of Gilroy is near three major active faults. All billboards approved under the proposed Ordinance would be required to adhere to the most recently adopted California Building Code. As such, impacts regarding strong seismic ground shaking would be less than significant.

Proposed Electronic Billboard

As described in the setting subsection above, the project site is located within a seismically active region and strong ground shaking would be expected during the lifetime of the proposed project. To avoid or minimize potential damage from seismic shaking, the proposed project shall be subject to standard engineering and seismic safety design techniques set forth in the most recently adopted California Building Code. Therefore, the impacts would be less than significant.

iii) Seismic-related ground failure, including liquefaction?

Less than significant impact.

Proposed Electronic Billboard Ordinance

As described above, the proposed Ordinance would include regulations for height, sign area, and permitted locations of electronic billboards. Electronic billboards approved under the proposed Ordinance would be subject to regulations set forth in the most recently adopted California Building Code and would be subject to environmental review prior to approval. Impacts regarding seismic-related ground failure, including liquefaction, is concluded to be less than significant.

²² City of Gilroy. 2020. Gilroy 2040 General Plan EIR. 3.6 Geologic Hazards. Website: <https://www.cityofgilroy.org/DocumentCenter/View/11308/Draft-EIR-Gilroy-2040-General-Plan-?bidId=>. Accessed September 22, 2021.

²³ County of Santa Clara Department of Planning and Development. 2020. Geological Maps and Data. Fault Rupture Hazard Zones. Website: <https://www.sccgov.org/sites/dpd/OrdinancesCodes/GeoHazards/Pages/GeoMaps.aspx>. Accessed September 22, 2021.

²⁴ Ibid.

Proposed Electronic Billboard

Liquefaction is the result of seismic activity and is characterized as the transformation of loosely water-saturated soils from a solid state to a liquid state after ground shaking. Variables that contribute to liquefaction include age of the soil, soil type, soil cohesion, soil density, and groundwater level. Soils most susceptible to liquefaction are loose, uniformly graded, fine-grained sands. As mentioned in the setting, the City of Gilroy has liquefaction hazard areas along Uvas Creek and Llagas Creek—these areas are not located within the project site. The Llagas Creek Liquefaction Hazard Zone is approximately 900 feet east of the project site. The proposed project is subject to the most recently adopted California Building Code to ensure the proposed billboard would be designed to withstand seismic activity. This impact is concluded to be less than significant.

iv) Landslides?

Less than significant impact.

Proposed Electronic Billboard Ordinance

As described above, the proposed Ordinance would include regulations for height, sign area, and permitted locations of electronic billboards. As described above, there are small landslide hazard areas in the northwestern and southwestern parts of the City.²⁵ However, most of the area along US-101 and SR-152 is not located in a landslide hazard. All electronic billboards approved under the proposed Ordinance would be subject to regulations set forth in the most recently adopted California Building Code. Impacts are concluded to be less than significant.

Proposed Electronic Billboard

Small landslide hazard areas in the steep, hilly terrain occur in the northwestern and southwestern areas of the City. Potential landslide hazard areas do not occur in the vicinity of the project site. The project site is relatively flat and surrounded by development. Thus, landslide-related impacts would be less than significant.

b) Result in substantial soil erosion or the loss of topsoil?

Less than significant impact.

Proposed Electronic Billboard Ordinance

General Plan Policy PH 2.6 requires that all new development proposals include a site plan detailing appropriate methods of erosion and deposition control during site development and subsequent use.²⁶ Standard construction practices would be followed to minimize soil erosion during construction. Impacts would be less than significant.

Proposed Electronic Billboard

Construction of the electronic billboard would include limited excavation for the installation of the electronic billboard structure. The amount of ground disturbance is estimated to be approximately

²⁵ City of Gilroy. 2020. Gilroy 2040 General Plan, Potential Hazards. Page PH-6.

²⁶ City of Gilroy. 2020. Gilroy 2040 General Plan, Potential Hazards. Page PH-7.

25 square feet. Standard construction practices would be followed to minimize soil erosion during construction. As stated above, General Plan Policy PH 2.6 requires that all new development proposals include erosion and deposition control actions during site development and subsequent use. Standard construction practices would be followed to minimize soil erosion during construction. Impacts would be less than significant.

- c) **Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?**

Less than significant impact.

Proposed Electronic Billboard Ordinance

Refer to subsections 2.7a through 2.7c.

Proposed Electronic Billboard

Refer to subsections 2.7a through 2.7c.

- d) **Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?**

Less than significant impact.

Proposed Electronic Billboard Ordinance

According to the City of Gilroy 2040 General Plan EIR, most soils within the Urban Growth Boundary of the City are characterized as having a moderate or high shrink-swell potential. The City's Municipal Code requires a soils investigation as part of proposed development applications. All electronic billboards approved under the proposed Ordinance would be required to adhere to the the most recently adopted California Building Code regulations. As such, no impacts would occur regarding expansive soil creating substantial direct or indirect risks to life or property.

Proposed Electronic Billboard

The proposed project would involve the construction of a new electronic billboard along US-101. The proposed project would not be intended for human occupancy, which precludes substantial risks to life or property as a result of expansive soils. According to the Web Soil Survey by the United States Department of Agriculture, the project site is not located on expansive soil.²⁷ The proposed project would be compliant with all applicable State and local requirements. Therefore, the impact associated with expansive soils would be less than significant.

²⁷ United States Department of Agriculture. Web Soil Survey. Website: <http://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm>. Accessed July 19, 2021.

- e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

No impact.

Proposed Electronic Billboard Ordinance

New electronic billboards resulting from the Ordinance would not utilize septic tanks or alternative wastewater disposal systems. As such, no impacts would occur.

Proposed Electronic Billboard

The proposed project does not propose to use septic tanks or alternative wastewater disposal systems. Construction of the electronic billboard would include limited excavation for the installation and foundation of the billboard structure. As a result, no impact would occur.

- f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

No impact.

Proposed Electronic Billboard Ordinance

No known paleontological resources have been discovered in the City of Gilroy.²⁸ All electronic billboard projects would undergo separate environmental review including paleontological investigation. As such, there would be no impacts.

Proposed Electronic Billboard

The proposed project would require limited excavation for the installation of a new electronic billboard structure. According to the paleontological records search result for the proposed project (Appendix E), no significant paleontological resources or geologic features are expected to be encountered during the project's construction phase due to the disturbed nature of the site and the limited amount of excavation that would be required to implement the project. Therefore, no impact would occur.

Mitigation Measures

None required.

²⁸ City of Gilroy. 2020. City of Gilroy 2040 General Plan DEIR. Page 3-151.

Environmental Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
2.8 Greenhouse Gas Emissions <i>Would the project:</i>				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b) Conflict with any applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

Environmental Evaluation

Would the project:

- a) **Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?**

Less than significant impact.

Proposed Electronic Billboard Ordinance

The proposed Ordinance would only relate to new electronic billboard requirements and regulations. The updated text would not involve changes in the existing environment and subsequent billboards would be subject to environmental review prior to approval. Analysis specific to the construction of the proposed billboard is discussed below.

Proposed Electronic Billboard

The proposed project is located in the San Francisco Bay Area Air Basin, which is regulated by the BAAQMD. Projects generate GHG emissions during construction and operation (e.g., mobile emissions, emissions from generation of electricity for operations, and emissions of from the manufacturing and transport of building materials). The BAAQMD's project-level significance thresholds for operational GHG emissions were deemed appropriate to use when determining the proposed project's potential GHG impacts. The thresholds suggested by the BAAQMD for project-level operational GHG generation are as follows:

- Compliance with a qualified GHG Reduction Strategy,
- 1,100 metric tons carbon dioxide equivalent (MT CO₂e) per year, or
- 4.6 MT CO₂e per service population (residents plus employees) per year.

The BAAQMD's recommended thresholds of significance listed above were established based on meeting the 2020 GHG reduction targets set forth in the AB 32 Scoping Plan.²⁹ AB 32 requires that Statewide GHG emissions be reduced to 1990 levels by 2020; however, in 2016, SB 32 extended California's GHG reduction programs beyond 2020. SB 32 contains language to authorize the ARB to achieve a Statewide GHG emission reduction of at least 40 percent below 1990 levels by no later than December 31, 2030. ARB approved the 2017 California's Climate Change Scoping Plan update,³⁰ which outlines the proposed framework of action for achieving the 2030 GHG target of 40 percent reduction in GHG emissions relative to 1990 levels.

Because the proposed project would be constructed after 2020, the BAAQMD quantitative thresholds of significance listed above was adjusted to a "substantial progress" threshold that was calculated based on the SB 32 target of 40 percent below 1990 levels (i.e., 60 percent of 1990 levels). Therefore, the mass emission threshold of significance applied in this analysis is 660 MT CO₂e per year ($1,100 \times 0.60 = 660$). If operation of the proposed project would generate GHG emissions that exceed this significance threshold, the proposed project would be considered to have a significant impact related to GHG emissions.

Lastly, the BAAQMD does not have a recommended threshold of significance for construction-related GHG emissions, which are short-term emissions and therefore would not significantly contribute to the long-term cumulative GHG emissions impacts of the proposed project. To account for construction-related GHG emissions, construction emissions are converted to an average annual emissions amount by amortizing them over the anticipated service life of a building. For buildings in general, it is reasonable to look at a 30-year time frame, since this is a typical interval before a new building requires the first major renovation.³¹

In general, this analysis is restricted to GHGs identified by AB 32, which include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. Construction and operation of the proposed project are addressed separately below.

Construction GHG Emissions

During project construction, GHGs would be generated by construction activities such as site clearing, operation of heavy-duty construction vehicles, materials and debris hauling, paving, and construction worker vehicle trips. These emissions would be considered short-term in duration. The BAAQMD does not have an adopted threshold of significance for construction-related GHG emissions; however, the BAAQMD does recommend that lead agencies quantify, disclose, and provide a significance determination for construction-related GHG emissions. Therefore, the construction emissions presented herein are averaged over a 30-year anticipated lifetime for the project and added to the proposed project's operational GHG emissions.

²⁹ California Air Resources Board (ARB). 2008. Climate Change Scoping Plan. December. Website: https://ww2.arb.ca.gov/sites/default/files/classic/cc/scopingplan/document/adopted_scoping_plan.pdf. Accessed September 13, 2021.

³⁰ California Air Resources Board (ARB). 2017. California's 2017 Climate Change Scoping Plan. Website: https://ww2.arb.ca.gov/sites/default/files/classic/cc/scopingplan/scoping_plan_2017.pdf. Accessed March 18, 2021.

³¹ International Energy Agency (IEA). 2008, July. Energy Efficiency Requirements in Building Codes, Energy Efficiency Policies for New Buildings.

Construction emissions were estimated using CalEEMod (Version 2020.4.0). Construction assumptions used to estimate GHG emissions are consistent with those used to estimate air pollutant emissions, as described under Impact 2.3(b). Table 6 shows that GHG emissions generated by project construction were estimated to be approximately 6 MT CO₂e, which is equal to less than 1 MT CO₂e per year for the 30-year anticipated lifetime of the proposed project.

Table 6: Construction GHG Emissions

Construction Phase	Total MT CO ₂ e/year
Proposed New Electronic Billboard Site	
Grading	1
Building Construction (Installation of Billboard)	4
Paving	<1
Total Construction Emissions	6
Amortized over 30 Years	<1
Notes: Because of rounding, total MT CO ₂ e may be marginally different from California Emissions Estimator Model (CalEEMod) Output. MT CO ₂ e = metric tons of carbon dioxide equivalents Source: CalEEMod Output (Appendix B).	

Operational GHG Emissions

Operational or long-term GHG emissions occur over the life of the proposed project. Sources for operational emissions include:

- **Motor Vehicles:** These emissions refer to tailpipe exhaust from the cars and trucks that would travel to and from the project site.
- **Indirect Electricity:** These emissions refer to those generated by off-site power plants to supply electricity required for the proposed project.
- **Water Transport:** These emissions refer to those generated by the electricity required to transport and treat the water to be used on the project site.
- **Waste:** These emissions refer to the GHG emissions produced by decomposing waste generated by the proposed project.

Motor vehicle, water, and waste sources of GHG emissions would be negligible during operation. LED electronic billboards (programmable electronic signs) are subject to energy efficiency requirements under Title 24 of the California Code of Regulations. The billboard is required to be dimmable, which would reduce energy use and GHG emissions associated with the generation of electricity. The proposed new electronic billboard would be illuminated 24 hours per day, 365 days per year. The light levels emitted from the billboard would be set to adjust based on ambient light conditions at any given time (i.e., nighttime versus daytime). According to applicant-provided information, a typical Outfront Media billboard would result in an estimated annual electricity demand of 26,200

kWh/year per LED facing. Therefore, it is assumed that the billboard, which consists of two facings, would use up to a total of 52,400 kWh, or 52.4 megawatt-hours (MWh) per year. PG&E would supply the electricity needed to illuminate the billboard.

Billboards require occasional upkeep and maintenance activities, which generate vehicle trips and resulting GHG emissions. These mobile source GHG emissions are difficult to quantify as no data is available at the time of this analysis to accurately represent these maintenance trips. As calculated and contained in Appendix B, electricity consumption resulting from operation of the proposed project would result in approximately 5 MT/year of CO₂e. By incorporating the amortized annual GHG emissions to account for construction emissions, the proposed project would generate up to 6 MT CO₂e per year. Additionally, the energy consumption calculations shown in Appendix B demonstrate that the project would not result in a substantial increase in electricity demand and resulting GHG emissions. The project's expected net annual GHG emissions of approximately 6 MT CO₂e/year would not exceed the 660 MT CO₂e/year threshold, and therefore GHG impacts related to the operation of the proposed project would be less than significant.

b) Conflict with any applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Less than significant impact.

Proposed Electronic Billboard Ordinance

The proposed Ordinance would only relate to new electronic billboard requirements and regulations. The updated text would not involve changes in the existing environment and subsequent billboards would be subject to environmental review prior to approval. Analysis specific to the construction of the proposed billboard is discussed below.

Proposed Electronic Billboard

The City of Gilroy has not adopted a qualified GHG reduction plan, but the City's 2040 General Plan contains the Natural and Cultural Resources Element, which contains goals and policies to reduce energy consumption and GHG emissions. There are several policies related to energy, most of which relate to energy use in commercial or residential buildings. None of the policies would be directly applicable to operation of the proposed new electronic billboard. The 2017 Clean Air Plan is also applicable to the project because the project site is located within the BAAQMD planning area. As described in Impact 2.3(a), none of the control measures contained in the 2017 Clean Air Plan are applicable to the operation of electronic billboards. As discussed in Impact 2.3(b), the proposed project would implement all BMPs for construction activities and would be consistent with the assumptions in the AQP after implementation of MM AIR-1. Furthermore, the proposed project would not include any special features that would disrupt or hinder implementation of the AQP control measures.

The proposed project would not conflict with the policies, regulations, or guidelines in the City's General Plan, Bay Area Clean Air Plan, or any other applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions. Furthermore, as discussed in Impact 2.7(a), the proposed

project would not generate substantial GHG emissions during construction or operation. Therefore, this impact would be less than significant.

Mitigation Measures

None required.

Environmental Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
2.9 Hazards and Hazardous Materials <i>Would the project:</i>				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☒	☐
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☐	☒
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
g) Expose people or structures, either directly or indirectly to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☒	☐

Environmental Evaluation

Setting

Permitted locations for the proposed electronic billboards would be property designated as General Services Commercial or City Gateway District, and located within 660 feet of US-101 and SR-152. These areas contain commercial and industrial land uses. Vehicles could transport hazardous materials along US-101, SR-152, and adjacent roadways.

According to the Hazardous Waste and Substances Site List from the Department of Toxic Substances Control (DTSC), there are no known Cortese List (§ 65962.5(a)), sites located in the City of Gilroy.³² The Cortese List contains hazardous waste and substance sites including public drinking water wells with detectable levels of contamination, sites with known underground storage tanks (USTs) having a reportable release, solid waste disposal facilities from which there is a known migration, hazardous substance sites selected for remedial action, historic Cortese sites, and sites with known toxic material identified through the abandoned site assessment program.

Specific to the proposed billboard site, the nearest potential hazardous site is the Garden Valley Foods cleanup site (T0608500013) located approximately 0.5-mile northwest of the site at 7050 Monterey Street. Its cleanup status is complete as of 2013.³³ The closest airport to the project site is Frazier Lake Airport, located approximately 5.5 miles southeast of the project site.

Would the project:

- a) **Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?**

Less than significant impact.

Proposed Electronic Billboard Ordinance

The Ordinance would not involve changes to the existing environment and subsequent billboards would be subject to environmental review prior to approval. All electronic billboards approved under the proposed Ordinance would be required to conform to Title 49 of the Code of Federal Regulations as well as United States Department of Transportation (USDOT), State of California, and local laws, ordinances, and procedures. As such, the proposed Ordinance would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. No impact would occur.

Proposed Electronic Billboard

Construction of the proposed electronic billboard may involve the use, transport, and disposal of hazardous materials such as gasoline, diesel fuel, lubricating oil, hydraulic oil, lubricating grease, automatic transmission fluid, paints, solvents, glues, and other substances typically used during construction. Construction of the electronic billboard would also require the use of gasoline- and diesel-powered heavy equipment such as bulldozers, backhoes, water pumps, and air compressors.

³² EnviroStor. 2021. DTSC Hazardous Waste and Substances Site List. Website: https://www.envirostor.dtsc.ca.gov/public/search.asp?page=1&cmd=search&business_name=&main_street_name=&city=&zip=&county=&status=ACT%2CBKLG%2CCOM&branch=&site_type=CSITES%2COPEN%2CFUDS%2CCLOSE&npl=&funding=&reporttitle=HAZARDOUS+WASTE+AND+SUBSTANCES+SITE+LIST&reporttype=CORTESE&federal_superfund=&state_response=&voluntary_cleanup=&school_cleanup=&operating=&post_closure=&non_operating=&corrective_action=&tiered_permit=&evaluation=&spec_prog=&national_priority_list=&senate=&congress=&assembly=&critical_pol=&business_type=&case_type=&searchtype=&hwmp_site_type=&cleanup_type=&ocierp=&hwmp=False&permitted=&pc_permitted=&inspections=&complaints=&censustrack=&cesdecile=&scho ol_district=&orderby=upper%28business%5Fname%29. Accessed July 20, 2021.

³³ California State Water Resources Control Board (State Water Board). 2021. GeoTracker—Garden Valley Foods (T0608500013). Website: https://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T0608500013. Accessed July 20, 2021.

If not appropriately managed, accidental spills of these hazardous materials could result in a significant impact.

Any handling of hazardous materials would be limited in both quantity and concentrations. Furthermore, project implementation would be required to conform to Title 49 of the Code of Federal Regulations, USDOT, State of California, and local laws, ordinances, and procedures.

Operation of the project would require sporadic maintenance, but this maintenance would not involve the use of any hazardous materials with the potential to significantly impact the public. Therefore, impacts would be less than significant.

b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

Less than significant impact.

Proposed Electronic Billboard Ordinance

The proposed Ordinance would not involve changes to the existing environment and subsequent billboards would be subject to environmental review prior to approval. All electronic billboards approved under the proposed Ordinance would be required to conform to Title 49 of the Code of Federal Regulations as well as USDOT, State of California, and local laws, ordinances, and procedures. As such, the proposed Ordinance would not create hazards to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. No impact would occur.

Proposed Electronic Billboard

As described above, construction activities would require the use and transport of potentially hazardous materials including oils and combustible fuels, but would not be stored in large quantities on-site. The applicant and its contractors would be required to comply with all relevant local, State, and federal regulations related to the handling, transport, and storage of hazardous materials.

Disturbance of on-site soils at the project site would be limited to soil removal in the immediate area required to install a foundation for the electronic billboard. Operation of the proposed project, which entails the changing of messages on electronic billboard faces and sporadic maintenance by a de minimis number of workers and trucks, would not involve the use of any hazardous materials with the potential to significantly impact the public. Thus, impacts associated with the release of hazardous materials into the environment through reasonably foreseeable upset and accident conditions would be less than significant.

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

Less than significant impact.

Proposed Electronic Billboard Ordinance

All electronic billboards approved under the proposed Ordinance would be required to conform to Title 49 of the Code of Federal Regulations, USDOT, State of California, and local laws, ordinances, and procedures. While the construction of electronic billboards may involve the use of hazardous substances, conformance with these regulations would reduce the impacts of these hazardous substances. In addition, electronic billboards would only be permitted on properties designated as General Services Commercial or City Gateway District and would not be sited on school properties. As such, the proposed Ordinance would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste near an existing or proposed school. Impacts would be less than significant.

Proposed Electronic Billboard

As described above, construction of the proposed project would involve the use of some hazardous materials. However, there are no schools within one-quarter mile of the project site. The nearest school to the project site is Eliot Elementary School located approximately 0.75 mile north of the site. The proposed project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substance, or waste within 0.25 mile of an existing or proposed school. Thus, impacts would be less than significant.

- d) **Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?**

No impact.

Proposed Electronic Billboard Ordinance

Government Code Section 65962.5 refers to the Hazardous Waste and Substances Site List, commonly known as the Cortese List, maintained by the DTSC. As discussed in the setting subsection above, the results of the database search determined there are currently no Cortese sites located on or in the City of Gilroy. Subsequent billboards would also undergo environmental review which would analyze impacts related to hazardous material sites. No impact would occur.

Proposed Electronic Billboard

As discussed above, there are no Cortese sites located on or in the vicinity of the project site. The EnviroStor database indicated that there are no known Cortese sites located within the City.³⁴ As a result, no impact would occur.

³⁴ EnviroStor. 2021. DTSC Hazardous Waste and Substances Site List. Website: https://www.envirostor.dtsc.ca.gov/public/search.asp?page=1&cmd=search&business_name=&main_street_name=&city=&zip=&county=&status=ACT%2CBKLG%2CCOM&branch=&site_type=CSITES%2COPEN%2CFUDS%2CCLOSE&npl=&funding=&reporttitle=HAZARDOUS+WASTE+AND+SUBSTANCES+SITE+LIST&reporttype=CORTESE&federal_superfund=&state_response=&voluntary_cleanup=&school_cleanup=&operating=&post_closure=&non_operating=&corrective_action=&tiered_permit=&evaluation=&spec_prog=&national_priority_list=&senate=&congress=&assembly=&critical_pol=&business_type=&case_type=&searchtype=&hwmp_site_type=&cleanup_type=&ocierp=&hwmp=False&permitted=&pc_permitted=&inspections=&complaints=&censustract=&cesdecile=&school_district=&orderby=upper%28business%5Fname%29. Accessed July 20, 2021.

- e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?

No impact.

Proposed Electronic Billboard Ordinance

As stated previously, electronic billboards would only be permitted on properties designated as General Commercial Services and Gateway District, which are more than 2 miles from Frazier Lake Airport. Therefore, no impact would occur.

Proposed Electronic Billboard

As previously discussed, the project site is located further than 2 miles from the closest airport. Therefore, no impact would occur.

- f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Less than significant impact.

Proposed Electronic Billboard Ordinance

The City actively participates in maintenance protocols outlined in the 2017 Santa Clara County Operational Area Hazard Mitigation Plan which the City of Gilroy adopted in 2018.³⁵

The 2017 Santa Clara County's Operational Area Hazard Mitigation Plan does not include evacuation routes, however, US-101 would serve as an evacuation route in case of emergency. All billboards approved under the proposed Ordinance would be required to conform to Title 49 of the Code of Federal Regulations, USDOT, State of California, and local laws, ordinances, and procedures. Additionally, the City of Gilroy 2040 General Plan EIR determined that jurisdictions within the County would adhere to the adopted Santa Clara County Operational Area Emergency Operations Plan which outlines response protocols for emergencies. The proposed Ordinance itself would not impede an emergency response plan. The construction of electronic billboards resulting from the proposed Ordinance may have the potential to physically interfere with an emergency response or evacuation plan. However, each proposed electronic billboard would undergo environmental review prior to approval to ensure impacts related to emergency response are properly analyzed and mitigated. As such, impacts would be less than significant.

Proposed Electronic Billboard

The proposed project would not interfere with any adopted emergency response plan or emergency evacuation plan. Though project plans for construction are unknown at this time, it is anticipated that the potential electronic billboard could, as a worst-case scenario, involve a temporary roadway closure at the project site location on Automall Parkway. As a result, impacts would be less than significant.

³⁵ Santa Clara County. Santa Clara County Operational Area Hazard Mitigation Plan – Volume I. 2017.

- g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?

Less than significant impact.

Proposed Electronic Billboard Ordinance

The proposed Ordinance would allow up to two billboards to be constructed within 660 feet of US-101 and SR-152. All possible locations for electronic billboards are within an urbanized area and therefore not located near or in the vicinity of wildlands. Therefore, impacts would be less than significant.

Proposed Electronic Billboard

There are no wildlands located within or near the project site. Therefore, the proposed project would not expose people or structures either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires. The project site has an extensive history of development with minimal landscaping. Therefore, no impacts would be less than significant.

Mitigation Measures

None required.

Environmental Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
2.10 Hydrology and Water Quality <i>Would the project:</i>				
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?	☐	☐	☒	☐
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☒	☐
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:	☐	☐	☒	☐
(i) result in substantial erosion or siltation on- or off-site;	☐	☐	☒	☐
(ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;	☐	☐	☒	☐
(iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	☒	☐
(iv) impede or redirect flood flows?	☐	☐	☐	☒
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☒	☐
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☒	☐

Environmental Evaluation

Setting

The project area is urbanized and is primarily covered with impervious surfaces in the form of buildings, paved roadways, and paved lots. Within the City of Gilroy, annual average rainfall is approximately 20 inches.³⁶ The existing local stormwater network collects precipitation and provides

³⁶ City of Gilroy. n.d. Community Profile. Website: <https://www.cityofgilroy.org/355/About-Gilroy#:~:text=Nestled%20at%20the%20southern%20end%20of%20the%20Santa,with%20an%20average%20rainfall%20of%20about%2020%20inches>. Accessed July 21, 2021.

drainage within the project area. The only surface bodies of water that exists in the surrounding project area is the Llagas Creek, located approximately 1.23 miles to the northeast. No surface bodies of water traverse the project site. The project site is paved and therefore impervious.

Would the project:

- a) **Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?**

Less than significant impact.

Proposed Electronic Billboard Ordinance

The proposed Ordinance would only relate to new electronic billboard requirements and regulations. The proposed amendment would not involve changes to the existing environment. All electronic billboards approved under the proposed Ordinance would be required to conform to the Gilroy Municipal Code and the Water Conservation Ordinance³⁷, as well as federal, State, and local laws, ordinances, and procedures. Therefore, impacts would be less than significant.

Proposed Electronic Billboard

Construction of the proposed electronic billboard would involve minimal ground disturbance at the project site. Construction activities could allow surface water to carry small quantities of pollutants (e.g., oil or fuel used in construction equipment) off-site, thereby potentially affecting local waterways by degrading water quality, however, the proposed project would involve construction activities for short durations and would not substantially affect water quality standards. Excavated soils would be hauled to a landfill and no exposed soils would remain on-site. As such, a limited amount of soil would be exposed during the brief construction period associated with excavation activities. Construction of the proposed project would result in less than significant impacts related to water quality standards.

Once the proposed electronic billboard is constructed, the site would be repaved, and the impervious surface area would be consistent with current conditions. Once constructed, the proposed project would not affect water quality or result in a violation of waste discharge requirements. Proper operation and maintenance of the electronic billboards would continue to ensure that such structures do not contribute pollutants to stormwater runoff. Therefore, impacts would be less than significant.

- b) **Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?**

Less than significant impact.

³⁷ City of Gilroy. 2016. Water Conservation Ordinance (Ordinance No. 2016-15). Website: <https://www.cityofgilroy.org/DocumentCenter/View/6145/Ordinance-2016-15?bidId=>. Accessed November 29, 2021.

Proposed Electronic Billboard Ordinance

All electronic billboards approved under the proposed Ordinance would be required to conform to the Gilroy Municipal Code and the Water Conservation Ordinance³⁸, as well as federal, State, and local laws, ordinances, and procedures. Furthermore, operation of electronic billboards typically does not involve the use of water or groundwater sources. Therefore, impacts would be less than significant.

Proposed Electronic Billboard

The proposed project would not utilize groundwater sources, and there would not be a need to drill wells to supply water. The installation of a new electronic billboard would not add to existing impervious surface conditions since it would be located in an existing paved area. Operation of the proposed project would not impact groundwater supplies or interfere with groundwater recharge. Therefore, no impact would occur.

- c) **Substantially alter the existing drainage pattern of area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:**
 - (i) **result in substantial erosion or siltation on- or off-site;**

Less than significant impact.

Proposed Electronic Billboard Ordinance

The proposed Ordinance would not cause substantial erosion or siltation. Typically, the construction of electronic billboards does not involve a significant amount of ground disturbance. Furthermore, General Plan Policy PH 2.6 requires that all new development proposals include a site plan detailing appropriate methods of erosion and deposition control during site development and subsequent use.³⁹ Thus, impacts would be less than significant.

Proposed Electronic Billboard

The project site is currently paved and consists of impervious surfaces. Construction of the billboard's foundation structure would result in a limited footprint area, which would not result in substantial erosion or siltation on- or off-site. Therefore, the impact would be less than significant.

- (ii) **substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;**

Less than significant impact.

Proposed Electronic Billboard Ordinance

As previously stated, the proposed Ordinance would allow for the construction of up to two electronic billboards in the City of Gilroy, which would not substantially increase the amount of

³⁸ Ibid.

³⁹ City of Gilroy. 2020. Gilroy 2040 General Plan, Potential Hazards. Page PH-7.

surface runoff. In addition, subsequent billboards would require environmental review which would analyze and mitigate any potential surface runoff. Impacts would be less than significant.

Proposed Electronic Billboard

As previously stated, the electronic billboard's foundation structure would have a limited construction footprint area. Construction of the electronic billboard would not substantially impact the amount of runoff from the site nor increase the impervious surface area compared to existing conditions. Therefore, project implementation would not substantially increase the rate of runoff water that would result in flooding on- or off-site. Impacts would be less than significant.

- (iii) **create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff;**
or

Less than significant impact.

Proposed Electronic Billboard Ordinance

All electronic billboards approved under the proposed Ordinance would be required to conform to the Gilroy Municipal Code and the Water Conservation Ordinance,⁴⁰ as well as federal, State, and local laws, ordinances, and procedures. Additionally, this amendment would allow for the construction of up to two electronic billboards in the City of Gilroy, which would not create a substantial amount of runoff water. Subsequent billboards would require environmental review which would analyze and mitigate any potential surface runoff. Impacts would be less than significant.

Proposed Electronic Billboard

As previously stated, the project site is currently paved, and the electronic billboard foundation would have a limited construction footprint area, which would not substantially impact the amount of runoff from the site nor increase the impervious surface area, compared to existing conditions. Therefore, project implementation would not substantially contribute to runoff water, which would exceed the capacity of existing drainage systems or provide sources of polluted runoff. Impacts would be less than significant.

- (iv) **impede or redirect flood flows?**

No impact.

Proposed Electronic Billboard Ordinance

The proposed Ordinance would not impact on flood flows. The Urban Growth Boundary of the City includes areas located within the 100-year Federal Emergency Management Agency (FEMA) floodplains. The following areas within the Urban Growth Boundary are located within the 100-year floodplain: Open Space in proximity to Uvas Creek and Llagas Creek, General Industrial, Employment

⁴⁰ City of Gilroy. 2016. Water Conservation Ordinance (Ordinance No. 2016-15). Website: <https://www.cityofgilroy.org/DocumentCenter/View/6145/Ordinance-2016-15?bidId=>. Accessed November 29, 2021.

Center and Public/Quasi-Public facilities that are east of US-101, and park and recreation facilities south of Luchessa Avenue. The permitted locations in the proposed Ordinance only allows for billboards to be constructed in the General Services Commercial or City Gateway District. All electronic billboards approved under the proposed Ordinance would also be required to conform to the Gilroy Municipal Code Chapter 27E, Floodplain Management Ordinance. As a result, no impact would occur.

Proposed Electronic Billboard

The FEMA flood maps identify areas that are prone to flooding. The project site corresponds to Flood Insurance Rate Map (FIRM) 06085C0756H,⁴¹ and is designated as Flood Zone AH (1 percent annual chance of shallow flooding where average depths are between one and three feet). Although the project site is located within a flood hazard zone, the proposed project would not change the amount of impervious surfaces compared with current conditions. The project would have a small footprint and would not have an impact on flows. Therefore, impacts would be less than significant.

d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

Less than significant impact.

Proposed Electronic Billboard Ordinance

Tsunami inundation would not occur because the project site and the City is over 15 miles east of the Pacific Ocean. A seiche is a seismically or wind-induced wave on an enclosed body of water such as a lake or reservoir. There are no lakes within the City. Therefore, impacts related to the release of pollutants due to project inundation would be less than significant.

Proposed Electronic Billboard

As discussed above, although the project site is located within Flood Zone AH, the proposed project would include minimal ground disturbance during the construction period and would be repaved post-construction. Therefore, impacts related to the release of pollutants due to project inundation would be less than significant.

e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Less than significant impact.

Proposed Electronic Billboard Ordinance

All electronic billboards approved under the proposed Ordinance would be required to conform to the City of Gilroy's 2040 General Plan policies and the Gilroy Municipal Code, as well as State of California, and local laws, ordinances, and procedures. The proposed billboard ordinance would not conflict with an existing water quality control plan or sustainable groundwater management plan. As a result, no impact would occur.

⁴¹ Federal Emergency Management Agency (FEMA). 2020. FEMA Flood Map Service Center. Website: <https://msc.fema.gov/portal/search#searchresultsanchor>. Accessed July 21, 2021.

Proposed Electronic Billboard

The proposed project would result in minimal ground disturbance at the project site. Development of the project site would not substantially change the amount of impervious surface area and there would be no change in impervious surface area at the site, which is already paved. Furthermore, the electronic billboard would not utilize any materials or equipment that could lead to surface water pollution. Therefore, the proposed project would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. Impacts would be less than significant.

Mitigation Measures

None required.

Environmental Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
2.11 Land Use and Planning <i>Would the project:</i>				
a) Physically divide an established community?	☐	☐	☐	☒
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☒	☐

Environmental Evaluation

Setting

Under the proposed Ordinance, up to two electronic billboards would be allowed in the City. Permitted locations for the proposed billboards would be property designated as General Services Commercial or City Gateway District, and located within 660 feet of US-101 and SR-152. These locations are within an established urban community that has a history of development. The proposed electronic billboard site is currently developed and located on Automall Parkway, adjacent to US-101.

Would the project:

a) **Physically divide an established community?**

No impact.

Proposed Electronic Billboard Ordinance

The physical division of an established community typically refers to the construction of a physical feature, such as an interstate highway or railroad tracks, or removal of a means of access, such as a local road or bridge, that would impair mobility within an existing community or between a community and outlying area. The electronic billboards would only be allowed on properties designated as General Services Commercial or City Gateway District and would be located within 660 feet of US-101 and SR-152. It is the intent of the proposed Ordinance to facilitate the development of electronic billboards and to allow them only in areas that would complement or serve the existing commercial area within the City. Thus, electronic billboards would not be permitted in areas where they would create a division in an established community. No impact would occur.

Proposed Electronic Billboard

The proposed electronic billboard would be located on a parcel designated General Services Commercial and is surrounding by industrial uses. The proposed billboard would not physically divide an established community, nor would it impair mobility within an existing community.

Therefore, installation of the electronic billboard would not result in the division of an established community. No impact would occur.

- b) **Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?**

Less than significant impact.

Proposed Electronic Billboard Ordinance

The City of Gilroy's Sign Ordinance does not currently address electronic billboards and no electronic billboards exist within the city limits. The proposed project would create a new Ordinance and revise existing City Code Sections 30.37.30 (Prohibited Signs), 30.37.50 (Commercial and Industrial districts), and 30.37.51 (Freeway Oriented Signs) to allow electronic billboards. The proposed Ordinance would allow up to two electronic billboards within city limits. The proposed amendments to the Sign Ordinance would ensure conformity with the proposed Ordinance. Therefore, impacts would be less than significant.

Proposed Electronic Billboard

The proposed electronic billboard would be subject to additional stipulations including height and size of sign face. Per the proposed Ordinance, the electronic billboards shall not exceed a maximum height of 75 feet above grade and shall have a maximum electronic billboard area of 672 square feet per side. The sign face display would not be allowed to change more often than every 8 seconds, and messages would be static (i.e., not moving or animated). The minimum permitted distance between electronic billboards shall be 1.5 miles.

The proposed billboard structure would be 60 feet in height. The displays on the billboard would be mounted on a supporting column that would be approximately 51 feet tall. The billboard frame would be 14 feet high and 48 feet wide. These measurements would be in conformance with the proposed Ordinance. In addition, the proposed project would be subject to the Caltrans Outdoor Advertising Act and Section 5403(g) of the Business and Professions Code. The project's compatibility with these standards would minimize impacts that could potentially affect policies or regulations that were adopted to avoid or mitigate environmental effects. Thus, impacts would be less than significant.

Mitigation Measures

None required.

Environmental Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
2.12 Mineral Resources <i>Would the project:</i>				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State?	☐	☐	☐	☒
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

Environmental Evaluation

Setting

The City of Gilroy 2040 General Plan does not identify any mineral deposits or resources. Therefore, the project area does not support mineral extraction activities and the project site does not contain nor is it adjacent to any mineral deposits.

Would the project:

- a) **Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State?**

No impact.

Proposed Electronic Billboard Ordinance

As previously stated, the Gilroy 2040 General Plan does not identify any mineral resources or deposits. With no mineral deposits located in the City, the proposed Ordinance would not result in the loss of a known mineral resource that would be of value to the region and the residents of the State. No impact would occur.

Proposed Electronic Billboard

The project site does not support mineral extraction activities and no known mineral deposits exist within the project site. Therefore, implementation of the proposed project would not result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State. No impact would occur.

- b) **Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?**

No impact.

Proposed Electronic Billboard Ordinance

As previously discussed in Impact 12(a), the Gilroy 2040 General Plan does not identify any mineral resources or deposits in the City. Therefore, the proposed Ordinance would not result in the loss of availability of a locally important mineral resource recovery site delineated on a general plan or other land use plan. No impact would occur.

Proposed Electronic Billboard

The project site does not support any mineral extraction activities, and no known mineral deposits exist within the project site. Therefore, implementation of the proposed project would not result in the loss of availability of a locally important mineral recovery site delineated in a local general plan, specific plan, or other land use plan. No impact would occur.

Mitigation Measures

None required.

Environmental Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
2.13 Noise <i>Would the project result in:</i>				
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
b) Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

Environmental Evaluation

Setting

The proposed new electronic billboard site is located adjacent to US-101, which is a major highway. The consistent use of this roadway by vehicles results in steady ambient noise levels.

Characteristics of Noise

Noise is defined as unwanted sound. Sound levels are usually measured and expressed in decibels (dB), with 0 dB corresponding roughly to the threshold of hearing. Most of the sounds that we hear in the environment do not consist of a single frequency, but rather a broad band of frequencies, with each frequency differing in sound level. The intensities of each frequency add together to generate a sound. Noise is typically generated by transportation, specific land uses, and ongoing human activity.

The standard unit of measurement of the loudness of sound is the dB. The 0 point on the dB scale is based on the lowest sound level that the healthy, unimpaired human ear can detect. Changes of 3 dB or less are only perceptible in laboratory environments. A change of 3 dB is the lowest change that can be perceptible to the human ear in outdoor environments. While a change of 5 dBA is considered to be the minimum readily perceptible change to the human ear in outdoor environments.

Since the human ear is not equally sensitive to sound at all frequencies, the A-weighted decibel scale (dBA) was derived to relate noise to the sensitivity of humans, it gives greater weight to the frequencies of sound to which the human ear is most sensitive. The A-weighted sound level is the basis for a number of various sound level metrics, including the day/night sound level (L_{dn}) and the

Community Noise Equivalent Level (CNEL), both of which represent how humans are more sensitive to sound at night. In addition, the equivalent continuous sound level (L_{eq}) is the average sound energy of time-varying noise over a sample period and L_{max} is the maximum instantaneous noise level occurring over a sample period.

Regulatory Framework

The proposed billboard site is located within the City of Gilroy. The City of Gilroy addresses noise in the Potential Hazards Element of the General Plan⁴² and in the City Municipal Code.⁴³

City of Gilroy 2040 General Plan

The Potential Hazards Element includes standards to provide compatible noise environments for new development or redevelopment projects and to control excessive noise exposure of existing developments. Noise-related goals, policies, actions, and standards provided in the Potential Hazards Element provide the basis for decision-making on determining land use compatibility with noise sources associated with the proposed project, as well as mitigation requirements.

The Potential Hazards Element policies that address noise include Policy PH 6.4, which requires that mitigation measures shall be required for new development projects that exceed the following criteria:

- Cause the L_{dn} of a residential area to exceed 60 dBA⁴⁴ outdoors or 45 dBA indoors.
- Cause the L_{dn} of a commercial area to exceed 65 dBA outdoors or 61 dBA indoors.
- Cause the L_{dn} of an industrial area to exceed 76 dBA outdoors. For indoors industrial areas, a noise level of 65 dBA is not to be exceeded more than 10 percent of the time, while a noise level of 60 dBA is not to be exceeded more than 50 percent of the time.

Furthermore, General Plan Policy PH 6.10 requires that proposed development projects assess potential construction noise impacts on nearby sensitive uses and to minimize impacts on those uses, to the extent feasible. General Plan Policy 6.12 requires that mitigation measures be implemented to ensure that no vibration-related damage or disturbance to structures of sensitive receptors would occur. It also requires that proposed residential and commercial projects located within 200 feet of existing major freeways conduct a ground vibration noise evaluation consistent with City-approved methodologies.

General Plan Policy 6.11 requires that all construction be limited to the hours of 7:00 a.m. to 7:00 p.m., Monday through Friday and 9:00 a.m. to 7:00 p.m. on Saturdays.

⁴² City of Gilroy. 2020. City of Gilroy 2040 General Plan. Website: <https://www.cityofgilroy.org/DocumentCenter/View/11309/Gilroy-2040-General-Plan-39-MB?bidId=>. Accessed August 6, 2021.

⁴³ City of Gilroy. 2021. Gilroy City Code. Website: <https://www.codepublishing.com/CA/Gilroy/>. Accessed August 6, 2021.

⁴⁴ The Outdoor sound levels for residential properties shall be held to 60-dBA LDN, or a maximum of 70-dBA if all of the following findings can be made: (1) That feasible sound attenuation measures have been incorporated in the project design; (2) That potential noise levels are part of the developer's disclosure to future residents; (3) That interior noise limits established by the General Plan are strictly maintained; and (4) Potential noise levels will not jeopardize the health, safety, and general welfare of the public.

Gilroy City Code

Zoning Ordinance Section 30.41.31 also outlines Maximum Outdoor Noise Levels for residential, commercial, and industrial land uses. The City Code states that for commercial and industrial noise impacting residentially zone properties, noise is limited to a maximum of 70 dBA (L_{10}) measured at the residential property line.

Section 16.38 of the City Code states that construction activities shall be limited to the hours of 7:00 a.m. to 7:00 p.m., Monday through Friday and 9:00 a.m. to 7:00 p.m. on Saturday. Construction activities shall not occur on Sundays or City holidays.

Would the project result in:

- a) **Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?**

Less than significant impact.

Proposed Electronic Billboard Ordinance

The proposed Ordinance would only relate to new electronic billboard requirements and regulations. The Ordinance would not involve changes to the existing environment and subsequent billboards would be subject to environmental review prior to approval. Analysis specific to the construction of the proposed electronic billboard is discussed below.

Proposed Electronic Billboard

Short-term Construction Noise Impacts. For purposes of this analysis, a significant impact would occur if construction activities would result in a substantial temporary increase in ambient noise levels outside of the permissible hours for construction (7:00 a.m. to 7:00 p.m., Monday through Friday, and 9:00 a.m. to 7:00 p.m. on Saturdays) that would result in annoyance or sleep disturbance of nearby sensitive receptors.

The proposed electronic billboard would be located at the northwestern corner of the 6400 block of Automall Parkway. This location does not currently contain an existing billboard, so as part of the project a new sign would be constructed which would result in ground disturbance within the project boundaries.

The site preparation phase, which includes excavation and foundation construction activities, would generate the highest noise levels, because that is the phase in which the noisiest construction equipment would operate at the site. The heaviest types of construction equipment expected to be used in construction of this project include an auger drill rig, a backhoe, and a crane. The use of impact equipment, such as pile drivers, is not expected to be used during construction of the project. According to the FHWA Highway Construction Noise Handbook, the typical maximum noise level generated by an auger drill rig is assumed to be 85 dBA L_{max} at 50 feet from this equipment. Each backhoe would generate 80 dBA L_{max} at 50 feet. The maximum noise level generated by cranes is approximately 85 dBA L_{max} at 50 feet.

Because of the size of the construction footprint and the methods for installation, it is expected that only one of these heaviest pieces of construction would operate at a single time during the construction process (i.e., simultaneous operation of multiple pieces of these pieces of construction equipment would not occur). Therefore, a reasonable worst-case noise level during construction would be 85 dBA L_{max} at a distance of 50 feet from the construction footprint.

The nearest residential receptors to the proposed construction boundaries are the single-family residences located approximately 1,795 feet west of the project boundary. At this distance, reasonable worst-case construction noise levels from operation of the crane as measured at the nearest residential property line would attenuate to below 54 dBA L_{max} intermittently when the crane equipment is operating at maximum power. These noise levels would not result in annoyance or sleep disturbance of these residential sensitive receptors.

All of these reasonable worst-case construction noise levels would be intermittent as the equipment would typically only operate at full power for 2- to 3-minutes at a time. These noise levels would not be considered substantial and would not be expected to result in any perceptible increase in the ambient noise levels as measured at this nearest sensitive receptor. Furthermore, the proposed project shall comply with Noise Ordinance Section 16.38, which states that construction activities shall be limited to the hours of 7:00 a.m. to 7:00 p.m., Monday through Friday and 9:00 a.m. to 7:00 p.m. on Saturday and that construction activities shall not occur on Sundays or City holidays. Therefore, the effect of construction activity on hourly or daily ambient noise levels, as measured at the nearest sensitive receptors, would not result in a substantial increase in ambient noise levels in excess of established standards, and impacts would be less than significant.

Long-term Operational Noise Impacts The proposed new electronic billboards are not designed to emit any sound, and the proposed project would not generate any regular vehicle trips. Therefore, the proposed project would not generate a substantial permanent increase in ambient noise levels in the vicinity of the project. No impact would occur.

b) Generation of excessive groundborne vibration or groundborne noise levels?

Less than significant impact.

Proposed Electronic Billboard Ordinance

The proposed Ordinance would only relate to new electronic billboard requirements and regulations. The Ordinance would not involve changes to the existing environment and subsequent electronic billboards would be subject to environmental review prior to approval. Analysis specific to the construction of the proposed electronic billboard is discussed below.

Proposed Electronic Billboard

A significant impact would occur if the proposed project would generate groundborne vibration or groundborne noise levels in excess of applicable standards. Policy 6.12 of the General Plan requires a vibration impact assessment for proposed development projects in which heavy-duty construction equipment would be used within 200 feet of an existing structure or sensitive receptor. Policy 6.13 of

the General Plan requires that proposed residential and commercial projects located within 200 feet of existing major freeways and railroad lines to conduct a ground vibration and vibration noise evaluation consistent with City-approved methodologies. The project is within 200 feet of an existing structure and within 660 feet of US-101. However, the City of Gilroy has not adopted specific threshold criteria for construction or operational groundborne vibration impacts. Therefore, for purposes of this analysis, the Federal Transit Administration's (FTA's) construction vibration impact criteria are utilized.⁴⁵ For operational impacts, a significant impact would occur if proposed project ongoing activities would produce groundborne vibrations that are perceptible without instruments by a reasonable person at the property lines of the site.

Short-term Construction Vibration Impacts.

For purposes of this analysis, a significant impact would occur if the proposed project would generate groundborne vibration or groundborne noise levels in excess of the FTA impact assessment criteria for construction (0.2 in/sec peak particle velocity [PPV] for non-engineer timber and masonry buildings).

Of the variety of equipment that would be used during construction, cranes would produce the greatest groundborne vibration levels. Cranes can produce groundborne vibration levels ranging up to 0.051 in/sec PPV at 25 feet from the operating equipment.⁴⁶ Impact equipment (e.g., pile drivers) is not expected to be used during construction of the proposed project.

The project location does not currently contain an existing sign, so, as part of the project, a new sign would be constructed which would result in ground disturbance within the project boundaries.

The crane used to install the new billboard could operate as close as 145 feet from the nearest façade of any existing structure within or adjacent to the project boundaries. At this distance, groundborne vibration levels from operation of the crane would attenuate to approximately 0.07 in/sec PPV. This is well below the FTA's damage threshold criteria of 0.2 in/sec PPV for adjacent structures, buildings of non-engineered timber and masonry construction. Therefore, impacts resulting from construction-related groundborne vibration levels would be less than significant.

Operational Vibration Impacts.

Implementation of the project would not include any permanent sources of vibration that would expose persons in the project vicinity to groundborne vibration levels that could be perceptible without instruments at any existing sensitive land use in the vicinity of the project site. Therefore, operational groundborne vibration impacts would be less than significant.

- c) **For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?**

No impact.

⁴⁵ Federal Transit Administration (FTA). 2018. Transit Noise and Vibration Impact Assessment Manual. September.

⁴⁶ Federal Highway Administration (FHWA). 2006. Highway Construction Noise Handbook. August.

Proposed Electronic Billboard Ordinance

The proposed Ordinance would only relate to new electronic billboard requirements and regulations. The Ordinance would not involve changes to the existing environment and subsequent billboards would be subject to environmental review prior to approval. Analysis specific to the construction of the proposed electronic billboard is discussed below.

Proposed Electronic Billboard

A significant impact would occur if the proposed project would expose people residing or working in the project area to excessive noise levels for a project located in the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport.

The project site is not located within the vicinity of a private airstrip. The closest airport to the project site is Frazier Lake Airport, located approximately 5.5 miles southeast of the project site. The project sites are also not located within the 65 dBA CNEL airport noise contours of any public or public use airport. As such, operation of the project would not expose people working at the project site to excessive noise levels associated with public airport or public use airport noise. Therefore, no impact related to exposure of persons residing or working at the project site to excessive noise levels associated with airport activity would occur.

Mitigation Measures

None required.

Environmental Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
2.14 Population and Housing <i>Would the project:</i>				
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Environmental Evaluation

Setting

According to the California Department of Finance, the City of Gilroy's estimated population for 2021 is 56,599.⁴⁷

Would the project:

- a) **Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?**

No impact.

Proposed Electronic Billboard Ordinance

The proposed Ordinance would not involve construction of homes or the extension of infrastructure. Therefore, the updated Ordinance would not induce population growth directly or indirectly. Therefore, no impact would occur.

Proposed Electronic Billboard

The construction of an electronic billboard would not involve construction of homes or the extension of infrastructure. Therefore, the proposed project would not induce population growth directly or indirectly. No impact would occur.

- b) **Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?**

No impact.

⁴⁷ Department of Finance. 2021. E-1 Population Estimates for Cities, Counties, and the State—January 1, 2020, and 2021. <https://dof.ca.gov/Forecasting/Demographics/Estimates/e-1/>. Accessed July 6, 2021.

Proposed Electronic Billboard Ordinance

The proposed Ordinance would not displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere, and no impact would occur.

Proposed Electronic Billboard

The proposed electronic billboard would be located on a parcel designated as General Services Commercial. The parcel is currently used for truck trailer parking, auto repair businesses, and a gas station. No housing units exist on-site. Therefore, project implementation would not displace any existing housing or people or necessitate the construction of replacement housing elsewhere. No impact would occur.

Mitigation Measures

None required.

Environmental Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
2.15 Public Services <i>Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:</i>				
a) Fire protection?	☐	☐	☒	☐
b) Police protection?	☐	☐	☒	☐
c) Schools?	☐	☐	☐	☒
d) Parks?	☐	☐	☐	☒
e) Other public facilities?	☐	☐	☐	☒

Environmental Evaluation

Setting

Fire services in the City of Gilroy are provided by the Gilroy Fire Department (GFD). Law enforcement services are provided by the City of Gilroy Police Department.⁴⁸ The project site is located within the Gilroy Unified School District. There are no fire, police, schools, or other public facilities located on the proposed electronic billboard project site.

Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

a) Fire protection?

Less than significant impact.

Proposed Electronic Billboard Ordinance

All electronic billboards approved under the proposed Ordinance would be constructed in conformance with the CBC, the California Electrical Code, and the California Fire Code in order to reduce potential fire hazards. The proposed Ordinance would not increase demand for fire protection and would not result in the need for new or physically altered facilities. Therefore, impacts would be less than significant.

⁴⁸ City of Gilroy. 2020. City of Gilroy General Plan—Public Facilities and Services. Page PFS-14-15.

Proposed Electronic Billboard

The GFD is located at 7070 Chestnut Street, approximately 1.2 miles north of the project site. Electronic billboards present a potential fire hazard due to thermal heat that accumulates in the screen system. Therefore, the proposed project may increase demand for fire protection at the project site. However, the proposed electronic billboard would be constructed in conformance with the most recently adopted California Building Code, California Electrical Code, and the California Fire Code, which would reduce potential fire hazards. As such, the proposed electronic billboard would not adversely impact service ratios, response times, or other GFD performance standards and thus, would not result in the need for new or expanded fire protection facilities. Impacts would be less than significant.

b) Police protection?

Less than significant impact.

Proposed Electronic Billboard Ordinance

As stated previously, the proposed Ordinance would not result in an increase in population and therefore, would not increase the demand for police protection. No impact would occur.

Proposed Electronic Billboard

The Gilroy Police Department is located approximately 1.6 miles northwest of the project site at 7301 Hanna Street. The proposed project would not result in an increase in population. Although the new electronic billboard could create a potential site for graffiti and a limited incremental increase in need for police services, impacts would be less than significant.

c) Schools?

No impact.

Proposed Electronic Billboard Ordinance

The proposed Ordinance would not directly or indirectly increase the population and, thus, would not increase demand for school facilities. Therefore, no impact would occur.

Proposed Electronic Billboard

The proposed project is served by the Gilroy Unified School District. The proposed project would not result in an increase in population, and thus would not result in an increased demand for school facilities. No impact would occur.

d) Parks?

No impact.

Proposed Electronic Billboard Ordinance

The proposed Ordinance would not directly or indirectly increase the population and thus, would not increase demand for parks or recreational facilities. No impact would occur.

Proposed Electronic Billboard

The proposed project would not result in an increase in population, and thus would not result in an increased demand for existing park facilities. Therefore, this project would not necessitate the construction of new parks facilities. No impact would occur.

e) Other public facilities?

No impact.

Proposed Electronic Billboard Ordinance

The proposed Ordinance would not directly or indirectly increase the population and, thus, would not increase demand for other public facilities. No impact would occur.

Proposed Electronic Billboard

The proposed project would not result in an increase in population, and thus would not result in an increased demand for other public facilities. Therefore, this project would not necessitate the construction of new public facilities. No impact would occur.

Mitigation Measures

None required.

Environmental Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
2.16 Recreation				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?	☐	☐	☐	☒

Environmental Evaluation

Setting

The project site is located in an urbanized, developed environment that is adjacent to US-101. The closest park or recreational facility is Gilroy Sports Park, located approximately 0.6 mile from the project site.

- a) **Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?**

No impact.

Proposed Electronic Billboard Ordinance

The proposed Ordinance would not lead to an increase in population or long-term employment, and, therefore, the proposed project would not increase the use of existing neighborhood and regional parks or other recreational facilities. No impact would occur.

Proposed Electronic Billboard

The proposed project involves the construction of an electronic billboard in an industrial area. The proposed electronic billboard would not generate new residents that could increase the demand and use of nearby parks or recreational facilities. Thus, no impact would occur.

- b) **Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?**

No impact.

Proposed Electronic Billboard Ordinance

The proposed Ordinance would not result in any housing development and would not result in any long-term employment opportunities that would potentially increase the demand for recreational facilities and services. Therefore, the proposed project would not include recreational facilities or require the construction or expansion of recreational facilities. No impact would occur.

Proposed Electronic Billboard

As discussed above in Impact 2.16(a), the proposed project that would construct an electronic billboard in an industrial area. It would not generate new residents or create long-term employment opportunities that could increase the demand and use of nearby parks. Therefore, construction or expansion of recreational facilities would not be required. No impact would occur.

Mitigation Measures

None required.

Environmental Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
2.17 Transportation <i>Would the project:</i>				
a) Conflict with a program plan, ordinance or policy of the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☐	☒	☐
b) Would the project conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?	☐	☐	☐	☒
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☒	☐
d) Result in inadequate emergency access?	☐	☐	☒	☐

Environmental Evaluation

Setting

The project site is between Automall Parkway and US-101 in the City of Gilroy.

Would the project:

- a) **Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?**

Less than significant impact.

Proposed Electronic Billboard Ordinance

The proposed Ordinance would only relate to new electronic billboard requirements and regulations. The updated text would not involve changes in the existing environment. Analysis specific to the construction of the proposed billboard is discussed below.

Proposed Electronic Billboard

Construction-related traffic, including truck and construction worker trips, would be minimal and would not substantially affect traffic conditions during the short duration of project construction. A crane used for the construction of the proposed electronic billboard and other construction activities would be staged on the project site and would not affect the public right-of-way. Because the electronic billboard would not require manual change of images comparably to static billboards, it is anticipated that maintenance trips would be less frequent and of shorter duration. These trips would occur only as needed (less than once per month and likely only one vehicle). Therefore, the proposed project would not increase traffic congestion on the surrounding roadways or freeways or

affect level of service standards at nearby intersections and would not conflict with a program plan, ordinance or policy addressing the circulation system. Thus, impacts would be less than significant.

b) Would the project conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?

No impact.

Proposed Electronic Billboard Ordinance

The proposed Ordinance (Article LV) would include new regulations related to electronic billboards while amendments to Code Sections 30.37.30 (Prohibited Signs), 30.37.50 (Commercial and Industrial Districts), and 30.37.51 (Freeway Oriented Signs) would allow electronic billboards in accordance with the new Ordinance. The proposed Ordinance would allow up to two electronic billboards within city limits. The proposed Ordinance would not directly or indirectly have an impact on transportation guidelines set forth in CEQA Section 15064.3, subdivision (b).

Proposed Electronic Billboard

According to CEQA Guidelines Section 15064.3, subdivision (b)(1), Vehicle Miles Traveled (VMT) exceeding an applicable threshold of significance may indicate a significant impact. Generally, projects within 0.5-mile of either an existing major transit stop or a stop along an existing high quality transit corridor should be presumed to cause a less than significant transportation impact. Projects that decrease VMT in the project area compared to existing conditions should be considered to have a less than significant transportation impact. Because of the nature of the proposed project, there would be a negligible change in the traffic distribution over existing conditions. CEQA Guidelines Section 15064.3 subdivision (b)(2) focuses on impacts that result from certain transportation projects. The proposed project is not a transportation project. Therefore, no impact would occur.

CEQA Guidelines Section 15064.3 subdivision (b)(3) and (b)(4) focuses on the evaluation of a project's VMT. The only vehicle trips that would be generated would be those during construction of the new electronic billboard, which would involve negligible traffic, generated largely during off-peak hours. In terms of project operation, periodic maintenance would be required at the project site, which would also generate negligible traffic. As a result, the proposed project would not result in a conflict or be inconsistent with Section 15064.3 subdivision (b) of the CEQA Guidelines No impact would occur.

c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Less than significant impact.

Proposed Electronic Billboard Ordinance

The proposed Ordinance would not require the alternation or construction of existing roadways or driveways and, thus, would not have impact related to sharp curves or dangerous intersections. Therefore, impacts would be less than significant.

Proposed Electronic Billboard

The proposed project would not require the alteration or construction of roadways, and no impact related to sharp curves or dangerous intersections would occur. The proposed electronic billboard would be required to adhere to Caltrans Outdoor Advertising Act requirements and OAAA recommendations that govern illumination so as not to interfere with drivers' visibility. Furthermore, in accordance with the Ordinance, electronic billboards would have a required minimum distance of 1.5 miles between billboard construction sites. These requirements are designed to reduce hazards from electronic billboards to the drivers on the surrounding roadways at the project site. Thus, the impacts would be less than significant.

d) Result in inadequate emergency access?

Less than significant impact.

Proposed Electronic Billboard Ordinance

With adherence to procedures in the 2017 Santa Clara County Operational Area Hazard Mitigation Plan adopted by the City of Gilroy, the proposed project would not conflict with the General Plan safety policies. Therefore, impacts that would result in inadequate emergency access would be less than significant.

Proposed Electronic Billboard

The proposed electronic billboard would not block or interfere with emergency access. A crane used for the construction of the new electronic billboard would be staged on the project site and would not occur within public right-of-way. Additionally, with adherence to procedures in the 2017 Santa Clara County Operational Area Hazard Mitigation Plan, the proposed project would not conflict with the General Plan safety policies. Once the electronic billboard is operational, due to the nature of the project, the proposed electronic billboard would not have impacts related to emergency access. Therefore, no impacts would occur.

Mitigation Measures

None required.

Environmental Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
2.18 Utilities and Service Systems <i>Would the project:</i>				
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☐	☒
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☒	☐
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☒	☐
e) Comply with federal, State, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☒	☐

Environmental Evaluation

Setting

The City of Gilroy provides water for residential, commercial, industrial, governmental, and fire suppression uses. The City owns, operates, and maintains its own water distribution system and relies solely on groundwater for its current supply.

The City of Gilroy also owns and operates the wastewater collection system that serves the City and discharges wastewater flows to the South County Regional Wastewater Authority (SCRWA) treatment plant located in the unincorporated area adjacent to the southerly city limits of the City.⁴⁹ In addition, the City owns and operates a single retention basin for its stormwater drainage system that serves the City.

⁴⁹ City of Gilroy. 2020. City of Gilroy 2040 General Plan—Public Facilities and Services. Page PFS-8.

For solid waste and recycling collection, material is briefly held at the San Martin transfer station until it is transported to a landfill or a material recovery facility.

Would the project:

- a) **Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?**

No impact.

Proposed Electronic Billboard Ordinance

The proposed Ordinance would not construct habitable structures, nor would it include the generation of solid waste or wastewater. The proposed Ordinance does not involve the generation or demand for a water supply. Therefore, no impact would occur.

Proposed Electronic Billboard

Stormwater runoff sheet flows to the street where it is collected by the local storm drain system. Construction and operation of the proposed electronic billboard would require minimal demand on water, wastewater, stormwater, and other facilities due to the nature of the project, short-term duration of construction activities, small area of the project site, and unchanged permeable surface area. Therefore, relocation or construction of these facilities would not be required.

The proposed electronic billboard would use electrical power service that is provided by PG&E. The proposed project would not involve the construction of habitable structures in which occupants would generate a demand water and electricity or generate wastewater.

Furthermore, the proposed project is located on a developed site that already has electrical lines along Automall Parkway/Chestnut Street. Therefore, electrical lines and connections would not be constructed off-site. The proposed electronic billboard would be installed pursuant to current electrical codes, including Title 24 of the State Building Code. These standards would ensure that electrical energy would be used efficiently. No new or expanded electrical, natural gas, or telecommunications facilities would be required as a result of the proposed project. Thus, no impact would occur.

- b) **Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?**

Less than significant impact.

Proposed Electronic Billboard Ordinance

The proposed Ordinance would not generate demand for water. Therefore, no impact would occur.

Proposed Electronic Billboard

The proposed project would not create a demand for water during its operation. As previously mentioned, the proposed project would not construct habitable structures in which occupants would use water supplies. Construction and operation of the proposed project would not result in existing water systems exceeding capacity during normal, dry, or multiple dry years or require the construction of new facilities or expansion of existing facilities. Impacts would be less than significant.

- c) **Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?**

No impact.

Proposed Electronic Billboard Ordinance

The proposed Ordinance would not generate demand for wastewater services and would not require the construction of or the expansion of new wastewater treatment facilities. Therefore, no impact would occur.

Proposed Electronic Billboard

The proposed project would not generate wastewater during its construction or operation. Therefore, the proposed project would not generate demand for wastewater services and would not require the construction of new wastewater treatment facilities or expansion of existing facilities. Thus, no impact would occur.

- d) **Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?**

Less than significant impact.

Proposed Electronic Billboard Ordinance

The proposed Ordinance would not generate excess solid waste or impair the attainment of solid waste reduction goals. Therefore, no impact would occur.

Proposed Electronic Billboard

The proposed project would generate construction debris. The San Martin transfer station accepts construction debris. Minimal solid waste would be generated during operation at the project site. AB 939, the Integrated Waste Management Act, requires a 50 percent of diversion of solid waste from landfills. The Santa Clara Integrated Waste Management Plan is consistent with AB 939 with the countywide goal to be reduced by 50 percent. Additionally, Recology South Valley collects and then transfers solid waste and recyclables to the San Martin transfer station. The transfer station would have sufficient capacity to receive solid waste materials that are diverted for resource recovery. Total capacity for the John Smith Road Landfill in the City is 9.3 million cubic yards, as of 2018, the remaining capacity was 3.5 million cubic yards. The maximum permitted tonnage per day at the landfill is 1,000 tons. Therefore, through compliance of AB 939, the proposed project would not

generate excess solid waste or impair the attainment of solid waste reduction goals during construction and operation. Impacts would be less than significant.

- e) **Comply with federal, State, and local management and reduction statutes and regulations related to solid waste?**

Less than significant impact.

Proposed Electronic Billboard Ordinance

The proposed Ordinance would be consistent with policies and actions stated in the Gilroy 2040 General Plan Public Facilities and Services Element. Therefore, impacts related to compliance with federal, State, and local management and reduction statutes and regulations would be less than significant.

Proposed Electronic Billboard

Solid waste disposal would follow the requirements of the franchised waste hauler (Recology South Valley), which must adhere to federal, State, and local statutes and regulations related to the collection of solid waste. As discussed above, the proposed project would comply with all State and local waste diversion requirements such as AB 939, AB 341, and SB 1016. The proposed project would also be consistent with policies and actions stated in the Gilroy 2040 General Plan Public Facilities and Services Element and the Gilroy Municipal Code regarding solid waste collection and disposal. As such, impacts would be less than significant.

Mitigation Measures

None required.

Environmental Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
2.19 Wildfire <i>If located in or near State Responsibility Areas or lands classified as very high fire hazard severity zones, would the project:</i>				
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☒	☐
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☒	☐
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☐	☒

Environmental Evaluation

Setting

According to the California Department of Forestry and Fire Protection (CAL FIRE), the City of Gilroy is not identified as a Very High Fire Hazard Severity Zone (VHFHSZ).⁵⁰ The City of Gilroy is identified as a Local Responsibility Area (LRA) and a Non-VHFHSZ.

The City of Gilroy 2040 General Plan discusses that the City is susceptible to wildfires in the “wildland-urban interface” areas of Gilroy and could lead to heavy smoke conditions that may require emergency management.⁵¹ The City actively participates in maintenance protocols outlined in the 2017 Santa Clara County Operational Area Hazard Mitigation Plan.⁵²

Would the project:

⁵⁰ California Department of Forestry and Fire Protection (CAL FIRE). 2007. Santa Clara County–Fire Hazard Severity Zones in SRA. Website: https://osfm.fire.ca.gov/media/6766/fhszs_map43.pdf. Accessed July 7, 2021.

⁵¹ City of Gilroy. 2020. Gilroy 2040 General Plan, Potential Hazards. Page PH-8-9.

⁵² Santa Clara County. Santa Clara County Operational Area Hazard Mitigation Plan. 2017.

a) Substantially impair an adopted emergency response plan or emergency evacuation plan?

Less than significant impact.

Proposed Electronic Billboard Ordinance

The proposed Ordinance would include electronic billboard regulations for height, sign area, and permitted locations. The proposed amendment would not substantially impair an adopted emergency response plan or emergency evacuation plan. Thus, no impact would occur.

Proposed Electronic Billboard

According to CAL FIRE's Fire Hazard Severity Zones map, the proposed electronic billboard would be located in an LRA. During construction, it is expected that construction equipment and vehicles would be accessing and leaving the project site, which could potentially impede evacuation or emergency vehicle access. The Gilroy 2040 General Plan does not identify any wildfire evacuation plans. US-101 would also serve as an evacuation route in case of emergency. Given there are several alternate routes that provide access to US-101, construction of the proposed project would not impede the evacuation route.

With adherence to procedures in the 2017 Santa Clara County Operational Area Hazard Mitigation Plan, the proposed project would not conflict with the Gilroy 2040 General Plan safety policies. During operation, the proposed electronic billboard would not impair an adopted emergency response plan or emergency evacuation plan. Therefore, impacts related to emergency response and evacuation would be less than significant.

b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

Less than significant impact.

Proposed Electronic Billboard Ordinance

Regulations resulting from the proposed Ordinance would not exacerbate wildfire risks and, therefore, no impact would occur.

Proposed Electronic Billboard

The project site is not located in or near any a State Responsibility Area or a VHFHSZ. The area surrounding the project site is mostly industrial. The project site is surrounded by urban development and is relatively flat. The project site does not have steep terrain or any unmanaged open space area that would be prone to wildfires.

The 2017 Santa Clara County Operational Area Hazard Mitigation Plan indicates the western hillside area of the City is subject to special development controls that would help reduce potential loss of life and property in the event of a wildfire. However, the proposed electronic billboard would be

located in the eastern portion of the City, which is less susceptible to wildfires, and would not be required to adhere to these development controls.

In addition, the project site has not previously experienced wildfire. Given that the project site is not located in or near an area of steep terrain, the project site would not be prone to greater wildfire risk. Therefore, impacts would be less than significant.

- c) **Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?**

Less than significant impact.

Proposed Electronic Billboard Ordinance

Regulations resulting from the proposed Ordinance would not require the installation or maintenance of associated infrastructure that may exacerbate fire risk or result in temporary or ongoing environmental impacts. Therefore, no impact would occur.

Proposed Electronic Billboard

The proposed project would not involve the installation of new roads or power lines. The proposed electronic billboards could include the installation of new utility lines such as electric. These utility lines would be located below ground surface on-site, which would reduce fire risk. Thus, impacts would be less than significant.

- d) **Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?**

No impact.

Proposed Electronic Billboard Ordinance

Regulations resulting from the proposed Ordinance would not expose people or structures to significant risks, including flooding or landslides. Therefore, no impact would occur from the proposed Ordinance.

Proposed Electronic Billboard

The project site is located within a flat, urbanized area and is not susceptible to landslides or flooding. The project site is located in Flood Zone AH—which according to FEMA, refers to areas subject to inundation by 1 percent annual chance shallow flooding where average depths are between one and three feet.⁵³ Therefore, the proposed project would not expose people or structures to significant risks as a result of runoff, post-fire slope instability, or drainage changes. No impact would occur.

⁵³ Federal Emergency Management Agency (FEMA). 2020. National Flood Hazard Layer FIRMette-06085C0756H. Website: https://msc.fema.gov/arcgis/rest/directories/arcgisjobs/nfhl_print/mscprintb_gpserver/jc95f026426cf4460928a50ad24e1e9bf/scratc/FIRMETTE_b1949961-55dc-48d7-9452-5b67a8332148.pdf. Accessed August 11, 2021.

Mitigation Measures

None required.

Environmental Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
2.20 Mandatory Findings of Significance				
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☒	☐	☐
c) Does the project have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

Environmental Evaluation

- a) **Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?**

Less than significant impact with mitigation incorporated. The proposed Ordinance would only relate to new electronic billboard requirements and regulations. The Ordinance would not involve changes to the existing environment and subsequent electronic billboards would be subject to environmental review prior to approval. As related to the proposed electronic billboard, as described in Section 2.4, Biological Resources, the proposed project would not result in significant environmental impacts to wildlife or plant species. There are no known special-status species on the billboard construction site, though this analysis provides for mitigation in the event any nests are encountered and to avoid impacts on the Princeville Channel. The proposed project would be compliant with the SCVHP and required mitigation.

In addition, the proposed project would not adversely affect geology/soils or hydrology/water quality in any significant matter. The project includes mitigation and avoidance measures to reduce construction-related impacts related to historical and archaeological resources. Therefore, with

implementation of mitigation measures referenced the proposed project would not substantially degrade the quality of the environment at a project- or cumulative-level in terms of biological resources, geology/soils, hydrology/water quality, or cultural resources.

- b) Does the project have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?**

Less than significant impact with mitigation incorporated. The combined effects of past, current, and future projects in the project area in combination with the proposed project—proposed Ordinance and installation of a new electronic billboard in an urban area of the City—would not result in significant cumulative impacts.

Operation of the proposed project would involve the display of messages on a two-sided electronic billboard near US-101. Operation entails no noise production, minimal maintenance traffic, and no emissions. The project’s lighting would have the potential to cumulate with other reasonably foreseeable projects, but the proposed project’s lighting specifications (limiting operation to a maximum of 0.3 foot-candle at 250 feet) takes account of existing ambient lighting. Moreover, the brightness of the LED sign faces would be dimmable to reflect ambient light conditions. Separately, there are no reasonably foreseeable development projects in the immediate vicinities of the project site that would have lighting impacts that could cumulate with the proposed project’s lighting.

With respect to electricity usage, the LED lighting used in the proposed billboard would meet Title 24 requirements for energy efficiency. While the signs electricity usage is associated with off-site emissions where power is generated, the Draft IS/MNDs analysis of greenhouse gases demonstrate the proposed project falls well below applicable BAAQMD thresholds, which account for cumulative impacts of climate change. Therefore, the proposed project, because of its size and utilization of energy-efficient lighting, would not make a cumulatively considerable contribution to cumulative GHG emissions or result in an overall impact to local and regional levels of GHG emissions.

With respect to construction, the construction activities necessary to construct the electronic billboard, would require very little equipment and would have a construction timeframe of four weeks. However, as detailed in this Draft IS/MND, equipment related to construction would result in dust, noise, risks related to the handling of hazardous materials, and potential impacts to cultural resources. Accordingly, the proposed project includes BAAQMD-recommended mitigation and avoidance measures (MM AIR-1) to reduce temporary, construction-related impacts related to air quality. This measure ensures not only that the proposed project, individually, would not have a significant impact, but that it would not make a considerable contribution to any cumulative impact. The proposed project does not contemplate activities within close proximity of any reasonably foreseeable construction projects (i.e., at least 1,000 feet), and so the potential for cumulative impacts to occur is low to non-existent. Therefore, with implementation of the foregoing mitigation measures, the proposed project would not result in adverse impacts at a project- or cumulative-level in terms of air quality or GHG emissions.

- c) Does the project have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?

Less than significant impact with mitigation incorporated.

As detailed throughout this Draft IS/MND, most environmental impacts were determined to be less than significant. Some mitigation measures were identified in order to bring direct and indirect impacts to human beings to less than significant levels. In addition to MM AIR-1 discussed above which would reduce construction impacts related to air quality, the proposed project would include MM AES-1 to minimize light and glare and traffic hazards for vehicle drivers along US-101. With the incorporation of mitigation measures, the proposed project would not make sizable contributions to aesthetics, air quality, biological resources, or cultural resources. In addition, the proposed project would not affect geology/soils, hydrology, noise, greenhouse gas emissions, land use, transportation, public services, utilities, wildfire, recreation, hazards and hazardous materials, mineral resources, agriculture/forestry resources, or population/housing balance. The proposed project would not cause direct or indirect substantial adverse effects on human beings at a project- or cumulative-level in terms of any of the listed environmental checklist items evaluated in this Draft IS/MND.

Mitigation Measures

Refer to mitigation identified for Aesthetics, Air Quality, Biological Resources, and Cultural Resources.

SECTION 3: LIST OF PREPARERS

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Appendix A:
Proposed Electronic Billboard Ordinance

Appendix B:
Air Quality, Greenhouse Gas Emissions, and Energy Analysis
Supporting Information

Appendix C: Biological Resources Analysis Supporting Information

Appendix D: Cultural Resources Analysis Supporting Information

Appendix E: Paleontological Resources Analysis Supporting Information

**Final Initial Study/Mitigated Negative Declaration
Electronic Billboard Ordinance Project
City of Gilroy, Santa Clara County, California**

State Clearinghouse Number 2022080141

Prepared for:

City of Gilroy

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SECTION 1: INTRODUCTION

Although not required by the California Environmental Quality Act (CEQA), the City of Gilroy has prepared the following responses to significant environmental comments received on the Electronic Billboard Ordinance Project Draft Initial Study/Mitigated Negative Declaration (Draft IS/MND). The Responses to Comments and Errata, which are included in this document, together with the Draft IS/MND, Draft IS/MND appendices, and the Mitigation Monitoring and Reporting Program (MMRP), comprise the Final IS/MND for use by the City of Gilroy in its review and consideration of the Electronic Billboard Ordinance Project. All public comments regarding the Draft IS/MND are included for consideration by the City of Gilroy.

This document is organized into three sections:

- **Section 1—Introduction.**
- **Section 2—Responses to Written Comments:** Provides a list of the agencies, organizations, and individuals who commented on the Draft IS/MND. Copies of all of the letters received regarding the Draft IS/MND and responses thereto are included in this section.
- **Section 3—Errata:** Includes an addendum listing refinements and clarifications on the Draft IS/MND, which have been incorporated.

The Final IS/MND includes the following contents:

- Draft IS/MND (provided under separate cover)
- Draft IS/MND appendices (provided under separate cover)
- Responses to Written Comments and Errata (Sections 2 and 3 of this document)
- Mitigation Monitoring and Reporting Program (provided under separate cover)

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SECTION 2: RESPONSES TO WRITTEN COMMENTS

2.1 - List of Authors

A list of public agencies, organizations, and individuals that provided comments on the Draft Initial Study/Mitigated Negative Declaration (Draft IS/MND) is presented below. Each comment has been assigned a code. Individual comments within each communication have been numbered so comments can be cross-referenced with responses. Following this list, the text of the communication is reprinted and followed by the corresponding response.

Author

Author Code

Organizations

Sierra Club Loma Prieta Chapter/Santa Clara Valley Audubon Society SC-SCVAS
University of California Lick Observatory UCO-LICK

Individuals

John Bauters BAUTERS

2.2 - Responses to Comments

2.2.1 - Introduction

Although a lead agency is not required to provide written responses to comments on proposed Negative Declarations (NDs) or Mitigated Negative Declarations (MNDs) under the California Environmental Quality Act (CEQA), the City of Gilroy has evaluated the comments received on the proposed Electronic Billboard Ordinance Project (State Clearinghouse No. 2022080141) (proposed project) Draft IS/MND and has elected to provide responses to the following significant environmental comments. None of the comments received results in the need to recirculate the Draft IS/MND or to prepare an Environmental Impact Report (EIR).

2.2.2 - Comment Letters and Responses

The comment letters reproduced in the following pages follow the same organization as used in the List of Authors.

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September 6, 2022

Cindy McCormick
planningdivision@cityofgilroy.org

Re: [Initial Study/ Draft Mitigated Negative Declaration - Electronic Billboard](#)

Dear Ms. McCormick,

Santa Clara Valley Audubon Society and Sierra Club Loma Prieta Chapter submit the following comments and responses to highlight the shortcomings of the Initial Study/Draft Mitigated Negative Declaration and the environmental impacts that would result from implementation of the Electronic Billboard Ordinance Project in the City of Gilroy. The comments with attached references provide unequivocal scientific evidence to establish the significant and unavoidable harm that Artificial Light At Night (ALAN) in general, and electronic billboards specifically, impose on human health and on ecosystems. The IS/DMND does not adequately address these issues.

In March 2021, Sierra Club National adopted a new light pollution policy: *“Sierra Club recognizes that while artificial light provides desirable benefits to society, such as extended hours of social space at night, its excessive, inappropriate and poorly controlled use also leads to significant harm. Sierra Club defines light pollution as artificial light that adversely affects ecosystems and any living organism. Sierra Club includes in this definition anthropogenic light that is wasteful, or misdirected; has negative ecological impacts; is used as a form of aggression; is harmful to health, safety, or other human rights; or disrupts our view of the natural night sky, disconnecting us from our cosmic environment, including the Milky Way Galaxy where we live. Therefore, light pollution imposes natural resources, economic, biological, political, psychological, and cultural burdens.”* In addition, the Sierra Club retained a 60-year policy which *“opposes billboard development along highways and supports measures to restrict these billboards.”*

The Sierra club policy is supported by a comprehensive compilation of resources pointing to the significant impacts of ALAN, please see “Attachment Resources-References-LightPollutionPolicy_20210307,” attached, and the recently published “Artificial Light at Night: State of the Science 2022”¹. The information and scientific studies referenced in this

¹ International Dark-Sky Association

attachment point to the devastating impact of lighting on ecosystems and organisms that comprise our biological resources and our health. The Santa Clara Valley Audubon Society (SCVAS) is similarly concerned with the proliferation of ALAN and its pervasive harm to organisms, species, ecological food webs, and human health and safety. SCVAS is one of the largest National Audubon Society chapters in California, and its mission is to promote the enjoyment, understanding, and protection of birds and other wildlife by engaging people of all ages in birding, education, and conservation.

2
CONT

Our organizations and our thousands of members in the region are working to protect our common natural resources, and we are greatly concerned with detrimental impacts of electronic billboards and signs to biological resources, the night sky, the aesthetic character of our City of Gilroy and region, and the health and quality of life of our region's residents. We are opposed to allowing electronic billboards and encourage the City of Gilroy to tighten regulation and reduce, rather than increase their prevalence and impacts. We believe that electronic billboards anywhere, including at the proposed location, will cause significant and irreversible harm to the biological and aesthetic environment resources. We encourage the City of Gilroy to amend its sign ordinance to prohibit highway-facing and major-road facing electronic billboards.

3

1. Aesthetic Resources

Electronic signs are, by design, intended to be viewed from a distance. By design, electronic billboards offend aesthetics and visual character, and produce day and nighttime illumination, light and glare. The public abhors them. A 2021 survey conducted by the City of San Jose revealed that over 95% of over 2200 respondents are strongly opposed to electronic billboards on freeways (presentation attached). The concerns over aesthetics were one of the primary reasons provided by the opposing respondents. Highway 101 in this area is not, by designation, a scenic highway. But the public and the drivers clearly consider electronic advertisement "a form of aggression" which assaults our senses and health, and imperils drivers as it diverts their attention and puts them at an increased risk of collision.

4

- The entire portion of US-101 that passes through the City of Gilroy is a County-designated scenic route, and is only approximately 660 feet east of the proposed billboard site. The Project clearly intends the advertisements to be highly visible from US-101 which traverses a relatively rural landscape in Gilroy and its vicinity, a rural landscape that travelers value. The Project will disrupt the visual character of the 101 corridor, despoil scenic elements, and offend landscape characteristics that contribute to the rural character of the Bay Area south of San Jose and to the well being of travelers.

5

- The finding that aesthetic impacts of Light and Glare are less than significant relies on Mitigation Measure MM AES-1 "The signs' operational lighting parameters shall be provided to the City of Gilroy Community Development Department for review and approval prior to the regular operation of the light-emitting diode (LED) billboards, and

6

shall be implemented by the project proponent to ensure a driver would not be adversely affected or impacted by trespass glare lighting.”

- Since drivers overwhelmingly and unequivocally find that electronic billboards affect them, there is no feasible way to “ensure a driver would not be adversely affected or impacted by trespass glare lighting”.

6
CONT

There is no doubt that impact on Aesthetic Resources is significant and unavoidable, and should be recognized as such in an Environmental Impact Report and a Statement of Overriding considerations.

7

2. Biological Resources:

The Biological Report underestimates the potential impact to ecosystems including those non-special status species that may make use of the adjacent Princeville drainage that benefit from its water and relative cover and including those that may transit it between the larger habitats of Uvas Creek and Llagas Creek.

8

Recent scientific studies highlight the pervasive, *cumulative*, and harmful impacts of ALAN to terrestrial and aquatic organisms, species, and ecosystems. The impacts, including effects on circadian rhythms, metabolism and behavior in fish, birds, insects, and other taxa, have been summarized in several recent publications in major scientific journals. It seems that CEQA guidelines have not caught up and are inadequate to measure the impact to biological resources. Science shows that ALAN is harmful to all biological resources that see or otherwise perceive it - including both plants and animals. The many studies cited in this and the attached document show that biological impacts are not limited to the area illuminated but can extend to a large distance.

The mechanism by which light impacts organisms is explored in a November 2020 study titled, “Exposure to Artificial Light at Night and the Consequences for Flora, Fauna, and Ecosystems”². This study shows that dozens of behavioral activities in all biological taxa display daily and annual rhythms, and are thus impacted by ALAN. This includes locomotor activity and sleep, schooling behavior (fish), vertical (fish) and horizontal (all vertebrates) migration, behavioral thermoregulation (fish), vocalization (fish, birds), foraging and food intake, mating and reproduction.

9

Contemporary scientific evidence shows that attraction to light is having a devastating and direct impact on insect numbers and diversity, and indirect effects to entire ecosystems.

Impacts to biological resources can be lessened by limiting operation hours, and turning the billboards off between the hours of 11PM and 8AM.

² <https://www.frontiersin.org/articles/10.3389/fnins.2020.602796/full>

Recent studies also implicate ALAN as one of the primary drivers of the global decline in insect numbers and diversity (the insect apocalypse)³. The loss of insects and the loss of ecological services they provide (for example, pollination, and as food for fish and birds) should be considered a significant, unavoidable impact for 24/7 light sources as proposed for this Project.

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CONT

2.1 Migratory birds

The IS/DNMD acknowledges that *“migrating birds can be affected by human-built structures because of their propensity to migrate at night, their low flight altitudes, and their tendency to be disoriented by artificial light, which makes them vulnerable to collision with obstructions that could potentially lead to injury or mortality. In addition, birds migrating at night can be strongly attracted to sources of artificial light, particularly during periods of inclement weather”*. The IS/DNMD provides two reasons why the “proposed electronic billboard would not have a significant impact on the movement of migrating birds” (IS/DNMD p. 41). These reasons and the findings are not supported by evidence:

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- Illuminations levels – The IS/DNMD implies that the “proposed electronic billboard would not create a substantial change in illumination levels' ' from the baseline light sources in the area” (IS/DNMD p. 41). This is a subjective opinion. To substantiate this statement, a photometric study and a study of glare and light spillage must be provided, and light levels and the spectrum of the LED lights should be analyzed within a biological-impact context.
- Billboard sign face display – The IS/DNMD states that the proposed billboard sign face would not be allowed to change “more than every 8 seconds, and messages would be static (i.e., not moving, or animated) resulting in changing color patters [sic] rather than a fixed unchanging light which may be more attractive to birds” (IS/DNMD p. 41). There is no research to indicate what is an effective length of time a billboard image should be displayed to reduce the attraction to birds. The proposed 8 second interval is arbitrary. Therefore, the IS/DNMD does not show that there is a less than significant impact on wildlife, and mitigation measures to safeguard migratory birds should be implemented.

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2.2 Connectivity for wildlife

Open storm drains, irrigation channels and other flood management infrastructure features often connect habitat patches and provide pathways for animals to traverse an urban landscape⁴. This connectivity for wildlife is important to preserve biodiversity, and is easily

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<https://www.sciencemag.org/news/2021/05/can-scientists-help-insects-survive-their-fatal-attraction-light-night>, and

<https://www.smithsonianmag.com/smart-news/light-pollution-contributes-insect-apocalypse-180973642>.

⁴ Ecological connectivity research in urban areas,
<https://besjournals.onlinelibrary.wiley.com/doi/full/10.1111/1365-2435.12489>

disrupted by lighting⁵. The Project is adjacent to the Princevalle Channel, which is currently a wildlife connectivity corridor and allows permeability between Uvas and Llagas creeks (Figure 1). The DMND provides no analysis of wildlife movement in the channel, dismissing impact to wildlife movement. ife

PDF p. 49 “The project site is bounded by a chain link fencing to the north, east, and south. These factors along with existing urban developments within the general project vicinity limit wildlife movement through the project site. Additionally, the project site is not part of or within a wildlife movement corridor”

PDF p. 48 provides, “The Princevalle Channel is located approximately 50 feet north of the project site and is a tributary to Llagas Creek, which flows into the Pajaro River, which empties into Monterey Bay, a traditional navigable water of the United States. While the project site does not contain State or federally protected wetlands, construction of the proposed electronic billboards has the potential for indirect (temporary) adverse impacts to the aquatic habitat of the Channel. Potential temporary indirect impacts (during construction) include pollutant loading, increased erosion and sedimentation, and debris dispersal into the Channel. Implementation of MM BIO-5 and MM BIO-6 would reduce potential indirect adverse impacts to the aquatic habitat of the Channel to less than significant levels through avoidance and minimization measures.”

- Please provide wetland delineation for the channel’s aquatic habitat, and discuss application of requirements by the State Water Board and the Habitat Agency
- MM BIO-5 and BIO-6 mitigate the impacts to Princevalle Channel during the construction phase. Without a study of terrestrial animal movement within the Princevalle Channel, the finding that the Project will not interfere substantially with the movement of native wildlife species or with established native resident or migratory wildlife corridors cannot be made.

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CONT

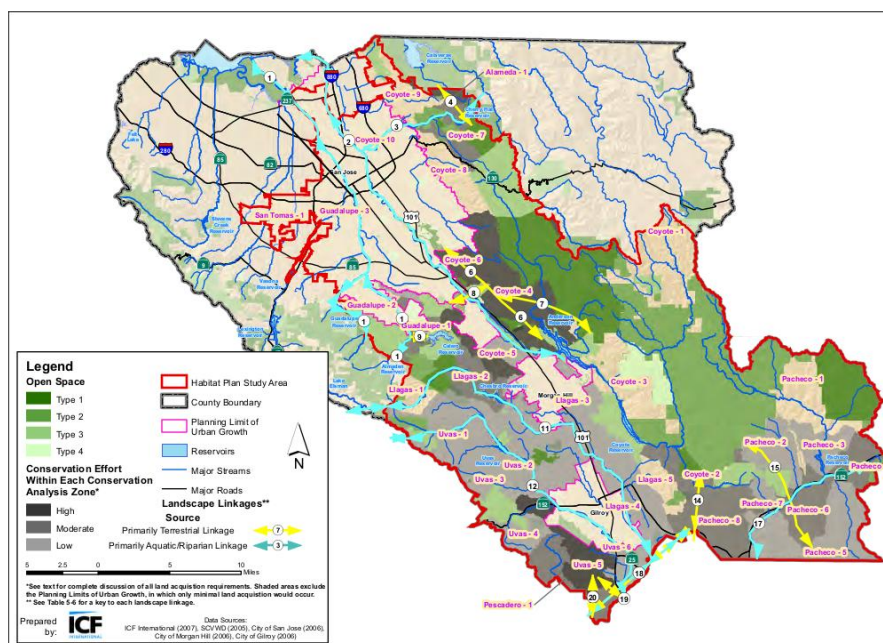
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⁵ Effects of Artificial Night Lighting on Terrestrial Mammals.

Ecological Consequences of Artificial Night Lighting. Catherine Rich & Travis Longcore (eds). 2006. Island Press. Covelo, California. Pages 15-42, “lighting can be very disorienting for animals that are trying to move at night. So wildlife corridors can be compromised by even a single light and so prevent animals from moving to crucial landscapes.”

Figure 1: Figure 5-8 of the Santa Clara Valley Habitat Plan denotes Uvas Creek and Llagas Creeks as important wildlife corridors.



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Figure 5-8
Land Acquisition Strategy with Applicable Landscape Linkages

2.3 Conflict with the Valley Habitat Plan

The finds that “Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan” is less than significant with mitigation. The proposed mitigation, MM BIO-7, provides, “The project applicant shall submit a Santa Clara Valley Habitat Plan (SCVHP) Coverage Screening Form to the Planning Department for review and shall complete subsequent forms, reports, and/or studies as needed.”

- For Mitigated Negative Declarations, CEQA does not allow mitigation measures to depend on future disclosure of impacts and actual mitigation measures. Please specify any studies that will be needed and discuss the potential impacts and how these will be addressed.

3. Driver Safety The IS/DMND acknowledges that the project undermines driver safety but the impact and of this hazard understated by the IS/DMND⁶. As expressed above, driver Safety was a great concern to the responders to the San Jose survey. The risk to drivers is evident, and supported in a plethora of studies (See attachments) 16
 - Please analyze current vehicle collision data for the target stretch of US-101 and consider the potential of additional collisions due to drivers' attention being diverted.
4. Energy consumption, brightness, greenhouse gas emissions 17

In his study of energy use and other environmental impacts of electronic billboards⁷ (attached), Mr. George Young discusses energy consumption for lighting and cooling of LED billboards, as well as brightness of the billboards, materiality and recyclability. Ceqa requires the analysis of all direct and indirect impacts on a project, and we believe that all these environmental burdens are significant. The possibilities of mitigation are limited and therefore, the environmental impacts are generally unavoidable. Mr. Young makes many technical recommendations which we incorporate into this letter by reference. We ask for an Environmental Impact report to consider these mitigation, and analyze the project compliance with them.

While the IS/DMND lists the estimated 52,400 kilowatts/year of electricity and 6.6 megatons of CO2/year expected to be released into the atmosphere with the energy required for the billboards, the IS/DMND only states that it meets standards and does not prescribe mitigation for the greenhouse gas emissions in our current climate emergency. 18
5. The City of San Jose has recently approved billboards at the airport, and included several feasible structural and operational requirements and mitigation measures that should be incorporated into the requirements for Gilroy's ordinance and the billboards project. Table 1 highlights some of these requirements: 19

⁶

• Colored light from LED displays outdoors in urban zones affects traffic safety.

<https://www.sciencedirect.com/science/article/abs/pii/S0360132320308155>

(January 2021)

• Luminance of roadside LED Billboards in Poland shows that advertising billboards often exceeded safe luminance levels for driving.

<https://www.tandfonline.com/doi/full/10.1080/15502724.2020.1803752>

(October 2020)

• April 2021 National Highway Traffic Safety Administration published data from 2019 on distracted-driver accident stats (electronic billboards included "Distracted by Outside Person, Object, or Event")

<https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/813111>

⁷ Illuminating the Issues: Digital Signage and Philadelphia's Green Future by Gregory Young

https://www.scenic.org/wp-content/uploads/2019/09/Digital_Signage_Final_Dec_14_20101.pdf

⁶Appendix A - Lighting Analysis Report from City of San Jose US 101 Airport Electronic Signs Addendum

<https://www.sanjoseca.gov/home/showpublisheddocument/75593/637629018659330000>, p.4

Table 1. Comparison of proposed Gilroy billboards with existing billboards near San Jose Airport

	SJ Airport	Gilroy
Shielding the night sky	"customizable horizontal light shields, and a vertical alignment of LED RGB modules to eliminate light into specific zones" Vertical light is controlled by LED angles restricted to "65 degrees, with limited intensity above 18 degrees and below 47 degrees."	none
Brightness	0.3 candlefoot except on northface of the South Site which has 0.1 candlelight and "backlighted" LED display facing the riparian zone because of creek and riparian zone. Max is 0.3 candlefoot. Compare with full moon which is max of 0.1 candlefoot.⁶ Brightness changes with the amount of ambient light picked up by the sensors.	Max 0.3 candlefoot at 250ft from billboard. Compare with full moon which is max of 0.1 candlefoot.⁶ Brightness changes with the amount of ambient light picked up by the sensors.
Studies on photometrics	Study done by Ronald Zeiger, President of Zeiger Engineers, Inc.	none
hours	Off from midnight to 6 am	No limits
Time to change screen	change every 8 seconds, except the north face on South Side will be a fixed image, totally static	Change every 8 seconds

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On brightness, the EIR provides,

- PDF p. 21: "The proposed project commits to a maximum ambient light output level of a 0.3 foot-candle at 250 feet from the billboard, which is a more conservative lighting intensity standard for electronic billboards of this proposed size when compared to State standards. For a frame of reference, 0.3 foot-candle is comparable in brightness to the light emanating from a computer monitor, and the light levels emitted from the proposed billboards would be programmed to adjust based upon ambient light conditions at any given time (i.e., nighttime versus daytime). Therefore, impacts would be less than significant"
- PDF p. 27: "proposed Ordinance would require billboard projects to commit to a maximum ambient light output level of 0.3 foot-candle at 250 feet from the billboards,

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which is a more conservative lighting intensity standard for billboards of this proposed size when compared to State standards"

However, the standards seem to address visual and aesthetic impacts, and ignore the biological impacts of lighting that is 3 times the brightness of the moon, and the hazard this brightness imposes on migratory birds and on insects. The brightness, 0.3 foot-candle, remains a significant unmitigated environmental impact to species and the ecosystem.

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CONT

We ask the City of Gilroy not to approve highway or road-facing electronic billboards. Instead, the city should develop an ordinance prohibiting such billboards city-wide. If the city persists in moving forward with this project, an EIR must be prepared.

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Thank you

Shani Kleinhaus
Environmental Advocate
Santa Clara Valley Audubon Society

Gladwyn D'Souza
Conservation Committee Chair
Sierra Club Loma Prieta Chapter

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Organizations

Sierra Club Loma Prieta Chapter/Santa Clara Valley Audubon Society (SC-SCVAS)

Response to SC-SCVAS-1

This comment consists of introductory information and summarizes the commenter's concerns about potential impacts resulting from the proposed project. The concerns pertaining to environmental impacts are addressed in the following responses.

Response to SC-SCVAS-2

The comment provides the Sierra Club's light pollution policy, which states that Artificial Light At Night (ALAN) affects ecosystems and living organisms, and provides background information about the Sierra Club policy.

Specific comments pertaining to ALAN and its impact to biological resources are addressed in the responses below.

Response to SC-SCVAS-3

The commenter states that the proposed project would have significant impact to biological and aesthetic environmental resources and opposes the proposed project.

Comments related to biological and aesthetic impacts are discussed below. This comment will be provided to the City decision-makers for their review and consideration of the proposed project as a whole.

Response to SC-SCVAS-4

The commenter claims that the proposed billboards would have aesthetic and visual character impacts and refers to a 2021 San José survey in which 95 percent of respondents opposed to electronic billboards.

The proposed project's lighting would be adjustable based on ambient light conditions at any given time (i.e., nighttime versus daytime). To avoid impacts to the visual character of the area, billboards would not be allowed in non-urbanized areas and would be restricted to the Urban Growth Boundary of the City. More specifically, as described in the Draft IS/MND Project Description, permitted locations for electronic billboards would be limited to property designated General Services Commercial or City Gateway District, located within 660 feet of U.S. Highway 101 (US-101) and State Route (SR) 152.

Public opinion surveys are beyond the purview of CEQA; however, this comment will be provided to the City decision-makers for their review. No additional analysis is required.

Response to SC-SCVAS-5

The commenter states that the proposed Ordinance would impact the visual character of US-101, which is a County-designated scenic route.

As discussed in Draft IS/MND Section 2.1, Aesthetics, the US-101 segment that traverses the City of Gilroy is not a designated State Scenic Highway. County-designated scenic routes are beyond the purview of CEQA. In addition, permitted locations for billboards would be limited to properties

designated General Services Commercial or City Gateway District, located within 660 feet of US-101 and SR-152. Therefore, billboards would not be permitted in rural parts of Gilroy. No additional analysis is required.

Response to SC-SCVAS-6

The commenter claims that drivers find that electronic billboards affect them, and that the glare impact is considered to be significant and cannot be mitigated.

Driver distraction related to glare was analyzed in Draft IS/MND Section 2.1, Aesthetics,. Applicable federal and State regulations require a minimum of four second dwell time before the display may transition to the next image to reduce driver distraction. The proposed Ordinance would not allow the sign face display to change more often than every 8 seconds and the messages would be static (i.e., not moving or animated). Therefore, the proposed Ordinance would be more conservative than what is required by federal and State regulations. Accordingly, impacts were determined to be less than significant.

Public opinion surveys are beyond the purview of CEQA; however, this comment will be provided to the City decision-makers for their review.

Response to SC-SCVAS-7

The claim that aesthetic resource impacts are significant and unavoidable is not supported by any new information that would change the conclusion of the Draft IS/MND. Therefore, no further analysis is warranted.

Response to SC-SCVAS-8

The commenter claims that the proposed billboard would have significant cumulative light and glare impacts on species that make use of the Princevalle drainage.

As demonstrated in Draft IS/MND Section 2.4, Biological Resources, the habitat of the Princevalle drainage is of low quality. The drainage is an urbanized man-made feature that lacks matures trees, dense understory vegetation, perennial water, or a suitable substrate that provide habitat and cover for wildlife species. The fragmentation of the drainage from existing roads, US-101, and bridges further reduces its habitat quality. The drainage experiences a baseline level of artificial lighting from adjacent residential and industrial developments and lighting associated with US-101 that would not be substantially increased by the light from the proposed billboard, which is limited to a maximum ambient light output level of 0.3 foot-candle at a distance of 250 feet from the billboard. CEQA requires an evaluation of impacts relative to baseline conditions, not relative to hypothetical habitat conditions that are not present within the project site. The proposed billboard Ordinance would only permit locations for billboards in urbanized areas, within properties designated General Services Commercial or City Gateway District and within 660 feet of US-101 and SR-152. In addition, subsequent billboards would be required to undergo a separate CEQA review.

Response to SC-SCVAS-9

The commenter claims that wildlife and their ecosystem are affected by artificial light and suggests that the billboard be turned off between the hours of 11:00 p.m. to 8:00 a.m.

The proposed project's lighting would be adjustable based on ambient light conditions at any given time (i.e., nighttime versus daytime). It tethers lighting levels to ambient conditions through the use of a photocell that measures ambient light. For example, cloudy days will register a lower ambient light level than sunny days on the photocell, and dusk and dawn lighting levels are also traceable. These values read back to the display, and light output is adjusted automatically and accordingly. In addition to this function, the applicant maintains a "watchdog" program that update the dusk and dawn times each day based on the display's longitude and latitude. After dusk, the watchdog records and fixes the light output at the nighttime level and, if the sensor on the display attempts to communicate bright ambient conditions (e.g., a nighttime event with other illumination sources occurs in the parking lot), the display will ignore the high feedback from the sensor.

The study cited by the commenter identifies general categories of wildlife species that could be impacted by exposure to ALAN, but does not provide an analysis of species required to be reviewed under CEQA standards (i.e. special-status species). The study does not address the specific impacts of billboards; rather, it discusses the impacts of light-emitting diodes (LEDs) in general, though acknowledges much of the supporting data "necessarily comes from older lighting technology." The generalized study cited by the commenter does not amount to substantial evidence of a significant impact on biological resource on the fauna found in the City of Gilroy.

Furthermore, because Mitigation Measure (MM) BIO-1 through MM BIO-6 would reduce impacts on sensitive species and their habitat to less than significant levels, no further mitigation is required.

Response to SC-SCVAS-10

This comment relates to the proposed billboard's illumination levels and potential impacts on migratory birds.

The Draft IS/MND's conclusion that the proposed billboard would not create a substantial change in the illumination levels from baseline light sources is not subjective. Substantial evidence in the administrative record demonstrates that the proposed project would be consistent with illumination intensity standards outlined in the California Department of Transportation (Caltrans) Outdoor Advertising Act; and moreover, the lighting intensity is designed to be more conservative for billboards of similar size when compared with State standards. Additionally, the project site is located in a highly urbanized area and is surrounded by development that results in a baseline of light sources. Adjacent light sources include signs and lights from the adjacent auto dealership, highway lighting and infrastructure, additional billboards adjacent to US-101 in the greater vicinity of the project site, and continuous highway traffic. For these reasons, the proposed billboard would not create a substantial change in illumination levels. The Draft IS/MND adequately analyzed impacts to migratory birds. No additional analysis is needed.

Response to SC-SCVAS-11

The commenter claims that the proposed 8-second image dwell time is arbitrary and would not reduce attraction to birds.

As explained in the Draft IS/MND Project Description, applicable federal and State regulations require a minimum 4 second dwell time before the display may transition to the next image to

reduce driver distraction. The proposed Ordinance would not allow the sign face display to change more often than every 8 seconds and the messages would be static (i.e., not moving or animated). The proposed Ordinance would therefore be more conservative than what is required by federal and State regulations. In addition, the proposed billboard sign face sign messaging timing would result in changing color patterns rather than a fixed unchanging light. As such, birds flying near the proposed billboard would not perceive the light as a fixed, unchanging light which has shown to be the most attractive to birds.^{1,2,3} Therefore, impacts to migratory birds are less than significant and no additional mitigation measures are required.

Response to SC-SCVAS-12

This comment is related to the Princevalle Channel and its function as a wildlife connectivity corridor.

The proposed project would not have any impact on any sensitive habitats. The project site is composed of an active truck storage lot that is fully developed. Developed habitats are widespread, particularly within the immediate vicinity of the project site. Based on the field survey previously conducted, there are multiple sources of existing lighting that illuminate the adjacent drainage (see responses above). Furthermore, the identified reach of the drainage is of poor quality for wildlife species. The drainage is an urbanized man-made feature that lacks mature trees, dense understory vegetation, perennial water, or a suitable substrate that facilitate significant wildlife movement. Species that do utilize the drainage have been acclimated to the highly urbanized environment and are accustomed to the numerous lighting sources currently present within the reach of the drainage.

According to information provided by the applicant, the north-facing display of the proposed billboard would be 60 feet high and, as demonstrated in the administrative record of proceedings, the vertical light footprint of displays does not cast light on the ground within the first 100 to 150 feet or so. The Princevalle Channel is located 50 feet north of the proposed display, and below the grade of the proposed billboard site. Even if the study demonstrated that the Princevalle Channel contained protected species, it was demonstrated Draft IS/MND that the operation of the proposed billboard would not create a substantial change in illumination levels due to the physical dimensions of the light footprint and the existing topography. As previously articulated, these considerations do not account for the fact that the auto dealership to the north has parking lot lights located directly adjacent to the channel, such that the baseline lighting levels already illuminate the channel.

Response to SC-SCVAS-13

The proposed project would not have any direct or indirect impacts to the drainage's aquatic habitat and as such does not require a wetland delineation. Project construction would be limited to areas already highly disturbed (urban land cover) and, to the extent there is any potential for construction debris, materials, or runoff to reach the channel, MM BIO-5 and BIO-6 would prevent such from occurring. CEQA does not, per established case law, require the preparation of every last test and, here, a wetland delineation would not provide any meaningful environmental information.

¹ Jones, J., and C.M. Francis. 2003. The effects of light characteristics on avian mortality at lighthouses. *Journal of Avian Biology*.

² Gauthreaux, S.A., and C.G. Belser. 2006. Effects of artificial night lighting on migrating birds. Rich, C., and T. Longcore, Editors. *Ecological Consequences of Artificial Night Lighting*. Covelo, CA: Island Press.

³ Gehring, J., P. Kerlinger, and A. Manville II. 2009. Communication towers, lights, and birds: Successful methods of reducing the frequency of avian collisions. *Ecological Applications*.

Response to SC-SCVAS-14

Impacts to wildlife movement have been addressed in the Response to SC-SCVAS-12.

Response to SC-SCVAS-15

The commenter claims that MM BIO-7, which requires submittal of a Santa Clara Valley Habitat Plan (SCVHP) Coverage Screening Form, is a deferred mitigation measure. As explained on Page 43 of the Draft IS/MND, the proposed billboard is located within the SCVHP. MM BIO-7 does not rely on future disclosure of impacts. The proposed project would be consistent with the SCVHP, because project site is within the “Urban-Suburban” land cover as defined by the SCVHP and is not located in any special-status plant and wildlife survey areas, or fee zone. Additionally, coverage under the SCVHP is only needed if the project or activity has a reasonable potential or likelihood to take a covered species. A highly unlikely or speculative take does not meet this criterion. Because the proposed billboard would not result in a take of a covered species, no additional studies under the SCVHP would be required. MM BIO-7 merely contemplates confirming standard paperwork must be filed to document the foregoing conditions with administrators of the SCVHP and therefore is not a “deferred mitigation.” This requirement is included as MM BIO-7 to provide more specific information including timing and lead agency responsibility. For clarification purposes, MM BIO-7 is slightly edited to include timing of the mitigation measure. See Section 3, Errata, of this document. Future billboards under the proposed Ordinance would undergo a separate review and could also be subject to this requirement.

Response to SC-SCVAS-16

This comment is related to driver safety.

As discussed in Response to SC-SCVAS-6, applicable federal and State regulations require a minimum 4 second dwell time before the display may transition to the next image to reduce driver distraction. The proposed Ordinance would not allow the sign face display to change more often than every 8 seconds and the messages would be static (i.e., not moving or animated). The proposed Ordinance would therefore be more conservative than what is required by federal and State regulations.

In addition, the *Commercial Electronic Variable Message Signs and Driver Visual Behavior Study* was prepared and issued by the United States Department of Transportation (USDOT) Federal Highway Administration (FHWA) in September 2012,⁴ to investigate the effects of electronic billboards on driver visual behavior in roadway driving environments, in which driver participants’ eye movements were tracked while driving on roads containing standard billboards and electronic billboards. The study found that the percentage of time that drivers dedicated to the road ahead was not significantly affected by the presence of electronic billboards. Long glances at off-premises advertising were not evident. The amount of time drivers spent glancing at the electronic billboard was typically under 1 second and the longest glance at an electronic billboard was less than 1.3 seconds.

⁴ United States Department of Transportation (USDOT). Federal Highway Administration (FHWA). 2012. Driver Visual Behavior in the Presence of Commercial Electronic Variable Message Signs. September. Website: https://www.fhwa.dot.gov/real_estate/oac/visual_behavior_report/final/fhwahep16036.pdf. Accessed September 28, 2022.

Furthermore, the proposed project would not increase roadway hazards due to a geometric design feature. The proposed billboard is sited adjacent to a section of US-101 that is straight and is located distant from freeway exits to ensure that driver attention would not be diverted in a way that would create a dangerous roadway hazard.

Given that the proposed billboard’s image transition time would be more conservative than applicable federal and State requirements, and that drivers would only glance at the proposed billboard for a very brief period of time, and that the proposed billboard is appropriately sited such that the nominal dwell time on the billboard would not contribute to a roadway hazard, impacts to driver safety and distraction would be less than significant.

For future billboards under the proposed Ordinance, electronic billboards would have a required minimum distance of 1.5 miles between billboard construction sites to reduce roadway hazards. A separate environmental review would be required to ensure future billboards would have less than significant impacts on driver distraction and safety.

Response to SC-SCVAS-17

The comment provides general statements about energy consumption and CEQA and states that a “study of energy use and other environmental impacts of electronic billboards” was provided as an attachment to the public comment letter. The study provided as an attachment, prepared by Gregory Young, provides an overview of digital signage and addresses topics such as energy consumption, sign brightness, recyclability, future technological innovation, and economic feasibility. The study concludes by making policy recommendations related to the City of Philadelphia, Pennsylvania, and its zoning regulations regarding digital signage.

The comment does not demonstrate any correlation between the findings or recommendations of the attached study and the purported significance of the proposed project’s energy or greenhouse gas (GHG) emissions-related impacts, which are determined to be less than significant by the Draft IS/MND. Moreover, the comment does not demonstrate how or why the proposed project would result in significant energy and GHG-related impacts under CEQA and the adopted thresholds of significance. As there is no evidence that the proposed project would result in significant energy and GHG-related impacts, neither an EIR nor mitigation measures are required.

Response to SC-SCVAS-18

This comment states that the Draft IS/MND discloses energy consumption but does not provide mitigation measures.

The proposed project’s energy and GHG-related impacts were determined to be less than significant by the Draft IS/MND. The comment does not demonstrate how or why the proposed project would result in significant energy and GHG-related impacts under CEQA and the adopted thresholds of significance. As there is no evidence that the proposed project would result in significant energy and GHG-related impacts, neither an EIR nor mitigation measures are required.

Response to SC-SCVAS-19

The commenter provides a comparison of the proposed project to City of San José requirements for billboards at the airport.

The San José International Airport requires specific regulations regarding development surrounding the airport, in accordance with the Federal Aviation Administration (FAA), the San José Airport Land Use Plan, and the City of San José. Accordingly, control of unwanted light (trespass or spill light) toward nearby Airport ground operations, Airport air traffic control tower, and to pilots in approach is fundamental to the project design and the City of San José took these unique requirements into consideration when approving billboards at the Airport. The unique circumstances that are present in the billboard project cited by commenter due to the proximity of the airport are not present in the proposed project. For example, for billboards in the City of San José, signs would have custom side-shielding of the LED modules to eliminate light spill towards nearby airport ground operations, as well as the airport tower. The proposed project is not located near an airport or an airport tower, would not be visible from airport ground operations is not subject to any Airport Land Use Plan, and is not located within the City of San José and is therefore subject to a different set of regulations than the San José Airport Billboards Project. Therefore, requirements designed specifically for billboards near airports in the City of San José, are not applicable to, or necessary for, the proposed project approximately 5 miles from the nearest airport, in the City of Gilroy. The proposed project would comply with all applicable regulations. CEQA recognizes that a lead agency may also decline to adopt a mitigation measure that it concludes will not be effective in mitigating an impact or that will not provide substantial additional mitigation beyond the measures that it does adopt. *Citizens for Open Gov't v City of Lodi* (2012) 205 CA4th 296, 323; *A Local & Reg'l Monitor (ALARM) v City of Los Angeles* (1993) 12 CA4th 1773. As discussed in the Draft IS/MND, all project impacts would be reduced to less than significant levels with the proposed mitigation measures. Commenter has not submitted any evidence to demonstrate that the additional suggestions would provide substantial additional mitigation. Therefore, no additional mitigation measure is necessary.

The concerns raised in this comment do not raise any additional environmental issues that were not previously considered during the preparation of the Draft IS/MND. However, this comment will be provided to the City decision-makers for their review and consideration.

Response to SC-SCVAS-20

This comment incorrectly states that an EIR was prepared. The comment provides quotes from the Draft IS/MND pertaining to aesthetic impacts.

The analysis provided in the IS/MND analyzed aesthetic impacts related to light and glare, and applicable zoning and regulations. Biological impacts are discussed in Draft IS/MND Section 2.4, Biological Resources, and comments related to biological impacts are discussed above in Response to SC-SCVAS-8 through SC-SCVAS-15. No further analysis is required.

Response to SC-SCVAS-21

The comment asks the City not to approve the proposed project, or to prepare an EIR.

This comment will be provided to the City decision-makers for their review and consideration.

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UNIVERSITY OF CALIFORNIA, SANTA CRUZ

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SANTA BARBARA • SANTA CRUZ

UNIVERSITY OF CALIFORNIA OBSERVATORIES/LICK OBSERVATORY MT HAMILTON, CALIFORNIA 95140

DATE: 5 September 2022

Dear Cindy McCormick,

PROPOSED ELECTRONIC BILLBOARD(S)

The University of California Observatories' Lick Observatory (UCO/Lick) - the world's first high altitude astronomical observatory - hosts 10 telescopes, plus multiple cutting-edge research instruments atop Mount Hamilton, 25 miles north of Gilroy. Named in classic literature and from Apollo 11's Tranquility Base, the observatory routinely opens new vistas on the universe, discovers new worlds, develops new technology, educates science and "tech-savvy" students and inspires all comers. Lick Observatory leads the world, setting standards on astronomical matters. Annually, the observatory serves hundreds of faculty (including Nobel laureates) and students of the University of California, in addition to 35,000 visitors. This cannot be achieved without a fruitful relationship between the observatory and neighboring settlements.

As outlined in written (26 April 2021) and spoken (15 August 2022) contributions to Gilroy City Council, I reiterate that the proposed Electronic Billboard Ordinance and Sign Permit proposal (described in the 4 August 2022 Initial Study) shall render a disproportionate and deleterious impact on astronomical pursuits, fauna, flora and public health. From an astronomical perspective, it would be ideal to have no illuminating sources at all. However, UCO/Lick has no wish to crusade in pursuit of this ideal. A higher aspiration is to sustain the rapport and understanding between neighboring communities and observatory that has endured since the 1870s. Responsibly installed billboards may confer benefits to the community. Distressingly, however, the Initial Study is unbalanced in its failure to consider negative effects of electronic billboards on astronomy. For example, the International Dark-Sky Association's (2019) Guidance for Electronic Message Centers (repeatedly advocated for in previous contributions) continues to be neglected. As a result of such omissions, the Initial Study cannot be considered to be representative of best practice. Experience regarding proposed electronic billboards elsewhere in Santa Clara County shows that the needs of Lick Observatory align with public opinion: a (2021) survey conducted by the City of San Jose Planning Department revealed 93% opposition. Expert advisors (e.g. Norman Y. Mineta San Jose international Airport Commission) repeatedly recommended against billboards. The City of San Jose is now subject to litigation from competing outdoor advertising interests. Quite apart from astronomers' niche concerns, the most commonly cited objection to billboards (electronic and conventional) is visual blight. Billboards are notorious for intrusive, poorly-maintained, malfunctioning, decrepit and unsightly structures – often imposed on under-served neighborhoods. The outdoor advertising industry is noted (even *celebrated*) for wasteful practices. Outdoor advertising typically constitutes a minor fraction of overall advertising budgets. As on-line media continues to grow, revenues derived from outdoor advertising are projected to decline.

Regardless of whether one favors or opposes electronic billboards, it must be acknowledged that the Initial Study has failed to allay concerns. Thus, a full-and-proper Environmental Impact Report should ultimately be undertaken. However, in order to avoid embarking on such a costly endeavor unnecessarily, the City of Gilroy is first urged to proactively canvass the community in an effort to gain insight into the public attitude and reception to electronic billboards.

Yours sincerely,

Paul David Lynam

Dr Paul D. Lynam FRAS

Astronomer

University of California Observatories/Lick Observatory

University of California Lick Observatory (UCO-LICK)

Response to UCO-LICK-1

This comment provides background information about the Lick Observatory. This comment is noted.

Response to UCO-LICK-2

Astronomical pursuits are beyond the purview of CEQA; however, the proposed billboard is located 24.46 miles from the Lick Observatory. At this distance, the proposed project would not interfere with operations at the Lick Observatory. The Lick Observatory is approximately 20 miles north of the northern boundary of the City of Gilroy. Therefore, subsequent billboards permitted under the proposed Ordinance also would not interfere with the operations at the Lick Observatory. Furthermore, the City of Gilroy's Sign Ordinance does not currently address electronic billboards. The proposed project would establish height limits and density limits for electronic billboards, which would ensure that billboards are responsibly designed and installed. Furthermore, the proposed Ordinance would be in accordance with the Outdoor Advertising Act and Regulations, California Business and Professions Code Section 5200 *et seq.*, and other State and federal statutes. Therefore, no further analysis is warranted.

Impacts regarding flora and fauna were analyzed in Draft IS/MND Section 2.4, Biological Resources. The Draft IS/MND determined that impacts on flora and fauna would be less than significant with mitigation incorporated. This comment does not identify any new environmental issues related to Biological Resources. Therefore, no further analysis is warranted.

Impacts regarding public health were analyzed in Draft IS/MND Section 2.3, Air Quality, and Section 2.8, Greenhouse Gas Emissions. The Draft IS/MND determined that impacts related to Air Quality would be less than significant with mitigation incorporated, and impacts related to GHGs would be less than significant. This comment does not identify any new environmental issues related to Air Quality or GHGs. Therefore, no further analysis is warranted.

Response to UCO-LICK-3

The International Dark-Sky Association (IDA) Guidance for Electronic Messaging Centers (EMCs) provides recommendations for nighttime maximum luminance and Best Management Practices (BMPs). Implementation of these recommendations and BMPs is not required by CEQA and would be considered a voluntary measure. According to the Draft IS/MND, the maximum ambient light output level allowed by the proposed Ordinance would be 0.3 foot-candle at 250 feet from the billboards, as recommended by the Outdoor Advertising Association of America (OAAA), and brightness would be adjustable based on ambient light conditions. Furthermore, the proposed project would be consistent with the Caltrans Outdoor Advertising Act and Regulations 2011 Edition (Outdoor Advertising Act), which states that displays may not interfere with traffic signs, signals, or devices, and may not impair the vision of any driver or motor vehicle operation. Additionally, the proposed project would comply with the Business and Professions Code Section 5403(g), which defines brightness standards. Implementation of the IDA guidance is not required; therefore, no further analysis is warranted under CEQA.

Response to UCO-LICK-4

Public opinion surveys are beyond the purview of CEQA. This comment does not raise any environmental issues related to the proposed project and is therefore outside the purview of CEQA. Therefore, no further action is required.

Response to UCO-LICK-5

The visual impact of the proposed Ordinance and proposed billboard were analyzed in Draft IS/MND Section 2.1, Aesthetics. As discussed in Section 2.1, the proposed project would have a less than significant impact with regard to the visual character or quality of public views of the site and its surroundings, and would not conflict with applicable zoning and regulations regarding scenic quality. As discussed in Section 2.1, under the proposed Ordinance, electronic billboards would not be allowed in non-urbanized areas and would be restricted to the Urban Growth Boundary. More specifically, as described in the Draft IS/MND Project Description, permitted locations for electronic billboards would only be property designated as General Services Commercial or City Gateway District and located within 660 feet of US-101 and SR-152. The proposed Ordinance would also establish design standards for billboards, which would prevent visual blight. Furthermore, impacts regarding the wasteful use of energy were determined to be less than significant, as discussed in Draft IS/MND Section 2.6, Energy. Therefore, the proposed project would not contribute to wasteful energy practices. This comment does not identify any additional issues that were not analyzed in the Draft IS/MND. Therefore, no further analysis is warranted.

Response to UCO-LICK-6

The preceding comments do not provide substantial evidence that there were additional environmental issues that were not analyzed in the Draft IS/MND. As discussed above, impacts to Aesthetics, Air Quality, Biological Resources, Energy, and GHGs would either be less than significant or less than significant with mitigation incorporated. Canvassing is beyond the purview of CEQA; however, this comment will be provided to the City decision-makers for their review. No additional analysis is required.

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From: John Bauters <jbauters@gmail.com>
Sent: Wednesday, August 24, 2022 3:03 PM
To: Planning Division (Public) <planningdivision@cityofgilroy.org>
Subject: EXTERNAL - Attn: Cindy McCormick / RE: Proposed Electronic Billboard

CAUTION: This email originated from an **External Source**. Please use proper judgment and caution when opening attachments, clicking links, or responding to this email.

Dear City of Gilroy Planning Commissioners, Councilmembers, and Staff:

Thank you for considering this public comment with respect to the proposed Mitigated Negative Declaration for an electronic billboard along Hwy 101 in Gilroy.

My comments are specific to two sets of findings/conclusions that I do not believe are adequately researched or discussed in the document, and leave significant environmental impacts unmitigated.

(1) The discussion of Biological Resources correctly identifies impacts on birds and other wildlife as an issue to review, but includes an inappropriately abridged scope of review that jeopardizes endangered birds, including migratory species, that live in this area and migrate through this area.

The discussion in Section 2.4 and then again in 2.20 is overly-focused on the construction site -- a small parcel along Hwy 101. The lack of nests by migratory or endangered birds is cited as a reason for lower concern and the proposed mitigation is how to handle construction in the event a nest is discovered. While this is good, it is insufficient. Birds are dramatically impacted by large, elevated LED signs. There are extensive reports and studies on how LED signs confuse migratory birds, disorienting them at night; how they impair their reproductive functions; and how night predators lose the ability to hunt effectively as these billboards make their ability to find food difficult. Bright spaces like this can have impacts for a multiple mile radius from a high-rise sign, which can eliminate spaces where both migratory and non-migratory birds can nest. The white-tailed kite, cited in Section 2.4, may not have a known sighting within a couple miles of the project site, but the addition of such a sign in one of the only zones in the United States where the species is known to exist further harms it's population and puts the species at risk. There is no discussion of any of the significant research being conducted into how LED signs impact migration patterns, reproductive patterns, hunting/food sourcing, or nesting. The data points provided in the report fail to address these issues adequately and the scope of review is limited almost exclusively to the parcel itself, which does not adequately address the reality of a larger geographic impact this kind of light has on birds.

(2) Section 2.20 of the report states that there are some impacts on humans but that all of those can or will be mitigated, as discussed throughout the document. There is no discussion about how these types of bright lights impact circadian rhythm (sleep), especially in children. Bright lights can and do impact and are harmful to the development of children. Sleep is one of the most important components of healthy child development, which is necessary for proper brain development, educational attainment, and is also linked to attention/focus, and mood. Bright LED lights on billboards create light pollution much greater than the ambient levels of street lights and other night-time lights which are often much closer to the ground. The UV levels in these lights will create lighter sleep levels, disrupt sleep, and negatively impact human health and growth. There are significant residential communities proximate to the proposed billboard site which will experience the impacts of the proposed billboard sign. The report does not demonstrate adequate study or review of how the location of this sign and the reach of the

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projected LED lights will change the light pollution baselines in residential areas near the sign, and what that could mean for human health - especially developing children. <https://ncceh.ca/documents/field-inquiry/health-effects-large-led-screens-local-residents>

4
CONT

Finally, a sign like this is not necessary. The City of Gilroy has had a good ordinance that prohibits these types of signs for a long time - and for a good reason. Drivers do not need additional distractions on the roadways. At night, bright lights will only further impair driver abilities on the road, putting all road users at greater risk as a result.

These bright signs are little more than a proverbial "tramp stamp" in the sky - letting people from miles away know that the city is so cheap that it has to resort to bright light commercial ads as it's community identify. Gilroy can and should be a place people are proud to be from - one that doesn't need additional light pollution that will harm children's development or impair our local environmental wildlife resources. I hope that planning commission will give careful consideration to both the *adequacy* of this report as well as the *necessity* of this sign. Bright signs originated years ago to tell motorists where there was safe lodging at night, where there was food or fuel to continue their journey, or where a local medical center was if help was needed. Today, we allow any commercial advertisement to be put up along a roadway. Making them electronic undermines the original purpose behind electronic roadway signs, diminishes the character of our community, and harms our greatest assets: our environment and our children.

5

Please vote against accepting this proposed Mitigated Negative Declaration.

Thanks for your time and consideration.

Sincerely,

John Bauters

--

The strength of a nation is measured by the least of its people.

Individuals

John Bauters (BAUTERS)

Response to BAUTERS-1

This comment consists of introductory information and summarizes the commenter's concerns about potential impacts resulting from the proposed project. The concerns pertaining to environmental impacts are addressed in the following responses.

Response to BAUTERS-2

The commenter claims that the Draft IS/MND did not adequately analyze impacts on birds and other wildlife.

Draft IS/MND Section 2.4, Biological Resources, provides an analysis of all special-status species with documented occurrences within the *Chittenden, California* USGS 7.5-minute Topographic Quadrangle Map and eight surrounding quadrangles. This methodology is derived from the California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDDB), which is an industry standard for analyzing potential impacts to biological resources.⁵ Furthermore, the first paragraph on page 41 of the Draft IS/MND provides an analysis of the proposed electronic billboard on migratory birds, and Responses to SC-SCVAS-10 and SC-SCVAS-11 offers additional responses regarding migratory birds.

Response to BAUTERS-3

This comment is related to the proposed billboard's impacts on migratory birds. The first paragraph on page 41 of the Draft IS/MND provides an analysis of the proposed electronic billboard on migratory birds. The proposed electronic billboard would not have a significant impact on migratory birds because it would not create a substantial change in illumination levels; would be consistent with illumination intensity standards outlined in the Caltrans Outdoor Advertising Act; and moreover, the lighting intensity is designed to be more conservative for billboards of similar size when compared with State standards.

Additionally, the project site is located in a highly urbanized area and is surrounded by development that results in a baseline of light sources. Adjacent light sources include signs and lights from the adjacent auto dealership, highway lighting and infrastructure, additional billboards adjacent to US-101 in the greater vicinity of the project site, and continuous highway traffic. Moreover, Responses to SC-SCVAS-10 and SC-SCVAS-11 provide additional details regarding migratory birds. Future billboards to be constructed under the proposed Ordinance would be subject to environmental review prior to approval.

Response to BAUTERS-4

The commenter states that lights from electronic billboards would have significant impacts on humans and their circadian rhythms.

The proposed Ordinance would not permit electronic billboards in residential areas. More specifically, as described in the Draft IS/MND Project Description, permitted locations for electronic

⁵ California Natural Diversity Database(CNDDDB) Data Use Guidelines. Website: <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=27285&inline>. Accessed August 19, 2021.

billboards would only be property designated as General Services Commercial or City Gateway District and located within 660 feet of US-101 and SR-152.

As discussed in page 87 of the Draft IS/MND, the nearest residences are located approximately 1,795 feet west of the project boundary. Because of distance and intervening topography, the proposed electronic billboard would not be visible from these locations. Future billboards to be constructed under the proposed Ordinance would be subject to environmental review prior to approval. Therefore, the proposed Ordinance's impacts related to electronic billboard lights on humans' circadian rhythm would be less than significant.

Response to BAUTERS-5

The commenter opposes the proposed project. No additional analysis is required. However, this comment will be provided to the City decision-makers for their review.

SECTION 3: ERRATA

The following are revisions to the Draft IS/MND for the Electronic Billboard Ordinance Project.

These revisions are minor modifications and clarifications to the document, and do not change the significance of any of the environmental issue conclusions within the Draft IS/MND. The revisions are listed by page number. All additions to the text are underlined (underlined) and all deletions from the text are stricken (~~stricken~~).

3.1 - Changes in Response to Specific Comments

Section 2.4, Biological Resources

Page 41

Migrating birds can be affected by human-built structures because of their propensity to migrate at night, their low flight altitudes, and their tendency to be disoriented by artificial light, which makes them vulnerable to collision with obstructions that could potentially lead to injury or mortality. In addition, birds migrating at night can be strongly attracted to sources of artificial light, particularly during periods of inclement weather. The proposed electronic billboard would not create a substantial change in illumination levels as described above in Section 2.1 above. Baseline light sources in the project area include local street lighting, parking lot lighting, other illuminated billboards at nearby auto dealerships, headlights from automobile traffic, and highway lighting structures. The proposed electronic billboard would be consistent with the illumination intensity standards in the Caltrans Outdoor Advertising Act. The proposed electronic billboard would be limited to a maximum ambient light output level of 0.3 foot-candle at 250 feet from the billboard, which is a more conservative lighting intensity standard for electronic billboards of this proposed size when compared to State standards. ~~Additionally, the proposed electronic billboard would not be allowed to change the sign face display more than every 8 seconds, and messages would be static (i.e., not moving, or animated) resulting in changing color patterns rather than a fixed unchanging light which may be more attractive to birds.~~ In addition, the proposed billboard sign face sign messaging timing would result in changing color patterns rather than a fixed unchanging light. As such, birds flying near the proposed billboard would not perceive the light as a fixed, unchanging light which has shown to be the most attractive to birds.^{1,2,3}

Page 45

MM BIO-7

Prior to issuance of grading permits, ~~t~~The project applicant shall submit a Santa Clara Valley Habitat Plan (SCVHP) Coverage Screening Form to the Planning Department for review and shall complete subsequent forms, reports, and/or studies as needed.

¹ Jones, J., and C. M. Francis. 2003. The effects of light characteristics on avian mortality at lighthouses. *Journal of Avian Biology*.

² Gauthreaux, S.A., and C.G. Belser. 2006. Effects of artificial night lighting on migrating birds. Rich, C., and T. Longcore, Editors. *Ecological Consequences of Artificial Night Lighting*. Covelo, CA: Island Press.

³ Gehring, J., P. Kerlinger, and A. Manville II. 2009. Communication towers, lights, and birds: Successful methods of reducing the frequency of avian collisions. *Ecological Applications*.

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Section 2.17, Transportation

Page 98

- c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Proposed Electronic Billboard

The proposed project would not require the alteration or construction of roadways, and no impact related to sharp curves or dangerous intersections would occur. The proposed electronic billboard would be required to adhere to Caltrans Outdoor Advertising Act requirements and OAAA recommendations that govern illumination so as not to interfere with drivers' visibility. Furthermore, in accordance with the Ordinance, electronic billboards would have a required minimum distance of 1.5 miles between billboard construction sites.

In addition, the *Commercial Electronic Variable Message Signs and Driver Visual Behavior Study* was prepared and issued by the United States Department of Transportation (USDOT) Federal Highway Administration (FHWA) in September 2012,⁴ to investigate the effects of electronic billboards on driver visual behavior in roadway driving environments, in which driver participants' eye movements were tracked while driving on roads containing standard billboards and electronic billboards. The study found that the percentage of time that drivers dedicated to the road ahead was not significantly affected by the presence of electronic billboards. Long glances at off-premises advertising were not evident. The amount of time drivers spent glancing at the electronic billboard was typically under 1 second and the longest glance at an electronic billboard was less than 1.3 seconds.

Furthermore, the proposed project would not increase roadway hazards due to a geometric design feature. The proposed billboard is sited adjacent to a section of US-101 that is straight and is located distant from freeway exits to ensure that driver attention would not be diverted in a way that would create a dangerous roadway hazard.

These requirements are designed to reduce hazards from electronic billboards to the drivers on the surrounding roadways at the project site. Thus, the impacts would be less than significant.

⁴ United States Department of Transportation (USDOT). Federal Highway Administration (FHWA). 2012. Driver Visual Behavior in the Presence of Commercial Electronic Variable Message Signs. September. Website: https://www.fhwa.dot.gov/real_estate/oac/visual_behavior_report/final/fhwahep16036.pdf. Accessed September 28, 2022.

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City of Gilroy

STAFF REPORT

Agenda Item Title: Introduce Draft Policy Recommendations to Regulate Electronic Billboards in the City of Gilroy

Meeting Date: March 15, 2021

From: Jimmy Forbis, City Administrator

Department: Community Development Department

Submitted By: Karen Garner

Prepared By: Karen Garner
Cindy McCormick



☐ Fiscal Stability



☐ Downtown Revitalization



☒ Economic Development

Strategic Plan Goals



☐ Neighborhood Services



☐ Enhanced Public Safety



☐ Workforce Stability



☐ Public Engagement

RECOMMENDATION

Review recommendations and provide staff with direction regarding allowance and regulation of Electronic Billboards in the City of Gilroy.

EXECUTIVE SUMMARY

Although consideration of allowing electronic billboards in the City was prompted by a formal application, staff recommends a more holistic view given the significance of such a change in policy direction. Therefore, the policy recommendations prepared by staff are based on feedback received from the Council in September and best practices from other cities, rather than the applicant's specific proposal. If the Council wants to move forward with allowing electronic billboard(s) in the City, the recommended policies could

inform a future amendment to the City's Sign Ordinance. Once the Council has weighed in on the requested policy direction, staff will proceed with drafting the necessary zoning amendment(s) and scheduling the corresponding public hearings with the Planning Commission and the City Council.

Following formal adoption of a zoning amendment, staff could then proceed with processing any application that complies with the standards set forth in the new Ordinance. Once Council identifies the general thresholds for allowing electronic billboard signs in the City, the current applicant will have a better understanding of Council expectations, and can then modify their proposal, if necessary.

Some of the major policy considerations before the Council include whether such signage would be allowed off-site and under what circumstances, how many electronic billboard signs should be allowed in the City and where, and the maximum height and sign area that would be permitted. The Council will also need to consider that most of the advertisements on the electronic billboard would likely be for businesses that are not actually located in Gilroy. With some exceptions that could be memorialized in an operating agreement, content control will largely be out of the Council's hands since the sign would be owned and operated by a third party.

BACKGROUND

On September 14, 2020, the City Council discussed the potential for allowing electronic billboard sign(s) in Gilroy. The Council was generally receptive to this possibility; but had concerns about the total number allowed in the City, the height of the sign, and the location(s) where they would be permitted. The Council also wanted to ensure that such signage, if allowed, would benefit City businesses, particularly regional-serving and high revenue generating businesses, such as auto dealerships and/or regional shopping centers including the Gilroy Outlets. The Council had several questions that are addressed in the discussion below, including the potential costs and benefits of the sign.

It was also requested that the sign company be invited to a Council meeting for further discussion of Council's goals, concerns, and questions. Outfront Media will be available during the virtual meeting to answer any questions the City Council may have. Outfront Media leases out advertising space on electronic billboards such as the one proposed by the applicant.

Existing City Code: The Gilroy Sign Ordinance does not currently allow off-site advertising signs (other than real-estate signs) and has general restrictions for freeway-oriented signs and automobile dealership signs (e.g., height and size limits). The Sign Ordinance also prohibits signs that utilize scrolling or moving text or images (i.e., electronic billboards). Allowance of such signs would require an amendment to City Code Sections 30.37.30 (Prohibited Signs), 30.37.50 (Commercial and Industrial districts), and 30.37.51 (Freeway Oriented Signs).

General Plan: The Gilroy 2040 General Plan was adopted in November 2020 and has the following policies related to billboards and freeway signage. While the policies do not directly address digital media, the policies do encourage signage for freeway commercial uses (such as auto dealerships), so long as such signage has minimal negative impact on the visual environment. Staff will ensure that a future zoning amendment would have sufficient design standards to minimize such impacts.

LU 4.11 Freeway Signage - Work with Caltrans to explore ways to increase directional signage to freeway commercial uses at U.S. 101 interchanges.

LU 8.7 Signs and Billboards - Require the location of signs and billboards to respect the surrounding context to minimize any negative impact on the visual environment. Enforce sign regulations and design standards to reduce sign clutter and illegal signage along corridors.

DISCUSSION

Although this policy discussion was initially prompted by an active application before the City, staff recommends taking a holistic view of allowing electronic billboard(s) in the City. The application, as currently proposed, does not conform to current City sign requirements and therefore, could not be approved without modifications to several sections of the zoning code. The policy recommendations prepared by staff are based on feedback received from the Council in September and best practices in other cities, rather than the applicant's specific proposal. Furthermore, based on questions and discussion at the last Council meeting, staff reached out to the applicant with a list of specific questions. The questions and answers have been provided as **Attachment 1**. Some questions were more general in nature, whereas others were more specific to the applicant's proposal. The provided answers should facilitate City Council's understanding of how an electronic billboard might operate in the City of Gilroy.

Benefit to Auto Dealerships: An important consideration identified by the Council in September, was the potential costs and benefits to the City's auto dealerships. While the intent of allowing off-site signage in the City would be to primarily benefit the auto dealerships, the attached questionnaire estimates that approximately six of eight advertisement spots would be sold to non-auto dealers. In terms of cost, an auto dealership could be expected to pay approximately \$2,500 for a four (4) week-long / 8-second advertising spot, while national advertisers would likely pay between \$3,000 and \$3,500 per four (4) weeks. The attached letter from the applicant includes signatures from four (4) dealerships expressing their support for the electronic billboard and their intention to advertise on the sign (**Attachment 2**).

Policy Recommendations: While staff would continue to research best practices in terms of illumination (e.g., light sensing/adjustment device, maximum foot candles) and message standards (e.g., minimum display time), staff has made some specific

recommendations for Council consideration regarding quantity, location, distance between signs, sign area and sign height, as illustrated in the following table. Furthermore, two of the major policy considerations before the Council include whether such signage should be allowed off-site and under what circumstances and how many electronic billboard signs should be allowed in the City. The Council will also need to consider that most of the advertisements on the electronic billboard would likely be for businesses that are not actually located in Gilroy. With some exceptions that could be memorialized in an operating agreement, content control will largely be out of the Council's hands since the sign would be owned and operated by a third party.

Following is a table summarizing policy considerations, followed by additional information discussing the rationale behind the recommendations.

City Council Decision Points	
ON Site Electronic Billboards	
<u>Recommended Policy:</u> <i>Allow on-site on private property</i>	<u>Alternative Policy:</u> <i>Prohibit all Electronic Billboards on-site and/or off-site (Status Quo)</i>
OFF Site Electronic Billboards	
<u>Recommended Policy:</u> <i>Allow off-site on both private and public property</i>	<u>Alternative Policies:</u> • <i>Only allow off-site on public property</i> • <i>Prohibit off-site signs</i>
City Agreement Requirements	
<u>Recommended Policy:</u> <i>Prior to scheduling an Electronic Billboard Sign application for review by the Planning Commission, the owner/operator shall enter into a development agreement, operating agreement, lease agreement, contract, license or other accord in form acceptable to the City Attorney ("City Agreement") with the City, setting forth any required fees, terms, off-site advertisement criteria, content control standards, community service message provisions, community outreach requirements, maintenance standards, conditions that trigger sign removal, and other covenants or restrictions needed to offset or mitigate the impacts of a proposed Electronic Billboard Sign.</i>	
<u>Alternative Policy:</u> No specific alternative is recommended.	
Permit Requirements	

Recommended Policy:

- ☒ *Conditional Use Permit & CEQA*
- ☒ *Architectural & Site Review*
- ☒ *Caltrans Off-Site Advertising Permit*

Alternative Policy: No specific alternative is recommended.

Conformance Hearings**Recommended Policy:**

Require minimum of three (3) compliance hearings before the City Planning Commission and/or City Council, as follows:

- 1. Six (6) months from the date of final building permit issuance,*
- 2. Six (6) months from the date of the first compliance hearing, and*
- 3. Twelve (12) months from the date of the second compliance hearing.*

Following the three initial compliance hearings, the owner, operator, and/or property lease holder shall be subject to periodic compliance hearings before the City upon request, due to non-compliance.

Alternative Policy:

Require only two (2) compliance hearings; one at six (6) months from final building permit issuance, and another one year from the date of the first compliance hearing.

City Branding**Recommended Policy:**

Unless otherwise approved by the City Council, the Electronic Billboard sign shall include the words "City of Gilroy" and/or the City insignia permanently affixed somewhere on the sign structure.

Alternative Policy:

Do not require such branding.

Maximum number of Electronic Billboards allowed in City**Recommended Policy:**

A maximum of two (2) Electronic Billboard Signs may be allowed in the City of Gilroy.

Alternative Policy:

Allow up to three (3) electronic billboards (e.g., on Highway 152, east of Highway 101)

Permitted Locations

Recommended Policy:

The sign shall be located on property designated as General Services Commercial or City Gateway District.

Alternative Policy: No specific alternative is recommended.

Maximum Distance to Freeway**Recommended Policy:**

The electronic billboard shall be located within 660 feet of Highway 101.

Alternative Policy: No specific alternative is recommended.

Minimum Distance between Signs**Recommended Policy:**

No Electronic Billboard sign shall be placed within 1.5 miles from another Electronic Billboard sign.

Alternative Policy:

If three (3) signs are permitted in Gilroy, the minimum recommended distance is 1,000 feet.

Angle to Freeway**Recommended Policy:**

To the extent possible, the Electronic Billboard sign shall be located and oriented in a manner that avoids or minimizes the direct exposure of the display to view from adjacent or nearby residential or hotel uses.

Alternative Policy: No specific alternative is recommended.

Maximum Height**Recommended Policy:**

The overall height of the sign shall not exceed seventy-five (75) feet.

Alternative Policy:

Allow a maximum height of eighty (80) feet

Maximum Sign Area**Recommended Policy:**

The maximum sign area of the digital display shall not exceed 672 square feet.

Alternative Policy: No specific alternative is recommended.

Public Service / City Announcements

Recommended Policy: *The City of Gilroy shall be guaranteed a minimum of one (1) advertising spot per week for City events, public information, emergency alerts, and other similar public service announcements.*

Alternative Policy: No specific alternative is recommended.

Policy Discussion: The following discussion is intended to provide the Council with staff's rationale for its recommendations, while also encouraging Council discussion of alternative standards.

Off-Site versus On-site Signage. One of the major policy considerations before the Council is whether to require that electronic billboard signs be located on-site (e.g., auto mall property) or allow them off-site (e.g., a property adjacent to the auto mall). If off-site, the Council would need to decide whether to allow off-site electronic billboard on private property, or to limit off-site signs to City owned property. The primary benefit of allowing off-site signs on private property is the potential for locating the sign where it has the most visibility and where a driver can safely exit the freeway to access the advertised businesses. The primary benefit of limiting off-site signage to public property is more control by the City, and the ability to get proposals (via a competitive RFP) from multiple sign companies who may be more willing to agree to the terms of a development agreement that is in the best interest of Gilroy. For example, the development agreement could disallow advertisements for cannabis, which is currently prohibited in the City even though it is legal in the state.

City Agreement: In addition to the typical conditional use permit and design review permits that the City utilizes to minimize potential impacts, staff is recommending that the owner/operator of an electronic billboard sign be required to enter into an agreement with the City (e.g., Development Agreement or Operating Agreement) setting forth any required fees, terms, standards, provisions, etcetera needed to offset or mitigate the impacts of an electronic billboard sign. The Agreement could also include language requiring removal or replacement of other billboards owned by the owner/operator, if applicable.

The type of Agreement will depend on whether the sign is on private property or public property and whether there is a relocation requirement.

For example, in the City of Rocklin, the owner/operator of an electronic billboard on private property has an Operating Agreement with the City and pays the City a monthly fee of \$2,000 in year 1-6, with increases of 2% for every year thereafter.

The City of Rohnert Park has a Master Lease Agreement with a company who would install, operate, and maintain a new electronic billboard on public property. The company will pay Rohnert Park a one-time fee of \$50,000 in addition to permit fees. The City also receives a guaranteed monthly rent of \$15,000 in years 1 to 5, and variations on the lease rates for the remaining years of the 20-year term. Rohnert Park is also

guaranteed exclusive use of 10% of the total advertising time on the electronic billboard sign.

Likewise, in Milpitas where the electronic billboard will be on public property, the City will collect an initial fee and payments will be made to the City on either a quarterly or annual basis. The City of Milpitas will also ask for a certain number of City postings per day. The fees and details of the Agreement have not been worked out yet.

Compliance Hearings: Staff is recommending initial compliance hearings before the City to review the owner/operator's compliance with the City Agreement (e.g., content standards, message frequency, etc.). The Ordinance and City Agreement would also be structured to allow the City to request subsequent compliance hearings, as needed, if the City receives a verifiable complaint of non-compliance with the City Agreement and/or City standards.

Maximum Number of Electronic Billboards: Staff recommends a maximum two (2) electronic billboard signs in the City of Gilroy since these types of signs are generally located adjacent to the freeway and there is a limited distance between the major gateways to the city. Alternatively, the Council could authorize up to three (3) signs, given that many drivers will be coming into Gilroy from Highway 152, east of 101.

Sign Location: Staff recommends that electronic billboards be located within 660 feet of Highway 101, since this distance will require an Outdoor Advertising Permit from Caltrans. Furthermore, if off-site signage is allowed on private property, staff recommends that these signs be limited to properties designated as General Services Commercial or City Gateway District. These two designations are primarily comprised of regional-serving commercial uses and are also adjacent to the freeway.

Distance between Signs: Staff recommends a minimum distance of 1.5 miles between signs, as this is the approximate distance between the Leavesley Road exit and the 10th Street exit off Highway 101. This is also a reasonable distance between signs, if only two (2) signs are permitted in the City. However, if three (3) electronic billboards were permitted in the City, a shorter distance is recommended. For example, if a third sign were desired in the vicinity of Highway 152 and Highway 101, the minimum distance would need to be reduced to something closer to 1,000 feet.

Sign Height and Sign Area: Another major policy decision before the Council is the allowable sign height and sign area. Staff¹ is recommending a maximum height of 75-feet above freeway grade based on the current allowance for the Gilroy Crossings sign. Staff is also recommending a maximum digital sign area of 672 square feet per side, based on the industry billboard standard of 48-feet wide by 14-feet tall. This 672 square foot allowance per side is consistent with other city codes, including Concord, Rocklin, and South San Francisco.

¹ The applicant requested zoning amendments that would allow a maximum sign height of 80-feet above freeway grade and a maximum sign area of 1,200 square feet.

FISCAL IMPACT/FUNDING SOURCE

There are no fiscal impacts associated with conducting this policy discussion.

NEXT STEPS

Following Council direction on these policy recommendations, staff will draft a zoning amendment and schedule the item for public hearings with the Planning Commission (advisory) and City Council. The zoning amendment will also require environmental review (paid for by the applicant) prior to approval, given the potential significant impacts of allowing such signage. If the applicant chooses to move forward with an application that conforms to the new ordinance, staff will also prepare a draft City Agreement for Council consideration.

Attachments:

1. Outfront Media answers to questionnaire
2. Autodealer's letter of support

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March 21, 2021

VIA ELECTRONIC MAIL ONLY

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Re: Outdoor Advertising Display 6490 Auto Mall Parkway

Dear Mr. Faber and Ms. Houston:

As you are aware, our client OUTFRONT Media LLC ("Outfront") intends to negotiate a development agreement or other instrument with the City of Gilroy ("City") for construction and operation of an outdoor advertising display on property located at 6490 Auto Mall Parkway (the "Sign") in the City of Gilroy ("City"). We understand a zoning amendment also might be necessary, and look forward to partnering with the City in determining a land use entitlement pathway.

In response to your request, we submit this letter explaining how Outfront intends to operate the Sign, particularly with respect to (1) the frequency at which electronic advertisements will change, referred to as "dwell time"; and (2) the brightness at which Outfront will broadcast the proposed electronic messaging. These operational parameters have a bearing on the Sign's potential light-related or traffic safety impacts (or lack thereof).

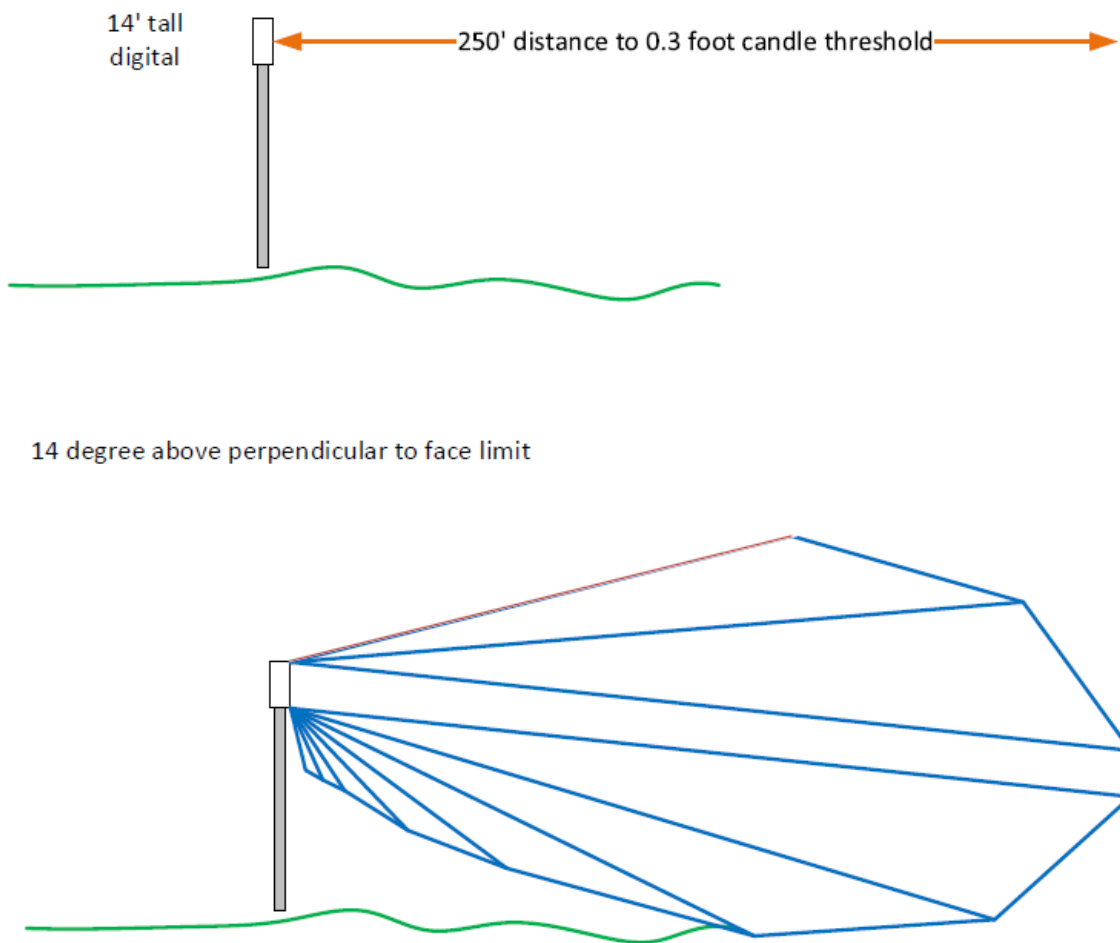
We understand you have expressed an interest in understanding the Sign's brightness levels and the possibility that the Sign's operation might distract drivers and pose a safety risk. Below, we have compiled information and materials that explain how Outfront plans to operate the Sign, particularly with respect to (1) the brightness at which Outfront will broadcast the proposed electronic messaging; and (2) the frequency at which electronic advertisements will change — again, known as the "dwell time" — which informs the risk of distraction. Outfront's operational parameters are consistent with federal, state, and local standards, and in fact are more protective of the public than applicable regulations.

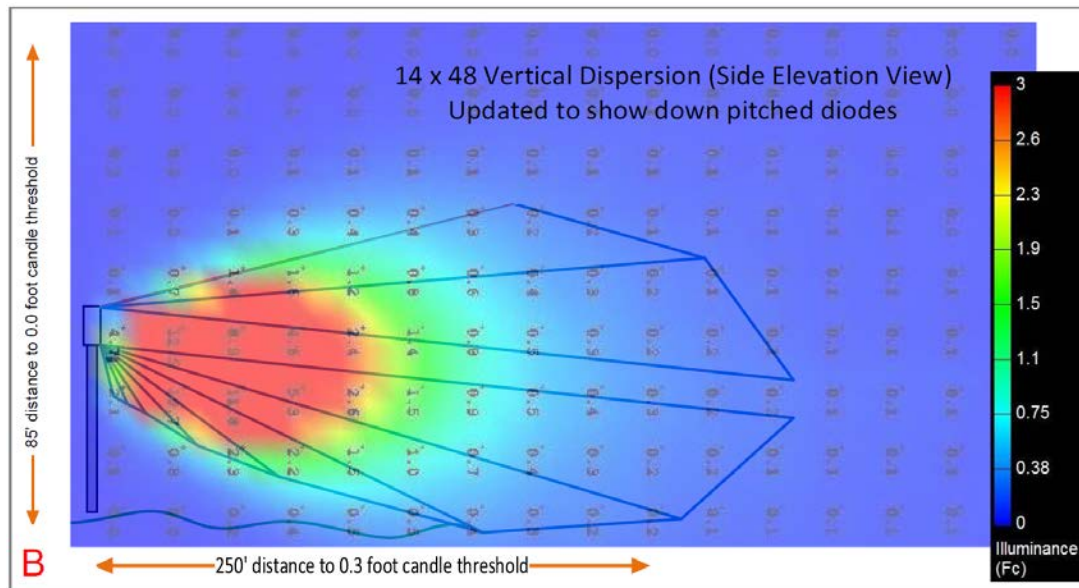
1. General Overview of Light "Footprints"

Digital billboards are designed with more thought than most realize. A sign's brightness automatically adjusts in response to ambient conditions, as measured by on-site sensors, and ensures the sign operates at a luminosity that is only slightly greater than background conditions. This difference is a maximum of 0.3 foot candles measured at 250 feet, which is roughly the brightness one would experience when looking at a candle through a dark filter, and

this measurement is equivalent to 300 nits and 87.7 foot Lamberts. (The concept of foot candles and brightness are discussed in greater detail, below, in Sections 2 and 3.) Each of the individual light emitting diodes (“LEDs”) on the sign’s display facings, meanwhile, is angled downward toward motorists, thereby reducing light pollution and glare when compared to traditionally illuminated signs. In fact, at 250 feet, light from an Outfront sign generally does not register on a light meter.

As a consequence, a sign’s light “footprint” is fairly minimal. For instance, the vertical footprint of a 60- to 65-foot-high sign with display panels measuring 14 feet by 48 feet is depicted as follows:





The above diagram illustrates typical differences in signage-related brightness through the use of colors, with blue representing smaller differences (i.e., differences of 0.1 to 0.3 foot candles), green representing 1 to 1.5 foot candles, and warmer colors (e.g., red, orange, and red) showing greater brightness differences. The perceptible, vertical light footprint of a 60- to 65-foot sign therefore rises to a height of about 85 feet and extends laterally to about 250 feet; beyond this footprint, changes in brightness are minimal, and generally do not register on a light meter. Please note this illustration conservatively depicts brightness levels, and many site-specific analysis show brightness levels are in fact slightly lower than depicted here.

Meanwhile, a sign's horizontal footprint is similarly limited in scope, as follows:



While digital billboards are clearer than traditionally illuminated signs, they are not brighter. More information about these design characteristics are addressed in the FAQs in Attachment A.

2. Dwell Time Standards

A. California and Federal Standards

California law allows LED billboards, a type of commercial electronic variable message sign ("CEVM"), to operate at a minimum dwell time of no less than four seconds before the display may transition to the next image. This requirement is set forth in Business and Professions Code section 5405(d)(1), which provides, in relevant part, "no message center display may include any illumination or message change that is in motion or appears to be in motion or that changes in intensity or exposes its message for less than four seconds." The Outdoor Advertising Association of America ("OAAA") likewise recommends that billboards display a message for no less than four seconds. (Cal. Dept. of Transportation, Caltrans Division of Research and Innovation, Effects of Outdoor Advertising Displays on Driver Safety, (Oct. 11, 2012) p. 9, attached hereto and referred to herein as Appendix 1.)

The Federal Highway Administration ("FHWA"), meanwhile, has approved of a similar dwell time standard. According to an FHWA memorandum, the acceptable range for the "[d]uration of each display is generally between 4 and 10 seconds – 8 seconds is recommended." (U.S. Dept. of Transportation, Fed. Highway Admin., Guidance on Off-Premise Changeable Message Signs (Sept. 25, 2007), p. 2, attached hereto and referred to herein as Appendix 2.)

B. Dwell Times in Other Jurisdictions

A Caltrans Preliminary Investigation, published on October 12, 2012, noted that 43 states in the country have set dwell times ranging from four to 10 seconds, with dwell times of six and eight seconds being the most common. (Appendix 1, App., A, pp. 13-16; see also Menelaos Triantafillou, Alan C. Weinstein, National Signage Research and Education Conference, The Regulation of Signage: Guidelines for Local Regulation of Digital On-Premise Signs (2010) p. 6 ["the most common regulatory provisions applicable to digital on-premise signs ... [r]equire that the sign display remain static for a minimum of 5-8 seconds"], attached hereto and referred to herein as Appendix 3.) Specifically, Caltrans noted the following minimum dwell times:

4 seconds – CA, CO, IA, VA

5 seconds – NM, PA

6 seconds (average) – AL, AZ, CT, FL, GA, IA, MI, MN, NV, NY, SD, WI, RI

8 seconds – AR, ID, IN, KS, LA, MO, MS, NJ, NC, OH, OK, OR, SC, TN, UT, WV, WA

Other/State-Company Discretion – KY, MA, MT

(Appendix 1, pp. 14-15.)

Moreover, a recent federal court further noted that FHWA identified certain "'acceptable criteria' based on certain ranges of acceptability that have been adopted in those States that do allow CEVMS ... recommending, among other things, that each display generally remain static for between four and ten seconds, and transition to a new display in one to four seconds[.]" (*Scenic America, Inc. v. United States Dept. of Transportation* (D.C. Cir. 2016) 836 F.3d 42, 46-47, attached hereto and referred to herein as Appendix 4.)

C. Dwell Time of Eight Seconds Does Not Adversely Impact Road Safety

An OAAA Digital Technology Brief dated February 2015, attached hereto and referred to herein as Appendix 5, notes that "digital billboards" display static images that typically transition every six or eight seconds. Of particular significance, the report also noted the following:

Effective January 1, 2015, New York State switched from 24-hour to 8-second display time on digital billboards. New York's analysis of crash data "suggests there is no change in crash patterns in the vicinity of the off-premise CEVMS billboards," and continue monitoring is warranted.

(Appendix 5, p. 4, emphasis added.)

Further, FHWA conducted two studies on driver visual behavior with regard to electronic billboards, and released a report documenting its findings entitled "Driver Visual Behavior in the Presence of Commercial Electronic Variable Message Signs (CEVMS)." (William A. Perez et al., U.S. Dept. of Transportation, Fed. Highway Admin., (Sept. 2012), Report No., FHWA-HEP-16-036 attached hereto and referred to herein as Appendix 6.) The report explained that the studies were "conducted to provide the FHWA with data to determine if CEVMS capture visual attention differently than standard off-premise advertising billboards." (*Id.* at 5.) The studies were initiated in response to a safety concern raised by Scenic America, a nonprofit organization seeking to preserve the scenic qualities of America's roadways. (*Id.*) Specifically, the FHWA report noted:

[T]he current Federal Highway Administration (FHWA) guidance recommends that CEVMS should not change content more frequently than once every 8 seconds. However, according to Scenic America, [CEVMS present a safety concern in that] the "distinguishing trait" of a CEVMS "is that it can vary while a driver watches it, in a setting in which that variation is likely to attract the drivers' attention away from the roadway."

(*Id.*)

Drivers in Richmond, VA and Reading, PA participated in the FHWA studies on driver distraction. (*Id.* at 6.) The billboards in the study "changed content approximately every 8 to 10 seconds." (*Id.* at 2.) The FHWA report noted that the presence of CEVMS did not correlate to a decrease in looking toward the road head. (*Id.*) Moreover, the report found that glance duration toward digital billboards averaged 0.379 seconds, while glances at static billboards were at 0.335 seconds at both test sites — a difference of about four hundredths of a second. The result did not provide evidence indicating that CEVMS, as deployed and tested in the two selected cities, were associated with unacceptably long glances away from the road. (*Id.* at 54.) In fact, the report noted that "the average fixation durations to CEVMS and standard billboards were

similar to the average fixation durations to CEVMS and standard billboards were similar to the average fixation duration to the road ahead." (*Id.* at 2.)

FHWA concluded:

The present data suggest that the drivers in this study directed the majority of their visual attention to areas of the roadway that were relevant to the task at hand (e.g., the driving task). Furthermore, it is possible, and likely, that in the time that the drivers looked away from the forward roadway, they may have elected to glance at other objects in the surrounding environment (in the absence of billboards) that were not relevant to the driving task. When billboards were present, the drivers in this study sometimes looked at them, but not such that overall attention to the forward roadway decreased.

(*Id.* at 4; see also Darrin Friskney, Federal Highway Administration study confirms safety of digital billboards and signs, published June 16, 2014, attached hereto and referred to herein as Appendix 7.)

Finally, a study conducted by experts at the University of Utah found that in-vehicle information systems (e.g., gadgets, buttons, etc. inside the vehicle) create "moderate to high level cognitive workload for drivers," and that after drivers interact with these information systems, it takes about 27 seconds to return to normal levels on performance. (Ken Klein, *The Hunt for Distractions Leads to Inside the Vehicle* (May 4, 2016) Billboard Insider, <http://billboardinsider.com/the-hunt-for-distractions-leads-to-insider-the-vehicle/> [as of Dec. 5, 2016], attached hereto and referred to herein as Appendix 8.) This study suggests that in-vehicle information systems pose significantly greater risks than CEVMS.

3. Brightness Standards

A. California Standard

Business and Professions Code section 5403(g) defines that brightness standard for CEVMS in relation to Vehicle Code section 21466.5, which provides:

No person shall place or maintain or display, upon or in view of any highway, any light of any color of such brilliance as to impair the vision of drivers upon the highway. A light source shall be considered vision impairing when its brilliance exceeds the values listed below.

The brightness reading of an objectionable light source shall be measured with a 1.5-degree photoelectric brightness meter placed at the driver's point of view. The maximum measured brightness of the light source within 10 degrees from the driver's normal line of sight shall not be more than 1,000 times the minimum measured brightness in the driver's field of view, except that when the minimum measured brightness in the field of view is 10 foot-lamberts or less, the measured brightness of the light source in foot-lambert shall not exceed 500 plus 100 times the angle, in degrees, between the driver's line of sight and the light source.

The provisions of this section shall not apply to railroads as defined in Section 229 of the Public Utilities Code.

Under the foregoing, the most conservative brightness limit with which the Sign would have to comply is 500 foot-lamberts above ambient levels,¹ which is equivalent to 1713 nits above ambient levels. Outfront proposes to operate the Sign's night-time limit at about 300 nits above ambient levels (which equates to 0.3 foot candles at 250 feet),² meaning the Sign's brightness would always be about one-sixth of the maximum brightness level allowed under California state law.

For a frame of reference, 0.3 foot candles is comparable to the light emanating from a computer monitor. Outfront has no interest in operating its Sign at greater brightness levels, which would make the display look "washed out" and difficult to read.

B. Brightness Standards in Other Jurisdictions

As discussed above, Outfront currently proposes to operate the Sign at issue at a night-time brightness level of approximately 300 nits above ambient levels, which is equal to or less than the standards adopted by the great majority of states. A 2010 report entitled "The Regulation of Signage: Guidelines for Local Regulation of Digital On-Premise Signs" found that a recent survey of numerous jurisdictions showed that the most common regulatory provisions applicable to digital on-premise signs limit brightness changes to 500 or more nits at night. (Appendix 3, p. 6; Appendix 1, p. 3.) For instance, CEVMs in San Antonio, Texas must comply with a maximum brightness level of 2,500 nits at night, while CEVMs in Oakdale, Minnesota have a maximum brightness of 500 nits at night. (Appendix 1, p. 2.) Meanwhile, Washington state prohibits brightness from exceeding 1,000 nits or equivalent candelas between dusk and dawn (Wash. Admin. Code, § 468-66-050(3)(g)(v), attached hereto and referred to herein as Appendix 9; Appendix 1, pp. 10-11), whereas Arizona allows CEVMs to operate at 342 nits at night. (OAAA, Issue Brief, Outdoor Lighting and Dark Skies, (Nov. 2016) p. 2, attached hereto and referred to herein as Appendix 10). The regulations in these jurisdictions thus allow CEVMs to operate at significantly higher brightness levels than Outfront's proposed operation of the Sign at 300 nits.

Only nine jurisdictions have adopted the more conservative standard (i.e., 300 nits or 0.3 foot candles) with which Outfront proposes to comply, including Colorado, Massachusetts, Michigan, Missouri, New Mexico, Oregon, Tennessee, Wyoming, and Puerto Rico. (See *id.*, pp. 1-2; Or. Admin. R. no. 734-060-0007(3)(a)(C), attached hereto and referred to herein as Appendix 11; Appendix 1, p. 7-8; Appendix 5, p. 3.)

¹ This calculation assumes a minimum measured brightness in the field of view of less than 10 foot-lamberts, and a view angle of zero degrees (i.e., directly in front of the driver).

² Setting a standard in foot candles is a more appropriate metric by which to judge impacts on sensitive receptors, as a foot candela measures light intensity experienced at the receptor, whereas measurement in candela/square meters or nits reveals only the intensity of light at its source.

4. Conclusion

Outfront's signs are operated at approximately one-sixth of the maximum brightness levels allowed by California state law. Moreover, as shown herein, the Sign's contributions to ambient brightness levels generally do not register on light meters beyond 250 feet. The information and sources cited herein support that digital outdoor advertising displays, as designed and operated by Outfront, do not result in significant light-related or traffic safety impacts. Operation of the Sign will comply with dwell time and brightness standards espoused by the California legislature, Caltrans, and FHWA, where these standards are supported by scientific analysis and constitute substantial evidence. In fact, as explained above, the Sign would comply with much more conservative standards than required by law. We understand that site-specific light studies might prove necessary insofar as the City of Gilroy considers Outfront's sign project, and offer this evidence as background information that we hope will help the City make an informed decision on this matter.

Please let us know if you or the City have any further questions.

Very truly yours,



Sean Marciniak
Partner



Christina L. Berglund
Senior Counsel

CLB

Attachment A: Frequently Asked Questions
Attachment B: Appendices

cc: Jeff McCuen, Outfront Media, LLC (jeff.mccuen@outfrontmedia.com)
Bryan Scott, Outfront Media, LLC (bryan.scott@outfrontmedia.com)

Attachment A

FREQUENTLY ASKED QUESTIONS

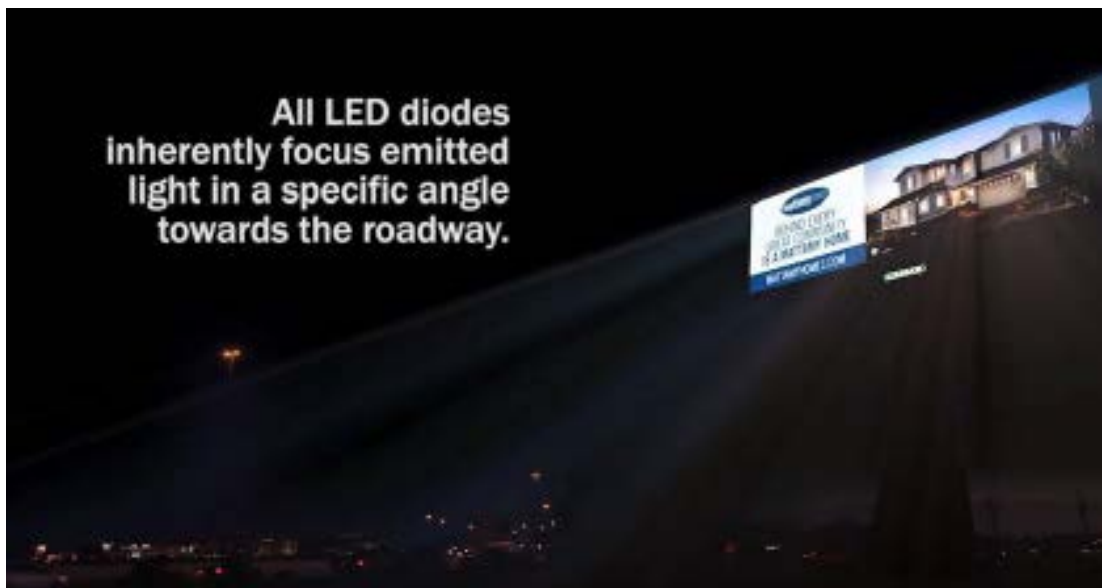
Over the years, Outfront has received a number of questions from city and county decisionmakers, as well as the public, related to how its signs are operated and what impacts they may have on a community. Below, we've included frequently asked questions along with answers. These answers are based on the materials attached to this letter, and the input of industry lighting experts.

Question 1: Which is brighter, an LED sign or a traditional, vinyl billboard illuminated by flood lights.

Short Answer: On the highway where motorists will see any given sign, LED signs are very slightly brighter; outside this targeted area, such as in neighborhoods, the brightness of LED signs are equal or less than the brightness of traditional billboards.

Longer Answer: To best understand the answer to this question, it first is necessary to understand how traditional, static billboards are illuminated. To reach an audience, the illumination of traditional billboards is imprecise; the billboard face is blasted with light at a level ranging from 31 to 312 times the brightness of an LED bulb (where brightness depends on color), and light reflects off the sign's vinyl surface in all different directions. As such, the target audience is reached along with a host of others, and this is why receptors see, for instance, sky glow from traditional, illuminated signs.

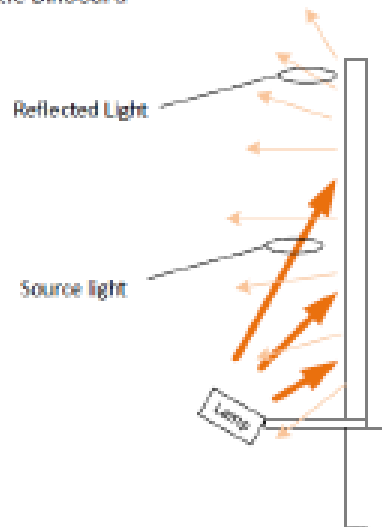
By contrast, LED billboards are very precise, in that they are focused on and directed at a specific target audience, and receptors in the periphery are affected at a much lesser level. The graphics below illustrate this "targeting" principle and the difference between LEDs and static billboards.



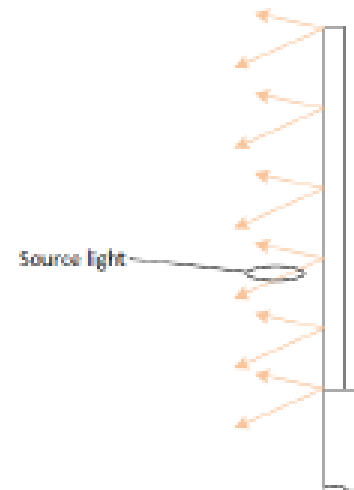
[Graphics continued on next page]

Efficiency of Static vs Digital Billboards

Static Billboard



Digital Billboard



Description	Static	Digital	Comment
Technical description of light	Illumination	Lamination	
Light source	4 each Metal Halide Floods	LED surface	
Light angles at light source	Directed through glass lens	Specific to diodes and louvers	Flood lamps are set to 30 degree apex for cokes
Light pattern from sign face	Scattered	Specific to diodes and louvers	
Number of fixtures	4	N/A, surface light only	
Candelas per fixture	31300	Surface output is variable	
Total candelas	584789	Surface output is variable	
Light to specific target	Random	Mathematically determinable	Variations of lens, reflectivity of copy, etc effect flood light scatter
Source light output for full white copy in candelas	584789	18729	Static is 31 times more candelas at light source (Fig A)
Source light output for full green copy in candelas	584789	11267	Static is 52 times more candelas at light source (Fig B)
Source light output for full red copy in candelas	584789	5618	Static is 104 times more candelas at light source (Fig C)
Source light output for full blue copy in candelas	584789	1875	Static is 312 times more candelas at light source (Fig D)
Source light output for typical copy without white background	584789	6000	Static is 97 times more candelas at light source (Fig E)

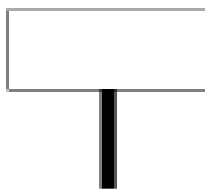


Fig A

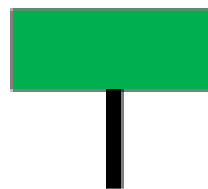


Fig B

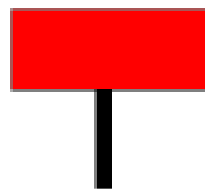


Fig C



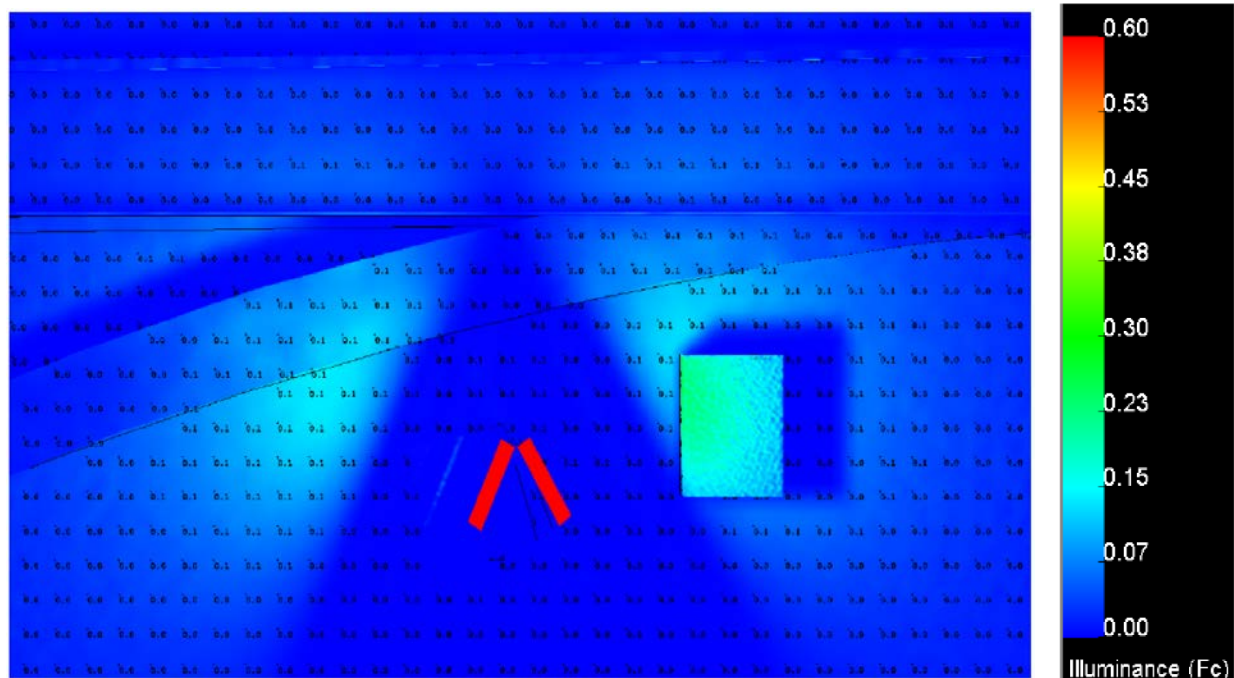
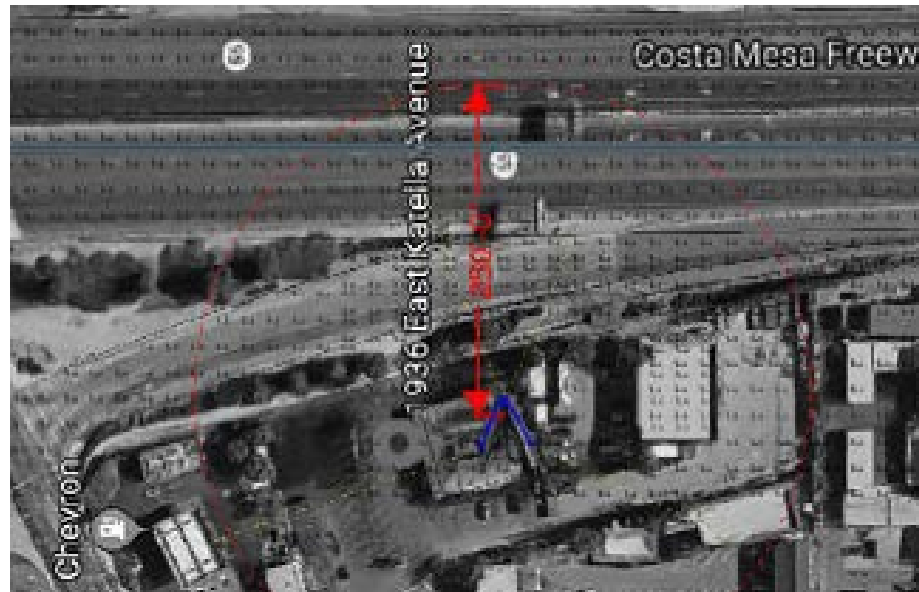
Fig D



Fig E

So is illuminated static display brighter? Any difference in brightness between a static and an LED billboard is negligible beyond 250 feet, and likely would not even register on a light meter. We know this because, when one looks at typical light studies for a digital billboard, one sees that, beyond 250 feet, the change in light is less than 0.1 foot candles, and often close to 0.0 foot candles.

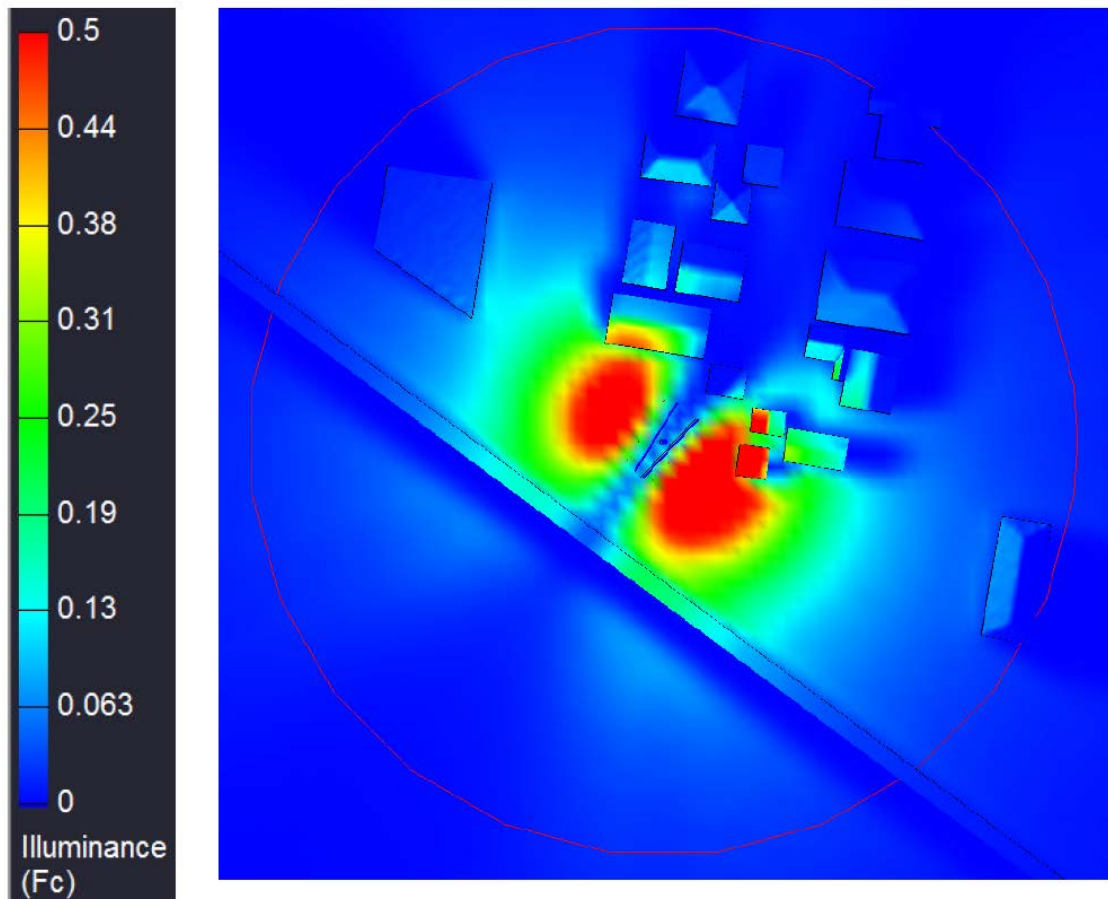
To the right and below are excerpts from a site-specific light study prepared for an Outfront LED display in Southern California, showing the brightness "footprint" of a sign when operated at 0.3 foot candles above ambient levels. Please note, Outfront provides the local agency with a similar light study for each sign it proposes, taking into account the specificities of the sign's design and the project site.



This overhead diagram illustrates differences in brightness through the use of colors, with blue representing smaller differences (i.e., differences of less than 0.1 foot candles), green showing a difference of 0.3 foot candles, and warmer colors (e.g., red, orange, and yellow) showing

greater brightness differences. The study shows that, beyond 250 feet, the brightness difference rounds out to 0.0 foot candles, and therefore is unlikely to be detected on light meters.³

The footprint of a traditional illuminated billboard, by contrast, is depicted below:



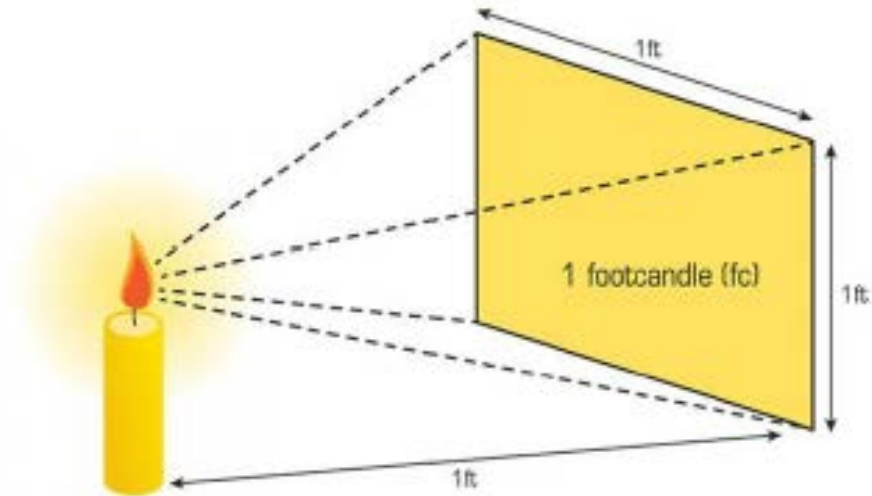
Accordingly, an LED billboard produces about the same amount of light directly in front of the billboard, and less light at ground-level and other peripheral locations. In no case does brightness increase to any measurable extent beyond 250 feet.

Finally, it should be mentioned that digital signs incorporate technology that takes account of existing ambient lighting, and ensures light from the sign never exceeds 0.3 foot candles at 250 feet above ambient conditions. A traditional illuminated sign has "one-speed," and emits light at the same brightness regardless of ambient conditions. Under some ambient light conditions, then, a traditional sign will in fact create more light pollution than an LED sign.

Question 2: What is a foot candle, in lay terms?

Answer: A foot candle is the amount of light a single candle makes at a distance of 1 foot (see illustration below), and so a 0.3 change in foot candle would be 30 percent of the light one would experience at 1 foot away from a candle. To apply this in a real-world example, if a person in the dark cabin of an airplane, sitting four rows in front of you in an aisle seat, opened a Word document on a 17" laptop, you would experience a 0.3 foot candle increase in light.

³ Note, at 250 feet, light generally is less than 0.3 foot candles at ground level because the sign facings are generally located significantly above grade.



Question 3: If all the above is true, why do digital billboards appear more noticeable?

Answer: Terms like "noticeable" do not have a scientific underpinning. Many who ask this question are responding to the fact that digital signs can appear *clearer* than traditional signs. But enhanced clarity is not the same as increased brightness. For example, when one replaces an older television, incorporating a cathode-ray tube, with a newer 4k screen, the picture appears crisper and more engaging. The brightness, however, does not change.

Attachment B

Excerpts from:

Preliminary Investigation

Caltrans Division of Research and Innovation

Produced by CTC & Associates LLC

Effects of Outdoor Advertising Displays on Driver Safety

Requested by

Suzy Namba, Caltrans Division of Design

October 11, 2012

The Caltrans Division of Research and Innovation (DRI) receives and evaluates numerous research problem statements for funding every year. DRI conducts Preliminary Investigations on these problem statements to better scope and prioritize the proposed research in light of existing credible work on the topics nationally and internationally. Online and print sources for Preliminary Investigations include the National Cooperative Highway Research Program (NCHRP) and other Transportation Research Board (TRB) programs, the American Association of State Highway and Transportation Officials (AASHTO), the research and practices of other transportation agencies, and related academic and industry research. The views and conclusions in cited works, while generally peer reviewed or published by authoritative sources, may not be accepted without qualification by all experts in the field.

- The message change interval should not exceed 2 s.
- The displayed image should remain static from the moment it first appears until the moment it is changed.
- No animation, flashing or moving lights should be allowed.
- No message or image that could be mistaken for a traffic control signal should be displayed.
- Messages should be simple and concise.

United States

New York State

Regulations proposed in 2008 include:

- Minimum message duration of 62 seconds, so that no motorist would be able to see more than one message change as he or she approached any particular changeable electronic variable message sign.
- Message transition time should be instantaneous to minimize distraction.
- Minimum spacing between changeable electronic variable message sign is 5,000 feet.
- Maximum changeable electronic variable message sign brightness of 5,000 cd/m² in daylight and 280 cd/m² at night.
- Prohibited locations:
 - On interstate and controlled access highways: Within 1,100 feet of an interchange, at-grade intersection, toll plaza, signed curve or lane merge/weave area; within 5,000 feet of another changeable electronic variable message sign or official traffic device that has changeable messages.
 - On primary highways: Within 1,100 feet of an entrance or exit from a controlled access highway, a signed curve or a lane/merge area; within 5,000 feet of another changeable electronic variable message sign or official traffic control device with changeable messages.

Revised criteria made these requirements less restrictive, reducing message duration from 62 to 6 seconds and changing spacing requirements and prohibited locations. The requirements for instantaneous message transition and maximum brightness did not change.

San Antonio, TX

Regulations for a trial evaluation of 15 off-premise digital signs included a message duration time of 10 seconds; change intervals of one second or less; brightness less than or equal to 7,000 nits during the day and 2,500 nits at night; and various other regulations. (One nit = one candela per square meter.)

Flowery Branch, GA

Regulations in this community begin on page 138 of the report and include:

- Minimum message duration: to the amount of time that would result in one message per mile at the highest speed limit posted within the 5000 feet approaching the sign for the road from which the sign is to be viewed.
- Transition time: less than one-tenth of a second, with no animated transitions.
- Illumination and brightness: not greater than 12 foot-candles from the nearest point of the road.
- Freezing of the display on malfunction.
- Prohibition of message sequencing.

Oakdale, MN

Brightness is limited to 2,500 nits during the day and 500 nits at night, with adjustments for ambient light conditions and a minimum display duration of 60 seconds.

State Regulations

State and Local Regulation Summaries

State Changeable Message Chart, Outdoor Advertising Association of America, undated.

http://www.superliciousdesign.com/ledmedia/State_Changeable_Message.pdf (or see [Appendix A](#)).

This chart summarizes changeable message advertising sign regulations for 46 states:

- Three states (New Hampshire, North Dakota and Wyoming) do not allow these signs.
- Five states (Maryland, Massachusetts, Oregon, Texas and Washington) allow tri-action signs only.
- Thirty-eight states allow changeable message signs. Of these, 19 states (California, Colorado, Connecticut, Delaware, Florida, Georgia, Indiana, Kansas, Michigan, Minnesota, Missouri, New Jersey, New York, Ohio, Oklahoma, Tennessee, Utah, Virginia and Wisconsin) have statutes; 10 states (Arkansas, Idaho, Illinois, Iowa, Louisiana, Nebraska, Nevada, North Carolina, South Carolina and West Virginia) have regulations; seven states (Alaska, Arizona, Kentucky, Montana, New Mexico, Rhode Island and South Dakota) have interpretations of the federal/state agreement; and two states (Mississippi and Pennsylvania) have policy memoranda.

The document categorizes each of these states by regulations for minimum message duration (“dwell time”—generally from 4 to 10 seconds, with 6 or 8 seconds most common); maximum interval between messages (typically from 1 to 4 seconds), and spacing (500 feet is most common). It is unclear how up-to-date these regulations are; we were unable to determine the date for this chart or obtain the latest information from the OAAA, which requires paid registration for access.

The Regulation of Signage: Guidelines for Local Regulation of Digital On-Premise Signs, Menelaos Triantafillou, Alan C. Weinstein, National Signage Research and Education Conference, 2010.

<http://www.thesignagefoundation.org/LinkClick.aspx?fileticket=3inv%2fYrpFk%3d&tabid=59&mid=468>

From the report: Based on a recent survey of numerous jurisdictions by one of the authors, the most common regulatory provisions applicable to digital on-premise signs appear below:

- Require that the sign display remain static for a minimum of 5-8 seconds and require “instantaneous” change of the display; i.e., no “fading” in/out of the message.
- Prohibit scrolling and animation outside of unique—and mostly pedestrian-oriented—locations.
- Limit brightness to 5,000 nits during daylight and 500 nits at night.
- Require automatic brightness control keyed to ambient light levels.
- Require display to go dark if there is a malfunction.
- Specify distancing requirements from areas zoned for residential use and/or prohibit orientation of sign face towards an area zoned for residential use.

See also Appendices B and C in Research Review of Potential Safety Effects of Electronic Billboards on Driver Attention and Distraction in **Related Research** for an overview of state regulations and practices as of 2001.

Survey of Current State Regulations

We found digital display regulations for 12 states. These regulations are summarized in the following table and then detailed by state.

State	Duration ≥	Inter- val ≤	Brightness/ Illumination	Font Size	Visual Effects	Sequencing	Spacing	Locations	Billboard Size
DE	10s	1s	Must appropriately adjust display brightness as ambient light levels change.	Size not specified. A sign that attempts or appears to attempt to direct the movement of traffic or which contains wording, color, shapes, or likenesses of official traffic control devices is prohibited.	May not contain or display any lights, effects, or messages that flash, move, appear to be animated or to move, scroll, or change in intensity during the fixed display period	Prohibited.	>2,500ft from another VMS >500ft from a static sign	Permitted within 660ft of the edge of the right-of-way of any interstate or federal-aid primary highway. > 1,000ft from an interchange, interstate junction of merging or diverging traffic, or an at-grade intersection. May not be placed along designated Delaware byways.	Not specified.
FL	6s	2s	Lighting which causes glare or impairs the vision of the driver of any motor vehicle, or which otherwise interferes with any driver's operation of a motor vehicle is prohibited. A sign may not be illuminated so that it interferes with the effectiveness of, or obscures, an official traffic sign, signal or device. Lighting may not be added to or increased on a nonconforming sign.	Not specified.	Flashing, intermittent, rotating, or moving lights are prohibited. Instantaneous transition for entire sign face required.	Not specified.	Not specified.	Not specified.	Not specified.

State	Duration ≥	Inter- val ≤	Brightness/ Illumination	Font Size	Visual Effects	Sequencing	Spacing	Locations	Billboard Size
GA	10s	3s	Must be effectively shielded so as to prevent beams or rays of light from being directed at any portion of the traveled way, which beams or rays are of such intensity or brilliance as to cause glare or to impair the vision of the driver of any motor vehicle or which otherwise interfere with the operation of a motor vehicle. Must not obscure or interfere with the effectiveness of an official traffic sign, device, or signal.	Not specified.	May not contain flashing, intermittent, or moving light or lights except those giving public service information such as time, date, temperature, weather.	Not specified.	>5,000ft from another multiple message sign.	Not specified.	Not specified.
IA	8s	1s	The intensity of the illumination may not cause glare or impair the vision of the driver of any motor vehicle or otherwise interferes with any driver's operation of a motor vehicle.	Not specified.	No traveling messages (e.g., moving messages, animated messages, full-motion video, or scrolling text messages) or segmented messages are allowed.	No segmented messages allowed.	>500ft from another LED display facing the same way in cities. >1000ft in rural areas.	Not specified.	Not specified.
KS	8s	2s	Must be effectively shielded so as to prevent beams or rays of light from being directed at any portion	Not specified.	Cannot contain or display flashing, intermittent or moving lights, including	Not specified.	>1000ft from another CMS.	Not specified.	Not specified.

State	Duration ≥	Inter- val ≤	Brightness/ Illumination	Font Size	Visual Effects	Sequencing	Spacing	Locations	Billboard Size
			of the traveled way of any interstate or primary highway and are of such intensity or brilliance as to cause glare or to impair the vision of the driver of any motor vehicle or to otherwise interfere with any driver's operation of a motor vehicle. Must not be so illuminated that they obscure any official traffic sign, device or signal, or imitate or may be confused with any official traffic sign, device or signal.		animated or scrolling advertising.				
MA	10s	0s	Must automatically adjust the intensity of its display according to natural ambient light conditions. May not cause beams or rays of light from being directed at any portion of the traveled way, which beams or rays are of such intensity or brilliance as to cause glare or to impair the vision of the driver of any motor vehicle or otherwise interfere with the operation of a motor	Not specified.	May not contain flashing, intermittent, or moving lights; or display animated, moving video, scrolling advertising; or consist of a static image projected upon a stationary object. May not display illumination that moves, appears to move or changes in intensity during	Not specified.	>500ft from any sign. >2000ft from another off premise electronic sign on the same side of the highway. >1000ft from another off premise electronic sign on the opposite side of the	Not specified.	Not specified.

State	Duration ≥	Inter- val ≤	Brightness/ Illumination	Font Size	Visual Effects	Sequencing	Spacing	Locations	Billboard Size
			vehicle. May not obscure or interfere with the effectiveness of an official traffic sign, device or signal, or cause an undue distraction to the traveling public		the static display period. This does not include changes to a display for time, date and temperature.		highway.		
NY	6s	3s	Not specified.	Not specified.	Not specified.	Not specified.	Not specified.	Not specified.	Not specified.
OH	8s	3s	Not specified.	Not specified.	A multiple message or variable message advertising device shall not be illuminated by flashing, intermittent, or moving lights. No multiple message or variable message advertising device may include any illumination which is flashing, intermittent, or moving when the sign face is in a fixed position.	Not specified.	>1000ft from another MMS.	Not specified.	Not specified.
OR	8s	2s	Must operate at an intensity level of not more than 0.3 foot-candles over ambient light as measured by the distance to the sign	Not specified.	No flashing or varying intensity light; cannot create the appearance of movement.	Not specified.	Not specified.	Not specified.	Not specified.

State	Duration ≥	Inter- val ≤	Brightness/ Illumination	Font Size	Visual Effects	Sequencing	Spacing	Locations	Billboard Size
			depending upon its size (150 feet if the display surface of the sign is 12 feet by 25 feet, 200 feet if the display surface is 10.5 by 36 feet, and 250 feet if the display surface is 14 by 48 feet).						
TN	8s	2s	Not specified.	Not specified.	Video, animation, and continuous scrolling messages are prohibited.	Not specified.	>2000ft from another CMS.	Not specified.	Not specified.
WS	A single message or a message segment must have a static display time of at least two seconds after moving onto the signboard, with all segments of the total message to be displayed within ten seconds.	4s	No electronic sign lamp may be illuminated to a degree of brightness that is greater than necessary for adequate visibility. In no case may the brightness exceed 8,000 nits or equivalent candelas during daylight hours, or 1,000 nits or equivalent candelas between dusk and dawn. Signs found to be too bright shall be adjusted as directed by the department.	Not specified.	Displays may travel horizontally or scroll vertically onto electronic signboards, but must hold in a static position for two seconds after completing the travel or scroll. Displays shall not appear to flash, undulate, or pulse, or portray explosions, fireworks, flashes of light, or blinking or chasing lights. Displays shall not appear to move toward or away from the viewer,	Not specified.	Not specified.	Not specified.	Not specified.

State	Duration ≥	Inter- val ≤	Brightness/ Illumination	Font Size	Visual Effects	Sequencing	Spacing	Locations	Billboard Size
	A one-segment message may remain static on the signboard with no duration limit.				expand or contract, bounce, rotate, spin, twist, or otherwise portray graphics or animation as it moves onto, is displayed on, or leaves the signboard.				
WI	6s	1s	No variable message sign lamp may be illuminated to a degree of brightness that is greater than necessary for adequate visibility.	Not specified.	No flashing, intermittent or moving light. Traveling messages prohibited.	Not specified.	Not specified.	Not specified.	Not specified.

- (B) 200 feet for 10.5'x 36'.
- (C) 250 feet for 14'x 48'.

Tennessee

Control of Outdoor Advertising, Chapter 1680-2-3, Rules of Tennessee Department of Transportation Maintenance Division, Tennessee Department of Transportation, February 2003.

Current regulations do not include electronic billboards:

<http://www.tdot.state.tn.us/environment/beautification/pdf/1680-02-03.pdf>.

However, proposed revisions are under review that include guidance on digital displays:

<http://www.tdot.state.tn.us/environment/beautification/docs/Revised-ODA-Rules-Redline.pdf>.

From the web site:

1680-10-01-.03 CRITERIA FOR THE CONTROL OF OUTDOOR ADVERTISING DEVICES.

4. Spacing

(i) (IV) The minimum spacing for changeable message signs with a digital display is two thousand (2,000) feet, except as follows:

- I. An outdoor advertising device that uses a digital display which does not exceed one hundred (100) square feet in total area to give public information such as time, date, temperature, or weather, or to provide the price of a product, the amount of a lottery prize or similar numerical information supplementing the content of a message otherwise displayed on the sign face shall not be subject to the two thousand (2,000) feet minimum spacing requirement in this item (IV).

5. Changeable Message Signs

Changeable message signs are permissible, subject to the following restrictions: (i) The message display time shall remain static for a minimum of eight (8) seconds with a maximum change time of two (2) seconds. (ii) Video, animation, and continuous scrolling messages are prohibited. (iii) Non-conforming devices shall not be converted to a changeable message sign. (iv) The changeable message sign shall contain a default design that will freeze the sign face to one position if a malfunction occurs. (v) The structure for a changeable message sign may contain sign faces that are in a double-faced, back-to-back, or V-type configuration. (vi) The minimum spacing for changeable message signs with a digital display is as provided in Rule 1680-10-.03(1)(a)4.(i)(IV).

Washington

Highway Advertising Control, M22-95, Washington State Department of Transportation, March 2011.

<http://www.wsdot.wa.gov/publications/manuals/fulltext/M22-95/HighwayAdvertisingControl.pdf>

From the report:

468-66-050 Sign classifications and specific provisions

(3) Type 3 – On-premise signs.

(b) Type 3(b) – Business complex on-premise sign. A Type 3(b) business complex on-premise sign may display the name of a shopping center, mall, or business combination.

- (i) Where a business complex erects a Type 3(b) on-premise sign, the sign structure may display additional individual business signs identifying each of the businesses conducted on the premises. A Type 3(b) on-premise sign structure may also have attached a display area, such as a manually changeable copy panel, reader board, or electronically changeable message center, for advertising on-premise activities and/or presenting public service information.

- (g) Electronic signs may be used only as Type 3 on-premise signs and/or to present public service information, as follows:
 - (i) Advertising messages on electronic signboards may contain words, phrases, sentences, symbols, trademarks, and logos. A single message or a message segment must have a static display time of at least two seconds after moving onto the signboard, with all segments of the total message to be displayed within ten seconds. A one-segment message may remain static on the signboard with no duration limit.
 - (ii) Displays may travel horizontally or scroll vertically onto electronic signboards, but must hold in a static position for two seconds after completing the travel or scroll.
 - (iii) Displays shall not appear to flash, undulate, or pulse, or portray explosions, fireworks, flashes of light, or blinking or chasing lights. Displays shall not appear to move toward or away from the viewer, expand or contract, bounce, rotate, spin, twist, or otherwise portray graphics or animation as it moves onto, is displayed on, or leaves the signboard.
 - (iv) Electronic signs requiring more than four seconds to change from one single message display to another shall be turned off during the change interval.
 - (v) No electronic sign lamp may be illuminated to a degree of brightness that is greater than necessary for adequate visibility. In no case may the brightness exceed 8,000 nits or equivalent candelas during daylight hours, or 1,000 nits or equivalent candelas between dusk and dawn. Signs found to be too bright shall be adjusted as directed by the department.
- (h) The act does not regulate Type 3(a), 3(b), 3(c), and 3(d) on-premise signs located along primary system highways inside an incorporated city or town or a commercial or industrial area.

Wisconsin

Control of Outdoor Advertising Along and Visible from Highways on the Interstate and Federal-Aid Primary Systems, Chapter Trans 201, Wisconsin Administrative Code, February 2005.

http://docs.legis.wisconsin.gov/code/admin_code/trans/201.pdf

From the web site:

Trans 201.15 – Electronic signs

- (3) Variable Message Signs.
 - (c) No message may be displayed for less than one-half second.
 - (d) No message may be repeated at intervals of less than 2 seconds.
 - (e) No segmented message may last longer than 10 seconds.
 - (f) No traveling message may travel at a rate slower than 16 light columns per second or faster than 32 columns per second.
 - (g) No variable message sign lamp may be illuminated to a degree of brightness that is greater than necessary for adequate visibility.
- (4) Multiple Message Signs.
 - (a) The louver rotation time to change a message shall be one second or less.
 - (b) The time a message remains in a fixed position shall be 6 seconds or more.

84.30 Regulation of Outdoor Advertising, Wisconsin Legislative Documents, 2012.

<http://docs.legis.wisconsin.gov/statutes/statutes/84/30>

From the web site:

- (3)(c)(1) Signs that contain, include or are illuminated by any flashing, intermittent or moving light or lights are prohibited, except electronic signs permitted by rule of the department.

(4)(bm) Signs may contain multiple or variable messages, including messages on louvers that are rotated and messages formed solely by use of lights or other electronic or digital displays, that may be changed by any electronic process, subject to all of the following restrictions:

1. Each change of message shall be accomplished in one second or less.
2. Each message shall remain in a fixed position for at least 6 seconds.
3. The use of traveling messages or segmented messages is prohibited.
4. The department, by rule, may prohibit or establish restrictions on the illumination of messages to a degree of brightness that is greater than necessary for adequate visibility.

State Changeable Message Chart (Source: OAAA State Statute Matrix)

No changeable message signs allowed:	Tri- action Only	Changeable Message /Digital Technology
(3 STATES) ND, NH, WY	(5 STATES) MD, MA, OR, TX, WA,	(38 STATES) AL, AR, AZ, CA, CO, CT DE, FL, GA, ID, IL, IA, IN, KS, KY, LA, MI, MN, MO, MS, MT, NE, NV, NJ, NM, NY, NC, OH, OK, PA, RI, SC, SD, TN, UT, VA, WV, WI

State-by-state breakdown of the 38 states allowing Changeable Message/Digital technology

- States which have statutes (19):

CA, CO, CT, DE, FL
GA, IN, KS, MI, MO
MN, NJ, NY, OH
OK, UT, TN, VA, WI

- Regulations (10):

AR, ID, IL, IA*, LA, NE,
NV, NC, SC, WV

- States with interpretations of the federal/state agreement (7):

AL, AZ, KY, MT,
NM, RI, SD

- Policy memoranda (2):

MS approved a policy DOT memorandum
PA approved the technology through an internal PENNDOT memorandum (2002)
IA* regulations are undergoing a comment period

OAAA Changeable Message Criteria Dwell Time Sequence – By State

<u>Dwell Time (Static Message)</u>	<u>State</u>
<u>4 seconds</u>	CA, CO, IA, VA
<u>5 seconds</u>	NM, PA
<u>6 seconds</u>	AL, AZ, CT, FL, GA, IA, MI, MN, NV, NY, SD, WI, RI (average)
<u>8 seconds</u>	AR, ID, IN, KS, LA, MO, MS, NJ, NC, OH, OK, OR, SC, TN, UT, WV, WA
<u>10 seconds</u>	DE, IL, NE, MD, TX
<u>Other/State-Company Discretion</u>	KY, MA, MT

Dwell and Twirl Times for message changes and spacing criteria

States Allowing Changeable Message/Digital Technology

<u>State</u>	<u>Dwell time</u>	<u>Twirl time</u>	<u>Spacing</u> *traditional 500 ft
AL	6 seconds		
AR	8 seconds or more	2 seconds or less	1500 feet
AZ	6 seconds	1 second	*
CA	4 seconds	4 seconds	1000 feet
CO	4 seconds	1 second	1000 feet
CT	6 seconds	3 seconds	*
DE	10 seconds	1 second	2500 feet
FL	6 seconds	2 seconds	1000 to 1500 feet
GA	10 seconds	2 seconds	5000 feet

Dwell and Twirl Times for message changes and spacing criteria (cont'd)

States Allowing Changeable Message Including Electronics

<u>State</u>	<u>Dwell time</u>	<u>Twirl time</u>	<u>Spacing</u>
ID	8 seconds	2 seconds	*
IL	10 seconds	3 seconds	*
IN	8 seconds	2 seconds	*
IA	6 seconds	1 second	*
KS	8 seconds	2 seconds	1000 feet
KY <u>At discretion of state DOT</u>			
LA	8 seconds	4 seconds	*
MI	6 seconds	1 second	*
MN	6 seconds	none	*
MS	8 seconds	instantaneous	*
MO	8 seconds	2 seconds	1400 feet
MT <u>At discretion of state DOT</u>			
NE	10 seconds	2 seconds	5000 feet
NV	6 seconds	3 seconds	*
*NJ <u>(regulatory change pending)</u>	8 seconds	1 second	3000 feet
NM <u>Company discretion</u>	5 seconds	1-2 seconds	*
NY	6 seconds	3 seconds	*
NC	8 seconds	2 seconds	1000 feet
OH	8 seconds	3 seconds	1000 feet
OK	8 seconds	4 seconds	*

Dwell and Twirl Times for message changes and spacing criteria (cont'd)

States Allowing Changeable Message Including Electronics

<u>State</u>	<u>Dwell time</u>	<u>Twirl time</u>	<u>Spacing</u>
PA	5 seconds	1 second	*
RI	5-7 seconds	2-3 seconds	*
Company discretion			
SD	6 seconds	none	*
SC	8 seconds	2-3 seconds	*
TN	8 seconds	2 seconds	2000 feet
UT	8 seconds	3 seconds	*
VA	4 seconds	none	*
WV	8 seconds	2 seconds	1500 feet
WI	6 seconds	1 second	*

States Allowing Changeable Message Including Electronics

Tri-action Only

<u>State</u>	<u>Dwell time</u>	<u>Twirl time</u>	<u>Spacing</u>
MD	10 seconds	4 seconds	*
MA	none	none	*
OR	8 seconds	4 seconds	1000 feet
TX	10 seconds	2 seconds	*
Rural Roads Only			
WA	8 seconds	4 seconds	*



Laws, Regs and Policy Guidance

Guidance On Off-Premise Changeable Message Signs

 U.S. Department of Transportation Federal Highway Administration	Memorandum
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Subject:	INFORMATION: Guidance On Off-Premise Changeable Message Signs	Date:	September 25, 2007
	ORIGINAL SIGNED BY: Gloria M. Shepherd		
From:	Gloria M. Shepherd Associate Administrator for Planning, Environment, and Realty	Reply to	HEPR-20
To:	Division Administrators ATTN: Division Realty Professionals		

Purpose

The purpose of this memorandum is to provide guidance to Division Realty Professionals concerning off-premises changeable message signs adjacent to routes subject to requirements for effective control under the Highway Beautification Act (HBA) codified at 23 U.S.C. 131. It clarifies the application of the Federal Highway Administration (FHWA) July 17, 1996, memorandum on this subject. This office may provide further guidance in the future as a result of additional information received through safety research, stakeholder input, and other sources.

Pursuant to 23 CFR 750.705, a State DOT is required to obtain the FHWA Division approval of any changes to its laws, regulations, and procedures to implement the requirements of its outdoor advertising control program. A State DOT should request and the Division offices should provide a determination as to whether the State should allow off-premises changeable Electronic Variable Message Signs (CEVMS) adjacent to controlled routes, as required by our delegation of responsibilities under 23 CFR 750.705(j). The Divisions that already have formally approved CEVMS use on HBA controlled routes, as well as, those that have not yet issued a decision, should re-evaluate their position in light of the following considerations. The decision of the Division should be based upon a review and approval of a State's affirmation and policy that: (1) is consistent with the existing Federal/State Agreement (FSA) for the particular State, and (2) includes but is not limited to consideration of requirements associated with the duration of message, transition time, brightness, spacing, and location, submitted for the FHWA approval, that evidence reasonable and safe standards to regulate such signs are in place for the protection of the motoring public. **Proposed laws, regulations, and procedures that would allow permitting CEVMS subject to acceptable criteria (as described below) do not violate a prohibition against "intermittent" or "flashing" or "moving" lights as those terms are used in the various FSAs that have been entered into during the 1960s and 1970s.**

This guidance is applicable to conforming signs, as applying updated technology to nonconforming signs would be considered a substantial change and inconsistent with the requirements of 23 CFR 750.707(d)(5). As noted below, all of the requirements in the HBA and its implementing regulations, and the specific provisions of the FSAs, continue to apply.

Background

The HBA requires States to maintain *effective control* of outdoor advertising adjacent to certain controlled routes. The reasonable, orderly and effective display of outdoor advertising is permitted in zoned or unzoned commercial or industrial areas. Signs displays and devices whose *size, lighting and spacing are consistent with customary use determined by agreement between the several States and the Secretary*, may be erected and maintained in these areas (23 U.S.C. § 131(d)). Most of these agreements between the States and the Secretary that determined the size, lighting and spacing of conforming signs were signed in the late 1960's and the early 1970's.

On July 17, 1996, the Office of Real Estate Services issued a memorandum to Regional Administrators to provide guidance on off-premise changeable message signs and confirmed that the FHWA has *"always applied the Federal law 23 U.S.C. 131 as it is interpreted and implemented under the Federal regulations and individual FSAs."* It was expressly noted that *"in the twenty-odd years since the agreements have been signed, there have been many technological changes in signs, including changes that were unforeseen at the time the agreements were executed. While most of the agreements have not changed, the changes in technology require the State and the FHWA to interpret the agreements with those changes in mind."* The July 17, 1996, memorandum primarily addressed tri-vision signs, which were the leading technology at the time, but it specifically noted that changeable message signs *"regardless of the type of technology used"* are permitted if the interpretation of the FSA allowed them. Further advances in technology and affordability of LED and other complex electronic message signs, unanticipated at the time the FSAs were entered into, require the FHWA to confirm and expand on the principles set forth in the July 17, 1996, memorandum.

The policy espoused in the July 17, 1996, memorandum was premised upon the concept that changeable messages that were fixed for a reasonable time period do not constitute a moving sign. If the State set a reasonable time period, the agreed-upon prohibition against moving signs is not violated. Electronic signs that have stationary messages for a reasonably fixed time merit the same considerations.

Discussion

Changeable message signs, including Digital/LED Display CEVMS, are acceptable for conforming off-premise signs, if found to be consistent with the FSA and with acceptable and approved State regulations, policies and procedures.

This guidance does not prohibit States from adopting more restrictive requirements for permitting CEVMS to the extent those requirements are not inconsistent with the HBA, Federal regulations, and existing FSAs. Similarly, Divisions are not required to concur with State proposed regulations, policies, and procedures if the Division review determines, based upon all relevant information, that the proposed regulations, policies and procedures are not consistent with the FSA or do not include adequate standards to address the safety of the motoring public. If the Division Office has any question that the FSA is being fully complied with, this should be discussed with the State and a process to change the FSA may be considered and completed before such CEVMS may be allowed on HBA controlled routes. The Office of Real Estate Services is available to discuss this process with the Division, if requested.

If the Division accepts the State's assertions that their FSA permits CEVMS, in reviewing State-proposed regulations, policy and procedures for acceptability, the Divisions should consider all relevant information, including, but not limited to duration of message, transition time, brightness, spacing, and location, to ensure that they are consistent with their FSA and that there are adequate standards to address safety for the motoring public. The Divisions should also confirm that the State provided for appropriate public input, consistent with applicable State law and requirements, in its interpretation of the terms of their FSA as allowing CEVMS in accordance with their proposed regulations, policies, and procedures.

Based upon contacts with all Divisions, we have identified certain ranges of acceptability that have been adopted in those States that do allow CEVMS that will be useful in reviewing State proposals on this topic. Available information indicates that State regulations, policy and procedures that have been approved by the Divisions to date, contain some or all of the following standards:

- Duration of Message
 - Duration of each display is generally between 4 and 10 seconds - 8 seconds is recommended.
- Transition Time
 - Transition between messages is generally between 1 and 4 seconds - 1-2 seconds is recommended.
- Brightness

- Adjust brightness in response to changes in light levels so that the signs are not unreasonably bright for the safety of the motoring public.
- Spacing
 - Spacing between such signs not less than minimum spacing requirements for signs under the FSA, or greater if determined appropriate to ensure the safety of the motoring public.
- Locations
 - Locations where allowed for signs under the FSA except such locations where determined inappropriate to ensure safety of the motoring public.

Other standards that the States have found helpful to ensure driver safety include a default designed to freeze a display in one still position if a malfunction occurs; a process for modifying displays and lighting levels where directed by the State DOT to assure safety of the motoring public; and requirements that a display contain static messages without movement such as animation, flashing, scrolling, intermittent or full-motion video.

Conclusion

This guidance is intended to provide information to assist the Divisions in evaluating proposals and to achieve national consistency given the variations in FSAs, State law, and State regulations, policies and procedures. It is not intended to amend applicable legal requirements. Divisions are strongly encouraged to work with their State in its review of their existing FSAs and, if appropriate, assist in pursuing amendments to address proposed changes relating to CEVMS or other matters. In this regard, the Office of Realty Estate Services is currently reviewing the process for amending FSAs, as established in 1980, to determine appropriate revisions to streamline requirements while continuing to ensure there is adequate opportunity for public involvement.

For further information on guidance on *Off-Premise Changeable Message Signs*, you may contact the Office of Real Estate Services' "Point of Contact" serving your Division or the contact on this page.

The Regulation of Signage: Guidelines for Local Regulation of Digital On-Premise Signs

Menelaos Triantafillou – University of Cincinnati

Alan C. Weinstein – Cleveland State University

Introduction

Advancements in technology and their application to signage have been a constant in the evolution of signs, their design, and their role in defining physical places. Parallel to this, with each successive application of new technology to new signs – internal/external lighting, backlit awnings, and currently digital sign technology or electronic message centers -- local governments have found themselves unable to understand the new sign technology or the specifics of how to regulate the new types of signs it allowed. Eventually, during the first phase of the use of new technologies, sign regulations are amended to impose various restrictions on the new type of signs. During subsequent phases, a more balanced picture emerges because more knowledge about the new technology becomes available, the sign industry provides more options and technical specifications to address community concerns and meet statutory standards, and local governments gain experience with regulating these new signs,.

Perhaps there are no better places that illustrate the evolution in sign design, specifically lighting and graphics, and the integration of new sign technology in a concentrated district than Times Square in New York City and “The Strip” in Las Vegas. Even though these districts do not resemble the typical American commercial strip, their current visual character is the result of the evolution of new technology in the design of signage and its use in a very defined space.

In the 1890’s, the introduction of incandescent light bulbs made the electrification of Broadway possible and began to give a new aesthetic to New York’s theater district and Times Square. The first electrically-illuminated sign appeared in Times Square 1892 and was an advertisement for a Coney Island resort. Signs illuminated with light bulbs replaced the previous hand painted wooden billboards that

were primarily textual in nature, similar to signs that are the average preference for Main Street-type historic places. Times Square became known as “The Great White Way” due to its saturation of electric billboards and signs in theater marquees, restaurants, and shops. There were many negative reactions to the use of this new technology that added colorful lighting displays to the content of building signs and billboards. The concentration of specific land uses, the theaters, and the location of the square were driving the continuous need for exciting signs. New advances in technology fed the need for inventing new creative graphics. Gradually, the current character of Times Square emerged, but each time technology made it possible to invent a new sign, opposition by New Yorkers resulted in regulatory responses. Finally, in 1987, a comprehensive signage ordinance was enacted to regulate billboards on buildings.

Today, Times Square and the Las Vegas “Strip” contain some of the world’s largest signs and the new technology of Electronic Message Centers is defining a new era of exciting graphics, messaging, and place definition making these two districts unlike any other place in the world. With the collaboration of the sign industry, the businesses, the regulators and the elected officials, both Times Square and “The Strip” have evolved into unique districts with a distinctive character.

But how much of this new sign technology can – or should be – adapted to the rest of the country -- to “Mainstreet USA”? And, what are the appropriate regulatory options for local governments to consider when businesses and sign companies seek to introduce this technology in their communities? These questions are the focus of this session.

New Technology

Currently, the concern with the applications and regulation of on-premise digital sign technology is in its initial phase, marked by confusion among the planning and zoning community both as to how these signs work and how they can and should be regulated. Further adding to the confusion is the fact that the technology is evolving rapidly, offering exciting possibilities for new types of sign displays in exterior and interior environments. For example, during the opening ceremonies of the 2008

Beijing Olympics, the floor of the stadium was equipped with a 3000 sq m video digital screen that used very similar type LED technology.

Technically, digital signs are a more complex and graphically versatile technology than what planners are used to: internally or externally illuminated signs that present a fixed message. Rather than using incandescent lamps or fluorescent tubes as a light source, digital signs use light-emitting diodes (LEDs), a semiconductor-based light source. LEDs transmit across the visible, ultraviolet and infrared wavelengths, and can generate very bright colors. According to Wikipedia, when a light-emitting diode is forward biased (switched on), electrons are able to recombine with holes within the device, releasing energy in the form of photons. This effect is called electroluminescence and the color of the light (corresponding to the energy of the photon) is determined by the energy gap of the semiconductor. An LED is usually small in area (less than 1 mm²), and integrated optical components are used to shape its radiation pattern and assist in reflection.

Key Issues with LED Signage

Digital sign manufacturers operate at the national level and that makes it difficult for local planners to have direct access to the technology before an application for a sign permit is made through a local sign company. In addition, there are no national standards for the production of digital signs; however, the sign industry, through the International Sign Association, is working with various states to develop such standards. In short, digital signs present planners with the question of how to regulate a type of sign that uses a new technology and is dynamic, rather than the static signs to which they are accustomed ... and there is little guidance to answer that question. Thus, local government is asked to issue a permit for something it does not understand.

Assuming the local government does not have any regulations that are specific for digital sign technology, what does it do? Usually it will copy another community's requirements. But how were those regulations developed? Most local governments have limited experience with LED signs, mainly from electronic billboards on highways, a small number of electronic message centers signs in commercial areas, and signs embedded in the monument signs of houses of worship and administration

buildings. In fact, most of the reaction to digital signs from APA and other groups is focused on the off-premise digital billboards with many studies looking at the issue of driver's safety when reading the bright and changeable billboard messages. Research by the Federal Highway Administration and the Transportation Research Board has been examining digital signs along highways. In addition, APA has reviewed a few communities that have enacted amendments to their sign codes to address digital signs, mainly focusing on digital billboards. These studies do not directly help the local planner and zoning regulator with the enactment of local regulations to manage on-premise LED-based signs. Specific knowledge from research of commercial environments at the local level where digital signs will need to be incorporated into the existing signs and visual character is not yet available. That said, the International Sign Association has been funding research to address key aspects of digital signs and is working with the States to develop standards.

Electronic Message Center Sign Luminance

An important question is: What level of digital sign brightness is acceptable at night? Many local sign ordinances include standards and guidelines for commercial signs that employ a variety of light source types (fluorescent, neon, incandescent and high intensity discharge such as mercury, metal halide or high pressure sodium). These signs have a fixed message. The lamps inside the sign illuminate letters or symbols that do not have the ability to change what is displayed on the sign: a graphic that was approved by the building/zoning department. In these signs, the only change possible is through switching on or off or dimming certain parts of the sign.

Digital signs, on the other hand, use LEDs and the sign face consists of a multitude of closely spaced dots of pixels or light elements similar to a television screen. These signs are controlled by a computer and their message can change and be displayed as a colored image on the sign's face. As a result, the brightness of the displayed image changes according to the program that drives it and the sign can produce varying levels of luminance. Consequently, the regulation of lighting limits will depend on the signage graphic display program, its location within an environmental zone (*i.e.* dense urban areas where there is much electric light as opposed to 'darker'

suburban and exurban areas), the size of the sign, and the distance from which it is seen.

At present, most communities that regulate the luminance of on-premise digital signs have merely copied the standards that have been previously applied to digital billboards. Typically, these currently call for a maximum luminance of 5000 nits during daylight hours and 500 nits at night; however, the daylight luminance will likely be increasing to 7,500 nits based on discussions between the off-premise industry and the federal government.

Methodologies are being developed that will allow to compute new maximum levels of luminance depending on the factors explained, and their placement and proximity to residential areas.

Changing Display Message and/or Image

The programmable change of messages and/or images in a combination with vivid colors and graphics makes digital signs unique. Digital signs have the ability to accommodate any changing display pattern through the computer program that drives them and turn on and off color and brightness to compose new images. Static signs do not change their message and/or image. Most sign ordinances do not permit flashing signs or 'light movement' on the sign. A key question with digital signs is: Should the number of changes in the display be regulated? If yes, how do we establish a practical and defensible number? What should the time interval (in seconds) be between each successive display frame? Currently, there are no unified standards among the local sign ordinances that have been amended to accommodate digital signs. Of the ordinances sampled/referenced, most have considered the research done for billboards and have focused on driver distraction from changing messages. Approaches range from a complete ban on digitally changing graphics to the use of arbitrary guidelines and standards. Currently, many communities have adopted an 8 second static image requirement derived from an interim guidance recommendation issued by the federal government that governs off premise advertising signs/ billboards.

. However, as was pointed out, local commercial areas where on-premise signs are installed and are regulated are different than highways where off-premise billboards are located.

Digital Display Sign Size, Height, and Placement

Sign size and height have been key considerations of sign regulations. Almost all existing sign regulations have provisions for sign size that arbitrarily set total sign area without considering driving speeds, the driver's cone of vision, the sight distance needed to read a sign, or reaction time after the sign is read to make a decision to turn. The United States Sign Council has conducted considerable research on these issues and has developed standards and guidelines to address them effectively. In addition the Council has developed guidelines to be used to determine size of lettering so that it can be detected by the driver. On-premise digital signs need to be regulated on the basis of the standards and guidelines developed by the United States Sign Council and we will provide recommendations on how to address these and other issues with regard to the regulation of on-premise digital signs discussed during this session.

Current Practice

Based on a recent survey of numerous jurisdictions by one of the authors, the most common regulatory provisions applicable to digital on-premise signs appear below:

- Require that the sign display remain static for a minimum of 5- 8 seconds and require “instantaneous” change of the display; *i.e.*, no “fading” in/out of the message.
- Prohibit scrolling and animation outside of unique – and mostly pedestrian-oriented – locations.
- Limit brightness to 5,000 nits during daylight and 500 nits at night.
- Require automatic brightness control keyed to ambient light levels.
- Require display to go dark if there is a malfunction.
- Specify distancing requirements from areas zoned for residential use and/or prohibit orientation of s sign face towards an area zoned for residential use.

Opportunities for the Use of LED On-Premise Signage in the Local Commercial District

At the local commercial district or arterial strip the character of the environment and the driving speed are different than the highway where billboards are mostly located. The regulation of billboards at the local commercial districts varies from State to State and it is not really relevant to the regulation of on-premise signs. A typical commercial area already has many signs dispersed throughout a very loose mix of mostly freestanding buildings, parking lots, and utility poles and wires. Its character, including signage, evolved over a long period of time. The focus on the new technology and signs cannot ignore the existing spatial arrangements and the relationship with existing signs. Regulations will need to be applied in concert with the total environment, not by isolating these new signs. If planners were to apply a comprehensive approach to the management of signage, regulations for on-premise digital signs will be more effective and can also provide a way to 'visually decongest' existing strip commercial areas from ill-placed and ineffective signs.

Planners also need to consider differing approaches to digital signs for different types of zoning districts. What may be appropriate in a regional commercial district may well be "too little" signage for a downtown entertainment or sports arena district and "too much" for a neighborhood commercial district. In this regard, planners may want to consider using the "character areas" approach of the SFI Model Sign Code as a guide to the development of digital sign regulations that are tailored to specific zoning districts, as suggested below.

Character Area	Motion Limitation	Size Limitation		Could Apply to Part of Character Area
		EMCs as a Maximum % of the Total Sign Area Permitted on the Site	EMCs as a Maximum % of a Single Sign	
Downtown	8 seconds to Unlimited	30% to 100%	100%	Yes
Small Commercial - Suburban	8 seconds	30% to 50%	67%	No
General Commercial	8 seconds to Unlimited	30 % to 50%	80%	Yes
Highway Commercial (1)	8 seconds	30 % to 50%	80% to 100%	No
Mixed Use	8 seconds to 1 second	15% to 30%	50% to 80%	No
Offices	8 seconds to 1 second	15% to 30%	50% to 67%	No (2)
Industrial	8 seconds to Unlimited	30% to 50%	50% to 80%	No (2)

(1) Assumes that Highway Commercial is a relatively small geographic area focused at a highway interchange

(2) Harder to make distinctions among various locations in the office and industrial zone.

836 F.3d 42

United States Court of Appeals,
District of Columbia Circuit.

Scenic America, Inc., Appellant,

v.

United States Department of
Transportation, et al., Appellees.

No. 14-5195

|

Argued September 25, 2015

|

Decided September 6, 2016

Synopsis

Background: Non-profit organization brought action pursuant to Administrative Procedure Act (APA) against Department of Transportation and its Secretary, as well as Federal Highway Administration (FHWA) and its Administrator, challenging guidance memorandum issued by FHWA, which interpreted Highway Beautification Act's (HBA) prohibition on “flashing, intermittent or moving” lights on billboards to permit state approval of those digital billboards that met certain timing and brightness requirements. After defendants' motion to dismiss for lack of standing was denied, 983 F.Supp.2d 170, the United States District Court for the District of Columbia, James E. Boasberg, J., 49 F.Supp.3d 53, granted defendants' motion for summary judgment. Organization appealed.

Holdings: The Court of Appeals, Wilkins, Circuit Judge, held that:

[1] organization's alleged organizational injury was not redressable through vacatur of guidance memorandum;

[2] organization presented sufficient evidence that it had suffered representational injury-in-fact;

[3] organization's representational injury was redressable through repudiation of FHWA's interpretation;

[4] guidance memorandum was final agency action; and

[5] guidance memorandum was not promulgated contrary to law.

Affirmed in part; vacated and remanded in part.

West Headnotes (19)

[1] Federal Courts

🔑 Limited jurisdiction;jurisdiction as dependent on constitution or statutes

170B Federal Courts

170BII Jurisdiction, Powers, and Authority in General

170BII(A) In General

170Bk2012 Judicial Power of United States; Power of Congress

170Bk2015 Limited jurisdiction;jurisdiction as dependent on constitution or statutes

Federal courts are not courts of general jurisdiction; they have only the power that is authorized by Article III of the Constitution and the statutes enacted by Congress pursuant thereto. U.S. Const. art. 3.

Cases that cite this headnote

[2] Constitutional Law

🔑 Separation of Powers

Constitutional Law

🔑 Nature and scope in general

Federal Civil Procedure

🔑 In general;injury or interest

92 Constitutional Law

92XX Separation of Powers

92XX(A) In General

92k2330 In general

92 Constitutional Law

92XX Separation of Powers

92XX(C) Judicial Powers and Functions

92XX(C)1 In General

92k2450 Nature and scope in general

170A Federal Civil Procedure

170AII Parties

170AII(A) In General

170Ak103.1 Standing in General

170Ak103.2 In general;injury or interest

The standing requirements of Article III are grounded in respect for the separation of powers tenets that are the foundation of the nation's system of government, and they help prevent the judicial process from being used to usurp the powers of the political branches. U.S. Const. art. 3.

[Cases that cite this headnote](#)

[3] **Federal Courts**

 [Determination of question of jurisdiction](#)

[170B](#) Federal Courts

[170BXVII](#) Courts of Appeals

[170BXVII\(B\)](#) Appellate Jurisdiction and Procedure in General

[170Bk3252](#) Determination of question of jurisdiction

Observing the federal court's Article III limitations is always important, and particularly so in a case where the Court of Appeals is asked to invalidate an action of the Executive branch. U.S. Const. art. 3.

[1](#) [Cases that cite this headnote](#)

[4] **Federal Civil Procedure**

 [In general;injury or interest](#)

Federal Civil Procedure

 [Causation;redressability](#)

[170A](#) Federal Civil Procedure

[170AII](#) Parties

[170AII\(A\)](#) In General

[170Ak103.1](#) Standing in General

[170Ak103.2](#) In general;injury or interest

[170A](#) Federal Civil Procedure

[170AII](#) Parties

[170AII\(A\)](#) In General

[170Ak103.1](#) Standing in General

[170Ak103.3](#) Causation;redressability

The irreducible constitutional minimum of standing requires that a plaintiff demonstrate three elements: (1) injury in fact; (2) causation; and (3) redressability. U.S. Const. art. 3.

[1](#) [Cases that cite this headnote](#)

[5] **Federal Civil Procedure**

 [In general;injury or interest](#)

[170A](#) Federal Civil Procedure

[170AII](#) Parties

[170AII\(A\)](#) In General

[170Ak103.1](#) Standing in General

[170Ak103.2](#) In general;injury or interest

The party invoking federal jurisdiction bears the burden of establishing the elements of Article III standing; each element must be supported in the same way as any other matter on which the plaintiff bears the burden of proof, i.e., with the manner and degree of evidence required at the successive stages of the litigation. U.S. Const. art. 3.

[Cases that cite this headnote](#)

[6] **Federal Civil Procedure**

 [Pleading](#)

[170A](#) Federal Civil Procedure

[170AII](#) Parties

[170AII\(A\)](#) In General

[170Ak103.1](#) Standing in General

[170Ak103.5](#) Pleading

At the pleading stage, general factual allegations of injury resulting from the defendant's conduct may suffice to establish Article III standing. U.S. Const. art. 3.

[Cases that cite this headnote](#)

[7] **Federal Civil Procedure**

 [In general;injury or interest](#)

[170A](#) Federal Civil Procedure

[170AII](#) Parties

[170AII\(A\)](#) In General

[170Ak103.1](#) Standing in General

[170Ak103.2](#) In general;injury or interest

A court's determination that a plaintiff has established Article III standing at the motion to dismiss stage by alleging sufficient facts in her pleadings is only the first step, because that finding does not obviate the court's responsibility to ensure that the plaintiff can actually prove those allegations when one or both parties seek summary judgment. U.S. Const. art. 3.

[Cases that cite this headnote](#)

[8] Federal Civil Procedure

 [In general;injury or interest](#)

[170A Federal Civil Procedure](#)

[170AII Parties](#)

[170AII\(A\) In General](#)

[170Ak103.1 Standing in General](#)

[170Ak103.2 In general;injury or interest](#)

Even where the court denies a motion to dismiss based on lack of Article III standing, in response to a summary judgment motion, the plaintiff can no longer rest on mere allegations, but must set forth by affidavit or other evidence specific facts establishing standing; if, upon review of the evidence, the court determines that the plaintiff has not introduced sufficient evidence into the record to at least raise a disputed issue of fact as to each element of standing, the court has no power to proceed and must dismiss the case. U.S. Const. art. 3.

[3 Cases that cite this headnote](#)

[9] Federal Courts

 [Determination of question of jurisdiction](#)

[170B Federal Courts](#)

[170BXVII Courts of Appeals](#)

[170BXVII\(B\) Appellate Jurisdiction and Procedure in General](#)

[170Bk3252 Determination of question of jurisdiction](#)

Every federal appellate court has a special obligation to satisfy itself not only of its own jurisdiction, but also that of the lower courts in a cause under review.

[Cases that cite this headnote](#)

[10] Federal Courts

 [Determination of question of jurisdiction](#)

[170B Federal Courts](#)

[170BXVII Courts of Appeals](#)

[170BXVII\(B\) Appellate Jurisdiction and Procedure in General](#)

[170Bk3252 Determination of question of jurisdiction](#)

If the Court of Appeals determines that the district court was without jurisdiction, then the Court of Appeals has jurisdiction on

appeal, not of the merits but merely for the purpose of correcting the error of the lower court in entertaining the suit.

[Cases that cite this headnote](#)

[11] Federal Courts

 [Standing](#)

[170B Federal Courts](#)

[170BXVII Courts of Appeals](#)

[170BXVII\(K\) Scope and Extent of Review](#)

[170BXVII\(K\)2 Standard of Review](#)

[170Bk3576 Procedural Matters](#)

[170Bk3585 Parties](#)

[170Bk3585\(2\) Standing](#)

The Court of Appeals reviews a district court's decision as to Article III standing de novo. U.S. Const. art. 3.

[Cases that cite this headnote](#)

[12] Federal Civil Procedure

 [In general;injury or interest](#)

[170A Federal Civil Procedure](#)

[170AII Parties](#)

[170AII\(A\) In General](#)

[170Ak103.1 Standing in General](#)

[170Ak103.2 In general;injury or interest](#)

When the existence of one or more of the essential elements of Article III standing depends on the unfettered choices made by independent actors not before the courts and whose exercise of broad and legitimate discretion the courts cannot presume either to control or to predict, it becomes substantially more difficult to establish standing. U.S. Const. art. 3.

[1 Cases that cite this headnote](#)

[13] Federal Civil Procedure

 [Causation;redressability](#)

[170A Federal Civil Procedure](#)

[170AII Parties](#)

[170AII\(A\) In General](#)

[170Ak103.1 Standing in General](#)

[170Ak103.3 Causation;redressability](#)

Mere unadorned speculation as to the existence of a relationship between the

challenged government action and the third-party conduct will not suffice to invoke the federal judicial power under the redressability element of Article III standing. U.S. Const. art. 3.

[Cases that cite this headnote](#)

[14] Associations

🔑 [Actions by or Against Associations](#)

41 Associations

41k20 Actions by or Against Associations

41k20(1) In general

Non-profit organization lacked Article III standing to challenge, through Administrative Procedure Act (APA) notice-and-comment claim, Federal Highway Administration (FHWA) guidance memorandum which interpreted Highway Beautification Act's (HBA) prohibition on "flashing, intermittent or moving" lights on billboards to permit state approval of digital billboards that met certain timing and brightness requirements; organization's alleged injury, that it was forced to expend greater resources opposing digital billboards, was not redressable through vacatur of the memorandum, since state officials could find such billboards permissible for reasons other than those stated in the memorandum. U.S. Const. art. 3.; [5 U.S.C.A. § 551 et seq.](#); [23 U.S.C.A. § 131](#).

[Cases that cite this headnote](#)

[15] Associations

🔑 [Actions by or Against Associations](#)

41 Associations

41k20 Actions by or Against Associations

41k20(1) In general

Non-profit organization presented sufficient evidence that it had suffered representational injury-in-fact, stemming from Federal Highway Administration's (FHWA) promulgation of guidance memorandum that interpreted Highway Beautification Act's (HBA) prohibition on "flashing, intermittent or moving" lights on billboards to permit state approval of those digital billboards that met certain timing

and brightness requirements, as required for organization to have Article III standing to bring an arbitrary and capricious challenge to the memorandum; one of organization's members alleged that digital billboard near her home generated bright flash, and that billboard marred view from her home and negatively affected value of her property. U.S. Const. art. 3.; [5 U.S.C.A. § 551 et seq.](#); [23 U.S.C.A. § 131](#).

[Cases that cite this headnote](#)

[16] Associations

🔑 [Actions by or Against Associations](#)

41 Associations

41k20 Actions by or Against Associations

41k20(1) In general

Alleged representational injury of non-profit organization stemming from Federal Highway Administration's (FHWA) promulgation of guidance memorandum that interpreted Highway Beautification Act's (HBA) prohibition on "flashing, intermittent or moving" lights on billboards to permit state approval of digital billboards that met certain timing and brightness requirements, was redressable through judicial repudiation of FHWA's interpretation, as required for organization to have Article III standing to bring an arbitrary and capricious challenged to the memorandum; repudiation would prohibit FHWA from relying on that interpretation in future rulemaking and require FHWA to subject extant billboards to either removal or an order requiring their operation consistent with flashing light restrictions. U.S. Const. art. 3.; [5 U.S.C.A. § 551 et seq.](#); [23 U.S.C.A. § 131](#).

[Cases that cite this headnote](#)

[17] Administrative Law and Procedure

🔑 [Finality;ripeness](#)

15A Administrative Law and Procedure

15AV Judicial Review of Administrative Decisions

15AV(B) Decisions and Acts Reviewable

15Ak704 Finality;ripeness

An agency action will be deemed final, and therefore reviewable under the Administrative Procedure Act (APA), if it marks the consummation of the agency's decisionmaking process and is an action by which rights or obligations have been determined, or from which legal consequences will flow; the most important factor in determining whether an agency action is one from which legal consequences will flow concerns the actual legal effect, or lack thereof, of the agency action in question on regulated entities. [5 U.S.C.A. § 551 et seq.](#)

[Cases that cite this headnote](#)

[18] Highways

 [Billboards and highway beautification in general](#)

[200 Highways](#)

[200IX Regulation and Use for Travel](#)

[200IX\(A\) Obstructions and Encroachments](#)

[200k153.5 Billboards and highway beautification in general](#)

Federal Highway Administration's (FHWA) promulgation of guidance memorandum, which interpreted Highway Beautification Act's (HBA) prohibition on “flashing, intermittent or moving” lights on billboards to permit state approval of those digital billboards that met certain timing and brightness requirements, was final agency action that was subject to review under Administrative Procedure Act (APA); memorandum came to definitive conclusion in interpreting HBA, and memorandum withdrew some of the discretion concerning billboard permitting that states previously held. [5 U.S.C.A. § 551 et seq.](#); [23 U.S.C.A. § 131](#).

[Cases that cite this headnote](#)

[19] Highways

 [Billboards and highway beautification in general](#)

[200 Highways](#)

[200IX Regulation and Use for Travel](#)

[200IX\(A\) Obstructions and Encroachments](#)

[200k153.5 Billboards and highway beautification in general](#)

Federal Highway Administration's (FHWA) guidance memorandum, which interpreted Highway Beautification Act's (HBA) prohibition on “flashing, intermittent or moving” lights on billboards to permit state approval of digital billboards that met certain timing and brightness requirements, was not promulgated contrary to law in violation of the Administrative Procedure Act (APA); HBA required lighting standards in federal-state agreements to be “consistent with customary use,” and guidance memorandum did not change lighting standards to such extent that those standards were no longer consistent with customary use. [5 U.S.C.A. § 551 et seq.](#); [23 U.S.C.A. § 131](#).

[Cases that cite this headnote](#)

***45** Appeal from the United States District Court for the District of Columbia, (No. 1:13-cv-00093)

Attorneys and Law Firms

[Daniel H. Lutz](#), Orrville, OH, argued the cause for appellant. With him on the briefs was [Hope M. Babcock](#). Thomas M. Gremillion entered an appearance.

[William D. Brinton](#), Jacksonville, FL, was on the brief for amici curiae The American Planning Association, et al. in support of petitioner.

[Jeffrey E. Sandberg](#), Attorney, U.S. Department of Justice, argued the cause for federal appellees. With him on the brief were [Ronald C. Machen Jr.](#), U.S. Attorney at the time the brief was filed, and [Mark R. Freeman](#), Attorney.

[Kannon K. Shanmugam](#) argued the cause for intervenor-appellee Outdoor Advertising Association of America, Inc. With him on the brief was [Allison B. Jones](#), Washington, DC.

Before: Pillard and Wilkins, Circuit Judges, and Ginsburg, Senior Circuit Judge.

Opinion

Wilkins, Circuit Judge:

The Highway Beautification Act (“HBA”), 23 U.S.C. § 131, requires the Federal Highway Administration (“FHWA”) and each state to develop and implement individual federal-state agreements (“FSAs”), detailing, among other things, “size, lighting and spacing” standards for the billboards now found towering over many of our country's interstate highways. One of those adopted standards, included in most states' FSAs, prohibits those states from erecting any billboard with “flashing, intermittent or moving” lights (the “FSA lighting standards”).

Plaintiff-Appellant Scenic America is a non-profit organization which “seeks to preserve and improve the visual character of America's communities and countryside.” Compl. ¶ 7, J.A. 10. It challenges a guidance memorandum issued by the FHWA in 2007, which interpreted that prohibition on “flashing, intermittent or moving” lights to permit state approval of those digital billboards that met certain timing and brightness requirements. Scenic argues that the guidance memorandum must be invalidated because it (1) was not promulgated using notice-and-comment procedures, and (2) violates the HBA, and was therefore promulgated “contrary to law” in violation of § 706 of the Administrative Procedure Act (“APA”), 5 U.S.C. §§ 551 *et seq.*

We hold that we lack jurisdiction to hear Scenic's notice-and-comment claim because Scenic has failed to demonstrate that it has standing to bring that challenge, and deny its § 706 claim on the merits.

I.

A.

In 1965, Congress enacted the Highway Beautification Act to control “the erection and maintenance of outdoor advertising signs, displays, and devices in areas adjacent to the Interstate System ... in order to protect the public investment in such highways, to promote the safety and recreational value of public travel, and to preserve

natural beauty.” 23 U.S.C. § 131(a). The HBA penalizes those states that fail to maintain “effective control” over their advertising signs by permitting the Secretary of Transportation to reduce their federal highway funds by ten percent. *Id.* § 131(b).

To maintain effective control, each state is required to, among other things, negotiate *46 an FSA with the Secretary that establishes standards for the “size, lighting and spacing” of billboards that come within 660 feet of the Interstate. *Id.* § 131(d). The HBA requires that those standards be “consistent with customary use.” *Id.* All fifty states entered into such FSAs, most of which were written in the 1960s and 1970s. *See Scenic Am., Inc. v. U.S. Dep't of Transp. (Scenic II)*, 49 F.Supp.3d 53, 57 (D.D.C. 2014). FHWA regulations, promulgated under the HBA, require that states “[d]evelop laws, regulations, and procedures” that implement the standards contained in each state's FSA. 23 C.F.R. § 750.705(h). States must submit these laws, regulations, and procedures to the FHWA's regional offices, known as Division Offices, for approval. *Id.* § 750.705(j). The FHWA has one Division Office located in each state.

Although each of the FSAs was individually negotiated, most contain similar terms. Nearly all of the FSAs contain a prohibition against “flashing,” “intermittent,” and “moving” lights. *See, e.g.*, J.A. 120 (New York FSA); J.A. 131 (Colorado FSA); J.A. 139 (North Carolina FSA).

As billboard technology changed, states began considering or passing laws that permitted digital billboards to be displayed along the Interstate. *See, e.g.*, J.A. 422-23 (letter from Indiana Department of Transportation to Indiana FHWA Division Office informing the Division Office that Indiana had passed a law permitting certain digital billboards); J.A. 424 (letter from the Indiana FHWA Division Office to the Indiana Department of Transportation acknowledging the letter and agreeing that the digital billboards discussed in Indiana's previous letter “do[] not constitute flashing, intermittent or moving lights”); J.A. 437 (letter from Arkansas Highway Commission to Arkansas FHWA Division Office noting new regulations permitting digital billboards); J.A. 183 (United States Department of Transportation memorandum discussing digital billboard in Nebraska). These billboards, sometimes referred to as “commercial electronic variable message signs” (“CEVMS”), typically use LED lights to display

a static advertisement that remains on the screen for a specified period of time before quickly transitioning to a different static advertisement. Advertisements typically remain visible for around ten seconds, and usually take approximately two seconds to transition to the next ad.

The FHWA's Division Offices differed on whether digital billboards complied with the FSA lighting standards. *Compare, e.g.*, J.A. 424 (Indiana Division Office agreeing that digital billboards “do[] not constitute flashing, intermittent or moving lights”), *with, e.g.*, J.A. 263 (Texas Division Office stating that “[w]hile the technology for LED displays did not exist at the time of the [FSA], the wording in the [FSA] clearly prohibits such signs”). In 2007, the national FHWA office weighed in. It issued to its Division Offices a memorandum entitled “Guidance on Off-Premise Changeable Message Signs” (the “Guidance” or “2007 Guidance”), a portion of which stated as follows:

Proposed laws, regulations, and procedures that would allow permitting CEVMS subject to acceptable criteria (as described below) do not violate a prohibition against “intermittent” or “flashing” or “moving” lights as those terms are used in the various FSAs that have been entered into during the 1960s and 1970s.

J.A. 535. The FHWA went on to identify those “acceptable criteria” based on “certain ranges of acceptability that have been adopted in those States that do allow CEVMS.” J.A. 534, 537 (recommending, among other things, that each display generally remain static for between four and *47 ten seconds, and transition to a new display in one to four seconds).

According to a survey the FHWA distributed to states shortly before issuing the 2007 Guidance, many states with FSAs that included a ban on intermittent, flashing, or moving lights permitted digital billboards before the FHWA issued the Guidance. J.A. 531-32. The Division Office for at least two states, Texas and Kentucky, did not permit digital billboards prior to the 2007 Guidance. *See Scenic Am., Inc. v. U.S. Dep't of Transp. (Scenic I)*, 983 F.Supp.2d 170, 179–80 (D.D.C. 2013). After the Guidance, Texas began to permit the use of digital billboards. Lloyd Decl. ¶9, J.A. 41.

B.

Scenic brought this suit against the United States Department of Transportation, the federal executive department responsible for implementation of the HBA; the FHWA, which promulgated the 2007 Guidance; Ray LaHood, the Secretary of Transportation at the time; and Victor Mendez, the Administrator of FHWA at the time. Scenic did not include any of the FHWA's Division Offices in this suit. Outdoor Advertising Association of America, Inc. (“OAAA”) intervened as a defendant shortly after Scenic brought suit.

Scenic's suit alleges two claims relevant to this appeal: (1) the 2007 Guidance constitutes a legislative, not interpretive rule, thus violating § 553 of the APA, because it was not promulgated using notice-and-comment procedures; and (2) the Guidance violates § 706 of the APA because it creates a new lighting standard that is not “consistent with customary use,” as required by the HBA. ¹ Compl. ¶¶ 48-53, 57-62, J.A. 17-19.

¹ Scenic abandoned a third claim on appeal—that the Guidance improperly creates new lighting standards, in contravention of the procedures for creating new standards set forth in the HBA. *See* Br. for Defendants-Appellees [hereinafter “FHWA Br.”], *Scenic Am., Inc. v. U.S. Dep't of Transp.*, No. 14-5195 (D.C. Cir. Feb. 20, 2015), Doc. No. 1538780, at 16 & n.7.

The FHWA and the OAAA (collectively “Defendants”) moved to dismiss, contending that Scenic lacked standing, and that the court lacked jurisdiction over the Guidance because it did not constitute final agency action under the APA. *Scenic I*, 983 F.Supp.2d at 172–73. The District Court denied Defendants' motion as to both claims. *Id.*

Relevant to our decision here, the District Court held, at the motion to dismiss stage, that Scenic's requested relief would redress its harm because “vacating the Guidance would return the FHWA to agnosticism on the question [of permitting digital billboards], leaving Division Offices free to draw their own conclusions.” *Id.* at 181. According to the District Court, this would prevent Scenic from “hav[ing] to police as intensively new digital-billboard construction around the country.” *Id.*

Defendants later moved for summary judgment, and the District Court granted the motions, finding that the Guidance was not subject to notice-and-comment requirements because it was an interpretive, not legislative rule, and that it did not violate the “consistent with customary use” provision of the HBA. *Scenic II*, 49 F.Supp.3d at 59–71. Defendants, in their summary judgment briefing below, did not again challenge Scenic's standing, and the District Court did not discuss Scenic's standing in its written Opinion granting Defendants' summary judgment motions.

II.

We begin, as we must, by addressing our jurisdiction to review Scenic's appeal. Because Scenic must demonstrate its *48 standing separately as to each of the two claims it brings on appeal, *see Catholic Soc. Serv. v. Shalala*, 12 F.3d 1123, 1125 (D.C. Cir. 1994), we find that, although Scenic has standing to bring its claim concerning FHWA's alleged § 706 violation, Scenic has failed to demonstrate it has standing to bring its notice-and-comment claim.

A.

[1] [2] [3] As has been expressed time and time again, “[f]ederal courts are not courts of general jurisdiction; they have only the power that is authorized by Article III of the Constitution and the statutes enacted by Congress pursuant thereto.” *Bender v. Williamsport Area Sch. Dist.*, 475 U.S. 534, 541, 106 S.Ct. 1326, 89 L.Ed.2d 501 (1986). As Chief Justice Marshall observed, “[i]f the judicial power extended to every question under the constitution it would involve almost every subject proper for legislative discussion and decision [and] if to every question under the laws and treaties of the United States it would involve almost every subject on which the executive could act.” *DaimlerChrysler Corp. v. Cuno*, 547 U.S. 332, 341, 126 S.Ct. 1854, 164 L.Ed.2d 589 (2006) (quoting 4 PAPERS OF JOHN MARSHALL 95 (C. Cullen ed. 1984)) (emphases omitted). Thus, without studious adherence to the metes and bounds of our jurisdiction as imposed by Article III, Chief Justice Marshall warned that “the other departments [of the government] would be swallowed up by the judiciary.” *Id.* The standing requirements of Article III are therefore grounded in respect for the separation of powers tenets that are the

foundation of our system of government, *Valley Forge Christian Coll. v. Ams. United for Separation of Church & State, Inc.*, 454 U.S. 464, 471–74, 102 S.Ct. 752, 70 L.Ed.2d 700 (1982), and they help “prevent the judicial process from being used to usurp the powers of the political branches,” *Clapper v. Amnesty Int'l USA*, — U.S. —, 133 S.Ct. 1138, 1146, 185 L.Ed.2d 264 (2013). Observing our Article III limitations is therefore always important, and particularly so in a case such as this, where we are asked to invalidate an action of the Executive branch.

[4] [5] The “irreducible constitutional minimum of standing” requires that a plaintiff demonstrate three elements: (1) injury in fact; (2) causation; and (3) redressability. *Lujan v. Defs. of Wildlife*, 504 U.S. 555, 560–61, 112 S.Ct. 2130, 119 L.Ed.2d 351 (1992). “The party invoking federal jurisdiction bears the burden of establishing these elements”; “each element must be supported in the same way as any other matter on which the plaintiff bears the burden of proof, *i.e.*, with the manner and degree of evidence required at the successive stages of the litigation.” *Id.* at 561, 112 S.Ct. 2130.

[6] [7] [8] Thus, the plaintiff must meet this burden at the outset of *each* phase. “At the pleading stage, general factual allegations of injury resulting from the defendant's conduct may suffice....” *Id.* And a court's determination that a plaintiff has established standing at the motion to dismiss stage by *alleging* sufficient facts in her pleadings is only the first step, because that finding does not obviate the court's responsibility to ensure that the plaintiff can actually *prove* those allegations when one or both parties seek summary judgment. So even where the court denies a motion to dismiss based on lack of standing, “[i]n response to a summary judgment motion, ... the plaintiff can no longer rest on such mere allegations, but must set forth by affidavit or other evidence specific facts [establishing standing].” *Id.* (internal quotation marks omitted).² If, upon review *49 of the evidence, the court determines that the plaintiff has not introduced sufficient evidence into the record to at least raise a disputed issue of fact as to each element of standing, the court has no power to proceed and must dismiss the case. *See, e.g., Clapper*, 133 S.Ct. at 1148–49 (dismissing case where plaintiff did not raise an issue of fact as to standing at summary judgment).

² Our treatment of standing in cases that come to us directly on administrative review is instructive. Because these petitions for administrative review

bypass the district court and come to us directly, we treat them as a district court would in deciding a motion for summary judgment. See *Sierra Club v. EPA*, 292 F.3d 895, 899 (D.C. Cir. 2002). In *Sierra Club*, we held, “mindful of our independent obligation to be sure of our jurisdiction,” that the petitioner there had failed to establish its burden as to standing. *Id.* at 898, 902. We explained that “[t]he petitioner’s burden of production in the court of appeals is ... the same as that of a plaintiff moving for summary judgment in the district court: it must support each element of its claim to standing ‘by affidavit or other evidence.’” *Id.* at 899 (quoting *Defs. of Wildlife*, 504 U.S. at 561, 112 S.Ct. 2130).

Just as we must ensure our jurisdiction over petitions brought to us directly, so too must the district court assure itself of its jurisdiction before assessing a summary judgment motion on the merits.

[9] [10] In addition, “every federal appellate court has a special obligation to ‘satisfy itself not only of its own jurisdiction, but also that of the lower courts in a cause under review.’” *Bender*, 475 U.S. at 541, 106 S.Ct. 1326 (quoting *Mitchell v. Maurer*, 293 U.S. 237, 244, 55 S.Ct. 162, 79 L.Ed. 338 (1934)). If we determine that the District Court was without jurisdiction, then “we have jurisdiction on appeal, not of the merits but merely for the purpose of correcting the error of the lower court in entertaining the suit.” *Steel Co. v. Citizens for a Better Env’t*, 523 U.S. 83, 95, 118 S.Ct. 1003, 140 L.Ed.2d 210 (1998) (quoting *Arizonans for Official English v. Arizona*, 520 U.S. 43, 73, 117 S.Ct. 1055, 137 L.Ed.2d 170 (1997)).

[11] We review the District Court’s decision (or lack thereof) as to standing *de novo*, *Info. Handling Servs., Inc. v. Def. Automated Printing Servs.*, 338 F.3d 1024, 1029 (D.C. Cir. 2003), and hold that Scenic has not met its burden of establishing its standing to bring its notice-and-comment claim.³

³ The FHWA challenged Scenic America’s standing at the motion to dismiss stage, and though the District Court held in favor of Scenic, it noted that the issue “presents difficult and close questions.” *Scenic I*, 983 F.Supp.2d at 172. When the FHWA later moved for summary judgment, therefore, Scenic was already on notice that its standing might be questioned on appeal, at which time the record would be closed. Scenic therefore cannot claim to have been deprived of a fair and “full opportunity to make a record of [its] standing in the district court.” *Swanson Grp.*

Mfg. LLC v. Jewell, 790 F.3d 235, 241 (D.C. Cir. 2015). Scenic should have accompanied its summary judgment materials with evidence of its standing. See *Lujan v. Nat’l Wildlife Fed’n*, 497 U.S. 871, 897, 110 S.Ct. 3177, 111 L.Ed.2d 695 (1990) (“[A] litigant’s failure to buttress its position because of confidence in the strength of that position is always indulged in at the litigant’s own risk.”).

Because the plaintiff has the burden to establish the evidentiary basis for its standing at the summary judgment stage *in every case*, just as it has the burden to plead sufficient facts at the motion to dismiss stage *in every case*, the District Court may wish to consider amending its local rules to provide that the plaintiff include its evidentiary basis for standing in the statement of material facts that every party is required to file either in support of, or in opposition to, a motion for summary judgment. See Civil Local Rule 7(h)(1). Such a rule would ensure that the plaintiff is on notice of its obligation to present such evidence, make the District Court’s job much easier (as well as ours), and function similarly to our Circuit Rule 28(a)(7), which we adopted after our ruling in *Sierra Club*.

*50 B.

1.

Scenic’s notice-and-comment claim turns on the redressability prong of Article III standing. Scenic asserts that the 2007 Guidance forced certain FHWA Division Offices to reinterpret the FSA lighting standards—that billboards may not contain “flashing, intermittent or moving” lights—so that those offices would thereafter find the FSA language to permit, rather than bar, digital billboards. Scenic claims that this alleged change of position made it easier for states to erect digital billboards, because they no longer had to worry about being prevented from doing so by the Division Offices. As a result, Scenic allegedly has to work harder, and thus spend greater resources, to fight these billboards—its injury in fact. Scenic claims that vacating the Guidance will redress that injury.

[12] [13] In this way, Scenic asserts injuries that stem not directly from the FHWA’s issuance of the 2007 Guidance, but from third parties not directly before the court—the Division Offices and the states. When “[t]he existence of one or more of the essential elements of standing”—

in this case redressability—“ ‘depends on the unfettered choices made by independent actors not before the courts and whose exercise of broad and legitimate discretion the courts cannot presume either to control or to predict,’ ” it becomes “ ‘substantially more difficult’ to establish” standing. *Defs. of Wildlife*, 504 U.S. at 562, 112 S.Ct. 2130 (quoting *ASARCO Inc. v. Kadish*, 490 U.S. 605, 615, 109 S.Ct. 2037, 104 L.Ed.2d 696 (1989); *Allen v. Wright*, 468 U.S. 737, 758, 104 S.Ct. 3315, 82 L.Ed.2d 556 (1984)); accord *Nat'l Wrestling Coaches Ass'n v. Dep't of Educ.*, 366 F.3d 930, 938 (D.C. Cir. 2004). “[M]ere ‘unadorned speculation’ as to the existence of a relationship between the challenged government action and the third-party conduct ‘will not suffice to invoke the federal judicial power.’ ” *Nat'l Wrestling*, 366 F.3d at 938 (quoting *Simon v. E. Ky. Welfare Rights Org.*, 426 U.S. 26, 44, 96 S.Ct. 1917, 48 L.Ed.2d 450 (1976)).

Scenic's complaint makes only two arguments concerning the redressability of its notice-and-comment claim. First, it argues that if we vacate the 2007 Guidance, “Scenic America and its affiliate members would spend fewer resources combating new digital billboards.” Compl. ¶ 21, J.A. 12. This speaks to Scenic's alleged organizational standing. See *PETA v. U.S. Dep't of Agric.*, 797 F.3d 1087, 1093 (D.C. Cir. 2015) (organizational standing “requires [an organizational plaintiff], like an individual plaintiff, to show actual or threatened injury in fact that is fairly traceable to the alleged illegal action and likely to be redressed by a favorable court decision” (internal quotation marks omitted)). Second, Scenic contends that if we vacate the 2007 Guidance, “digital billboards that injure Scenic America members would be subject to removal or an order to cease operating in a manner that violates the regulatory prohibition against intermittent lighting in billboard advertisements.” Compl. ¶ 21, J.A. 12. This speaks to Scenic's representational standing. See *Hunt v. Wash. State Apple Advert. Comm'n*, 432 U.S. 333, 343, 97 S.Ct. 2434, 53 L.Ed.2d 383 (1977) (recognizing “that an association has standing to bring suit on behalf of its members when: (a) its members would otherwise have standing to sue in their own right; (b) the interests it seeks to protect are germane to the organization's purpose; and (c) neither the claim asserted nor the relief requested requires the participation of individual members in the lawsuit”).

2.

a.

[14] Scenic has failed to demonstrate that our vacatur of the Guidance would *51 redress its alleged organizational injury—that it is forced to expend greater resources fighting digital billboards because the 2007 Guidance makes it easier for states to erect such billboards.

States are required to seek permission from the FHWA Division Offices before they permit the use of digital billboards. See 23 C.F.R. § 750.705(j). Prior to the FHWA's issuance of the Guidance, those Offices could, and often did, authorize that use, finding that it accorded with a given state's FSA. Scenic has introduced no evidence into the record—as it must at summary judgment—establishing that if we were to vacate the Guidance, any Division Office would respond by preventing the state it oversees from erecting digital billboards; nor has Scenic submitted evidence establishing that states would successfully erect, or even seek to erect, fewer billboards. Without providing any indication that our vacatur of the Guidance will diminish the number of billboards Scenic has to fight, Scenic has failed to demonstrate that its requested remedy would prevent Scenic from having to expend the same amount of resources fighting these billboards.

A brief look at some of our previous decisions in this area reinforces the point. In *National Wrestling*, we assessed the standing of several associations representing men's wrestling teams, some of whom had been cut from college athletic programs. 366 F.3d at 933. Department of Education regulations, promulgated under Title IX, required college athletic programs to ensure that they provided equal athletic opportunities to both sexes, based in part on the resources that are devoted to various programs. *Id.* at 934–35. Plaintiffs did not challenge those regulations. Instead, plaintiffs challenged a Department of Education interpretation of those regulations, which they claimed caused several athletic programs to eliminate their wrestling teams. *Id.* We held that plaintiffs lacked standing because they were unable to show that a favorable decision would redress their injuries. *Id.* at 938.

We noted that the “direct causes of appellants’ asserted injuries—loss of collegiate-level wrestling opportunities for male student-athletes—are the independent decisions of educational institutions.” *Id.* at 936–37. Even if we vacated the Department of Education’s interpretation, there was no indication that it would alter those institutions’ independent decisions to eliminate their wrestling teams. *Id.* at 939. Nothing in the Department’s interpretation required schools to eliminate their wrestling teams; schools did so in an attempt to ensure that they were distributing athletic resources equally—a requirement of Title IX more generally, irrespective of the interpretation that plaintiffs challenged. *See id.* at 939–40 (asserting that “nothing but speculation suggest[ed] that schools would act any differently” if the court vacated the interpretation). We noted that plaintiffs would only meet standing requirements if they “took the position that gender-conscious elimination of men’s sports teams would be illegal in the absence of the challenged” interpretation, but that plaintiffs made no such claim. *Id.* at 941. Finally, we explained that the “possibility” that wrestling teams would have “better odds” if we vacated the Department’s interpretation “falls far short of the mark.” *Id.* at 942 (emphasis omitted).

We held similarly in *Renal Physicians Ass’n v. United States Department of Health and Human Services*, 489 F.3d 1267 (D.C. Cir. 2007). That case involved the Stark Law, which limited the ability of a physician to refer a Medicare patient to clinical laboratories with which the physician had a “financial relationship,” but permitted *52 referrals where the physician’s only financial interest was the receipt of compensation at “fair market value.” *Id.* at 1269. The Department of Health and Human Services, which was authorized to promulgate regulations under the Law, created a “safe harbor” provision, describing two methods for demonstrating that a physician’s hourly rate was at fair market value. *Id.* at 1270. The Department also noted, however, that the safe harbor was voluntary, and that health care providers could continue to establish fair market value through other methods. *Id.* at 1269–71.

After a physicians’ association challenged the safe harbor provision under the APA, we held that plaintiff lacked standing because it failed to show that vacating the safe harbor provision would redress its members’ alleged injuries—namely that the safe harbor provision caused them to be paid less for their services than would otherwise be the case. *Id.* at 1276–78. Because the safe harbor

was merely one way that hospitals could determine “fair market value,” we noted that “it is ‘speculative,’ rather than ‘likely,’ that invalidating the safe harbor will somehow cause these facilities to pay more,” and that “[t]he effect (if any) of the safe harbor cannot be simply undone.” *Id.* at 1277.

As in *Renal Physicians*, the FHWA created what is, in essence, a safe harbor provision regarding digital billboards. The 2007 Guidance made it clear that state laws and regulations regarding digital billboards meeting the specifications listed in the Guidance would not be rejected for violating the FSA lighting standards. Yet even after the Guidance, Division Offices can still approve state laws and regulations permitting billboards that fall outside those specifications, and they can still reject laws and regulations allowing billboards that meet those specifications, but that violate state FSAs for other reasons. The safe harbor created by the Guidance is voluntary in the same way as the safe harbor in *Renal Physicians*; Division Offices can rely on it to find certain billboards permissible, but those Offices can find those billboards permissible for other reasons as well. It is “speculative,” rather than “likely,” that invalidating the Guidance would stop any particular billboard from being constructed. Indeed, many states with FSAs that included a ban on intermittent, flashing, or moving lights permitted digital billboards prior to the 2007 Guidance.

In sum, we cannot assume, without more, that vacating the Guidance would eliminate or lessen the construction of digital billboards.

Scenic contends that because the Texas Division Office barred Texas from constructing digital billboards prior to the Guidance, vacating the Guidance would redress Scenic’s injuries, at least with respect to Texas. However, Scenic has introduced no evidence suggesting that Texas, or the Texas Division Office, would behave any differently in the absence of the 2007 Guidance. Scenic simply assumes, without any proof, that Texas will revert to its pre-Guidance position as soon as the Guidance is invalidated.

Scenic’s assumption is nothing more than “unadorned speculation.” *Simon*, 426 U.S. at 44, 96 S.Ct. 1917. Several other possibilities seem just as likely, were we to vacate the 2007 Guidance. The Guidance may have focused the Texas Division Office on the fact that a majority of states

had already determined that the FSA lighting standards permitted digital billboards. Knowing as much, Texas's Division Office might be more inclined to “jump on the bandwagon” and permit such billboards going forward, even absent the 2007 Guidance. Or the Division Office might be persuaded to continue allowing digital billboards now that Texas has already *53 issued permits for at least 150 of them, Lloyd Decl. ¶ 9, J.A. 41. See *Renal Physicians*, 489 F.3d at 1278 (“[T]he word is already out, and therefore it is too late to reverse course.... [T]he undoing of the governmental action will not undo the harm, because the new status quo is held in place by other forces.”).

Scenic has introduced no evidence that would make any one of these possibilities more likely than another. Particularly given the difficulty of establishing standing based on the actions of third parties not before the Court, see *Defs. of Wildlife*, 504 U.S. at 562, 112 S.Ct. 2130, Scenic's lack of any evidentiary basis for its redressability contentions requires us to reject its standing as to its notice-and-comment claim.

As a final argument, Scenic relies on *Village of Arlington Heights v. Metropolitan Housing Development Corp.*, 429 U.S. 252, 97 S.Ct. 555, 50 L.Ed.2d 450 (1977), and contends that vacating the 2007 Guidance would remove one of several barriers to Scenic's anti-digital billboard efforts, and that this is sufficient for redressability purposes. However, *Arlington Heights* is inapposite here.

As an initial matter, *Arlington Heights* involved a party directly harmed by the challenged action, not one harmed by the actions of a third party not before the Court. See *id.* at 254, 97 S.Ct. 555. Moreover, *Arlington Heights* involved a developer's challenge to a zoning ordinance that prevented it from building low-income housing. *Id.* at 255–58, 97 S.Ct. 555. The Supreme Court characterized the zoning ordinance as an “absolute barrier.” *Id.* at 261, 97 S.Ct. 555. Although the developer still needed to secure financing and qualify for federal subsidies, the challenged zoning ordinance ensured that the developer could not proceed with its goal of constructing low-income housing. *Id.* at 261–62, 97 S.Ct. 555. A court decision to remove that barrier would redress the developer's injury because a major impediment to the developer's efforts would be eliminated.

Scenic has introduced no evidence showing that vacating the 2007 Guidance would remove an “absolute barrier”

to its efforts. As we have already stated above, absent the 2007 Guidance, states remain free to pursue digital billboard construction, and Division Offices remain free to permit such construction. Thus, Scenic has not established that invalidating the Guidance would improve or ease Scenic's efforts in any way.⁴

⁴ Scenic did not argue that the FHWA's failure to undertake notice and comment before promulgating the Guidance constitutes a procedural injury, and we express no opinion on such an argument. Although a party cannot forfeit a claim that we lack jurisdiction, it can forfeit a claim that we possess jurisdiction. See *Huron v. Cobert*, 809 F.3d 1274, 1279–80 (D.C. Cir. 2016).

b.

Scenic's representational standing claim fares no better. Scenic argues that vacating the 2007 Guidance will redress its members' injuries because it will cause the digital billboards allegedly injuring those members to be removed. Compl. ¶ 21, J.A. 12. Scenic came dangerously close to forfeiting this argument. See *Huron v. Cobert*, 809 F.3d 1274, 1279–80 (D.C. Cir. 2016).

Presumably because the District Court had upheld Scenic's standing at the motion to dismiss stage, and Defendants had not contested Scenic's standing before the District Court at the summary judgment stage, Scenic did not address its standing in its opening brief on appeal. In their responding brief, however, the FHWA challenged anew Scenic's standing. The FHWA contended that Scenic had offered “no basis for expecting that vacating the *54 Guidance would cause any existing digital billboards to be dismantled.” See FHWA Br. 29. In reply, Scenic appeared to abandon the allegation. It repeated the FHWA's contention and responded that “Plaintiff need only show that vacatur would reduce Plaintiff's continuing injury of diverting limited resources to counteract billboard approvals.” Reply Br. for Appellant 10.

Nonetheless, Scenic appears to have preserved its representational standing argument by painting it in a somewhat different light. It argues that the alleged injuries of one of its members—Nikki Laliberte—are “traceable to the Guidance” because the Guidance prohibits the Division Office in Minnesota, where Laliberte lives, from considering whether digital billboards violate the

FSA lighting standards. See Reply Br. for Appellant 12. Scenic's implication seems to be that vacating the Guidance might cause Minnesota's Division Office to remove some digital billboards. Although Scenic's argument is couched in terms of causation, "causation and redressability are closely related, and can be viewed as two facets of a single requirement." *Newdow v. Roberts*, 603 F.3d 1002, 1012 n.6 (D.C. Cir. 2010) (internal quotation marks omitted). Thus, Scenic's assertion is sufficient to preserve its representational standing claim.

As we noted above, however, Scenic has introduced no evidence demonstrating that our vacatur of the Guidance would cause Division Offices or states to prohibit the construction of new digital billboards. See *supra* Part II.B.2.a. It is even less plausible, given Scenic's complete lack of any evidentiary showing on the matter, that Division Offices or states would require extant billboards to be dismantled.

By neglecting to "set forth by affidavit or other evidence specific facts" establishing its representational standing, *Defs. of Wildlife*, 504 U.S. at 561, 112 S.Ct. 2130 (internal quotation marks omitted), Scenic has failed to meet its burden to demonstrate its representational standing to bring its notice-and-comment claim.

3.

Scenic does fare better, however—at least as to standing—on its claim that the Guidance violated § 706, although barely.

a.

In its complaint, Scenic alleges that FHWA's actions, in promulgating the Guidance, are "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law, in violation of the APA." Compl. ¶ 62, J.A. 19. That language appears to be taken from § 706(2)(A) of the APA, which sets forth the well-known "arbitrary and capricious" standard, and which would likely provide an effective cause of action for Scenic to challenge the FHWA's alleged failure to comport with the HBA. Confusingly, however, Scenic does not cite § 706 as part of its second claim, but rather cites § 553, the provision

that concerns notice-and-comment rulemaking. See *id.* ¶¶ 57-62, J.A. 18-19.

Construing the complaint liberally, as is sometimes appropriate, *but cf. Settles v. U.S. Parole Comm'n*, 429 F.3d 1098, 1104, 1106 (D.C. Cir. 2005) (explaining that although "the complaint—particularly a complaint filed by a pro se prisoner—should be construed liberally," "the rule of liberal construction of complaints applies to factual allegations," and refusing to liberally construe a counseled plaintiff's complaint so as to include new defendants (quoting *Fletcher v. District of Columbia*, 370 F.3d 1223, 1227 n.* (D.C. Cir. 2004))), it might be possible to construe Scenic's complaint as having relied upon § 706 rather than, or in addition to, § 553. At oral argument, however, counsel for Scenic was specifically asked whether its second *55 claim included a § 706 challenge to FHWA's promulgation of the guidance, and Scenic's counsel replied "no, we did not present that." Counsel went on to state that to the extent it brought anything resembling an arbitrary-and-capricious challenge it did it through the "backdoor" of its notice-and-comment claim, specifically highlighting its argument that that the Guidance is a legislative rule because it is 180 degrees counter to the FSA text it alleged to be interpreting. Thus, it appears that Scenic disclaimed any arbitrary-and-capricious challenge to FHWA's alleged failure to comport with the HBA.

Nonetheless, during that same colloquy at oral argument, Scenic did state, with respect to its § 706 claim, that it "focused solely on the customary use provision, finding that it was contrary to law." Giving Scenic the benefit of the doubt, Scenic's papers and statements at oral argument are sufficient for us to eke out a § 706 claim.

b.

[15] Scenic has standing to bring such a § 706 claim. First, Scenic has offered sufficient evidence that it has suffered a representational injury in fact. The record at summary judgment demonstrates that at least one of its members, Nikki Laliberte, has suffered a concrete injury because a digital billboard near her home "generates a bright flash when its display transitions from one advertisement to another." Laliberte Decl. ¶ 4, J.A. 52. She asserts that the billboard "has marred the view from [her] home[]," and that she is "concerned that the billboard has negatively

affected the value of [her] property.” *Id.* ¶¶ 6, 9, J.A. 52-53. This sort of harm to an individual's property is sufficient to constitute a concrete injury in fact. *See Idaho, By & Through Idaho Pub. Utils. Comm'n v. ICC*, 35 F.3d 585, 591 (D.C. Cir. 1994) (noting that a private landowner “suffers concrete injury if [her] property is despoiled”).

[16] The causation and redressability prongs of our standing analysis are equally clear here. Scenic's § 706 claim is that the Guidance runs afoul of the statute's “customary use” requirement as that requirement has been interpreted in the FSAs. If we were to find for Scenic on the merits of its claim, a point we must assume for standing purposes, *see LaRoque v. Holder*, 650 F.3d 777, 785 (D.C. Cir. 2011), we could only do so by effectively repudiating the FHWA's interpretation of the FSAs. Repudiation would provide much more robust relief than vacatur. Not only would it prohibit the agency from relying on that interpretation in any future rulemakings, it would also require the agency to subject extant billboards to either removal or an order requiring those billboards to operate in a manner that does not violate the FSAs, for instance by keeping the image displayed by the billboard constant and unchanging. Scenic's injury, clearly caused by the Guidance, is therefore redressable. *See Renal Physicians*, 489 F.3d at 1278 (holding that “the only way to prevent” a finding that redressability is lacking in the third-party context is “for a court not only to invalidate [the contested agency action] but also to repudiate” it).

III.

FHWA argues that the Guidance is not a final agency action and is therefore not reviewable under the APA. We disagree.

[17] An agency action will be deemed final if it “mark[s] the consummation of the agency's decisionmaking process” and is an action “by which rights or obligations have been determined, or from which legal consequences will flow.” *Bennett v. Spear*, 520 U.S. 154, 177–78, 117 S.Ct. 1154, 137 L.Ed.2d 281 (1997) (internal quotation *56 marks omitted). “The most important factor” in determining whether an agency action is one “from which legal consequences will flow” “concerns the actual legal effect (or lack thereof) of the agency action in question on regulated entities.” *Nat'l Mining Ass'n v. McCarthy*, 758 F.3d 243, 252 (D.C. Cir. 2014).

[18] The Guidance marks the consummation of FHWA's decision-making process. It comes to a definitive conclusion: the FSA's prohibition on “flashing, intermittent or moving” lights does not prevent states from permitting digital billboards, so long as they meet certain prescribed requirements. Although the Guidance does state that the FHWA “may provide further guidance in the future as a result of additional information” FHWA might receive, J.A. 535, such a statement is fairly read as a “boilerplate” indication that the agency may issue further interpretations in the future. *See Appalachian Power Co. v. EPA*, 208 F.3d 1015, 1022–23 (D.C. Cir. 2000). The fact that a regulation might be interpreted again at some point in the indeterminate future cannot, by itself, prevent the initial interpretation from being final.

The Guidance is also an action “from which legal consequences will flow.” It creates a safe harbor such that Division Offices and states may not deny a digital billboard permit for violating the FSA lighting standards where that billboard meets the timing and other requirements set forth in the Guidance. In this way, the Guidance withdraws some of the discretion concerning billboard permitting the Division Offices and states previously held. *See NRDC v. EPA*, 643 F.3d 311, 320 (D.C. Cir. 2011) (concluding that where agency action withdraws an entity's previously-held discretion, that action “alter[s] the legal regime,” “binds” the entity, “and thus qualifies as final agency action”). That safe harbor has a clear legal effect on the regulated entities here—the Division Offices and the states—and the Guidance is therefore a final agency action.

IV.

Having concluded that Scenic has standing to bring its § 706 claim, and that the Guidance constitutes final agency action, we now review the merits of the claim *de novo*, *see Khan v. Parsons Glob. Servs., Ltd.*, 428 F.3d 1079, 1082 (D.C. Cir. 2005), and find them lacking.

Scenic argues that the Guidance is invalid because it fails to comport with the HBA's “customary use” provision. That provision states that “signs, displays, and devices whose size, lighting and spacing, *consistent with customary use* is to be determined by agreement between the several States and the Secretary, may be erected” within 660 feet

of the Interstate. 23 U.S.C. § 131(d) (emphasis added). Scenic contends that the FHWA, in issuing the Guidance, changed the FSA lighting standards to such an extent that those standards are no longer “consistent with customary use.” According to Scenic “[a]nything outside the scope of what an FSA meant at the time it was created cannot be ‘customary use.’” Opening Br. for Appellant 36.

In *Cajun Electric Power Cooperative, Inc. v. FERC*, we clarified that

[a]ny agreement that must be filed and approved by an agency loses its status as a strictly private contract and takes on a public interest gloss. That means that when the agency reconciles ambiguity in such a contract it is expected to do so by drawing upon its view of the public interest. And, therefore, the agency to which Congress entrusted the protection and discharge of the public interest is entitled to just as much benefit of the doubt in interpreting such an agreement as it would in interpreting its own orders, *57 its regulations, or its authorizing statute.

924 F.2d 1132, 1135 (D.C. Cir. 1991) (internal citations omitted); see also *Nat'l Fuel Gas Supply Corp. v. FERC*, 811 F.2d 1563, 1569–71 (D.C. Cir. 1987) (treating an agency interpretation of a settlement agreement as entitled to deference similar to that owed under *Chevron* where the settlement agreement had to be approved by the agency). The FSAs, as agreements between the FHWA and individual states, see 23 U.S.C. § 131(d), were thus approved by the FHWA as described in *Cajun Electric*.

Further, as the District Court explained, “[b]oth Defendants and Scenic America recognize ... that all FSA lighting provisions were established consistent with customary use.” *Scenic II*, 49 F.Supp.3d at 71 (quoting or citing both parties' briefing) (internal quotation marks omitted); see also Opening Br. for Appellant 36; FHWA Br. 51-52. Thus, so long as the FHWA has merely

interpreted in a reasonable fashion, rather than amended, those lighting standards, that interpretation must itself be “consistent with customary use,” whether or not it is precisely the interpretation that would have been given to the standards at the time the FHWA and states first agreed upon them. Cf. *Ass'n of Am. R.Rs. v. Surface Transp. Bd.*, 162 F.3d 101, 107 (D.C. Cir. 1998) (“Our deference to an agency's reasonable interpretation of its governing statute ‘is a product both of an awareness of the practical expertise which an agency normally develops, and of a willingness to accord some measure of flexibility to such an agency as it encounters new and unforeseen problems over time.’” (quoting *Int'l Bhd. of Teamsters v. Daniel*, 439 U.S. 551, 566 n.20, 99 S.Ct. 790, 58 L.Ed.2d 808 (1979))).

[19] We agree with the District Court's conclusion that the FHWA's interpretation of the FSA lighting standards is not one that “ ‘runs 180 degrees counter to the plain meaning of the’ FSAs,” and that it therefore “construes, rather than contradicts” the FSAs. *Scenic II*, 49 F.Supp.3d at 62–63, 70 (quoting *Nat'l Family Planning & Reprod. Health Ass'n v. Sullivan*, 979 F.2d 227, 235 (D.C. Cir. 1992)). Although it might be possible to read the FSA lighting standards to prohibit digital billboards, those standards do not foreclose other interpretations, including the FHWA's here. Because the FHWA's interpretation of the FSA lighting provision was reasonable, the interpretation cannot be “contrary to customary use.” Accordingly, Scenic's claim that the Guidance violates § 706 must fail.

For the foregoing reasons, we affirm the District Court's grant of summary judgment as to Scenic's § 706 claim, vacate its judgment as to Scenic's notice-and-comment claim, and remand with instructions to dismiss Scenic's notice-and-comment claim.

So ordered.

All Citations

836 F.3d 42

Digital Billboards

Message Points

- Digital billboards serve businesses and communities by communicating information that can be quickly changed
- Digital billboards are accepted by government and the public
- Digital billboards are regulated by government and self-regulation by the industry
- Digital billboards are not distracting to drivers, according to government research
- Government relies of digital billboards on behalf of public safety
- Digital billboards support jobs



Government-sponsored anti-distraction message on digital billboard in Connecticut

Digital Billboards

High-tech communication for advertisers and communities

Digital technology is a non-manual way to change billboard “copy,” via computer. Digital billboards do not flash or scroll; they display static images that rotate typically every six or eight seconds.

Advertisers can change their messages quickly, without the time and expense of printing or posting. Other media are major buyers of digital billboards, featuring news, sports, weather, programming, and personalities.

Likewise, communities use digital billboards to deliver information to the public.



Other media are major buyers of digital billboards

Digital billboards are accepted/regulated

“Digital billboards are right in line with the whole cityscape. They communicate that we are a city that embraces technology. We actually have some of the newest state-of-the art cutting edge advertising,” said Joe Cimperman, a long-time city councilman in Cleveland, OH.

Keeping pace with technology, government has regulated and authorized digital billboards. The federal government says states can allow digital billboards as long as they do not flash, scroll, or feature full motion. Nearly all states with billboards allow digital billboards, which operate in nearly 1,000 communities.

Anti-billboard Scenic America attacked the federal guidelines in court; in 2014 a federal judge dismissed the case, with prejudice.

Industry practices conform to federal guidance, such as display times and lighting. Federal guidelines, issued in 2007, say digital billboards should “adjust brightness in response to changes in light levels so that the signs are not unreasonably bright for the safety of the motoring public.” Digital billboards are equipped with light sensors that adjust brightness to surrounding light conditions, to avoid glare.

The out of home advertising industry has established standards that lighting levels should not exceed 0.3 foot candles above the level of surrounding light conditions. State and local governments have incorporated this standard into regulations.

The OAAA *Code of Industry Principles* commits to providing effective and safe digital billboards:

- We are committed to ensuring that the commercial and noncommercial messages disseminated on standard-size digital billboards will be static messages and the content shall not include animated, flashing, scrolling, intermittent or full-motion video elements (outside established entertainment areas).
- We are committed to ensuring that the ambient light conditions associated with standard-size digital billboards are monitored by a light sensing device at all times and that display brightness will be appropriately adjusted as ambient light levels change.

The respected media research firm Arbitron has studied public opinion (Los Angeles County, 2009, and the metro area of Cleveland, OH, 2008). With similar findings in each study, Arbitron says most commuters feel that digital billboards are a cool way to advertise and also provide important community information.

Traffic Safety

On December 30, 2013, the Federal Highway Administration (FHWA) released the findings of its multi-year research on drivers' behavior in proximity to digital billboards.

"DOT study finds digital billboards don't distract drivers," said the headline in *The Hill* newspaper in Washington, DC (January 7, 2014).

The government's findings tracked the outcome of industry-sponsored research, which found no connections to accidents.

FHWA's sister agency the National Highway Traffic Safety Administration (NHTSA) said in 2006: “Short, brief glances away from the forward roadway for the purpose of scanning the driving environment are safe and actually decrease near-crash/crash risk.”

This 2006 NHTSA study (“100-Car Naturalistic Driving Study”) said glances totaling more than 2 seconds increase crash risk. FHWA’s later research on digital billboards, released December 30, 2013, said the longest glances toward digital billboards were less than 1.3 seconds.

State review of crash data

Meanwhile, states have reviewed crash data. Effective January 1, 2015, New York State switched from 24-hour to 8-second display time on digital billboards. New York’s analysis of crash data “suggests there is no change in the crash patterns in the vicinity of the off-premise CEVMS billboards,” and continued monitoring is warranted.

Massachusetts DOT also looked at crash data: “The traffic engineers preparing the reports found no detrimental safety impacts” of the digital billboards.

A media report in 2015 summarized state regulatory acceptance of digital billboards, including New York State and Massachusetts.

Digital billboards help public safety



Emergency message after the Boston Marathon bombing

Government relies on digital billboards to communicate with the public.

Since 2008, the National Center for Missing & Exploited Children has transmitted more than 1,000 AMBER Alerts to digital billboards. The Center points out that time is of the essence after child abductions, and, therefore, quick posting on digital billboards is an important part of the AMBER Alert network.

The FBI says it has apprehended 53 fugitives as a direct result of tips from the public prompted by information on digital billboards.

The FBI calls digital billboards a "force multiplier." On March 16, 2012, FBI Director Robert S. Mueller presented the Director's Community Leadership Award to Ken Klein of the Outdoor Advertising Association of America in recognition of the industry's partnership to help law enforcement via digital billboards.



FBI Director Robert S. Mueller presents award to Ken Klein (OAAA)

At the local level, Albuquerque, NM, used digital billboards to urge conservation during a winter-time natural gas shortage. Police in Janesville, WI, post a variety of messages. "An elderly female suffering from Alzheimer's disease wandered away from family in a local shopping mall and was found by a citizen using the digital billboard information. When spring floods along the Rock River posed significant danger to the public, billboards were used to post warnings about the danger," wrote Chief of Police Neil Mahan (retired) in *The Police Chief* magazine.



FEMA message on digital billboard after storms hit Tuscaloosa, AL

Digital billboards support jobs

Billboard advertising supports jobs in local communities, typically more than two dozen jobs per advertiser. The digital sign industry also supports thousands of manufacturing jobs, incubates new ideas, and produces exports.

In 2001, Time-O-Matic, known for time-and-temperature signs, added Watchfire to its name to represent new products such as LED signs. "Watchfire is a living, thriving example for communities across America" that small business development is an engine of the overall economy, says Vicki Haugen of the economic development arm of Danville, IL, and surrounding Vermillion County.

U.S. Senator John Thune, R-SD, echoes that point. "Daktronics is the type of company that communities dream of having," said Thune, calling the company an "integral" part of the community of Brookings, SD. Daktronics designs and builds digital displays, electronic scoreboards, and programmable display systems. Each day in nearly 100 countries, millions of people depend on displays and scoring systems made by Daktronics, which is competing globally from small-town America.

In 1920, an immigrant from England named Tom Young went into the sign business with \$300. Today, Young Electric Sign Company – based in Salt Lake City, UT -- manufactures on-premise and off-premise signs including high-tech LED boards in Logan, UT.

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**DRIVER VISUAL BEHAVIOR IN THE PRESENCE OF COMMERCIAL
ELECTRONIC VARIABLE MESSAGE SIGNS (CEVMS)**

SEPTEMBER 2012

FOREWORD

The advent of electronic billboard technologies, in particular the digital Light-Emitting Diode (LED) billboard, has necessitated a reevaluation of current legislation and regulation for controlling outdoor advertising. In this case, one of the concerns is possible driver distraction. In the context of the present report, outdoor advertising signs employing this new advertising technology are referred to as Commercial Electronic Variable Message Signs (CEVMS). They are also commonly referred to as Digital Billboards and Electronic Billboards.

The present report documents the results of a study conducted to investigate the effects of CEVMS used for outdoor advertising on driver visual behavior in a roadway driving environment. The report consists of a brief review of the relevant published literature related to billboards and visual distraction, the rationale for the Federal Highway Administration research study, the methods by which the study was conducted, and the results of the study, which used an eye tracking system to measure driver glances while driving on roadways in the presence of CEVMS, standard billboards, and other roadside elements. The report should be of interest to highway engineers, traffic engineers, highway safety specialists, the outdoor advertising industry, environmental advocates, Federal policymakers, and State and local regulators of outdoor advertising.

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16. Abstract This study was conducted to investigate the effect of CEVMS on driver visual behavior in a roadway driving environment. An instrumented vehicle with an eye tracking system was used. Roads containing CEVMS, standard billboards, and control areas with no off-premise advertising were selected. Data were collected on arterials and freeways in the day and nighttime. Field studies were conducted in two cities where the same methodology was used but there were differences in the roadway visual environment. The gazes to the road ahead were high across the conditions; however, the CEVMS and billboard conditions resulted in a lower probability of gazes as compared to the control conditions (roadways not containing off-premise advertising) with the exception of arterials in Richmond where none of the conditions differed from each other. Examination of where drivers gazed in the CEVMS and standard billboard conditions showed that gazes away from the road ahead were not primarily to the billboards. Average and maximum fixations to CEVMS and standard billboards were similar across all conditions. However, four long dwell times were found (sequential and multiple fixations) that were greater than 2,000 ms. One was to a CEVMS on a freeway in the day time, two were to the same standard billboard on a freeway once in the day and once at night; and one was to a standard billboard on an arterial at night. In Richmond, the results showed that drivers gazed more at CEVMS than at standard billboards at night; however, in Reading the drivers were equally likely to gaze towards CEVMS or standard billboards in day and night. The results of the study are consistent with research and theory on the control of gaze behavior in natural environments. The demands of the driving task tend to affect the driver's self-regulation of gaze behavior.			
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SI* (MODERN METRIC) CONVERSION FACTORS				
APPROXIMATE CONVERSIONS TO SI UNITS				
Symbol	When You Know	Multiply By	To Find	Symbol
LENGTH				
in	inches	25.4	millimeters	mm
ft	feet	0.305	meters	m
yd	yards	0.914	meters	m
mi	miles	1.61	kilometers	km
AREA				
in ²	square inches	645.2	square millimeters	mm ²
ft ²	square feet	0.093	square meters	m ²
yd ²	square yard	0.836	square meters	m ²
ac	acres	0.405	hectares	ha
mi ²	square miles	2.59	square kilometers	km ²
VOLUME				
fl oz	fluid ounces	29.57	milliliters	mL
gal	gallons	3.785	liters	L
ft ³	cubic feet	0.028	cubic meters	m ³
yd ³	cubic yards	0.765	cubic meters	m ³
NOTE: volumes greater than 1000 L shall be shown in m ³				
MASS				
oz	ounces	28.35	grams	g
lb	pounds	0.454	kilograms	kg
T	short tons (2000 lb)	0.907	megagrams (or "metric ton")	Mg (or "t")
TEMPERATURE (exact degrees)				
°F	Fahrenheit	5 (F-32)/9 or (F-32)/1.8	Celsius	°C
ILLUMINATION				
fc	foot-candles	10.76	lux	lx
fl	foot-Lamberts	3.426	candela/m ²	cd/m ²
FORCE and PRESSURE or STRESS				
lbf	poundforce	4.45	newtons	N
lbf/in ²	poundforce per square inch	6.89	kilopascals	kPa
APPROXIMATE CONVERSIONS FROM SI UNITS				
Symbol	When You Know	Multiply By	To Find	Symbol
LENGTH				
mm	millimeters	0.039	inches	in
m	meters	3.28	feet	ft
m	meters	1.09	yards	yd
km	kilometers	0.621	miles	mi
AREA				
mm ²	square millimeters	0.0016	square inches	in ²
m ²	square meters	10.764	square feet	ft ²
m ²	square meters	1.195	square yards	yd ²
ha	hectares	2.47	acres	ac
km ²	square kilometers	0.386	square miles	mi ²
VOLUME				
mL	milliliters	0.034	fluid ounces	fl oz
L	liters	0.264	gallons	gal
m ³	cubic meters	35.314	cubic feet	ft ³
m ³	cubic meters	1.307	cubic yards	yd ³
MASS				
g	grams	0.035	ounces	oz
kg	kilograms	2.202	pounds	lb
Mg (or "t")	megagrams (or "metric ton")	1.103	short tons (2000 lb)	T
TEMPERATURE (exact degrees)				
°C	Celsius	1.8C+32	Fahrenheit	°F
ILLUMINATION				
lx	lux	0.0929	foot-candles	fc
cd/m ²	candela/m ²	0.2919	foot-Lamberts	fl
FORCE and PRESSURE or STRESS				
N	newtons	0.225	poundforce	lbf
kPa	kilopascals	0.145	poundforce per square inch	lbf/in ²

*SI is the symbol for the International System of Units. Appropriate rounding should be made to comply with Section 4 of ASTM E380.
(Revised March 2003)

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LIST OF ACRONYMS AND SYMBOLS

CEVMS	Commercial Electronic Variable Message Sign
EB	Empirical Bayes
DCZ	Data Collection Zone
ROI	Region of Interest
LED	Light-Emitting Diode
IR	Infra-Red
CCD	Charge-Coupled Device
MAPPS	Multiple-Analysis of Psychophysical and Performance Signals
GEE	Generalized Estimating Equations
FHWA	Federal Highway Administration
DOT	Department of Transportation

EXECUTIVE SUMMARY

This study examines where drivers look when driving past commercial electronic variable message signs (CEVMS), standard billboards, or no off-premise advertising. The results and conclusions are presented in response to the three research questions listed below:

1. Do CEVMS attract drivers' attention away from the forward roadway and other driving-relevant stimuli?
2. Do glances to CEVMS occur that would suggest a decrease in safety?
3. Do drivers look at CEVMS more than at standard billboards?

This study follows a Federal Highway Administration (FHWA) review of the literature on the possible distracting and safety effects of off-premise advertising and CEVMS in particular. The review considered laboratory studies, driving simulator studies, field research vehicle studies, and crash studies. The published literature indicated that there was no consistent evidence showing a safety or distraction effect due to off-premise advertising. However, the review also enumerated potential limitations in the previous research that may have resulted in the finding of no distraction effects for off-premise advertising. The study team recommended that additional research be conducted using instrumented vehicle research methods with eye tracking technology.

The eyes are constantly moving and they fixate (focus on a specific object or area), perform saccades (eye movements to change the point of fixation), and engage in pursuit movements (track moving objects). It is during fixations that we take in detailed information about the environment. Eye tracking allows one to determine to what degree off-premise advertising may divert attention away from the forward roadway. A finding that areas containing CEVMS result in significantly more gazes to the billboards at a cost of not gazing toward the forward roadway would suggest a potential safety risk. In addition to measuring the degree to which CEVMS may distract from the forward roadway, an eye tracking device would allow an examination of the duration of fixations and dwell times (multiple sequential fixations) to CEVMS and standard billboards. Previous research conducted by the National Highway Traffic Safety Administration (NHTSA) led to the conclusion that taking your eyes off the road for 2 seconds or more presents a safety risk. Measuring fixations and dwell times to CEVMS and standard billboards would also allow a determination as to the degree to which these advertising signs lead to potentially unsafe gaze behavior.

Most of the literature concerning eye gaze behavior in dynamic environments suggests that task demands tend to override visual salience (an object that stands out because of its physical properties) in determining attention allocation. When extended to driving, it would be expected that visual attention will be directed toward task-relevant areas and objects (e.g., the roadway, other vehicles, speed limit signs) and that other salient objects, such as billboards, would not necessarily capture attention. However, driving is a somewhat automatic process and conditions generally do not require constant, undivided attention. As a result, salient stimuli, such as CEVMS, might capture driver attention and produce an unwanted increase in driver distraction. The present study addresses this concern.

This study used an instrumented vehicle with an eye tracking system to measure where drivers were looking when driving past CEVMS and standard billboards. The CEVMS and standard billboards were measured with respect to luminance, location, size, and other relevant variables to characterize these visual stimuli extensively. Unlike previous studies on digital billboards, the present study examined CEVMS as deployed in two United States cities. These billboards did not contain dynamic video or other dynamic elements, but changed content approximately every 8 to 10 seconds. The eye tracking system had nearly a 2-degree level of resolution that provided significantly more accuracy in determining what objects the drivers were looking at compared to an earlier naturalistic driving study. This study assessed two data collection efforts that employed the same methodology in two cities.

In each city, the study examined eye glance behavior to four CEVMS, two on arterials and two on freeways. There were an equal number of signs on the left and right side of the road for arterials and freeways. The standard billboards were selected for comparison with CEVMS such that one standard billboard environment matched as closely as possible that of each of the CEVMS. Two control locations were selected that did not contain off-premise advertising, one on an arterial and the other on a freeway. This resulted in 10 data collection zones in each city that were approximately 1,000 feet in length (the distance from the start of the data collection zone to the point that the CEVMS or standard billboard disappeared from the data collection video).

In Reading, Pennsylvania, 14 participants drove at night and 17 drove during the day. In Richmond, Virginia, 10 participants drove at night and 14 drove during the day. Calibration of the eye tracking system, practice drive, and the data collection drive took approximately 2 hours per participant to accomplish.

The following is a summary of the study results and conclusions presented in reference to the three research questions the study aimed to address.

Do CEVMS attract drivers' attention away from the forward roadway and other driving relevant stimuli?

- On average, the drivers in this study devoted between 73 and 85 percent of their visual attention to the road ahead for both CEVMS and standard billboards. This range is consistent with earlier field research studies. In the present study, the presence of CEVMS did not appear to be related to a decrease in looking toward the road ahead.

Do glances to CEVMS occur that would suggest a decrease in safety?

- The average fixation duration to CEVMS was 379 ms and to standard billboards it was 335 ms across the two cities. The average fixation durations to CEVMS and standard billboards were similar to the average fixation duration to the road ahead.
- The longest fixation to a CEVMS was 1,335 ms and to a standard billboard it was 1,284 ms. The current widely accepted threshold for durations of glances away from the road ahead that result in higher crash risk is 2,000 ms. This value comes from a NHTSA

naturalistic driving study that showed a significant increase in crash odds when glances away from the road ahead were 2,000 ms or longer.

- Four dwell times (aggregate of consecutive fixations to the same object) greater than 2,000 ms were observed across the two studies. Three were to standard billboards and one was to a CEVMS. The long dwell time to the CEVMS occurred in the daytime to a billboard viewable from a freeway. Review of the video data for these four long dwell times showed that the signs were not far from the forward view while participant's gaze dwelled on them. Therefore, the drivers still had access to information about what was in front of them through peripheral vision.
- The results did not provide evidence indicating that CEVMS, as deployed and tested in the two selected cities, were associated with unacceptably long glances away from the road. When dwell times longer than the currently accepted threshold of 2,000 ms occurred, the road ahead was still in the driver's field of view. This was the case for both CEVMS and standard billboards.

Do drivers look at CEVMS more than at standard billboards?

- When comparing the probability of a gaze at a CEVMS versus a standard billboard, the drivers in this study were generally more likely to gaze at CEVMS than at standard billboards. However, some variability occurred between the two locations and between the types of roadway (arterial or freeway).
- In Reading, when considering the proportion of time spent looking at billboards, the participants looked more often at CEVMS than at standard billboards when on arterials (63 percent to CEVMS and 37 percent to a standard billboard), whereas they looked more often at standard billboards when on freeways (33 percent to CEVMS and 67 percent to a standard billboard). In Richmond, the drivers looked at CEVMS more than standard billboards no matter the type of road they were on, but as in Reading, the preference for gazing at CEVMS was greater on arterials (68 percent to CEVMS and 32 percent to standard billboards) than on freeways (55 percent to CEVMS and 45 percent to standard billboards). When a gaze was to an off-premise advertising sign, the drivers were generally more likely to gaze at a CEVMS than at a standard billboard.
- In Richmond, the drivers showed a preference for gazing at CEVMS versus standard billboards at night, but in Reading the time of day did not affect gaze behavior. In Richmond, drivers gazed at CEVMS 71 percent and at standard billboards 29 percent at night. On the other hand, in the day the drivers gazed at CEVMS 52 percent and at standard billboards 48 percent.
- In Reading, the average gaze dwell time for CEVMS was 981 ms and for standard billboards it was 1,386 ms. The difference in these average dwell times was not statistically significant. In contrast, the average dwell times to CEVMS and standard billboards were significantly different in Richmond (1,096 ms and 674 ms, respectively).

The present data suggest that the drivers in this study directed the majority of their visual attention to areas of the roadway that were relevant to the task at hand (e.g., the driving task). Furthermore, it is possible, and likely, that in the time that the drivers looked away from the forward roadway, they may have elected to glance at other objects in the surrounding environment (in the absence of billboards) that were not relevant to the driving task. When billboards were present, the drivers in this study sometimes looked at them, but not such that overall attention to the forward roadway decreased.

It also should be noted that, like other studies in the available literature, this study adds to the knowledge base on the issues examined, but does not present definitive answers to the research questions investigated.

INTRODUCTION

“The primary responsibility of the driver is to operate a motor vehicle safely. The task of driving requires full attention and focus. Drivers should resist engaging in any activity that takes their eyes and attention off of the road for more than a couple of seconds. In some circumstances even a second or two can make all the difference in a driver being able to avoid a crash.” – US Department of Transportation⁽¹⁾

The advent of electronic billboard technologies, in particular the digital Light-Emitting Diode (LED) billboard, has prompted a reevaluation of regulations for controlling outdoor advertising. An attractive quality of these LED billboards, which are hereafter referred to as Commercial Electronic Variable Message Signs (CEVMS), is that advertisements can change almost instantly. Furthermore, outdoor advertising companies can make these changes from a central remote office. Of concern is whether or not CEVMS may attract drivers’ attention away from the primary task (driving) in a way that compromises safety.

The current Federal Highway Administration (FHWA) guidance recommends that CEVMS should not change content more frequently than once every 8 seconds.⁽²⁾ However, according to Scenic America, the basis of the safety concern is that the “...distinguishing trait...” of a CEVMS “... is that it can vary while a driver watches it, in a setting in which that variation is likely to attract the drivers’ attention away from the roadway.”⁽³⁾ This study was conducted to provide the FHWA with data to determine if CEVMS capture visual attention differently than standard off-premise advertising billboards.

BACKGROUND

A 2009 review of the literature by Molino et al. for the FHWA failed to find convincing empirical evidence that CEVMS, as currently implemented, constitutes a safety risk greater than that of conventional vinyl billboards.⁽⁴⁾ A great deal of work has been focused in this area, but the findings of these studies have been mixed.^(4,5) A summary of the key past findings is presented here, but the reader is referred to Molino et al. for a comprehensive review of studies prior to 2008.⁽⁴⁾

Post-Hoc Crash Studies

Post-hoc crash studies use reviews of police traffic collision reports or statistical summaries of such reports in an effort to understand the causes of crashes that have taken place in the vicinity of some change to the roadside environment. In the present case, the change of concern is the introduction of CEVMS to the roadside or the replacement of conventional billboards with CEVMS.

The literature review conducted by Molino et al. did not find compelling evidence for a distraction effect attributable to CEVMS.⁽⁴⁾ The authors concluded that all post-hoc crash studies are subject to certain weaknesses, most of which are difficult to overcome. For example, the vast majority of crashes are never reported to police; thus, such studies are likely to underreport crashes. Also, when crashes are caused by factors such as driver distraction or inattention, the involved driver may be unwilling or unable to report these factors to a police investigator.

Another weakness is that police, under time pressure, are rarely able to investigate the true root causes of crashes unless they involve serious injury, death, or extensive property damage. Furthermore, to have confidence in the results, such studies need to collect comparable data before and after the change, and, in the after phase, at equivalent but unaffected roadway sections. Since crashes are infrequent events, data collection needs to span extended periods of time both before and after introduction of the change. Few studies are able to obtain such extensive data.

Two recent studies by Tantala and Tantala examined the relationship between the presence of CEVMS and crash statistics in Richmond, Virginia, and Reading, Pennsylvania.^(6,7) For the Richmond area, 7 years of crash data at 10 locations with CEVMS were included in the analyses. The study used a before-after methodology where most sites originally contained vinyl billboards (before) that were converted to CEVMS (after). The quantity of crash data was not the same for all locations and ranged from 1 year before/after to 3 years before/after. The study employed the Empirical Bayes (EB) method to analyze the data.⁽⁸⁾ The results indicated that the total number of crashes observed was consistent with what would be statistically expected with or without the introduction of CEVMS. The analysis approach for Reading locations was much the same as for Richmond other than there were 20 rather than 10 CEVMS and 8 years of crash statistics. The EB method showed results for Reading that were very similar to those of Richmond.

The studies by Tantala and Tantala appear to address many of the concerns from Molino et al. regarding the weaknesses and issues associated with crash studies.^(4,6,7) For example, they include crash comparisons for locations within multiple distances of each CEVMS to address concerns about the visual range used in previous analyses. They used EB analysis techniques to correct for regression-to-mean bias. Also, the EB method would better reflect crash rate changes due to changes in average daily traffic and the interactions of these with the roadway features that were coded in the model. The studies followed approaches that are commonly used in post-hoc crash studies, though the results would have been strengthened by including before-after results for non-CEVMS locations as a control group.

Field Investigations

Field investigations include unobtrusive observation, naturalistic driving studies, on-road instrumented vehicle investigations, test track experiments, driver interviews, surveys, and questionnaires. The following focuses on relevant studies that employed naturalistic driving and on-road instrumented vehicle research methods.

Lee, McElheny, and Gibbons undertook an on-road instrumented vehicle study on Interstate and local roads near Cleveland, Ohio.⁽⁹⁾ The study looked at driver glance behavior in the vicinity of digital billboards, conventional billboards, comparison sites (sites with buildings and other signs, including digital signs), and control sites (those without similar signage). The results showed that there were no differences in the overall glance patterns (percent eyes-on-road and overall number of glances) between the different sites. Drivers also did not glance more frequently in the direction of digital billboards than in the direction of other event types (conventional billboards, comparison events, and baseline events) but drivers did take longer glances in the direction of digital billboards and comparison sites than in the direction of conventional billboards and baseline sites. However, the mean glance length toward the digital billboards was less than

1,000 ms. It is important to note that this study employed a video-based approach for examining drivers' visual behavior, which has an accuracy of no better than 20 degrees.⁽¹⁰⁾ While this technique is likely to be effective in assessing gross eye movements and looks that are away from the road ahead, it may not have sufficient resolution to discriminate what specific object the driver is looking at outside of the vehicle.

Beijer, Smiley, and Eizenman evaluated driver glances toward four different types of roadside advertising signs on roads in the Toronto, Canada, area.⁽¹¹⁾ The four types of signs were: (a) billboard signs with static advertisements; (b) billboard advertisements placed on vertical rollers that could rotate to show one of three advertisements in succession; (c) scrolling text signs with a minor active component, which usually consisted of a small strip of lights that formed words scrolling across the screen or, in some cases, a larger area capable of displaying text but not video; and (d) signs with video images that had a color screen capable of displaying both moving text and moving images. The study employed an on-road instrumented vehicle with a head-mounted eye tracking device. The researchers found no significant differences in average glance duration or the maximum glance duration for the various sign types; however, the number of glances was significantly lower for billboard signs than for the roller bar, scrolling text, and video signs.

Smiley, Smahel, and Eizenman conducted a field driving study that employed an eye tracking system that recorded drivers' eye movements as participants drove past video signs located at three downtown intersections and along an urban expressway.⁽¹²⁾ The study route included static billboards and video advertising. The results of the study showed that on average 76 percent of glances were to the road ahead. Glances at advertising, including static billboards and video signs, constituted 1.2 percent of total glances. The mean glance durations for advertising signs were between 500 ms and 750 ms, although there were a few glances of about 1,400 ms in duration. Video signs were not more likely than static commercial signs to be looked at when headways were short; in fact, the reverse was the case. Furthermore, the number of glances per individual video sign was small, and statistically significant differences in looking behavior were not found.

Kettwich, Kartsen, Klinger, and Lemmer conducted a field study where drivers' gaze behavior was measured with an eye tracking system.⁽¹³⁾ Sixteen participants drove an 11.5 mile (18.5 km) route comprised of highways, arterial roads, main roads, and one-way streets in Karlsruhe, Germany. The route contained advertising pillars, event posters, company logos, and video screens. Mean gaze duration for the four types of advertising was computed for periods when the vehicle was in motion and when it was stopped. Gaze duration while driving for all types of advertisements was under 1,000 ms. On the other hand, while the vehicle was stopped, the mean gaze duration for video screen advertisements was 2,750 ms. The study showed a significant difference between gaze duration while driving and while stationary: gaze duration was affected by the task at hand. That is, drivers tended to gaze longer while the car was stopped and there were few driving task demands.

The previously mentioned studies estimated the duration of glances to advertising and computed mean values of less than 1,000 ms. Klauer et al., in his analysis of the 100-Car Naturalistic Driving Study, concluded that glances away from the roadway for any purpose lasting more than 2,000 ms increase near-crash/crash risk by at least two times that of normal, baseline driving.⁽¹⁴⁾

Klauer et al. also indicated that short, brief glances away from the forward roadway for the purpose of scanning the driving environment are safe and actually decrease near-crash/crash risk.⁽¹⁴⁾ Using devices in a vehicle that draw visual attention away from the forward roadway for more than 2,000 ms (e.g., texting) is incompatible with safe driving. However, for external stimuli, especially those near the roadway, the evaluation of eye glances with respect to safety is less clear since peripheral vision would allow the driver to still have visual access to the forward roadway.

Laboratory Studies

Laboratory investigations related to roadway safety can be classified into several categories: driving simulations, non-driving-simulator laboratory testing, and focus groups. The review of relevant laboratory studies by Molino et al. did not show conclusive evidence regarding the distracting effects of CEVMS.⁽⁴⁾ Moreover, the authors concluded that present driving simulators do not have sufficient visual dynamic range, image resolution, and contrast ratio capability to produce the compelling visual effect of a bright, photo-realistic LED-based CEVMS against a natural background scene. The following is a discussion of a driving simulator study conducted after the publication of Molino et al.⁽⁴⁾ The study focused on the effects of advertising on driver visual behavior.

Chattington, Reed, Basacik, Flint, and Parkes conducted a driving simulator study in the United Kingdom (UK) to evaluate the effects of static and video advertising on driver glance behavior.⁽¹⁵⁾ The researchers examined the effects of advertisement position relative to the road (left, right, center on an overhead gantry, and in all three locations simultaneously), type of advertisement (static or video), and exposure duration of the advertisement. (The paper does not provide these durations in terms of time or distance. The exposure duration had to do with the amount of time or distance that the sign would be visible to the driver.) For the advertisements presented on the left side of the road (recall that drivers travel in the left lane in the UK), mean glance durations for static and video advertisements were significantly longer (approximately 650 to 750 ms) when drivers experienced long advertisement exposure as opposed to medium and short exposures. Drivers looked more at video advertisements (about 2 percent on average of the total duration recorded) than at static advertisements (about 0.75 percent on average). In addition, the location of the advertisements had an effect on glance behavior. When advertisements were located in the center of the road or in all three positions simultaneously, the glance durations were about 1,000 ms and were significantly longer than for signs placed on the right or left side of the road. For advertisements placed on the left side of the road, there was a significant difference in glance duration between static (about 400 ms) and video (about 800 ms). Advertisement position also had an effect on the proportion of time that a driver spent looking at an advertisement. The percentage of time looking at advertisements was greatest when signs were placed in all three locations, followed by center location signs, then the left location signs, and finally the right location signs. Drivers looked more at the video advertisements relative to the static advertisements when they were placed in all three locations, placed on the left, and placed on the right side of the road. The center placement did not show a significant difference in percent of time spent looking between static and video.

Summary

The results from these key studies offer some insight into whether CEVMS pose a visual distraction threat. However, these same studies also reveal some inconsistent findings and potential methodological issues that are addressed in the current study. The studies conducted by Smiley et al. showed drivers glanced forward at the roadway about 76 percent of the time in the presence of video and dynamic signs where a few long glances of approximately 1,400 ms were observed.⁽¹²⁾ However, the video and dynamic signs used in these studies portray moving objects that are not present in CEVMS as deployed in the United States. In another field study employing eye tracking, Kettwich et al. found that gaze duration while driving for all types of advertisements that they evaluated was less than 1,000 ms; however, when the vehicle was stopped, mean gaze duration for advertising was as high as 2,750 ms.⁽¹⁶⁾ Collectively, these studies did not demonstrate that the advertising signs detracted from drivers' glances forward at the roadway in a substantive manner while the vehicle was moving.

In contrast, the simulator study by Chattington et al. demonstrated that dynamic signs showing moving video or other dynamic elements may draw attention away from the roadway.⁽¹⁵⁾ Furthermore, the location of the advertising sign on the road is an important factor in drawing drivers' visual attention. Advertisements with moving video placed in the center of the roadway on an overhead gantry or in all three positions (right, left, and in the center) simultaneously are very likely to draw glances from drivers.

Finally, in a study that examined CEVMS as deployed in the United States, Lee et al. did not show any significant effects of CEVMS on driver glance behavior.⁽⁹⁾ However, the methodology that was used likely did not employ sufficient sensitivity to determine at what specific object in the environment a driver was looking.

None of these studies combined all necessary factors to address the current CEVMS situation in the United States. Those studies that used eye tracking on real roads had animated and video-based signs, which are not reflective of current off-premise CEVMS practice in the United States.

STUDY APPROACH

Based on an extensive review of the literature, Molino et al. concluded that the most effective method to use in an evaluation of the effects of CEVMS on driver visual behavior was the instrumented field vehicle method that incorporated an eye tracking system.⁽⁴⁾ The present study employed such an instrumented field vehicle with an eye tracking system and examined the degree to which CEVMS attract drivers' attention away from the forward roadway.

The following presents a brief overview and discussion of studies using eye tracking methodology with complex visual stimuli, especially in natural environments (walking, driving, etc.). The review by Molino et al. recommended the use of this type of technology and method; however, a discussion laying out technical and theoretical issues underlying the use of eye tracking methods was not presented.⁽⁴⁾ This background is important for the interpretation of the results of the studies conducted here.

Standard and digital billboards are often salient stimuli in the driving environment, which may make them conspicuous. Cole and Hughes define attention conspicuity as the extent to which a stimulus is sufficiently prominent in the driving environment to capture attention. Further, Cole and Hughes state that attention conspicuity is a function of size, color, brightness, contrast relative to surroundings, and dynamic components such as movement and change.⁽¹⁷⁾ It is clear that under certain circumstances image salience or conspicuity can provide a good explanation of how humans orient their attention.

At any given moment a large number of stimuli reach our senses, but only a limited number of them are selected for further processing. In general, attention can be focused on a stimulus because it is important for achieving some goal, or because the properties of the stimulus can attract the attention of the observer independent of their intentions (e.g., a car horn may elicit an orienting response). When the focus of attention is goal directed, it is referred to as top-down. When the focus of attention is principally a function of stimulus attributes, it is referred to as bottom-up.⁽¹⁸⁾

In general, billboards (either standard or CEVMS) are not relevant to the driving task but are presumably designed to be salient stimuli in the environment where they may draw a driver's attention. The question is to what degree CEVMS draw a driver's attention away from driving-relevant stimuli (e.g., road ahead, mirrors, and speedometer) and is this different from a standard billboard? In his review of the literature Wachtel leads one to consider CEVMS as stimuli in the environment where attention to them would be drawn in a bottom-up manner; that is, the salience of the billboards would make them stand out relative to other stimuli in the environment and drivers would reflexively look at these signs.⁽¹⁹⁾ Wachtel's conclusions were in reference to research by Theeuwes who employed simple letter stimulus arrays in a laboratory task.⁽²⁰⁾ Research using simple visual stimuli in a laboratory environment are very useful for testing different theories of perception, but often lack direct application to tasks such as driving. The following discusses research using complex visual stimuli and tasks that are more relevant to natural vision as experienced in the driving task.

A recent review of stimulus salience and eye guidance by Tatler et al. shows that most of the evidence for the capture of attention by the conspicuity of stimuli comes from research in which the stimulus is a simple visual search array or in which the target is uniquely defined by simple visual features.⁽²¹⁾ In other words, these are laboratory studies that use letters, arrays of letters, or simple geometric patterns as the stimuli. Pure salience-based models are capable of predicting eye movement endpoint in simple displays, but are less successful for more complex scenes that contain task-relevant and task-irrelevant salient areas.^(22,23)

Research by Henderson et al. using photographs of actual scenes showed that subjects looked at non-salient scene regions containing a search target and rarely looked at salient non-task-relevant regions of the scenes.⁽²⁴⁾ Salience of the stimulus alone was not a good predictor of where participants looked. Additional research by Henderson using photographs of real world scenes also showed that subjects fixated on regions of the pictures that provided task-relevant information rather than visually salient regions with no task-relevant information. However, Henderson acknowledges that static pictures have many shortcomings when used as surrogates for real environments.⁽²⁵⁾

Land's review of eye movements in dynamic environments concluded that the eyes are proactive and typically seek out information required in the second before each new activity commences.⁽²⁶⁾ Specific tasks (e.g., driving) have characteristic but flexible patterns of eye movement that accompany them, and these patterns are similar between individuals. Land concluded that the eyes rarely visit objects that are irrelevant to the task, and the conspicuity of objects is less important than the objects' roles in the task. In a subsequent review of eye movement and natural behavior, Land concluded that in a task that requires fixation on a sequence of specific objects, the capture of gaze by irrelevant salient objects would, in general, be an obtrusive nuisance.⁽²²⁾

The literature examining gaze control under natural behavior suggests that it is principally top-down driven, or intentional.^(24,25,26,22,21,27) However, top-down processing does not explain all gaze control or eye movements. For example, imagine driving down a two-lane country road and a deer jumps into the road. It is most likely that you will attend and react to this deer. Unplanned or unexpected stimuli capture our attention as we engage in complex natural tasks. Research by Jovancevic-Misic and Hayhoe showed that human gaze patterns are sensitive to the probabilistic nature of the environment.⁽²⁸⁾ In this study, participants' eye movement behavior was observed while walking among other pedestrians. The other pedestrians were confederates and were either safe, risky, or rogue pedestrians. When the study began, the risky pedestrian took a collision course with the participant 50 percent of the time, and the rogue pedestrian always assumed a collision course as he approached the participant, whereas the safe pedestrian never took a collision course. Midway through the study the rogue and safe pedestrians exchanged roles but the risky pedestrian role remained the same. The participants were not informed about the behavior of the other pedestrians. Participants were asked to follow a circular path for several laps and to avoid other pedestrians. The study showed that the participants modified their gaze behavior in response to the change in the other pedestrians' behavior. Jovancevic-Misic concluded that participants learned new priorities for gaze allocation within a few encounters and looked both sooner and longer at potentially dangerous pedestrians.⁽²⁸⁾

Gaze behavior in natural environments is affected by expectations that are derived through long-term learning. Using a virtual driving environment, Shinoda et al. asked participants to look for stop signs while driving an urban route.⁽²⁹⁾ Approximately 45 percent of the fixations fell in the general area of intersections during the simulated drive, and participants were more likely to detect stop signs placed near intersections than those placed in the middle of a block. Over time, drivers have learned that stop signs are more likely to appear near intersections and, as a result, drivers prioritize their allocation of gazes to these areas of the roadway.

The Tatler et al. review of the literature concludes that in natural vision, a consistent set of principles underlies eye guidance. These principles include relevance or reward potential, uncertainty about the state of the environment, and learned models of the environment.⁽²¹⁾ Salience of environmental stimuli alone typically does not explain most eye gaze behavior in naturalistic environments.

In sum, most of the literature concerning eye gaze behavior in dynamic environments suggests that task demands tend to override visual salience in determining attention allocation. When extended to driving, it would be expected that visual attention will be directed toward task-relevant areas and objects (e.g., the roadway, other vehicles, speed limit signs, etc.) and other

salient objects, such as billboards, will not necessarily capture attention. However, driving is a somewhat automatic process and conditions generally do not require constant undivided attention. As a result, salient stimuli, such as CEVMS, might capture driver attention and provide an unwarranted increase in driver distraction. The present study addresses this concern.

Research Questions

The present research evaluated the effects of CEVMS on driver visual behavior under actual roadway conditions in the daytime and at night. Roads containing CEVMS, standard billboards, and areas not containing off-premise advertising were selected. The CEVMS and standard billboards were measured with respect to luminance, location, size, and other relevant visual characteristics. The present study examined CEVMS as deployed in two United States cities. Unlike previous studies, the signs did not contain dynamic video or other dynamic elements. In addition, the eye tracking system used in this study has approximately a 2-degree level of resolution. This provided significantly more accuracy in determining what objects the drivers were looking at than in previous on-road studies examining looking behavior (recall that Lee et al. used video recordings of drivers' faces that, at best, examined gross eye movements).⁽⁹⁾

Two studies are reported. Each study was conducted in a different city. The two studies employed the same methodology. The studies' primary research questions were:

1. Do CEVMS attract drivers' attention away from the forward roadway and other driving relevant stimuli?
2. Do glances to CEVMS occur that would suggest a decrease in safety?
3. Do drivers look at CEVMS more than at standard billboards?

EXPERIMENTAL APPROACH

The study used a field research vehicle equipped with a non-intrusive eye tracking system. The vehicle was a 2007 Jeep® Grand Cherokee Sport Utility Vehicle. The eye tracking system used (SmartEye® vehicle-mounted infrared (IR) eye-movement measuring system) is shown in figure 1.⁽³⁰⁾ The system consists of two IR light sources and three face cameras mounted on the dashboard of the vehicle. The cameras and light sources are small in size, and are not attached to the driver in any manner. The face cameras are synchronized to the IR light sources and are used to determine the head position and gaze direction of the driver.



Figure 1. Eye tracking system camera placement.

As a part of this eye tracking system, the vehicle was outfitted with a three-camera panoramic scene monitoring system for capturing the forward driving scene. The scene cameras were mounted on the roof of the vehicle directly above the driver's head position. The three cameras together provided an 80-degree wide by 40-degree high field of forward view. The scene cameras captured the forward view area available to the driver through the left side of the windshield and a portion of the right side of the windshield. The area visible to the driver through the rightmost area of the windshield was not captured by the scene cameras.

The vehicle was also outfitted with equipment to record GPS position, vehicle speed, and vehicle acceleration. The equipment also recorded events entered by an experimenter and synchronized those events with the eye tracking and vehicle data. The research vehicle is pictured in figure 2.



Figure 2. FHWA's field research vehicle.

EXPERIMENTAL DESIGN OVERVIEW

The approach entailed the use of the instrumented vehicle in which drivers navigated routes in cities that presented CEVMS and standard billboards as well as areas without off-premise advertising. The participants were instructed to drive the routes as they normally would. The drivers were not informed that the study was about outdoor advertising, but rather that it was about examining drivers' glance behavior as they followed route guidance directions.

Site Selection

More than 40 cities were evaluated in the selection of the test sites. Locations with CEVMS displays were identified using a variety of resources that included State department of transportation contacts, advertising company Web sites, and a popular geographic information system. A matrix was developed that listed the number of CEVMS in each city. For each site, the number of CEVMS along limited access and arterial roadways was determined.

One criterion for site selection was whether the location had practical routes that pass by a number of CEVMS as well as standard off-premise billboards and could be driven in about 30 minutes. Other considerations included access to vehicle maintenance personnel/facilities, proximity to research facilities, and ease of participant recruitment. Two cities were selected: Reading, and Richmond.

Table 1 presents the 16 cities that were included on the final list of potential study sites.

Table 1. Distribution of CEVMS by roadway classification for various cities.

<i>State</i>	<i>Area</i>	<i>Limited Access</i>	<i>Arterial</i>	<i>Other ⁽¹⁾</i>	<i>Total</i>
VA	Richmond	4	7	0	11
PA	Reading	7	11	0	18
VA	Roanoke	0	11	0	11
PA	Pittsburgh	0	0	15	15
TX	San Antonio	7	2	6	15
WI	Milwaukee	14	2	0	16
AZ	Phoenix	10	6	0	16
MN	St. Paul/Minneapolis	8	5	3	16
TN	Nashville	7	10	0	17
FL	Tampa-St. Petersburg	7	11	0	18
NM	Albuquerque	0	19	1	20
PA	Scranton-Wilkes Barre	7	14	1	22
OH	Columbus	1	22	0	23
GA	Atlanta	13	11	0	24
IL	Chicago	22	2	1	25
CA	Los Angeles	3	71	4	78

(1) Other includes roadways classified as both limited access and arterial or instances where the road classification was unknown. *Source:* www.lamar.com and www.clearchannel.com

In both test cities, the following independent variables were evaluated:

- **The type of advertising.** This included CEVMS, standard billboards, and no off-premise advertising. (It should be noted that in areas with no off-premise advertising, it was still possible to encounter on-premise advertising; e.g., for gas stations, restaurants, and other miscellaneous stores and shops.)
- **Time of day.** This included driving in the daytime and at night.
- **The functional class of roadways in which off-premise advertising signs were located.** Roads were classified as either freeway or arterial. It was observed that the different road classes were correlated with the presence of other visual information that could affect the driver's glance behavior. For example, the visual environment on arterials may be more complex or cluttered than on freeways because of the close proximity of buildings, driveways, and on-premise advertising, etc.

READING

The first on-road study was conducted in Reading. This study examined the type of advertising (CEVMS, standard billboard, or no off-premise advertising), time of day (day or night) and road type (freeway or arterial) as independent variables. Eye tracking was used to assess where participants gazed and for how long while driving. The luminance and contrast of the advertising signs were measured to characterize the billboards in the current study.

METHOD

Selection of Data Collection Zone Limits

Data collection zones (DCZ) were defined on the routes that participants drove where detailed analyses of the eye tracking data were planned. The DCZ were identified that contained a CEVMS, a standard billboard, or no off-premise advertising.

The rationale for selecting the DCZ limits took into account the geometry of the roadway (e.g., road curvature or obstructions that blocked view of billboards) and the capabilities of the eye tracking system (2 degrees of resolution). At a distance of 960 ft (292.61 m), the average billboard in Reading was 12.8 ft (3.90 m) by 36.9 ft (11.25 m) and would subtend a horizontal visual angle of 2.20 degrees and a vertical visual angle of 0.76 degrees, and thus glances to the billboard would just be resolvable by an eye tracking system with 2 degrees of accuracy. Therefore 960 ft was chosen as the maximum distance from billboards at which a DCZ would begin. If the target billboard was not visible from 960 ft (292.61 m) due to roadway geometry or other visual obstructions, such as trees or an overpass, the DCZ was shortened to a distance that prevented these objects from interfering with the driver's vision of the billboard. In DCZs with target off-premise billboards, the end of the DCZ was marked when the target billboard left the view of the scene camera. If the area contained no off-premise advertising, the end of the DCZ was defined by a physical landmark leaving the view of the eye tracking systems' scene camera.

Table 2 shows the data collection zone limits used in this study.

Advertising Conditions

The type of advertising present in DCZs was examined as an independent variable. DCZs fell into one of the following categories, which are listed in the second column of table 2:

- **CEVMS.** These were DCZs that contained one target CEVMS. Two CEVMS DCZs were located on freeways and two were located on arterials. Figure 3 and figure 4 show examples of CEVMS DCZs with the CEVMS highlighted in the pictures.
- **Standard billboard.** These were DCZs that contained one target standard billboard. Two standard billboard DCZs were located on freeways and two were located on arterials. Figure 5 and figure 6 show examples of standard billboard DCZs; the standard billboards are highlighted in the pictures.

- **No off-premise advertising conditions.** These DCZs contained no off-premise advertising. One of these DCZs was on a freeway (see figure 7) and the other was on an arterial (see figure 8).

Table 2. Inventory of target billboards with relevant parameters.

<i>DCZ</i>	<i>Advertising Type</i>	<i>Copy Dimensions (ft)</i>	<i>Side of Road</i>	<i>Setback from Road (ft)</i>	<i>Other Standard Billboards</i>	<i>Approach Length (ft)</i>	<i>Type of Roadway</i>
1	CONTROL	N/A	N/A	N/A	N/A	786	Freeway
6	CONTROL	N/A	N/A	N/A	N/A	308	Arterial
3	CEVMS	10'6" x 22'9"	L	12	0	375	Arterial
5	CEVMS	14'0" x 48'0"	L	133	1	853	Freeway
9	CEVMS	10'6" x 22'9"	R	43	0	537	Arterial
10	CEVMS	14'0" x 48'0"	R	133	1	991	Freeway
2	Standard	14'0" x 48'0"	L	20	0	644	Arterial
7	Standard	14'0" x 48'0"	R	35	1	774	Freeway
8	Standard	10'6" x 22'9"	R	40	1	833	Arterial
4	Standard	14'0" x 48'0"	L	10	0	770	Freeway

**N/A indicates that there were no off-premise advertising in these areas and these values are undefined.*



Figure 3. DCZ with a target CEVMS on a freeway.



Figure 4. DCZ with a target CEVMS on an arterial.



Figure 5. DCZ with a target standard billboard on a freeway.



Figure 6. DCZ with a target standard billboard on an arterial.



Figure 7. DCZ for the control condition on a freeway.



Figure 8. DCZ for the control condition on an arterial.

Photometric Measurement of Signs

Two primary metrics were used to describe the photometric characteristics of a sample of the CEVMS and standard billboards present at each location: luminance (cd/m^2) and contrast (Weber contrast ratio).

Photometric Equipment

Luminance was measured with a Radiant Imaging ProMetric 1600 Charge-Coupled Device (CCD) photometer with both a 50 mm and a 300 mm lenses. The CCD photometer provided a method of capturing the luminance of an entire scene at one time.

The photometric sensors were mounted in a vehicle of similar size to the eye tracking research vehicle. The photometer was located in the experimental vehicle as close to the driver's position as possible and was connected to a laptop computer that stored data as the images were acquired.

Measurement Methodology

Images of the billboards were acquired using the photometer manufacturer's software. The software provided the mean luminance of each billboard message. To prevent overexposure of

images in daylight, neutral density filters were manually affixed to the photometer lens and the luminance values were scaled appropriately. Standard billboards were typically measured only once; however, for CEVMS multiple measures were taken to account for changing content.

Photometric measurements were taken during day and night. Measurements were taken by centering the billboard in the photometer's field of view with approximately the equivalent of the width of the billboard on each side and the equivalent of the billboard height above and below the sign. The areas outside of the billboards were included to enable contrast calculations.

Standard billboards were assessed at a mean distance of 284 ft (ranging from 570 ft to 43 ft). The CEVMS were assessed at a mean distance of 479 ft (ranging from 972 ft to 220 ft). To include the background regions of appropriate size, the close measurement distances required the use of the 50 mm lens whereas measurements made from longer distances required the 300 mm lens. A significant determinant of the measurement locations was the availability of accessible and safe places from which to measure.

The Weber contrast ratio was used because it characterizes a billboard as having negative or positive contrast when compared to its background area.⁽³¹⁾ A negative contrast indicates the background areas have a higher mean luminance than the target billboard. A positive contrast indicates the target billboard has a higher mean luminance than the background. Overall, the absolute value of a contrast ratio simply indicates a difference in luminance between an item and its background. From a perceptual perspective luminance and contrast are directly related to the perception of brightness. For example, two signs with equal luminance may be perceived differently with respect to brightness because of differences in contrast.

Visual Complexity

Regan, Young, Lee and Gordon presented a taxonomic description of the various sources of driver distraction.⁽³²⁾ Potential sources of distraction were discussed in terms of: things brought into the vehicle; vehicle systems; vehicle occupants; moving objects or animals in the vehicle; internalized activity; and external objects, events, or activities. The external objects may include buildings, construction zones, billboards, road signs, vehicles, and so on. Focusing on the potential for information outside the vehicle to attract (or distract) the driver's attention, Horberry and Edquist developed a taxonomy for out-of-the-vehicle visual information. This suggested taxonomy includes four groupings of visual information: built roadway, situational entities, natural environment, and built environment.⁽³³⁾ These two taxonomies provide an organizational structure for conducting research; however, they do not currently provide a systematic or quantitative way of classifying the level of clutter or visual complexity present in a visual scene.

The method proposed by Rozenholtz, Li, and Nakano provides quantitative and perhaps reliable measures of visual clutter.⁽³⁴⁾ Their approach measures the feature congestion in a visual image. The implementation of the feature congestion measure involves four stages: (1) compute local feature covariance at multiple scales and compute the volume of the local covariance ellipsoid, (2) combine clutter across scale, (3) combine clutter across feature types, and (4) pool over space to get a single measure of clutter for each input image. The implementation that was used employed color, orientation and luminance contrast as features. Presumably, less cluttered

images can be visually coded more efficiently than cluttered images. For example, visual clutter can cause decreased recognition performance and greater difficulty in performing visual search.⁽³⁵⁾

Participants

In the present study participants were recruited at public libraries in the Reading area. A table was set up so that recruiters could discuss the requirements of the experiment with candidates. Individuals who expressed interest in participating were asked to complete a pre-screening form, a record of informed consent, and a department of motor vehicles form consenting to release of their driving record.

All participants were between 18 and 64 years of age and held a valid driver's license. The driving record for each volunteer was evaluated to eliminate drivers with excessive violations. The criteria for excluding drivers were as follows: (a) more than one violation in the preceding year; (b) more than three recorded violations; and (c) any driving while intoxicated violation.

Forty-three individuals were recruited to participate. Of these, five did not complete the drive because the eye tracker could not be calibrated to track their eye movements accurately. Data from an additional seven participants were excluded as the result of equipment failures (e.g., loose camera). In the end, usable data was collected from 31 participants (12 males, $M = 46$ years; 19 females, $M = 47$ years). Fourteen participants drove at night and 17 drove during the day.

Procedures

Data were collected from two participants per day (beginning at approximately 12:45 p.m. and 7:00 p.m.). Data collection began on September 18, 2009, and was completed on October 26, 2009.

Pre-Data Collection Activities

Participants were greeted by two researchers and asked to complete a fitness to drive questionnaire. This questionnaire focused on drivers' self-reports of alertness and use of substances that might impair driving (e.g., alcohol). All volunteers appeared fit.

Next, the participant and both researchers moved to the eye tracking calibration location and the test vehicle. The calibration procedure took approximately 20 minutes. Calibration of the eye tracking system entailed development of a profile for each participant. This was accomplished by taking multiple photographs of the participant's face as they slowly rotate their head from side to side. The saved photographs include points on the face for subsequent real-time head and eye tracking. Marked coordinates on the face photographs were edited by the experimenter as needed to improve the real-time face tracking. The procedure also included gaze calibration in which participants gazed at nine points on a wall. These points had been carefully plotted on the wall and correspond to the points in the eye tracking system's world model. Gaze calibration relates the individual participant's gaze vectors to known points in the real world. The eye tracking system uses two pulsating infrared sources mounted on the dashboard to create two corneal glints that are used to calculate gaze direction vectors. The glints were captured at 60 Hz. A second set

of cameras (scene cameras), fixed on top of the car close to the driver's viewpoint, were used to produce a video scene of the area ahead. The scene cameras recorded at 25 Hz. A parallax correction algorithm compensated for the distance between the driver's viewpoint and the scene cameras so that later processing could use the gaze vectors to show where in the forward scene the driver was gazing.

If it was not possible to calibrate the eye tracking system to a participant, the participant was dismissed and paid for their time. Causes of calibration failure included reflections from eye glasses, participant height (which put their eyes outside the range of the system), and eyelids that obscure a portion of the pupil.

Practice

After eye-tracker calibration, a short practice drive was made. Participants were shown a map of the route and written turn-by-turn directions prior to beginning the practice drive. Throughout the drive, verbal directions were provided by a GPS device.

During the practice drive, a researcher in the rear seat of the vehicle monitored the accuracy of eye tracking. If the system was tracking poorly, additional calibration was performed. If the calibration could not be improved, the participant was paid for their time and dismissed.

Data Collection

Participants drove two test routes (referred to as route A and B). Each route required 25 to 30 minutes to complete and included both freeway and arterial segments. Route A was 13 miles long and contained 6 DCZs. Route B was 16 miles long and contained 4 DCZs. Combined, participants drove in a total of 10 DCZs. Similar to the practice drive, participants were shown a map of the route and written turn-by-turn directions. A GPS device provided turn-by-turn guidance during the drive. Roughly one half of the participants drove route A first and the remaining participants began with route B. A 5 minute break followed the completion of the first route.

During the drives, a researcher in the front passenger seat assisted the driver when additional route guidance was required. The researcher was also tasked with recording near misses and driver errors if these occurred. The researcher in the rear seat monitored the performance of the eye tracker. If the eye tracker performance became unacceptable (i.e., loss of calibration), then the researcher in the rear asked the participant to park in a safe location so that the eye tracker could be recalibrated. This recalibration typically took a minute or two to accomplish.

Debriefing

After driving both routes, the participants provided comments regarding their drives. The comments were in reference to the use of a navigation system. No questions were asked about billboards. The participants were given \$120.00 in cash for their participation.

DATA REDUCTION

Eye Tracking Measures

The Multiple-Analysis of Psychophysical and Performance Signals (MAPPS™) software was used to reduce the eye tracking data.⁽³⁶⁾ The software integrates the video output from the scene cameras with the output from the eye tracking software (e.g., gaze vectors). The analysis software provides an interface in which the gaze vectors determined by the eye tracker can be related to areas or objects in the scene camera view of the world. Analysts can indicate regions of interest (ROIs) in the scene camera views and the analysis software then assigns gaze vectors to the ROIs.

Figure 9 shows a screen capture from the analysis software in which static ROIs have been identified. These static ROIs slice up the scene camera views into six areas. The software also allows for the construction of dynamic ROIs. These are ROIs that move in the video because of own-vehicle movement (e.g., a sign changes position on the display as it is approached by the driver) or because the object moves over time independent of own-vehicle movement (e.g., pedestrian walking along the road, vehicle entering or exiting the road).

Static ROIs need only be entered once for the scenario being analyzed whereas dynamic ROIs need to be entered several times for a given DCZ depending on how the object moves along the video scene; however, not every frame needs to be coded with a dynamic ROI since the software interpolates across frames using the 60-Hz data to compute eye movement statistics.

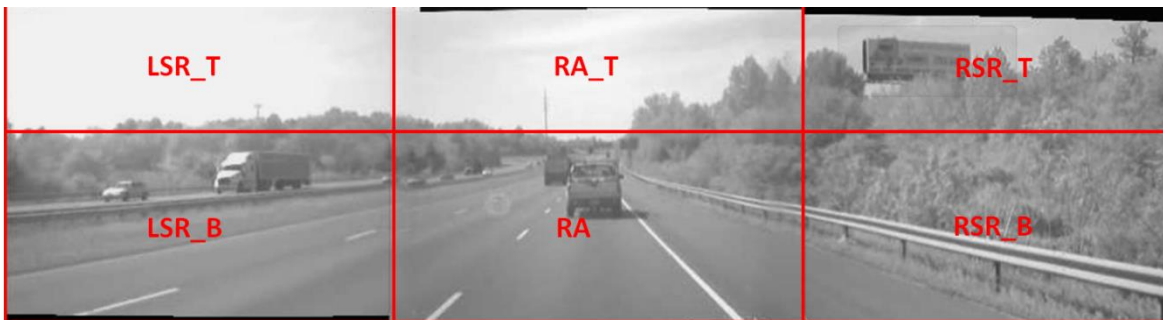


Figure 9. Screen capture showing static ROIs on a scene video output.

The following ROIs were defined with the analysis software:

Static ROIs

These ROIs were entered once into the software for each participant. The static ROIs for the windshield were divided into top and bottom to have more resolution during the coding process. The subsequent analyses in the report combines the top and bottom portion of these ROIs since it appeared that this additional level of resolution was not needed in order to address research questions:

- Road ahead: bottom portion (approximately 2/3) of the area of the forward roadway (center camera).

- Road ahead top: top portion (approximately 1/3) of the area of the forward roadway (center camera).
- Right side of road bottom: bottom portion (approximately 2/3) of the area to the right of the forward roadway (right camera).
- Right side of road top: top portion (approximately 1/3) of the area to the right of the forward roadway (right camera).
- Left side of road bottom (LSR_B): bottom portion (approximately 2/3) of the area to the left of the forward roadway (left camera).
- Left side of road bottom (LSR_T): top portion (approximately 1/3) of the area to the left of the forward roadway (left camera).
- Inside vehicle: below the panoramic video scene (outside of the view of the cameras, but eye tracking is still possible).
- Top: above the panoramic video scene (outside of the view of the cameras, but eye tracking is still possible).

Dynamic ROIs

These ROIs are created multiple times within a DCZ for stimuli that move relative to the driver:

- Driving-related safety risk: vehicle which posed a potential safety risk to the driver, defined as a car that is/may turn into the driver's direction of travel at a non-signalized or non-stop-controlled intersection (e.g., a car making a U-turn, a car waiting to turn right, or a car waiting to turn left). These vehicles were actively turning or entering the roadway or appeared to be in a position to enter the roadway.
- Target standard billboard: target standard billboard that defines the start and end of the DCZ.
- Other standard billboard: standard billboard(s) located in the DCZ, other than the target standard billboard or the target digital billboard.
- CEVMS: target digital billboard that defines the start and end of the DCZ.

The software determines the gaze intersection for each 60 Hz frame and assigns it to an ROI. In subsequent analyses and discussion, gaze intersections are referred to as gazes. Since ROIs may overlap, the software allows for the specification of priority for each ROI such that the ROI with the highest priority gets the gaze vector intersection assigned to it. For example, an ROI for a CEVMS may also be in the static ROI for the road ahead.

The 60 Hz temporal resolution of the eye tracking software does not provide sufficient information to make detailed analysis of saccade characteristics,¹ such as latency or speed. The analysis software uses three parameters in the determination of a fixation: a fixation radius, fixation duration, and a time out. The determination begins with a single-gaze vector intersection. Any subsequent intersection within a specified radius will be considered part of a fixation if the minimum fixation duration criterion is met. The radius parameter used in this study was 2 degrees and the minimum duration was 100 ms. The 2-degree selection was based on the estimated accuracy of the eye tracking system, as recommended by Recarte and Nunes.⁽³⁷⁾ The 100 ms minimum duration is consistent with many other published studies; however, some investigators use minimums of as little as 60 ms.^(37,38) Because of mini-saccades and noise in the eye tracking system, it is possible to have brief excursions outside the 2 degree window for a fixation. In this study, an excursion time outside the 2-degree radius of less than 90 ms was ignored. Once the gaze intersection fell outside the 2-degree radius of a fixation for more than 90 ms, the process of identifying a fixation began anew.

Other Measures

Driving Behavior Measures

During data collection, the front-seat researcher observed the driver's behavior and the driving environment. The researcher used the following subjective categories in observing the participant's driving behavior:

- **Driver Error:** signified any error on behalf of the driver in which the researcher felt slightly uncomfortable, but not to a significant degree (e.g., driving on an exit ramp too quickly, turning too quickly).
- **Near Miss:** signified any event in which the researcher felt uncomfortable due to driver response to external sources (e.g., slamming on brakes, swerving). A near miss is the extreme case of a driver error.
- **Incident:** signified any event in the roadway which may have had a potential impact on the attention of the driver and/or the flow of traffic (e.g., crash, emergency vehicle, animal, construction, train).

These observations were entered into a notebook computer linked to the research vehicle data collection system.

Level of Service Estimates

For each participant and each DCZ the analyst estimated the level of service of the road as they reviewed the scene camera video. One location per DCZ was selected (approximately halfway through the DCZ) where the number of vehicles in front of the research vehicle was counted. The procedure entailed (1) counting the number of travel lanes visible in the video, (2) using the

¹ During visual scanning, the point of gaze alternates between brief pauses (ocular fixations) and rapid shifts (saccades).

skip lines on the road to estimate the approximate distance in front of the vehicle that constituted the analysis zone, and (3) counting the number of vehicles present within the analysis zone. Vehicle density was calculated with the formula:

$$\text{Vehicle Density} = [(\text{Number of Vehicles in Analysis Zone})/(\text{Distance of Analysis Zone in ft}/5280)]/\text{Number of Lanes}.$$

Vehicle density is the number of vehicles per mile per lane.

Vehicle Speed

The speed of the research vehicle was recorded with GPS and a distance measurement instrument. Vehicle speed was used principally to ensure that the eye tracking data was recorded while the vehicle was in motion.

RESULTS

Results are presented with respect to the photometric measures of signs, the visual complexity of the DCZs, and the eye tracking measures. Photometric measurements were taken and analyzed to characterize the billboards in the study based on their luminance and contrasts, which are related to how bright the signs are perceived to be by drivers.

Photometric Measurements

Luminance

The mean daytime luminance of both the standard billboards and CEVMS was greater than at night. Nighttime luminance measurements reflect the fact that CEVMS use illuminating LED components while standard billboards are often illuminated from below by metal halide lamps. At night, CEVMS have a greater average luminance than standard billboards. Table 3 presents summary statistics for luminance as a function of time of day for the CEVMS and standard billboards.

Contrast

The daytime and nighttime Weber contrast ratios for both types of billboards are shown in table 3. Both CEVMS and standard billboards had contrast ratios that were close to zero (the surroundings were about equal in brightness to the signs) during the daytime. On the other hand, at night the CEVMS and standard billboards had positive contrast ratios (the signs were brighter than the surrounding), with the CEVMS having higher contrast than the standard billboards.

Table 3. Summary of luminance (cd/m^2) and contrast (Weber ratio) measurements.

<i>Day</i>	<i>Luminance (cd/m^2)</i>		<i>Contrast</i>	
	<i>Mean</i>	<i>St. Dev.</i>	<i>Mean</i>	<i>St. Dev.</i>
CEVMS	2126	798.81	-0.10	0.54
Standard Billboard	2993	2787.22	-0.27	0.84
<i>Night</i>				
CEVMS	56.00	23.16	73.72	56.92
Standard Billboard	17.80	17.11	36.01	30.93

Visual Complexity

The DCZs were characterized by their overall visual complexity or clutter. For each DCZ, five pictures were taken from the driver's viewpoint at various locations within the DCZ. In Reading, the pictures were taken from 2:00 p.m. to 4:00 p.m. In Richmond, one route was photographed from 11:00 a.m. to noon and the other from 2:30 p.m. to 3:30 p.m. The pictures were taken at the start of the DCZ, quarter of the way through, half of the way through, three quarters of the way through, and at the end of the DCZ. The photographs were analyzed with MATLAB® routines that computed a measure of feature congestion for each image. Figure 10 shows the mean feature congestion measures for each of the DCZ environments. The arterial control condition was shown to have the highest level of clutter as measured by feature congestion. An analysis of variance was performed on the feature congestion measure to determine if the conditions differed significantly from each other. The four conditions with off-premise advertising did not differ significantly with respect to feature congestion; $F(3,36) = 1.25$, $p > 0.05$. Based on the feature congestion measure, the results indicate that the four conditions with off-premise advertising were equated with respect to the overall visual complexity of the driving scenes.

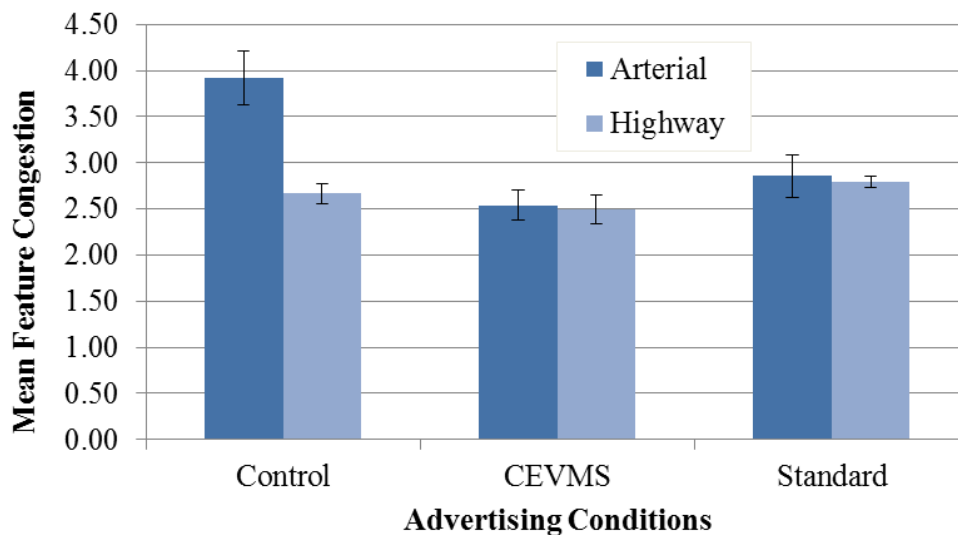


Figure 10. Mean feature congestion as a function of advertising condition and road type (standard errors for the mean are included in the graph).

Effects of Billboards on Gazes to the Road Ahead

For each 60 Hz frame, a determination was made as to the direction of the gaze vector. Previous research has shown that gazes do not need to be separated into saccades and fixations before calculating such measures as percent of time or the probability of looking to the road ahead.⁽³⁹⁾ This analysis examines the degree to which drivers gaze toward the road ahead across the different advertising conditions as a function of road type and time of day. Gazing toward the road ahead is critical for driving, and so the analysis examines the degree to which gazes toward this area are affected by the independent variables (advertising type, type of road, and time of day) and their interactions.

Generalized estimating equations (GEE) were used to analyze the probability of a participant gazing at driving-related information.^(40,41) The data for these analyses were not normally distributed and included repeated measures. The GEE model is appropriate for these types of data and analyses. Note that for all results included in this report, Wald statistics were the chosen alternative to likelihood ratio statistics because GEE uses quasi-likelihood instead of maximum likelihood.⁽⁴²⁾ For this analysis, road ahead included the following ROIs (as previously described and displayed in figure 9): road ahead, road ahead top, and driving-related risks. A logistic regression model for repeated measures was generated by using a binomial response distribution and Logit (i.e., log odds) link function. Only two possible outcomes are allowed when selecting a binomial response distribution. Thus, a variable (RoadAhead) was created to classify a participant's gaze behavior. If the participant gazed toward the road ahead, road ahead top, or driving-related risks, then the value of RoadAhead was set to one. If the participant gazed at any other object in the panoramic scene, then the value of RoadAhead was set to zero. Logistic regression typically models the probability of a success. In the current analysis, a success would be a gaze to road ahead information (RoadAhead = 1) and a failure would be a gaze toward non-road ahead information (RoadAhead = 0). The resultant value was the probability of a participant gazing at road-ahead information.

Time of day (day or night), road type (freeway or arterial), advertising condition (CEVMS, standard billboard, or control), and all corresponding second-order interactions were explanatory variables in the logistic regression model. The interaction of advertising condition by road type was statistically significant, $\chi^2(2) = 6.3, p = 0.043$. Table 4 shows the corresponding probabilities for gazing at the road ahead as a function of advertising condition and road type.

Table 4. The probability of gazing at the road ahead as a function of advertising condition and road type.

<i>Advertising Condition</i>	<i>Arterial</i>	<i>Freeway</i>
Control	0.92	0.86
CEVMS	0.82	0.73
Standard	0.80	0.77

Follow-up analyses for the interaction used Tukey-Kramer adjustments with an alpha level of 0.05. The arterial control condition had the greatest probability of looking at the road ahead ($M = 0.92$). This probability differed significantly from the remaining five probabilities. On

arterials, the probability of gazing at the road ahead did not differ between the CEVMS ($M = 0.82$) and the standard billboard ($M = 0.80$) DCZs. In contrast, there was a significant difference in this probability on freeways, where standard billboard DCZs yielded a higher probability ($M = 0.77$) than CEVMS DCZs ($M = 0.73$). The probability of gazing at the road ahead was also significantly higher in the freeway control DCZ ($M = 0.86$) than in either of the corresponding freeway off-premise advertising DCZs. The probability of gazing at road-ahead information in arterial CEVMS DCZs was not statistically different from the same probability in the freeway control DCZ.

Additional descriptive statistics were computed to determine the probability of gazing at the various ROIs that were defined in the panoramic scene. Some of the ROIs depicted in figure 9 were combined in the following fashion for ease of analysis:

- Road ahead, road ahead top, and driving-related risks combined to form *road ahead*.
- Left side of road bottom and left side of road top combined to form *left side of vehicle*.
- Right side of road bottom and right side of road top combined to form *right side of vehicle*.
- Inside vehicle and top combined to form *participant vehicle*.

Table 5 presents the probability of gazing at the different ROIs.

Table 5. Probability of gazing at ROIs for the three advertising conditions on arterials and freeways.

<i>Road Type</i>	<i>ROI</i>	<i>CEVMS</i>	<i>Standard Billboard</i>	<i>Control</i>
<i>Arterial</i>	<i>CEVMS</i>	0.07	N/A	N/A
	<i>Left Side of Vehicle</i>	0.06	0.06	0.02
	<i>Road ahead</i>	0.82	0.80	0.92
	<i>Right Side of Vehicle</i>	0.03	0.06	0.04
	<i>Standard Billboard</i>	N/A	0.03	N/A
	<i>Participant Vehicle</i>	0.03	0.05	0.02
<i>Freeway</i>	<i>CEVMS</i>	0.05	N/A	N/A
	<i>Left Side of Vehicle</i>	0.08	0.07	0.04
	<i>Road ahead</i>	0.73	0.77	0.86
	<i>Right Side of Vehicle</i>	0.09	0.02	0.05
	<i>Standard Billboard</i>	0.02*	0.09	N/A
	<i>Participant Vehicle</i>	0.04	0.05	0.05

* The CEVMS DCZs on freeways each contained one visible standard billboard.

The probability of gazing away from the forward roadway ranged from 0.08 to 0.27. In particular, the probability of gazing toward a CEVMS was greater on arterials ($M = 0.07$) than on freeways ($M = 0.05$). In contrast, the probability of gazing toward a target standard billboard was greater on freeways ($M = 0.09$) than on arterials ($M = 0.03$).

Fixations to CEVMS and Standard Billboards

About 2.4 percent of the fixations were to CEVMS. The mean fixation duration to a CEVMS was 388 ms and the maximum duration was 1,251 ms. Figure 11 shows the distribution of fixation durations to CEVMS during the day and night. In the daytime, the mean fixation duration to a CEVMS was 389 ms and at night it was 387 ms. Figure 12 shows the distribution of fixation durations to standard billboards. Approximately 2.4 percent of fixations were to standard billboards. The mean fixation duration to standard billboards was 341 ms during the daytime and 370 ms at night. The maximum fixation duration to standard billboards was 1,284 ms (which occurred at night). For comparison purposes, figure 13 shows the distribution of fixation durations to the road ahead (i.e., top and bottom road ahead ROIs) during the day and night. In the daytime, the mean fixation duration to the road ahead was 365 ms and at night it was 390 ms.

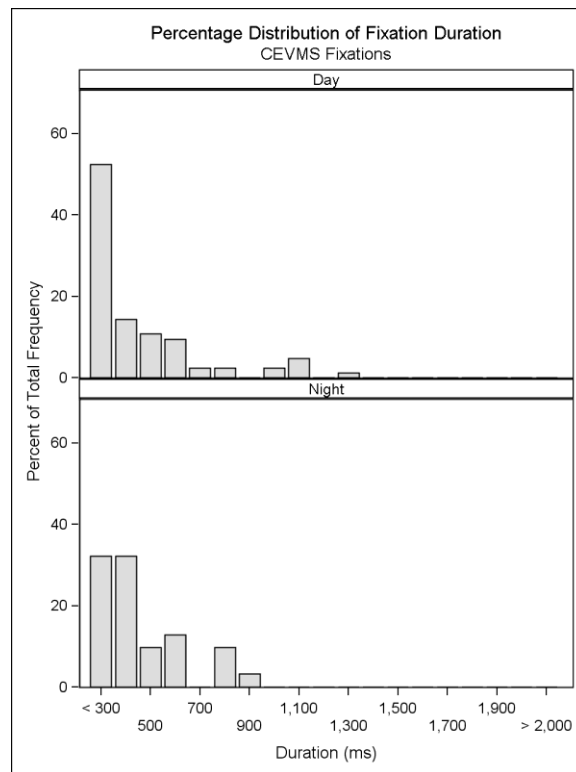


Figure 11. Distribution of fixation duration for CEVMS in the daytime and nighttime.

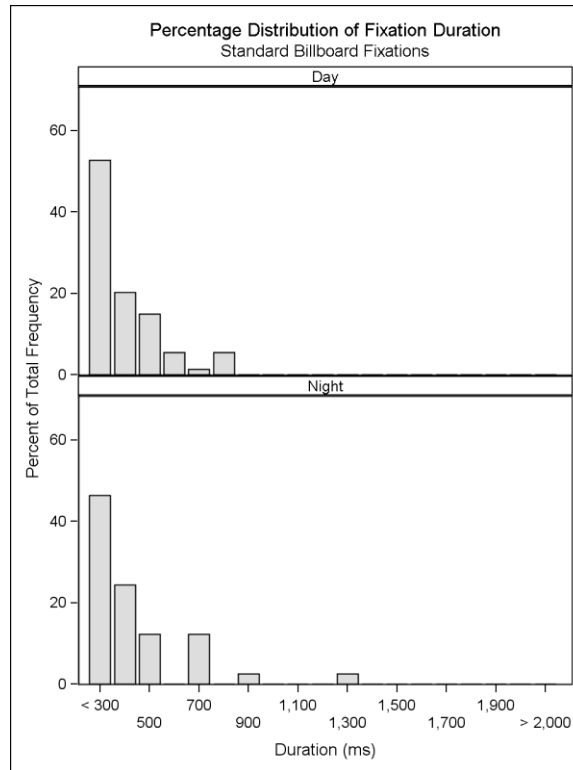


Figure 12. Distribution of fixation duration for standard billboards in the daytime and nighttime.

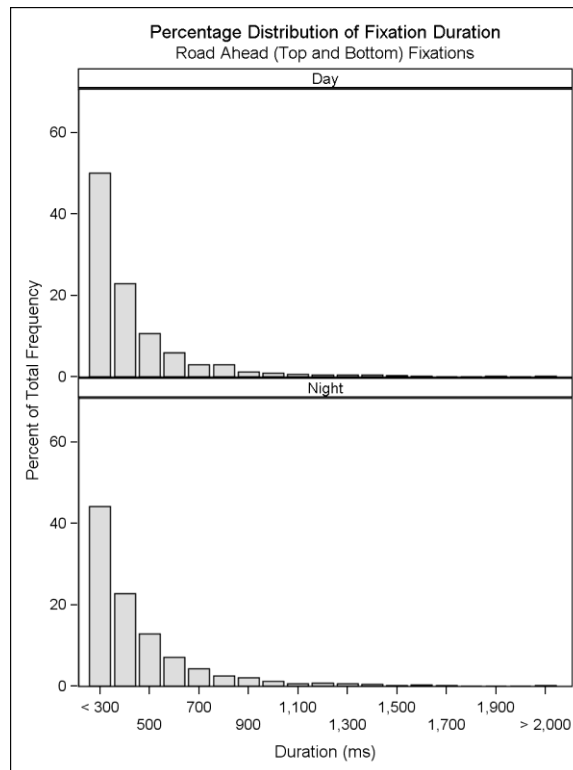


Figure 13. Distribution of fixation duration for road ahead (i.e., top and bottom road ahead ROIs) in the daytime and nighttime.

Dwell times on CEVMS and standard billboards were also examined. Dwell time is the duration of back-to-back fixations to the same ROI.^(43,44) The dwell times represent the cumulative time for the back-to-back fixations. Whereas there may be no long, single fixation to a billboard, there might still be multiple fixations that yield long dwell times. There were a total of 25 separate instances of multiple fixations to CEVMS with a mean of 2.4 fixations (minimum of 2 and maximum of 5). The 25 dwell times came from 15 different participants distributed across four different CEVMS. The mean duration of these dwell times was 994 ms (minimum of 418 ms and maximum of 1,467 ms).

For standard billboards, there were a total of 17 separate dwell times with a mean of 3.47 sequential fixations (minimum of 2 fixations and maximum of 8 fixations). The 17 dwell times came from 11 different participants distributed across 4 different standard billboards. The mean duration of these multiple fixations was 1,172 ms (minimum of 418 ms and maximum of 3,319 ms). There were three dwell-time durations that were greater than 2,000 ms. These are described in more detail below.

In some cases several dwell times came from the same participant. In order to compute a statistic on the difference between dwell times for CEVMS and standard billboards, average dwell times were computed per participant for the CEVMS and standard billboard conditions. These average values were used in a t-test assuming unequal variances. The difference in average dwell time between CEVMS ($M = 981$ ms) and standard billboards ($M = 1,386$ ms) was not statistically significant, $t(12) = -1.40$, $p > .05$.

Figure 14 through figure 23 show heat maps for the dwell-time durations to the standard billboards that were greater than 2,000 ms. These heat maps are snapshots from the DCZ and attempt to convey in two dimensions the pattern of gazes that took place in a three dimensional world. The heat maps are set to look back approximately one to two seconds and integrate over time where the participant was gazing in the scene camera video. The green color in the heat map indicates the concentration of gaze over the past one to two seconds. The blue line indicates the gaze trail over the past one to two seconds.

Figure 14 through figure 16 are for a DCZ on an arterial at night. The standard billboard was on the right side of the road (indicated by a pink rectangle). There were eight fixations to this billboard, and the single fixations were between 200 to 384 ms in duration. The dwell time for this billboard was 2,019 ms. At the start of the DCZ (see figure 14), the driver was directing his/her gaze to the forward roadway. Approaching the standard billboard, the driver began to fixate on the billboard. However, the billboard was still relatively close to the road ahead ROI.

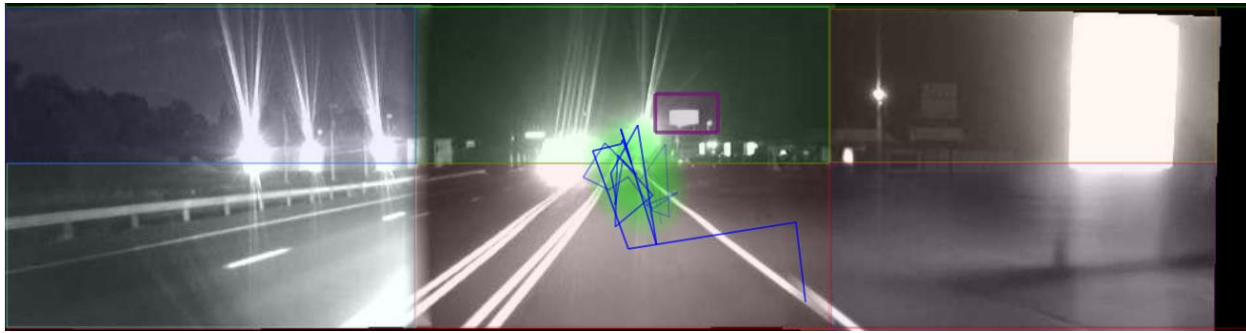


Figure 14. Heat map for the start of a DCZ for a standard billboard at night on an arterial.

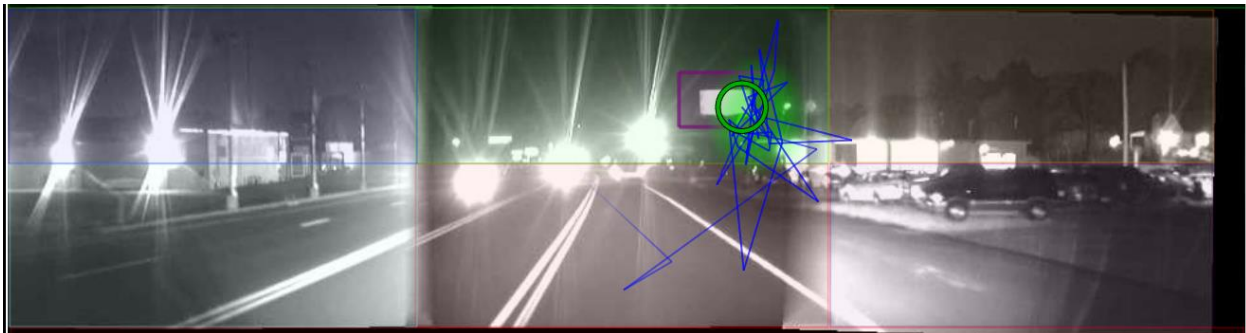


Figure 15. Heat map for the middle of a DCZ for a standard billboard at night on an arterial.



Figure 16. Heat map near the end of a DCZ for a standard billboard at night on an arterial.

Figure 17 through figure 19 are for a DCZ on a freeway at night. The standard billboard was on the right side of the road (indicated by a green rectangle). There were six consecutive fixations to this billboard, and the single fixations were between 200 and 801 ms in duration. The dwell time for this billboard was 2,753 ms. At the start of the DCZ (see figure 17), the driver was directing his/her gaze to a freeway guide sign in the road ahead and the standard billboard was to the left of the freeway guide sign. As the driver approached the standard billboard, his/her gaze was directed toward the billboard. The billboard was relatively close to the top and bottom road ahead ROIs. Near the end of the DCZ (see figure 19), the billboard was accurately portrayed as being on the right side of the road.

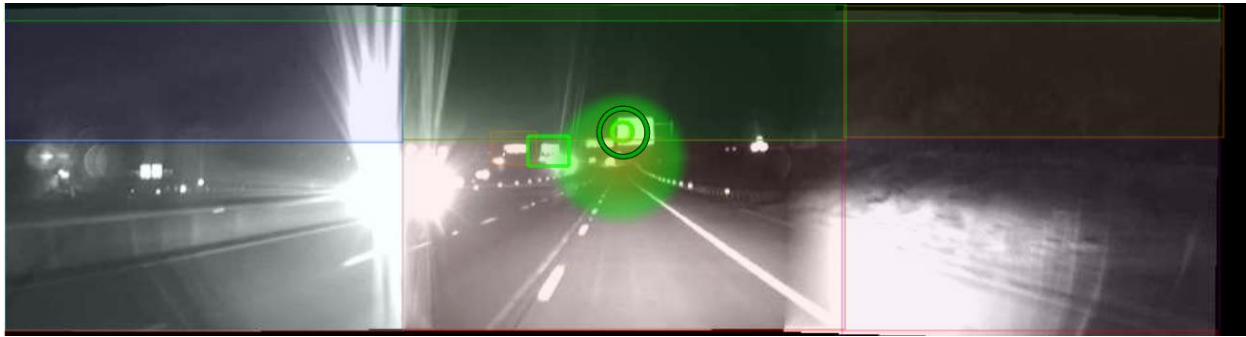


Figure 17. Heat map for start of a DCZ for a standard billboard at night on a freeway.

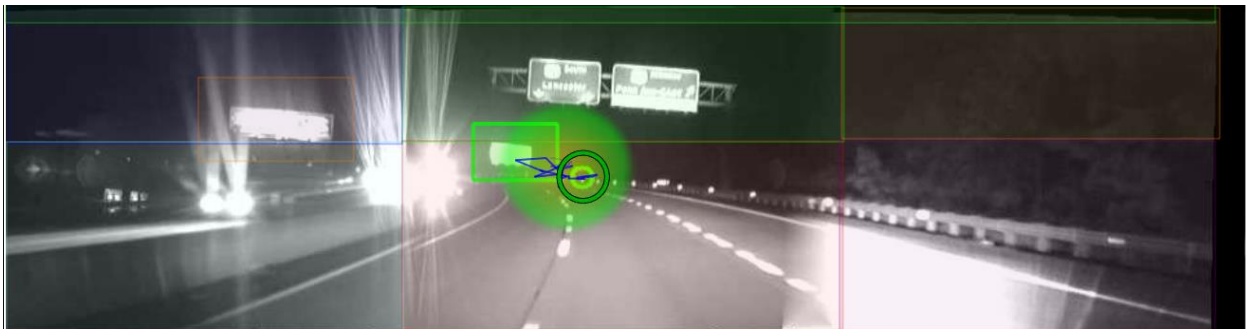


Figure 18. Heat map for middle of a DCZ for a standard billboard at night on a freeway.

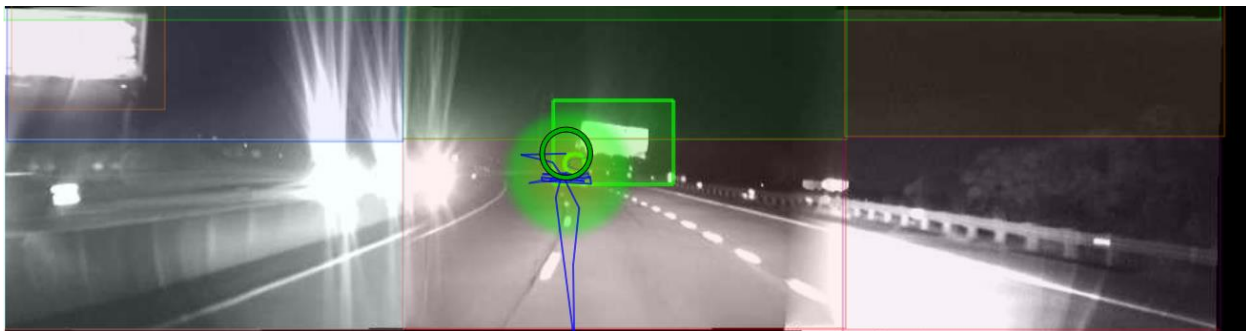


Figure 19. Heat map near the end of a DCZ for a standard billboard at night on a freeway.

Figure 20 through figure 23 are for a DCZ on a freeway during the day. The standard billboard was on the right side of the road (indicated by a pink rectangle). This is the same DCZ that was discussed in figure 17 through figure 19. There were six consecutive fixations to this billboard, and the single fixations were between 217 and 767 ms in duration. The dwell time for this billboard was 3,319 ms. At the start of the DCZ (see figure 20), the driver was principally directing his/her gaze to the road ahead. Figure 21 and figure 22 show the location along the DCZ where gaze was directed toward the standard billboard. The billboard was relatively close to the top and bottom road-ahead ROIs. As the driver passed the standard billboard, his/her gaze returned to the road ahead (see figure 23).

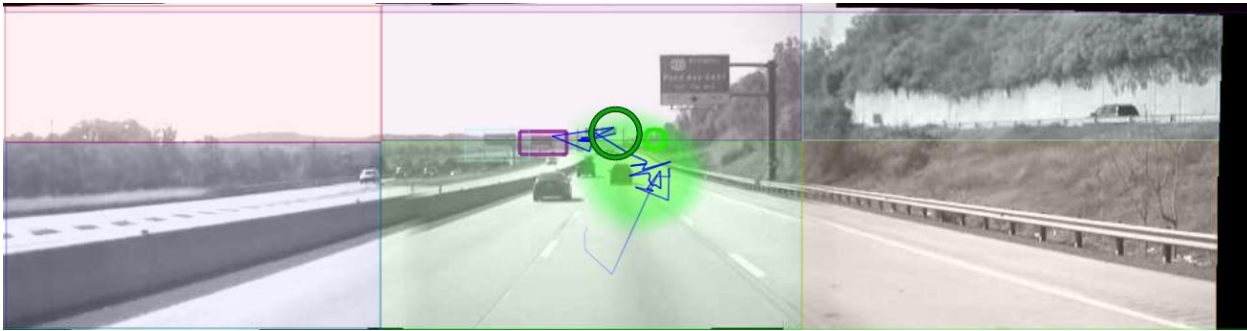


Figure 20. Heat map for the start of a DCZ for a standard billboard in the daytime on a freeway.



Figure 21. Heat map near the middle of a DCZ for a standard billboard in the daytime on a freeway.

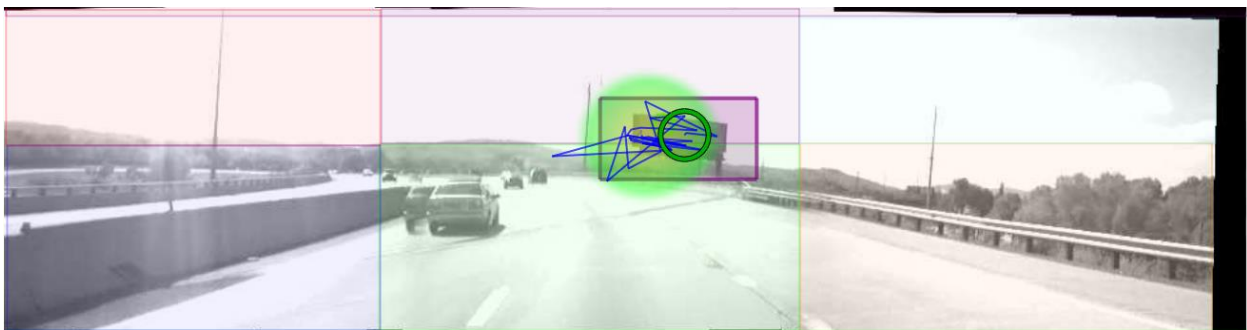


Figure 22. Heat map near the end of DCZ for standard billboard in the daytime on a freeway.

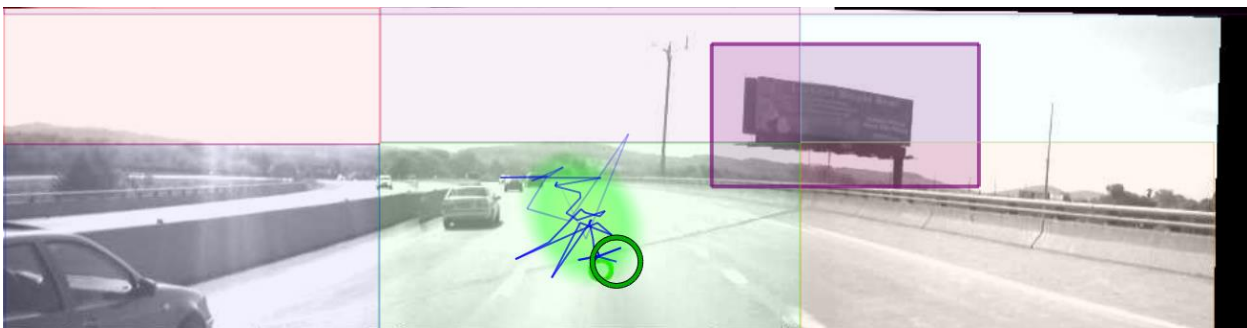


Figure 23. Heat map at the end of DCZ for standard billboard in the daytime on a freeway.

Comparison of Gazes to CEVMS and Standard Billboards

The GEE were used to analyze whether a participant gazed more toward CEVMS than toward standard billboards, given that the participant was gazing at off-premise advertising. With this analysis method, a logistic regression model for repeated measures was generated by using a binomial response distribution and Logit link function. First, the data was partitioned to include only those instances when a participant was gazing toward off-premise advertising (either to a CEVMS or to a standard billboard); all other gaze behavior was excluded from the input data set. Only two possible outcomes are allowed when selecting a binomial response distribution. Thus, a variable (SBB_CEVMS) was created to classify a participant's gaze behavior. If the participant gazed toward a CEVMS, the value of SBB_CEVMS was set to one. If the participant gazed toward a standard billboard, then the value of SBB_CEVMS was set to zero.

Logistic regression typically models the probability of a success. In the current analysis, a success would be a gaze to a CEVMS (SBB_CEVMS = 1) and a failure would be a gaze to a standard billboard (SBB_CEVMS = 0).² A success probability greater than 0.5 indicates there were more successes than failures in the sample. Therefore, if the sample probability of the response variable (i.e., SBB_CEVMS) was greater than 0.5, this would show that participants gazed more toward CEVMS than toward standard billboards when the participants gazed at off-premise advertising. In contrast, if the sample probability of the response variable was less than 0.5, then participants showed a preference to gaze more toward standard billboards than toward CEVMS when directing gazes to off-premise advertising.

Time of day (i.e., day or night), road type (i.e., freeway or arterial), and the corresponding interaction were explanatory variables in the logistic regression model. Road type was the only predictor to have a significant effect, $\chi^2(1) = 13.17, p < 0.001$. On arterials, participants gazed more toward CEVMS than toward standard billboards ($M = 0.63$). In contrast, participants gazed more toward standard billboards than toward CEVMS when driving on freeways ($M = 0.33$).

Observation of Driver Behavior

No near misses or driver errors were observed in Reading.

Level of Service

The mean vehicle densities were converted to level of service as shown in table 6.⁽⁴⁵⁾ As expected, less congestion occurred at night than in the day. In general, there was traffic during the data collection runs. Review of the scene camera data verified that all eye tracking data within the DCZs were recorded while the vehicle was in motion.

² Success and failure are not used to reflect the merits of either type of sign, but only for statistical purposes.

Table 6. Level of service as a function of advertising type, road type, and time of day.

	<i>Arterial</i>		<i>Freeway</i>	
	Day	Night	Day	Night
Control	B	A	C	B
CEVMS	C	A	B	A
Standard	A	A	B	A

DISCUSSION OF READING RESULTS

Overall the probability of gazing at the road ahead was high and similar in magnitude to what has been found in other field studies addressing billboards.^(11,9,12) For the DCZs on freeways, CEVMS showed a lower proportion of gazes to the road ahead than the standard billboard condition, and both off-premise advertising conditions had lower probability of gazes to the road ahead than the control. On the other hand, on the arterials, the CEVMS and standard billboard conditions did not differ from each other but were significantly different from their respective control condition. Though the CEVMS condition on the freeway had the lowest proportion of gazes to the road ahead, in this condition there was a lower proportion of gazes to CEVMS as compared to the arterials (see table 5 for the trade-off of gazes to the different ROIs). A greater proportion of gazes to other ROIs (left side of the road, right side of the road, and participant vehicle) contributed to the decrease in proportion of gazes to the road ahead. Also, for the CEVMS on freeways, there were a few gazes to a standard billboard located in the same DCZ and there were more gazes distributed to the left and right side of the road than in standard billboard and control conditions. The gazes to ROIs other than CEVMS contributed to the lower probability of gazes to the road ahead in this condition.

The control condition on the arterial had buildings along the sides of the road and generally presented a visually cluttered area. As was presented earlier, the feature congestion measure computed on a series of photographs from each DCZ showed a significantly higher feature congestion score for the control condition on arterials as compared to all of the other DCZs. Nevertheless, the highest probability for gazing at the road ahead was seen in the control condition on the arterial.

The area with the highest feature congestion, especially on the sides of the road, had the highest probability for drivers looking at the road ahead. Bottom-up or stimulus driven measures of salience or visual clutter have been useful in predicting visual search and the effects of visual salience in laboratory tasks.^(34,46) These measures of salience basically consider the stimulus characteristics (e.g., size, color, brightness) independent of the requirements of the task or plans that an individual may have. Models of visual salience may predict that buildings and other prominent features on the side of the road may be visually salient objects and thus would attract a driver's attention.⁽⁴⁷⁾ Figure 24 shows an example of a roadway photograph that was analyzed with the Saliency Toolbox based on the Itti et al. implementation of a saliency based model of bottom-up attention.^(48,49) The numbered circles in figure 24 are the first through fifth salient areas selected by the software. Based on this software, the most salient areas in the photographs are the buildings on the sides of the road where the road ahead (and a car) is the fifth selected salient area.

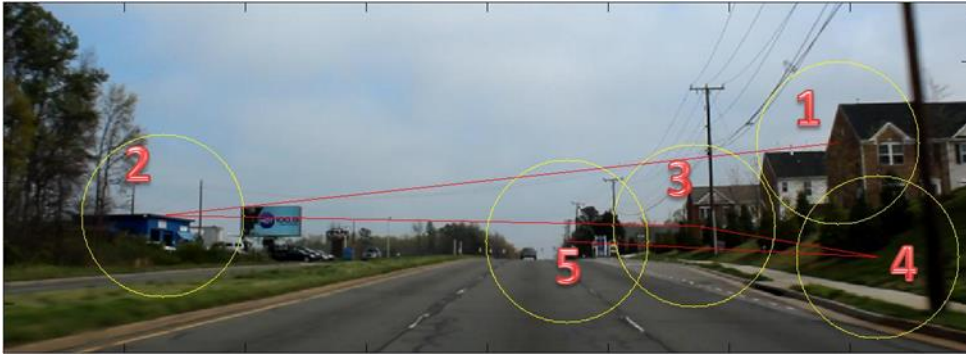


Figure 24. Example of identified salient areas in a road scene based on bottom-up analysis.

It appears that in the present study participants principally kept their eyes on the road even in the presence of visual clutter on the sides of the road, which supports the hypothesis that drivers tend to look toward information relevant to the task at hand.^(50,26,22) In the case of the driving task, visual clutter may be more of an issue with respect to crowding that may affect the driver's ability to detect visual information in the periphery.⁽⁵¹⁾ Crowding is generally defined as the negative effect of nearby objects or features on visual discrimination of a target.⁽⁵²⁾ Crowding impairs the ability to recognize objects in clutter and principally affects perception in peripheral vision. However, crowding effects were not analyzed in the present study.

Stimulus salience, clutter, and the nature of the task at hand interact in visual perception. For tasks such as driving, the task demands tend to outweigh stimulus salience when it comes to gaze control. Clutter may be more of an issue with the detection and recognition of objects in peripheral vision (e.g., detecting a sign on the side of the road) that are surrounded by other stimuli that result in a crowding effect.

The mean fixation durations to CEVMS, standard billboards, and the road ahead were found to be very similar. Also, there were no long fixations (greater than 2,000 ms) to CEVMS or standard billboards. The examination of multiple sequential fixations to CEVMS yielded average dwell times that were less than 1,000 ms. However, when examining the tails of the distribution, there were three dwell times to standard billboards that were in excess of 2,000 ms (the three dwell times came from three different participants to two different billboards). These three standard billboards were dwelled upon when they were near the road ahead area but drivers quit gazing at the signs as they neared them and the signs were no longer near the forward field of view. Though there were three dwell times for standard billboards greater than 2,000 ms, the difference in average dwell times for CEVMS and standard billboards was not significant.

Using a gaze duration of 2,000 ms away from the road ahead as a criterion indicative of increased risk has been developed principally as it relates to looking inside the vehicle to in-vehicle information systems and other devices (e.g., for texting) where the driver is indeed looking completely away from the road ahead.^(14,53,54) The fixations to the standard billboards in the present case showed a long dwell time for a billboard. However, unlike gazing or fixating inside the vehicle, the driver's gaze was within the forward roadway where peripheral vision could be used to monitor for hazards and for vehicle control. Peripheral vision has been shown to be important for lane keeping, visual search orienting, and monitoring of surrounding objects.^(55,56)

The results showed that drivers were more likely to gaze at CEVMS on arterials and at standard billboards on freeways. Though every attempt was made to select CEVMS and standard billboard DCZs that were equated on important parameters (e.g., which side of the road the sign was located on, type of road, level of visual clutter), the CEVMS DCZs on freeways had a greater setback from the road (133 ft for both CEVMS) than the standard billboards (10 and 35 ft). Signs with greater setback from the road would in a sense move out of the forward view (road ahead) more quickly than signs that are closer to the road. The CEVMS and standard billboards on the arterials were more closely matched with respect to setback from the road (12 and 43 ft for CEVMS and 20 and 40 ft for standard billboards).

The differences in setback from the road for CEVMS and standard billboards may also account for differences in dwell times to these two types of billboards. However, on arterials where the CEVMS and standard billboards were more closely matched there was only one long dwell time (greater than 2,000 ms) and it was to a standard billboard at night.

RICHMOND

The objectives of the second study were the same as those in the first study, and the design of the Richmond data collection effort was very similar to that employed in Reading. This study was conducted to replicate as closely as possible the design of Reading in a different driving environment. The independent variables included the type of DCZ (CEVMS, standard billboard, or no off-premise advertising), time of day (day or night) and road type (freeway or arterial). As with Reading, the time of day was a between-subjects variable and the other variables were within subjects.

METHOD

Selection of DCZ Limits

Selection of the DCZ limits procedure was the same as that employed in Reading.

Advertising Type

Three DCZ types (similar to those used in Reading) were used in Richmond:

- **CEVMS.** DCZs contained one target CEVMS.
- **Standard billboard.** DCZs contained one target standard billboard.
- **Control conditions.** DCZs did not contain any off-premise advertising.

There were an equal number of CEVMS and standard billboard DCZs on freeways and arterials. Also, there two DCZ that did not contain off-premise advertising with one located on a freeway and the other on an arterial.

Table 7 is an inventory of the target employed in this second study.

Table 7. Inventory of target billboards in Richmond with relevant parameters.

<i>DCZ</i>	<i>Advertising Type</i>	<i>Copy Dimensions (ft)</i>	<i>Side of Road</i>	<i>Setback from Road (ft)</i>	<i>Other Standard Billboards</i>	<i>Approach Length (ft)</i>	<i>Roadway Type</i>
5	CONTROL	N/A	N/A	N/A	N/A	710	Arterial
3	CONTROL	N/A	N/A	N/A	N/A	845	Freeway
9	CEVMS	14'0" x 28'0"	L	37	0	696	Arterial
13	CEVMS	14'0" x 28'0"	R	37	0	602	Arterial
2	CEVMS	12'5" x 40'0"	R	91	0	297	Freeway
8	CEVMS	11'0 x 23'0"	L	71	0	321	Freeway
10	Standard	14'0" x 48'0"	L	79	1	857	Arterial
12	Standard	10'6" x 45'3"	R	79	2	651	Arterial
1	Standard	14'0" x 48'0"	L	87	0	997	Freeway
7	Standard	14'0" x 48'0"	R	88	0	816	Freeway

* *N/A* indicates that there were no off-premise advertising in these areas and these values are undefined.

Figure 25 through figure 30 below represent various pairings of DCZ type and road type. Target off-premise billboards are indicated by red rectangles.



Figure 25. Example of a CEVMS DCZ on a freeway.



Figure 26. Example of CEVMS DCZ an arterial.



Figure 27. Example of a standard billboard DCZ on a freeway.



Figure 28. Example of a standard billboard DCZ on an arterial.

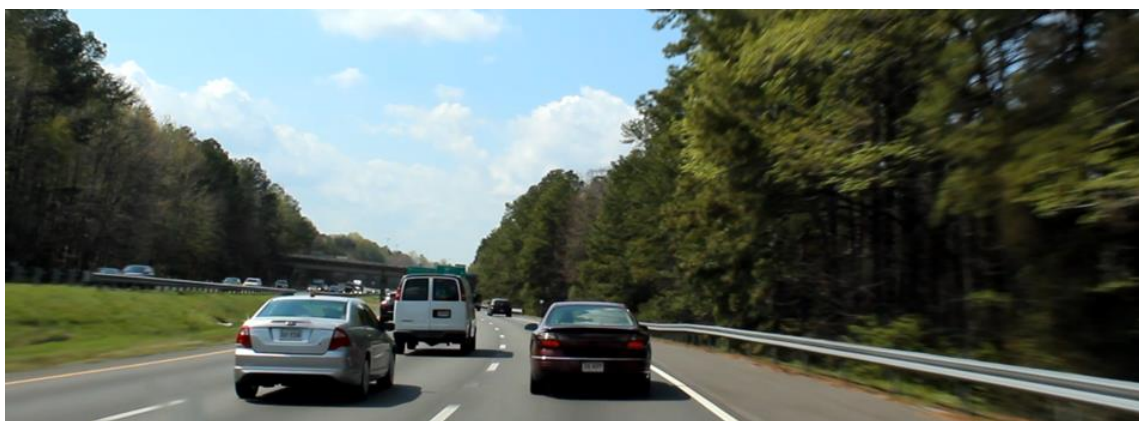


Figure 29. Example of a control DCZ on a freeway.



Figure 30. Example of a control DCZ on an arterial.

Photometric Measurement of Signs

The methods and procedures for the photometric measures were the same as for Reading.

Visual Complexity

The methods and procedures for visual complexity measurement were the same as for Reading.

Participants

A total of 41 participants were recruited for the study. Of these, 6 participants did not complete data collection because of an inability to properly calibrate with the eye tracking system, and 11 were excluded because of equipment failures. A total of 24 participants (13 male, $M = 28$ years; 11 female, $M = 25$ years) successfully completed the drive. Fourteen people participated during the day and 10 participated at night.

Procedures

Research participants were recruited locally by means of visits to public libraries, student unions, community centers, etc. A large number of the participants were recruited from a nearby university, resulting in a lower mean participant age than in Reading.

Participant Testing

Two people participated each day. One person participated during the day beginning at approximately 12:45 p.m. The second participated at night beginning at around 7:00 p.m. Data collection ran from November 20, 2009, through April 23, 2010. There were several long gaps in the data collection schedule due to holidays and inclement weather.

Pre-Data Collection Activities

This was the same as in Reading.

Practice Drive

Except for location, this was the same as in Reading.

Data Collection

The procedure was much the same as in Reading. On average, each test route required approximately 30 to 35 minutes to complete. As in Reading, the routes included a variety of freeway and arterial driving segments. One route was 15 miles long and contained two target CEVMS, two target standard billboards, and two DCZs with no off-premise advertising. The second route was 20 miles long and had two target CEVMS and two target standard billboards.

The data collection drives in this second study were longer than those in Reading. The eye tracking system had problems dealing with the large files that resulted. To mitigate this technical difficulty, participants were asked to pull over in a safe location during the middle of each data collection drive so that new data files could be initiated.

Upon completion of the data collection, the participant was instructed to return to the designated meeting location for debriefing.

Debriefing

This was the same as in Reading.

DATA REDUCTION

Eye Tracking Measures

The approach and procedures were the same as used in Reading.

Other Measures

The approach and procedures were the same as used in Reading.

RESULTS

Photometric Measurement of Signs

The photometric measurements were performed using the same equipment and procedures that were employed in Reading with a few minor changes. Photometric measurements were taken during the day and at night. Measurements of the standard billboards were taken at an average distance of 284 ft, with maximum and minimum distances of 570 ft and 43 ft, respectively. The average distance of measurements for the CEVMS was 479 ft, with maximum and minimum distances of 972 ft and 220 ft, respectively. Again, the distances employed were significantly affected by the requirement to find a safe location on the road from which to take the measurements.

Luminance

The mean luminance of CEVMS and standard billboards, during daytime and nighttime are shown below in table 8. The results here are similar to those for Reading.

Contrast

The daytime and nighttime Weber contrast ratios for both types of billboards are shown in table 8. During the day, the contrast ratios of both CEVMS and standard billboards were close to zero (the surroundings were about equal in brightness to the signs). At night, the CEVMS and standard billboards had positive contrast ratios. Similar to Reading, the CEVMS showed a higher contrast ratio than the standard billboards at night.

Table 8. Summary of luminance (cd/m^2) and contrast (Weber ratio) measurements.

	<i>Luminance (cd/m^2)</i>		<i>Contrast</i>	
	Mean	St. Dev.	Mean	St. Dev.
<i>Day</i>				
CEVMS	2134	798.70	-0.20	0.53
Standard Billboard	3063	2730.92	0.03	0.32
<i>Night</i>				
CEVMS	56.44	16.61	69.70	59.18
Standard Billboard	8.00	5.10	6.56	3.99

Visual Complexity

As with Reading, the feature congestion measure was used to estimate the level of visual complexity/clutter in the DCZs. The analysis procedures were the same as for Reading.

Figure 31 shows the mean feature congestion measures for each of the advertising types (standard errors are included in the figure). Unlike the results for Reading, the selected off-premise advertising DCZs for Richmond differed in terms of mean feature congestion; $F(3, 36) = 3.95$, $p = 0.016$. Follow up t-tests with an alpha of 0.05 showed that the CEVMS DCZs on arterials had significantly lower feature congestion than all of the other off-premise advertising conditions. None of the remaining DCZs with off-premise advertising differed from each other. The selection of DCZs for the conditions with off-premise advertising took into account the type of road, the side of the road the target billboard was placed, and the perceived level of visual clutter. Based on the feature congestion measure, these results indicated that the conditions with off-premise advertising were not equated with respect to level of visual clutter.

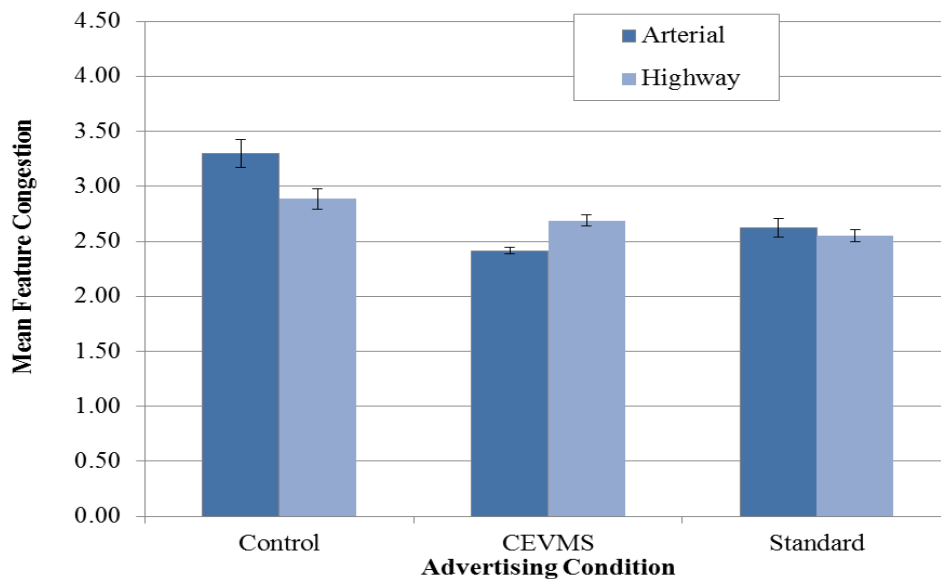


Figure 31. Mean feature congestion as a function of advertising condition and road type.

Effects of Billboards on Gazes to the Road Ahead

As was done for the data from Reading, GEE were used to analyze the probability of a participant gazing at the road ahead. A logistic regression model for repeated measures was generated by using a binomial response distribution and Logit link function. The resultant value was the probability of a participant gazing at the road ahead (as previously defined).

Time of day (day or night), road type (freeway or arterial), advertising type (CEVMS, standard billboard, or control), and all corresponding second-order interactions were explanatory variables in the logistic regression model. The interaction of advertising type by road type was statistically significant, $\chi^2(2) = 14.19$, $p < 0.001$. Table 9 shows the corresponding probability of gazing at the road ahead as a function of advertising condition and road type.

Table 9. The probability of gazing at the road ahead as a function of advertising condition and road type.

<i>Advertising Condition</i>	<i>Arterial</i>	<i>Freeway</i>
Control	0.78	0.92
CEVMS	0.76	0.82
Standard	0.81	0.85

Follow-up analyses for the interaction used Tukey-Kramer adjustments with an alpha level of 0.05. The freeway control had the greatest probability of gazing at the road ahead ($M = 0.92$). This probability differed significantly from the remaining five probabilities. On arterials, there were no significant differences among the probabilities of gazing at the road ahead among the three advertising conditions. On freeways, there was no significant difference between the probability associated with CEVMS DCZs and the probability associated with standard billboard DCZs.

Additional descriptive statistics were computed for the three advertising types to determine the probability of gazing at the ROIs that were defined in the panoramic scene. As was done with the data from Reading, some of the ROIs were combined for ease of analysis. Table 10 presents the probability of gazing at the different ROIs.

Table 10. Probability of gazing at ROIs for the three advertising conditions on arterials and freeways.

<i>Road Type</i>	<i>ROI</i>	<i>CEVMS</i>	<i>Standard Billboard</i>	<i>Control</i>
<i>Arterial</i>	<i>CEVMS</i>	0.06	N/A	N/A
	<i>Left Side of Vehicle</i>	0.03	0.05	0.04
	<i>Road ahead</i>	0.76	0.81	0.78
	<i>Right Side of Vehicle</i>	0.07	0.06	0.09
	<i>Standard Billboard</i>	N/A	0.02	N/A
	<i>Participant Vehicle</i>	0.07	0.06	0.09
<i>Freeway</i>	<i>CEVMS</i>	0.05	N/A	N/A
	<i>Left Side of Vehicle</i>	0.03	0.01	0.01
	<i>Road ahead</i>	0.82	0.85	0.92
	<i>Right Side of Vehicle</i>	0.04	0.04	0.03
	<i>Standard Billboard</i>	N/A	0.04	N/A
	<i>Participant Vehicle</i>	0.06	0.06	0.05

The probability of gazing away from the forward roadway ranged from 0.08 to 0.24. In particular, the probability of gazing toward a CEVMS was slightly greater on arterials ($M = 0.06$) than on freeways ($M = 0.05$). In contrast, the probability of gazing toward a standard billboard was greater on freeways ($M = 0.04$) than on arterials ($M = 0.02$). In both situations, the probability of gazing at the road ahead was greatest on freeways.

Fixations to CEVMS and Standard Billboards

About 2.5 percent of the fixations were to CEVMS. The mean fixation duration to a CEVMS was 371 ms and the maximum fixation duration was 1,335 ms. Figure 32 shows the distribution of fixation durations to CEVMS during the day and at night. In the daytime, the mean fixation duration to a CEVMS was 440 ms and at night it was 333 ms. Approximately 1.5 percent of the fixations were to standard billboards. The mean fixation duration to standard billboards was 318 ms and the maximum fixation duration was 801 ms. Figure 33 shows the distribution of fixation durations for standard billboards. The mean fixation duration to a standard billboard was 313 ms and 325 ms during the day and night, respectively. For comparison purposes, figure 34 shows the distribution of fixation durations to the road ahead during the day and night. In the daytime, the mean fixation duration to the road ahead was 378 ms and at night it was 358 ms.

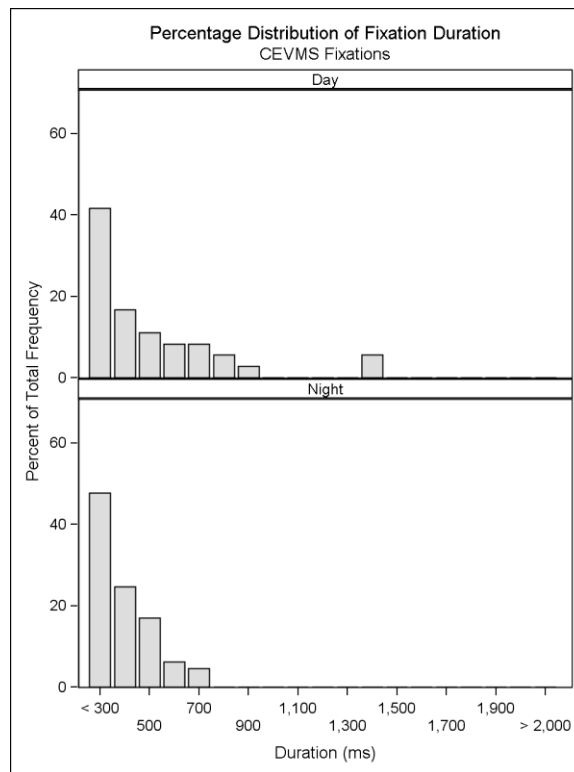


Figure 32. Fixation duration for CEVMS in the day and at night.

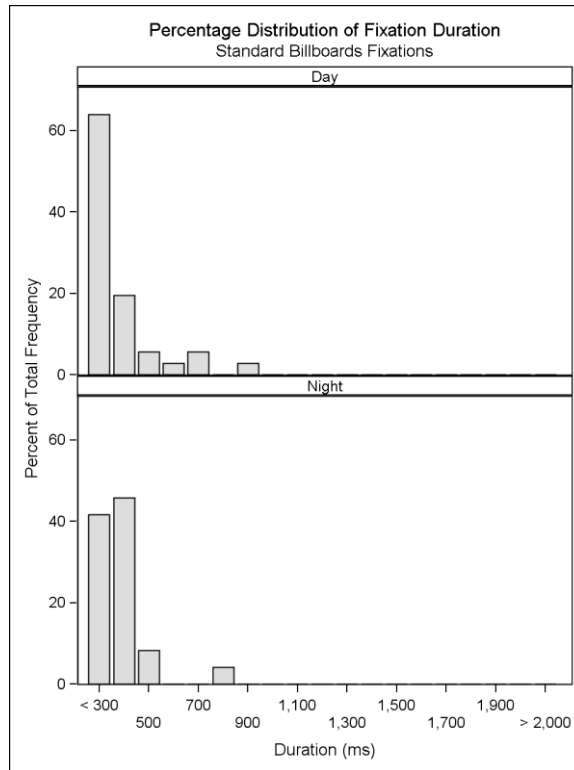


Figure 33. Fixation duration for standard billboards in the day and at night.

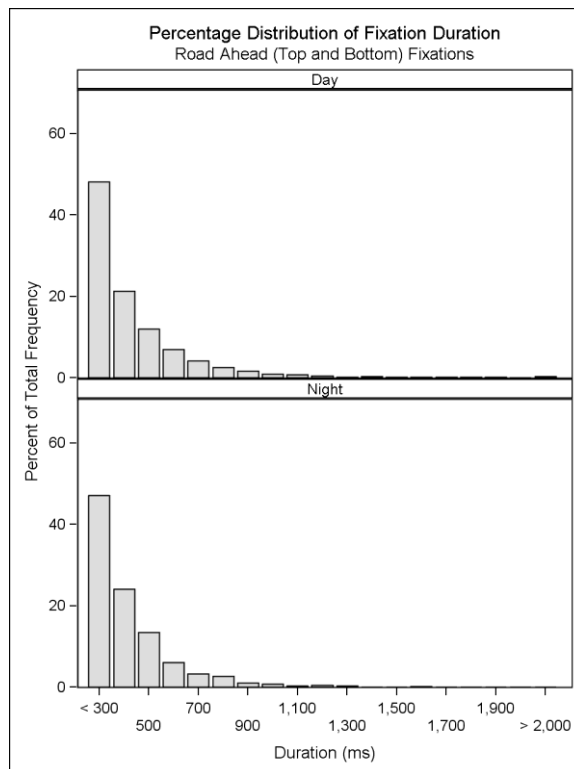


Figure 34. Fixation duration for the road ahead in the day and at night.

As was done with the data for Reading, the record of fixations was examined to determine dwell times to CEVMS and standard billboards. There were a total of 21 separate dwell times to CEVMS with a mean of 2.86 sequential fixations (minimum of 2 fixations and maximum of 6 fixations). The 21 dwell times came from 12 different participants and four different CEVMS. The mean dwell time duration to the CEVMS was 1,039 ms (minimum of 500 ms and maximum of 2,720 ms). There was one dwell time greater than 2,000 ms to CEVMS. To the standard billboards there were 13 separate dwell times with a mean of 2.31 sequential fixations (minimum of 2 fixations and maximum of 3 fixations). The 13 dwell times came from 11 different participants and four different standard billboards. The mean dwell time duration to the standard billboards was 687 ms (minimum of 450 ms and maximum of 1,152 ms). There were no dwell times greater than 2,000 ms to standard billboards.

In some cases several dwell times came from the same participant. To compute a statistic on the difference between dwell times for CEVMS and standard billboards, average dwell times were computed per participant for the CEVMS and standard billboard conditions. These average values were used in a *t*-test assuming unequal variances. The difference in average dwell time between CEVMS ($M = 1,096$ ms) and standard billboards ($M = 674$ ms) was statistically significant, $t(14) = 2.23$, $p = .043$.

Figure 35 through figure 37 show heat maps for the dwell-time durations to the CEVMS that were greater than 2,000 ms. The DCZ was on a freeway during the daytime. The CEVMS is located on the left side of the road (indicated by an orange rectangle). There were three fixations to this billboard, and the single fixations were between 651 ms and 1,335 ms. The dwell time for this billboard was 2,270 ms. Figure 35 shows the first fixation toward the CEVMS. There are no vehicles near the participant in his/her respective travel lane or adjacent lanes. In this situation, the billboard is relatively close to the road ahead ROI. Figure 36 shows a heat map later in the DCZ where the driver continues to look at the CEVMS. The heat map does not overlay the CEVMS in the picture since the heat map has integrated over time where the driver was gazing. The CEVMS has moved out of the area because of the vehicle moving down the road. However, visual inspection of the video and eye tracking statistics showed that the driver was fixating on the CEVMS. Figure 37 shows the end of the sequential fixations to the CEVMS. The driver returns to gaze directly in front of the vehicle. Once the CEVMS was out of the forward field of view, the driver quit looking at the billboard.

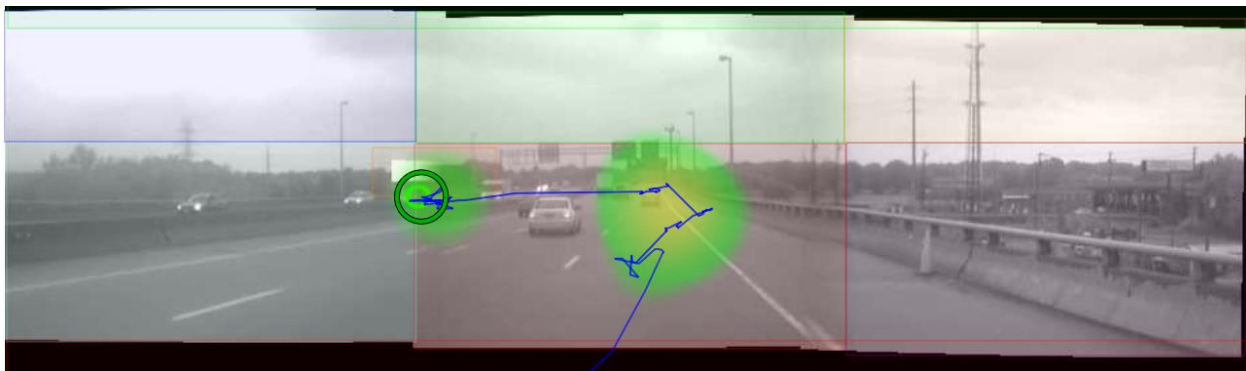


Figure 35. Heat map for first fixation to CEVMS with long dwell time.



Figure 36. Heat map for later fixations to CEVMS with long dwell time.

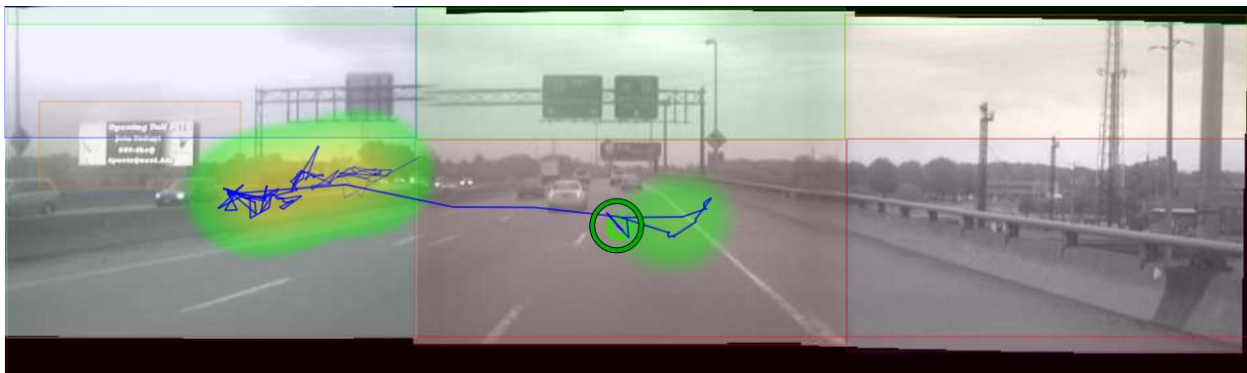


Figure 37. Heat map at end of fixations to CEVMS with long dwell time.

Comparison of Gazes to CEVMS and Standard Billboards

As was done for the data from Reading, GEE were used to analyze whether a participant gazed more toward CEVMS than toward standard billboards, given that the participant was looking at off-premise advertising. Recall that a sample probability greater than 0.5 indicated that participants gazed more toward CEVMS than standard billboards when the participants gazed at off-premise advertising. In contrast, if the sample probability was less than 0.5, participants showed a preference to gaze more toward standard billboards than CEVMS when directing visual attention to off-premise advertising.

Time of day (i.e., day or night), road type (i.e., freeway or arterial), and the corresponding interaction were explanatory variables in the logistic regression model. Time of day had a significant effect on participant gazes toward off-premise advertising, $\chi^2(1) = 4.46, p = 0.035$. Participants showed a preference to gaze more toward CEVMS than toward standard billboards during both times of day. During the day the preference was only slight ($M = 0.52$), but at night the preference was more pronounced ($M = 0.71$). Road type was also a significant predictor of where participants directed their gazes at off-premise advertising, $\chi^2(1) = 3.96, p = 0.047$. Participants gazed more toward CEVMS than toward standard billboards while driving on both types of roadways. However, driving on freeways yielded a slight preference for CEVMS over standard billboards ($M = 0.55$), but driving on arterials resulted in a larger preference in favor of CEVMS ($M = 0.68$).

Observation of Driver Behavior

No near misses or driver errors occurred.

Level of Service

Table 11 shows the level of service as a function of advertising type, type of road, and time of day. As expected, there was less congestion during the nighttime runs than in the daytime. In general, there was traffic during the data collection runs; however, the eye tracking data were recorded while the vehicles were in motion.

Table 11. Estimated level of service as a function of advertising condition, road type, and time of day.

	Arterial		Freeway	
	Day	Night	Day	Night
Control	B	A	C	B
CEVMS	B	A	B	A
Standard	C	A	C	C

DISCUSSION OF RICHMOND RESULTS

Overall the probability of looking at the forward roadway was high across all conditions and consistent with the findings from Reading and previous related research.^(11,9,12) In this second study the CEVMS and standard billboard conditions did not differ from each other. For the DCZs on arterials there were no significant differences among the control, CEVMS, and standard billboard conditions. On the other hand, while the CEVMS and standard billboard conditions on the freeways did not differ from each other, they were significantly different from their respective control conditions. The control condition on the freeway principally had trees along the sides of the road and the signs that were present were freeway signs located in the road ahead ROI.

Measures such as feature congestion rated the three DCZs on freeways as not being statistically different from each other. These types of measures have been useful in predicting visual search and the effects of visual salience in laboratory tasks.⁽³⁴⁾ Models of visual salience may predict that, at least during the daytime, trees on the side of the road may be visually salient objects that would attract a driver's attention.⁽⁴⁷⁾ However, it appears that in the present study, participants principally kept their eyes on the road ahead.

The mean fixations to CEVMS, standard billboards, and the road ahead were found to be similar in magnitude with no long fixations. Examination of dwell times showed that there was one long dwell time for a CEVMS greater than 2,000 ms and it occurred in the daytime on a sign located on the left side of the road on a freeway DCZ. Furthermore, when averaging among participants the mean dwell time for CEVMS was significantly longer than to standard billboards, but still under 2,000 ms. For the dwell time greater than 2,000 ms, examination of the scene camera video and eye tracking heat maps showed that the driver was initially looking toward the forward roadway and made a first fixation to the sign. Three fixations were made to the sign and then the

driver started looking back to the road ahead as the sign moved out of the forward field of view. On the video there were no vehicles near the subject driver's own lane or in adjacent lanes.

Only the central 2 degrees of vision, foveal vision, provide resolution sharp enough for reading or recognizing fine detail.⁽⁵⁷⁾ However, useful information for reading can be extracted from parafoveal vision, which encompasses the central 10 degrees of vision.⁽⁵⁷⁾ More recent research on scene gist recognition³ has shown that peripheral vision (beyond parafoveal vision) is more useful than central vision for recognizing the gist of a scene.⁽⁵⁸⁾ Scene gist recognition is a critically important early stage of scene perception, and influences more complex cognitive processes such as directing attention within a scene and facilitating object recognition, both of which are important in obtaining information while driving.

The results of this study do show one duration of eyes off the forward roadway greater than 2,000 ms, the duration at which Klauer et al. observed near-crash/crash risk at more than twice those of normal, baseline driving.^(14,53) When looking at the tails of the fixation distributions, few fixations were greater than 1,000 ms, with the longest fixation being equal to 1,335 ms.^(53,54) The one long dwell time on a CEVMS that was observed was a rare event in this study, and review of the video and eye tracking data suggests that the driver was effectively managing acquisition of visual information while driving and fixated on the advertising. However, additional work needs to be done to derive criteria for gazing or fixating away from the forward road view where the road scene is still visible in peripheral vision.

The results showed that drivers are more likely to look at CEVMS than standard billboards during the nighttime across the conditions tested (at night the average probability of gazing at CEVMS was $M = 0.71$). CEVMS do have greater luminance than standard billboards at night and also have higher contrast. The CEVMS have the capability of being lit up so that they would appear as very bright signs to drivers (for example, up to about $10,000 \text{ cd/m}^2$ for a white square on the sign.). However, our measurements of these signs showed an average luminance of about 56 cd/m^2 . These signs would be conspicuous in a nighttime driving environment but significantly less so than other light sources such as vehicle headlights. Drivers were also more likely to look at CEVMS than standard billboards on both arterials and freeways, with a higher probability of gazes on arterials.

In this second study, CEVMS and standard billboards were more nearly equated with respect to setback from the road. Gazes to the road ahead were not significantly different between CEVMS and standard billboard DCZs across conditions and the proportion of gazes to the road ahead were consistent with previous research. One long dwell time for a CEVMS was observed in this study; however, it occurred in the daytime where the luminance and contrast (affecting the perceived brightness) of these signs are similar to those for standard billboards.

³ "Scene gist recognition" refers to the element of human cognition that enables us to determine the meaning of a scene and categorize it by type (e.g., a beach, an office) almost immediately upon seeing it.

GENERAL DISCUSSION

This study was conducted to investigate the effect of CEVMS on driver visual behavior in a roadway driving environment. An instrumented vehicle with an eye tracking system was used. Roads containing CEVMS, standard billboards, and control areas with no off-premise advertising were selected. The CEVMS and standard billboards were measured with respect to luminance, location, size, and other relevant variables to characterize these visual stimuli. Unlike previous studies on digital billboards, the present study examined CEVMS as deployed in two United States cities and did not contain dynamic video or other dynamic elements. The CEVMS changed content approximately every 8 to 10 seconds, consistent within the limits provided by FHWA guidance.⁽²⁾ In addition, the eye tracking system used had nearly a 2-degree level of resolution that provided significantly more accuracy in determining what objects the drivers were gazing or fixating on as compared to some previous field studies examining CEVMS.

CONCLUSIONS

Do CEVMS attract drivers' attention away from the forward roadway and other driving relevant stimuli?

Overall, the probability of looking at the road ahead was high across all conditions. In Reading, the CEVMS condition had a lower proportion of gazes to the road ahead than the standard billboard condition on the freeways. Both of the off-premise advertising conditions had a lower proportion of gazes to the road ahead than the control condition on the freeway. The lower proportion of gazes to the road ahead can be attributed to the overall distribution of gazes away from the road ahead and not just to the CEVMS. On the other hand, for the arterials the CEVMS and standard billboard conditions did not differ from each other, but both had a lower proportion of gazes to the road ahead compared to the control. In Richmond there were no differences among the three advertising conditions on the arterials. However, for the freeways the CEVMS and standard billboard conditions did not differ from each other but had a lower proportion of gazes to the road ahead than the control.

The control conditions differed across studies. In Reading, the control condition on arterials showed 92 percent for gazing at the road ahead while on the freeway it was 86 percent. On the other hand, in Richmond the control condition for arterials was 78 percent and for the freeway it was 92 percent. The control conditions on the freeway differed across the two studies. In Reading there were businesses off to the side of the road; whereas in Richmond the sides of the road were mostly covered with trees. The control conditions on the arterials also differed across cities in that both contained businesses and on-premise advertising; however, in Reading arterials had four lanes and in Richmond arterials had six lanes. The reason for these differences across cities was that these control conditions were selected to match the other conditions (CEVMS and standard billboards) that the drivers would experience in the two respective cities. Also, the selection of DCZs was obviously constrained by what was available on the ground in these cities.

The results for the off-premise advertising conditions are consistent with Lee et al., who observed that 76 percent of drivers' time was spent looking at the road ahead in the CEVMS scenario and 75 percent in the standard billboard scenario.⁽⁹⁾ However, it should be kept in mind

that drivers did gaze away from the road ahead even when no off-premise advertising was present and that the presence of clutter or salient visual stimuli did not necessarily control where drivers gazed.

Do glances to CEVMS occur that would suggest a decrease in safety?

In DCZs containing CEVMS, about 2.5 percent of the fixations were to CEVMS (about 2.4 percent to standard billboards). The results for fixations are similar to those reported in other field data collection efforts that included advertising signs.^(12,11,9,13) Fixations greater than 2,000 ms were not observed for CEVMS or standards billboards.

However, an analysis of dwell times to CEVMS showed a mean dwell time of 994 ms (maximum of 1,467 ms) for Reading and a mean of 1,039 ms (maximum of 2,270 ms) for Richmond. Statistical comparisons of average dwell times between CEVMS and standard billboards were not significant in Reading; however, in Richmond the average dwell times to CEVMS were significantly longer than to standard billboards, though below 2,000 ms. There was one dwell time greater than 2,000 ms to a CEVMS across the two cities. On the other hand, for standard billboards there were three long dwell times in Reading; there were no long dwell times to these billboards in Richmond. Review of the video data for these four long dwell times showed that the signs were not far from the forward view when participants were fixating. Therefore, the drivers still had access to information about what was in front of them through peripheral vision.

As the analyses of gazes to the road ahead showed, drivers distributed their gazes away from the road ahead even when there were no off-premise billboards present. Also, drivers gazed and fixated on off-premise signs even though they were generally irrelevant to the driving task. However, the results did not provide evidence indicating that CEVMS were associated with long glances away from the road that may reflect an increase in risk. When long dwell times occurred to CEVMS or standard billboards, the road ahead was still in the driver's field of view.

Do drivers look at CEVMS more than at standard billboards?

The drivers were generally more likely to gaze at CEVMS than at standard billboards. However, there was some variability between the two locations and between type of roadway (arterial or freeway). In Reading, the participants looked more often at CEVMS when on arterials, whereas they looked more often at standard billboards when on freeways. In Richmond, the drivers looked at CEVMS more than standard billboards no matter the type of road they were on, but as in Reading the preference for gazing at CEVMS was greater on arterials (68 percent on arterials and 55 percent on freeways). The slower speed on arterials and sign placement may present drivers with more opportunities to gaze at the signs.

In Richmond, the results showed that drivers gazed more at CEVMS than standard billboards at night; however, for Reading no effect for time of day was found. CEVMS do have higher luminance and contrast than standard billboards at night. The results showed mean luminance of about 56 cd/m² in the two cities where testing was conducted. These signs would appear clearly visible but not overly bright.

SUMMARY

The results of these studies are consistent with a wealth of research that has been conducted on vision in natural environments.^(26,22,21) In the driving environment, gaze allocation is principally controlled by the requirements of the task. Consistent results were shown for the proportion of gazes to the road ahead for off-premise advertising conditions across the two cities. Average fixations were similar to CEVMS and standard billboards with no long single fixations evident for either condition. Across the two cities, four long dwell times were observed: one to a CEVMS on a freeway in the day, two to the same standard billboard on a freeway (once at night and once in the daytime), and one to a standard billboard on an arterial at night. Examination of the scene video and eye tracking data indicated that these long dwell times occurred when the billboards were close to the forward field of view where peripheral vision could still be used to gather visual information on the forward roadway.

The present data suggest that the drivers in this study directed the majority of their visual attention to areas of the roadway that were relevant to the task at hand (i.e., the driving task). Furthermore, it is possible, and likely, that in the time that the drivers looked away from the forward roadway, they may have elected to glance at other objects in the surrounding environment (in the absence of billboards) that were not relevant to the driving task. When billboards were present, the drivers in this study sometimes looked at them, but not such that overall attention to the forward roadway decreased.

LIMITATIONS OF THE RESEARCH

In this study the participants drove a research vehicle with two experimenters on board. The participants were provided with audio turn-by-turn directions and consequently did not have a taxing navigation task to perform. The participants were instructed to drive as they normally would. However, the presence of researchers in the vehicle and the nature of the driving task do limit the degree to which one may generalize the current results to other driving situations. This is a general limitation of instrumented vehicle research.

The two cities employed in the study appeared to follow common practices with respect to the content change frequency (every 8 to 10 seconds) and the brightness of the CEVMS. The current results would not generalize to situations where these guidelines are not being followed.

Participant recruiting was done through libraries, community centers and at a university. This recruiting procedure resulted in a participant demographic distribution that may not be representative of the general driving population.

The study employed a head-free eye tracking device to increase the realism of the driving situation (no head-mounted gear). However, the eye tracker had a sampling rate of 60 Hz, which made determining saccades problematic. The eye tracker and analyses software employed in this effort represents a significant improvement in technology over previous similar efforts in this area.

The study focused on objects that were 1,000 feet or less from the drivers. This was dictated by the accuracy of the eye tracking system and the ability to resolve objects for data reduction. In addition, the geometry of the roadway precluded the consideration of objects at great distances.

The study was performed on actual roadways, and this limited the control of the visual scenes except via the route selection process. In an ideal case, one would have had roadways with CEVMS, standard billboards, and no off-premise advertising and in which the context surrounding digital and standard billboards did not differ. This was not the case in this study, although such an exclusive environment would be inconsistent with the experience of most drivers. This presents issues with the interpretation of the specific contributions made by billboards and the environment to the driver's behavior.

Sign content was not investigated (or controlled) in the present study, but may be an important factor to consider in future studies that investigate the distraction potential of advertising signs. Investigations about the effect of content could potentially be performed in driving simulators where this variable could be systematically controlled and manipulated.

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Federal Highway Administration study confirms safety of digital billboards and signs



The U.S. Department of Transportation Federal Highway Administration has released a landmark study declaring that digital billboards do not pose a safety risk to passing motorists. For those within the industry, the results of this study come as no surprise. Numerous traffic studies and analyses performed in the last couple of decades have come to a similar conclusion.

The report, actually divided into two studies, is officially titled "Driver Visual Behavior In The Presence of Commercial Electronic Variable Message Signs." For the purposes of the studies, the FHA refers to digital billboards as Commercial Electronic Variable Message Signs. The studies sought to address three specific questions:

1. Do CEVMS attract drivers' attention away from the forward roadway and other driving-relevant stimuli?
2. Do glances to CEVMS occur that would suggest a decrease in safety?
3. Do drivers look at CEVMS more than at standard billboards?

To conduct the study, the FHA tracked participant's eye movements with an eye-tracking camera device mounted in the vehicle. This device was able to track the driver's eyeball movement and determine if the driver was looking ahead at the roadway or off to the side of the roadway at a static billboard or CEVMS.

Drivers in Richmond, Va., and Reading, Pa., participated in the study, and the research concluded that drivers do indeed look at digital billboards longer than they do at static billboards. Glance duration toward digital billboards averaged 0.379 seconds, while glances at static billboards were at 0.335 seconds at both test sites. Both of these measurements fall far below the two-second benchmark, which would constitute a hazard, according to the National Highway Traffic Safety Administration.

In conclusion, the study states, "The results did not provide evidence indicating that CEVMS, as deployed and tested in the two selected cities, were associated with unacceptably long glances away from the road. When dwell times longer than the currently accepted threshold of 2,000 ms [milliseconds] occurred, the road ahead was still in the driver's field of view. This was the case for both CEVMS and standard billboards."

This peer-reviewed study should help put to rest concerns that digital billboards, and other outdoor digital signs, pose a hazard to passing motorists. The study will also help pave the way for communities to bring this powerful outdoor advertising medium to their communities, benefiting not just local operators and advertisers but the entire local economy as well.

Topics: Advertising, Digital Billboards, DOOH Advertising, LED Signs, Trends / Statistics



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The Hunt For Distractions Leads To Inside The Vehicle

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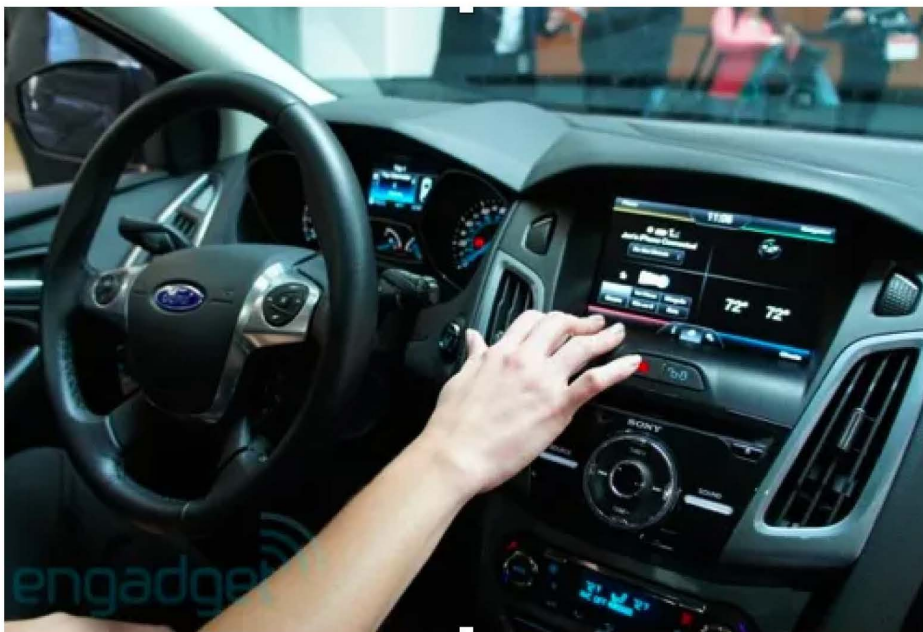


By [Ken Klein](#), EVP-Government Affairs, [OAAA](#).

I ran into a policy analyst (April 27) for the huge AAA auto club based in southern California. She said two things of note:

- A California lawmaker had invited AAA to join his effort to restrict digital billboards based on safety, but AAA declined because the science didn't show a problem
- I should read AAA's latest distraction report from its Foundation for Traffic Safety (based in Washington, DC)

I did. It's not about signs. The latest AAA report is about distraction *inside the vehicle*.



In-vehicle information systems (IVIS) create “moderate to high level cognitive workload” for drivers, said this research, conducted by experts at University of Utah. Further:

- Practice does not eliminate interference caused by in-car info systems
- Older drivers have more trouble figuring out in-car gadgets compared to younger drivers
- After drivers interact with in-car info systems, it takes 27 seconds to return to normal levels of performance. “At 25 MPH, drivers would have traveled more than three football fields in this interval.”

Thank you, AAA policy analyst.

The AAA safety study reminded me what Peter said about distraction a few days ago: *Billboards aren't the problem.*



Peter is Congressman Peter DeFazio (D-OR), the top Democrat on the House Transportation & Infrastructure Committee.

Like the AAA motor club, the congressman is worried about information overload inside the vehicle, with more gizmos on the way.

DeFazio's home-state DOT (Oregon Department of Transportation) wants to "change cultural norms when it comes to distracted driving."

When Oregon's Transportation Director Matt Garrett says "cultural norms," he means driver behavior inside the vehicle.

Oregon commissioned new research that says:

- Three of four Oregon drivers admitted to driving while distracted, "mostly by using a cell phone."
- As passengers, more than eight of 10 feel uncomfortable riding with a driver who is distracted. But nearly half of those surveyed (by Oregon State University) "admitted to driving while distracted with passengers in the vehicle."
- A distracted-driver crash occurred every 2.5 hours, according to state data.

Driving into Portland (OR), I saw another example of government *using billboards on behalf of safety*.



The kids-buckle-up message – on a digital bulletin — was posted by the National Highway Traffic Safety Administration (NHTSA).

When we hear terms like “distraction” and “changing cultural norms,” remember these basics:

- Billboards helped change culture norms, for safety, by increasing seatbelt usage and making impaired driving un-cool
- Serious, respected safety advocates like the AAA’s Foundation for Traffic Safety are focused on distraction inside the vehicle
- State and federal research shows that digital billboards are not distracting



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Author: [billboardinsider](#) Dave Westburg started billboard insider in September 2015 to provide a source of daily news and analysis for the outdoor business. He writes about what interests him as an outdoor advertising owner, lender and investor. You can reach Dave at billboardinsider@gmail.com or 206-910-1283.

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WAC 468-66-050

Sign classifications and specific provisions.

Signs shall be classified and restricted to the provisions following:

(1) Type 1 - Directional or other official signs and notices. Directional or other official signs and notices may be erected and maintained on private property or public property, other than state highway right of way, for the purposes of carrying out an official duty or responsibility. The signs may only be installed by public offices or public agencies within their territorial or zoning jurisdiction and shall follow federal, state, or local law.

(a) Type 1(a) - Directional sign. A directional sign may only be installed in accordance with the provisions following:

(i) Publicly or privately owned places - Directional signs for publicly or privately owned places that feature natural phenomena; historical, cultural, scientific, or educational opportunities; areas of scenic beauty, or outdoor recreation areas:

- Publicly owned places - Directional signs for public places owned or operated by federal, state, or local government, or their agencies;
- Privately owned places - Directional signs for nonprofit privately owned places that feature scenic attractions. The attractions must be nationally or regionally known, or of outstanding interest to travelers.

(ii) A sign message shall be limited to identification of the activity or attraction and directional information. Directional information is limited to that which helps the motorist locate the activity, such as providing mileage to the activity, highway route or exit numbers.

(iii) Descriptive words, phrases, and photographic or pictorial representations of the activity or attraction are prohibited.

(iv) Type 1(a) signs shall not exceed twenty feet in length, width, or height, or one hundred fifty square feet in area, including border and trim but excluding supports.

(v) The department must approve the proposed installation location.

(vi) Along the interstate system and other limited access highways having grade separations (interchanges), a sign shall not be located within two thousand feet of an interchange or rest area, measured from the ramp physical gore, or within two thousand feet of a parkland or scenic area.

(vii) Type 1(a) signs shall not be spaced closer than one mile apart.

(viii) Visible to a state route approaching an activity or attraction, a maximum of three signs per direction of travel are allowed for each activity or attraction.

(ix) Type 1(a) signs located along the interstate system shall be within seventy-five air miles of the activity or attraction.

(x) Type 1(a) signs located along the primary and scenic systems shall be within fifty air miles of the activity or attraction.

(b) Type 1(b) - Official sign. An official sign may be installed subject to the provisions following:

(i) Type 1(b) signs may only be erected and maintained by public offices or public agencies.

(ii) Type 1(b) signs may only be located within the governing jurisdiction of the public office or public agency.

(iii) Type 1(b) signs shall follow federal, state, or local law.

(iv) Type 1(b) sign message content is limited to providing information that furthers an official duty or responsibility.

(v) Type 1(b) signs shall not exceed twenty feet in length, width, or height, or one hundred fifty square feet in area, including border and trim but excluding supports.

(vi) Type 1(b) signs may be historical markers authorized by federal, state, and local law.

(vii) Type 1(b) signs are not regulated by the act with regard to visibility to highways, zoning requirements, number of signs, or spacing.

(c) Type 1(c) - Service activity sign. A service activity sign may be installed subject to the provisions following:

(i) Type 1(c) signs shall contain only the name of a nonprofit organization, its address, and the time of its meeting or service.

(ii) Type 1(c) signs shall not exceed eight square feet in area.

(iii) Type 1(c) signs are not regulated by the act with regard to visibility to highways, zoning requirements, number of signs, or spacing.

(2) Type 2 - For sale or lease sign. A Type 2 sign may only advertise the sale or lease of the parcel of real property upon which the sign is located. The name of the owner of the property offered for sale or lease, or the owner's agent and phone number shall not be displayed more conspicuously than the words "for sale" or "for lease." No other message may be displayed on the sign.

(a) Type 2 signs shall not exceed twenty feet in length, width, or height, or one hundred fifty square feet in area, including border and trim but excluding supports.

(b) Not more than one Type 2 sign may be installed that is visible to traffic proceeding in any one direction on an interstate, primary, or scenic system highway.

(c) The act does not regulate Type 2 signs with regard to zoning requirements or spacing.

(3) Type 3 - On-premise signs.

(a) Type 3(a) - On-premise sign. A Type 3(a) on-premise sign may only advertise an activity conducted on the property upon which the sign is located.

(i) A Type 3(a) on-premise sign shall be limited to advertising the business or the owner, or the products or services offered on the property. A sign consisting mainly of a brand name, trade name, product or service incidental to the main products or services offered on the property, or a sign bringing rental income to the property, is not an on-premise sign.

(ii) A Type 3(a) on-premise sign more than fifty feet from the advertised activity may not exceed twenty feet in length, width, or height, or one hundred fifty square feet in area, including border and trim but excluding supports. The act does not regulate the size of Type 3(a) on-premise signs located within fifty feet of the advertised activity.

(iii) A Type 3(a) on-premise sign located at a shopping center, mall, or business combination is not authorized more than fifty feet from the individual activity it advertises, unless it is installed together with a Type 3(b) business complex on-premise sign as described in (b)(i) of this subsection.

(b) Type 3(b) - Business complex on-premise sign. A Type 3(b) business complex on-premise sign may display the name of a shopping center, mall, or business combination.

(i) Where a business complex erects a Type 3(b) on-premise sign, the sign structure may display additional individual business signs identifying each of the businesses conducted on the premises. A Type 3(b) on-premise sign structure may also have attached a display area, such as a manually changeable copy panel, reader board, or electronically changeable message center, for advertising on-premise activities and/or presenting public service information.

(ii) Type 3(b) on-premise signs are not regulated by the act with regard to size. Any Type 3(a) on-premise sign and any display area, installed together with a Type 3(b) on-premise sign, may not exceed twenty feet in length, width, or height, or one hundred fifty square feet in area, including border and trim.

(c) Type 3(c) - Future site on-premise sign. A Type 3(c) future site on-premise sign may only display the name of a business activity, or other activity of interest to motorists, planned for the property upon which the sign is located and the anticipated opening date of such activity.

(i) The owner, or owner's representative, shall by letter notify the department at least thirty days prior to the installation of the proposed Type 3(c) future site on-premise sign. Said notice shall include the location, sign message, and installation date.

(ii) Type 3(c) future site on-premise signs may remain until the business activity is operational, but shall not exceed one year from the planned installation date. The sign must be removed at the end of one year after the planned installation date if the business activity is not yet operational.

(iii) Type 3(c) future site on-premise signs shall not exceed twenty feet in length, width, or height, or one hundred fifty square feet in area.

(d) Type 3(d) - Temporary political campaign sign. A Type 3(d) temporary political campaign sign may express a property owner's endorsement of a political candidate or ballot issue.

(i) Type 3(d) temporary political campaign signs are limited to a maximum size of thirty-two square feet.

(ii) Type 3(d) temporary political campaign signs must be removed within ten days after an election.

After primary elections, temporary political campaign signs endorsing a successful candidate may remain up to ten days after the succeeding general election.

(e) Not more than one Type 3(a) or 3(b) sign, visible to traffic proceeding in any one direction on an interstate system highway; on a primary system highway outside an incorporated city or town or commercial or industrial area; or on a scenic system highway, may be permitted more than fifty feet from the advertised activity. Not more than one Type 3(c) sign may be installed visible to traffic proceeding in any one direction on an interstate system highway; on a primary system highway outside an incorporated city or town or commercial or industrial area; or on a scenic system highway. The act does not regulate Type 3(d) signs with regard to the number of signs installed, visibility from highways, zoning requirements, or spacing.

(i) For Type 3(a) on-premise signs, the fifty-foot distance from the advertised activity shall be measured from the sign to the nearest portion of that building, storage, or other structure or processing area, which is the most regularly used and essential to the conduct of the advertised activity as determined solely by the department.

(ii) For Type 3(b) on-premise signs, the fifty-foot distance from the advertised activity may be measured in the same manner as for Type 3(a) on-premise signs, or may be measured fifty feet from the nearest portion of a combined parking area.

(f) A Type 3(a) or 3(b) on-premise sign more than fifty feet from the advertised activity shall not be erected or maintained at a greater distance from the advertised activity than one of the options following, as applicable, selected by the owner of the business being advertised:

(i) One hundred fifty feet measured along the edge of the protected highway from the nearest edge of the main entrance to the activity advertised;

(ii) One hundred fifty feet from any outside wall of the main building of the advertised activity; or

(iii) Fifty feet from any outside edge of a regularly used parking lot maintained by, and contiguous to, the advertised activity.

(g) Electronic signs may be used only as Type 3 on-premise signs and/or to present public service information, as follows:

(i) Advertising messages on electronic signboards may contain words, phrases, sentences, symbols, trademarks, and logos. A single message or a message segment must have a static display time of at least two seconds after moving onto the signboard, with all segments of the total message to be displayed within ten seconds. A one-segment message may remain static on the signboard with no duration limit.

(ii) Displays may travel horizontally or scroll vertically onto electronic signboards, but must hold in a static position for two seconds after completing the travel or scroll.

(iii) Displays shall not appear to flash, undulate, or pulse, or portray explosions, fireworks, flashes of light, or blinking or chasing lights. Displays shall not appear to move toward or away from the viewer, expand or contract, bounce, rotate, spin, twist, or otherwise portray graphics or animation as it moves onto, is displayed on, or leaves the signboard.

(iv) Electronic signs requiring more than four seconds to change from one single message display to another shall be turned off during the change interval.

(v) No electronic sign lamp may be illuminated to a degree of brightness that is greater than necessary for adequate visibility. In no case may the brightness exceed 8,000 nits or equivalent candelas during daylight hours, or 1,000 nits or equivalent candelas between dusk and dawn. Signs found to be too bright shall be adjusted as directed by the department.

(h) The act does not regulate Type 3(a), 3(b), 3(c), and 3(d) on-premise signs located along primary system highways inside an incorporated city or town or a commercial or industrial area.

(4) Type 4 - Off-premise signs; and

(5) Type 5 - Off-premise signs. Type 4 off-premise signs are distinguishable from Type 5 off-premise signs only by message content. Type 4 off-premise sign messages are those that do not qualify as Type 5 sign messages described in (b) of this subsection.

(a) A Type 4 sign shall be located within twelve air miles of the advertised activity. A Type 4 sign that displays any trade name which refers to or identifies any service rendered or product sold, used, or otherwise handled more than twelve air miles from such sign shall not be permitted unless the name of the advertised activity, which is within twelve air miles of such sign, is displayed as conspicuously as such trade name.

(b) A Type 5 sign displays a message of specific interest to the traveling public. On Type 5 signs, only information about public places operated by federal, state, or local governments, natural phenomena, historic sites, areas of natural scenic beauty or outdoor recreation, and places for lodging, camping, eating, and vehicle service and repair is deemed to be in the specific interest of the traveling public. A trade name is authorized on a Type 5 sign only if it identifies or represents a place of specific interest to the traveling public; or identifies vehicle service, equipment, parts, accessories, fuels, oils, or lubricants being offered for sale at such place. The display of any other trade name is not permitted on Type 5 signs.

(c) Type 4 and Type 5 signs are restricted in size to the following:

(i) Visible to interstate highways, signs may not exceed twenty feet in length, width, or height, or one hundred fifty square feet in area including border and trim but excluding supports.

(ii) Visible to primary highways, the maximum area for any one sign, except as provided in (c)(iii) of this subsection, shall be six hundred seventy-two square feet with a twenty-five-foot maximum height and a fifty-foot maximum length, including the border and trim but excluding the base or apron, supports, and structural members. Cut-outs and extensions may add up to twenty percent of additional sign area.

(iii) Each sign face of a double-faced (flanking and side-by-side) sign may not exceed three hundred twenty-five square feet.

(d) The spacing of Type 4 and Type 5 signs along interstate highways and visible to traffic traveling in one direction shall be restricted as follows:

(i) Type 4 and Type 5 signs visible to traffic approaching an intersection of the main-traveled way of an interstate highway and an exit roadway may not exceed the number following:

Distance from intersection	Number of signs
0 - 2 miles. . . .	0
2 - 5 miles. . . .	6
More than 5 miles. . . .	Average of one sign per mile

The specified distances shall be measured to the nearest point of intersection of the traveled way of the exit roadway and the main-traveled way of the interstate highway.

(ii) Not more than two such signs may be permitted within any mile distance and no such signs may be permitted less than one thousand feet apart.

(iii) Type 1, 2, and 3 signs shall not be considered in determining compliance with the above spacing requirements.

(iv) Type 4 and Type 5 signs may not be permitted adjacent to interstate highway right of way within the limits of an interchange, including its entrance or exit roadways.

(v) Type 4 and Type 5 signs visible to interstate highway traffic, which has passed an entrance roadway, may not be permitted within one thousand feet of the point where the entrance roadway intersects with the interstate highway. The distance shall be measured from the intersection point farthest from the preceding interchange.

(vi) Not more than one Type 4 or Type 5 sign, advertising activities conducted as a single enterprise or giving information about a single place, may be erected or maintained in such manner as to be visible to traffic moving in any one direction on any one interstate highway.

(e) The spacing of Type 4 and Type 5 signs visible to primary highways shall be restricted as follows:

(i) On limited access highways, no two signs may be spaced less than one thousand feet apart, and no sign may be located within three thousand feet of the center of a grade separated interchange, a safety rest area, or an information center, or within one thousand feet of an at-grade intersection. Not more than

a total of five sign structures may be permitted per mile, including both sides of the highway. Double-faced (flanking or side-by-side) signs are prohibited.

(ii) On nonlimited access highways inside the boundaries of incorporated cities or towns, not more than a total of four sign structures, including both sides of the highway, may be permitted within a space of six hundred sixty feet or between platted intersecting streets or highways. There shall also be a minimum of one hundred feet between sign structures, including both sides of the highway.

(iii) On nonlimited access highways outside the boundaries of incorporated cities or towns, the minimum spacing between sign structures on each side of the highway shall be five hundred feet.

(iv) Back-to-back signs and V-type signs shall be considered one sign structure.

(f) The minimum space between sign structures located on the same side of the highway shall be measured between two points along the nearest edge of pavement. The measurement points are established at the origin of lines extending perpendicular from the edge of pavement to the apparent centers of the sign structures.

(g) The minimum space between sign structures located on opposite sides of the highway shall be measured in the applicable manner following:

(i) Along tangent sections, sign spacing is measured between two points along the edge of pavement in the increasing milepost direction of travel. One measurement point is established at the origin of a line extending perpendicular from the edge of pavement to the apparent center of the sign structure located in the increasing direction of travel. The second measurement point is established at the origin of a line extending perpendicular from the edge of pavement to the apparent center of the sign structure located in the decreasing direction of travel.

(ii) Along horizontal curve sections, sign spacing is measured between two points on the edge of pavement along the arc on the inside of the curve. One measurement point is established at the origin of a line extending perpendicular from the edge of pavement to the apparent center of the sign structure located along the highway in the increasing milepost direction of travel. The second measurement point is established at the origin of a line extending perpendicular from the edge of pavement to the apparent center of the sign structure located along the highway in the decreasing milepost direction of travel.

(h) Type 1, 2, 3, 7, and 8 signs shall not be considered in determining compliance with the above spacing requirements.

(i) Type 4 and Type 5 signs may be permitted within commercial and industrial areas adjacent to interstate and primary highways, provided that spacing is available as specified in (d) and (e) of this subsection.

(j) Type 4 and Type 5 signs are not permitted visible to the scenic system.

(k) Pursuant to the 1991 Intermodal Surface Transportation Efficiency Act, a National Scenic Byway Demonstration Project is established on State Route 101, from the Astoria/Megler Bridge to Fowler Street in Raymond and from the junction with State Route 109 near Queets to the junction with State Route 5 near Olympia. No new Type 4 or Type 5 signs may be permitted within the limits of this project. Type 4 or Type 5 signs installed prior to July 25, 1993, may remain as nonconforming signs.

(6) Type 6 - Landmark signs.

(a) Type 6 signs shall have been lawfully in existence on October 22, 1965, and have historic or artistic significance, including signs on farm structures or natural surfaces.

(b) Historic or artistic significance shall be determined by the department and approved by the Federal Highway Administration.

(c) Within the limits of the National Scenic Byway Demonstration Project identified in (5)(h) of this subsection, Type 6 signs may remain as nonconforming signs.

(7) Type 7 - Public service signs located on school bus stop shelters. Type 7 signs may display safety slogans or messages, and identify the donor, sponsor, or contributor of a school bus stop shelter. No other message(s) may be displayed.

(a) Safety slogans or messages must occupy at least sixty percent of the sign area, and appear more predominant than the name of the donor, sponsor, or contributor.

(b) Type 7 signs may be located on school bus stop shelters only as authorized or approved by state law or regulation, or city or county ordinance or resolution, and may be installed visible to primary and scenic system highways.

(c) Type 7 signs may not exceed thirty-two square feet. A sign shall not protrude above the roofline or beyond the sides of the school bus stop shelter.

(d) Not more than one sign on each shelter may face in any one direction.

(e) The act does not regulate Type 7 signs with regard to zoning requirements or spacing between Type 7 signs and other types of signs.

(8) Type 8 - Temporary agricultural directional signs. Type 8 signs provide directional information to places of business having seasonal agricultural products for sale.

(a) Type 8 signs may display the business name, product(s) for sale, travel direction, and travel distance to the nearest mile from the state highway to the business.

(b) Type 8 signs may not exceed thirty-two square feet.

(c) There shall be at least three hundred feet spacing between Type 8 signs.

(d) Not more than two signs advertising a place of temporary agricultural business may be installed visible to traffic proceeding in one direction of travel on any one state route.

(e) Premises on which the seasonal agricultural products are sold must be within fifteen air miles of the state highway.

(f) Type 8 signs may be posted only during the period of time the seasonal agricultural product(s) is being sold.

(g) Any necessary supplemental follow-through signs along city streets or county roads must be installed before the Type 8 signs may be installed visible to the state highway.

(h) The signs may be installed visible to primary system highways outside incorporated cities or towns, and scenic system highways.

(i) Type 8 signs may not be installed visible to interstate highways, including interstate highways that are also part of the scenic system, or visible to primary system highways within incorporated cities or towns.

(j) The act does not regulate Type 8 signs with regard to zoning requirements or spacing between Type 8 signs and other types of signs.

[Statutory Authority: RCW **47.42.120**. WSR 14-22-055, § 468-66-050, filed 10/30/14, effective 11/30/14. Statutory Authority: Chapter **47.42** RCW and Title 23 Code of Federal Regulations part 750. WSR 06-03-005, § 468-66-050, filed 1/4/06, effective 2/4/06. Statutory Authority: Chapter **34.05** RCW and RCW **47.42.060**. WSR 99-24-083 (Order 195), § 468-66-050, filed 11/30/99, effective 12/31/99. Statutory Authority: Chapter **47.42** RCW and RCW **47.01.101**(5). WSR 94-12-049 (Order 144), § 468-66-050, filed 5/27/94, effective 6/27/94. Statutory Authority: RCW **47.42.060**. WSR 88-22-002 (Order 116), § 468-66-050, filed 10/20/88. Statutory Authority: Chapter **47.42** RCW. WSR 85-17-012 (Order 96), § 468-66-050, filed 8/12/85. Statutory Authority: RCW **47.42.060**. WSR 80-05-055 (Order 55), § 468-66-050, filed 4/18/80. Statutory Authority: 1977 ex.s. c 151. WSR 79-01-033 (DOT Order 10 and Comm. Order 1, Resolution No. 13), § 468-66-050, filed 12/20/78. Formerly WAC 252-40-040.]



Outdoor Advertising Association of America

Issue Briefs

Outdoor Lighting and Dark Skies

Message Points

- Illumination is fundamental to effective outdoor advertising, a round-the-clock mass communication medium
- Unreasonable limits on lighting hurt the traveling public, advertisers and public safety
- Billboard lighting is a tiny fraction of the overall ambient light level

In a mobile society, outdoor lighting is an essential part of commerce and security. Anti-lighting proponents seek to damage the effectiveness of illuminated outdoor advertising by placing arbitrary lighting limits. Restrictions on lighting undermine the business of outdoor advertising by requiring costly retro-fitting of sign structures or elimination of lighting fixtures.

Lighting on outdoor advertising structures is a tiny fraction of the overall ambient light level. A previous report by Lighting Sciences, Inc. concludes that most sky glow – some 96 percent – is produced by sources other than billboards. A summary of this report is enclosed as a reference.

Plus, a new generation of halogen lights is more efficient, requiring only two fixtures to illuminate a standard bulletin (14-by-48 foot billboard) rather than three or four fixtures. These new fixtures also direct the light more evenly onto the face of the bulletins, reducing ambient light spillage around a bulletin edges and also cutting energy consumption.

Digital Billboards

Based on a March, 2008, report by Lighting Sciences, Inc, Phoenix, AZ, the OAAA has recommended brightness criteria for digital billboards, suggesting that light produced by digital billboard structures should not exceed 0.3 footcandles over ambient light levels. Eight states have adopted this standard. Using the industry standard of 0.3 footcandles over ambient light levels, provides reasonable, objective method to achieve a site specific lighting requirement for digital billboards.

States with 0.3 foot candle criteria include:

- Colorado: 0.3 foot candles over ambient lighting levels*
- Massachusetts: 0.3 foot candles over ambient lighting levels
- Michigan: 0.3 foot candles over ambient lighting levels
- New Mexico: 0.3 foot candles over ambient lighting levels
- Oregon: 0.3 foot candles over ambient lighting levels
- Puerto Rico: 0.3 foot candles over ambient lighting levels
- Tennessee: 0.3 foot candles over ambient lighting levels
- Wyoming: 0.3 foot candles over ambient lighting levels

*(includes a back-up measurement of 300 Nits at night)

States with Candelas/Square meter (Nits) criteria or have proposed criteria include:

- West Virginia: candelas per square foot (note, not a nit), as follows:

Candelas/Sq Ft	Day	Night
Red	300	100
Green	600	200
Amber	450	150
Blue	800	350
White	550	50
All Color	650	250

- Arizona: 342 nits at night
- Missouri: 300 nits at night

States with Custom Criteria:

- Delaware: no maximum brightness level, but sign must adjust to ambient light changes
- Illinois: No brightness standards, but a letter from the manufacturer discussing the malfunction mechanism and hold time is required
- Mississippi: Sign must have “capability to adjust its intensity in response to ambient lighting conditions”

Light equals security

Illumination enhances public safety and security. Lack of adequate lighting can compromise safety, promote criminal activity, damage consumer confidence, and depress nighttime commerce.

State legislatures have rejected lighting restrictions

Numerous law-making bodies have considered, but rejected these proposals. (Michigan, Montana, Oregon, Washington, and Wyoming).

In 1999, New Mexico enacted the Night Sky Protection Act, which sought to strike a balance of preserving and enhancing the state's dark sky while promoting safety, security, and conserving energy. The Act exempts outdoor lighting fixtures on advertisement signs on interstates and federal-aid primary highways, as well as other lighting such as navigational lighting systems at airports.

References

OAAA Recommended Brightness Guidelines, based on a report from Dr. Ian Lewin, Principle, Lighting Sciences Incorporated, Scottsdale, AZ, March, 2008

“General Outdoor Advertising Lighting Guidelines,” Illuminating Engineering Society of North America (IESNA), 2003

“A Preliminary Estimation of the Impact of Billboard Lighting on Sky Glow,” *Executive Summary*, Ian Lewin, Ph.D, FIES, L.C., Lighting Sciences Inc., Phoenix, AZ

New Mexico Night Sky Protection Act, 1999

OAAA Recommended Brightness Guidelines

A. OAAA Guidelines: The OAAA recommended brightness criteria for digital billboards is as follows:

- Light produced by a digital billboard should not exceed 0.3 Footcandles over ambient light levels.
- Measurement should be taken utilizing a Footcandle meter from the following distances (perpendicular to the face of the digital billboard):
 - ☐ Posters: 150 feet
 - ☐ 10'6x36 Bulletins: 200 feet
 - ☐ 14x48 Bulletins: 250 feet
 - ☐ 20x60 Bulletins: 350 feet

The measurement distances are based on the average minimum viewing distances for each type of billboard.

- Digital billboards must have automatic dimming capability.

B. Basis for the Guidelines. These guidelines are based on recommendations by Dr. Ian Lewin of Lighting Sciences Inc. (Scottsdale, AZ) in a March, 2008 report to the OAAA. Dr. Lewin developed brightness criteria to meet the following general guidelines:

- Appropriately Legible Copy. Digital advertising copy is appropriately legible and not overly bright.
- Simplicity. Provide a guideline that can be easily implemented and enforced. Measurement of the ambient light level of the sign on and off is conducted by a footcandle meter. If the difference in measurements is less than 0.3 footcandles, the digital billboard is in compliance.
- Established Guidelines. The criteria is based on established scientific methodology and established industry standards from the Illuminating Engineering Society of North America (IESNA) publication TM-11-00 “light trespass” theory which is an accepted standard in the lighting industry.
- Flexibility. Ensure proper brightness levels in a variety of lighting environments.

C. Additional Issues/Clarification

- **Automatic Dimming Capability.** A digital billboard must be able to automatically adjust as ambient light levels change. An automatic light sensing device (such as photocell or similar technology) should be utilized for adjusting the digital billboard’s brightness. Sunset-sunrise tables and manual methods of controlling brightness are not acceptable as a primary means of controlling brightness.
- **Brightness Measurement Methodology.** The brightness standard requires the use of a Footcandle meter (also known as a “Lux meter”; ~\$100-1000). A Footcandle meter measures the amount of light arriving at the meter (illuminance), as opposed to an absolute measurement of the amount of light emanating from a light source or light sources (luminance). A Footcandle is a measure of lumens (light rays) that fall on one square foot area; Lux is the metric equivalent of a Footcandle.

- In contrast, a Candela Meter / NIT Gun (~\$3,000) measures the amount of light emanating from a specific light source (luminance). A NIT gun measures candelas (a measure of luminance or brightness) per meter squared (also known as “NITS”), which is a measure of the brightness emanating from a specific light source. It excludes ambient light (which may include light from many sources) from the measurement. Standard NIT levels and/or utilization of a NIT gun are not a part of the OAAA recommended brightness guideline.

General Outdoor Advertising Lighting Guidelines referenced by the Illuminating Engineering Society of North America (IESNA)

A billboard can be illuminated either by fixtures located in front of the sign (front lit), from behind the sign (back lit) or from fixtures mounted away from the sign (remote). Each mounting location will present different issues:

Front lit / Top Mount

- May increase installation cost due to need for additional structure elements.
- Orientation of the fixture may create veiling glare and direct glare to the viewer.
- May possibly reduce the sky glow.
- Increased maintenance cost.
- Location interferes with changing of the sign message.
- Interferes with use of embellishments or cutouts.
- Daytime shadowing will detract from the readability of the sign.

Front lit / Bottom Mount

- Ability to mount fixtures to catwalks eases maintenance.
- Properly designed optical system will minimize sky glow.
- Does not interfere with changing of the sign message.
- Does not interfere with the use of embellishments.
- No daytime shadowing.
- Light source less likely to create veiling glare.

Remote

- Light source able to cover larger sign surface.
- Maintenance may be easier when mounted on the ground.
- May require additional wiring and installation cost.
- May contribute to sky glow.

Back lit

- Requires significantly more luminaires to illuminate the sign.
- Depends on the transmittance characteristics of the vinyl.
- Increase maintenance and installation cost.

- Cost to produce the translucent vinyl media for backlight signs may be more expensive than traditional methods.
- Lamp sources used are typically less efficient and consume more energy.
- Sign face brightness depends on the transmittance characteristics of the vinyl or other face material.

The vast majority of outdoor advertising signs use a front-lit configuration. The proper position of the luminaire (either top or bottom) is greatly determined by the associated costs of owning and operating the billboard. The current standard light fixture for a billboard needs to be mounted 4 to 6 feet out and 1 to 3 feet above or below the display face and is designed to be mounted on 1-1/4" rigid conduit. (The differences in distance have to do with the size of the display area.) The use of catwalks to provide safety to the crew responsible to perform placement and removal of advertisements affords the billboard company a secure structural mounting location. These catwalks are, by need, 3 to 4 feet wide. The fixture is mounted just below the catwalk so that it does not interfere with the worker's movement in front of the billboard. This arrangement also serves to further support and brace the luminaires to hold them in proper positioning. All electrical gear is integral to the fixture thereby providing for ease of installation and maintenance.

The following points explain further the pros/cons of mounting of fixtures on signs.

The current design of the billboard structure does not provide a similar mounting method if the fixtures were to be mounted on top of the billboard. When the fixtures are placed on top of the display area a new set of engineering issues are created. Since there is no catwalk above the sign the light fixtures must be supported by another means. However the conduit is mounted to the structure it must be able to support the weight of the fixture on an arm that is long enough to position the fixture in its proper location (above and in front of the sign face). In this application the amount of weight placed on the base of the conduit would run from 192 lbs to 288 lbs. The inherent vibration of the structure from any wind movement will increase substantially the deflection of the fixture creating a "live load." This will multiply the load on the conduit by a factor of 50%. This increase in weight and stress will accelerate the metal fatigue and may more frequently result in failure.

Another issue that must be taken into consideration when placing luminaires is the use of embellishments. The embellishment, or cutout, most always used at the top of the billboard, may extend the graphic surface up to an additional 4 to 5 feet. The use of top mounted lights will be in direct conflict whenever trying to use embellishments.

The location of the luminaires will also impact the ability of the outdoor company to change the messages on the sign. Traditionally, the sign message is "rolled" across the sign face. The ability of the installers to

perform this task quickly and safely (on signs that could be up to 150' in the air) will be hindered if fixtures and/or additional hardware are positioned at the top of the sign.

The presence of overhead lighting will also create a shadow on the sign during daylight hours. This shadowing will detract from the message and therefore diminish the economic value the sign offers to the customer.

A top mounted fixture will also increase costs of operation due to servicing issues. The fixture can either be installed on a retractable arm or installed on a permanent basis. The first method increases installation costs substantially while the second suffers from the challenges mentioned in the switching of the message and the proper support of the luminaires. In some instances, such as a remote location that does not provide access, a bucket truck may not be able to gain access to the permanent top mount fixture. Changing any of the components becomes a safety issue. The traditional location of the fixture allows for maintenance to be performed without increase risk to the installer as well as no additional costs in equipment by the owner. Any other method will increase operating costs and therefore cost to the consumer.

Types of luminaires

When choosing the type of fixture to use for billboard lighting it is important to understand the performance features of the type of fixtures available. The ability to control light is accomplished by the types of reflectors and refractors used.

A Preliminary Estimation of the Impact of Billboard Lighting on Sky Glow

(Executive Summary), Lighting Sciences Inc., Phoenix, AZ

By Ian Lewin, Ph.D, FIES L.C.

Sky glow is caused by lighting at night entering the atmosphere and being scattered by airborne particles. Sky glow may result from the use of lighting fixtures that emit light above a horizontal plane so that it enters the atmosphere directly. The effect also is caused by light reflecting from lighted objects, such as road surface or a billboard.

This study has evaluated the amount of light entering the atmosphere from a variety of lighting installations. Measured in “sky lumens,” the results allow a comparison to be made of different lighting systems relative to sky glow. Specifically, calculations have been made to compare the sky lumens produced by a typical billboard lighting system to the sky lumens caused by roadway and parking lot lighting.

Various scenarios have been used for the roadway lighting, combining residential and major highway lighting in a typical neighborhood. Areas have been considered that consist only of roadway lighting, as well as areas that contain both roadway and parking lot lighting.

The results of the study support a conclusion that the vast majority of sky glow is a product of urban development. Even where full cut-off fixtures are used on all roadway and parking lot fixtures, and if there is an average of one billboard per square mile, over 96% of the sky glow produced per urban square mile is from those sources and not billboard lighting, for the conditions examined. For the examples considered, a single three fixture billboard lighting systems produces approximately 2 to 3 % of the sky lumens caused by roadway/parking area lighting in a typical one square mile area. For a four fixture billboard lighting system, the range becomes roughly 2.5 to 4 %. These figures can be prorated. For example, if there are two such billboards per square mile, the percentages are doubled; if there is one such billboard per two square miles, the percentages will be halved.

The exact percentages of sky glow are affected by the density of roadways/parking areas, the type of lighting fixtures used and the lighting level provided, among other factors. However, it is apparent that for the scenarios considered, the contribution of billboard lighting to sky glow is small in comparison to that from other sources of lighting. The other sources produce 96 to 98% of sky glow, compared to the 2 to 4 % produced per billboard in the example urban square mile.

Highlights of the New Mexico Night Sky Protection Act

Enacted by the 1999 Legislature and signed into law by Governor Gary Johnson on April 6, 1999, the Night Sky Protection Act regulates outdoor night lighting fixtures to preserve and enhance the state's dark sky while promoting safety, conserving energy and preserving the environment for astronomy. Outdoor lighting fixtures includes permanent or portable outdoor artificial illuminating devices such as searchlights, spot and floodlights, architectural and landscape lighting, parking lot, billboard, and street lighting. In addition to the specific provisions outlined below, the Act specifically prohibits the sale and installation of mercury vapor outdoor lighting fixtures after January 1, 2000.

Provisions of the Night Sky Protection Act will impact night lighting as follows:

MERCURY VAPOR LIGHTING FIXTURES

No new mercury vapor outdoor lighting fixtures shall be sold or installed after January 1, 2000.

SHIELDING OF OUTDOOR LIGHT FIXTURES

All outdoor lighting fixtures installed after January 1, 2000, shall be shielded, except incandescent fixtures of one hundred fifty watts or less and other sources of seventy watts or less.

A shielded light fixture is shielded such that light rays emitted by the fixture, either directly from the lamp or indirectly from the fixture, are projected below a horizontal plane running through the lowest point on the fixture where light is emitted.

NONCONFORMING LIGHT FIXTURES

In addition to other exemptions provided in the Night Sky Protection Act, an outdoor lighting fixture not meeting these provisions shall be allowed if the fixture is extinguished by an automatic shutoff device from 11:00 p.m. to sunrise.

No outdoor recreational facility, whether public or private, shall be illuminated after 11:00 p.m. except for a national or international tournament or to conclude any recreational or sporting event or other activity conducted, which is in progress prior to 11:00 p.m. at a ballpark, outdoor amphitheater, arena or similar facility.

EXEMPTIONS

The following are exempt from the requirements of the Night Sky Protection Act:

1. An outdoor lighting fixture on advertisement signs on interstates and federal primary highways.
2. Outdoor lighting fixtures existing and legally installed prior to the effective date of the Night Sky Protection Act. However, when the existing lighting fixtures become unrepairable, their replacements are subject to all provisions of the Night Sky Protection Act.

3. Navigational lighting systems at airports and other lighting necessary for aircraft safety.

4. Outdoor lighting fixtures are necessary for worker safety at farms, ranches, dairies, feedlots or industrial, mining or oil and gas facilities.

The provisions of the Night Sky Protection Act are cumulative and supplemental and shall not apply within any county or municipality that, by ordinance or resolution, has adopted provisions restricting light pollution that are equal to or more stringent than the provisions of the Night Sky Protection Act.

► **The Oregon Administrative Rules contain OARs filed through November 15, 2016** ◄

QUESTIONS ABOUT THE CONTENT OR MEANING OF THIS AGENCY'S RULES?
CLICK HERE TO ACCESS RULES COORDINATOR CONTACT INFORMATION

DEPARTMENT OF TRANSPORTATION, HIGHWAY DIVISION

DIVISION 60

SIGNS

734-060-0000

Outdoor Advertising Sign Application Process

(1) Application forms. An application for a sign permit under the Oregon Motorist Information Act (OMIA) is made by completing and submitting the appropriate form, attaching to the form all documents necessary to show the application meets the requirements of the law, and submitting the correct fee to the Outdoor Advertising Sign Program of the Oregon Department of Transportation. Application forms are available from the Outdoor Advertising Sign Program. There are three different Outdoor Advertising Sign application forms: "Standard Outdoor Advertising Sign Permit Application" for new permits for outdoor advertising signs that preexisted the law change on May 30, 2007, relocations and reconstructions of such permitted signs; "Digital Billboard Outdoor Advertising Sign Application" for digital permits newly issued under ORS 377.710, or relocation and reconstruction of such permitted signs and "Application for Transit Bench or Shelter Sign" for signs on bus/transit benches and bus/transit shelters. The Department may deny a permit application if the applicant does not use the correct form.

(2) Copies of sign laws. The Department will make available copies of all state sign statutes, administrative rules, federal statutes, federal regulations, and federal-state agreements in effect. The Department may charge for the copies at the rate established by law for public records requests, and may require prepayment. The Department may also provide these documents by e-mail, web site, or in other forms for the convenience of the public and the Department.

(3) Summary of regulations. To assist potential permit applicants and the general public, the Department will make available a summary of sign permit regulations. The summary does not bind the Department to the items listed or waive its right and duty to enforce all requirements under the law.

(4) Contents of applications for Standard Outdoor Advertising Signs and Digital Billboard Outdoor Advertising Signs. To be complete the application must include the following.

(a) Application form Part 1: Applicant Information, Sign Specifications. Information must be complete and accurate for applicant, sign builder, purpose of application, description, township/range/section/tax lot, highway route number or name and side of highway, how site is marked, name and address of property owner, and why the sign will be an "outdoor advertising sign." The location boxes should be completed to the best of applicant's ability to enable the Department to find the site.

(b) Application form Part 2: Certification of Applicant. The application form must be signed and dated by the applicant, certifying the information provided by applicant is accurate and has not been changed after the local government certification (see section (c) below). If the applicant is a corporate or other business entity the individual signing must include their title so as to indicate the authority to sign for the applicant.

(c) Application form Part 3: Certification of Local Jurisdiction. After completing Part 1, applicant must submit the complete application to the local jurisdiction for zoning and local compliance information. The local official must complete Part 3 and, if relevant, attach a letter of explanation of local code compliance. The local official must sign and date Part 3. This section does not apply to transit signs.

(d) Fee. The fee is based on square footage as described in OAR 734-059-0100. To be complete applicant must submit the correct application fee. The Sign Program does not accept cash, debit or credit cards; checks must be made out to Oregon Department of Transportation.

(e) Written proof of landowner consent. All applications, except transit sign applications, must include written proof that the landowner consents to have applicant maintain the proposed sign. The document must be signed by the landowner and the application filed during the base term of the agreement, or during a renewal term that is automatic or at applicant's election. If during a renewal period applicant must certify that the renewal was exercised and continues in effect. Examples of acceptable documents are the land lease, land lease plus applicant's certification as described above, land lease plus owner's written confirmation that an extension is being exercised, or a current memo signed and dated by land owner stating that applicant has

permission to put the sign at the specified location. Payment information need not be included unless it is the evidence that compensation is exchanged making it an outdoor advertising sign.

(f) Business License. The applicant and the sign builder must have a current outdoor advertising sign business license as required under ORS 377.730. It is the responsibility of the Business License holder who erects or maintains an outdoor advertising sign to ensure that the outdoor advertising sign, visible to a state highway, is in compliance with the OMA. Compliance includes ensuring signs have an active state sign permit prior to placing or maintaining any message on the sign, and ensuring that the sign stays in compliance during the time that the licensee operates or maintains the sign. Violations may result in suspension or revocation of the licensee's business license as allowed under ORS 377.730.

(g) Relocation permit application. For a relocation application, if the zoning was first commercial or industrial after 1/1/1973, or if the local jurisdiction cannot determine the date, the applicant must submit a sketch or other document showing the site is within 750 feet of a commercial or industrial area to comply with ORS 377.767(3).

(h) Pre-existing sign permit application. For an application for a new pre-existing sign under ORS 377.712 the following additional items are required:

(A) Complete the application form "Supplement for Pre-existing Sign Permit" and sign it before a notary public;

(B) Submit documents demonstrating each of your claims, such as a lease showing the sign was posted for compensation; and

(C) Pursuant to ORS 377.712(1), include documentation demonstrating how applicant was ignorant of the permit requirement for outdoor advertising signs as of May 30, 2007.

(5) Digital Billboard applications must also include the following information:

(a) When being reconstructed or relocated for the first time as a digital billboard the applicant must provide the eligible permit(s) or relocation credit(s) being retired pursuant 377.700 to 377.840 and OAR 734-060-0007.

(b) Whether the proposed sign is a "Poster," "Bulletin," or other sign as described in OAR 734-060-0007(2).

(c) Emergency malfunction contact information including name, phone number along with proposed response procedure to possible malfunction.

(d) Whether or not a renewable energy resource is available and being utilized. If none, then the applicant must complete the affidavit attesting that no renewable resource is available.

(6) Transit Bench or Shelter Application. A transit shelter or bus bench application must provide documentation demonstrating that the site is at an official bus or transit stop on a city or urban transit system route.

(7) Complete Applications.

(a) The Outdoor Advertising Sign Program's mailing address is: Oregon Department of Transportation, Right of Way Section — Sign Program, 4040 Fairview Industrial Drive SE, MS #2, Salem OR 97302. The Sign Program receives hand deliveries at 4040 Fairview Industrial Drive SE, Salem Oregon. The Sign Program receives facsimiles at 503-986-3625. The Sign Program receives electronic mail at OutdoorAdvertising@odot.state.or.us.

(b) The Department requires original signatures and original initials to any changes on the application form. Therefore the Department will not accept the application form by electronic transmission (including facsimile). The Department may accept other documents by electronic transmission. The Department will not accept any changes made verbally; all changes must be in writing.

(c) The Department will indicate on each application document the date and time received. Application materials received by mail will be treated as received at the time a representative of the sign program physically receives the program's mail for that day. Application materials received in person, by fax, or by electronic transmission will be treated as received when a representative of the sign program physically receives those materials.

(d) The Department will only process applications that are complete. An application is complete when the Outdoor Advertising Sign program receives the signed application form including all necessary information, all documents necessary for issuance of a permit, and the correct application fee.

(A) Within 15 calendar days of receiving an application the Department will provide to the applicant written notice whether the application is complete. If the Department determines the application is complete, the notice will state the application's priority among all pending, complete applications.

(B) If the Department determines any information provided is incorrect, the application is not complete. The Department may rescind a notice of completeness and priority date if it later

determines that information provided by applicant is not correct.

(e) If an application is not complete, within 15 calendar days of receiving the application the Department will return the entire application with written instructions on what is needed to complete it. The applicant must initial any subsequent changes and, if the changes are substantive to the local jurisdiction, must obtain a new certification from the local jurisdiction.

(A) If an application form is complete but the application is considered incomplete due to insufficient supporting documents or failure to submit the fee, the Department may return the entire application with written instructions on how to complete it or the Department may hold the application and notify the applicant in writing of what is needed and when it must be provided.

(B) Within 15 days of receiving the corrected form or additional materials the Department will provide the applicant written notification whether the application is complete and, if complete, the priority among all pending, complete applications.

(C) If the applicant makes any change to the application after it is deemed complete, the Department will change the priority date to the date of that change.

(D) If the Department has held an incomplete application for 60 days from the date of initial receipt, the application is deemed withdrawn by the applicant. The Department will return a copy of the application and may refund any eligible deposited fee. The Department will retain the original application for our records.

(8) Processing of complete permit application.

(a) The Department will approve or deny a permit within 60 days of the complete application's priority date as determined under section (7)(d) or (e) of this rule if the application clearly does not conflict with another complete application.

(b) An application for a permit that conflicts with the location of an expired or canceled permit will not be processed until the time for any hearing or appeal on the latter permit has passed, unless the permit is being canceled as a condition for issuance of the new permit.

(c) When a complete application might conflict with another complete application due to spacing or any other reason, the application with the earliest priority date and time takes precedence over later applications. Subject to all other requirements of the OMIA, the Department will issue the permit to the earlier applicant.

(d) If multiple complete applications have the same priority date and time, and are determined by the Department to compete for the same spot, the Department shall notify the applicants of the circumstances within seven days of the Department's determination. If an affected applicant requests a contested case hearing, the matter will be determined by a single contested case hearing under Oregon's Administrative Procedures Act. The Department shall refer the matter to the Office of Administrative Hearings within seven days of an applicant's written hearing request.

(e) If the Department does not approve or deny a permit application within the time allowed under section (8)(a) of this rule, such actions do not require the Department to issue a permit or require any remedy except as provided otherwise in law.

(9) Field checks; applicant requirements and Department method.

(a) When the Department determines an application is complete, the Department will perform a field check to determine the milepoint and all other information necessary to process the application.

(b) The applicant must place a marking at the site to show the proposed location for the sign permit. The applicant may use a stake, ribbon, paint, or any method or material that will allow the Department to easily locate the site and attribute it to the applicant. If the marked site is other than that represented to the local authority in obtaining its signature on the application form, or is other than where the applicant actually builds the sign, the Department may consider that a violation of ORS 377.725(10).

(c) If the Department cannot locate the site it will notify the applicant pursuant to (5)(e) above that the application is incomplete due to incorrect information and may request reasonable action by the applicant to identify the site.

(d) The Department will conduct a field check by traveling to the proposed site and calculating the milepoint to the one-hundredth of a mile or, when necessary, to the one-thousandth of a mile. The Department may also determine the engineering station. The Department may also make any other determination regarding the site that is relevant to the application, such as proximity to the right of way and to a commercial or industrial area. Once a field check has been conducted the application fee is non-refundable.

(e) The Department may use intersections, highway structures, or other highway feature and its corresponding milepoint or engineering station, to measure and calculate the milepoint of the proposed site. Milepost markers are for the convenience of motorists and are not precise indications of the milepoint, therefore the Department will not use milepost markers for these calculations without other indication of accuracy.

(10) Denied Permit Applications. If the Department denies an application, it will consider that site as conflicting with other applications:

- (a) Until the time to request a hearing elapses without a hearing request from the applicant; or
- (b) If a hearing is requested, until the time to request an appeal on the final order has elapsed or until the final appellate court enters a judgment on the matter, whichever is later.
- (c) The Department will keep the original application and any accompanying documents and return a copy after an application is denied.

(11) Issued Permits.

- (a) The permit will specify the 180th day by which the sign must be constructed.
- (b) Within 190 days of permit issuance, the permittee must notify the Department in writing if the action described in the permit has been completed, and include at least one photograph demonstrating that completion. For a reconstruction permit or a relocation permit based on a relocation credit, the notice must state that the new sign has been constructed. For a direct relocation the notice must state that the new sign has been constructed and the former sign on which the permit was based has been removed. If the Department has not received the notification within 180 days the Department will alert the permittee about the upcoming 190-day deadline. If the permittee fails to submit the written notice and photograph within the time allowed, the Department will cancel the permit to relocate or reconstruct, and the permit will revert to its prior status. No fees will be refunded.
- (c) "Constructed" means that the structure and all sign faces are permanently in place and the permit plate is attached. "Removed" means the taking down, removing, or eliminating all sign structure elements that are visible from the state right of way

Stat. Auth.: ORS 184.616, 184.619, 377.715, 377.725

Stats. Implemented: ORS 377.715, 377.725

Hist.: HWD 2-2009, f. 3-20-09, cert. ef. 3-23-09; HWD 9-2011(Temp), f. 8-24-11, cert. ef. 9-29-11 thru 3-26-12; HWD 6-2012, f. & cert. ef. 3-26-12; HWD 11-2014, f. & cert. ef. 12-19-14

734-060-0007

Digital Billboard Procedures

- (1) This rule describes the process for applying for a permit for a digital billboard.
- (2) Definitions for the purposes of this rule:
 - (a) "Sign" means the sign structure, the display surfaces of the sign, and all other component parts of the sign.
 - (b) "Retire" means to use a relocation credit such that it no longer exists or to remove an existing sign to become a relocation permit or credit for use.
 - (c) "Bulletin" means an outdoor advertising sign with a display surface that is 14 feet by 48 feet.
 - (d) "Poster" means an outdoor advertising sign with a display surface that is 12 feet by 25 feet.
 - (e) "Digital Billboard" means an outdoor advertising sign that is static and changes messages by any electronic process or remote control, provided that the change from one message to another message is no more frequent than once every eight seconds and the actual change process is accomplished in two seconds or less.
- (3) Qualifications for receiving a digital billboard state sign permit:
 - (a) The proposed site and digital billboard must meet all requirements of the OMIA including, but not limited to, the following:
 - (A) The digital billboard is not illuminated by a flashing or varying intensity light.
 - (B) The display surface of the digital billboard does not create the appearance of movement.
 - (C) The digital billboard must operate at an intensity level of not more than 0.3 foot-candles over ambient light as measured by the distance to the sign depending upon its size.
 - (D) The distance measurement for ambient light is: 150 feet if the display surface of the sign is 12 feet by 25 feet, 200 feet if the display surface is 10.5 by 36 feet, and 250 feet if the display surface is 14 by 48 feet.
 - (b) Applicant must submit a completed application for a digital billboard state sign permit using the approved form that may be obtained by one of the following methods:
 - (A) Requesting from Sign Program Staff by phone at 503-986-3650;
 - (B) Email: OutdoorAdvertising@odot.state.or.us;

(C) Website: <http://www.oregon.gov/ODOT/HWY/SIGNPROGRAM/pages/index.aspx>.

(c) The Department shall confirm that any existing permitted Outdoor Advertising Sign or relocation credit being retired for the purpose of receiving a new digital billboard state sign permit has been removed within the 180 days allowed to construct the new permitted sign. The Department will not charge a Banking Permit Fee for the cancellation of state sign permits retired for the purpose of receiving a new digital billboard permit.

(4) This section sets forth the criteria for determining the required relocation credits or existing permitted signs that an applicant shall retire to receive one new digital billboard state sign permit:

(a) Applicants who own 10% or less of all active relocation credits at the time the application is submitted shall either remove one existing state permitted outdoor advertising sign with a display area of at least 250 square feet or provide one active relocation credit of at least 250 square feet and retire that permit. Applicants meeting these criteria are not limited to either "Bulletin" or "Poster" billboards.

(b) Applicants who own more than 10% of all active relocations credits shall apply for a new digital billboard state sign permit as follows:

(A) For a digital billboard that is intended to be a bulletin, the applicant has three options:

(i) Remove two existing bulletins, retire the permits for those signs, and retire three relocation credits; or

(ii) Remove one existing bulletin and two existing posters, retire those permits and retire three active relocation credits; or

(iii) Remove four existing posters, retire the permits for those signs, and retire three relocation credits.

(B) For a digital billboard that is intended to be a poster, the applicant has two options:

(i) Remove two existing posters, retire the permits for those signs, and retire three relocation credits;

(ii) Remove one existing bulletin, retire the permit for that sign, and retire three relocation credits.

(c) For an active relocation credit to be eligible it must be at least 250 square feet. All permits and relocation credits submitted under these procedures will be permanently cancelled and are not eligible for renewal.

(d) Any state sign permits submitted for retirement must include the written statement notifying the Department that the "lease has been lost or cancelled."

(5) The Department will determine the percentage of relocation credits owned by an applicant by dividing the total number of unused relocation credits by the total number of unused relocation credits owned by the applicant on the day the application is received.

(6) Two digital billboard state sign permits are required for any back to back or V-type digital sign. A separate application is required for each digital sign face.

(7) The first time a digital billboard is permitted it is not subject to the 100-mile rule in ORS 377.767(4). The site of the newly permitted billboard will become the established location for future reference.

(8) Relocation of permitted digital billboards. The Department will issue one digital relocation credit for each permitted digital sign that is removed. The digital relocation credit issued will be for the same square footage as the permitted digital sign that was removed. A digital relocation credit can only be used to relocate a digital billboard. A permitted digital sign can only be reconstructed as a digital billboard.

(9) Use of renewable energy resource. The applicant must provide a statement with the application that clarifies what, if any, renewable energy resources are available at the site and are being utilized. If none, then a notarized statement to that effect must be included with the application.

(10) All permitted digital billboards must have the capacity to either freeze in a static position or display a black screen in the event of a malfunction.

(a) The applicant must provide emergency contact information that has the ability and authority to make modifications to the display and lighting levels in the event of emergencies or a malfunction.

(b) The Department will notify the sign owner of a malfunction that has been confirmed by ODOT in the following instances:

(A) The light impairs the vision of a driver of any motor vehicle; or

(B) The message is in violation of ORS 377.710(6) or 377.720(3)(d).

(11) All digital billboard signs must comply with the light intensity and sensor requirements of ORS 377.720(3)(d).

(a) The Department will take measurements of the permitted digital billboard when notified that the sign has been constructed and the permit plate has been installed.

(b) The Department will use an approved luminance meter designed for use in measuring the amount of light emitted from digital billboards using the industry standard for size and distance as follows:

(A) 150 feet for 12'x 25'.

(B) 200 feet for 10.5'x 36'.

(C) 250 feet for 14'x 48'.

Stat. Auth.: ORS 184.616, 184.619, 377.710, 377.729, 377.753

Stats. Implemented: ORS 377.710, 377.720, 377.750, 377.767

Hist.: HWD 9-2011(Temp), f. 8-24-11, cert. ef. 9-29-11 thru 3-26-12; HWD 6-2012, f. & cert. ef. 3-26-12; HWD 11-2014, f. & cert. ef. 12-19-14

734-060-0010

Criteria for Issuance of New Permits for Benches Utilized as Outdoor Advertising Signs

(1) New permits may be issued for a bus or transit bench utilized for an outdoor advertising sign (bench signs) and such signs may only be erected after a permit has been obtained from the Department of Transportation. These rules do not authorize the placement of any new bench, only the addition of an outdoor advertising sign to an already existing bench structure.

(a) Bench signs are prohibited where the sign would be visible to:

(A) An interstate highway;

(B) A full control access highway;

(C) Any state highway where the area adjacent to the highway is a designated scenic area under ORS 377.505 to 377.540; or

(D) Any state highway designated as a scenic byway, unless the sign was legally in place before the byway designation.

(b) Size. The maximum allowable size for a bench sign is 16 square feet and the sign shall not exceed two feet in height or eight feet in length excluding supports.

(c) Height. The maximum allowable height is four feet including supports.

(d) Special Requirements:

(A) Bench signs may only be located in a commercial or industrial zone or, if located in unzoned city street right of way, only where such right of way is adjacent to a commercial or industrial zone;

(B) Bench signs may only be located inside incorporated city limits or within an urban growth boundary;

(C) Bench signs may only be located at a bus or transit stop on an official city or urban transit system route. The applicant must provide official documentation, such as a route map produced by the transit system, showing that the site meets this requirement;

(D) Bench signs shall not be located on state highway right of way.

(f) These rules do not apply to any bench sign for which a preexisting outdoor advertising sign permit has already been issued under ORS 377.725.

(2) All signs subject to these regulations are also subject to the provisions of ORS 377.700 to 377.840 and 377.992 and to all applicable federal laws, regulations and agreements entered into by the Transportation Commission and the Federal Highway Administration.

(3) All signs erected under these regulations are also subject to any city or county ordinance or regulation.

(4) All bench signs granted permits under these rules are subject to removal in accordance with ORS 377.775.

Stat. Auth.: ORS 184.616, 184.619, 377.753

Stats. Implemented: ORS 377.753

Hist.: 1 OTC 17-1979(Temp), f. & ef. 7-19-79; 1 OTC 26-1979, f. & ef. 10-30-79; HWY 5-1993(Temp), f. & cert. ef. 7-23-93; HWY 6-1993, f. & cert. ef. 10-21-93; HWD 1-2009, f. & cert. ef. 2-20-09; HWD 6-2012, f. & cert. ef. 3-26-12

Portable Signs on Right of Way**734-060-0060****Portable Signs and Repeated Violations of ORS 377.650**

Any sign as defined by ORS 377.710, which is portable in nature and which has been deposited, left or displayed on a state highway in violation of 377.650 may be removed and disposed of in the following manner:

(1) Five days after written notice of the violation of ORS 377.650 is mailed or 24 hours after notice is delivered in person to the person owning or controlling the portable sign, the District Manager (DM) or Assistant District Manager (Asst. DM) may have the sign removed and may charge the owner for the cost of removal and storage. The sign shall be stored for 30 days and if the sign is not claimed within 30 days, it may be sold, destroyed or otherwise disposed of.

(2) If the portable sign is determined by the DM or Asst. DM to create a traffic hazard, (e.g., signs on the paved portion of a highway or gravel shoulder, or signs placed upon state highway signs or appurtenances), the five day advance written notice need not be made but notice is to be made within 24 hours after removal.

(3) If the owner of the portable sign or person in control of the sign is not readily identified, by the sign itself or by contacting adjacent property owners, the sign may be removed immediately without notice. However, notice should be made upon subsequent identification of the sign owner.

Stat. Auth.: ORS 184 & ORS 377
Stats. Implemented: ORS 377.650
Hist.: 2HD 4-1985, f. & ef. 11-22-85

734-060-0065**Notice to a Portable Sign Owner**

Notice to a portable sign owner shall include at least the following:

- (1) Statement that the sign is in violation of ORS 377.650.
- (2) The approximate location of the sign and a description of the sign.
- (3) Date the sign will be removed, or date on which the sign was removed.
- (4) Statement that the removal and storage costs are the responsibility of the owner.
- (5) Statement that sign shall be disposed of after 30 days of storage.
- (6) The cost of removal and storage.
- (7) A location of where the sign will be stored, or a person to contact concerning the storage.
- (8) A statement that the owner may remove the sign at the owner's expense prior to date of removal by the Department.
- (9) A statement that further violation will result in immediate removal without prior notification.

Stat. Auth.: ORS 184 & ORS 377
Stats. Implemented: ORS 377.650
Hist.: 2HD 4-1985, f. & ef. 11-22-85

734-060-0070**Previous Notice**

If a previous notice has been given that a portable sign or other personal property violates ORS 377.650, and that sign, (a change of legend or message does not constitute a different sign), or property is again placed on a state highway, such items may be removed without further notice and stored for 30 days before further disposal. In such event notice shall be given subsequent to removal and the owner shall be given an opportunity for a hearing before the DM or Asst. DM to contest the violation and removal. The request for a hearing must be made within three working days after removal and the hearing must be held within five working days after such removal. The scope of this hearing shall be limited to whether proper prior notice was given, whether there was a subsequent violation and whether the sign or property was placed on a state highway. A written decision shall be made concerning the violation and removal procedure.

Stat. Auth.: ORS 184 & ORS 377
Stats. Implemented: ORS 377.650
Hist.: 2HD 4-1985, f. & ef. 11-22-85

734-060-0075**Removal Provisions**

Signs subject to OAR 734-027-0005 through 734-027-0050 are subject to the removal provisions of those rules and ORS 377.775.

Stat. Auth.: ORS 184 & ORS 377
 Stats. Implemented: ORS 377.650
 Hist.: 2HD 4-1985, f. & ef. 11-22-85

Exempt Sign Rules

734-060-0105

Signs of a Governmental Unit

(1) In order to qualify for a permit exemption under ORS 377.735(1)(a) as a sign of a governmental unit the following criteria must be satisfied:

- (a) The sign must be within the territorial or zoning jurisdiction of the governmental unit;
 - (b) The governmental unit must have the authority to declare, expound, administer, or apply the law within the area;
 - (c) The governmental unit may only erect the sign, or allow it to be erected, for the purpose of carrying out an official duty or responsibility directed or authorized by law.
- (2) Location. Signs permitted by this rule are prohibited on state highway right of way.
- (3) Size. Maximum area allowed is 200 square feet; maximum height or length allowed is 20 feet.
- (4) Number. A governmental unit may have two such permit exemptions. If the limitation on number of signs will cause undue hardship, a waiver for additional signing may be granted by the Director, or authorized representative, upon application by the sign owner.
- (5) The entire message must be contained on one sign. Fragmentation of messages on separate sign panels is prohibited.
- (6) Signs erected under this rule are subject to the provisions of ORS 377.720 and to applicable federal requirements. Nothing in this rule is intended to permit a sign that is otherwise prohibited by a local government.
- (7) No person may receive compensation for displaying the sign.
- (8) This rule is not intended to regulate official traffic control signs or devices.
- (9) To apply for the permit exemption an official of the governmental unit must submit a completed certification form, and an image of the proposed sign showing dimensions and copy, to the Outdoor Advertising Sign Program office.

Stat. Auth.: ORS 184.616, 184.619 & 377.735
 Stats. Implemented: ORS 377.735
 Hist.: HWY 1-1989, f. & cert. ef. 5-2-89; TO 7-2001, f. & cert. ef. 12-13-01; HWD 1-2009, f. & cert. ef. 2-20-09

734-060-0175

Temporary Signs

- (1) This rule is enacted pursuant to ORS 377.735 regarding the permit exemption for temporary signs and in furtherance of the Oregon Motorist Information Act (OMIA, 377.700 through 377.840 and 377.992).
- (2) Location generally. A temporary sign may be erected outside of state highway right of way, within view of a state highway, subject to the requirements of the local jurisdiction and the OMIA. A sign that complies with all the provisions of ORS 377.735(1)(b) may be erected without prior approval of the Department. A sign that requires a variance to comply must obtain that variance before erecting the sign. The Department may, at its discretion, retroactively grant a variance.
- (3) The entire message must be contained on one sign. Fragmentation of messages on separate sign panels is prohibited.
- (4) Changes in copy or location. For the sake of the time limits described in ORS 377.735(1)(b), the following will be considered one sign:
- (a) The same sign structure, regardless of copy, moved less than 600 feet from a former site; or
 - (b) A different sign structure, regardless of copy, in approximately the same location as another sign that was removed.
- (5) Variance Procedure.

(a) A variance request must be in writing on a form provided by the Department. The request must be sent to the Outdoor Advertising Sign Program. There is no fee for a variance.

(b) A variance request must describe the specific location including:

(A) Name or number of highway;

(B) Side of highway; and

(C) Approximate milepoint, distance from a known highway feature (e.g. an intersection), or physical address.

(c) A variance request must describe the reason that constitutes good cause to grant the variance. If a reason is the amount of copy itself, requester must include the proposed copy. The Department may consider the amount, not the substance, of the copy.

(d) The request must include the name and mailing address of the requester. If the requester wants the Department to be able to make contact in any other way, such as to obtain supplemental information to process the request, requester may also include that contact information. The requester will be considered a sign owner for the sake of violation of sign laws.

(e) The request must include the date the sign will be posted and the date it will be removed so as to comply with the time limits to qualify for the exemption.

(f) Requester must certify that he or she:

(A) Has permission from the person in control of the property to post the sign;

(B) Will comply with all requirements of the local jurisdiction;

(C) Will not pay or receive any form of compensation for posting the sign; and

(D) Will comply with all requirements of the OMIA.

(g) The Department must grant or deny the request within 14 days after the Outdoor Advertising Sign Program receives it. The Department may deny applicant's variance request due to lack of required information; the applicant may re-submit the request. If the Department denies a request, fails to make a decision within 14 days, or grants and later revokes a variance, the requester may request a contested case hearing. Failure of the Department to meet the time limits required by this rule does not require that the variance be granted.

(h) If the Department determines a requester provided false information, including a false certification under (3)(f), it may deny the request and revoke any variance already granted to that person or the organization the applicant represents.

(i) Variances for both size and time will not be granted to the same sign or location. The Department will not grant more than 10 variances to one requester or organization for the same period of time.

(6) Specific Variance Criteria.

(a) Variance for size. The Department may grant a variance for size up to 32 square feet per side of a back-to-back sign. Good cause to grant a size variance may include, but is not limited to the following:

(A) Due to highway speed, width of right of way, topography, or other similar reasons beyond the applicant's control, the sign copy will not be legible to motorists if the sign is 12 square feet or less;

(B) Due to the amount of copy on the sign, the copy will not be legible to motorists if the sign is 12 square feet or less; or

(C) The sign was manufactured before the 12/13/2001 change in administrative rules regarding exempt signs, and the sign continues to comply with those former rules.

(b) Variance for time. The Department may grant a variance for time up to a total of 90 continuous days in a calendar year. The Department may grant the variance for good cause shown. Good cause may include, but is not limited to, a showing that:

(A) The applicant is attempting to obtain an outdoor advertising sign permit for the sign but will be unable to complete the application process within 60 days;

(B) Due to conditions of the land, weather, or similar reasons beyond requester's control, requester will be unable to remove the sign within 60 days.

(7) Prohibitions and penalties.

(a) Other than official traffic control devices, signs are prohibited in state highway right of way. Accessing a sign or sign site by crossing access-controlled right of way is prohibited. Violations of this rule are subject to ORS 377.725(9) and any other removal or penalty provision under law.

Signs in or overhanging state highway right of way may be removed pursuant to ORS 377.650 and OAR 734-060-0060 to 734-060-0070.

(b) Signs outside of right of way are subject to the removal procedures of ORS 377.775, and the penalty provisions of ORS 377.992 as well as any other penalty provision under law.

(c) If the sign or site has been accessed from access-controlled right of way, or the sign has been placed in or overhanging right of way, the Department may revoke any variance for that sign, by that requester, or by the represented organization. The Department may deny any subsequent variance request for that sign, by that requester, or by that organization at any location. If the Department discovers multiple violations of (a) above, it may file for an injunction under ORS 374.415.

(8) Signs erected under this rule are subject to the provisions of ORS 377.720 and to all applicable state and federal requirements.

Stat. Auth.: ORS 184.616, 184.619 & 377.735

Stats. Implemented: ORS 377.735

Hist.: HWY 1-1989, f. & cert. ef. 5-2-89; TO 7-2001, f. & cert. ef. 12-13-01; HWD 1-2009, f. & cert. ef. 2-20-09; HWD 11-2014, f. & cert. ef. 12-19-14

734-060-0185

Public Convenience and Safety Signs

(1) Location. Public convenience or safety signs are allowed on private property visible to a state highway, under the exemption in ORS 377.735, except as prohibited by these rules. Public convenience or safety signs are prohibited on state highway right of way unless approved in writing by the Deputy Director of the Department of Transportation. Public convenience signs must be within one mile of the convenience covered by the sign.

(2) Size. The maximum permissible size for public convenience or safety signs is six square feet.

(3) Spacing and Form. Minimum spacing between two public convenience or safety signs on the same side of the highway is 100 feet. The entire message must be contained on one sign. Fragmentation of messages on separate sign panels is prohibited.

(4) Qualification. Public safety signs are those necessary for the safety of the public such as, but not limited to, signs with legal notices or warnings, or signs warning of danger to the public. Public convenience signs are those necessary for guiding the public in the use of the state transportation system such as, but not limited to, signs identifying transit stops, freight entrances, train stations, ports, airports, or signs identifying public rest rooms.

(5) Signs erected under this rule are subject to ORS 377.720 and to applicable federal requirements.

(6) Removal. Signs erected under this rule are subject to the removal procedures as provided in ORS 377.775.

(7) No person or organization may receive compensation for the act of displaying a public convenience or safety sign.

(8) This rule is not intended to regulate, prohibit or limit official highway traffic control signs or devices.

Stat. Auth.: ORS 184.616, 184.619 & 377.735

Stats. Implemented: ORS 377.735

Hist.: TO 7-2001, f. & cert. ef. 12-13-01; HWD 1-2009, f. & cert. ef. 2-20-09

734-060-0190

Illuminated, Digital, or LED Signs Other than Outdoor Advertising Signs

(1) By statute, all signs visible to state highways are subject to state sign prohibited sign and safety regulations. No signs visible to a state highway, other than official traffic control signals or devices, may include moving or rotating parts or lights. Signs may not be made to resemble an official traffic signal or device and they may not have lights that project onto the roadway or impede the sight of traveling motorist.

(2) In interpreting ORS 377.715 and 377.720, signs visible to a state highway, other than official traffic control signals or devices, may not:

(a) Be illuminated by flashing lights or a light that varies in intensity;

(b) Have a display surface that creates the appearance of movement;

(c) May not operate at a brightness level of more than 0.3 foot-candles over ambient light, nor intensity greater than the luminance indicated in the table 1, as measured perpendicular to the face of the billboard at the indicated measurement distance for a designated sign dimension: [Table not included. See ED. NOTE.]

(3) Newly constructed signs visible to a state highway, other than official traffic control signals or devices, must be:

(a) Equipped with a light sensor that automatically adjusts the intensity of the sign illumination according to the amount of ambient light, and;

(b) Designed to freeze the display in one static position, display a full black screen or turn off in the event of a malfunction.

[ED. NOTE: Tables referenced are not included in rule text. [Click here for PDF copy of table\(s\).](#)]]

Stat. Auth.: ORS 184.616, 184.619, 377.710 & 377.720

Stats. Implemented: ORS 377.720

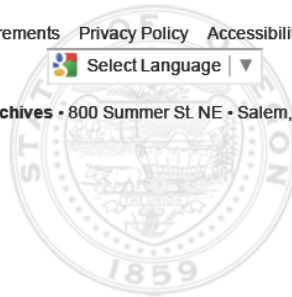
Hist.: HWD 11-2014, f. & cert. ef. 12-19-14

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Emsee Properties, Inc.

6490 Automall Parkway, Gilroy, CA 95020
P.O. Box 638 • Gilroy, CA 95021-0638 • (408) 847-2233 • FAX (408) 847-0292

02/22/2021

Dear City of Gilroy Planning Department:

The auto dealers whose signatures appear below, have verbally pledged their support and intention to advertise on a 3rd party digital freeway sign to be constructed on the NE corner of the Automall Parkway property owned by Emsee Properties, Inc. in Gilroy. The advertising portion of the sign would be 48' wide by 14' high, with an overall sign height of approximately 65'.

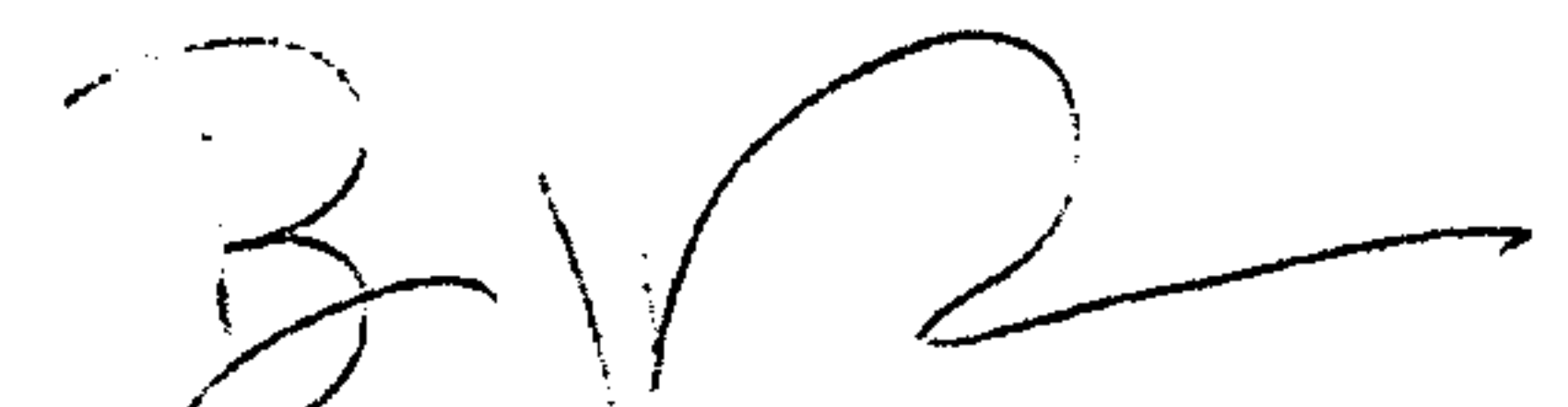
Sincerely,



Mike Conrotto, Owner & President
Emsee Properties, Inc.
conrotoomike@gmail.com
(408) 691-7775



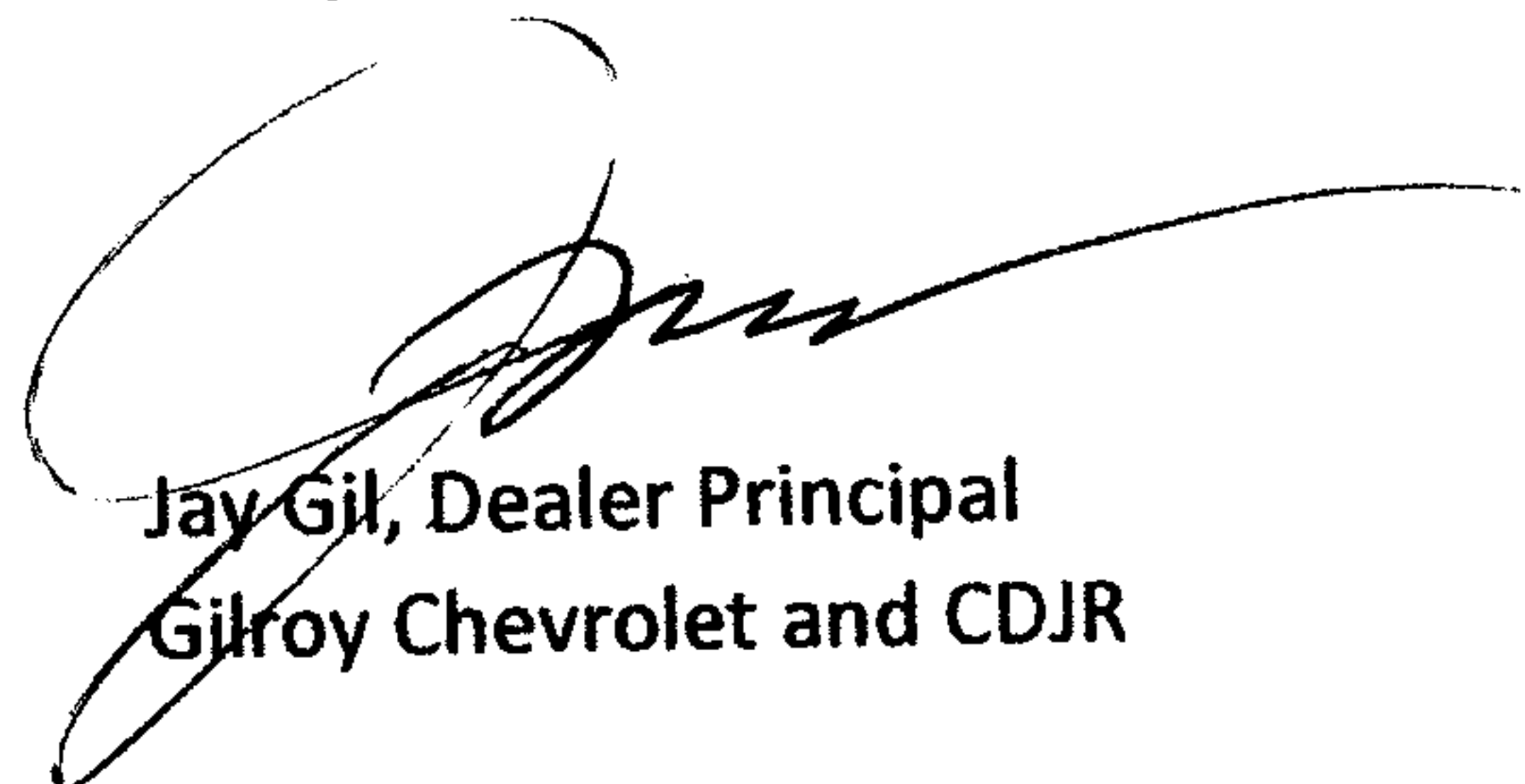
Michael Winding, Dealer Principal
Gilroy Buick, GMC and Hyundai



Brian Verdin, General Manager
Nissan of Gilroy



Frank Bolea, Dealer Principal
Gilroy Toyota



Jay Gil, Dealer Principal
Gilroy Chevrolet and CDJR

Cindy McCormick

From: John Miller <miller@johnmillerpr.com>
Sent: Tuesday, March 30, 2021 11:21 AM
To: Mayor Marie Blankley; Council Member Fred Tovar; Council Member Rebeca Armendariz; Council Member Dion Bracco; Council Member Zachary Hilton; Council Member Peter Leroe-Munoz; Council Member Carol Marques
Cc: Jimmy Forbis; Karen Garner; Cindy McCormick
Subject: EXTERNAL - Digital Billboards in Gilroy

CAUTION: This email originated from an **External Source**. Please use proper judgment and caution when opening attachments, clicking links, or responding to this email.

Mayor Marie Blankley
Mayor Pro Tempore Fred Tovar
Council Member Rebeca Armendariz
Council Member Dion Bracco
Council Member Zach Hilton
Council Member Peter Leroe-Munoz
Council Member Carol Marques

cc: Jimmy Forbis, City Administrator
Karen Garner & Cindy McCormick, Community Development Department

Dear Mayor Blankley and Council Members,

My name is John Miller. I am a member of the Steering Committee of No Digital Billboards in San Jose, a grass roots organization opposing the erection of digital billboards in that city. I'm emailing you as an individual after being informed that Gilroy is considering negating its prohibition on off-premise advertising to allow for the erection of digital billboards.

While I fully understand the decision to allow digital billboards in Gilroy should be decided by the proper authorities in Gilroy, I believe you will benefit from the information No Digital Billboards in San Jose has made public after an exhaustive review of the proposal to bring digital billboards to San Jose. Accordingly, with your approval, I will be happy to forward documents relevant to this issue. In the meantime, it is important to understand that the erection of digitals never comes from citizens but always from the billboard lobby because digital billboards return a much greater profit to billboard companies than do conventional paper billboards. This is all about money. Billboard company money.

Here are significant reasons to oppose the erection of digital billboards in Gilroy.

1. Digital billboards are much more intrusive and unavoidable than conventional billboards. They can't be ignored and even a few will change the aesthetics of the community.
2. Digital billboards increase profits for billboard companies but on private property they produce no revenue for city government. The city would be lucky if annual permit fees covered the cost of administering digital billboards.
3. Digital billboards primarily help big national companies like CitiBank and Verizon not local businesses who have to compete with these national advertisers which are preferred customers of the billboard companies.
4. But even if local auto dealers obtained advertising on digital billboards how is that a benefit to the people of Gilroy,

who as a result, will experience a degradation of the city's architectural integrity, historic character and natural environment?

5. The light from digital billboards harms wildlife, keeps light-sensitive people from driving and causes traffic accidents for those who do. They brighten the night sky and interfere with the work of Lick Observatory on Mt. Hamilton.

5. Digital billboards use tremendous amounts of energy, cause greenhouse gases and generate e waste.

6. Digital billboards lower property values and invite litter and graffiti.

7. Digital billboards are a parasite on the roads and highways taxpayers pay for and they don't. Unlike other highway users, billboard companies do not pay a user fee to maintain the public right of way without which billboards have no value. On the roads the public pays for, will the Gilroy City Council turn its constituents into a captive audience forced to see advertisements they can't ignore? It's like forcing them to pay for only one cable channel that shows only commercials but no programs.

8. Once billboards are erected they are almost impossible to take down thanks to a state law requiring their removal be "compensated" by cash payments to the billboard company for future lost earnings. Put up digital billboards today and they will remain in place for decades...City leaders should think about that, for if they allow digitals, it will constitute their legacy.

9. Why should the city of Gilroy cater to the desire of the billboard industry to erect profitable digital billboards while externalizing all costs to the taxpayer?

10. Think you can allow only a few digital billboards? Once in the door, billboard companies will litigate against restrictions as a cost of doing business.

Los Angeles is a good example. Here is a link <https://www.latimes.com/opinion/editorials/la-ed-billboard-ordinance-20170605-story.html>

In San Jose, the erection of illegal billboards has already tied up the city in costly court battles that a billboard companies knows it can't win but pursues to generate revenue during protracted litigation. Here's a link

<https://sanjosespotlight.com/battle-over-billboards-san-jose-faces-lawsuit-pushback-on-proposed-changes/>

And in San Mateo, the city attorney predicts billboard-sponsored litigation may be in the cards if the city pursues its hastily concocted plan to allow digitals only on public property. https://www.smdailyjournal.com/news/local/san-mateo-considers-ads-on-city-buildings-and-billboards/article_bb9b96c4-2aef-11eb-a5f1-476100872817.html

In my view, there are no compelling reasons for ending the current restrictions on billboards in Gilroy. Doing so does not provide substantial benefits to the citizens and taxpayers of your community. Clearly, this proposal is a violation of best practices in city governance, urban planning and responsiveness to preservation and environmental values overwhelmingly subscribed to by the majority of the public. The only beneficiaries of this proposal will be the billboard companies themselves.

So the question is why even consider spending staff time to prepare for the erection of digital billboards without alerting the community in advance and seeking the voters' opinion? In San Jose, voters were most upset that city council members and city staff met with billboard lobbyists over 50 times and as a result spent hundreds of thousands of taxpayer dollars greasing the skids to allow digital billboards in San Jose before informing the public. Better to actively seek constituent input before making such a commitment.

Need less to say, if I can provide you with the information I mentioned previously, or answer any questions, do not hesitate to contact me.

Thank you for your attention.

Sincerely,

John Miller
928 Oak Ridge Rd.
Los Gatos, CA 95033
408 354-2400

Cindy McCormick

From: John Miller <miller@johnmillerpr.com>
Sent: Friday, April 2, 2021 8:04 AM
To: Mayor Marie Blankley; Council Member Fred Tovar; Council Member Rebeca Armendariz; Council Member Dion Bracco; Council Member Zachary Hilton; Council Member Peter Leroe-Munoz; Council Member Carol Marques
Cc: Jimmy Forbis; Karen Garner; Cindy McCormick
Subject: EXTERNAL - Digital Billboards in Gilroy

CAUTION: This email originated from an **External Source**. Please use proper judgment and caution when opening attachments, clicking links, or responding to this email.

Mayor Marie Blankley
Mayor Pro Tempore Fred Tovar
Council Member Rebeca Armendariz
Council Member Dion Bracco
Council Member Zach Hilton
Council Member Peter Leroe-Munoz
Council Member Carol Marques

cc: Jimmy Forbis, City Administrator
Karen Garner & Cindy McCormick, Community Development Department

Dear Mayor Blankley and Council Members,

The San Jose Planning Department has just posted a survey of over 2,000 people regarding their position on digital billboards. You can find the results here <https://www.sanjoseca.gov/home/showpublisheddocument?id=70836>

I copied below some of the most impressive findings.

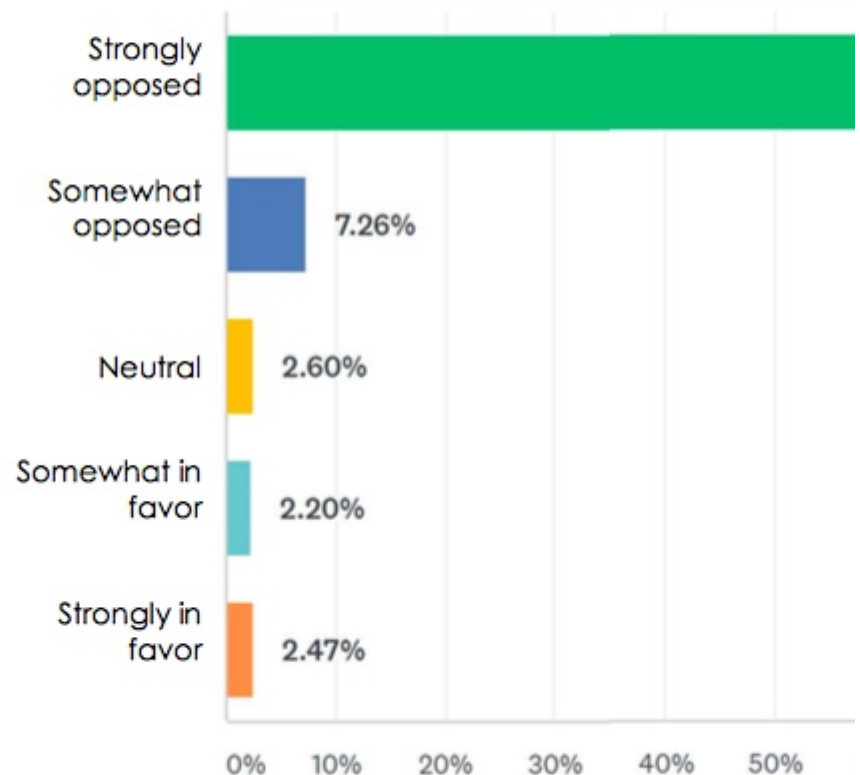
Thank you for your attention.

Sincerely,

John Miller
928 Oak Ridge Rd.
Los Gatos, CA 95033
408 354-2400

City of San José Survey: Dig

Item 3: In general, how do you feel about allowing more development to be built along freeways in San José?

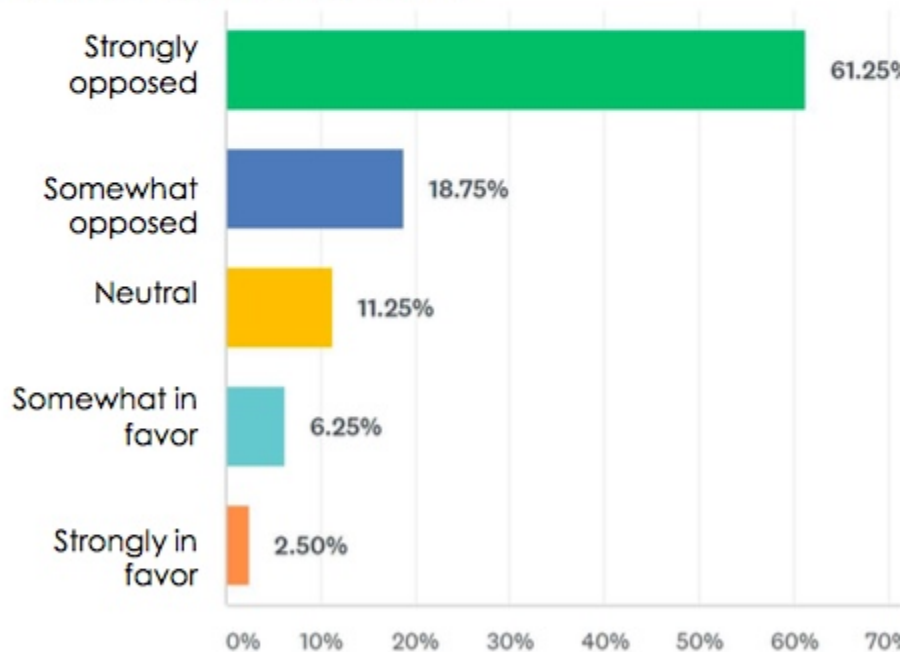


Responses: 2230

Skipped: 4

City of San José Survey: Dig

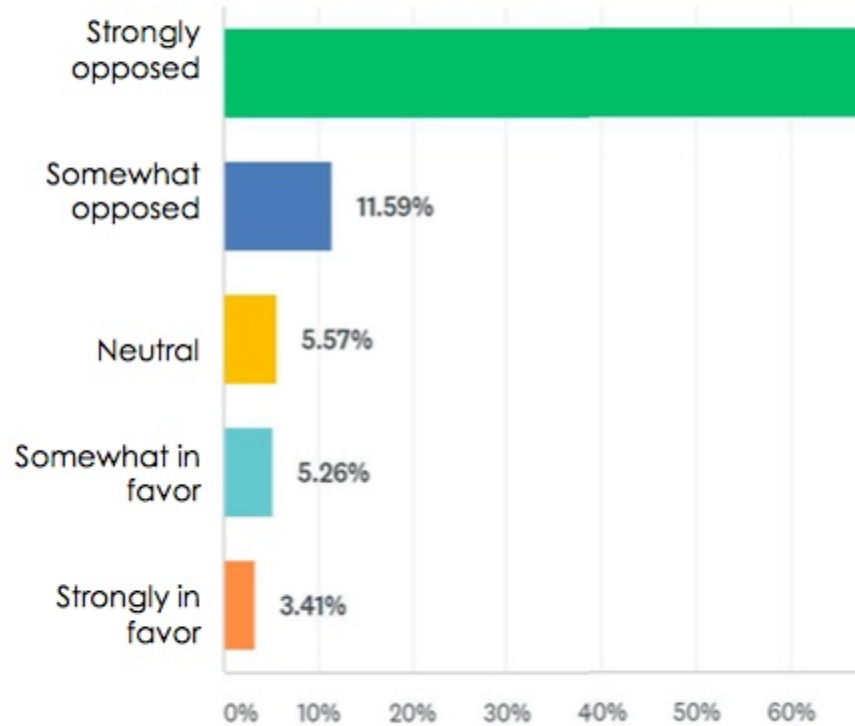
Item 11: In addition to free-standing digital billboard, the City is considering allowing both digital and static advertisements on buildings within the Downtown. How do you feel about digital advertisements on buildings in Downtown San José?



Responses: 2203
Skipped: 31

City of San José Survey: Dig

Item 4: How do you feel about allowing new digital freeways in San José in exchange for removing old ones in the city?



Responses: 2226
Skipped: 8

Cindy McCormick

From: Cindy McCormick
Sent: Friday, August 12, 2022 2:22 PM
To: Dan Graeber
Subject: No on the electronic billboards

Good afternoon Dan Graeber,

Thank you for your comment. I will add it to the public record and include it in the packet going to the Planning Commission. The hearing date is not yet set, but would likely occur on either September 15th or October 6th. A separate notice will be sent prior to the public hearing.

Respectfully,

CINDY MCCORMICK

CUSTOMER SERVICE MANAGER

Direct 408.846.0253 | Cindy.McCormick@cityofgilroy.org Main 408.846.0440 | www.cityofgilroy.org/planning
7351 Rosanna Street | Gilroy | CA 95020

-----Original Message-----

From: Dan Graeber <d_graeber@hotmail.com>
Sent: Friday, August 12, 2022 1:02 PM
To: Planning Division (Public) <planningdivision@cityofgilroy.org>
Subject: EXTERNAL - No on the electronic billboards

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Please do not vote for the electronic bill board they will be a major eye sore sucking up valuable electricity . Our city is not in Las Vegas and does not need the bright lights .

Plus with the bright lights it will be tough for the homeless to sleep at night .

Sent from my iPhone

Cindy McCormick

From: Cindy McCormick
Sent: Monday, August 15, 2022 8:28 AM
To: Michelle Maquinalez
Subject: - Billboard

Good Morning Michelle -

Thank you for your comments. I will add it to the public record and include it in the packet going to the Planning Commission. The hearing date is not yet set, but would likely occur on either September 15th or October 6th. A separate notice will be sent prior to the public hearing.

Respectfully,

CINDY MCCORMICK

CUSTOMER SERVICE MANAGER

Direct 408.846.0253 | Cindy.McCormick@cityofgilroy.org Main 408.846.0440 | www.cityofgilroy.org/planning
7351 Rosanna Street | Gilroy | CA 95020

-----Original Message-----

From: Michelle Maquinalez <michellemaq@mac.com>
Sent: Sunday, August 14, 2022 9:39 AM
To: Planning Division (Public) <planningdivision@cityofgilroy.org>
Subject: EXTERNAL - Billboard

CAUTION: This email originated from an External Source. Please use proper judgment and caution when opening attachments, clicking links, or responding to this email.

Hello I'm writing about the proposed billboards. I don't believe they are worth our hard earned money just like the other Starbucks that is being built. Why not bring in something new/different instead of another Starbucks. Also the curb by the new Starbucks on first street at the station that continues to damage numerous tires and rims because of poor planning/construction needs to be repaired.

Thanks, Michelle

Cindy McCormick

From: Cindy McCormick
Sent: Monday, August 15, 2022 8:33 AM
To: John Miller
Subject: Public Comment on Electronic Billboard Ordinance

Good morning Mr. Miller -

Thank you for your comments. I will add your email to the public record and include it in the packet going to the Planning Commission. The hearing date is not yet set, but would likely occur on either September 15th or October 6th. A separate notice will be sent prior to the public hearing.

Respectfully,

CINDY MCCORMICK
CUSTOMER SERVICE MANAGER
Direct 408.846.0253 | Cindy.McCormick@cityofgilroy.org Main 408.846.0440 | www.cityofgilroy.org/planning
7351 Rosanna Street | Gilroy | CA 95020

-----Original Message-----

From: John Miller <miller@johnmillerpr.com>
Sent: Sunday, August 14, 2022 11:53 AM
To: Planning Division (Public) <planningdivision@cityofgilroy.org>
Subject: EXTERNAL - Public Comment on Electronic Billboard Ordinance

CAUTION: This email originated from an External Source. Please use proper judgment and caution when opening attachments, clicking links, or responding to this email.

To: Ms. Cindy McCormick
Planning Division
City of Gilroy
Submission to Public Comments
Project Number: Z 18-04, AS 18-09, SP 21-08 Project Title: Electronic Billboard Ordinance and Sign Permit

Dear Ms. McCormick,

I am writing in opposition to the proposal to revoke the ban on off-premise advertising and allow the construction of electronic billboards in Gilroy. This is an incredibly shortsighted and just plain bad idea that the city will end up regretting. Let us review the reasons why:

- There is no public outcry in favor of revoking the existing ban. The only proponents of this scheme are some auto dealers and billboard companies. The only people who will make a sizable amount of money will be the billboard companies. Why is the City Council so intent to look after the interests of billboard companies? Is there nothing else they ought to be doing on behalf of their actual constituents?

- Nothing changes the architectural integrity, historic character and natural environment of a community more than in-your-face off-premise advertising mostly promoting products and services not available at the location of the sign. I would be surprised if even one member of the City Council wants to contend such billboards have no significant aesthetic impact as was advocated by the billboard-friendly consultancy that justified declaring a negative declaration. Just how much did they charge and who paid them?

- Electronic billboards emit light that interferes with wildlife and human sleep patterns as well as triggers individuals with light sensitivity not to mention distracts drivers and contributes to traffic accidents.

- Electronic billboards use a lot of energy (requiring cooling systems during most days), energy that contributes to greenhouse gas emissions and that ought to be used for a more legitimate purpose than subjecting residents to advertising messages.

- Off-premise advertising has no value if it is not visible from the publicly financed right of way whose maintenance is not contributed to by billboard companies in the way of a user fee. Why does the City Council believe it has the right to force tax-paying residents to be a captive audience to unwanted commercial messages for which there is no off switch on streets they paid for? The city may have a legal right to do so but it does not have an ethical or moral right. And would you pay for a cable TV channel that only televised commercials and no programming? Why is the City Council asking their constituents to tolerate the equivalent?

- What's the limiting principle at play here? If x number of off-premise electronic billboards are "good" then would not y number be even better? At what point are there too many in-your-face advertising signs and who determines that using what standard?

- Do note that once the city of San Jose amended its sign ordinance to allow electronic billboards on city property it was only a short time until a major billboard company illegally erected two billboards violating the still existing ban on new billboards on private property. The city spent an undisclosed amount of money over several years defending its ban in court while the signs remained standing and generating revenue. While the court decided in favor of the city, the city attorney's office has yet to tell us how many staff hours were spent defending the ban. Now, Outfront Media is currently suing the city of San Jose for allegedly unfairly granting the right to construct electronic billboards at the San Jose Airport to Clear Channel in violation of city provisions calling for competitive bidding. On top of that, an article in a billboard industry publication predicted that if San Jose persisted in allowing new billboards on city property while banning them on private property the industry would sue the city for restraint of trade and denial of due process. The moral of this story is, don't let even one off-premise billboard company set foot in your city or the city will be spending a lot of costly time in court.

So, proponents of this scheme. Tell us one more time what's in it for Gilroy to allow the first of many off-premise billboards to take root? Money for the city? An improved local economy? Off-premise sign-induced "urban vibrancy"? Please enlighten us.

Some 1,500 communities around the nation including the states of Alaska, Hawaii, Maine and Vermont prohibit new off-premise advertising signs both electronic and conventional. I am happy to report that residents there are not starving on the highways for lack of information on where the nearest restaurant might be nor are the economies of those places harmed by not having the alleged advantages provided by off-premise advertising. Case in point is the San Jose metro area. For 50 years San Jose banned billboards on public property and for 37 years have done so on private property. None the less San Jose is second in the nation in terms of per capita domestic product, achieved without the "benefit" of new billboards. Beautification (not billboards) is good for the local economy.

To sum up, the proposal before you provides no public benefit while resulting in many negative externalities which would be borne by the public. And once an off-premise billboard goes up, it is almost impossible to remove, thanks to your friends in the billboard industry having lobbied the state legislature to require cash compensation be paid for the

removal of an existing billboard. How much compensation? Ask the city of St. Paul, Minnesota whose state law required them to pay \$4 million to remove just one existing digital billboard.

Should you be interested, I would be happy to answer any questions about embarking on this benighted proposal.

Sincerely,

John Miller
Los Gatos

Cindy McCormick

From: Cindy McCormick
Sent: Monday, August 22, 2022 3:29 PM
To: Mark Deger
Subject: RE: EXTERNAL - Electronic Billboard Ordinance Project

Good afternoon Mr. Deger,

Thank you for your comments. I will add them to the public record and include them in the packet going to the Planning Commission and City Council. The hearing date is not yet set, but would likely occur on either September 15th or October 6th. A separate notice will be sent prior to the public hearing. Please accept my apologies for you not being able to locate the appendices. They had been previously uploaded to the website but the links had not been imbedded on the actual page.

Please let me know if you are now able to open them. [Development Activity Projects | Gilroy, CA - Official Website \(cityofgilroy.org\)](https://www.cityofgilroy.org/development-activity-projects)

Respectfully,

CINDY MCCORMICK
CUSTOMER SERVICE MANAGER
Direct 408.846.0253 | Cindy.McCormick@cityofgilroy.org
Main 408.846.0440 | www.cityofgilroy.org/planning
7351 Rosanna Street | Gilroy | CA 95020



From: Mark Deger [mailto:mdeger@ridefox.com]
Sent: Monday, August 22, 2022 2:03 PM
To: Cindy McCormick <Cindy.McCormick@ci.gilroy.ca.us>
Subject: EXTERNAL - Electronic Billboard Ordinance Project

CAUTION: This email originated from an **External Source**. Please use proper judgment and caution when opening attachments, clicking links, or responding to this email.

Dear Ms. McCormick,

I am writing you to communicate my disdain over the proposal to erect electronic billboards in Gilroy. I've listed a number of my reasons below.

1. I think that the aesthetics would be offensive and make us look like a low-class commercial community. These items are usually dumped on poorer communities who do not have the power or influence to prevent it from happening.
2. The light emitted from the billboards would add to light pollution that is not productive. This harms people with light sensitivity more adversely.
3. They will distract drivers traveling on freeway 101.
4. They would probably interfere with the nocturnal population of beneficial insects and vertebrates to agriculture.

5. Electronic billboards are expensive so mostly large corporations would afford them, shutting out local businesses.
6. People should be free to move about public spaces without being exposed to advertising.
7. The billboards add to materialism, making people feel unhappy and unsuccessful if they can't afford the items advertised. They exploit and deepen inequality.
8. They promote unsustainable consumption during a period of adverse climate changes.
9. Electronic billboards consume 10 times the energy of a single-family home.
10. Adding an ordinance to allow this project opens the door for more billboards in the future. We have smaller monstrosities along Masten/Fitzgerald/Santa Teresa. We don't need monstrous electronic versions.

I would like to see the content of the appendices that have been omitted from the report used to rubber-stamp this project. I will be deeply disappointed if Gilroy adds these monstrosities to our community. Gilroy has been a pleasant break from the commercialism and materialism of the Bay area.

Respectfully,
Mark Deger

This e-mail message is intended only for individual(s) to whom it is addressed and may contain information that is privileged, confidential, proprietary, or otherwise exempt from disclosure under applicable law. If you believe you have received this message in error, please advise the sender by return e-mail and delete it from your mailbox.

Cindy McCormick

From: Cindy McCormick
Sent: Wednesday, August 24, 2022 3:35 PM
To: John Bauters; Planning Division (Public)
Subject: Attn: Cindy McCormick / RE: Proposed Electronic Billboard

Good afternoon Mr. Bauters

Thank you for your comments. I will share them with the CEQA consultant and also add them to the public record. We have not yet scheduled the public hearing for this item; however a notice will go out when we do schedule the public meeting.

Cindy

From: John Bauters <jbauters@gmail.com>
Sent: Wednesday, August 24, 2022 3:03 PM
To: Planning Division (Public) <planningdivision@cityofgilroy.org>
Subject: EXTERNAL - Attn: Cindy McCormick / RE: Proposed Electronic Billboard

CAUTION: This email originated from an **External Source**. Please use proper judgment and caution when opening attachments, clicking links, or responding to this email.

Dear City of Gilroy Planning Commissioners, Councilmembers, and Staff:

Thank you for considering this public comment with respect to the proposed Mitigated Negative Declaration for an electronic billboard along Hwy 101 in Gilroy.

My comments are specific to two sets of findings/conclusions that I do not believe are adequately researched or discussed in the document, and leave significant environmental impacts unmitigated.

(1) The discussion of Biological Resources correctly identifies impacts on birds and other wildlife as an issue to review, but includes an inappropriately abridged scope of review that jeopardizes endangered birds, including migratory species, that live in this area and migrate through this area.

The discussion in Section 2.4 and then again in 2.20 is overly-focused on the construction site -- a small parcel along Hwy 101. The lack of nests by migratory or endangered birds is cited as a reason for lower concern and the proposed mitigation is how to handle construction in the event a nest is discovered. While this is good, it is insufficient. Birds are dramatically impacted by large, elevated LED signs. There are extensive reports and studies on how LED signs confuse migratory birds, disorienting them at night; how they impair their reproductive functions; and how night predators lose the ability to hunt effectively as these billboards make their ability to find food difficult. Bright spaces like this can have impacts for a multiple mile radius from a high-rise sign, which can eliminate spaces where both migratory and non-migratory birds can nest. The white-tailed kite, cited in Section 2.4, may not have a known sighting within a couple miles of the project site, but the addition of such a sign in one of the only zones in the United States where the species is known to exist further harms its population and puts the species at risk. There is no discussion of any of the significant research being conducted into how LED signs impact migration patterns, reproductive patterns, hunting/food sourcing, or nesting. The data points provided in the report fail to address these issues adequately and the scope of review is limited almost exclusively to the parcel itself, which does not adequately address the reality of a larger geographic impact this kind of light has on birds.

(2) Section 2.20 of the report states that there are some impacts on humans but that all of those can or will be mitigated, as discussed throughout the document. There is no discussion about how these types of bright lights impact circadian rhythm (sleep), especially in children. Bright lights can and do impact and are harmful to the development of children. Sleep is one of the most important components of healthy child development, which is necessary for proper brain development, educational attainment, and is also linked to attention/focus, and mood. Bright LED lights on billboards create light pollution much greater than the ambient levels of street lights and other night-time lights which are often much closer to the ground. The UV levels in these lights will create lighter sleep levels, disrupt sleep, and negatively impact human health and growth. There are significant residential communities proximate to the proposed billboard site which will experience the impacts of the proposed billboard sign. The report does not demonstrate adequate study or review of how the location of this sign and the reach of the projected LED lights will change the light pollution baselines in residential areas near the sign, and what that could mean for human health - especially developing children. <https://nceh.ca/documents/field-inquiry/health-effects-large-led-screens-local-residents>

Finally, a sign like this is not necessary. The City of Gilroy has had a good ordinance that prohibits these types of signs for a long time - and for a good reason. Drivers do not need additional distractions on the roadways. At night, bright lights will only further impair driver abilities on the road, putting all road users at greater risk as a result.

These bright signs are little more than a proverbial "tramp stamp" in the sky - letting people from miles away know that the city is so cheap that it has to resort to bright light commercial ads as it's community identify. Gilroy can and should be a place people are proud to be from - one that doesn't need additional light pollution that will harm children's development or impair our local environmental wildlife resources. I hope that planning commission will give careful consideration to both the *adequacy* of this report as well as the *necessity* of this sign. Bright signs originated years ago to tell motorists where there was safe lodging at night, where there was food or fuel to continue their journey, or where a local medical center was if help was needed. Today, we allow any commercial advertisement to be put up along a roadway. Making them electronic undermines the original purpose behind electronic roadway signs, diminishes the character of our community, and harms our greatest assets: our environment and our children.

Please vote against accepting this proposed Mitigated Negative Declaration.

Thanks for your time and consideration.

Sincerely,

John Bauters

--

The strength of a nation is measured by the least of its people.

Cindy McCormick

From: Cindy McCormick
Sent: Monday, August 29, 2022 10:05 AM
To: Maria Aguilar; Planning Division (Public)
Subject: RE: - 75' foot tall electronic billboard

Good morning Ms. Aguilar

Thank you for your comments. I will add them to the public record. We have not yet scheduled the public hearing for this item; however a notice will go out when we do schedule the public meeting.

Cindy

From: Maria Aguilar <md12aguilar@yahoo.com>
Sent: Sunday, August 28, 2022 4:19 PM
To: Planning Division (Public) <planningdivision@cityofgilroy.org>; Cindy McCormick <Cindy.McCormick@ci.gilroy.ca.us>
Subject: EXTERNAL - 75' foot tall electronic billboard

CAUTION: This email originated from an **External Source**. Please use proper judgment and caution when opening attachments, clicking links, or responding to this email.

I am writing in opposition of amending ordinance 30.37.30 prohibited signs within 660 feet off highway 101. I believe this to be a distraction for drivers, this is an area where traffic becomes congested and this could cause accidents. These signs are large and unsightly, if the ordinance gets changed it opens the door for other signs to be erected.

Thank you
Maria Aguilar

[Sent from Yahoo Mail on Android](#)

Cindy McCormick

From: Cindy McCormick
Sent: Wednesday, September 7, 2022 5:11 PM
To: Gregory Bumb
Subject: - Digital Sign Project

Good afternoon Mr. Bumb –

Thank you for your comments. I will add them to the public record. We have not yet scheduled the public hearing for this item; however a newspaper notice will go out when we do schedule the public meeting.

Cindy

From: Gregory Bumb <gregorybumb@gmail.com>
Sent: Wednesday, August 31, 2022 12:22 PM
To: Cindy McCormick <Cindy.McCormick@ci.gilroy.ca.us>; Planning Division (Public) <planningdivision@cityofgilroy.org>
Subject: EXTERNAL - Digital Sign Project

CAUTION: This email originated from an **External Source**. Please use proper judgment and caution when opening attachments, clicking links, or responding to this email.

Dear Ms McCormick,

My name is Greg Bumb. I am the owner and General Manager of Gilroy Motorcycle Center - an establishment that has been doing business in Gilroy for 50 years.

I am writing to communicate my support for the new digital sign project in Gilroy. I believe the proposed design, with the city logo, is sleek and professional which will make a beautiful display for visitors. Furthermore, the sign would provide much needed opportunities for local businesses to promote their local goods and services: something currently not available in Gilroy. Additionally, I understand that these signs will be available to the city for local events providing an invaluable tool for local awareness and support. More importantly, these signs would provide an incredibly vital tool for emergency communications e.g. Amber Alerts, and essential announcements that need to reach a last a large amount of people, as quickly as possible: something only a sign of this caliber can achieve. Moreover, this project will come at a zero cost to the city and its residents, meaning there is no downside to the city - and I strongly encourage you to approve this program.

Sincerely,

Greg Bumb

Owner & General Manager
Gilroy Motorcycle Center

303 E. 10th Street
Gilroy, CA 95020
Office: (408) 842-9955 ext 102

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Cindy McCormick

From: Cindy McCormick
Sent: Wednesday, August 31, 2022 8:05 AM
To: Michael Ramirez
Subject: RE: EXTERNAL - Support for expanding advertising opportunities

Mr. Ramirez –

Thank you for your comments. They have been added to the public record.

Cindy

From: Michael Ramirez <mramirez@handlpartners.com>
Sent: Wednesday, August 31, 2022 7:20 AM
To: Cindy McCormick <Cindy.McCormick@ci.gilroy.ca.us>
Subject: EXTERNAL - Support for expanding advertising opportunities

CAUTION: This email originated from an **External Source**. Please use proper judgment and caution when opening attachments, clicking links, or responding to this email.

Hello Cindy,

Please excuse my reaching out with much context. I'm Michael Ramore, a partner at local advertising agency H&L Partners based in Oakland, CA. I am sending my support for the potential expansion of advertising opportunities around Gilroy. We represent local McDonald's and Toyota franchise owners around Northern California. Our out-of-home advertising plays a strong role in driving these local businesses. Thanks for your time and consideration. We have had long partnerships with local providers for out-of-home and would be thrilled for new opportunities in Gilroy.

Best regards,

--

Michael Ramirez
Senior VP, Media Director
mramirez@handlpartners.com
w: (415) 544-4160

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to, this email transmission is strictly prohibited. If you have received this transmission in error, please notify us and delete the message and any/all attachments from your computer.

Cindy McCormick

From: Cindy McCormick
Sent: Tuesday, September 6, 2022 8:15 AM
To: plynam; Planning Division (Public)
Subject: ATTN: Cindy McCormick RE: Proposed Electronic Billboard (Project: Z 18-04, AS 18-09, SP 21-08)

Good morning Mr. Lynam,

Thank you for your comments. I will add them to the public record. We have not yet scheduled the public hearing for this item; however a newspaper notice will go out when we do schedule the public meeting.

Cindy

-----Original Message-----

From: plynam <plynam@ucolick.org>
Sent: Monday, September 5, 2022 9:08 PM
To: Planning Division (Public) <planningdivision@cityofgilroy.org>
Cc: Plynam <plynam@ucolick.org>
Subject: EXTERNAL - ATTN: Cindy McCormick RE: Proposed Electronic Billboard (Project: Z 18-04, AS 18-09, SP 21-08)

CAUTION: This email originated from an External Source. Please use proper judgment and caution when opening attachments, clicking links, or responding to this email.

Dear Cindy McCormick,

Further to my (15 August 2022) spoken contribution to Gilroy City Council, please find attached a (5 September 2022) written comment regarding the proposed electronic billboard project. Since it is referred to in my most recent contributions, for completeness, please also find attached my written contribution to Council of 26 April 2021.

I look forward to your acknowledgement of receipt of these submissions.

Yours sincerely,

Dr Paul D. Lynam FRAS
Astronomer
University of California Observatories/Lick Observatory



UNIVERSITY OF CALIFORNIA OBSERVATORIES/LICK OBSERVATORY MT HAMILTON, CALIFORNIA 95140

26 April 2021

Honorable Mayor and City Council,

Sign Policy Recommendations to Regulate Electronic Billboards in the City of Gilroy.

For almost 140 years, the people of the Valley of Heart's Delight and the University of California's Lick Observatory have enjoyed a fruitful relationship. The city fathers of the Bay Area have consistently supported the observatory's ability to stay at the forefront of astronomy and technological innovation. Strategically located atop Mount Hamilton since the 1880s, the observatory's threshold is crossed by some 35,000 visitors annually. Thousands more enjoy its scenic approaches and hinterland for recreation. New worlds continue to be discovered from within sight of the City of Gilroy. Lick Observatory maintains a global reputation as an authority on astronomical matters. For decades, the observatory has advised local authorities on lighting ordinances, including (in the 1960s and 1970s) the deployment of sodium lighting, subsequent upgrades to light emitting diode (LED) technologies and, most recently, the deployment of electronic billboards.

Naturally, from a purely astronomical perspective, it would be best to have no electronic billboards at all. However, guidelines to minimize damage to dark skies by electronic billboards, developed by the International Dark-Sky Association, inform Lick Observatory's recommendations to reduce negative impacts. They include: limits on brightness, a curfew for turning off signs at 11 p.m. or midnight, constraints on sign size and density, use of lower-temperature (less blue light) LEDs, tilting electronic billboards downwards by 15 degrees and ensuring mechanical shielding is installed to reduce light being scattered upwards. Light pollution, in large part, is a consequence of the physics of ever-present aerosols (e.g. water vapor, particles, etc.), which preferentially redirect light. Hence, mechanical design of responsible lighting fixtures seeks to minimize wasted light. In contrast, billboards *intentionally* project light laterally. Thus, billboards disproportionately compound already-vexatious light pollution via two mechanisms. First, billboards add to pollution *intensity*. The efficiency of electronic illumination represents a manyfold increase in wasted light, compared with former illumination methods. Second, the *nature* of LED technology (i.e. combining emission from multiple intensity peaks) contaminates the entire visible spectrum, whereas incandescent or discharge (e.g. sodium) lighting consists of isolated spectral peaks, with adjacent spectral regions free from contamination. In sum, proliferation of electronic billboards along the State highway 101 corridor (including in-and-around the City of Gilroy) would render a deleterious impact upon Lick Observatory.

Typically, local authorities engage public opinion when considering changes to ordinances. Experience shows that the overwhelming majority of contributors perceive the most compelling arguments against electronic billboards to be the well-established detrimental consequences on human health and safety, the similarly well-established impacts on wildlife habits and habitats, and aesthetic visual blight. For the most part, the needs of observatories are well-aligned with majority public opinion. The University of California's Lick Observatory encourages the City of Gilroy to perform due diligence during deliberations regarding the proposed deployment of electronic billboards (e.g. by canvassing a fair, balanced representation of community/stakeholder opinion and undertaking a full and proper environmental impact assessment). The observatory remains available to advise on these matters, while continuing to foster the fruitful relationship that has persisted for well over a century.

Yours sincerely,

Dr Paul D. Lynam FRAS
Astronomer
University of California Observatories/Lick Observatory



UNIVERSITY OF CALIFORNIA OBSERVATORIES/LICK OBSERVATORY MT HAMILTON, CALIFORNIA 95140

DATE: 5 September 2022

Dear Cindy McCormick,

PROPOSED ELECTRONIC BILLBOARD(S)

The University of California Observatories' Lick Observatory (UCO/Lick) - the world's first high altitude astronomical observatory - hosts 10 telescopes, plus multiple cutting-edge research instruments atop Mount Hamilton, 25 miles north of Gilroy. Named in classic literature and from Apollo 11's Tranquility Base, the observatory routinely opens new vistas on the universe, discovers new worlds, develops new technology, educates science and "tech-savvy" students and inspires all comers. Lick Observatory leads the world, setting standards on astronomical matters. Annually, the observatory serves hundreds of faculty (including Nobel laureates) and students of the University of California, in addition to 35,000 visitors. This cannot be achieved without a fruitful relationship between the observatory and neighboring settlements.

As outlined in written (26 April 2021) and spoken (15 August 2022) contributions to Gilroy City Council, I reiterate that the proposed Electronic Billboard Ordinance and Sign Permit proposal (described in the 4 August 2022 Initial Study) shall render a disproportionate and deleterious impact on astronomical pursuits, fauna, flora and public health. From an astronomical perspective, it would be ideal to have no illuminating sources at all. However, UCO/Lick has no wish to crusade in pursuit of this ideal. A higher aspiration is to sustain the rapport and understanding between neighboring communities and observatory that has endured since the 1870s. Responsibly installed billboards may confer benefits to the community. Distressingly, however, the Initial Study is unbalanced in its failure to consider negative effects of electronic billboards on astronomy. For example, the International Dark-Sky Association's (2019) Guidance for Electronic Message Centers (repeatedly advocated for in previous contributions) continues to be neglected. As a result of such omissions, the Initial Study cannot be considered to be representative of best practice. Experience regarding proposed electronic billboards elsewhere in Santa Clara County shows that the needs of Lick Observatory align with public opinion: a (2021) survey conducted by the City of San Jose Planning Department revealed 93% opposition. Expert advisors (e.g. Norman Y. Mineta San Jose International Airport Commission) repeatedly recommended against billboards. The City of San Jose is now subject to litigation from competing outdoor advertising interests. Quite apart from astronomers' niche concerns, the most commonly cited objection to billboards (electronic and conventional) is visual blight. Billboards are notorious for intrusive, poorly-maintained, malfunctioning, decrepit and unsightly structures – often imposed on under-served neighborhoods. The outdoor advertising industry is noted (even *celebrated*) for wasteful practices. Outdoor advertising typically constitutes a minor fraction of overall advertising budgets. As on-line media continues to grow, revenues derived from outdoor advertising are projected to decline.

Regardless of whether one favors or opposes electronic billboards, it must be acknowledged that the Initial Study has failed to allay concerns. Thus, a full-and-proper Environmental Impact Report should ultimately be undertaken. However, in order to avoid embarking on such a costly endeavor unnecessarily, the City of Gilroy is first urged to proactively canvass the community in an effort to gain insight into the public attitude and reception to electronic billboards.

Yours sincerely,

Paul David Lynam

Dr Paul D. Lynam FRAS

Astronomer

University of California Observatories/Lick Observatory

Cindy McCormick

From: Cindy McCormick
Sent: Wednesday, September 7, 2022 9:23 AM
To: Shani Kleinhaus; Planning Division (Public)
Cc: James Eggers; Gladwyn D'Souza; Rani Fischer; Environmental Assistant
Subject: RE: EXTERNAL - Comments on Electronic Billboards

Good morning Ms. Kleinhaus,

Thank you for your comments. I will add them to the public record. We have not yet scheduled the public hearing for this item; however a newspaper notice will go out when we do schedule the public meeting.

Cindy

From: Shani Kleinhaus <shani@scvas.org>
Sent: Tuesday, September 6, 2022 3:33 PM
To: Planning Division (Public) <planningdivision@cityofgilroy.org>
Cc: James Eggers <james.eggers@sierraclub.org>; Gladwyn D'Souza <godsouza@mac.com>; Rani Fischer <ranif@scvas.org>; Environmental Assistant <eac@scvas.org>
Subject: EXTERNAL - Comments on Electronic Billboards

CAUTION: This email originated from an **External Source**. Please use proper judgment and caution when opening attachments, clicking links, or responding to this email.

Dear Ms. McCormick,

Santa Clara Valley Audubon Society and Sierra Club Loma Prieta Chapter submit the attached comment letter and attachments on Gilroy's Initial Study/ Draft Mitigated Negative Declaration - Electronic Billboard. Our comments highlight the shortcomings of the Initial Study/Draft Mitigated Negative Declaration and the environmental impacts that would result from implementation of the Electronic Billboard Ordinance Project in the City of Gilroy. The comments with attached references provide unequivocal scientific evidence to establish the significant and unavoidable harm that Artificial Light At Night (ALAN) in general, and electronic billboards specifically, impose on human health and on ecosystems. The IS/DMND does not adequately address these issues.

Thank you,

Shani Kleinhaus, Ph.D.
Environmental Advocate
Santa Clara Valley Audubon Society
22221 McClellan Rd.
Cupertino, CA 95014
650-868-2114
advocate@scvas.org



September 6, 2022

Cindy McCormick

planningdivision@cityofgilroy.org

Re: [Initial Study/ Draft Mitigated Negative Declaration - Electronic Billboard](#)

Dear Ms. McCormick,

Santa Clara Valley Audubon Society and Sierra Club Loma Prieta Chapter submit the following comments and responses to highlight the shortcomings of the Initial Study/Draft Mitigated Negative Declaration and the environmental impacts that would result from implementation of the Electronic Billboard Ordinance Project in the City of Gilroy. The comments with attached references provide unequivocal scientific evidence to establish the significant and unavoidable harm that Artificial Light At Night (ALAN) in general, and electronic billboards specifically, impose on human health and on ecosystems. The IS/DMND does not adequately address these issues.

In March 2021, Sierra Club National adopted a new light pollution policy: "Sierra Club recognizes that while artificial light provides desirable benefits to society, such as extended hours of social space at night, its excessive, inappropriate and poorly controlled use also leads to significant harm. Sierra Club defines light pollution as artificial light that adversely affects ecosystems and any living organism. Sierra Club includes in this definition anthropogenic light that is wasteful, or misdirected; has negative ecological impacts; is used as a form of aggression; is harmful to health, safety, or other human rights; or disrupts our view of the natural night sky, disconnecting us from our cosmic environment, including the Milky Way Galaxy where we live. Therefore, light pollution imposes natural resources, economic, biological, political, psychological, and cultural burdens." In addition, the Sierra Club retained a 60-year policy which "opposes billboard development along highways and supports measures to restrict these billboards."

The Sierra club policy is supported by a comprehensive compilation of resources pointing to the significant impacts of ALAN, please see "Attachment Resources-References-LightPollutionPolicy_20210307," attached, and the recently published "Artificial Light at Night: State of the Science 2022"¹. The information and scientific studies referenced in this

¹ International Dark-Sky Association

attachment point to the devastating impact of lighting on ecosystems and organisms that comprise our biological resources and our health. The Santa Clara Valley Audubon Society (SCVAS) is similarly concerned with the proliferation of ALAN and its pervasive harm to organisms, species, ecological food webs, and human health and safety. SCVAS is one of the largest National Audubon Society chapters in California, and its mission is to promote the enjoyment, understanding, and protection of birds and other wildlife by engaging people of all ages in birding, education, and conservation.

Our organizations and our thousands of members in the region are working to protect our common natural resources, and we are greatly concerned with detrimental impacts of electronic billboards and signs to biological resources, the night sky, the aesthetic character of our City of Gilroy and region, and the health and quality of life of our region's residents. We are opposed to allowing electronic billboards and encourage the City of Gilroy to tighten regulation and reduce, rather than increase their prevalence and impacts. We believe that electronic billboards anywhere, including at the proposed location, will cause significant and irreversible harm to the biological and aesthetic environment resources. We encourage the City of Gilroy to amend its sign ordinance to prohibit highway-facing and major-road facing electronic billboards.

1. Aesthetic Resources

Electronic signs are, by design, intended to be viewed from a distance. By design, electronic billboards offend aesthetics and visual character, and produce day and nighttime illumination, light and glare. The public abhors them. A 2021 survey conducted by the City of San Jose revealed that over 95% of over 2200 respondents are strongly opposed to electronic billboards on freeways (presentation attached). The concerns over aesthetics were one of the primary reasons provided by the opposing respondents. Highway 101 in this area is not, by designation, a scenic highway. But the public and the drivers clearly consider electronic advertisement "a form of aggression" which assaults our senses and health, and imperils drivers as it diverts their attention and puts them at an increased risk of collision.

- The entire portion of US-101 that passes through the City of Gilroy is a County-designated scenic route, and is only approximately 660 feet east of the proposed billboard site. The Project clearly intends the advertisements to be highly visible from US-101 which traverses a relatively rural landscape in Gilroy and its vicinity, a rural landscape that travelers value. The Project will disrupt the visual character of the 101 corridor, despoil scenic elements, and offend landscape characteristics that contribute to the rural character of the Bay Area south of San Jose and to the well being of travelers.
- The finding that aesthetic impacts of Light and Glare are less than significant relies on Mitigation Measure MM AES-1 "The signs' operational lighting parameters shall be provided to the City of Gilroy Community Development Department for review and approval prior to the regular operation of the light-emitting diode (LED) billboards, and

shall be implemented by the project proponent to ensure a driver would not be adversely affected or impacted by trespass glare lighting.”

- Since drivers overwhelmingly and unequivocally find that electronic billboards affect them, there is no feasible way to “ensure a driver would not be adversely affected or impacted by trespass glare lighting”.

There is no doubt that impact on Aesthetic Resources is significant and unavoidable, and should be recognized as such in an Environmental Impact Report and a Statement of Overriding considerations.

2. Biological Resources:

The Biological Report underestimates the potential impact to ecosystems including those non-special status species that may make use of the adjacent Princeville drainage that benefit from its water and relative cover and including those that may transit it between the larger habitats of Uvas Creek and Llagas Creek.

Recent scientific studies highlight the pervasive, ***cumulative***, and harmful impacts of ALAN to terrestrial and aquatic organisms, species, and ecosystems. The impacts, including effects on circadian rhythms, metabolism and behavior in fish, birds, insects, and other taxa, have been summarized in several recent publications in major scientific journals. It seems that CEQA guidelines have not caught up and are inadequate to measure the impact to biological resources. Science shows that ALAN is harmful to all biological resources that see or otherwise perceive it - including both plants and animals. The many studies cited in this and the attached document show that biological impacts are not limited to the area illuminated but can extend to a large distance.

The mechanism by which light impacts organisms is explored in a November 2020 study titled, “Exposure to Artificial Light at Night and the Consequences for Flora, Fauna, and Ecosystems”². This study shows that dozens of behavioral activities in all biological taxa display daily and annual rhythms, and are thus impacted by ALAN. This includes locomotor activity and sleep, schooling behavior (fish), vertical (fish) and horizontal (all vertebrates) migration, behavioral thermoregulation (fish), vocalization (fish, birds), foraging and food intake, mating and reproduction.

Contemporary scientific evidence shows that attraction to light is having a devastating and direct impact on insect numbers and diversity, and indirect effects to entire ecosystems.

Impacts to biological resources can be lessened by limiting operation hours, and turning the billboards off between the hours of 11PM and 8AM.

² <https://www.frontiersin.org/articles/10.3389/fnins.2020.602796/full>

Recent studies also implicate ALAN as one of the primary drivers of the global decline in insect numbers and diversity (the insect apocalypse)³. The loss of insects and the loss of ecological services they provide (for example, pollination, and as food for fish and birds) should be considered a significant, unavoidable impact for 24/7 light sources as proposed for this Project.

2.1 Migratory birds

The IS/DNMD acknowledges that *“migrating birds can be affected by human-built structures because of their propensity to migrate at night, their low flight altitudes, and their tendency to be disoriented by artificial light, which makes them vulnerable to collision with obstructions that could potentially lead to injury or mortality. In addition, birds migrating at night can be strongly attracted to sources of artificial light, particularly during periods of inclement weather”*. The IS/DNMD provides two reasons why the “proposed electronic billboard would not have a significant impact on the movement of migrating birds” (IS/DNMD p. 41). These reasons and the findings are not supported by evidence:

- Illuminations levels – The IS/DNMD implies that the “proposed electronic billboard would not create a substantial change in illumination levels' ' from the baseline light sources in the area” (IS/DNMD p. 41). This is a subjective opinion. To substantiate this statement, a photometric study and a study of glare and light spillage must be provided, and light levels and the spectrum of the LED lights should be analyzed within a biological-impact context.
- Billboard sign face display – The IS/DNMD states that the proposed billboard sign face would not be allowed to change “more than every 8 seconds, and messages would be static (i.e., not moving, or animated) resulting in changing color patters [sic] rather than a fixed unchanging light which may be more attractive to birds” (IS/DNMD p. 41). There is no research to indicate what is an effective length of time a billboard image should be displayed to reduce the attraction to birds. The proposed 8 second interval is arbitrary. Therefore, the IS/DNMD does not show that there is a less than significant impact on wildlife, and mitigation measures to safeguard migratory birds should be implemented.

2.2 Connectivity for wildlife

Open storm drains, irrigation channels and other flood management infrastructure features often connect habitat patches and provide pathways for animals to traverse an urban landscape⁴. This connectivity for wildlife is important to preserve biodiversity, and is easily

3

<https://www.sciencemag.org/news/2021/05/can-scientists-help-insects-survive-their-fatal-attraction-light-night>, and

<https://www.smithsonianmag.com/smart-news/light-pollution-contributes-insect-apocalypse-180973642>.

⁴ Ecological connectivity research in urban areas,
<https://besjournals.onlinelibrary.wiley.com/doi/full/10.1111/1365-2435.12489>

disrupted by lighting⁵. The Project is adjacent to the Princevalle Channel, which is currently a wildlife connectivity corridor and allows permeability between Uvas and Llagas creeks (Figure 1). The DMND provides no analysis of wildlife movement in the channel, dismissing impact to wildlife movement. ife

PDF p. 49 “The project site is bounded by a chain link fencing to the north, east, and south. These factors along with existing urban developments within the general project vicinity limit wildlife movement through the project site. Additionally, the project site is not part of or within a wildlife movement corridor”

PDF p. 48 provides, “The Princevalle Channel is located approximately 50 feet north of the project site and is a tributary to Llagas Creek, which flows into the Pajaro River, which empties into Monterey Bay, a traditional navigable water of the United States. While the project site does not contain State or federally protected wetlands, construction of the proposed electronic billboards has the potential for indirect (temporary) adverse impacts to the aquatic habitat of the Channel. Potential temporary indirect impacts (during construction) include pollutant loading, increased erosion and sedimentation, and debris dispersal into the Channel. Implementation of MM BIO-5 and MM BIO-6 would reduce potential indirect adverse impacts to the aquatic habitat of the Channel to less than significant levels through avoidance and minimization measures.”

- Please provide wetland delineation for the channel’s aquatic habitat, and discuss application of requirements by the State Water Board and the Habitat Agency
- MM BIO-5 and BIO-6 mitigate the impacts to Princevalle Channel during the construction phase. Without a study of terrestrial animal movement within the Princevalle Channel, the finding that the Project will not interfere substantially with the movement of native wildlife species or with established native resident or migratory wildlife corridors cannot be made.

⁵ Effects of Artificial Night Lighting on Terrestrial Mammals.

Ecological Consequences of Artificial Night Lighting. Catherine Rich & Travis Longcore (eds). 2006. Island Press. Covelo, California. Pages 15-42, “lighting can be very disorienting for animals that are trying to move at night. So wildlife corridors can be compromised by even a single light and so prevent animals from moving to crucial landscapes.”

Figure 1: Figure 5-8 of the Santa Clara Valley Habitat Plan denotes Uvas Creek and Llagas Creeks as important wildlife corridors.

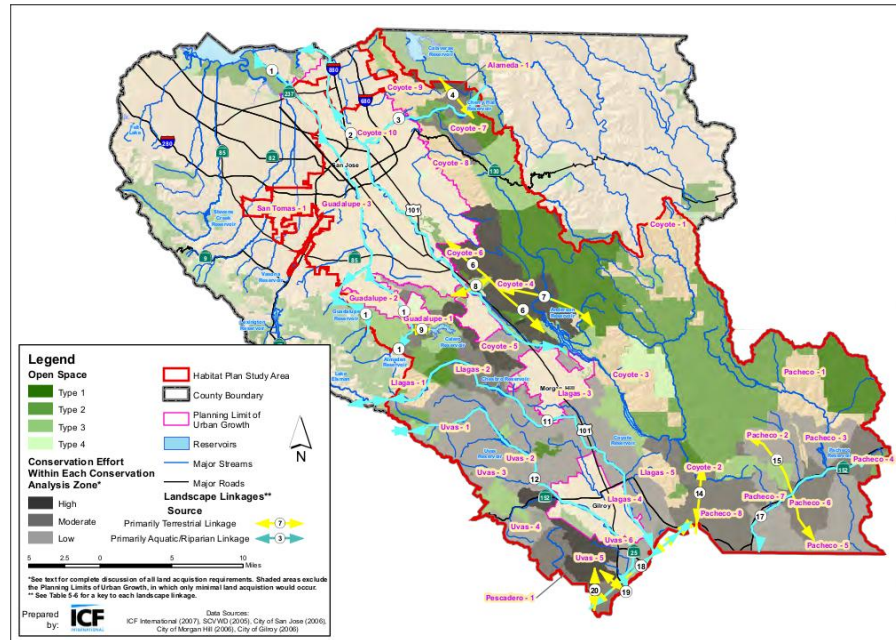


Figure 5-8
Land Acquisition Strategy with Applicable Landscape Linkages

2.3 Conflict with the Valley Habitat Plan

The finds that “Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan” is less than significant with mitigation. The proposed mitigation, MM BIO-7, provides, “The project applicant shall submit a Santa Clara Valley Habitat Plan (SCVHP) Coverage Screening Form to the Planning Department for review and shall complete subsequent forms, reports, and/or studies as needed.”

- For Mitigated Negative Declarations, CEQA does not allow mitigation measures to depend on future disclosure of impacts and actual mitigation measures. Please specify any studies that will be needed and discuss the potential impacts and how these will be addressed.

3. Driver Safety The IS/DMND acknowledges that the project undermines driver safety but the impact and of this hazard understated by the IS/DMND⁶. As expressed above, driver Safety was a great concern to the responders to the San Jose survey. The risk to drivers is evident, and supported in a plethora of studies (See attachments)

- Please analyze current vehicle collision data for the target stretch of US-101 and consider the potential of additional collisions due to drivers' attention being diverted.

4. Energy consumption, brightness, greenhouse gas emissions

In his study of energy use and other environmental impacts of electronic billboards⁷ (attached), Mr. George Young discusses energy consumption for lighting and cooling of LED billboards, as well as brightness of the billboards, materiality and recyclability. Ceqa requires the analysis of all direct and indirect impacts on a project, and we believe that all these environmental burdens are significant. The possibilities of mitigation are limited and therefore, the environmental impacts are generally unavoidable. Mr. Young makes many technical recommendations which we incorporate into this letter by reference. We ask for an Environmental Impact report to consider these mitigation, and analyze the project compliance with them.

While the IS/DMND lists the estimated 52,400 kilowatts/year of electricity and 6.6 megatons of CO₂/year expected to be released into the atmosphere with the energy required for the billboards, the IS/DMND only states that it meets standards and does not prescribe mitigation for the greenhouse gas emissions in our current climate emergency.

5. The City of San Jose has recently approved billboards at the airport, and included several feasible structural and operational requirements and mitigation measures that should be incorporated into the requirements for Gilroy's ordinance and the billboards project. Table 1 highlights some of these requirements:

6

- Colored light from LED displays outdoors in urban zones affects traffic safety.

<https://www.sciencedirect.com/science/article/abs/pii/S0360132320308155>

(January 2021)

- Luminance of roadside LED Billboards in Poland shows that advertising billboards often exceeded safe luminance levels for driving.

<https://www.tandfonline.com/doi/full/10.1080/15502724.2020.1803752>

(October 2020)

- April 2021 National Highway Traffic Safety Administration published data from 2019 on distracted-driver accident stats (electronic billboards included "Distracted by Outside Person, Object, or Event")

<https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/813111>

⁷ Illuminating the Issues: Digital Signage and Philadelphia's Green Future by Gregory Young

https://www.scenic.org/wp-content/uploads/2019/09/Digital_Signage_Final_Dec_14_20101.pdf

⁶Appendix A - Lighting Analysis Report from City of San Jose US 101 Airport Electronic Signs Addendum

<https://www.sanjoseca.gov/home/showpublisheddocument/75593/637629018659330000>, p.4

Table 1. Comparison of proposed Gilroy billboards with existing billboards near San Jose Airport

	SJ Airport	Gilroy
Shielding the night sky	"customizable horizontal light shields, and a vertical alignment of LED RGB modules to eliminate light into specific zones" Vertical light is controlled by LED angles restricted to "65 degrees, with limited intensity above 18 degrees and below 47 degrees."	none
Brightness	0.3 candlefoot except on northface of the South Site which has 0.1 candlelight and "backlighted" LED display facing the riparian zone because of creek and riparian zone. Max is 0.3 candlefoot. Compare with full moon which is max of 0.1 candlefoot.⁶ Brightness changes with the amount of ambient light picked up by the sensors.	Max 0.3 candlefoot at 250ft from billboard. Compare with full moon which is max of 0.1 candlefoot.⁶ Brightness changes with the amount of ambient light picked up by the sensors.
Studies on photometrics	Study done by Ronald Zeiger, President of Zeiger Engineers, Inc.	none
hours	Off from midnight to 6 am	No limits
Time to change screen	change every 8 seconds, except the north face on South Side will be a fixed image, totally static	Change every 8 seconds

On brightness, the EIR provides,

- PDF p. 21: "The proposed project commits to a maximum ambient light output level of a 0.3 foot-candle at 250 feet from the billboard, which is a more conservative lighting intensity standard for electronic billboards of this proposed size when compared to State standards. For a frame of reference, 0.3 foot-candle is comparable in brightness to the light emanating from a computer monitor, and the light levels emitted from the proposed billboards would be programmed to adjust based upon ambient light conditions at any given time (i.e., nighttime versus daytime). Therefore, impacts would be less than significant"
- PDF p. 27: "proposed Ordinance would require billboard projects to commit to a maximum ambient light output level of 0.3 foot-candle at 250 feet from the billboards,

which is a more conservative lighting intensity standard for billboards of this proposed size when compared to State standards"

However, the standards seem to address visual and aesthetic impacts, and ignore the biological impacts of lighting that is 3 times the brightness of the moon, and the hazard this brightness imposes on migratory birds and on insects. The brightness, 0.3 foot-candle, remains a significant unmitigated environmental impact to species and the ecosystem.

We ask the City of Gilroy not to approve highway or road-facing electronic billboards. Instead, the city should develop an ordinance prohibiting such billboards city-wide. If the city persists in moving forward with this project, an EIR must be prepared.

Thank you

Shani Kleinhaus
Environmental Advocate
Santa Clara Valley Audubon Society

Gladwyn D'Souza
Conservation Committee Chair
Sierra Club Loma Prieta Chapter

Illuminating the Issues

Digital Signage and Philadelphia's Green Future

by Gregory Young



In the world of outdoor advertising, successive technological and stylistic advancements have prompted cities and states to rethink their signage regulation and policy. There has been much controversy regarding the potential safety hazard posed by digital signage. Many studies show that such signage can lead to driver distraction and traffic delays (Wachtel, 2009). This research, and the resultant outcry from activists and concerned citizens, has led some policymakers to regulate distracting, electronic signage displays. There has been relatively little research, however, regarding the environmental and energy-consumption issues raised by this new technology.

The Basics of Digital Signage and Energy Consumption

First, *what exactly is digital signage?* Digital signage packages consist of three key pieces: player, extender(s), and display. The player is essentially a computer, equipped with software to generate the displayed content. Players are typically mounted behind the screen, and must be kept cool (via internal or accessory fan) and must be easily accessible for repairs or rebooting. These player/fan arrangements typically consume between 200 and 300 Watts¹ while running, slightly more than a home dishwasher. Depending on the relative location of the player to the screen, there may be a need for a video extender, essentially a cable which connects the player to the screen. This brings us to the most important component of any digital sign: the screen, or, in industry parlance, “the display.” There are three main categories of digital display: LCD, plasma, and LED.

¹ **Watt**—a unit of power which measures the rate of energy conversion. It is defined as one joule per second. The kilowatt (kW) is equal to one thousand watts. For a sense of perspective, one kilowatt of power is approximately equal to 1.34 horsepower. A small electric heater with one heating element can use 1.0 kilowatt. If that heater is used for one hour, it will have used one kilowatt hour.

LED is the name used for Light Emitting Diode (aka LED) boards, commonly used in small to medium sized on-premise electronic advertising². They are the overwhelming preference for large off-premise³ digital billboards; designed for long-distance impact, they are often up to 1200 sq. ft. in size (20'x60'). According to the U.S. Department of Energy, LEDs produce more light (in lumens per watt) than incandescent bulbs, and their efficiency is not affected by shape and size, unlike traditional fluorescent light bulbs or tubes. Proponents of digital signage tout the “greenness” of LEDs; lower wattage and greater luminance⁴ than the more traditional fluorescent, incandescent, or halogen bulbs.



State Rd. & Academy Rd., Philadelphia
Off-premise LED sign

These claims overlook one key bit of common sense: whereas traditional, static signage is illuminated by two or three “inefficient” lamps at nighttime, digital signs are comprised of hundreds, if not thousands, of “green” LED bulbs, each using between 2-10 watts, lit twenty-four hours a day. For instance, a 14'x48' LED billboard can have between 900 and 10,000 diodes.



3051 Front St., Philadelphia
Off-premise LED sign

Considering this simple fact, intrinsic to digital billboard design, it is no surprise that overall energy consumption of digital signage exceeds that of static signage, and makes bulb-to-bulb comparisons irrelevant in this context.

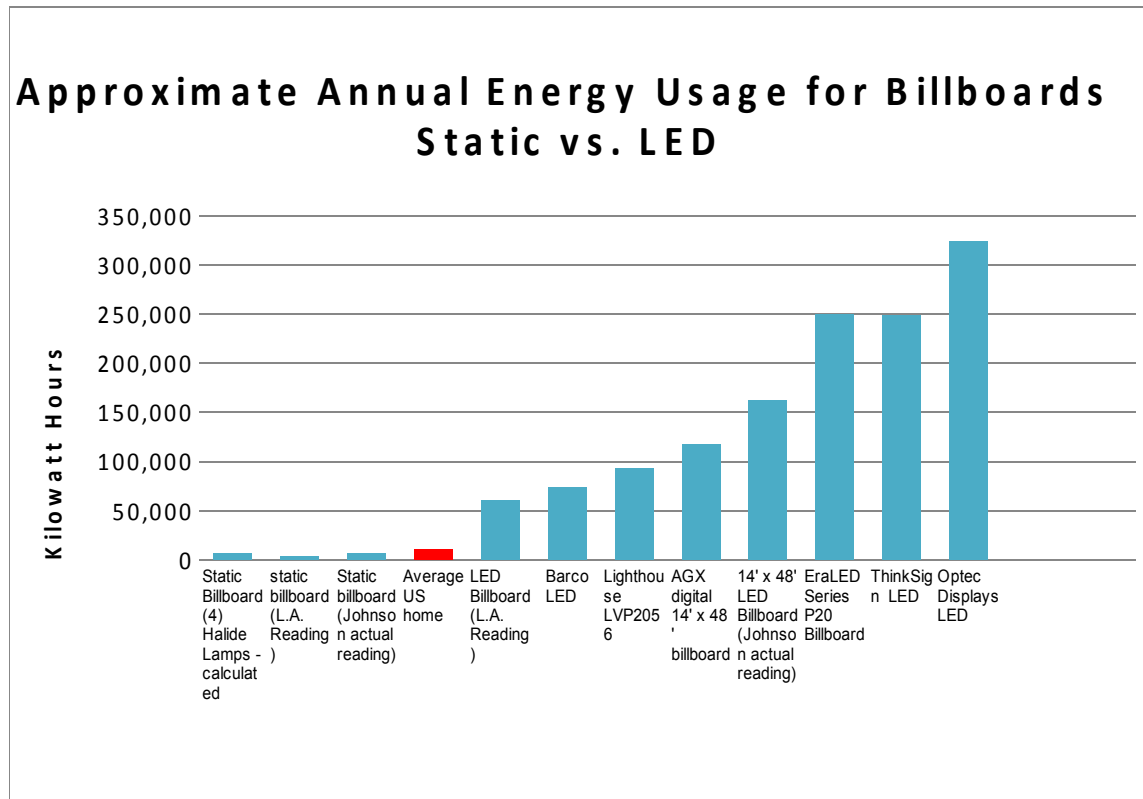
Additionally, with all digital display types, the players which control the changeable images and the fans required to cool them must be taken into account, as they too increase energy consumption. Adding auxiliary equipment, such as extenders, further increases the power demand.

² **On-premise** or **accessory** signage is defined as a business establishment’s on-site advertisements.

³ **Off-premise** or **non-accessory** billboards/signs are those which advertise a business or product not sold at the signs’ location. Roadside billboards are a popular form of off-premise advertising.

⁴ **Luminance** is a measure of the perceived brightness of a light-emitting surface, such as a digital sign. Its unit of measure is candela per square meter (c/m²), informally referred to as “nits.”

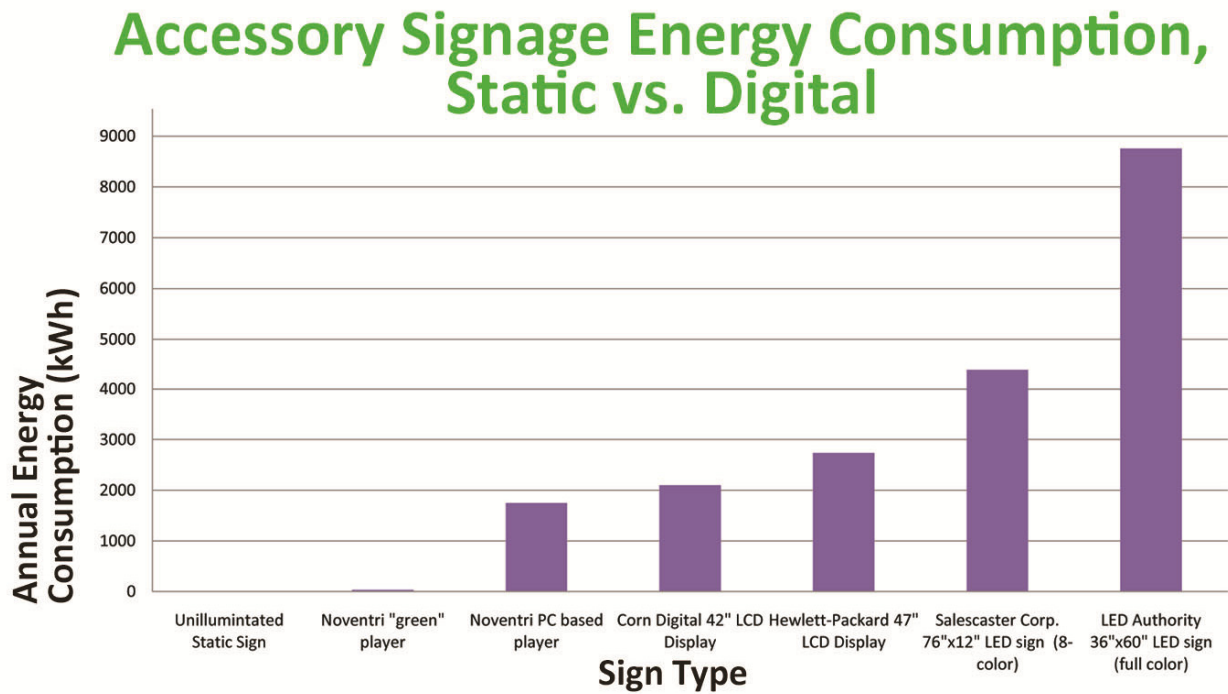
Determining the exact power consumption for a digital billboard is difficult; usage is dependent upon many variables, including size, resolution (how close pixels are spaced, aka diode density), how many LEDs are in each pixel, the color capabilities of the board (tri-color or full color), the image being displayed and time of day (daytime operation requires more power than nighttime operation, as the lit image must compete with the brightness of the sun). Despite these difficulties, we have compiled an objective chart of consumption rates. Our information was provided by a variety of sources, ranging from manufacturers, fellow researchers, advocacy groups, and independent meter readings.



LED units generate heat, and cannot function well in heat which reduces the unit's life expectancy. As a result of the tremendous amount of heat generated in LEDs, and the additional impact of hot weather on the signs, an air conditioning unit is incorporated to cool the components. The energy drawn from the grid is highest during the summer months when the heat from the sun coupled with the heat generated by the higher brightness of the LED unit requires increased demand on the air conditioning system installed for cooling the LED unit. This energy use corresponds directly with maximum peak demands from businesses and residences. Utility companies now provide a discount for homeowners if they can disconnect their air conditioners from the grid during the peak load demands. There is no discussion or plan that we are aware of to disconnect LED air conditioners or darken signs during periods of high demand. If traditional billboards continue to be replaced by LED signs, the growing draw of energy during peak hours could negate the efforts of Utility companies to reduce demand during peak times.

Rates of Energy Consumption		
Product type	Annual Usage, kWh*	Annual cost**
Unilluminated Static Sign	0	\$0
Noventri "green" player	35	\$4.80
Noventri PC based player	1,752	\$240
Corn Digital 42" LCD Display	2,103	\$288
Hewlett-Packard 47" LCD Display	2,737	\$375
Salescaster Corp. 76"x12" LED sign (8-color)	4,380	\$600
Static Billboard (4) Halide Lamps - calculated	7,008	\$960
LED Authority 36"x60" LED sign (full color)	8,760	\$1,200
Average US home	11,040	\$1,512
LED Billboard (L.A. Reading)	61,032	\$8,361
Barco LED	73,584	\$10,081
Lighthouse LVP2056	92,715	\$12,792
AGX digital 14' x 48' billboard	117,866	\$16,148
14' x 48' LED Billboard (Florida actual reading)	162,902	\$22,318
EraLED Series P20 Billboard	249,690	\$34,208
ThinkSign LED	248,993	\$34,112
Optec Displays LED	323,773	\$44,357
* Energy Usage (((24))((365)))/1000		
** Average costs per kWh=\$.137 (Metro Area)		

In many applications---such as television/computer display, general lighting, and small electronics---LCD, plasma screen, and LED technological advancements have proven more energy efficient than their predecessors, but research indicates that out-of-home advertising is simply not an appropriate or responsible application for digital technology.

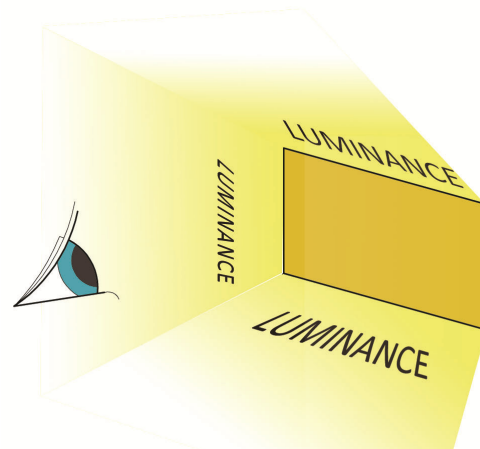


Sign Brightness

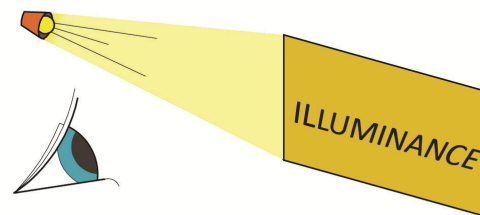
Measuring Sign Brightness

Apart from energy consumption, there are the important issues of light trespass and light pollution, which cause distraction, obscure stars in the night sky, and, like any other form of pollution, disrupt ecosystems and cause adverse health effects for humans and wildlife alike. Light trespass⁵ is measured in two ways: luminance or illuminance. *Luminance* (measured in nits⁶) quantifies surface brightness, or the amount of light an object gives off. *Illuminance* (measured in footcandles⁷) quantifies that amount of light which falls onto an object.

By either measure, digital signage can create significant problems. “During daylight, an unlit static billboard will have a brightness which “fits in” with its surroundings; it will not cause excessive distraction because of excessive luminance” (Carhart, 2010, p.4). But, to capture drivers’ attention, digital signs must be set to very high luminance levels, as they are essentially competing with the sun, which has a luminance level of 6,500 nits. If this extreme brightness is not modulated to fit nighttime conditions, we face issues including very high energy consumption during the day, light pollution in the evening, and potential driver distraction at all times. The OAAA (Outdoor Advertising Association of America) has guidelines to address brightness limits, but they are not mandated.



This sign (above) gives off light. Its **Luminance** is measured in **nits**.



This sign (above) is being lit by a light source. Its **Illuminance** is measured in **footcandles**.

⁵ **Light trespass** occurs when unwanted light enters one's property, for instance, by shining over a neighbor's fence. A common light trespass problem occurs when a strong light enters the window of one's home from the outside

⁶ **Nit**—term used to describe a metric unit of luminance. It is defined as candela per square meter (cd/m^2). The unit is based on the candela, the modern metric unit of luminous intensity; and the square meter.

⁷ **Footcandle** – Unit of light density incident on a plane (assumed to be horizontal unless otherwise specified), and measurable with an illuminance meter, a.k.a. light meter.

Observed and Recommended Levels of Brightness		
Information Source	Product type	Luminance (surface brightness)
(C.Luginbuhl study)	Typical Ambient Roadway Illumination	1 Nit
(C. Luginbuhl study)	Typical Floodlit Billboard	approximately 100 Nits
Digital Billboards: New Regulations for New Technology by Drew Carhart	Traditionally lit static billboards	98% were under 150 Nits, 83% were under 100 Nits (Arizona Study); 124 Nits average (New York Study)
IESNA recommendations	Recommendations for Digital Billboard Luminance	250 Nits (day), 125 Nits (night)
Outdoor Advertising Association of America (Ian Lewin Study)	Recommendations for Digital Billboard Luminance	300-350 Nits suggested (study based on light trespass readings)
Hewlett-Packard (Specifications)	47" LCD Digital Signage Display	500 Nits
Corn Digital (Specifications)	32" & 42" LCD Posters	500 Nits (32") 700 Nits (42")
Carhart study	Daytime sky (sunny)	5,000-7,000 Nits
Virginia Tech Transportation Inst.	The Sun	6,500 Nits
Senzen Top Technology Co., Ltd (specifications)	seires PH12 (14'x48' full-color LED billboard	8,000+ Nits
EraLED (Specifications)	Series P20 full-color LED billboard (assorted sizes)	8,500 Nits
ProVIDEO Billboard Panels (specifications)	Series 1515-4, 14'x48' full-color LED billboard	11,000+ Nits
Optec Displays (specifications)	model 1248, 14'x48' full-color LED billboard	11,000+ Nits
Optec Displays (specifications)	model 2040-5, 14'x48' full-color LED billboard	11,000+ Nits

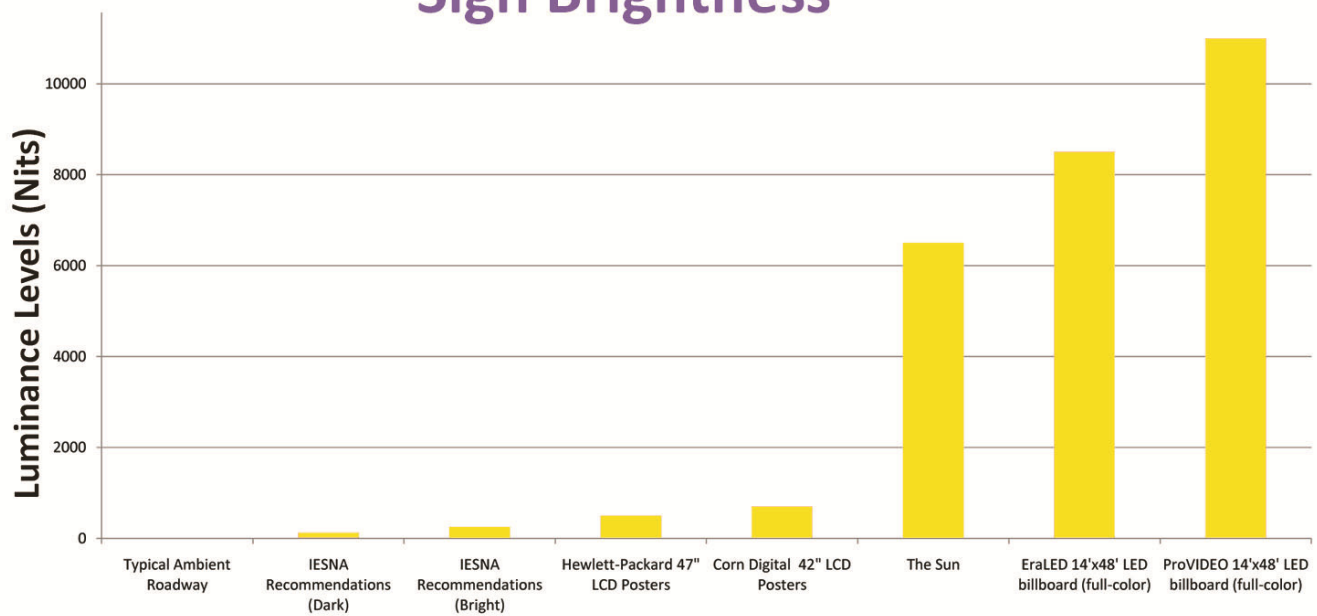
Limiting Sign Brightness

Proposed limits on sign brightness have caused much debate. Research provided by the Illuminating Engineering Society of North America (IESNA) states that drivers should be subjected to points of brightness no greater than 40 times the average brightness level of their general surroundings; this proportion is known as the contrast ratio. “As roadway lighting and automobile headlights provide ambient nighttime lighting levels of about one nit, this implies signage should appear no brighter than about 40 nits” (Luginbuhl, 2010, p.1). Surprisingly, the IESNA’s own recommendations for signage luminance suggest limits between 250-1400 nits---greatly exceeding their stated maximum contrast ratio of 40:1.

The OAAA, has deemed 300-350 nits an acceptable level of night brightness. However, their guidance is based on the use of the IEEE standard for light trespass (IESNA-TM-11-00), when, for reasons of traffic safety and glare in drivers’ eyes, it should have been based on IEEE’s standard for roadway sign lighting (IESNA RP-19-01).

Traditionally floodlit static billboards rarely exceed 100 nits; experts on both driver distraction and light pollution recommended that, as a means of compromise, the new technologies should not exceed this value. In many areas, including Philadelphia, brightness levels are currently unregulated, and many manufacturers publicize their signs’ capabilities to reach up to 11,000 nits.

Sign Brightness



Digital signage advocates mention the horizontal louvers⁸ included in many billboards as an effective measure to prevent light pollution. In reality, these louver systems were designed primarily to shade each diode from sunlight (thus increasing their prominence), not to limit nighttime glow.⁹ As Luginbuhl states in "Lighting and Astronomy," horizontal light (that which is emitted between 0° and roughly ±20°, and not restricted by horizontal louvers) contributes even more to skyglow than light emitted at higher angles. The effects of lower-angle lighting----such as that used to captivate approaching drivers-- - are visible over a much broader area (Carhart, 2010).

A better option is to simply operate signs at less than maximum brightness. Not surprisingly, sign brightness and energy usage are directly related; beyond reducing light pollution and distraction, lowering luminance reduces total power consumption. One manufacturer experimented with running their digital displays at half-brightness; they were able to reduce power usage by nearly 40%, while maintaining full sign readability (Noventri, see in chart). Another option for reducing unnecessary brightness (and thus power usage) is to equip signs with sensors which automatically lower light output in accordance with atmospheric conditions. For example, sign brightness would mechanically be dimmed during dusk, early morning hours, or during cloudy or overcast weather. Again, OAAA does have guidelines for dimming, but they are not mandatory.

⁸ A **louver** is a slat that is angled to keep out rain, direct sunshine, etc. The angle of the slats may be adjustable or fixed.

⁹Retrieved from <http://www.optec.com>

Materiality and Recyclability

Life Span

Light Emitting Diodes have a lifespan of 100,000 hours. According to Bryant, this equates to roughly eleven years for LED billboards, compared to the fifteen years for traditional static billboards. At that point, the diodes will be operating at 50% of their prime brightness. Of course, considering the return on investment that the sign owner has received by that time, he or she will likely not hesitate to replace the sign quickly (Bryant, 2008). As these large digital displays and their associated digital players increase in popularity, will we soon face an abundance of difficult to recycle, discarded technology?

Techno-Waste

Obsolete technology is a valuable source for secondary raw materials, if treated properly; if not treated properly, it can be a source of toxins and carcinogens. Rapid industrial advancement, decreasing initial cost, and even planned obsolescence could result in a fast-growing surplus of “techno-waste” (Morgan, 2006). LED’s, plasma and LCD screens, and digital players and extenders *are* recyclable, but their de-manufacturing and reuse is not always mandated or monitored.

In the US, the main federal law governing solid waste is the Resource Conservation and Recovery Act of 1976; as far as electronics are concerned, it covers only cathode ray tubes (televisions and computer monitors popular before LCDs, plasma and LEDs), though state regulations may differ, according to the U.S. Environmental Protection Agency. Volumetrically, digital signage does generate more waste to be recycled than the paper, vinyl sheets, and plywood or canvas facing of static billboards, but lacks the potentially toxic adhesives.



Technological Graveyard: A massive collection of now-obsolete Cathode Ray Tube televisions. Could digital signage one day face a similar fate?

Future Technological Innovation

Digital display types have become increasingly energy efficient since their inception, a trend that will likely continue. While early generations of LED lamps could produce only 20 lumens per watt (compared to about 15 lumens/watt for incandescent), current models can achieve over 100 lumens/watt (Klipstein, 2009). More energy efficient players are also in development, including a model that uses only 4 watts of electricity, the equivalent of a single small light bulb. As technology continues to progress, there is hope that digital signage may one day be a truly green option, but we are not there today.

Solar Power

Solar power is one promising advancement recently used in the installation of a 6,000 sq. ft. digital billboard in Times Square which is fully powered by solar panels and photovoltaic solar modules, and illuminated by floodlights. It consumes no additional electricity. According to Cooley's Commercial Graphics, manufacturer of the solar sign, "These lightweight systems could be installed on some portion of the 450,000 billboards currently in the United States. Each of these billboards would generate clean renewable energy to either power the billboard lighting system or would be sold back to local utility companies through net metering or feed in tariffs programs" (Connor 2010).

A similar program has been implemented in San Francisco, and successfully generates up to 3.4 kilowatts of excess energy, distributed to local utility customers.¹⁰ Some are skeptical, however; an industry insider states, "illuminating signage via solar power poses a significant hurdle, because harvesting and processing solar energy is relatively inefficient," and estimates that approximately only 20% of energy collected could be retransmitted as sign illumination (Aust, 2007). While these green advancements are laudable, they are climate-dependent, and their high initial costs make them unlikely for mainstream usage without government mandates or incentives.

Carbon Footprint						
	Average 2008 Air Travel (Total US Commercial air travel for 2008 / Census Estimate of total US population)	Average 2008 travel by passenger car: calculated for small car	Average 2008 travel by passenger car: calculated for SUV	Average Home	Digital Billboard (L.A. Reading)	Optec Displays LED
Total annual emissions (tons)	0.93	2.48	6.59	8.28	45.77	242.82
No. of trees to offset per year	4.66	12.38	32.96	41.4	228.87	1,214.10

¹⁰ (2007, December 3). Retrieved from <http://www.environmentalleader.com/2007/12/03/pges-green-campaign-gets-solar-powered-billboard/>

Economic Feasibility and Return on Investment



Off-Premise, Non-Accessory Billboards

In addition to their environmental impacts, we looked into the profitability of digital billboards, and received mixed results. Although LEDs are expensive, manufacturers frequently claim that cost is recouped over time and in reduced energy usage and maintenance costs. For off-premise advertising, the initial investment in a digital sign is large---\$250,000-\$500,000 (Goldstein, 2008)---but future overhead for the advertising company is low, as graphics can be remotely changed and replaced. Often, they are also able to rent out the advertising space for a higher premium than on static billboards.

Space on a digital billboard rents at the same rate, or higher, as a comparably sized static billboard, even though each ad will be featured only intermittently, sharing space with up to eight other advertisements in the rotating lineup. This means huge profit increases for the outdoor advertising companies, and a quick return on investment. Digital billboards provide operators with an average of \$14,000 per month in rent (typically from multiple advertisers), compared with \$1,000 to \$2,000 per month for traditional billboards, which serve only one advertiser (Goldstein, 2008).¹¹ Total revenue from the outdoor digital signage equipment market in the United States, including hardware, software, installation, and maintenance, grew by about 33% in 2009, a trend that is expected to continue. The Federal Highway Administration estimates that in 1996 there were over 400,000 billboards on federally controlled roads, which generated revenues in excess of \$1.96 billion (Schueller, n.d.).

On-Premise, Accessory Signs

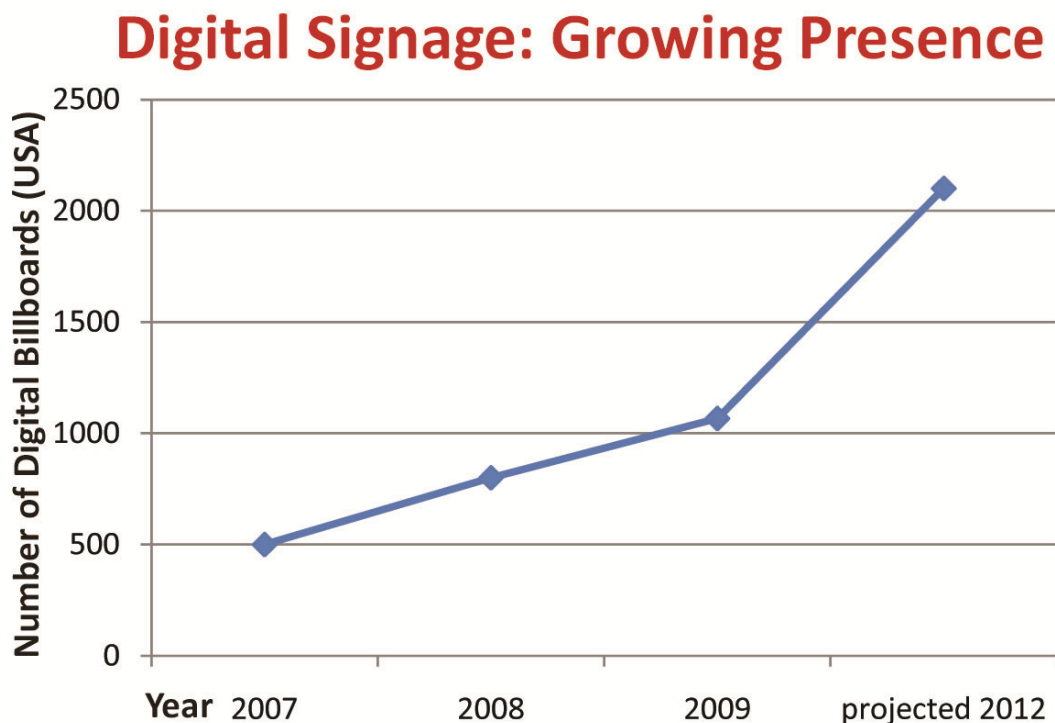
On-premise advertising appears to be less cost-effective. The initial cost of installing a digital signage network has not been recouped by many of the operators interviewed, to say nothing of the dramatic increase in energy expenditures when compared to static signage (Noventri, 2010). Additionally, the burden of providing frequently-changing content falls on the operator; many small businesses simply do not have the creative staff or technical knowledge to create changeable graphic displays.

Despite uncertain profitability for on-premise signs, market statistics and lay observation point to the growing popularity of digital signage, both off-premise and on-premise. In the absence of guaranteed profits, their chief selling point is their uniqueness---the fact that they “stand out.” However, as this type of advertising becomes more mainstream, and the market becomes saturated, how long can simple novelty justify its high financial and environmental costs?

¹¹ Sales prices reflect market averages in Bangor, PA. Rates may vary with location.

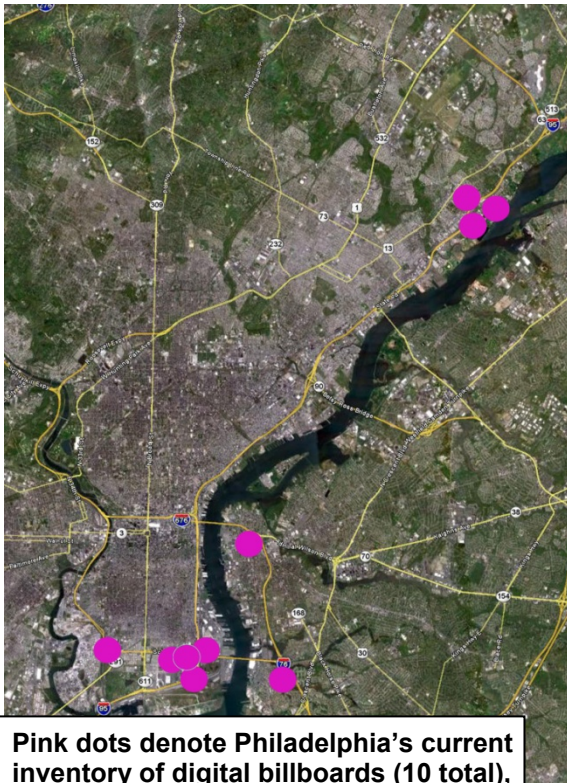
Current Trends

How big of a problem do unregulated energy consumption and luminance levels pose? Right now, only a small fraction of American outdoor advertising is digital. This number is growing, however, and the trend shows no sign of slowing. Rapidly-dropping prices for large LED screens have led to a growing increase in the number of digital signage installations. Today, there are nearly 800 of these digital billboards in the U.S. It's a small number compared with 450,000 traditional billboards across the country, but it's growing fast. The Outdoor Advertising Association of America, an industry trade group, projects that the number of digital billboards in the U.S. will expand at a rate of several hundred per year (Goldstein, 2008). Clear Channel Outdoor Holdings, an industry powerhouse, says it is expanding its digital billboard business in markets such as Los Angeles, Chicago and Philadelphia (Hau, 2007). Philadelphia is home to an estimated 1,800 billboards, including a handful of digital signs---the effects of widespread conversion from static to digital would raise significant safety and environmental issues.



Rapid Growth: The number of digital billboards is increasing at an increasing rate in the US, as evidenced by the above graph. On-premise digital signage has shown an even more dramatic increase in popularity (Urazbaev, 2009).

How Does Philadelphia's Current Zoning Code Regulate Electronic Signage?



Pink dots denote Philadelphia's current inventory of digital billboards (10 total), concentrated along I-95 and the Schuylkill Expressway



Simply put, it doesn't address the technology. Signage regulation within the Philadelphia zoning code (Section 14-1604) was passed in the early 1990s and does not specifically address electronic outdoor advertising. The code for on-premise signage (storefront signage) is equally devoid of controls on electronic signage, opening an opportunity for these kinds of signs in all commercial districts.

A leader in the outdoor advertising industry, Clear Channel, has embraced the digital trend. The company has revamped several of its existing static billboards to LED format along the I-95 corridor in Philadelphia. In order to proceed with the conversions, Clear Channel sought the approval of Philadelphia's Department of Licenses and Inspections (L&I), which granted permission for the conversions to take place with few requirements. This interpretation was made in spite of clear language in the code prohibiting an outdoor advertising sign from carrying more than two messages at one location. Under L&I's current interpretation of the code, any billboard that is 500 feet or more away from residentially zoned property may be converted to electronic as of right. If this interpretation remains in place, this could translate to hundreds of converted electronic billboards – the only factor moderating conversions right now is the (continually decreasing) expense involved.

Examples from Other Cities

To date, no known city has passed limits on sign energy usage, but about one quarter of states in the U.S. prohibits moving or animated signs, and roughly one third have specifications for dwell time ranging from four seconds to several minutes. Most states prohibit flashing red lights and anything that causes a glare or vision impairment.

Pittsburgh, Pennsylvania

A proposed amendment to Pittsburgh's zoning code states that no electronic sign may exceed .3 foot candles illumination above ambient light level to prevent distraction and interference with traffic signals. As discussed earlier in this paper, OAAA recommends foot candles in its guidelines but the usefulness of this measurement has been questioned and nits is the preferred measurement for detecting brightness and glare emitted from digital signs). Additionally, Pittsburgh's amendment sets a dwell time of at least ten seconds, and prohibits animation of any kind.¹²

Concord, New Hampshire

Some cities and states have banned electronic message boards outright, including Concord, New Hampshire. There, the ban on electronic message centers was upheld on appeal to the First Circuit Court, on grounds that the ban promoted both traffic safety and community aesthetics (Carpentier, 2009).¹³

Panama City Beach, Florida

In the absence of a cohesive state or federal policy, residents and policy makers in Panama City Beach, Florida decided they could not allow digital signage to continue to proliferate unfettered. They drafted a set of restrictions on sign size, placement and brightness which have been incorporated into the City Code. "The specifications make regulation seem like an exact science, when it's really just public and private actors negotiating acceptable limits," voices one critic. While imperfect, it sets a valuable precedent for regulation because the proposed ordinance limits the amount of light digital signs can emit, their illumination must be measured and monitored by an instrument widely available and specially designed for this purpose.

Tulsa, Oklahoma

The study "Digital Billboard Recommendations and Comparisons to Conventional Billboards" recommends billboard brightness of 342 nits for an average sized (10'6" x 36') billboard under average ambient lighting conditions (Lewin, 2008).¹⁴ In response to these recommendations, the Planning Commission of Tulsa, Oklahoma recommended a limit of 300 nits for all signage, but this was raised to 500 nits before becoming law, due to pressure from the outdoor advertising industry.

¹² The Pittsburgh Code, Title Nine, Zoning Code, Article VI, Chapter 919, Signs.

¹³ Naser Jewelers, Inc. v. City of Concord, 2008. WL 162521 (C.A. 1 N.H. 1/18/2008)

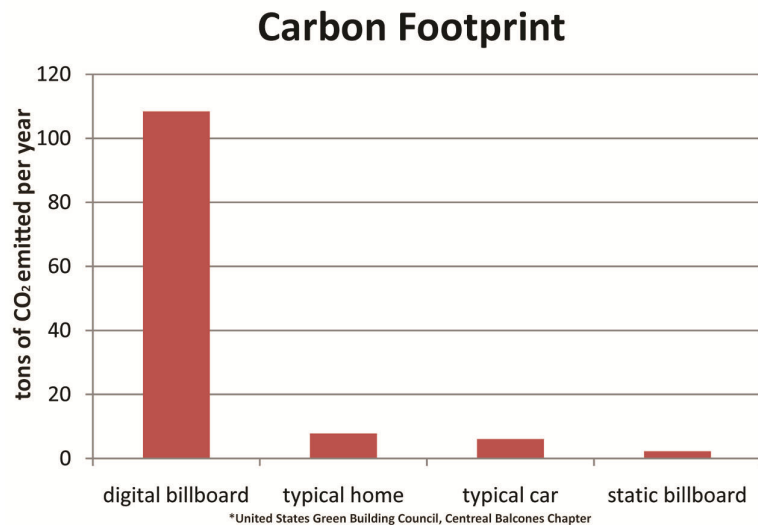
¹⁴ n.b. This study was funded by the Outdoor Advertising Association of America.

Municipalities that ban or limit digital billboards

STATE	CITY/COUNTY	ACTION TAKEN
Alaska	(state)	Ban
Arizona	Gilbert	Ban
Arizona	Pima County	Moratorium
California	Los Angeles	Moratorium
California	San Francisco	Ban
Colorado	Denver	Ban
Florida	Largo	Ban
Florida	Pinellas County	Moratorium
Florida	St. Petersburg	Ban
Georgia	Atlanta	Moratorium
Hawaii	(state)	Ban
Maine	(state)	Ban
Michigan	(state)	Considering Moratorium
Minnesota	Minnetonka	Moratorium
Minnesota	Oakdale	Moratorium
Minnesota	(state)	Considering Moratorium
Missouri	Lake St. Louis	Ban
Missouri	St. Louis	Moratorium
Montana	(state)	Ban
North Carolina	Durham	Ban
Rhode Island	(state)	Moratorium
Tennessee	Knoxville	Ban
Texas	Amarillo	Ban
Texas	Austin	Ban
Texas	Dallas	Ban
Texas	El Paso	Moratorium
Texas	Ft. Worth	Ban
Texas	Galveston	Ban
Texas	Houston	Ban
Texas	San Antonio	Moratorium
Vermont	(state)	Ban

Policy Recommendations: Electronic Signage and Philadelphia’s Future

Philadelphia is currently in the process of a complete overhaul of its zoning code and comprehensive plan, bringing the city into the present and preparing for its future. A recently released draft of the updated code does aim to control digital advertising, but more (and better) regulation is needed; the draft focuses on off-premise advertising, and is particularly relaxed regarding on-premise electronic message boards.



For the purposes of controlling light pollution and energy consumption, the distinction between on-premise and off-premise signage is of little relevance; as such, we offer similarly cautionary restrictions for both sign types, from a traffic safety perspective, on-premise signs may be worse. They can be bigger, closer to the roadway, have motion and animation (Wachtel, 2009).

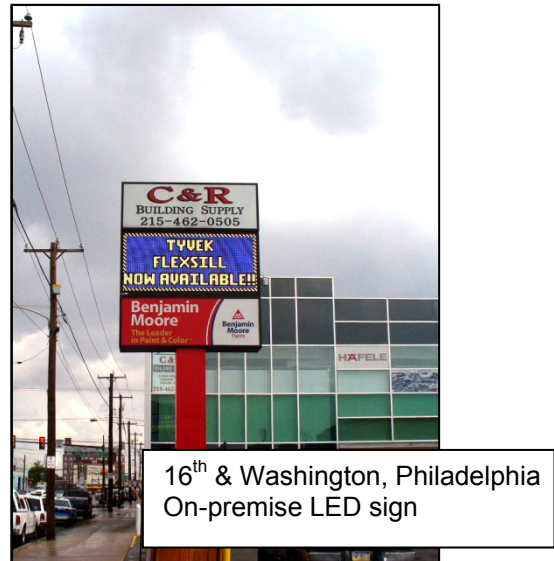
Our first issue with the draft is one of semantics: currently, the draft specifically regulates any sign with action or motion, animation, rotation, scrolling, flashing or color changes, or upon which illumination is not maintained at a constant stationary intensity and/or color, as a means (we assume) of regulating digital signage in general. We anticipate that this language could create the opportunity for misinterpretation; electronic and digital message boards are not necessarily flashing/animated/intermittent, as they are capable of the display of static, yet still excessively bright, imagery. Advertising companies often specifically describe their digital signage as “static,” as a way to circumvent inexplicit regulation such as this.

We suggest revising the zoning language to include any and all digital signage, defined as any sign capable of displaying words, symbols, figures or images that can be electronically or mechanically changed by remote or automatic means,¹⁵ **not** just those that are animated, flashing, or intermittent, which can be subjective descriptions.

¹⁵ From Oklahoma City Municipal Code, 2007, Chapter 3, Article V, Section 3-82.

The current draft states that off-premise digital billboards are not to be located within 500 feet of an entrance or exit ramp to any major highway, or within 200 feet of any intersection of the street or highway on which it is intended to advertise to. For off-premise signage, the proposed code prohibits flashing signs, signs with intermittent illumination, or signs with mechanically or electronically changing messages within 500 ft. of any residential district. It also prohibits them from facing any residential district within 1,000 ft. For on-premise digital signage, these distances are lowered to 150 ft. and 300 ft., respectively.

We recommend that this regulation be expanded and increased; best practices from the Australian states of Queensland, Victoria and New South Wales, South Africa and The Netherlands illustrate the rigor with which the situation of electronic advertising must be assessed before it can be deemed safe for motorists and other road users. Among the considerations these governments require in assessment of the placement of outdoor advertising are: traffic speed on the adjacent roadway, sign content, legend height, vicinity of official traffic control devices, type of street or interchange, sign brightness, hold time, sign content, the potential that an advertisement will be mistaken for a traffic control device, the amount of information communicated, the concision and legibility of the advertising message, and an advertising structure's obstruction of key sightlines. These best practices are detailed in the attached Appendix D, Excerpt from *2009 AASHTO Report*. (Wachtel)



16th & Washington, Philadelphia
On-premise LED sign

According to the present draft, signs may be illuminated, but the illumination shall be focused upon the sign itself, so as to prevent glare upon the surrounding areas, and digital billboards must have a luminance level appropriate to the ambient environment in keeping with the standards set forth by the Illuminating Engineering Society of North America (IESNA). These regulations are too vague; we propose specific limits to prevent light trespass and light pollution. As such, the illumination projected from any use shall at no time exceed 0.1 footcandle onto a residential use, and 1.0 footcandle onto a non-residential use. This should apply to light emitted from any form of signage, on-premise or off-premise. We also propose specific luminance limits of 100 nits for nighttime conditions, applicable to all digital signage. (Lebenbuhl)

Additionally, there must be prescribed methods for determining compliance with the aforementioned illuminance and luminance limits. Again, *illuminance* measures the amount of light which falls onto an object; *luminance* measures the amount of light an object gives off. To gauge light trespass on neighboring properties, illumination shall be measured (in footcandles) at any time and from any point on the receiving property line using an illuminance light meter. While an illuminance meter is a practical device with which to measure light trespass, inherent sign brightness is best measured using a luminance meter, which is capable of directly measuring the surface brightness of signs. Luminance meters are quite costly; sign owners should be financially responsible, by means of permit fees, for any and all equipment/operational costs needed to ensure that their luminance levels remain in compliance with aforementioned limits.

Luminance limits between the full sunlight limit and the nighttime limit may also be specified for overcast or foggy days. Regulations should require an automated control of sign luminance based on current ambient lighting conditions. To further control light pollution, off-premises digital signs shall be extinguished automatically no later than 11:00pm each evening until dawn. Signs for establishments that operate or remain open past 11:00 p.m. may remain on no later than one half hour past the close of the establishment.

Where new digital signage construction or digital conversions *are* permitted, there should be a “trade-off” policy, based on power consumption. For every square footage of digital signage an outdoor advertising company installs, via new construction or conversion, they must remove a specified amount of square footage of their existing static signage, in order to maintain or reduce their carbon footprint. Such a policy has been implemented in many cities and states. Finally, obsolete or otherwise discarded digital signage, and all accessory components, must be fully recycled at the expense of the manufacturer.

Conclusion

Our research and the resultant policy recommendations could not come at a better time, as digital signage figures prominently on several hot-button issues regarding Philadelphia urban development. For example, the Market East corridor of Philadelphia is in great need of renewal and rethinking; the look and feel of the “new” Market East is a very controversial topic. Councilman Frank DiCicco's Outdoor Advertising Bill 100013 takes away the city's ability to regulate signage and will allow massive outdoor advertising signs including LED digitals and rooftop billboards along Market Street between 7th and 13th Streets, transforming Market East into a garish thoroughfare reminiscent of the Las Vegas Strip.

Paul Levy, president and CEO of the Center City District and a key player in the revitalization of Market East, is amenable to the sorts of eye-catching wraps, digital and LED signs, though he says the city must make sure they stimulate development.

“Building owners shouldn't get to throw up a giant ad on a tiny decrepit storefront. They should only be able to profit from these signs --- and thus generate tax revenue for the city --- if they renovate their properties in line with city standards and fill them with people” (Rubin 2010).

Over the past ten years, many studies of digital signage have focused on the issue of driver distraction and road safety. These studies have been conducted in many countries (e.g. U.S., U.K., Australia, South Africa, The Netherlands, Norway, and others) and they have used a variety of research methods, including simulator and laboratory investigations, opinion surveys and focus groups, on-road studies in instrumented vehicles, and longitudinal analysis of summaries of traffic collision reports. With only two exceptions, those recent studies performed by government agencies, universities, and non-profit traffic safety organizations, have found a detrimental effect on driver distraction (or other measures of traffic safety) in the presence of billboards. The only studies that have reported no adverse safety impact of digital billboards have been those sponsored by the outdoor advertising industry.

And we use the word "reported" advisedly. That is because, in one case, despite the study authors reporting no distraction from digital billboards, the actual data collected clearly showed such an adverse impact. And, in the other case, despite the study authors reporting that the presence of digital billboards had no effect on traffic crashes, the authors have been challenged by experts, both in peer review and in public forums, for using improper statistical methods - with the results that their reported conclusions are unjustified and should be retracted.

The Federal Highway Administration is nearing completion of its own on-road research study looking at levels of driver distraction as measured by eye movements in the presence and absence of digital billboards. This report is expected to be available in the first quarter of 2011.

Higher electricity consumption, increased light pollution, and recyclability issues should make us pause and question the growing popularity of digital signage. As America at last embraces sustainability and Philadelphia strives to become the “greenest city in America,” is a proliferation of digital signs along our highways and storefronts sending the right message?

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Gregory Young, LEED AP is an architectural designer and urban planner active in Philadelphia, Pennsylvania. A recent graduate of the University of Pennsylvania (School of Design), his research was generously supported by a grant from the Samuel F. Fels Fund. Policy recommendations were made in collaboration with SCRUB: Public Voice for Public Space. SCRUB is a Philadelphia-based non-profit, founded in 1990 with the mission to promote healthy, vibrant and beautiful public spaces throughout all of Philadelphia using advocacy, public awareness, community mobilization and legal action.

Visit <http://www.publicvoiceforpublicspace.org/> for more information.

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City of San Jose Survey: Digital Billboards

Phase 2: Sign Code Changes for Off-Site Advertising, Electronic Billboards and signs displaying off-site commercial speech on non-City-owned sites

March 2021



CITY OF
SAN JOSE
CAPITAL OF SILICON VALLEY

*Planning, Building and
Code Enforcement*

City of San Jose Survey: Digital Billboards



Survey Link:
<https://bit.ly/SignOrdinanceUpdate>

Survey Start date: **February 8, 2021**

Survey End Date: **March 12, 2021**

Data retrieved: **March 17, 2021**

Current Responses: 2234 (English)

4 (Spanish)

0 (Vietnamese)

2

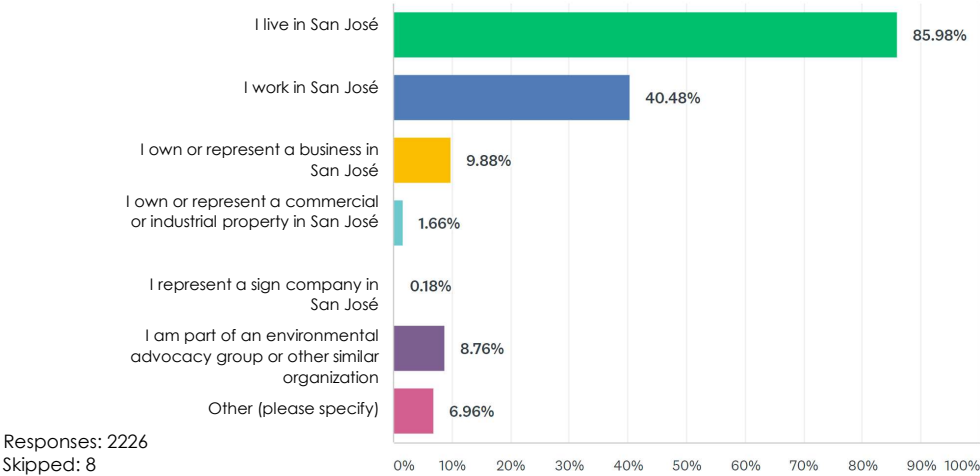


CITY OF
SAN JOSE
CAPITAL OF SILICON VALLEY

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City of San José Survey: Digital Billboards

Item 1: Tell us about yourself (check all that apply): *Required



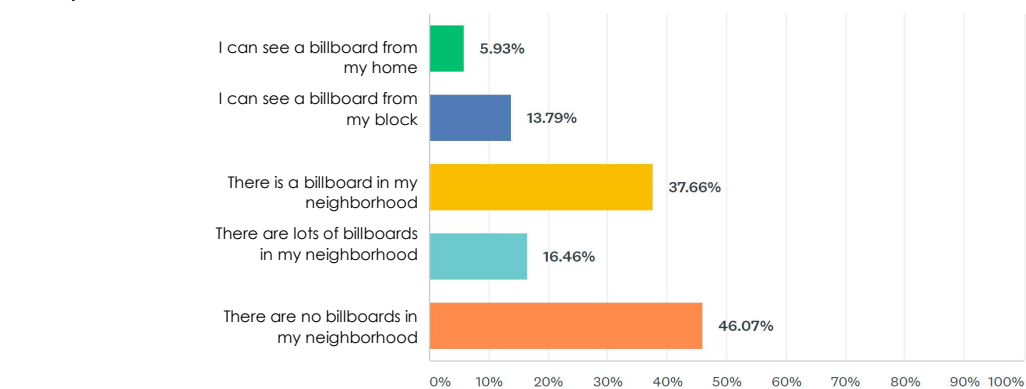
3



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City of San José Survey: Digital Billboards

Item 2: Let us know how close you live to a billboard (check all that apply):
*Required



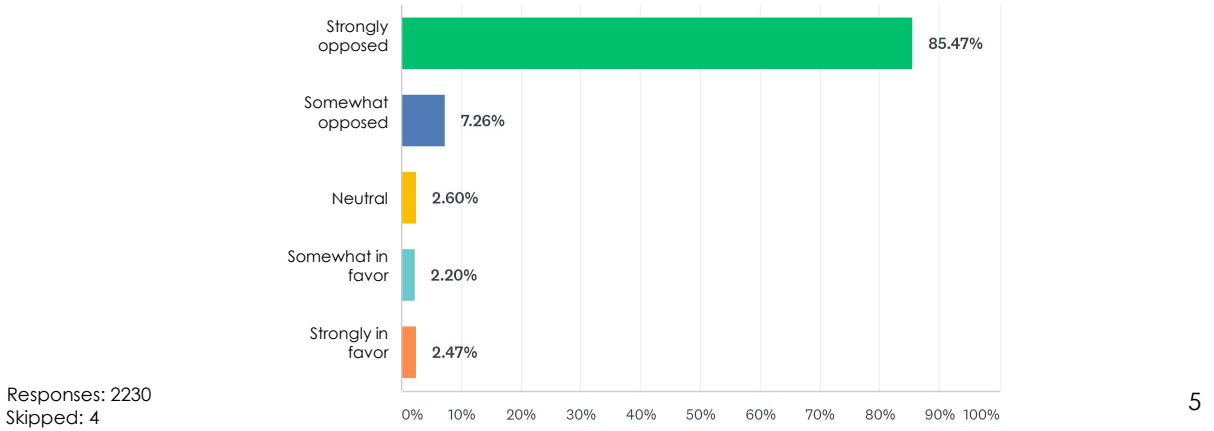
4



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City of San José Survey: Digital Billboards

Item 3: In general, how do you feel about allowing new digital billboards to be built along freeways in San José?



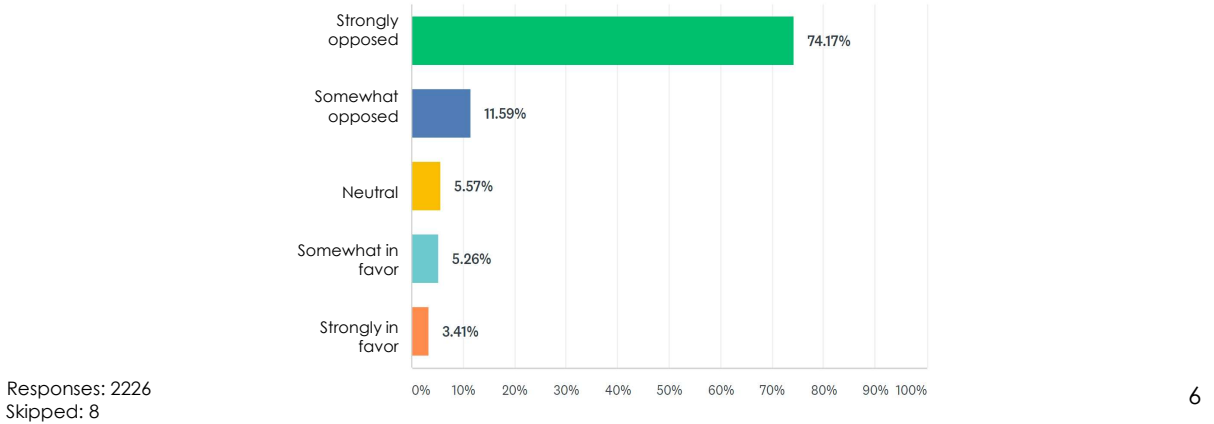
5



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City of San José Survey: Digital Billboards

Item 4: How do you feel about allowing new digital billboards to be built along freeways in San José in exchange for removing old billboards from elsewhere in the city?



6



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City of San José Survey: Digital Billboards

Item 5: In addition to removing old billboards, is there anything that you would like to see the City require in order for a property owner to be allowed to install a new digital billboard?

- Driving distraction related to light and motion
- Brightness concerns and visual pollution
- Not recommended near freeways
- Not recommended near residences
- No political advertising
- Community messaging allowed atleast 25% of the time

Responses: 1372
Skipped: 862

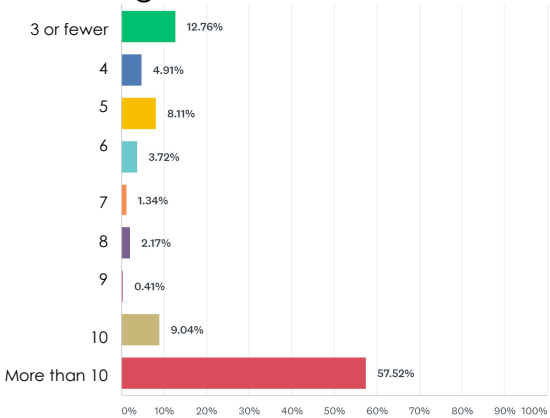
7



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City of San José Survey: Digital Billboards

Item 6: If new digital billboards are allowed in exchange for removing old billboards, how many old billboards do you think should have to be removed in exchange for one new digital billboard?



Responses: 1935
Skipped: 299

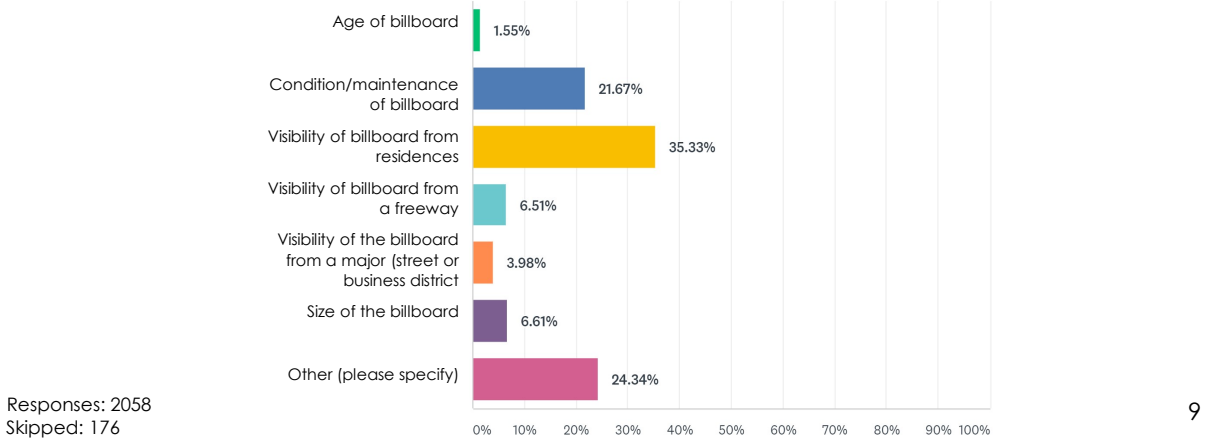
8



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City of San José Survey: Digital Billboards

Item 7: In your opinion, what is the most important factor when evaluating which billboards should be removed in exchange for allowing new ones?



City of San José Survey: Digital Billboards

Item 8: The most common concerns we have heard about potentially allowing new digital billboards and signs are: 1) light pollution, 2) impacts to wildlife, 3) traffic and pedestrian safety, 4) aesthetics/visual clutter. Do you have other concerns you want us to know about?

- Distraction to motorists
- Brightness and other impacts to residents
- Quality of life and health concerns
- Commercialism over community image

Responses: 1235
Skipped: 999



City of San José Survey: Digital Billboards

Item 9: The proposal under consideration is to allow digital billboards on properties that front freeways. Are there any freeway segments where you think new digital billboards are MOST appropriate? Please be as descriptive as possible (for example, Highway 101 between McKee Road and Interstate 880):

- Brightness and light pollution impacts
- Safety hazard and driver distraction
- 80% of the comments opposed to freeway-facing billboards
- Siting along industrial properties and storage facilities

Responses: 1187
Skipped: 1047

11



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City of San José Survey: Digital Billboards

Item 10: Are there any freeway segments where you think new digital billboards are LEAST appropriate? Please be as descriptive as possible:

- Not appropriate or desired for any location
- Not near freeway interchanges, ramps and junctions
- Not near traffic corridors or zones of high fatality
- No billboard closer than 20 miles from another billboard
- No impacts to green spaces or residents

Responses: 1323
Skipped: 911

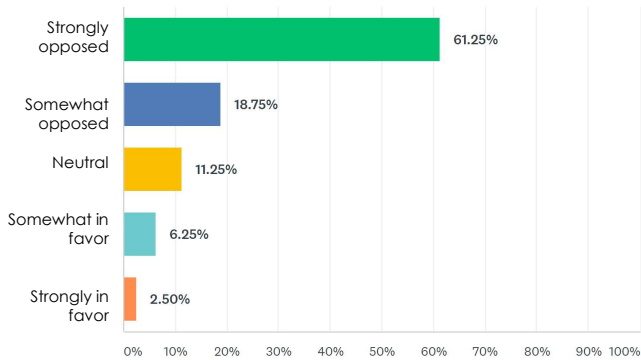
12



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City of San José Survey: Digital Billboards

Item 11: In addition to free-standing digital billboards along freeways, the City is considering allowing both digital and static advertising signs attached to buildings within the Downtown. How do you feel such signs being attached to buildings in Downtown San José?



Responses: 2203
Skipped: 31

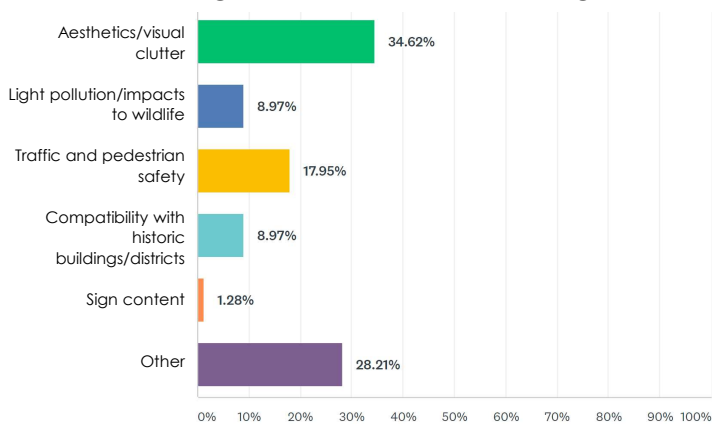
13



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City of San José Survey: Digital Billboards

Item 12: To help us evaluate this proposal, do you have any specific concerns about digital and static signs attached to buildings?



Responses: 2184
Skipped: 50

14



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City of San José Survey: Digital Billboards

Item 13: Is there anything else you'd like to tell us?

- 80% of the comments opposed to all forms of billboards
- Traffic safety, wildlife impacts, aesthetics and brightness concerns
- New static or digital billboards not recommended
- Maintain San Jose's clean and green character
- Keep freeways free of digital distraction, reduce visual clutter and support Vision Zero

Responses: 1181
Skipped: 1053

Resources and References that helped inform Sierra Club's Light Pollution Policy Update

(Last updated 3/7/2021)

Over 70 resources and references (including websites, articles, publications, and reports) were reviewed during Sierra Club's March 2021 update to its light pollution national policy. The list is only provided to document resources used during policy development. Inclusion of any given resource in this list should *not* be construed as an endorsement by Sierra Club. The main resources consulted are listed below, organized by a relevant category. Several resources cover multiple issues, but each is only listed once.

Sierra Club Advocacy

Sierra Club AddUp Petition to City Mayors: Protect the Night Against Light Pollution (started in Feb 2018)

<https://addup.sierraclub.org/campaigns/protect-the-night>

Sierra Club Articles

On the Hunt for Stars: In Search of a Truly Dark Night Sky. Heather Smith, Feb 27, 2018. SIERRA magazine, March/April 2018 edition. <https://www.sierraclub.org/sierra/2018-2-march-april/feature/hunt-for-stars-dark-skies-preserves-and-parks>

Reclaiming the Night. SIERRA magazine. Katie O'Reilly. <https://www.sierraclub.org/sierra/slideshow/reclaiming-night>

General Educational Resources

National Park Service Night Skies, www.nps.gov/subjects/nightskies

Light pollution - a global discussion. Schulte-Römer, N., Dannemann, E., Meier, J. (2018): Helmholtz Centre for Environmental Research - UFZ, Leipzig, 248 pp.

<http://www.lightpollutiondiscussion.net>

The Right to Dark Skies, 2016, United Nations Educational, Scientific and Cultural Organization (UNESCO Mexico)

<https://unesdoc.unesco.org/ark:/48223/pf0000246131>

Our nights are getting brighter, and Earth is paying the price, by Nadia Drake, National Geographic, published April 3, 2019

<https://www.nationalgeographic.com/science/2019/04/nights-are-getting-brighter-earth-paying-the-price-light-pollution-dark-skies/>

Treat artificial light like other forms of pollution, say scientists. Jonathan Watts, The Guardian. Nov 2, 2020.

<https://www.theguardian.com/environment/2020/nov/02/treat-artificial-light-form-pollution-environment>

Excerpt: "What stands out is how pervasive the effects are. The effects were found everywhere – microbes, invertebrates, animals and plants," said the lead author, Kevin Gaston, a professor at the university's Environment and Sustainability Institute. "We need to start thinking about lighting in the way we think of other big systemic pressures like climate change."

Light pollution – extent, effects and approaches. TAB-Fokus no. 25, Jun 2020, Office of Technology Assessment at the German Bundestag. Christoph Schröter-Schlaack, et al.

<http://www.tab-beim-bundestag.de/en/news/20200828.html>

Summary: In addition to the intended effects, the increasing use of artificial outdoor lighting also entails a number of undesirable side effects referred to as light pollution. Artificial lighting can disturb the circadian rhythms of humans and animals, which are controlled by the change of day and night, and is suspected of being involved in the development of various diseases. Moreover, the increasing illumination of the night influences the natural behaviour of animals. Besides habitat changes, the consequences are ranging from changes in hunting or reproductive behaviour to the deadly attraction effect of light sources, e. g. for insects. However, the longterm consequences of these changes for entire populations, communities or landscapes are still poorly understood. Options for reducing light pollution exist both technologically and in terms of regulation and approval of lighting installations.

Light Pollution Is Taking Away Our Night Skies. Here's Why That Matters. 11/13/2019. HuffPost. By Kyla Mandel

https://www.huffpost.com/entry/city-light-pollution-night-sky-star-protection_n_5dc9d1fee4b00927b2381233

Some cities and states are trying to protect our night sky "for the health and wellbeing for all living things."

Light Pollution Trends

Artificially lit surface of Earth at night increasing in radiance and extent, by Christopher C. M. Kyba, Theres Kuester, Alejandro Sánchez de Miguel, Kimberly Baugh, Andreas Jechow, Franz Hölker, Jonathan Bennie, Christopher D. Elvidge, Kevin J. Gaston, and Luis Guanter. Science Advances 22 Nov 2017: Vol. 3, no. 11, e1701528, DOI: 10.1126/sciadv.1701528 <http://advances.sciencemag.org/content/3/11/e1701528>

Abstract: A central aim of the “lighting revolution” (the transition to solid-state lighting technology) is decreased energy consumption. This could be undermined by a rebound effect of increased use in response to lowered cost of light. We use the first-ever calibrated satellite radiometer designed for night lights to show that from 2012 to 2016, Earth’s artificially lit outdoor area grew by 2.2% per year, with a total radiance growth of 1.8% per year. Continuously lit areas brightened at a rate of 2.2% per year. Large differences in national growth rates were observed, with lighting remaining stable or decreasing in only a few countries. These data are not consistent with global scale energy reductions but rather indicate increased light pollution, with corresponding negative consequences for flora, fauna, and human well-being.

The new world atlas of artificial night sky brightness. Falchi, F., Cinzano, P., Duriscoe, D., Kyba, C.C.M., Elvidge, C.D., Baugh, K., Portnow, B.A., Rybnikova, N.A., & Furgoni, R. (2016). Science Advances, 2:e1600377. <https://advances.sciencemag.org/content/2/6/e1600377>

Abstract: Artificial lights raise night sky luminance, creating the most visible effect of light pollution—artificial skyglow. Despite the increasing interest among scientists in fields such as ecology, astronomy, health care, and land-use planning, light pollution lacks a current quantification of its magnitude on a global scale. To overcome this, we present the world atlas of artificial sky luminance, computed with our light pollution propagation software using new high-resolution satellite data and new precision sky brightness measurements. This atlas shows that more than 80% of the world and more than 99% of the U.S. and European populations live under light-polluted skies. The Milky Way is hidden from more than one-third of humanity, including 60% of Europeans and nearly 80% of North Americans. Moreover, 23% of the world’s land surfaces between 75°N and 60°S, 88% of Europe, and almost half of the United States experience light-polluted nights.

Light pollution in USA and Europe: The good, the bad and the ugly. F. Falchi, R. Furgoni, T.A. Gallaway, N.A. Rybnikova, B.A. Portnov, K. Baugh, P. Cinzano, C.D. Elvidge, Elsevier Journal of Environmental Management, Volume 248, 2019, 109227, 15 October 2019 <http://www.sciencedirect.com/science/article/pii/S0301479719309296>

Abstract: Light pollution is a worldwide problem that has a range of adverse effects on human health and natural ecosystems. Using data from the New World Atlas of Artificial Night Sky Brightness, VIIRS-recorded radiance and Gross Domestic Product (GDP) data, we compared light pollution levels, and the light flux to the population size and GDP at the State and County levels in the USA and at Regional (NUTS2) and Province (NUTS3) levels in Europe. We found 6800-fold differences between the most and least polluted regions in Europe, 120-fold differences in their light flux per capita, and 267-fold differences in flux per GDP unit. Yet, we found even greater differences between US counties: 200,000-fold differences in sky pollution, 16,000-fold differences in light flux per capita, and 40,000-fold differences in light flux per GDP unit. These findings may inform policy-makers, helping to reduce energy waste and adverse environmental, cultural and health consequences associated with light pollution.

Global Trends in Exposure to Light Pollution in Natural Terrestrial Ecosystems. Bennie, J.; Duffy, J.P.; Davies, T.W.; Correa-Cano, M.E.; Gaston, K.J. Remote Sens. 2015, 7, 2715-2730. <https://www.mdpi.com/2072-4292/7/3/2715>

Abstract: The rapid growth in electric light usage across the globe has led to increasing presence of artificial light in natural and semi-natural ecosystems at night. This occurs both due to direct illumination and skyglow - scattered light in the atmosphere. There is increasing concern about the effects of artificial light on biological processes, biodiversity and the functioning of ecosystems. We combine intercalibrated Defense Meteorological Satellite Program’s Operational Linescan System (DMSP/OLS) images of stable night-time lights for the period 1992 to 2012 with a remotely sensed landcover product (GLC2000) to assess recent changes in exposure to artificial light at night in 43 global ecosystem types. We find that Mediterranean-climate ecosystems have experienced the greatest increases in exposure, followed by temperate ecosystems. Boreal, Arctic and montane systems experienced the lowest increases. In tropical and subtropical regions, the greatest increases are in mangroves and subtropical needleleaf and mixed forests, and in arid regions increases are mainly in forest and agricultural areas. The global ecosystems experiencing the greatest increase in exposure to artificial light are already localized and fragmented, and often of particular conservation importance due to high levels of diversity, endemism and rarity. Night time remote sensing can play a key role in identifying the extent to which natural ecosystems are exposed to light pollution.

Direct measurement of the contribution of street lighting to satellite observations of nighttime light emissions from urban areas. Kyba, C, et al. Lighting Research & Technology. October 2020. <https://doi.org/10.1177/1477153520958463>

Abstract: Nighttime light emissions are increasing in most countries worldwide, but which types of lighting are responsible for the increase remains unknown. Also unknown is what fraction of outdoor light emissions and associated energy use are due to

public light sources (i.e. streetlights) or various types of private light sources (e.g. advertising). Here we show that it is possible to measure the contribution of street lighting to nighttime satellite imagery using ‘smart city’ lighting infrastructure. The city of Tucson, USA, intentionally altered its streetlight output over 10 days, and we examined the change in emissions observed by satellite. We find that streetlights operated by the city are responsible for only 13% of the total radiance (in the 500–900 nm band) observed from Tucson from space after midnight (95% confidence interval 10–16%). If Tucson did not dim their streetlights after midnight, the contribution would be 18% (95% confidence interval 15–23%). When streetlights operated by other actors are included, the best estimates rise to 16% and 21%, respectively. Existing energy and lighting policy related to the sustainability of outdoor light use has mainly focused on street lighting. These results suggest an urgent need for consideration of other types of light sources in outdoor lighting policy.

Anthropogenic Light Disrupts Natural Light Cycles in Critical Conservation Areas, Seymoure, B, et al. (August 19, 2019).

<https://ssrn.com/abstract=3439670>

Abstract: Anthropogenic lighting drastically alters nocturnal environments, threatening a wide range of species by disrupting light regimes that regulate fundamental biological processes such as reproduction, foraging, and predator defense. We translate satellite measures of anthropogenic light radiating from the earth to a biologically relevant measurement – the amount of light scattered back to the earth (horizontal illuminance). Anthropogenic light exceeding the natural level produced by stars, galactic light, and airglow on a clear moonless night (i.e., new moon conditions) affects 22.9% of the Earth’s terrestrial surface, as well as 51.0% of Key Biodiversity Area units, 77.1% of Global Protected Area units, and approximately 20% of the most biodiverse areas for mammals, birds, and amphibians. Thus, due to anthropogenic sources, these environments experience at least double the levels of natural illuminance during half of the night hours in a year. To facilitate biological interpretation of these levels of anthropogenic illuminance observed globally, we undertook a systematic literature review of animal responses to changing nocturnal light levels. Known biological effects from the current anthropogenic illuminance levels range from behavioral and physiological alterations to increased mortality, which have been documented in 117 species from 23 orders and 8 classes. These findings provide a biological perspective on global light pollution, and they identify regions where reductions in anthropogenic illuminance would yield the greatest benefits for conserving biodiversity.

Effects of the COVID-19 Lockdown on Urban Light Emissions: Ground and Satellite Comparison. Bustamante-Calabria, M, Sánchez de Miguel, A, et al. Remote Sensing. Jan 2021, Vol 13, Issue 2, 258.

<https://www.mdpi.com/2072-4292/13/2/258>

Abstract Excerpt: ‘Lockdown’ periods in response to COVID-19 have provided a unique opportunity to study the impacts of economic activity on environmental pollution (e.g., NO₂, aerosols, noise, light)... Here, to analyze the effect of lockdown on urban light emissions, we use ground and satellite data for Granada, Spain, during the COVID-19 induced confinement of the city’s population from 14 March until 31 May 2020. We find a clear decrease in light pollution due both to a decrease in light emissions from the city and to a decrease in anthropogenic aerosol content in the atmosphere which resulted in less light being scattered. A clear correlation between the abundance of PM₁₀ particles and sky brightness is observed, such that the more polluted the atmosphere the brighter the urban night sky.

Environmental and Social Justice

Light pollution inequities in the continental United States: A distributive environmental justice analysis. Nadybal S.M., Collins T.W., Grineski S.E.. Environmental Research, Vol 189, 2020, 109959.

<http://www.sciencedirect.com/science/article/pii/S0013935120308549>

Abstract: Excessive exposure to ambient light at night is a well-documented hazard to human health, yet analysts have not examined it from an environmental justice (EJ) perspective. We conducted the first EJ study of exposure to light pollution by testing for socially disparate patterns across the continental United States (US)... We found evidence of disparities in exposures to light pollution based on racial/ethnic minority and low-to-mid socioeconomic statuses. Americans of Asian, Hispanic or Black race/ethnicity had population-weighted mean exposures to light pollution in their neighborhoods that were approximately two times that of White Americans... neighborhoods composed of higher proportions of Blacks, Hispanics, Asians, or renter-occupants experienced greater exposures to ambient light at night. Stratified analyses indicated that those patterns of inequity did not substantially vary based on urban-rural context. Findings have implications for understanding environmental influences on health disparities, raise concerns about the potential for a multiple environmental jeopardy situation, and highlight the need for policy actions to address light pollution.

An incandescent truth: Disparities in energy-efficient lighting availability and prices in an urban U.S. county. Reames, Tony G., Michael A. Reiner, and M. Ben Stacey. (2018) Applied Energy 218:95-103.

<https://www.sciencedirect.com/science/article/abs/pii/S0306261918302769>

Abstract Excerpt: In the U.S. lighting represents about 9% of the average household's primary energy consumption and 20% of the average household's energy bill. Lighting in U.S. homes is in a state of transition with steady growth in the adoption of more energy-efficient lighting technology, such as, compact florescent lamps (CFL) and light-emitting diodes (LEDs). However, the adoption of energy-efficient lighting is not equitably distributed across socioeconomic groups, with poorer households less likely to adopt than higher-income households... We found that (1) energy-efficient bulbs were less available in high-poverty areas and

smaller stores; (2) energy-efficient bulbs were more expensive in high-poverty areas and smaller stores; (3) upgrade costs from incandescent and halogen lamps (IHLs) to CFLs or LEDs were higher in high poverty areas; and (4) both poverty and store type were significant predictors of LED availability, while store type was the most significant predictor of LED price variability. We suggest several ways that the development and implementation of energy efficiency policies and programs may consider these disparities that affect access and affordability, in order to achieve a more just energy-efficient transition.

Up in smoke: Characterizing the population exposed to flaring from unconventional oil and gas development in the contiguous US. Cushing Lara J, et al. Feb 2021. Environmental Research Letters. Vol. 16, No 3.

<https://iopscience.iop.org/article/10.1088/1748-9326/abd3d4>

Abstract Excerpt: The disposal of waste gas via intentional combustion (flaring) from unconventional oil and gas (UOG) development has also been on the rise, and may expose nearby residents to toxic air pollutants, light pollution and noise... We found that three basins accounted for over 83% of all UOG flaring activity in the contiguous US over the 8 year study period. We estimated that over half a million people in these basins reside within 5 km of a flare, and 39% of them lived near more than 100 nightly flares. Black, indigenous, and people of color were disproportionately exposed to flaring.

Light Pollution in San Antonio, TX: An Environmental Justice Issue. Alvarez, V, et al. May 2020. Environmental Studies Student Works. Trinity University.

https://digitalcommons.trinity.edu/env_studocs/2

Abstract Excerpt: the environmental justice movement often overlooks the issue of light pollution, even though light pollution is higher in urban low-income areas. There is a lack of studies examining how light pollution varies between communities on a regional, state, or municipal scale... The mid-income neighborhoods had the greatest median and maximum light pollution levels, while high-income neighborhoods had the lowest median illuminance. These results indicate that mid-income neighborhoods are subject to the greatest amount of light pollution by area and intensity.

Ecological, Wildlife and Human Impacts

Ecological light pollution. Longcore, T. and Rich, C. (2004), *Frontiers in Ecology and the Environment*, 2: 191-198.

<https://esajournals.onlinelibrary.wiley.com/doi/abs/10.1890/1540-9295%282004%29002%5B0191%3AELP%5D2.0.CO%3B2>

Abstract: Ecologists have long studied the critical role of natural light in regulating species interactions, but, with limited exceptions, have not investigated the consequences of artificial night lighting. In the past century, the extent and intensity of artificial night lighting has increased such that it has substantial effects on the biology and ecology of species in the wild. We distinguish “astronomical light pollution”, which obscures the view of the night sky, from “ecological light pollution”, which alters natural light regimes in terrestrial and aquatic ecosystems. Some of the catastrophic consequences of light for certain taxonomic groups are well known, such as the deaths of migratory birds around tall lighted structures, and those of hatchling sea turtles disoriented by lights on their natal beaches. The more subtle influences of artificial night lighting on the behavior and community ecology of species are less well recognized, and constitute a new focus for research in ecology and a pressing conservation challenge.

Ecological consequences of artificial night lighting. Rich, C. and T. Longcore. (eds.). 2006. Island Press, Washington, D.C.

<https://www.urbanwildlands.org/ecanlbook.html>

The first book to consider the environmental effects of the intentional illumination of the night. It brings together leading scientists from around the world to review the state of knowledge on the subject and to describe specific effects that have been observed across a full range of taxonomic groups, including mammals, birds, reptiles and amphibians, fishes, invertebrates, and plants... provides a scientific basis to begin addressing the challenge of conserving the nighttime environment. It cogently demonstrates the vital importance of this until-now neglected topic and is an essential new work for conservation planners, researchers, and anyone concerned with human impacts on the natural world.

Light Pollution Is a Driver of Insect Declines, by Owens, A, et al. (April 26, 2019)

<https://ssrn.com/abstract=3378835>

Abstract: Insects around the world are rapidly declining. Concerns over what this loss means for food security and ecological communities have compelled a growing number of researchers to search for the key drivers behind the decline. Habitat loss, pesticide use, invasive species, and climate change all have likely played a role, but we posit here that artificial light at night (ALAN) is another important — but often overlooked — bringer of the insect apocalypse. We first discuss the history and extent of ALAN, and then present evidence that ALAN has led to insect declines through its interference with the development, movement, foraging, and reproductive success of diverse insect species, as well as its positive effect on insectivore predation. We conclude with a discussion of how artificial lights can be tuned to reduce their impacts on vulnerable populations. ALAN is unique among anthropogenic habitat disturbances in that it is fairly easy to ameliorate, and leaves behind no residual effects. Greater recognition of the ways in which ALAN impacts insects can help conservationists reduce or eliminate one of the major drivers of insect declines.

A meta-analysis of biological impacts of artificial light at night. Nature Ecology & Evolution (2020), Dirk Sanders, Enric Frago, Rachel Kehoe, Christophe Patterson & Kevin J. Gaston
<https://doi.org/10.1038/s41559-020-01322-x>
<https://datadryad.org/stash/dataset/doi:10.5061/dryad.wpzgmsbjn>

Abstract: Natural light cycles are being eroded over large areas of the globe by the direct emissions and sky brightening that result from sources of artificial night-time light. This is predicted to affect wild organisms, particularly because of the central role that light regimes play in determining the timing of biological activity. Although many empirical studies have reported such effects, these have focused on particular species or local communities and have thus been unable to provide a general evaluation of the overall frequency and strength of these impacts. Using a new database of published studies, we show that exposure to artificial light at night induces strong responses for physiological measures, daily activity patterns and life history traits. We found particularly strong responses with regards to hormone levels, the onset of daily activity in diurnal species and life history traits, such as the number of offspring, predation, cognition and seafinding (in turtles). So far, few studies have focused on the impact of artificial light at night on ecosystem functions. The breadth and often strength of biological impacts we reveal highlight the need for outdoor artificial night-time lighting to be limited to the places and forms—such as timing, intensity and spectrum—where it is genuinely required by the people using it to minimize ecological impacts.

Longer photoperiods through range shifts and artificial light lead to a destabilizing increase in host–parasitoid interaction strength. Kehoe, R, Sanders, D, Cruse, D, et al. Journal of Animal Ecology. 2020; 89: 2508–2516.

<https://doi.org/10.1111/1365-2656.13328>

Excerpts: Many organisms are experiencing changing daily light regimes due to latitudinal range shifts driven by climate change and increased artificial light at night (ALAN). Activity patterns are often driven by light cycles, which will have important consequences for species interactions... Here we demonstrate that ALAN impact interacts with daylength and temperature by changing the interaction strength between a common day-active consumer species and its host in a predictable way. Our results further suggest that range expansion or ALAN-induced changes in light regimes experienced by insects and their natural enemies will result in unstable dynamics beyond key tipping points in daylength... Finally, the strong response of a diurnal host–parasitoid system reported here also emphasizes the importance of focussing on the impact of ALAN not just on nocturnal species but also on those that are chiefly diurnal, on which the effects of ALAN may be just as profound, if not as intuitive.

Artificial nightlight alters the predator–prey dynamics of an apex carnivore. Ditmer, MA, et al. (2020). Ecography

<https://doi.org/10.1111/ecog.05251>

Abstract Excerpts: Our results indicate that deer used the anthropogenic environments to access forage and were more active at night than their wildland conspecifics. Despite higher nightlight levels, cougars killed deer at the wildland–urban interface, but hunted them in the relatively darkest locations. Light had the greatest effect of all covariates on where cougars killed deer at the wildland–urban interface. Both species exhibited functional responses to light pollution at fine scales; individual cougars and deer with less light exposure increasingly avoided illuminated areas when exposed to greater radiance, whereas deer living in the wildland–urban interface selected elevated light levels. We conclude that integrating estimates of light pollution into ecological studies provides crucial insights into how the dynamic human footprint can alter animal behavior and ecosystem function across spatial scales.

Coral Gametogenesis Collapse under Artificial Light Pollution. Ayalon et al. Current Biology. Nov 2020

<https://doi.org/10.1016/j.cub.2020.10.039>

Excerpts: Marine organisms, including coral reefs in particular, rely on the natural light cycles of sunlight and moonlight to regulate various physiological, biological, and behavioral processes. Here, we demonstrate that light pollution caused delayed gametogenesis and unsynchronized gamete release in two coral species, *Acropora millepora* and *Acropora digitifera*, from the Indo-Pacific Ocean... With the global transition toward LED lighting, which tends to have higher emissions in the blue spectrum, more coral reefs could be affected by artificial light, as blue light penetrates deeper into the water column. This spectral shift is expected to be amplified by the current rapid population growth in coastal regions... Our experimental results are corroborated by *in situ* observations, which have shown disruption of gametogenesis and loss of spawning synchrony in corals occurring at sites that are heavily polluted by artificial lights. These results demonstrate that artificial light must be considered in conservation plans for coral reefs near areas of human activity.

Sensory pollutants alter bird phenology and fitness across a continent. Senzaki, M., Barber, J.R., Phillips, J.N. et al. Nature 587, 605–609 (2020)

<https://doi.org/10.1038/s41586-020-2903-7>

Abstract: Expansion of anthropogenic noise and night lighting across our planet is of increasing conservation concern. Despite growing knowledge of physiological and behavioural responses to these stimuli from single-species and local-scale studies, whether these pollutants affect fitness is less clear, as is how and why species vary in their sensitivity to these anthropic stressors. Here we leverage a large citizen science dataset paired with high-resolution noise and light data from across the contiguous United States to assess how these stimuli affect reproductive success in 142 bird species. We find responses to both sensory pollutants linked to the functional traits and habitat affiliations of species. For example, overall nest success was negatively correlated with noise among birds in closed environments. Species-specific changes in reproductive timing and hatching success

in response to noise exposure were explained by vocalization frequency, nesting location and diet. Additionally, increased light-gathering ability of species' eyes was associated with stronger advancements in reproductive timing in response to light exposure, potentially creating phenological mismatches. Unexpectedly, better light-gathering ability was linked to reduced clutch failure and increased overall nest success in response to light exposure, raising important questions about how responses to sensory pollutants counteract or exacerbate responses to other aspects of global change, such as climate warming. These findings demonstrate that anthropogenic noise and light can substantially affect breeding bird phenology and fitness, and underscore the need to consider sensory pollutants alongside traditional dimensions of the environment that typically inform biodiversity conservation.

Bright lights in the big cities: migratory birds' exposure to artificial light. Horton, KG., Nilsson, C., et al, 2019. *Frontiers in Ecology and the Environment*, April 2019.

<https://doi.org/10.1002/FEE.2029>

<https://www.youtube.com/watch?v=gXSN2GmI8M>

Abstract: Many species of migratory birds have evolved the ability to migrate at night, and the recent and rapid expansion of artificial light at night has markedly altered the nighttime sky through which they travel. Migrating birds regularly pass through heavily illuminated landscapes, and bright lights affect avian orientation. But risks to migrating birds from artificial light are not spatially or temporally uniform, representing a challenge for mitigating potential hazards and developing action plans to catalog risks at continental scales. We leveraged over two decades of remote-sensing data collected by weather surveillance radar and satellite-based sensors to identify locations and times of year when the highest numbers of migrating birds are exposed to light pollution in the contiguous US. Our continental-scale quantification of light exposure provides a novel opportunity for dynamic and targeted conservation strategies to address the hazards posed by light pollution to nocturnally migrating birds.

High-intensity urban light installation dramatically alters nocturnal bird migration. Van Doren BM, Horton KG, et al. *Proceedings of the National Academy of Sciences*, Oct 2017, 114 (42) 11175-11180

<https://www.pnas.org/content/114/42/11175>

Abstract Excerpt: Billions of nocturnally migrating birds move through increasingly photopolluted skies, relying on cues for navigation and orientation that artificial light at night (ALAN) can impair... We studied effects of ALAN on migrating birds by monitoring the beams of the National September 11 Memorial & Museum's "Tribute in Light" in New York, quantifying behavioral responses with radar and acoustic sensors and modeling disorientation and attraction with simulations... When the installation was illuminated, birds aggregated in high densities, decreased flight speeds, followed circular flight paths, and vocalized frequently... However, behavioral disruptions disappeared when lights were extinguished, suggesting that selective removal of light during nights with substantial bird migration is a viable strategy for minimizing potentially fatal interactions among ALAN, structmelures, and birds. Our results also highlight the value of additional studies describing behavioral patterns of nocturnally migrating birds in powerful lights in urban areas as well as conservation implications for such lighting installations.

The ecological impacts of nighttime light pollution: a mechanistic appraisal. Gaston, K. J., Bennie, J., Davies, T. W. and Hopkins, J., *Biological Reviews*, Vol 88, Issue 4, 2013, Cambridge Philosophical Society

<https://onlinelibrary.wiley.com/doi/full/10.1111/brv.12036>

Abstract: The ecological impacts of nighttime light pollution have been a longstanding source of concern, accentuated by realized and projected growth in electrical lighting. As human communities and lighting technologies develop, artificial light increasingly modifies natural light regimes by encroaching on dark refuges in space, in time, and across wavelengths. A wide variety of ecological implications of artificial light have been identified. However, the primary research to date is largely focused on the disruptive influence of nighttime light on higher vertebrates, and while comprehensive reviews have been compiled along taxonomic lines and within specific research domains, the subject is in need of synthesis within a common mechanistic framework. Here we propose such a framework that focuses on the cross-factoring of the ways in which artificial lighting alters natural light regimes (spatially, temporally, and spectrally), and the ways in which light influences biological systems, particularly the distinction between light as a resource and light as an information source. We review the evidence for each of the combinations of this cross-factoring. As artificial lighting alters natural patterns of light in space, time and across wavelengths, natural patterns of resource use and information flows may be disrupted, with downstream effects to the structure and function of ecosystems. This review highlights: (i) the potential influence of nighttime lighting at all levels of biological organisation (from cell to ecosystem); (ii) the significant impact that even low levels of nighttime light pollution can have; and (iii) the existence of major research gaps, particularly in terms of the impacts of light at population and ecosystem levels, identification of intensity thresholds, and the spatial extent of impacts in the vicinity of artificial lights.

Light Pollution, Circadian Photoreception, and Melatonin in Vertebrates. Grubisic M, Haim A, Bhusal P, Dominoni DM, Gabriel KMA, Jechow A, Kupprat F, Lerner A, Marchant P, Riley W, Stebelova K, van Grunsven RHA, Zeman M, Zubidat AE, Hölker F. *Sustainability*. 2019; 11(22):6400.

<https://www.mdpi.com/2071-1050/11/22/6400>

Abstract: Artificial light at night (ALAN) is increasing exponentially worldwide, accelerated by the transition to new efficient lighting technologies. However, ALAN and resulting light pollution can cause unintended physiological consequences. In vertebrates, production of melatonin—the “hormone of darkness” and a key player in circadian regulation—can be suppressed by

ALAN. In this paper, we provide an overview of research on melatonin and ALAN in vertebrates. We discuss how ALAN disrupts natural photic environments, its effect on melatonin and circadian rhythms, and different photoreceptor systems across vertebrate taxa. We then present the results of a systematic review in which we identified studies on melatonin under typical light-polluted conditions in fishes, amphibians, reptiles, birds, and mammals, including humans. Melatonin is suppressed by extremely low light intensities in many vertebrates, ranging from 0.01–0.03 lx for fishes and rodents to 6 lx for sensitive humans. Even lower, wavelength-dependent intensities are implied by some studies and require rigorous testing in ecological contexts. In many studies, melatonin suppression occurs at the minimum light levels tested, and, in better-studied groups, melatonin suppression is reported to occur at lower light levels. We identify major research gaps and conclude that, for most groups, crucial information is lacking. No studies were identified for amphibians and reptiles and long-term impacts of low-level ALAN exposure are unknown. Given the high sensitivity of vertebrate melatonin production to ALAN and the paucity of available information, it is crucial to research impacts of ALAN further in order to inform effective mitigation strategies for human health and the wellbeing and fitness of vertebrates in natural ecosystems.

Melatonin: a possible link between the presence of artificial light at night and reductions in biological fitness. Jones TM, Durrant J, Michaelides EB, Green MP. 2015, Phil. Trans. R. Soc. B 370: 20140122.
<https://royalsocietypublishing.org/doi/10.1098/rstb.2014.0122>

Abstract: The mechanisms underpinning the ecological impacts of the presence of artificial night lighting remain elusive. One suspected underlying cause is that the presence of light at night (LAN) suppresses nocturnal production of melatonin, a key driver of biological rhythm and a potent antioxidant with a proposed role in immune function. Here, we briefly review the evidence for melatonin as the link between LAN and changes in behaviour and physiology. We then present preliminary data supporting the potential for melatonin to act as a recovery agent mitigating the negative effects of LAN in an invertebrate. Adult crickets (*Teleogryllus commodus*), exposed to constant illumination, were provided with dietary melatonin (concentrations: 0, 10 or 100 µg ml⁻¹) in their drinking water. We then compared survival, lifetime fecundity and, over a 4-week period, immune function (haemocyte concentration, lysozyme-like and phenoloxidase (PO) activity). Melatonin supplementation was able only partially to mitigate the detrimental effects of LAN: it did not improve survival or fecundity or PO activity, but it had a largely dose-dependent positive effect on haemocyte concentration and lysozyme-like activity. We discuss the implications of these relationships, as well as the usefulness of invertebrates as model species for future studies that explore the effects of LAN.

Waters under Artificial Lights: Does Light Pollution Matter for Aquatic Primary Producers? Grubisic, M. (2018), Limnology and Oceanography Bulletin, 27: 76-81.
<https://aslopubs.onlinelibrary.wiley.com/doi/abs/10.1002/lob.10254>

Abstract: Bright night lights have become a symbol of development and prosperity in the modern world. But have you ever wondered how artificial light at night (ALAN) may be affecting living beings in our cities, and how it may be affecting us? As artificial illumination is transforming nocturnal environments around the world, light pollution associated with its use is becoming a topic of increasing interest in the scientific and public communities. Light pollution disrupts natural light regimes in many regions of the world, raising concerns about ecological and health impacts of this novel anthropogenic pressure. Most obviously, ALAN can influence night-active animals in urban and suburban areas, and most research in this growing field focuses on terrestrial organisms such as bats, birds, and insects. Effects on aquatic ecosystems are much less known. In particular, aquatic primary producers, such as microalgae, cyanobacteria, and plants, have rarely been studied despite their critical positioning in the base of aquatic food webs and the fundamental role that light plays in their ecology. For primary producers, light is a key source of both energy and environmental information; it influences their growth, production, and community structure. ALAN has therefore a large potential to influence their communities and induce bottom-up changes to aquatic ecosystems and ecosystem functions.

Global climate change and invariable photoperiods: A mismatch that jeopardizes animal fitness. Walker, WH, Meléndez-Fernández, OH, Nelson, RJ, Reiter, RJ. Ecol Evol. 2019; 9: 10044–10054.
<https://onlinelibrary.wiley.com/doi/full/10.1002/ece3.5537>

Abstract: The Earth's surface temperature is rising, and precipitation patterns throughout the Earth are changing; the source of these shifts is likely anthropogenic in nature. Alterations in temperature and precipitation have obvious direct and indirect effects on both plants and animals. Notably, changes in temperature and precipitation alone can have both advantageous and detrimental consequences depending on the species. Typically, production of offspring is timed to coincide with optimal food availability; thus, individuals of many species display annual rhythms of reproductive function. Because it requires substantial time to establish or re-establish reproductive function, individuals cannot depend on the arrival of seasonal food availability to begin breeding; thus, mechanisms have evolved in many plants and animals to monitor and respond to day length in order to anticipate seasonal changes in the environment. Over evolutionary time, there has been precise fine-tuning of critical photoperiod and onset/offset of seasonal adaptations. Climate change has provoked changes in the availability of insects and plants which shifts the timing of optimal reproduction. However, adaptations to the stable photoperiod may be insufficiently plastic to allow a shift in the seasonal timing of bird and mammal breeding. Coupled with the effects of light pollution which prevents these species from determining day length, climate change presents extreme evolutionary pressure that can result in severe deleterious consequences for individual species reproduction and survival. This review describes the effects of climate change on plants and animals,

defines photoperiod and the physiological events it regulates, and addresses the consequences of global climate change and a stable photoperiod.

Effects of street lighting technologies on the success and quality of pollination in a nocturnally pollinated plant. Macgregor, C. J., M. J. O. Pocock, R. Fox, and D. M. Evans. 2019. *Ecosphere* 10(1):e02550
<https://esajournals.onlinelibrary.wiley.com/doi/abs/10.1002/ecs2.2550>

Abstract: Artificial light at night (ALAN) is an increasingly important driver of global change. Lighting directly affects plants, but few studies have investigated indirect effects mediated by interacting organisms. Nocturnal Lepidoptera are globally important pollinators, and pollen transport by moths is disrupted by lighting. Many street lighting systems are being replaced with novel, energy-efficient lighting, with unknown ecological consequences. Using the wildflower *Silene latifolia*, we compared pollination success and quality at experimentally lit and unlit plots, testing two major changes to street lighting technology: in lamp type, from high-pressure sodium lamps to light-emitting diodes, and in lighting regime, from full-night (FN) to part-night (PN) lighting. We predicted that lighting would reduce pollination. *S. latifolia* was pollinated both diurnally and nocturnally. Contrary to our predictions, flowers under FN lighting had higher pollination success than flowers under either PN lighting or unlit controls, which did not significantly differ from each other. Lamp type, lighting regime, and distance from the light all significantly affected aspects of pollination quality. These results confirm that street lighting could affect plant reproduction through indirect effects mediated by nocturnal insects, and further highlight the possibility for novel lighting technologies to mitigate the effects of ALAN on ecosystems.

Cascading effects of artificial light at night: resource-mediated control of herbivores in a grassland ecosystem. Bennie J, Davies TW, Cruse D, Inger R, Gaston KJ. 2015. *Phil. Trans. R. Soc. B* 370: 20140131.
<https://royalsocietypublishing.org/doi/10.1098/rstb.2014.0131>

Abstract: Artificial light at night has a wide range of biological effects on both plants and animals. Here, we review mechanisms by which artificial light at night may restructure ecological communities by modifying the interactions between species. Such mechanisms may be top-down (predator, parasite or grazer controlled), bottom-up (resource-controlled) or involve non-trophic processes, such as pollination, seed dispersal or competition. We present results from an experiment investigating both top-down and bottom-up effects of artificial light at night on the population density of pea aphids *Acyrtosiphon pisum* in a diverse artificial grassland community in the presence and absence of predators and under low-level light of different spectral composition. We found no evidence for top-down control of *A. pisum* in this system, but did find evidence for bottom-up effects mediated through the impact of light on flower head density in a leguminous food plant. These results suggest that physiological effects of light on a plant species within a diverse plant community can have detectable demographic effects on a specialist herbivore.

Artificial night light alters ecosystem services provided by biotic components. Singhal, R.K., Chauhan, J., Jatav, H.S. et al. *Biologia Futura* (2021).
<https://doi.org/10.1007/s42977-020-00065-x>

Abstract Excerpt: This review highlights the impact of ALAN on the ecosystem and its living and non-living components, emphasizing to the terrestrial and aquatic ecosystem. Further, we summarize the means of minimizing strategies of ALAN in the environment, which are very crucial to reduce the further spread of night light contamination in the environment and can be useful to minimize the drastic impacts on the ecosystem.

City lights and urban air. Stark, H., Brown, S., Wong, K. et al. *Nature Geoscience*, Vol 4, Nov 2011.
<https://doi.org/10.1038/ngeo1300>
https://s3.amazonaws.com/wbez-assets/curiouscity/ngeo_1300_NOV11_auproof2.pdf
<https://cires.colorado.edu/news/bright-city-lights-affect-air-pollution>

Here we show that city lights can also alter the concentration of nitrate radicals, an important atmospheric oxidant. These alterations have potential — albeit small — consequences for pollution levels the following day... We converted satellite data on light intensity into nitrate radical loss, using our aircraft measurements, and show that the influence of city lights on nitrate radical loss can be large in regions outside Los Angeles... We also find that satellite-derived estimates of light levels tend to correlate positively with independent satellite-derived estimates of nitrogen dioxide. We therefore suggest that city lights are likely to influence nitrogen dynamics in other regions of the globe.

Nighttime photochemistry: nitrate radical destruction by anthropogenic light sources. Stark, H, et al. CIRES, NOAA. 2010.
https://www.academia.edu/23527679/Nighttime_photochemistry_nitrate_radical_destruction_by_anthropogenic_light_sources
Abstract extract: show airborne and ground measurements of absolute light intensities from anthropogenic and natural light sources (e.g. industrial and street lighting, full moon) as a newly discovered NO₃ loss process. This loss process has implications for nighttime pollutant levels and next-day ozone production.

Light Flicker from LED Lighting Systems-An Urgent Problem to Solve. GIES, T.H. (2016).

https://www.led-professional.com/resources-1/articles/lighting-flicker-from-led-lighting-systems/LpR53_p50-p59.pdf

Recent research has shown that fluctuations of short wavelength emissions are perceived to a higher extent and light flicker may have a huge influence on the well-being of end users.

Blue light excited retinal intercepts cellular signaling. Ratnayake, K., Payton, J.L., Lakmal, O.H. et al. Scientific Reports 8, 10207 (2018).

<https://doi.org/10.1038/s41598-018-28254-8>

Photoreceptor chromophore, 11-cis retinal (11CR) and the photoproduct, all-trans retinal (ATR), are present in the retina at higher concentrations and interact with the visual cells. Non-visual cells in the body are also exposed to retinal that enters the circulation. ... we uncovered that blue light-excited ATR and 11CR irreversibly change/distort plasma membrane (PM) bound phospholipid; phosphatidylinositol 4,5 biphosphate (PIP2) and disrupt its function. ... The change in PIP2 was followed by an increase in the cytosolic calcium, excessive cell shape change, and cell death... These findings suggest that retinal exerts light sensitivity to both photoreceptor and non-photoreceptor cells, and intercepts crucial signaling events, altering the cellular fate.

Blue light from phone screens accelerates blindness, study finds. The Guardian. 8/9/2018

<https://www.theguardian.com/society/2018/aug/09/blue-light-from-phone-screens-accelerates-blindness-study-finds>

Research... has revealed that prolonged exposure to blue light triggers poisonous molecules to be generated in the eye's light-sensitive cells that can cause macular degeneration – an incurable condition that affects the middle part of vision. Blue light, which has a shorter wavelength and more energy compared with other colours, can gradually cause damage to the eyes.

How the marvel of electric light became a global blight to health. Dr. Richard G 'Bugs' Stevens. Aeon. August 3, 2018.

<https://aeon.co/ideas/how-the-marvel-of-electric-light-became-a-global-blight-to-health>

Excerpts: Light at night constitutes a massive assault on the ecology of the planet, including us... The electric light bulb is touted as one of the most significant technological advancements of human beings... But as with any new and spectacular technology, there are invariably unintended consequences... The current 'lightmare' traces back to the 1950s, when a road-building frenzy, including construction of the Interstate Highway System, aimed to solve the problem of congestion in the United States. But the roads turned out to increase congestion and pollution, including light pollution, too... More efficient energy-production and use, without concerted public education on reduction of use, can make the pollution problem worse... The hyper-aggressive marketing of bright, white LED street lighting to cities and towns has advanced to a breathtaking level. The US Department of Energy (DoE) and a group of international partners have launched an effort called 'Rise and Shine: Lighting the World with 10 Billion LED Bulbs' in 'a race to deploy 10 billion high-efficiency, high-quality and affordable lighting fixtures and bulbs (like LEDs) as quickly as possible'... In response to this relentless attack on night, the American Medical Association (AMA) stepped up and adopted an official policy statement in 2016... The reaction from the DoE and the Illuminating Engineering Society of North America (IES) was swift and highly critical of the AMA's audacity, asserting that the AMA was not qualified to make any statements on lighting. But this reaction was disingenuous because without the AMA statement, the nationwide retrofit would have continued unabated without regard to the environment or human health. Electric light can be a great benefit to people when used wisely. To get to the 'used wisely' part requires all the science happening now. But there must also be a desire for effective use of electric lighting on the part of government and the public... few people will leave the faucet running much longer than necessary. Yet some people think nothing of using more electricity than they actually need... In the life of the planet, destruction of night is as important an issue as the poisoning of water and air.

Artificial Light at Night (ALAN): A Potential Anthropogenic Component for the COVID-19 and HCoV's Outbreak. Khan ZA, Yumnamcha T, Mondal G, et al. Frontiers in endocrinology. 2020;11:622. Published 2020 Sep 10.

<https://www.frontiersin.org/articles/10.3389/fendo.2020.00622/full>

Abstract Excerpt: In this article, we tried to focus on the possible influence of this anthropogenic factor in human coronavirus (HCoV) outbreak. The relationship between the occurrences of coronavirus and the ascending curve of the night-light has also been delivered. The ALAN influences the physiology and behavior of bat, a known nocturnal natural reservoir of many Coronaviridae. The "threatened" and "endangered" status of the majority of bat species is mainly because of the destruction of their proper habit and habitat predominantly through artificial illumination. The stress exerted by ALAN leads to the impaired body functions, especially endocrine, immune, genomic integration, and overall rhythm features of different physiological variables and behaviors in nocturnal animals. Night-light disturbs "virus-host" synchronization and may lead to mutation in the genomic part of the virus and excessive virus shedding. We also proposed some future strategies to mitigate the repercussions of ALAN and for the protection of the living system in the earth as well.

Light pollution linked to preterm birth increase. Jan 25, 2021. Lehigh University. Science Daily.

<https://www.sciencedaily.com/releases/2021/01/210125191821.htm>

Scientists conducted the first study to examine the fetal health impact of light pollution based on a direct measure of skyglow, an important aspect of light pollution. Using an empirical regularity discovered in physics, called Walker's Law, a team found evidence of reduced birth weight, shortened gestational length and preterm births.

Association of Outdoor Artificial Light at Night With Mental Disorders and Sleep Patterns Among US Adolescents. Paksarian D, Rudolph KE, Stapp EK, et al. JAMA Psychiatry. 2020;77(12):1266–1275.
<https://jamanetwork.com/journals/jamapsychiatry/article-abstract/2767698>
<https://edition.cnn.com/2020/07/08/health/night-light-pollution-disrupt-sleep-wellness/index.html>

In this study, area-level outdoor ALAN was associated with less favorable sleep patterns and mood and anxiety disorder in adolescents. Future studies should elucidate whether interventions to reduce exposure to ALAN may positively affect mental and sleep health.

Astronomy Impacts

Light Pollution In California And Arizona. Walker, Merle F. *Publications of The Astronomical Society of The Pacific*, Vol. 85, No. 507, 1973, pp. 508–519. Jstor
<http://www.jstor.org/stable/40675430>

The present and future effect of artificial illumination on ground-based optical astronomical observations in California and Arizona is discussed. It is concluded that the effectiveness of all major observatories in these states is presently or potentially limited by light pollution. Consequently, it is essential that immediate efforts be undertaken to: (1) Control outdoor illumination to lengthen the useful life of existing observatory sites, and (2) Identify and protect the best remaining sites both within and outside the United States. The characteristics and probable locations of the best sites for ground-based optical astronomical observations are discussed.

Light Pollution: Outdoor lighting is a growing threat to astronomy. Riegel, Kurt W. *Science*, Vol. 179, No. 4080, Mar 1973, pp. 1285–1291.

<https://pubmed.ncbi.nlm.nih.gov/17835929/>

Abstract Excerpt: The level of skylight caused by outdoor lighting systems is growing at a very high rate, about 20 percent per year nationwide. In addition, the spectral distribution of man-made light pollution may change in the next decade from one containing a few mercury lines to one containing dozens of lines and a significantly increased continuum level. Light pollution is presently damaging to some astronomical programs, and it is likely to become a major factor limiting progress in the next decade... Some is due to promotional campaigns, in which questionable arguments involving public safety are presented. There are protective measures which might be adopted by the government; these would significantly aid observational astronomy, without compromising the legitimate outdoor lighting needs of society.

Flagstaff's Battle for Dark Skies. Portree D.S.F. Oct 2002, *Griffith Observer*, Vol 66 No 10

<http://www2.lowell.edu/users/wes/GriffithObserver1crop.pdf>

<http://www.flagstaffdarks skies.org/international-dark-sky-city/flagstaffs-battle-for-dark-skies/>

Public Safety

Blinded by the Lights: Levi's Stadium Lights May Be Airport Safety Hazard. By Stephen Stock, Michael Bott and Jeremy Carroll. NBC Bay Area. Sept 22, 2015

<https://www.nbcbayarea.com/news/local/blinded-by-the-lights-levi-stadium-lights-may-be-airport-safety-hazard/102234/>

Some pilots say powerful lights above and around the new Levi's Stadium can cause safety hazards for flights in and out of San Jose Mineta International Airport.

Why Lighting Claims Might Well Be Wrong, Paul Marchant, *International Journal of Sustainable Lighting*: Vol. 19 No. 1 (2017)

<http://lightingjournal.org/index.php/path/article/view/71/79>

This paper gives some background to claims of benefit from road lighting and why large beneficial claims may be suspect.

Feeling Safe in the Dark: Examining the Effect of Entrapment, Lighting Levels, and Gender on Feelings of Safety and Lighting Policy Acceptability. Boomsma C, et al. *Environmental and Behavior*, Vol 46 Issue 2, pp 193-212. Sept 2012.

<https://journals.sagepub.com/doi/10.1177/0013916512453838>

Importantly, as hypothesized, perceived safety mediated the effect of lighting on acceptability levels, suggesting that people can accept lower lighting levels when social safety is not threatened.

The effect of reduced street lighting on road casualties and crime in England and Wales: controlled interrupted time series analysis. Steinbach R, Perkins C, Tompson L, et al, *J Epidemiol Community Health* 2015;69:1118-1124.

<https://jech.bmj.com/content/69/11/1118>

Conclusions: This study found little evidence of harmful effects of switch off, part-night lighting, dimming, or changes to white light/LEDs on road collisions or crime in England and Wales.

Light Pollution Mitigation

National Light Pollution Guidelines for Wildlife Including Marine Turtles, Seabirds and Migratory Shorebirds,
Commonwealth of Australia, Jan 2020

<https://www.environment.gov.au/biodiversity/publications/national-light-pollution-guidelines-wildlife>

Audubon's Lights Out program

<https://www.audubon.org/conservation/project/lights-out>

LoNNe, Loss of the Night Network

<http://www.cost-lonne.eu/recommendations/>

Human and Environmental Effects of Light Emitting Diode (LED) Community Lighting, 2016, American Medical Association, CSAPH Report 2-A-16, Policy H-135.927

<https://policysearch.ama-assn.org/policyfinder/detail/H-135.927?uri=%2FAMADoc%2FHOD-135.927.xml>

<https://www.ama-assn.org/sites/ama-assn.org/files/corp/media-browser/public/about-ama/councils/Council%20Reports/council-on-science-public-health/a16-csaph2.pdf>

supports the proper conversion to community-based Light Emitting Diode (LED) lighting, which reduces energy consumption and decreases the use of fossil fuels.. encourages minimizing and controlling blue-rich environmental lighting by using the lowest emission of blue light possible to reduce glare... should be properly shielded to minimize glare and detrimental human and environmental effects, and... utilize the ability of LED lighting to be dimmed for off-peak time periods.

Advocating and Support for Light Pollution Control Efforts and Glare Reduction for Both Public Safety and Energy Savings,
2012, Policy H-135.937

<https://policysearch.ama-assn.org/policyfinder/detail/light%20pollution?uri=%2FAMADoc%2FHOD.xml-0-308.xml>

Our AMA: (1) will advocate that all future outdoor lighting be of energy efficient designs to reduce waste of energy and production of greenhouse gasses that result from this wasted energy use; (2) supports light pollution reduction efforts and glare reduction efforts at both the national and state levels; and (3) supports efforts to ensure all future streetlights be of a fully shielded design or similar non-glare design to improve the safety of our roadways for all, but especially vision impaired and older drivers.

International Dark-Sky Association, <https://darksky.org>, <https://darksky.org/light-pollution>

IDA Guidance for Electronic Message Centers (EMCs) – Digital billboards

<https://www.darksky.org/wp-content/uploads/2019/10/EMC-Guidelines-IDA2019-1.1.pdf>

IDA Criteria for Community-Friendly Outdoor Sports Lighting

<https://www.darksky.org/wp-content/uploads/2018/03/IDA-Criteria-for-Community-Friendly-Outdoor-Sports-Lighting.pdf>

Model Lighting Ordinances – Dark Sky Impacts, Flagstaff Dark Skies Coalition

<http://www.flagstaffdarks skies.org/model-lighting-ordinances-dark-sky-impacts/>

Led Lighting And Dark Skies: Are LEDs good for dark skies? Flagstaff Dark Skies Coalition.

<http://www.flagstaffdarks skies.org/led-lighting-dark-skies/>

Light Pollution and Lighting Codes: An Analysis of the Light Pollution Control Effectiveness of the IDA-IES Model Lighting Ordinance and the IDA Pattern Outdoor Lighting Code, Christian B. Luginbuhl, U.S. Naval Observatory Flagstaff Station, 15 January 2013

<http://www.flagstaffdarks skies.org/wp-content/uploads/2013/02/Lighting-Codes-and-LP-Luginbuhl-130115.pdf>

Excerpts: Under MLO standards, outside of MLO Lighting Zones 0 and 1, the total lumen allowances, direct uplight allowances, and amount of sky glow are notably greater than expected under POLC standards; in MLO Lighting Zones 3 and 4 they are dramatically greater. These lighting amounts and sky glow impacts are greater than what can be expected even when lighting is unregulated. The MLO Performance Method Option B provides notably poor control of direct uplight and therefore sky glow. Under the MLO Performance Method Option B there are no effective limitations on glare. MLO does not address lamp spectrum, and thus leaves this crucial aspect of light pollution unaddressed. Finally, the analysis shows that the MLO Prescriptive Hardscape Area and Performance Methods do not provide similar results in terms of total lumen amounts, uplight amounts, glare, or “offsite” impacts, an undesirable characteristic of a model regulation purporting to control light pollution. The Performance Method particularly allows for the most egregious forms of polluting lighting fixtures and designs. We find no evidence that communities adopting MLO can expect reduction in light pollution over that produced by typical unregulated lighting, despite the claims of MLO to be a method to “drastically reduce” light pollution.

Model Lighting Ordinance: Is the BUG rating method effective at limiting light trespass?, April/May 2012 issue of LEDs Magazine

<https://www.ledsmagazine.com/architectural-lighting/outdoor-lighting/article/16698628/model-lighting-ordinance-is-the-bug-rating-method-effective-at-limiting-light-trespass-magazine>

Excerpts: The MLO allows for the use of BUG ratings along with the performance method as long as there is no uplight used. This scenario would not only allow for more lumens on the site as compared to the prescriptive method, but also would allow for a greater amount of light spilling from the site than would be seen from sites that restrict the spill by using the calculation method. As proven from the studies done for this article, the BUG rating method cannot effectively control these extra lumens of spill light.

Hazard or Hope? LEDs and Wildlife. Longcore, Travis. (2018). LED Professional Review. 70. 52-57.

<https://www.led-professional.com/resources-1/articles/hazard-or-hope-leds-and-wildlife>

Conclusions: The efficiency benefits of LEDs and the resulting economic incentives will drive further conversion of outdoor and indoor lighting to the technology. If the tendency to light more when light is cheaper can be overcome, the other attributes of LEDs hold significant promise for reducing environmental effects. Realizing that promise requires designers and manufacturers to learn about and embrace the guidance that wildlife scientists can provide. In some instances it will be challenging - resisting the desire to up-light, using no more light than necessary, and educating clients on the benefits of spectral choices that do not look like daylight. In other contexts, environmental regulations are likely to dictate lighting choices and offer an opportunity if the industry is prepared to seize it. On each of the mitigation approaches - duration, direction, intensity, and spectrum - LEDs will inherently or can be designed to perform well. Whether they do in practice will be up to the LED professional.

Artificial Night Lighting and Protected Lands: Ecological Effects and Management Approaches (Revised August 2017).

Longcore, T., and C. Rich. Natural Resource Report NPS/NRSS/NSNS/NRR—2017/1493. National Park Service, Fort Collins, Colorado.

<https://irma.nps.gov/DataStore/DownloadFile/582058>

Artificial night lighting represents a growing challenge for managers of parks and protected lands. The disruption of natural patterns of light and dark, which have been more or less reliable for millions of years, has a range of adverse consequences for wildlife across taxonomic groups and landscape types. This document reviews effects of artificial night lighting by habitat type and discusses the approaches available to land managers to mitigate and avoid certain adverse effects of artificial night lighting.

Rapid assessment of lamp spectrum to quantify ecological effects of light at night. Longcore, T., A. Rodríguez, B.

Witherington, J. F. Penniman, L. Herf, and M. Herf. 2018. Journal of Experimental Zoology A 329:511-521.

<https://onlinelibrary.wiley.com/doi/abs/10.1002/jez.2184>

Abstract: For many decades, the spectral composition of lighting was determined by the type of lamp, which also influenced potential effects of outdoor lights on species and ecosystems. Light-emitting diode (LED) lamps have dramatically increased the range of spectral profiles of light that is economically viable for outdoor lighting. Because of the array of choices, it is necessary to develop methods to predict the effects of different spectral profiles without conducting field studies, especially because older lighting systems are being replaced rapidly. We describe an approach to predict responses of exemplar organisms and groups to lamps of different spectral output by calculating an index based on action spectra from behavioral or visual characteristics of organisms and lamp spectral irradiance. We calculate relative response indices for a range of lamp types and light sources and develop an index that identifies lamps that minimize predicted effects as measured by ecological, physiological, and astronomical indices. Using these assessment metrics, filtered yellow-green and amber LEDs are predicted to have lower effects on wildlife than high pressure sodium lamps, while blue-rich lighting (e.g., $K \geq 2200$) would have greater effects. The approach can be updated with new information about behavioral or visual responses of organisms and used to test new lighting products based on spectrum. Together with control of intensity, direction, and duration, the approach can be used to predict and then minimize the adverse effects of lighting and can be tailored to individual species or taxonomic groups.

The LED Paradox: How Light Pollution Challenges Experts to Reconsider Sustainable Lighting. Schulte-Römer, N.; Meier, J.;

Söding, M.; Dannemann, E.; Sustainability 2019, 11, 6160.

<https://www.mdpi.com/2071-1050/11/21/6160>

Abstract: In the 21st century, the notion of “sustainable lighting” is closely associated with LED technology. In the past ten years, municipalities and private light users worldwide have installed light-emitting diodes in urban spaces and public streets to save energy. Yet an increasing body of interdisciplinary research suggests that supposedly sustainable LED installations are in fact unsustainable, because they increase light pollution. Paradoxically, blue-rich cool-white LED lighting, which is the most energy-efficient, also appears to be the most ecologically unfriendly. Biologists, physicians and ecologists warn that blue-rich LED light disturbs the circadian day-and-night rhythm of living organisms, including humans, with potential negative health effects on individual species and whole ecosystems. Can the paradox be solved? This paper explores this question based on our transdisciplinary research project Light Pollution—A Global Discussion. It reveals how light pollution experts and lighting professionals see the challenges and potential of LED lighting from their different viewpoints. This expert feedback shows that “sustainable LED lighting” goes far beyond energy efficiency as it raises complex design issues that imply stakeholder negotiation. It also suggests that the LED paradox may be solved in context, but hardly in principle.

Tuning the white light spectrum of light emitting diode lamps to reduce attraction of nocturnal arthropods. Longcore Travis, Aldern Hannah L., Eggers John F., Flores Steve, Franco Lesly, Hirshfield-Yamanishi Eric, Petrincic Laina N., Yan Wilson A. and Barroso André M. 2015, Phil. Trans. R. Soc. B37020140125
<https://royalsocietypublishing.org/doi/abs/10.1098/rstb.2014.0125>

Abstract: Artificial lighting allows humans to be active at night, but has many unintended consequences, including interference with ecological processes, disruption of circadian rhythms and increased exposure to insect vectors of diseases. Although ultraviolet and blue light are usually most attractive to arthropods, degree of attraction varies among orders. With a focus on future indoor lighting applications, we manipulated the spectrum of white lamps to investigate the influence of spectral composition on number of arthropods attracted. We compared numbers of arthropods captured at three customizable light-emitting diode (LED) lamps (3510, 2704 and 2728 K), two commercial LED lamps (2700 K), two commercial compact fluorescent lamps (CFLs; 2700 K) and a control. We configured the three custom LEDs to minimize invertebrate attraction based on published attraction curves for honeybees and moths. Lamps were placed with pan traps at an urban and two rural study sites in Los Angeles, California. For all invertebrate orders combined, our custom LED configurations were less attractive than the commercial LED lamps or CFLs of similar colour temperatures. Thus, adjusting spectral composition of white light to minimize attracting nocturnal arthropods is feasible; not all lights with the same colour temperature are equally attractive to arthropods.

Evaluating Potential Spectral Impacts of Various Artificial Lights on Melatonin Suppression, Photosynthesis, and Star Visibility. Aubé M, Roby J, Kocifaj M (2013). PLOS ONE 8(7): e67798.

<https://doi.org/10.1371/journal.pone.0067798>

Abstract Excerpt: Artificial light at night can be harmful to the environment, and interferes with fauna and flora, star visibility, and human health. To estimate the relative impact of a lighting device, its radiant power, angular photometry and detailed spectral power distribution have to be considered. In this paper we focus on the spectral power distribution... In this paper we propose three new indices to characterize lamp spectra. These indices have been designed to allow a quick estimation of the potential impact of a lamp spectrum on melatonin suppression, photosynthesis, and star visibility. We used these new indices to compare various lighting technologies objectively. We also considered the transformation of such indices according to the propagation of light into the atmosphere as a function of distance to the observer. Among other results, we found that low pressure sodium, phosphor-converted amber light emitting diodes (LED) and LED 2700 K lamps filtered with the new Ledtech's Equilib filter showed a lower or equivalent potential impact on melatonin suppression and star visibility in comparison to high pressure sodium lamps. Low pressure sodium, LED 5000 K-filtered and LED 2700 K-filtered lamps had a lower impact on photosynthesis than did high pressure sodium lamps. Finally, we propose these indices as new standards for the lighting industry to be used in characterizing their lighting technologies.

Solid-State Roadway Lighting Design Guide: Volume 1: Guidance. National Academies of Sciences, Engineering, and Medicine. 2020. <https://doi.org/10.17226/25678>

Solid-State Roadway Lighting Design Guide: Volume 2: Research Overview. National Academies of Sciences, Engineering, and Medicine. 2020. <https://doi.org/10.17226/25679>

Assessment of Citizens' Actions against Light Pollution with Guidelines for Future Initiatives. Zielińska-Dabkowska, K.M.; Xavia, K.; Bobkowska, K. Sustainability. June 2020, 12, 4997.

<https://doi.org/10.3390/su12124997>

Abstract excerpt: This paper therefore investigates the various actions taken by citizens, as well as the challenges, methods, and tools involved, regarding good practices initiated by grass roots activism on how to reduce existing and potential light pollution. The results of a comparative analysis of 262 international case studies (lawsuits and online petitions) reveal that, since the 1990s, there has been an increase in the number of legal cases related to light pollution due to the rise in public awareness, the availability of scientific knowledge via the Internet, and the ability to take accurate lighting measurements and perform lighting simulations. Also, in the last decade a new tool for digital participation in the form of online petitions has established a new movement of citizen action to mitigate the effects of light pollution. Based on this information, a seven-step framework involving recommendations for citizen action has been developed. It is expected that this new knowledge will benefit those citizens planning future efforts involving the development, implementation, and monitoring processes of outdoor lighting. Additionally, it might support the evolution of planning and policy approaches that are sustainable and necessary to improve the application and installation of ecologically/biologically responsible illumination for towns, cities, and natural habitats.

Nevada Senate passes bill to form 'dark sky places' program. Feb 22, 2021. By Sam Metz, AP News
<https://apnews.com/article/legislature-nevada-light-pollution-coronavirus-pandemic-kate-marshall-eb0f69ee3c5895b1f7dd4d89b1ea3ebc>

Nevada's state Senate took a step toward ensuring stargazers will continue to enjoy picture-perfect constellations on Monday, passing a bill to recognize "dark sky places" with unobstructed views of galaxies hundreds of thousands of light years away.

Urban Lighting Research Transdisciplinary Framework—A Collaborative Process with Lighting Professionals. Pérez Vega, C.; Zielinska-Dabkowska, K.M.; Höller, F. *Int. J. Environ. Res. Public Health*. 2021, 18, 624.

<https://doi.org/10.3390/ijerph18020624>

Abstract Excerpt: Over the past decades, lighting professionals have influenced the experience of the night by brightly illuminating streets, buildings, skylines, and landscapes 24/7... a dual perspective on night-time was shaped and the visual enjoyment of visitors after dusk was prioritized over natural nightscapes (nocturnal landscapes). During this time, researchers of artificial light at night (ALAN) observed and reported a gradual increase in unnatural brightness and a shift in color of the night-time environment. As a consequence, ALAN has been identified as a relevant pollutant of aquatic and terrestrial habitats, and an environmental stressor, which may adversely affect a wide range of organisms, from micro-organisms to humans... This paper presents a framework to help reduce the existing gap of knowledge, because appropriate lighting applications depend upon it. Access to less light polluted nightscapes in urban environments is just as important as access to unpolluted water, food, and air.

On-line Workshop “Dark and Quiet Skies for Science and Society”, Report and Recommendations, Dec 2020, coordinated by the United Nations Office for Outer Space Affairs

https://unoosa.org/oosa/en/ourwork/psa/schedule/2020/2020_dark_skies.html

to propose to COPUOS [United Nations Committee on the Peaceful Uses of Outer Space]... recommendations, to be acted upon either by local governments or agreed to at an international level... This report analyses all artificial interference that can have a negative impact on the visibility of the night sky. These interferences can be logically grouped into three categories... effect caused by the artificial emission of visible light during the night,... impact that the very large number of communication satellites in Low Earth Orbit... to the interference that radio broadcasting... have on observations by radio telescopes.

Grasping darkness: the dark ecological network as a social-ecological framework to limit the impacts of light pollution on biodiversity. Challéat, S., et al. 2021. *Ecology and Society* 26(1):15.

<https://doi.org/10.5751/ES-12156-260115>

Abstract excerpt: Artificial light at night (ALAN)... is increasingly recognized as a major threat to global biodiversity, which ultimately alters the amount, the quality, and the connectivity of available habitats for taxa... Here we present the concept of “dark ecological network.” We show this concept is able to grasp the effects of ALAN in terms of habitat disturbances and integrates temporal dimensions of ecological processes into biodiversity conservation planning... we propose a course of action that consists of building an interdisciplinary repertoire of contextualized knowledge (e.g., impacts on wildlife, human/lightscape relationship, existing legal tools, etc.), in order to deduce from it a number of practical supports for the governance of the dark ecological network in response to societal and ecological issues.

Cindy McCormick

From: Chrys Diskowski <c.diskowski@yahoo.com>
Sent: Thursday, October 27, 2022 12:54 PM
To: Cindy McCormick
Subject: EXTERNAL - Comments: Please Vote NO on electronic billboard proposal

CAUTION: This email originated from an **External Source**. Please use proper judgment and caution when opening attachments, clicking links, or responding to this email.

Dear Mayor Blankley, City Council and Planning Commission members,

Thank you for the opportunity to comment on the proposal. I hope you will agree, that electronic billboards are an eye-sore and a nuisance. We will be shooting ourselves in the foot, including economically, if we approve the proposal for an electronic billboard in Gilroy.

Not only do these particular billboards disrupt the view shed of our greenbelt, they also contribute to light pollution at night. Light pollution shrouds the beautiful view of Gilroy's starry night sky, a potential attraction for our tourists*, and also disrupts human circadian rhythms and wildlife who rely on darkness to survive. If you have a subscription to *National Geographic*, you can read about light pollution at the link below.

Even though this billboard could potentially grab visitors' eyes to contribute to sales tax / TOT revenue, we need to consider the first impressions our visitors might have entering Gilroy (101 is a gateway), along with our objectives of becoming an agritourism, cycling, and family recreation destination.

Does an electronic billboard reflect Gilroy as a place where agritourists, cyclists, and families want to spend time in our great outdoors? Electronic billboards do not give a good first impression consistent with what many visitors will be looking for. If we are wanting to set ourselves up for success as an agritourism, cycling, and family-friendly recreation destination, these billboards are not "on brand", to use a marketing term. They *are*, "on-brand", for places like Las Vegas. In Gilroy, we need to attract tourists that partake in the outdoor attractions that we offer, that value and want to bolster our natural beauty and greenbelt. And that which bolsters our natural beauty and greenbelt, attracts tourist spending, and also bolsters the health and happiness of our residents.

Please give our burgeoning Downtown, Gilroy Gardens, Adventure Park / Cycling Paths, Fruit Stands, Agritourism, Local Wineries, Ice Rink, Retail, and Car Dealerships a chance to succeed with other, less obnoxious, forms of advertising. Advertising on websites, social media, podcasts, and "good ole" radio and newsprint is far less obtrusive than electronic billboards. There are also press-releases that can bring sales tax and TOT dollars to Gilroy. Press releases often lead to written news articles, such as the one from the *San Jose Mercury*, linked below, promoting our downtown pubs.

Let the electronic billboards in Vegas, stay in Vegas, please. Our tourists and visitors will eventually return to their homes, but for the people who call Gilroy home, we would have to endure both the shadow and constant glare of a hideous 2-sided, 75-foot-tall (6+ story) electronic billboard that blocks our starlight and defaces our natural beauty. Please vote NO on the electronic billboard proposal.

Thank you kindly for your consideration, and your service to the well-being of our Gilroy environment, visitors, and residents alike.

Sincerely,

Chrys Diskowski

24-year Gilroy resident

* Dark sky parks are becoming a tourist draw in many rural areas.

Light Pollution Article: <https://www.nationalgeographic.com/science/article/nights-are-getting-brighter-earth-paying-the-price-light-pollution-dark-skies>

Gilroy Downtown / Brewery Article: <https://www.mercurynews.com/2022/09/28/brewery-day-trip-gilroy-adventures-for-craft-beer-lovers/>

Cindy McCormick

From: james rogers <jrogers@garlic.com>
Sent: Tuesday, October 25, 2022 7:56 PM
To: Cindy McCormick
Cc: Carolyn Tognetti; Carol Marques; Chrys Diskowski
Subject: EXTERNAL - Electronic Billboard ordinance

CAUTION: This email originated from an **External Source**. Please use proper judgment and caution when opening attachments, clicking links, or responding to this email.

Hello Again Cindy,

I tried to tune in to the community meeting on this topic tonight, but was late at 6:30 PM. I was unable to find the meeting, so am submitting these public comments.

I am very much against electronic billboards of all types and in all locations. I have been following the "NO Digital Billboards" site in San Jose and agree with most of their positions. I believe they are garish and potentially distractions for drivers on the adjacent highway. They do not project the peaceful, bucolic image of Gilroy I believe in.

Will these two billboards provide any benefit for the citizens of Gilroy? Possibly increased sales tax from auto sales, which ARE important to the City. Has there been any analysis on this question?

Thank you.

Connie Rogers
7690 Santa Theresa Drive
Gilroy, CA 95020
jrogers@garlic.com
408-842-8494

Borrowing from the No On Digital billboards effort from San Jose, these are my reasons for opposition:

- **Litigation threats** - Billboard companies are already threatening to sue the City and each other over these billboards. This risk of endless litigation does not appear to be factored into the cost/benefit here.
- **Insignificant revenue** - Any proceeds from these billboards would be a tiny fraction of 1% of the City's annual revenue; is it worth the tradeoff for more visual blight and an assault on our quality of life?
- **Driver distraction** - Digital billboards threaten driver safety and runs counter to the city's Vision Zero policy to eliminate traffic fatalities.

- **Energy hogs** - Although LEDs by themselves may be energy efficient, these large energy intensive billboards require constant cooling and computer systems, and would be giant symbols of disregard for the City's Climate Smart and Carbon Neutral 2030 policies.
 - **Wildlife disruption** - Digital billboards are opposed by the Audubon Society and the Sierra Club.
 - **Light pollution** - Lick Observatory would be negatively impacted due to light pollution, similar to the already intrusive Levi's stadium Jumbotron.
- Local businesses do not benefit - Digital billboards typically advertise national consumer products.
- **No takedown requirement** - Several of the proposed downtown sites do not have a requirement to take down existing conventional billboards.

Cindy McCormick

From: jhemp@mac.com
Sent: Sunday, October 30, 2022 8:02 PM
To: Cindy McCormick
Subject: EXTERNAL - Gilroy billboards, why they're a bad idea

CAUTION: This email originated from an **External Source**. Please use proper judgment and caution when opening attachments, clicking links, or responding to this email.

Hi Cindy,

Thanks for giving the public an opportunity to speak at your Planning meeting regarding the proposed digital billboard(s) along 101 freeway.

Curious, when I posed a question about the restrictions from the California Outdoor Advertising Act protecting billboards once they go up, who was the gentleman that responded? I didn't get a chance to comment after, but wanted to relay a concern that once a sign goes up along major corridors, such as freeways, the Act imposes a restriction on local municipalities. Thanks to billboard lobbyists, towns are required to pay sign owners for future loss of revenue, should local officials want or need to take the sign down. A similar state law in Minnesota resulted in St. Paul being required paying \$4 million to take down one sign in order to expand a bridge.

Aside from the State law, there are several other reasons why such a project is detrimental to our local community, especially when you consider that media companies have been actively pursuing digital billboards in multiple cities along the peninsula (ie, Santa Clara, San Jose, Redwood City, Belmont, etc). When you consider one or two going up in a town, it may not seem that significant. However, when you consider the cumulative effect of these billboards, it becomes a greater concern. For example, commuters that are driving along 101 it becomes yet another distraction (compared to driving along 280 billboard free). A Lick Observatory representative has spoken multiple times at San Jose Council and Committee meetings, describing the negative impact to night sky viewing with the cumulation of light pollution from multiple sources - including digital billboards, even from miles away.

Should the City of Gilroy decide to pursue new billboards, you may want to be mindful that the process is fair and allows alternative vendors to bid or participate, lest you invite litigation - which is common practice in the billboard industry. San Jose just got hit with a lawsuit from OutFront Media due to awarding a no-bid contract to ClearChannel (see article below).

The group I'm affiliated with, No Digital Billboards in San Jose, has a list of multiple references and reasons why digital billboards are a bad idea. You can view them on our website, along with multiple articles and op-eds on the topic here: <https://www.billboardsno.org/know-the-issue>

Some articles that may interest you:

South Bay astronomers fear proposed airport billboards would threaten night viewing
https://drive.google.com/drive/folders/1_G4SJ5Vf8ydJoTBR75tr-s2bHO5bftGD

San Jose gets sued for ignoring it's billboard rules
<https://sanjosespotlight.com/san-jose-gets-sued-for-ignoring-its-billboard-rules/>

Why we voted against San Jose airport digital billboard plans (by San Jose Airport Commissioners)
https://drive.google.com/drive/folders/1_G4SJ5Vf8ydJoTBR75tr-s2bHO5bftGD

Let me know if you have any questions or when I might get to hear when the Planning Commission plans to review this project again.

Regards,
Jason Hemp
San Jose Resident

NATALIE C. KIRKISH
ASSOCIATE
DIRECT DIAL (415) 995-6351
DIRECT FAX (415) 995-3549
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September 29, 2022

VIA ELECTRONIC MAIL

Mr. Andrew Faber
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Re: Response to Comments on MND for Outdoor Advertising Display 6490 Auto Mall Parkway

Dear Mr. Faber and Ms. Houston:

We have prepared, with the assistance of lighting and other experts on the applicant team, the following responses to the comments submitted on the Mitigated Negative Declaration for the Electronic Billboard Ordinance Project:

	Comment	Response
	A. John Miller (March 30, 2021)	
1	My name is John Miller. I am a member of the Steering Committee of No Digital Billboards in San Jose, a grass roots organization opposing the erection of digital billboards in that city.	The comment does not question the content or conclusions of the Electronic Billboard Ordinance Project ("Project") Initial Study/Mitigated Negative Declaration ("MND"), so no response is warranted. As explained in detail below, Project MND fully complies with all applicable requirements of the California Environmental Quality Act ("CEQA," Pub. Resources Code, § 21000 et seq.) and the CEQA Guidelines (14 Cal. Code Regs. § 15000 et seq.).
2	I'm emailing you as an individual after being informed that Gilroy is considering negating its prohibition on off-premise advertising to allow for the erection of digital billboards.	The comment does not question the content or conclusions of the MND, so no response is warranted.

3	While I fully understand the decision to allow digital billboards in Gilroy should be decided by the proper authorities in Gilroy, I believe you will benefit from the information No Digital Billboards in San Jose has made public after an exhaustive review of the proposal to bring digital billboards to San Jose. Accordingly, with your approval, I will be happy to forward documents relevant to this issue.	The comment does not question the content or conclusions of the MND, so no response is warranted.
4	In the meantime, it is important to understand that the erection of digitals never comes from citizens but always from the billboard lobby because digital billboards return a much greater profit to billboard companies than do conventional paper billboards. This is all about money. Billboard company money.	The comment does not question the content or conclusions of the MND, so no response is warranted.
5	Digital billboards are much more intrusive and unavoidable than conventional billboards. They can't be ignored and even a few will change the aesthetics of the community.	The Aesthetics chapter of the MND analyzed the impact of the digital billboard on scenic vistas, scenic resources, and day or nighttime views due to a new source of substantial light. Under the thresholds of significance related to aesthetics, only in non-urbanized areas does a project have a significant aesthetic impact if it would substantially degrade the existing visual character area. If the project is in an urban area, it does not have a significant impact if the project is consistent with applicable zoning and other regulations governing scenic quality. Because (1) installation of billboards would not be allowed in non-urbanized areas; (2) the proposed billboard would comply with design standards set forth in the proposed Electronic Billboard Ordinance; and (3) the proposed billboard would be one-sixth as bright as allowable state brightness maximums set forth in illumination intensity standards found in state law, impacts would be less than significant. Please see the March 21, 2021 Letter from the applicant re Outdoor Advertising Display 6490 Auto Mall Parkway, which addresses brightness standards, as well as its attachments, all of which are incorporated herein by this reference. Substantial evidence shows that digital billboards are in fact less obtrusive than traditional displays, as digital billboards have superior technology that directs light at limited audiences (here, motorists). By contrast, traditional displays are illuminated by reflecting

		light sources of the display's facings, at levels that are 31 to 212 brighter than LED bulbs. Additionally, with adoption of mitigation measure AES-1, which requires the City Community Development Department to review and approve the signs' operational lighting parameters to ensure a driver would not be adversely affected or impacts by trespass glare, the Project would have a less than significant impact.
6	Digital billboards increase profits for billboard companies but on private property they produce no revenue for city government. The city would be lucky if annual permit fees covered the cost of administering digital billboards.	Economic impacts are not significant environmental impacts under CEQA. 14 Cal. Code Regs. §15131.
7	Digital billboards primarily help big national companies like CitiBank and Verizon not local businesses who have to compete with these national advertisers which are preferred customers of the billboard companies.	The comment does not question the content or conclusions of the MND, so no response is warranted.
8	But even if local auto dealers obtained advertising on digital billboards how is that a benefit to the people of Gilroy, who as a result, will experience a degradation of the city's architectural integrity, historic character and natural environment?	As discussed in Response A5 above, the MND determined that, with mitigation, the Project would not have a significant aesthetic impact. Additionally, the Cultural Resources and Tribal Cultural Resources section of the MND determined that the Project will not have a significant impact on historic resources, including architecturally significant structures. The billboards would not be located in a historic district, and there are only two recorded historical resources within a 0.5-mile radius of the project area. Rather, the sign would be constructed in a parking lot where vehicle are stored, adjacent to automobile-related businesses (including a Tesla dealership, Buick GMC dealership, auto repair business, fueling stations, and similar uses, as well as amid numerous, similar illuminated signs and freestanding lights; see next section for further discussion of baseline conditions). The Project site is a non-sensitive, commercial portion of the City that is compatible with the proposed structure. As a result, the likelihood of the Project to have an adverse effect on historic resources is low.

9	The light from digital billboards harms wildlife,	The Biological Resources section of the MND reviewed the impacts of the light from the digital billboard on wildlife and determined that, with mitigation incorporated, there would be no significant impact. Under the CEQA thresholds of significance, a substantial adverse effect on a species protected by the California Department of Wildlife or United States Fish and Wildlife Service amounts to a significant impact. Only one special status species has the potential to occur within the project site, the white-tailed kite. Per the MND, there is marginal nesting habitat near the proposed display and potential foraging habitat located more than 800 feet to the northeast. During an August 2021 field survey, the nearest recorded occurrence of the white-tailed kite to the project site was 2.6 miles away. While it is true that migrating birds can be affected by artificial light, the MND determined that the proposed electronic billboard would not create a substantial change in illumination levels due to baseline light sources. The baseline light sources in the project area, which sits adjacent to an interstate highway, are numerous, including local street lighting, parking lot lighting, interior lights, other illuminated billboards at nearby auto dealerships and other commercial businesses, headlights from automobile traffic, and highway lighting structures. CEQA requires an evaluation of impacts relative to baseline conditions, not relative to a hypothetical dark, undegraded condition that does not exist at the project site. 14 Cal. Code Regs. §15125(a). In addition, the billboard would be operated at one-sixth the illumination intensity standards in the California Outdoor Advertising Act and Vehicle Code. Specifically, the display would be limited to a maximum light output level of 0.3 foot-candle¹ at 250 feet from the billboard above
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¹ Foot candle is the amount of light a single candle makes at a distance of 1 foot (see Attachment E), and so a 0.3 change in foot candle would be 30 percent of the light one would experience at 1 foot away from a candle. To apply this in a real-world example, if a person in the dark cabin of an airplane, sitting four rows in front of you in an aisle seat, opened

		ambient conditions,² which is equivalent to 300 nits, a significantly more conservative lighting intensity standard for electronic billboards of than the State maximum of 1,713 nits. (Please see the MND and the applicant's March 21, 2021 letter to the City). At this lighting level, light cast beyond 250 feet would not register on a light meter, ensuring the proposed display does not make a considerable contribution to any lighting impact. Please note further that birds have co-existed with the existing urban landscape, including the myriad of illuminated signs, parking lot lights, vehicle headlights (which move at variable rates of speed), and other sources of illumination for a very long time in the project vicinity. The addition of a digital sign would not affect the status quo, and, in fact, digital billboards are <i>less impactful</i> than static light sources for the following reasons: • Studies show that birds are attracted to fixed lights, and the billboard would not constitute a fixed light, but would change its messaging every 8 seconds. message (and thus varying its light profile). Steady-burning red lights that result in the greatest impacts to bird species, and the outdoor advertising display would have a wide diversity of copy and it would never be the case that the display would broadcast uninterrupted light of any hue.³
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a Word document on a 17" laptop, you would experience a 0.3 foot candle increase in light.

² The project's technology is able to tether lighting levels to ambient conditions through the use of a photocell that measures ambient light. Simply, cloudy days will register a lower ambient light level than sunny days on the photocell, and dusk and dawn lighting levels are also traceable. These values read back to the display, and light output is adjusted automatically and accordingly. In addition to this function, the applicant maintains a "watchdog" program that update the dusk and dawn times each day based on the display's longitude and latitude. After dusk, the watchdog records and fixes the light output at the nighttime level and, if the sensor on the display attempts to communicate bright ambient conditions (e.g., a nighttime event with other illumination sources occurs in the parking lot), the display will ignore the high feedback from the sensor.

³ See Jones, J., and C. M. Francis. 2003. The effects of light characteristics on avian mortality at lighthouses. *Journal of Avian Biology* 34(4): 328-333; Gauthreaux, S. A., and C. G. Belser.

		The applicant's lighting expert has evaluated the project and can confirm the sign will lose luminance and visibility above 14 degrees and, coupled with the horizontal viewing angle of approximately 40 degrees, the viewing angle of the sign will be narrow enough to preclude attracting birds on clear nights, when they fly high enough to be outside the viewing angle of the sign. Even at 250 feet nearer to the ground, where light levels would not exceed 0.3 foot candles, the billboard would produce a peak value of 27 cd/sq. ft. By comparison, a full moon at its brightest generates about 232 cd/sq. ft. All of this assumes the display would broadcast a solid white background, where in practice advertisements contain a variety of colors. It is important to appreciate that this analysis is conservative. To the extent studies have been conducted with respect to lighting impacts on avian species, they appear to have contemplated environments with little ambient light other than the source studied (e.g., lighthouses along unlit shorelines, towers in rural areas, towers with lights 116-305 meters above the ground). A critical difference is that the location of the project here is in an area with dozens of light sources on the same scale, including without limitation dozens of parking lot lights, an existing illuminated Caltrans sign, illuminated signage from surrounding businesses, and a fairly constant stream of vehicle headlights on the adjacent highway.
10	keeps light-sensitive people from driving and causes traffic accidents for those who do.	Please see response to Response A9, incorporated herein. Furthermore, the transportation section of the MND evaluated the Project's impacts on traffic hazards and determined there would be a less than

2006. Effects of artificial night lighting on migrating birds. Pages 67-93 in Rich, C., and T. Longcore, editors. Ecological Consequences of Artificial Night Lighting. Covelo, CA: Island Press; and Gehring, J., P. Kerlinger, and A. Manville II. 2009. Communication towers, lights, and birds: Successful methods of reducing the frequency of avian collisions. Ecological Applications 19(2): 505-514.

		significant impact. Under the thresholds of significance for traffic hazard, a project only causes a significant impact if it would conflict with a program plan, ordinance or policy addressing the circulation system, be inconsistent with CEQA's transportation guidelines, substantially increase hazards due to a geometric design feature or incompatible uses, or result in inadequate emergency access. The Project does not exceed these thresholds. The electronic billboard would not interfere with drivers' visibility because it would be required to adhere to California Outdoor Advertising Act requirements and the Outdoor Advertising Association of America ("OAAA") recommendations that govern illumination. California law. The OAAA allow LED billboards to operate at a minimum dwell time of four seconds. Studies from the Federal Highway Administration ("FHWA") and other experts have determined that a dwell time of eight seconds does not adversely impact road safety. Please see Letter From Project Applicant re Outdoor Advertising Display 6490 Auto Mall Parkway (March 21, 2021), pp. 5-6 and attached materials, incorporated herein by this reference. Furthermore, the proposed electronic billboard would have a required minimum distance of 1.5 miles from other billboards consistent with local ordinance, reducing hazards from electronic billboards to the drivers on the surrounding roadways at the project site. Please note that State law only requires there exist 1,000 feet between electronic displays. Substantial evidence demonstrates that the proposed electronic display would not have significant impacts on safety.
11	They brighten the night sky and interfere with the work of Lick Observatory on Mt. Hamilton.	The Project's impact on Lick Observatory is not an environmental impact under CEQA. Additionally, the MND concluded that the proposed electronic billboard would not create a substantial change in illumination levels due to baseline light source. The Project commits to a maximum ambient light output level of a 0.3 foot-candle at 250 feet from the billboard, meaning at 250 feet, light from the sign is generally not perceptible, and does not register on a light meter. Please see Letter From Project

		Applicant re Outdoor Advertising Display 6490 Auto Mall Parkway (March 21, 2021) and Attachment A thereto, incorporated herein. Accordingly, the light contribution from the proposed display would not cumulate with other sources to produce a significant impact. Additionally the perceptible vertical light footprint rises to a height of about 85 feet. At a distance of 25 miles from the city of Gilroy, the Lick Observatory operations will not be impacted by the Project. The billboard also reduces light pollution and glare by angling each of the individual LEDs downwards towards motorists, in contrast to a traditionally illuminated display that creates more significant sky glow and illuminates copy by reflecting light off display facings at a brightness level of 31 to 312 times greater than the brightness of LED displays. Letter From Project Proponent re Outdoor Advertising Display 6490 Auto Mall Parkway (March 21, 2021), p. 2.
12	Digital billboards use tremendous amounts of energy, cause greenhouse gases and generate e waste.	The Utilities and Service Systems section of the MND determined that the Project would have no significant impact related to use of electrical power because the Project would not require the relocation or construction of new electrical power facilities. The billboard would be installed pursuant to current electrical codes, including Title 24 of the State Building Code. These standards would ensure that electrical energy would be used efficiently. The Greenhouse Gas Section of the MND finds that the Project would have a less than significant impact. Operation of the Project is expected to emit only 6 MT CO₂e per year. This is far below the 660 MT CO₂e per year threshold of significance. In the Hazards and Hazardous Materials section, the MND explains that the Project will not generate any electronic waste. A digital billboard with two displays consumes approximately 40,000 to 48,000 kilowatt hours (kWh) per year, whereas the average United States home conserves approximately 11,000 kWh annually (the 52,400 kWh usage cited in the MND is based on older technology). Accordingly, substantial evidence supports a determination the proposed display would not have a significant impact with respect to energy consumption.

13	Digital billboards lower property values and invite litter and graffiti.	There is no evidence that digital displays invite blight, and the Project site is located on a fenced, maintained commercial business. Moreover, social and economic impacts are not significant environmental impacts under CEQA. 14 Cal. Code Regs. §15131. Any impact to property values, litter, or graffiti fall within the category of social and economic impacts that do not require consideration under CEQA. "Argument, speculation, unsubstantiated opinion or narrative, ... does not constitute substantial evidence" of a significant impact under CEQA. 14 Cal. Code Regs. § 15384. The commenter's opinion that the Project may cause lower property values, litter, and graffiti is highly speculative, and does not require CEQA consideration on that basis as well.
14	Digital billboards are a parasite on the roads and highways taxpayers pay for and they don't. Unlike other highway users, billboard companies do not pay a user fee to maintain the public right of way without which billboards have no value. On the roads the public pays for, will the Gilroy City Council turn its constituents into a captive audience forced to see advertisements they can't ignore? It's like forcing them to pay for only one cable channel that shows only commercials but no programs.	The comment does not question the content or conclusions of the MND, so no response is warranted.
15	Once billboards are erected they are almost impossible to take down thanks to a state law requiring their removal be "compensated" by cash payments to the billboard company for future lost earnings. Put up digital billboards today and they will remain in place for decades...City leaders should think about that, for if they allow digitals, it will constitute their legacy.	The comment does not question the content or conclusions of the MND, so no response is warranted.
16	Why should the city of Gilroy cater to the desire of the billboard industry to erect profitable digital billboards while externalizing all costs to the taxpayer?	Economic impacts are not significant impacts under CEQA. 14 Cal. Code Regs. §15131. As a result, comments related to the taxpayer cost of the Project do not require a response. Regardless, the proposed Project affords the community benefits through the negotiated development agreement between the City and the applicant, including free public messaging space and financial benefits. There are no costs

		to taxpayers, as the applicant is responsible for maintaining the display through the term of its operation.
17	Think you can allow only a few digital billboards? Once in the door, billboard companies will litigate against restrictions as a cost of doing business. Los Angeles is a good example. Here is a link https://www.latimes.com/opinion/editorials/la-ed-billboard-ordinance-20170605-story.html . In San Jose, the erection of illegal billboards has already tied up the city in costly court battles that a billboard companies knows it can't win but pursues to generate revenue during protracted litigation. Here's a link https://sanjosespotlight.com/battle-over-billboards-san-jose-faces-lawsuit-pushback-on-proposed-changes/ And in San Mateo, the city attorney predicts billboard-sponsored litigation may be in the cards if the city pursues its hastily concocted plan to allow digitals only on public property. https://www.smdailyjournal.com/news/local/san-mateo-considers-ads-on-city-buildings-and-billboards/article_bb9b96c4-2aef-11eb-a5f1-476100872817.html	The applicant has worked collaboratively with City staff in proposing the Project. This comment's claims that approval of the digital billboard will result in billboard companies bringing litigation in the City are not substantiated by evidence, and such claims are based on unrelated circumstances. "Argument, speculation, unsubstantiated opinion or narrative, ... does not constitute substantial evidence" of a significant impact under CEQA. 14 Cal. Code Regs. § 15384. It bears mention that the commenter has not faithfully communicated the facts of the San Jose matter. It was a private property owner that illegally constructed a sign near the interchange of Highways 101 and 80 in San Jose — not a sign company — and that sued the City. (See Attachment A, a March 17, 2021 article from the San Jose Spotlight that reports on the lawsuit.) Outfront adamantly opposed the illegal construction of this sign in the City of San Jose, and in January 2019 notified the California Department of Transportation about its construction and encouraged the State to investigate and take appropriate action to discourage this activity (see Attachment B, hereto.) The comment does not question the content or conclusions of the MND, so no response is warranted.

18	In my view, there are no compelling reasons for ending the current restrictions on billboards in Gilroy. Doing so does not provide substantial benefits to the citizens and taxpayers of your community. Clearly, this proposal is a violation of best practices in city governance, urban planning and responsiveness to preservation and environmental values overwhelmingly subscribed to by the majority of the public. The only beneficiaries of this proposal will be the billboard companies themselves. So the question is why even consider spending staff time to prepare for the erection of digital billboards without alerting the community in advance and seeking the voters' opinion? In San Jose, voters were most upset that city council members and city staff met with billboard lobbyists over 50 times and as a result spent hundreds of thousands of taxpayer dollars greasing the skids to allow digital billboards in San Jose before informing the public. Better to actively seek constituent input before making such a commitment. Need less to say, if I can provide you with the information I mentioned previously, or answer any questions, do not hesitate to contact me. Thank you for your attention.	The allegations that the City has not sought public input is incorrect. Through the MND process, the City has sought comments and input from members of the public and public agencies. Additionally, the City will hold a public hearing where it will listen to constituent input before making a final decision on the Project. Insofar as the commenter alleges the Project is contrary to best urban planning processes, the Project site is located in an automobile row where there exist many lights and signage, and it is important that cities concentrate such activities in this manner and not, for instance, locate them in residential areas. The Project therefore implements good urban planning practices, and the MND confirms less-than-significant land use impacts would result. With respect to community benefits, there are significant community benefits, including public messaging time and financial benefits, set forth in the Project Development Agreement. On the whole, the comment does not question the content or conclusions of the MND, so no additional response is warranted.
	B. John Miller (April 2, 2021)	
1	The San Jose Planning Department has just posted a survey of over 2,000 people regarding their position on digital billboards. You can find the results here https://www.sanjoseca.gov/home/showpublisheddocument?id=70836 I copied below some of the most impressive findings.	Opinions from anonymous residents of the City of San Jose related to their opposition to billboards is not relevant in the determination if a digital billboard in Gilroy will have a significant environmental effect. Speculative lay testimony that is not based in fact is not substantial evidence of a significant impact on the environment. 14 Cal. Code Regs. § 15384. It is also relevant that the City of San Jose considered the results of this survey and still approved two outdoor advertising digital billboards on Norman Y. Mineta San Jose International Airport premises.
	C. Dan Graeber (August 12, 2022)	
1	Please do not vote for the electronic bill board they will be a major eye sore sucking up valuable electricity. Our city is not in Las Vegas and does not need the bright lights.	For a discussion of the Project's energy use, see Response A12. For a discussion of the Project's impacts on aesthetics, see Response A5.

2	Plus with the bright lights it will be tough for the homeless to sleep at night.	The MND determined that the proposed electronic billboard would not create a substantial change in illumination levels because of the preexisting baseline light source. As a result, the billboard would not have an impact on the area's homeless population. The Project site is a fenced, maintained business, and substantial evidence demonstrates that light emitted from the display would not register on a light meter at a distance of more than 250 feet. For further discussion of the Project's impacts on aesthetics, see Response A9.
D. Michelle Maquinaldez (August 15, 2022)		
1	Hello I'm writing about the proposed billboards. I don't believe they are worth our hard earned money just like the other Starbucks that is being built. Why not bring in something new/different instead of another Starbucks. Also the curb by the new Starbucks on first street at the station that continues to damage numerous tires and rims because of poor planning/construction needs to be repaired.	The comment does not question the content or conclusions of the MND, so no response is warranted.
E. John Miller (August 14, 2022)		
1	I am writing in opposition to the proposal to revoke the ban on off-premise advertising and allow the construction of electronic billboards in Gilroy. This is an incredibly shortsighted and just plain bad idea that the city will end up regretting. Let us review the reasons why:	This comment contains general statements which do not warrant a response.
2	There is no public outcry in favor of revoking the existing ban. The only proponents of this scheme are some auto dealers and billboard companies. The only people who will make a sizable amount of money will be the billboard companies. Why is the City Council so intent to look after the interests of billboard companies? Is there nothing else they ought to be doing on behalf of their actual constituents?	The comment does not question the content or conclusions of the MND, so no response is warranted.

3	Nothing changes the architectural integrity, historic character and natural environment of a community more than in-your-face off-premise advertising mostly promoting products and services not available at the location of the sign. I would be surprised if even one member of the City Council wants to contend such billboards have no significant aesthetic impact as was advocated by the billboard-friendly consultancy that justified declaring a negative declaration. Just how much did they charge and who paid them?	For a discussion of the impact of the Project on the architectural integrity and historic character of the community, see Response A8.
4	Electronic billboards emit light that interferes with wildlife and human sleep patterns as well as triggers individuals with light sensitivity not to mention distracts drivers and contributes to traffic accidents	For a discussion of the impact of the Project on wildlife, see Response A9. For a discussion of the Project's impact on traffic hazards, see Response A10. The Project would not impact human sleep patterns or trigger individuals with light sensitivity because the proposed electronic billboard would not create a substantial change in illumination levels due to baseline light source and the proposed displays limited light footprint.
5	Electronic billboards use a lot of energy (requiring cooling systems during most days), energy that contributes to greenhouse gas emissions and that ought to be used for a more legitimate purpose than subjecting residents to advertising messages.	For a discussion of the Project's energy use and greenhouse gas emissions see Response A12.
6	Off-premise advertising has no value if it is not visible from the publicly financed right of way whose maintenance is not contributed to by billboard companies in the way of a user fee. Why does the City Council believe it has the right to force tax-paying residents to be a captive audience to unwanted commercial messages for which there is no off switch on streets they paid for? The city may have a legal right to do so but it does not have an ethical or moral right. And would you pay for a cable TV channel that only televised commercials and no programming? Why is the City Council asking their constituents to tolerate the equivalent?	The City has the legal discretion to approve the proposed Project, and has carefully architected a zoning ordinance that responsibly imposes controls on the operation and location of billboards. The comment does not question the content or conclusions of the MND, but merely states an opinion based on personal preferences. No additional response is warranted.

7	What's the limiting principle at play here? If x number of off-premise electronic billboards are "good" then would not y number be even better? At what point are there too many in-your-face advertising signs and who determines that using what standard?	The comment does not question the content or conclusions of the MND, so no response is warranted. We note the Outdoor Advertising Act and local ordinance determine what number billboards are allowed on City highways. Here, the City has elected a minimum spacing requirement of 1.5 miles between billboards.
8	Do note that once the city of San Jose amended its sign ordinance to allow electronic billboards on city property it was only a short time until a major billboard company illegally erected two billboards violating the still existing ban on new billboards on private property. The city spent an undisclosed amount of money over several years defending its ban in court while the signs remained standing and generating revenue. While the court decided in favor of the city, the city attorney's office has yet to tell us how many staff hours were spent defending the ban. Now, Outfront Media is currently suing the city of San Jose for allegedly unfairly granting the right to construct electronic billboards at the San Jose Airport to Clear Channel in violation of city provisions calling for competitive bidding. On top of that, an article in a billboard industry publication predicted that if San Jose persisted in allowing new billboards on city property while banning them on private property the industry would sue the city for restraint of trade and denial of due process. The moral of this story is, don't let even one off-premise billboard company set foot in your city or the city will be spending a lot of costly time in court.	For a discussion of the relationship between the Project potential litigation, see Response A17. The commenter has misrepresented the facts in its comment. Notwithstanding the above, the comment does not question the content or conclusions of the MND, so no additional response is warranted.
9	So, proponents of this scheme. Tell us one more time what's in it for Gilroy to allow the first of many off-premise billboards to take root? Money for the city? An improved local economy? Off-premise sign-induced "urban vibrancy"? Please enlighten us.	The commenter is invited to review the Project Development Agreement, incorporated herein by reference, for details on the Project's public benefits.

10	Some 1,500 communities around the nation including the states of Alaska, Hawaii, Maine and Vermont prohibit new offpremise advertising signs both electronic and conventional. I am happy to report that residents there are not starving on the highways for lack of information on where the nearest restaurant might be nor are the economies of those places harmed by not having the alleged advantages provided by off-premise advertising. Case in point is the San Jose metro area. For 50 years San Jose banned billboards on public property and for 37 years have done so on private property. None the less San Jose is second in the nation in terms of per capita domestic product, achieved without the "benefit" of new billboards. Beautification (not billboards) is good for the local economy.	The comment does not question the content or conclusions of the MND, so no response is warranted. We note that many, many thousands of jurisdictions do allow electronic billboards, and Outfront Media has had many longstanding, cooperative partnerships with California cities and counties.
11	To sum up, the proposal before you provides no public benefit while resulting in many negative externalities which would be borne by the public. And once an off-premise billboard goes up, it is almost impossible to remove, thanks to your friends in the billboard industry having lobbied the state legislature to require cash compensation be paid for the removal of an existing billboard. How much compensation? Ask the city of St. Paul, Minnesota whose state law required them to pay \$4 million to remove just one existing digital billboard.	The comment does not question the content or conclusions of the MND, so no response is warranted.
F. Mark Deger (August 22, 2022)		
1	I am writing you to communicate my disdain over the proposal to erect electronic billboards in Gilroy. I've listed a number of my reasons below.	The comment introduces the letter and does not question the content or conclusions of the MND, so no response is warranted.
2	I think that the aesthetics would be offensive and make us look like a low-class commercial community. These items are usually dumped on poorer communities who do not have the power or influence to prevent it from happening.	For a discussion of the Project's impacts on aesthetics, see Response A5. Please also see Responses A18 and E6 regarding the Project's implementation of important land use planning policies.
3	The light emitted from the billboards would add to light pollution that is not productive. This harms people with light sensitivity more adversely.	For a discussion of the impact of the Project on people with light sensitivity, see Response E4. Please also see Response A18 for an explanation of the brightness standards under which the proposed display will be operated.
4	They will distract drivers traveling on freeway 101.	For a discussion of the Project's impact on traffic hazards, see Response A10.

5	They would probably interfere with the nocturnal population of beneficial insects and vertebrates to agriculture.	For a discussion of the Project's impacts on biological resources, see Response A9.
6	Electronic billboards are expensive so mostly large corporations would afford them, shutting out local businesses.	Economic impacts are not significant environmental impacts under CEQA. 14 Cal. Code Regs. §15131. As a result, the comment's allegations that local businesses will not be able to afford advertising on the electronic billboards is not a significant impact under CEQA and does not warrant a response.
7	People should be free to move about public spaces without being exposed to advertising.	This comment does not address environmental impacts under CEQA, therefore no response is warranted.
8	The billboards add to materialism, making people feel unhappy and unsuccessful if they can't afford the items advertised. They exploit and deepen inequality.	This comment does not address environmental impacts under CEQA, therefore no response is warranted.
9	They promote unsustainable consumption during a period of adverse climate changes	Please see Response A12.
10	Electronic billboards consume 10 times the energy of a single-family home.	For a discussion of the Project's energy use, see Response A12. This comment is inaccurate. Operation of the Project would result in an estimated use of 40,000 to 48,000 kWh per year (the MND's 52,400 kWh estimate is based on outdated technology) while an average U.S. household consumes about 11,000 kWh per year (according to the U.S. Energy Information Administration.) Thus, the Project utilizes approximately 3.6 to 4.4 times the energy of a single family home.
11	Adding an ordinance to allow this project opens the door for more billboards in the future. We have smaller monstrosities along Masten/Fitzgerald/Santa Teresa. We don't need monstrous electronic versions.	An MND is only required to analyze the impacts from the Project's reasonably foreseeable direct and indirect physical impacts on the environment and cumulative impacts with other reasonably foreseeable projects. It is speculative whether additional billboards will be constructed in the future, and therefore they are outside of the scope of the MND. There are no other pending applications for electronic billboards in the City, and it is important to recognize the City's proposed ordinance imposes stringent controls on new digital displays, including size restrictions and a 1.5-mile minimum spacing requirement would apply. Please see Responses A9 and A10.

12	I would like to see the content of the appendices that have been omitted from the report used to rubber-stamp this project.	The appendices to the EIR are publicly available in a manner consistent with the, including on the City's web site at https://www.cityofgilroy.org/298/Development-Activity-Projects .
13	I will be deeply disappointed if Gilroy adds these monstrosities to our community. Gilroy has been a pleasant break from the commercialism and materialism of the Bay area.	The comment does not question the content or conclusions of the MND, so no response is warranted.
G. John Bauters (August 24, 2022)		
1	Thank you for considering this public comment with respect to the proposed Mitigated Negative Declaration for an electronic billboard along Hwy 101 in Gilroy. My comments are specific to two sets of findings/conclusions that I do not believe are adequately researched or discussed in the document, and leave significant environmental impacts unmitigated.	As explained in detail below, Project MND fully complies with all applicable requirements CEQA and adequately analyzes and mitigates all potentially significant impacts.
2	The discussion of Biological Resources correctly identifies impacts on birds and other wildlife as an issue to review, but includes an inappropriately abridged scope of review that jeopardizes endangered birds, including migratory species, that live in this area and migrate through this area. The discussion in Section 2.4 and then again in 2.20 is overly-focused on the construction site -- a small parcel along Hwy 101. The lack of nests by migratory or endangered birds is cited as a reason for lower concern and the proposed mitigation is how to handle construction in the event a nest is discovered. While this is good, it is insufficient. Birds are dramatically impacted by large, elevated LED signs. There are extensive reports and studies on how LED signs confuse migratory birds, disorienting them at night; how they impair their reproductive functions; and how night predators lose the ability to hunt effectively as these billboards make their ability to find food difficult. Bright spaces like this can have impacts for a multiple mile radius from a high-rise sign, which can eliminate spaces where both migratory and non-migratory birds can nest. The white-tailed kite, cited in Section 2.4, may not have a known sighting within a couple miles of the project site, but the addition of such a sign in one of the only	The Project is a 60-foot, single-sided display located in an urban parking lot adjacent to a highway and other urban uses, including automobile dealerships and other light-intensive uses. The proposed display, meanwhile, will emit light that will abide by a standard of 0.3 foot candles at 250 feet, and light beyond that perimeter is generally indiscernible and does not register on a light meter. As discussed in the MND, there were no white-tailed kite nests or other migratory bird nests observed near the Project site, and the closest potential foraging site is a vacant parcel to the east of Automall Parkway and north of the Princevalle Channel, located approximately 850 feet to the northeast of the proposed display location. Contrary to the commenters assertions, while the white-tailed kite is a protected species, the City of Gilroy is not one of the only zones in the United Space where the species is known to exist, maps published by the California Department of Fish and Wildlife, the species' habitat ranges along the entire California Coast and Central Valley (see Attachment C, hereto). The white-tailed kite also hunts by day and is not, per the California Department of Fish and Wildlife, a migratory bird (see Attachment D, attached hereto). The commenter's claim that the species would be disoriented at night and has a limited

	zones in the United States where the species is known to exist further harms it's population and puts the species at risk. There is no discussion of any of the significant research being conducted into how LED signs impact migration patterns, reproductive patterns, hunting/food sourcing, or nesting. The data points provided in the report fail to address these issues adequately and the scope of review is limited almost exclusively to the parcel itself, which does not adequately address the reality of a larger geographic impact this kind of light has on birds.	range that would be disrupted is contradicted by reliable evidence prepared by the State agency tasked with protecting the species. For further discussion of the Project's impacts on biological resources, see Response A9. The MND <i>does</i> address the potential impact of artificial light on migratory birds. Substantial evidence supports the MND's conclusion that the Project will not have a significant impact on migration patterns, reproductive patterns, hunting/food sourcing, or nesting because it would not create a substantial change in illumination levels as described in Section 2.1 of the MND. In other words, the illumination would not be significant by itself, and especially when compared to the existing light sources in the project area including local street lighting, parking lot lighting, other illuminated billboards at nearby auto dealerships, headlights from automobile traffic, and highway lighting structures. The commenter is not an expert in biological resources, and his lay opinion regarding the impacts of the Project on the white-tailed kite does not amount to substantial evidence. <i>Newtown Preservation Society v. County of El Dorado</i> (2021) 65 Cal.App.5th 771, 790-791. Additionally, the studies that the commenter references, but does not provide, are general studies that are not specific to the Project, and therefore cannot be used to demonstrate a significant environmental impact under CEQA.
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3	Section 2.20 of the report states that there are some impacts on humans but that all of those can or will be mitigated, as discussed throughout the document. There is no discussion about how these types of bright lights impact circadian rhythm (sleep), especially in children. Bright lights can and do impact and are harmful to the development of children. Sleep is one of the most important components of healthy child development, which is necessary for proper brain development, educational attainment, and is also linked to attention/focus, and mood. Bright LED lights on billboards create light pollution much greater than the ambient levels of street lights and other night-time lights which are often much closer to the ground. The UV levels in these lights will create lighter sleep levels, disrupt sleep, and negatively impact human health and growth. There are significant residential communities proximate to the proposed billboard site which will experience the impacts of the proposed billboard sign. The report does not demonstrate adequate study or review of how the location of this sign and the reach of the projected LED lights will change the light pollution baselines in residential areas near the sign, and what that could mean for human health - especially developing children. https://ncceh.ca/documents/fieldinquiry/health-effects-large-led-screens-local-residents	The Project would not impact human sleep patterns or trigger individuals with light sensitivity because the proposed electronic billboard would not create a substantial change in illumination levels due to baseline light source. As discussed in Response A9, LED displays do not cast light farther than 250 feet from the sign's facing. Moreover, there are no nearby sensitive receptors located near the proposed display's location. Per the MND, the nearest sensitive receptors are residents of the Monterey Gateway Apartments, which are located approximately 1,372 feet west of the site and on the far side of multiple roadways and intervening structures. Moreover, the sign will be oriented toward the highway, and will not face west. The comment cites to a 2013 Canadian case study, that was not peer reviewed, about the potential for LED screens for a sports stadium to cause potential health effects such as photosensitive epilepsy. This study does not identify the distance the residents were located from the screens, and it concludes that the screen would likely avoid retinal damage. Additionally, it acknowledges that further information was needed in order to conduct a thorough assessment. This cannot be relied upon as evidence that the Project will have significant health impacts.
4	Finally, a sign like this is not necessary. The City of Gilroy has had a good ordinance that prohibits these types of signs for a long time - and for a good reason. Drivers do not need additional distractions on the roadways. At night, bright lights will only further impair driver abilities on the road, putting all road users at greater risk as a result.	For a discussion of the Project's impact on traffic hazards, see Response A10.

5	These bright signs are little more than a proverbial "tramp stamp" in the sky - letting people from miles away know that the city is so cheap that it has to resort to bright light commercial ads as it's community identify. Gilroy can and should be a place people are proud to be from - one that doesn't need additional light pollution that will harm children's development or impair our local environmental wildlife resources. I hope that planning commission will give careful consideration to both the adequacy of this report as well as the necessity of this sign. Bright signs originated years ago to tell motorists where there was safe lodging at night, where there was food or fuel to continue their journey, or where a local medical center was if help was needed. Today, we allow any commercial advertisement to be put up along a roadway. Making them electronic undermines the original purpose behind electronic roadway signs, diminishes the character of our community, and harms our greatest assets: our environment and our children. Please vote against accepting this proposed Mitigated Negative Declaration. Thanks for your time and consideration	This comment summarizes prior comments that have been addressed in the responses above.
	H Maria Aguilar (August 28, 2022)	
1	I am writing in opposition of amending ordinance 30.37.30 prohibited signs within 660 feet off highway 101.	The comment does not question the content or conclusions of the MND, so no response is warranted.
2	I believe this to be a distraction for drivers, this is an area where traffic becomes congested and this could cause accidents.	For a discussion of the Project's impact on traffic hazards, see Response A10.
3	These signs are large and unsightly, if the ordinance gets changed it opens the door for other signs to be erected.	The MND is not required to evaluate the impacts of future billboard projects, for a discussion on this topic see Responses A18 and F11
	I Dr. Paul D. Lynam, Lick Observatory (April 26, 2021)	
1	For almost 140 years, the people of the Valley of Heart's Delight and the University of California's Lick Observatory have enjoyed a fruitful relationship. The city fathers of the Bay Area have consistently supported the observatory's ability to stay at the forefront of astronomy and technological innovation. Strategically located atop Mount Hamilton since	This comment provides an introduction and background on Lick Observatory. The comment does not question the content or conclusions of the MND, so no response is warranted.

	the 1880s, the observatory's threshold is crossed by some 35,000 visitors annually. Thousands more enjoy its scenic approaches and hinterland for recreation. New worlds continue to be discovered from within sight of the City of Gilroy. Lick Observatory maintains a global reputation as an authority on astronomical matters. For decades, the observatory has advised local authorities on lighting ordinances, including (in the 1960s and 1970s) the deployment of sodium lighting, subsequent upgrades to light emitting diode (LED) technologies and, most recently, the deployment of electronic billboards.	
2	Naturally, from a purely astronomical perspective, it would be best to have no electronic billboards at all. However, guidelines to minimize damage to dark skies by electronic billboards, developed by the International Dark-Sky Association, inform Lick Observatory's recommendations to reduce negative impacts. They include: limits on brightness, a curfew for turning off signs at 11 p.m. or midnight, constraints on sign size and density, use of lower-temperature (less blue light) LEDs, tilting electronic billboards downwards by 15 degrees and ensuring mechanical shielding is installed to reduce light being scattered upwards. Light pollution, in large part, is a consequence of the physics of ever-present aerosols (e.g. water vapor, particles, etc.), which preferentially redirect light. Hence, mechanical design of responsible lighting fixtures seeks to minimize wasted light. In contrast, billboards intentionally project light laterally. Thus, billboards disproportionately compound already-vexatious light pollution via two mechanisms. First, billboards add to pollution intensity. The efficiency of electronic illumination represents a manyfold increase in wasted light, compared with former illumination methods. Second, the nature of LED technology (i.e. combining emission from multiple intensity peaks) contaminates the entire visible spectrum, whereas incandescent or discharge (e.g. sodium) lighting consists of isolated spectral peaks, with adjacent spectral regions free from contamination. In sum, proliferation of electronic	For a discussion of the Project's impact on Lick Observatory, see Response A11. Please also see Response A5. Substantial evidence shows that digital billboards are in fact less obtrusive than traditional displays, as digital billboards have superior technology that directs light at limited audiences (here, motorists). By contrast, traditional displays are illuminated by reflecting light sources of the display's facings, at levels that are 31 to 212 brighter than LED bulbs. Ultimately, the LED displays proposed here will direct light downward at the nearby highway, as set forth in greater detail below. The billboards will also abide by brightness standards that ensure the sign will cast 0.3 foot candles at 250 feet (see Attachment E, hereto.) While the sign is visible beyond that distance, lighting levels beyond 250 feet will generally not register on a light meter. We note the proposed display is 25 miles away from the observatory, and there is no evidence the display will affect, individual or cumulatively observatory operations. Notwithstanding the above, impacts on such operations are not cognizable under CEQA. The commenter's observations on LED lights in comparison to traditional sign illumination are incorrect; in fact, there is significantly greater sky glow associated with older technologies. To reach an audience, the illumination of traditional billboards is imprecise; the billboard face is blasted with light at a level

	billboards along the State highway 101 corridor (including in-and-around the City of Gilroy) would render a deleterious impact upon Lick Observatory.	ranging from 31 to 312 times the brightness of an LED bulb (where brightness depends on color), and light reflects off the sign's vinyl surface in all different directions. As such, the target audience is reached along with a host of others, and this is why receptors see, for instance, sky glow from traditional, illuminated signs. The Project adopts new technology that reduces horizon light and skyglow. The billboards utilize a combination of (a) long and short louvers, (b) internally lensed diodes with outputs of 25° down and 20° up and finally (c) the mounting of the diodes at a 6° downward angle. With reference to horizon, this results in an overall output of 31° below and 14° above. This reduces skyglow by 60% as compared to an ordinary output of 35° above (see Attachment E). The comment assumes that the billboard creates white light the same way as LED street lights, this is not so. LED light output is across a broad spectrum, and blue is strong and wide nearing the ultra violet spectrum. The Project uses three primary colors of narrow band light to create light. As a result, the spectral radiance is far lower than an LED street light (see Attachment F for a comparison of the spectral radiance of LEDs versus a billboard). The comment refers to the International Dark-Sky Association's (2019) Guidance for Electronic Message Centers and suggests that the Project has not incorporated best practices. Guidance from non-regulatory agencies and extraterritorial jurisdictions is not binding on the City of Gilroy. Additionally, the Project does in fact comply with many of the best management practices identified in this document, and would emit light at one-sixth the brightness level allowed by State law. The Project also complies with the best management practices and standards related to sensitive area setbacks, size limits, and density limits.
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3	Typically, local authorities engage public opinion when considering changes to ordinances. Experience shows that the overwhelming majority of contributors perceive the most compelling arguments against electronic billboards to be the well-established detrimental consequences on human health and safety, the similarly well-established impacts on wildlife habits and habitats, and aesthetic visual blight. For the most part, the needs of observatories are well-aligned with majority public opinion. The University of California's Lick Observatory encourages the City of Gilroy to perform due diligence during deliberations regarding the proposed deployment of electronic billboards (e.g. by canvassing a fair, balanced representation of community/stakeholder opinion and undertaking a full and proper environmental impact assessment). The observatory remains available to advise on these matters, while continuing to foster the fruitful relationship that has persisted for well over a century.	Through the MND process, the City is engaging public opinion by receiving and responding to comments and holding public hearings. For a discussion of the Project's impact on human health, see Response G3. For a discussion of the Project's impacts on wildlife, see Response A9. For a discussion of the Project's impact on aesthetics, see Responses A5, A9, A10, and A13.
	J Dr. Paul D. Lynam, Lick Observatory (September 5, 2022)	
1	The University of California Observatories' Lick Observatory (UCO/Lick) - the world's first high altitude astronomical observatory - hosts 10 telescopes, plus multiple cutting-edge research instruments atop Mount Hamilton, 25 miles north of Gilroy. Named in classic literature and from Apollo 11's Tranquility Base, the observatory routinely opens new vistas on the universe, discovers new worlds, develops new technology, educates science and "tech-savvy" students and inspires all comers. Lick Observatory leads the world, setting standards on astronomical matters. Annually, the observatory serves hundreds of faculty (including Nobel laureates) and students of the University of California, in addition to 35,000 visitors. This cannot be achieved without a fruitful relationship between the observatory and neighboring settlements.	This comment provides an introduction and background on Lick Observatory. The comment does not question the content or conclusions of the MND, so no response is warranted.
2	As outlined in written (26 April 2021) and spoken (15 August 2022) contributions to Gilroy City Council, I reiterate that the proposed Electronic Billboard Ordinance and Sign Permit	For a discussion of the Project's impact on Lick Observatory, see Response A11 and Responses I-1 to I-3. Please note that impacts on astronomical study are not environmental

	proposal (described in the 4 August 2022 Initial Study) shall render a disproportionate and deleterious impact on astronomical pursuits, fauna, flora and public health. From an astronomical perspective, it would be ideal to have no illuminating sources at all. However, UCO/Lick has no wish to crusade in pursuit of this ideal. A higher aspiration is to sustain the rapport and understanding between neighboring communities and observatory that has endured since the 1870s. Responsibly installed billboards may confer benefits to the community. Distressingly, however, the Initial Study is unbalanced in its failure to consider negative effects of electronic billboards on astronomy. For example, the International Dark-Sky Association's (2019) Guidance for Electronic Message Centers (repeatedly advocated for in previous contributions) continues to be neglected. As a result of such omissions, the Initial Study cannot be considered to be representative of best practice.	impacts under CEQA. Notwithstanding the above, please note also there is no evidence the proposed display, which abides by restrictive light standards, will have any cognizable individual or cumulative impact on the Lick Observatory's operations.
3	Experience regarding proposed electronic billboards elsewhere in Santa Clara County shows that the needs of Lick Observatory align with public opinion: a (2021) survey conducted by the City of San Jose Planning Department revealed 93% opposition. Expert advisors (e.g. Norman Y. Mineta San Jose international Airport Commission) repeatedly recommended against billboards. The City of San Jose is now subject to litigation from competing outdoor advertising interests.	For a discussion of why this survey of San Jose residents is not relevant to the determination of whether the Project will have a significant impact under CEQA, see Response B1. For a discussion of why litigation in other jurisdiction is not relevant to the determination of whether the Project will have a significant impact under CEQA, see Response A17.
4	Quite apart from astronomers' niche concerns, the most commonly cited objection to billboards (electronic and conventional) is visual blight. Billboards are notorious for intrusive, poorly-maintained, malfunctioning, decrepit and unsightly structures – often imposed on under-served neighborhoods	For a discussion of the Project's impacts on aesthetics and blight, see Responses A5 and A13.
5	The outdoor advertising industry is noted (even celebrated) for wasteful practices.	The comment does not question the content or conclusions of the MND, so no response is warranted.
6	Outdoor advertising typically constitutes a minor fraction of overall advertising budgets. As	The comment does not question the content or conclusions of the MND, so no response is warranted.

	on-line media continues to grow, revenues derived from outdoor advertising are projected to decline.	
7	Regardless of whether one favors or opposes electronic billboards, it must be acknowledged that the Initial Study has failed to allay concerns. Thus, a full-and-proper Environmental Impact Report should ultimately be undertaken. However, in order to avoid embarking on such a costly endeavor unnecessarily, the City of Gilroy is first urged to proactively canvass the community in an effort to gain insight into the public attitude and reception to electronic billboards.	The MND adequately discusses and mitigates all potential significant impacts to the environment, and therefore, an Environmental Impact Report ("EIR") is not required under CEQA.
	K Shani Kleinhaus, Santa Clara Valley Audubon Society and Gladwyn D'Souza Conservation Committee Chair Sierra Club Loma Prieta Chapter (September 6, 2022)	
1	Santa Clara Valley Audubon Society and Sierra Club Loma Prieta Chapter submit the following comments and responses to highlight the shortcomings of the Initial Study/Draft Mitigated Negative Declaration and the environmental impacts that would result from implementation of the Electronic Billboard Ordinance Project in the City of Gilroy. The comments with attached references provide unequivocal scientific evidence to establish the significant and unavoidable harm that Artificial Light At Night (ALAN) in general, and electronic billboards specifically, impose on human health and on ecosystems. The IS/DMND does not adequately address these issues.	This comment introduces the issues raised in the letter, the responses below explain in detail that the MND adequately addressed the impacts of the electronic billboard on human health and biological resources.
2	In March 2021, Sierra Club National adopted a new light pollution policy: "Sierra Club recognizes that while artificial light provides desirable benefits to society, such as extended hours of social space at night, its excessive, inappropriate and poorly controlled use also leads to significant harm. Sierra Club defines light pollution as artificial light that adversely affects ecosystems and any living organism. Sierra Club includes in this definition anthropogenic light that is wasteful, or misdirected; has negative ecological impacts; is used as a form of aggression; is harmful to health, safety, or other human rights; or disrupts our view of the natural night sky, disconnecting	While the Sierra Club's policy statement sets forth the organization's goals and objectives with regard to ALAN, the policy does not include comments on the adequacy of the analysis in the MND for this specific project and, therefore, does not require a direct response under CEQA. The design and operational characteristics of the proposed electronic signs are specifically intended to address the adverse effects of ALAN and are consistent with the objectives of the Sierra Club's policy. For a discussion of the Project's impact on biological resources, see Response A9.

	us from our cosmic environment, including the Milky Way Galaxy where we live. Therefore, light pollution imposes natural resources, economic, biological, political, psychological, and cultural burdens.” In addition, the Sierra Club retained a 60-year policy which “opposes billboard development along highways and supports measures to restrict these billboards.” The Sierra club policy is supported by a comprehensive compilation of resources pointing to the significant impacts of ALAN, please see “Attachment Resources-References-LightPollutionPolicy_20210307,” attached, and the recently published “Artificial Light at Night: State of the Science 2022”¹. The information and scientific studies referenced in this attachment point to the devastating impact of lighting on ecosystems and organisms that comprise our biological resources and our health. The Santa Clara Valley Audubon Society (SCVAS) is similarly concerned with the proliferation of ALAN and its pervasive harm to organisms, species, ecological food webs, and human health and safety. SCVAS is one of the largest National Audubon Society chapters in California, and its mission is to promote the enjoyment, understanding, and protection of birds and other wildlife by engaging people of all ages in birding, education, and conservation.	
3	Our organizations and our thousands of members in the region are working to protect our common natural resources, and we are greatly concerned with detrimental impacts of electronic billboards and signs to biological resources, the night sky, the aesthetic character of our City of Gilroy and region, and the health and quality of life of our region’s residents. We are opposed to allowing electronic billboards and encourage the City of Gilroy to tighten regulation and reduce, rather than increase their prevalence and impacts. We believe that electronic billboards anywhere, including at the proposed location, will cause significant and irreversible harm to the biological and aesthetic environment resources. We encourage the City of Gilroy to amend its sign ordinance to prohibit highway-facing and major-road facing electronic billboards.	This comment expresses the purpose of the Sierra Club and the Audubon Society and their opposition to electronic billboards. The comment does not question the content or conclusions of the MND, so no response is warranted. Please see Responses A5, A9, A10, and A13 for information concerning the proposed display's lighting and aesthetic impacts. Please note the City's sign ordinance allows limited digital displays under very restrictive conditions, and has minimum spacing requirements of 1.5 miles.

4	Aesthetic Resources Electronic signs are, by design, intended to be viewed from a distance. By design, electronic billboards offend aesthetics and visual character, and produce day and nighttime illumination, light and glare. The public abhors them. A 2021 survey conducted by the City of San Jose revealed that over 95% of over 2200 respondents are strongly opposed to electronic billboards on freeways (presentation attached). The concerns over aesthetics were one of the primary reasons provided by the opposing respondents. Highway 101 in this area is not, by designation, a scenic highway. But the public and the drivers clearly consider electronic advertisement “a form of aggression” which assaults our senses and health, and imperils drivers as it diverts their attention and puts them at an increased risk of collision. • The entire portion of US-101 that passes through the City of Gilroy is a County-designated scenic route, and is only approximately 660 feet east of the proposed billboard site. The Project clearly intends the advertisements to be highly visible from US-101 which traverses a relatively rural landscape in Gilroy and its vicinity, a rural landscape that travelers value. The Project will disrupt the visual character of the 101 corridor, despoil scenic elements, and offend landscape characteristics that contribute to the rural character of the Bay Area south of San Jose and to the well being of travelers.	For a discussion of the Project's impacts on aesthetics, see Responses A5, A9, A10, and A13. For a discussion of why this survey of the opinions San Jose residents is not relevant to the determination of whether the Project will have a significant impact under CEQA, see Response B1. Notably, the City of San Jose considered the public's input and still proceeded to approve electronic billboards. The MND fully evaluated light levels. First, light levels from the electronic billboard would only be perceptible up to 250 feet away (see Response A9), and will not cast light on scenic resource located outside that perimeter. Signage is readable beyond 250 feet, but it is important to note that, here, the proposed display is located in an urbanized area, surrounding by a parking lot and structures on the western side of the adjacent highway and by structures on the east side of the highway. As detailed in Response A9, the existing urban environment is replete with other sources of light and signage, as well as commercial and industrial uses. Vegetated, rural highway segments begin well more than 1/2 mile south of the proposed display location and many miles north of the proposed display location and, due to intervening highway geometry and topography, the proposed sign would not be visible from more rural highway segments. Nor would the proposed display, as detailed in the MND, substantially obstruct any views of scenic resources. Consistent with Appendix G of the CEQA Guidelines, the MND evaluates impacts on scenic resources within a State Scenic Highway. To the extent zoning regulations address scenic resources, as noted in the City's General Plan, the purpose of scenic routes is to protect ‘high quality vistas’ and ‘important scenic qualities’ (see General Plan Natural and Cultural Resources, Goal NCR, Policies NCR 2.1 & 2.3.) The Project would not have a substantial adverse effect on a scenic vista or damage scenic resources because it will be located in an urban infill site, characterized by numerous existing signs,
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		lights, parking lots, industrial building (including automobile dealerships), and other elements of the urban landscape (see Attachment G, hereto). While portions of Gilroy constitute a rural setting, the location of the project site is within the context of the City's auto-row, with multiple dealerships and other commercial venues, including a Tesla dealership, Chevrolet dealership, automobile repair shops, gas stations, recycling centers, and other commercial and industrial buildings. Additionally, the MND analyzes the Project's potential impact on traffic hazards and determined that the impact would be less than significant. For a discussion of the Project's impact on traffic hazards, see Response A10.
5	● The finding that aesthetic impacts of Light and Glare are less than significant relies on Mitigation Measure MM AES-1 "The signs' operational lighting parameters shall be provided to the City of Gilroy Community Development Department for review and approval prior to the regular operation of the light-emitting diode (LED) billboards, and shall be implemented by the project proponent to ensure a driver would not be adversely affected or impacted by trespass glare lighting." ○ Since drivers overwhelmingly and unequivocally find that electronic billboards affect them, there is no feasible way to "ensure a driver would not be adversely affected or impacted by trespass glare lighting". There is no doubt that impact on Aesthetic Resources is significant and unavoidable, and should be recognized as such in an Environmental Impact Report and a Statement of Overriding considerations.	The Project's operational parameters are self-mitigating and Mitigation Measure AES-1 in the MND merely provides the City with confirmation that these operational parameters are followed. Specifically, Mitigation Measure AES-1 requires City review and confirmation that the sign complies with the following operational standards: (1) the frequency at which electronic advertisements will change, referred to as "dwell time," will not occur more frequently than eight seconds; and (2) the brightness at which Outfront will broadcast the proposed electronic messaging will not exceed 0.3 foot candles at 250 feet. See Letter From Project Proponent re Outdoor Advertising Display 6490 Auto Mall Parkway (March 21, 2021), p. 1. The MND determined that these parameters would reduce any impact to a less than significant level, and therefore, no EIR or Statement of Overriding Considerations is required. The MND defers no analysis and, to clarify, Measure AES-1 is merely a mitigation meant to assure the display is operating as proposed. Regarding driver distraction, please see Response A10. All evidence demonstrates that electronic billboards do not have a safety impact with respect to drivers.
6	Biological Resources:	For a discussion of the Project's impact on biological resources, see Response A9. The

The Biological Report underestimates the potential impact to ecosystems including those non-special status species that may make use of the adjacent Princevalle drainage that benefit from its water and relative cover and including those that may transit it between the larger habitats of Uvas Creek and Llagas Creek. Recent scientific studies highlight the pervasive, cumulative, and harmful impacts of ALAN to terrestrial and aquatic organisms, species, and ecosystems. The impacts, including effects on circadian rhythms, metabolism and behavior in fish, birds, insects, and other taxa, have been summarized in several recent publications in major scientific journals. It seems that CEQA guidelines have not caught up and are inadequate to measure the impact to biological resources. Science shows that ALAN is harmful to all biological resources that see or otherwise perceive it - including both plants and animals. The many studies cited in this and the attached document show that biological impacts are not limited to the area illuminated but can extend to a large distance. The mechanism by which light impacts organisms is explored in a November 2020 study titled "Exposure to Artificial Light at Night and the Consequences for Flora, Fauna, and Ecosystems." This study shows that dozens of behavioral activities in all biological taxa display daily and annual rhythms, and are thus impacted by ALAN. This includes locomotor activity and sleep, schooling behavior (fish), vertical (fish) and horizontal (all vertebrates) migration, behavioral thermoregulation (fish), vocalization (fish, birds), foraging and food intake, mating and reproduction. Contemporary scientific evidence shows that attraction to light is having a devastating and direct impact on insect numbers and diversity, and indirect effects to entire ecosystems. Impacts to biological resources can be lessened by limiting operation hours, and turning the billboards off between the hours of 11PM and 8AM.	MND contains considerable discussion of the reasons why impacts of increased lighting would not result in significant impacts on biological resources. The MND concluded that the minor increases in lighting levels would be less than significant due to baseline lighting conditions. CEQA requires an evaluation of impacts relative to baseline conditions, not relative to a hypothetical, undegraded condition that does not exist at the project site. This comment acknowledges that it is concerned about the Project's impact on non-special status species that utilize the Princevalle drainage. Under the CEQA thresholds of significance, only impacts to species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or United States Fish and Wildlife Service are considered significant. A qualified biologist conducted a site survey (Appendix C) and determined that the white-tailed kite was the only special status species with potential to occur in the vicinity. In undertaking this analysis, the MND's supporting biological report evaluated the potential for species potentially associated with aquatic habitat to occur in the Princevalle Channel specifically, and determined it does not contain suitable habitat to support the California tiger salamander, California red-legged frog, tri-colored blackbird, white-tailed kite, least Bell's vireo, Monterey hitch, steelhead, or western pond turtle. The channel, located approximately 50 feet north of the proposed display, is a man-made channel constructed for stormwater drainage purposes that does not contain State or federally protected wetlands. Conservatively, the MND determined that only construction impacts could indirectly occur, and prescribed appropriate mitigation. All evidence demonstrates there are no protected species in the storm drainage ditch at issue, and therefore Project lighting impacts would not have the potential to occur.
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	Recent studies also implicate ALAN as one of the primary drivers of the global decline in insect numbers and diversity (the insect apocalypse) The loss of insects and the loss of ecological services they provide (for example, pollination, and as food for fish and birds) should be considered a significant, unavoidable impact for 24/7 light sources as proposed for this Project.	The comment identifies very general categories of animals that could be impacted by exposure to artificial light at night, but has not identified any special status species that may be impacted. It relies on a 2020 French study titled, "Exposure to Artificial Light at Night and the Consequences for Flora, Fauna, and Ecosystems." This study does not address the specific impacts of billboards; rather, it just discusses the impacts of LEDs in general, though acknowledges much of the supporting data "necessarily comes from older lighting technology." It acknowledges that "the avian responses to ALAN are complex, depending very much on the species, sex and age, geographical area as well as on the experimental conditions." It does not discuss white-tailed kite or any kind of raptor. Moreover, the study presupposes the proximity of various fauna whereas, with respect to the Project site, there is no evidence that any protected species or habitat exists in its vicinity other than a remote change the white-tailed kite will nest or forage nearby. An overriding consideration here is that the Project site is located amid a highly urbanized, highway-adjacent location that is replete with lights and illuminated signage. The Project itself has a very small light footprint, and there is no evidence the proposed display's light would impact, individually or cumulatively, any protected species. This generalized study cited by the commenter does not amount to substantial evidence of a significant impact on biological resource on the fauna found in Gilroy. The commenter also includes an uncurated list of other reports, but does not utilize them for the purpose of supporting any specific argument, and specifically acknowledges that "this list should <i>not</i> be construed as an endorsement by Sierra Club."
7	Migratory birds The IS/DNMD acknowledges that "migrating birds can be affected by human-built structures	For a discussion of the Project's impact on migratory birds, see Response G2.

	because of their propensity to migrate at night, their low flight altitudes, and their tendency to be disoriented by artificial light, which makes them vulnerable to collision with obstructions that could potentially lead to injury or mortality. In addition, birds migrating at night can be strongly attracted to sources of artificial light, particularly during periods of inclement weather". The IS/DMND provides two reasons why the "proposed electronic billboard would not have a significant impact on the movement of migrating birds" (IS/DNMD p. 41). These reasons and the findings are not supported by evidence: • Illuminations levels – The IS/DMND implies that the "proposed electronic billboard would not create a substantial change in illumination levels" from the baseline light sources in the area" (IS/DNMD p. 41). This is a subjective opinion. To substantiate this statement, a photometric study and a study of glare and light spillage must be provided, and light levels and the spectrum of the LED lights should be analyzed within a biological-impact context. • Billboard sign face display – The IS/DMND states that the proposed billboard sign face would not be allowed to change "more than every 8 seconds, and messages would be static (i.e., not moving, or animated) resulting in changing color patters [sic] rather than a fixed unchanging light which may be more attractive to birds" (IS/DNMD p. 41). There is no research to indicate what is an effective length of time a billboard image should be displayed to reduce the attraction to birds. The proposed 8 second interval is arbitrary. Therefore, the IS/DNMD does not show that there is a less than significant impact on wildlife, and mitigation measures to safeguard migratory birds should be implemented.	The MND's conclusion that the billboard would not create a substantial change in the illumination levels from baseline light sources is not subjective. Substantial evidence in the administrative record demonstrates that the Project would not produce brightness levels that exceed 0.3 foot candles at 250 feet above ambient levels, and the City has imposed mitigation, discussed above, to confirm that the Project will operate within these parameters. These are objective standards based on objective evidence. For a discussion of the lighting effects on avian species, please see Response A9. The display would change copy every eight seconds and result in a frequently changing set of colors and patterns, and in the setting of an urban setting. Evidence shows it is unchanging, static white and red light sources that significantly impact bird species, and in environments without other significant light sources. There is no evidence the display, in this context, would have any significant impacts on avian species.
8	2.2 Connectivity for wildlife Open storm drains, irrigation channels and other flood management infrastructure features	As discussed in Response K6, incorporated herein, a biologist conducted a detailed evaluation of the Project site and its surrounding area, including the Princevalle

often connect habitat patches and provide pathways for animals to traverse an urban landscape. This connectivity for wildlife is important to preserve biodiversity, and is easily disrupted by lighting. The Project is adjacent to the Princeville Channel, which is currently a wildlife connectivity corridor and allows permeability between Uvas and Llagas creeks (Figure 1). The DMND provides no analysis of wildlife movement in the channel, dismissing impact to wildlife movement. PDF p. 49 “The project site is bounded by a chain link fencing to the north, east, and south. These factors along with existing urban developments within the general project vicinity limit wildlife movement through the project site. Additionally, the project site is not part of or within a wildlife movement corridor” PDF p. 48 provides, “The Princeville Channel is located approximately 50 feet north of the project site and is a tributary to Llagas Creek, which flows into the Pajaro River, which empties into Monterey Bay, a traditional navigable water of the United States. While the project site does not contain State or federally protected wetlands, construction of the proposed electronic billboards has the potential for indirect (temporary) adverse impacts to the aquatic habitat of the Channel. Potential temporary indirect impacts (during construction) include pollutant loading, increased erosion and sedimentation, and debris dispersal into the Channel. Implementation of MM BIO-5 and MM BIO-6 would reduce potential indirect adverse impacts to the aquatic habitat of the Channel to less than significant levels through avoidance and minimization measures.” • Please provide wetland delineation for the channel’s aquatic habitat, and discuss application of requirements by the State Water Board and the Habitat Agency • MM BIO-5 and BIO-6 mitigate the impacts to Princeville Channel during the construction phase. Without a study of terrestrial animal movement within the Princeville Channel, the	Channel, and determined there was no potential habitat for protected species. It bears mention too that the north-facing display will be 60 feet high and, as demonstrated in the administrative record of proceedings, the vertical light footprint of displays does not cast light on the ground within the first 100 to 150 feet or so. Please see March 21, 2021 Letter from the Project Applicant re Outdoor Advertising Display 6490 Auto Mall Parkway. The Princeville Channel is located 50 feet north of the proposed display, and below the grade of the Project site. Even if the study demonstrated that the Princeville Channel contained protected species, the MND clearly demonstrates that the Project operations would not create a substantial change in illumination levels due to the physical dimensions of the light footprint and the existing topography. These considerations further do not account for the fact that the Tesla facility to the north has parking lot lights located directly adjacent to the channel, such that the baseline lighting levels already illuminate the channel. A wetland delineation is unnecessary for the Project for a number of reasons. The Project is clearly not located within the wetland because the billboard will be installed on a paved parcel adjacent to the highway, which is currently used for truck trailer parking. While the proposed display is located 50 feet from the Princeville Channel, Project construction will be limited to close proximity of the Project Site and, to the extent there is any potential for construction debris, materials, or runoff to reach the channel, Mitigations Measures BIO-5 and BIO-6 would prevent such from occurring. CEQA does not, per established case law, require the preparation of every last test and, here, a wetland delineation would not provide any meaningful environmental information.
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	finding that the Project will not interfere substantially with the movement of native wildlife species or with established native resident or migratory wildlife corridors cannot be made.	
9	2.3 Conflict with the Valley Habitat Plan The finds that "Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan" is less than significant with mitigation. The proposed mitigation, MM BIO-7, provides, "The project applicant shall submit a Santa Clara Valley Habitat Plan (SCVHP) Coverage Screening Form to the Planning Department for review and shall complete subsequent forms, reports, and/or studies as needed." • For Mitigated Negative Declarations, CEQA does not allow mitigation measures to depend on future disclosure of impacts and actual mitigation measures. Please specify any studies that will be needed and discuss the potential impacts and how these will be addressed	MM BIO-7 does not rely on future disclosure of impacts. The MND explains that the Project will be consistent with the Valley Habitat Plan, because project site is within the "Urban-Suburban" land cover as defined by the SCVHP and is not located in any special status plant and wildlife survey areas, or fee zone. Additionally, coverage under the SCVHP is only needed if the project or activity has a reasonable potential or likelihood to <i>take</i> a covered species. A highly unlikely or speculative take does not meet this criterion. Because the Project would not result in a take of a covered species, no additional studies under the SCHVHP will be required. Mitigation Measure BIO-7 merely contemplates confirming standard paperwork must be filed to document the foregoing conditions with administrators of the SCVHP.
	3. Driver Safety The IS/DMND acknowledges that the project undermines driver safety but the impact and of this hazard understated by the IS/DMND. As expressed above, driver Safety was a great concern to the responders to the San Jose survey. The risk to drivers is evident, and supported in a plethora of studies (See attachments) • Please analyze current vehicle collision data for the target stretch of US-101 and consider the potential of additional collisions due to drivers' attention being diverted.	For a discussion of the Project's impact on traffic hazards, see Response A10. This analysis sufficiently satisfies applicable legal requirements, and the analysis requested would provide no meaningful information with respect to CEQA impacts.
10	4. Energy consumption, brightness, greenhouse gas emissions In his study of energy use and other environmental impacts of electronic billboards (attached), Mr. George Young discusses energy consumption for lighting and cooling of LED billboards, as well as brightness of the billboards, materiality and recyclability. Ceqa requires the analysis of all direct and indirect impacts on a project, and we believe that all these environmental burdens are significant. The possibilities of mitigation are	For a discussion of the Project's impact on energy use, see Response A12. The commenter's note on greenhouse gases is factual incorrect. The project is estimated, very conservatively, to produce 5 metric tons of carbon dioxide equivalent and, amortizing construction emissions, 6 metric tons (mega tons, as expressed by the commenter, is not an applicable metric, and it appears the commenter is aggrandizing the impact). The applicable threshold of significance is 660

	limited and therefore, the environmental impacts are generally unavoidable. Mr. Young makes many technical recommendations which we incorporate into this letter by reference. We ask for an Environmental Impact report to consider these mitigation, and analyze the project compliance with them. While the IS/DMND lists the estimated 52,400 kilowatts/year of electricity and 6.6 megatons of CO2/year expected to be released into the atmosphere with the energy required for the billboards, the IS/DMND only states that it meets standards and does not prescribe mitigation for the greenhouse gas emissions in our current climate emergency.	metric tons per year, and therefore the Project is below the applicable threshold by two orders of magnitude, as detailed in the MND.
11	5. The City of San Jose has recently approved billboards at the airport, and included several feasible structural and operational requirements and mitigation measures that should be incorporated into the requirements for Gilroy's ordinance and the billboards project. Table 1 highlights some of these requirements: [chart omitted]	The chart cited in the comment demonstrates that the Project adopts several of the same structural and operational requirements as the City of San Jose. The chart inaccurately states that the Project includes no measures to shield the night sky. In fact, each of the individual LEDs on the sign's display facing are angled downwards.
12	On brightness, the EIR provides, - o PDF p. 21: "The proposed project commits to a maximum ambient light output level of a 0.3 foot-candle at 250 feet from the billboard, which is a more conservative lighting intensity standard for electronic billboards of this proposed size when compared to State standards. For a frame of reference, 0.3 foot-candle is comparable in brightness to the light emanating from a computer monitor, and the light levels emitted from the proposed billboards would be programmed to adjust based upon ambient light conditions at any given time (i.e., nighttime versus daytime). Therefore, impacts would be less than significant" - o PDF p. 27: "proposed Ordinance would require billboard projects to commit to a maximum ambient light output level of 0.3 foot-candle at 250 feet from the billboards, which is a more conservative lighting intensity standard for billboards of this proposed size when compared to State standards"	Pages 40-41 of the MND address the impacts of the Project's brightness on white-tailed kite and other nesting birds. It determined that the proposed electronic billboard would not create a substantial change in illumination levels due to baseline light sources in the project area including local street lighting, parking lot lighting, other illuminated billboards at nearby auto dealerships, headlights from automobile traffic, and highway lighting structures. Based on this analysis, the impact to migratory birds is less than significant. Please also see Responses K6 and K7; there is no evidence of protected species or habitat being subject to any discernable increase in brightness levels.

	However, the standards seem to address visual and aesthetic impacts, and ignore the biological impacts of lighting that is 3 times the brightness of the moon, and the hazard this brightness imposes on migratory birds and on insects. The brightness, 0.3 foot-candle, remains a significant unmitigated environmental impact to species and the ecosystem.	
13	We ask the City of Gilroy not to approve highway or road-facing electronic billboards. Instead, the city should develop an ordinance prohibiting such billboards city-wide. If the city persists in moving forward with this project, an EIR must be prepared.	This comment concludes the comment letter, as discussed above, this Project does not require an EIR because there are no unmitigated significant impacts on the environment.

Very truly yours,



Natalie C. Kirkish
Associate

NCK:NCK

CC:

Cindy McCormick
City of Gilroy Customer Services Manager
7351 Rosanna Street
Gilroy, California 95020
Email: cindy.mccormick@cityofgilroy.org

Encls.

ATTACHMENT A

9/20/22, 8:26 PM

Battle over billboards: San Jose faces lawsuit, pushback on proposed changes - San José Spotlight

Battle over billboards: San Jose faces lawsuit, pushback on proposed changes



An illegal billboard in San Jose. Photo courtesy of Jen Staats.

San Jose faces allegations that its billboard ban—and proposed changes to its [billboard policy](#)—violate property owners' constitutional rights.

In a lawsuit, a group called Citizens for Free Speech and Equal Justice claims San Jose violates residents' free-speech and equal protection rights through a decades-old ban on new billboards. The suit comes just as the City Council reconsiders that ban, pushing forward with a proposal that would allow new billboards on city-owned property where San Jose can generate revenue.

Jeff Herson, a member of the group suing the city, said San Jose needs to give residents the same opportunity the city

<https://sanjosespotlight.com/battle-over-billboards-san-jose-faces-lawsuit-pushback-on-proposed-changes/>

1/4

9/20/22, 8:26 PM

Battle over billboards: San Jose faces lawsuit, pushback on proposed changes - San José Spotlight

could get to display billboards—and earn money.

“The city is giving themselves a special deal and is excluding everyone else,” Herson told San José Spotlight.

Citizens for Free Speech and Equal Justice illegally erected a digital billboard near Highways 880 and 101 to sell advertising. They say the billboard is legal and the city’s policy unconstitutional.

The suit was filed last year, with a first trial date scheduled for November 2022, according to City Attorney Nora Frimann. She said the city could not comment on pending litigation.

A question of free speech or equal protection

David Snyder, executive director of the First Amendment Coalition, said the question of whether it is unlawful for the city to allow new billboards on its own land but prohibit the billboards of private citizens really depends on the situation. And, he said, banning billboards may not be a First Amendment violation.

“The city may have violated the First Amendment in the way it prohibited private speech,” Snyder said. “But the distinction at issue—between city billboards being allowed and others not being allowed—isn’t a First Amendment issue, exactly.”

He said there might be a violation of some other law, such as the constitution’s equal-protection clause, since the city makes a distinction between its own speech and private speech.

Are billboards back?

It was 1985 when San Jose banned new billboards while allowing existing ones to remain. But in 2017, the San Jose City Council reopened the issue. It voted to explore a two-part plan to make it easier for electronic billboards to pop up citywide. Officials championed digital billboards, saying the signs would make downtown more vibrant. The new policy

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Battle over billboards: San Jose faces lawsuit, pushback on proposed changes - San José Spotlight

also requires existing, non-digital billboards to come down, which supporters say will make San Jose more attractive.

In 2018, the city gave the green light to 22 electronic billboards on 17 city-owned sites across San Jose. Eight of those sites are reserved for freeway-facing billboards. No signs are up yet.

A second part of the plan, currently under environmental review, would let the city build signs on public buildings downtown and approve up to 75 electronic billboards on private property along freeways. There's a hitch, though. To get approval for a new electronic billboard along a freeway, a company would have to find four traditional billboards to take down.

John Miller, a co-founder of the grassroots organization [No Digital Billboards](#), said even though the city's plans would allow for more billboards, the plans are inaccessible to most individuals if they are not part of a billboard company. Outdoor advertising firms own most existing billboards, so individual property owners wouldn't be able to make that swap, Miller said.

Miller has been a vocal opponent of digital billboards in San Jose. No Digital Billboards recently sent a letter to the San Jose City Council urging city leaders to halt all billboard contract negotiations.

Les Levitt, another billboard opponent, said the lawsuit is a prime example of why the city should drop its electronic billboard plans. He said lawsuits surrounding billboards would cost taxpayers money.

"We are concerned that the city may have made some decisions without assessing the legal risks or unintended consequences," Levitt said. "We know that in Los Angeles, they've had year after year of [litigation around billboards](#). These disputes just never seem to end."

Challenging power

9/20/22, 8:26 PM

Battle over billboards: San Jose faces lawsuit, pushback on proposed changes - San José Spotlight

While they may be on different teams, Miller and Levitt, the anti-billboard advocates, and Herson, the pro-billboard individual, say San Jose is wrongly catering to billboard companies such as Clear Channel Outdoor and Outfront Media.

At a recent meeting, city leaders **abruptly paused** the plan to put digital billboards on private property following months of **aggressive pushback** from residents.

Since San Jose recently announced its intentions to move forward with the other aspects of Phase 2 plans to add more billboards downtown, Herson said the group is looking to amend their complaint and sue for damages. The government needs to follow the same rules as everyone else, he said.

Contact Carly Wipf at carly@sanjosespotlight.com or follow @CarlyChristineW on Twitter.

ATTACHMENT B

OUTFRONT
media

January 8, 2019

James Arbis
State of California Department of Transportation
Division Traffic Operations
Office of ODA
P.O Box 942874, MS-36
Sacramento, CA 94274-0001

RE: Illegal Digital sign in San Jose

I'm sure you are aware of an illegally erected digital sign in the city of San Jose @ 1548 Old Bayshore Hwy (101 & I-880 interchange). The sign was erected back in March or April 2018. There are two digital displays on the property erected without local or state permits and are displaying general advertising. The city of San Jose currently prohibits general advertising digital signage. This along with the illegal sign in Alameda County on I-580 are damaging the industry. We encourage the state to investigate and take appropriate action to discourage this activity from growing across the state.

I've included photos of the new digital sign. Please feel free to contact me with any questions or comments you may have. My direct telephone number is (510) 559-1135.

Sincerely,



Jeff McCuen
Northern California Real Estate Manager

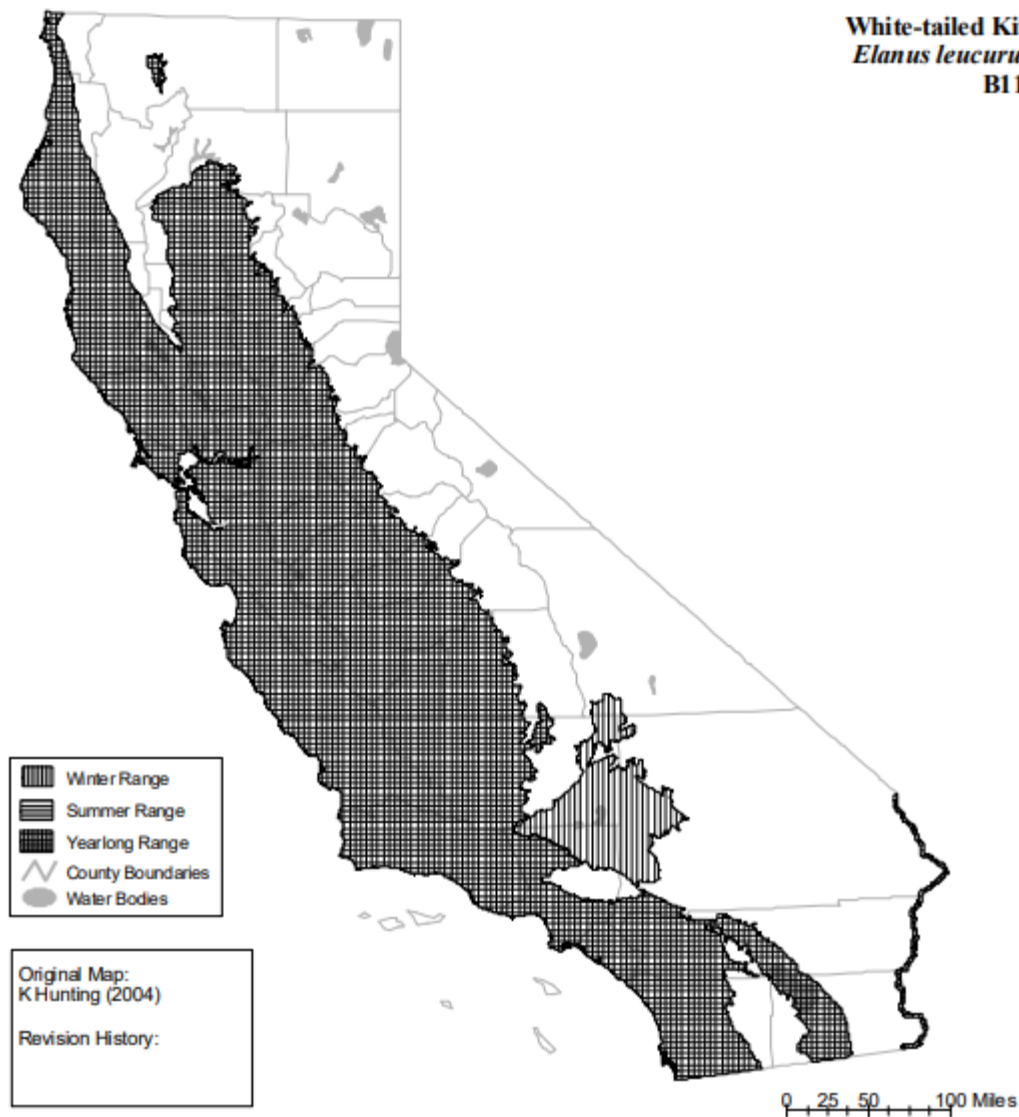
Cc Ken Parmelee

ATTACHMENT C

California Wildlife Habitat Relationships System

California Department of Fish and Wildlife
California Interagency Wildlife Task Group

White-tailed Kite
Elanus leucurus
B111



Range maps are based on available occurrence data and professional knowledge. They represent current, but not historic or potential, range. Unless otherwise noted above, maps were originally published in Zeiner, D.C., W.F. Laudenslayer, Jr., K.E. Mayer, and M. White, eds. 1988-1990. California's Wildlife. Vol. I-III. California Depart. of Fish and Game, Sacramento, California. Updates are noted in maps that have been added or edited since original publication.

ATTACHMENT D

California Wildlife Habitat Relationships System California Department of Fish and Wildlife California Interagency Wildlife Task Group

WHITE-TAILED KITE
Family: ACCIPITRIDAE
B111

Elanus leucurus
Order: FALCONIFORMES Class: AVES

Written by: C. Polite
Reviewed by: S. Bailey
Edited by: S. Bailey, P. Bloom
Updated by: CWHR Program Staff, February 2005

DISTRIBUTION, ABUNDANCE, AND SEASONALITY

Common to uncommon, yearlong resident in coastal and valley lowlands; rarely found away from agricultural areas. Inhabits herbaceous and open stages of most habitats mostly in cismontane California. Has extended range and increased numbers in recent decades.

SPECIFIC HABITAT REQUIREMENTS

Feeding: Preys mostly on voles and other small, diurnal mammals, occasionally on birds, insects, reptiles, and amphibians. Forages in undisturbed, open grasslands, meadows, farmlands and emergent wetlands. Soars, glides, and hovers less than 30 m (100 ft) above ground in search of prey. Slowly descends vertically upon prey with wings held high, and legs extended; rarely dives into tall cover (Thompson 1975).

Cover: Uses trees with dense canopies for cover. In southern California, also roosts in saltgrass and Bermudagrass.

Reproduction: Makes a nest of loosely piled sticks and twigs and lined with grass, straw, or rootlets. Nest placed near top of dense oak, willow, or other tree stand; usually 6-20 m (20-100 ft) above ground (Dixon et al. 1957). Nest located near open foraging area.

Water: Probably meets water requirements from prey.

Pattern: Uses herbaceous lowlands with variable tree growth and dense population of voles (Waian and Stendell 1970). Substantial groves of dense, broad-leafed deciduous trees used for nesting and roosting.

SPECIES LIFE HISTORY

Activity Patterns: Yearlong diurnal, and crepuscular activity.

Seasonal Movements/Migration: Apparently not migratory, but Binford (1979) found some movements in coastal California. May become nomadic in response to prey abundance (Dunk and Cooper 1994).

Home Range: Forages from a central perch over areas as large as 3 sq km (1.9 sq mi) (Warner and Rudd 1975). Seldom hunts more than 0.8 km (0.5 mi) from nest when breeding (Hawbecker 1942). Henry (1983) found mean breeding home range to be 0.57 sq km (0.2 mi).

Territory: Generally not territorial, but nest site may be defended against crows, other hawks, and eagles (Pickwell 1930, Dixon et al. 1957). Defended foraging territories of about 0.10 sq km (.04 sq mi) in winter from red-tailed hawks and northern harriers (Bammann 1975).

Communal roost used in nonbreeding seasons (Waian and Stendell 1970). Territory size a function of prey and competitor abundance (Dunk and Cooper 1994).

Reproduction: Monogamous; breeds from February to October, with peak from May to August. Average clutch 4-5 eggs, range 3-6. Female only incubates, for about 28 days. Young fledge in 35-40 days. During incubation and nestling period, male feeds female, and supplies her with food to feed the young. Usually single brooded; occasionally 2 broods.

Niche: Preys on rodents that may be harmful to agricultural crops. Nest may be robbed by jays, crows yellow-billed magpies, raccoons, and opossums. Great horned owls may prey on adults and young.

REFERENCES

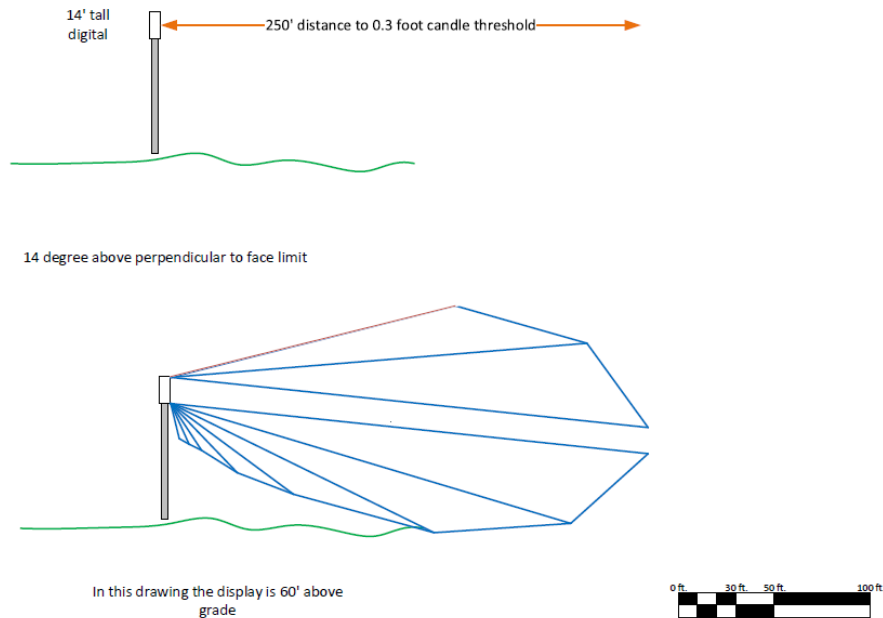
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B111

Life history accounts for species in the California Wildlife Habitat Relationships (CWHHR) System were originally published in: Zeiner, D.C., W.F.Laudenslayer, Jr., K.E. Mayer, and M. White, eds. 1988-1990. California's Wildlife. Vol. I-III. California Department of Fish and Game, Sacramento, California. Updates are noted in accounts that have been added or edited since original publication.

ATTACHMENT E

14 x 48 Vertical Dispersion (Side Elevation View) Updated to show down pitched diodes

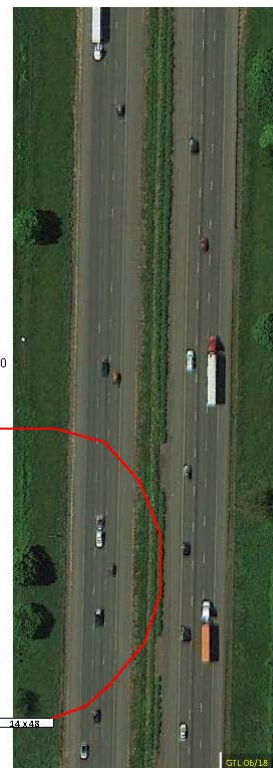
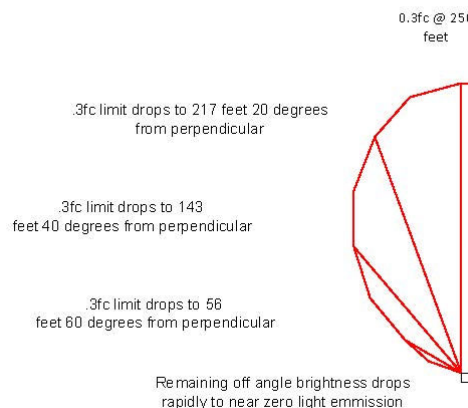


Per OAAA Lighting Guidelines, a 14 x 48 digital display will not increase the ambient lighting by more than 0.3 foot candles at 250 feet.

In order to increase the ambient light the full .3fc, the display would need to emit a full white frame (copy) at night time brightness settings.

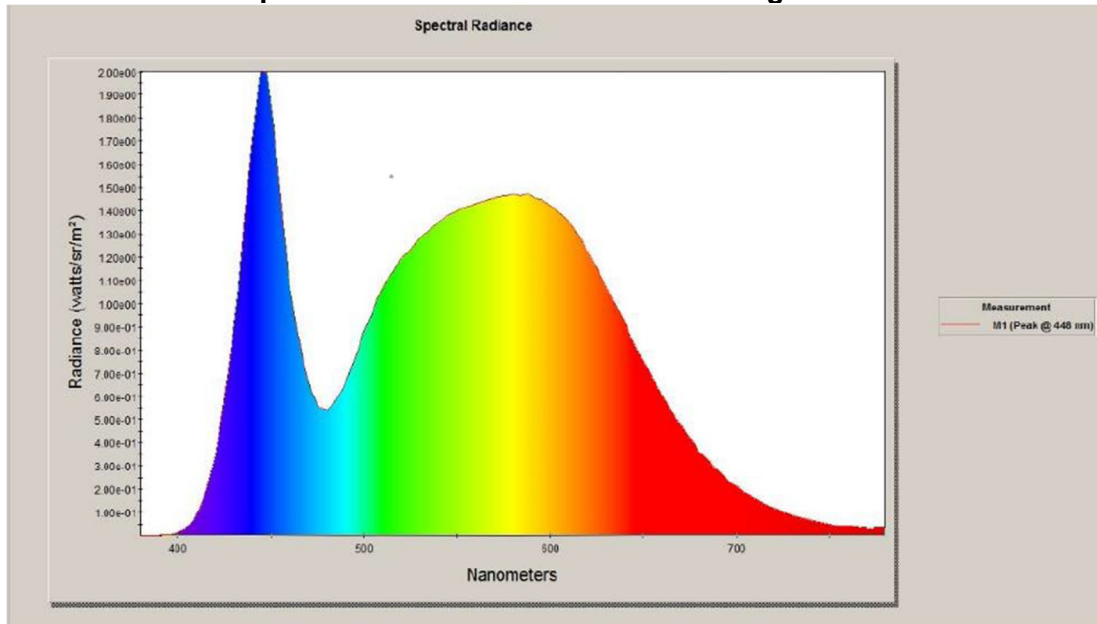
The LEDs are most intense directly perpendicular to their mounted position

The RED boundary shows the distance that the .3fc measurement would be obtained with full white copy.

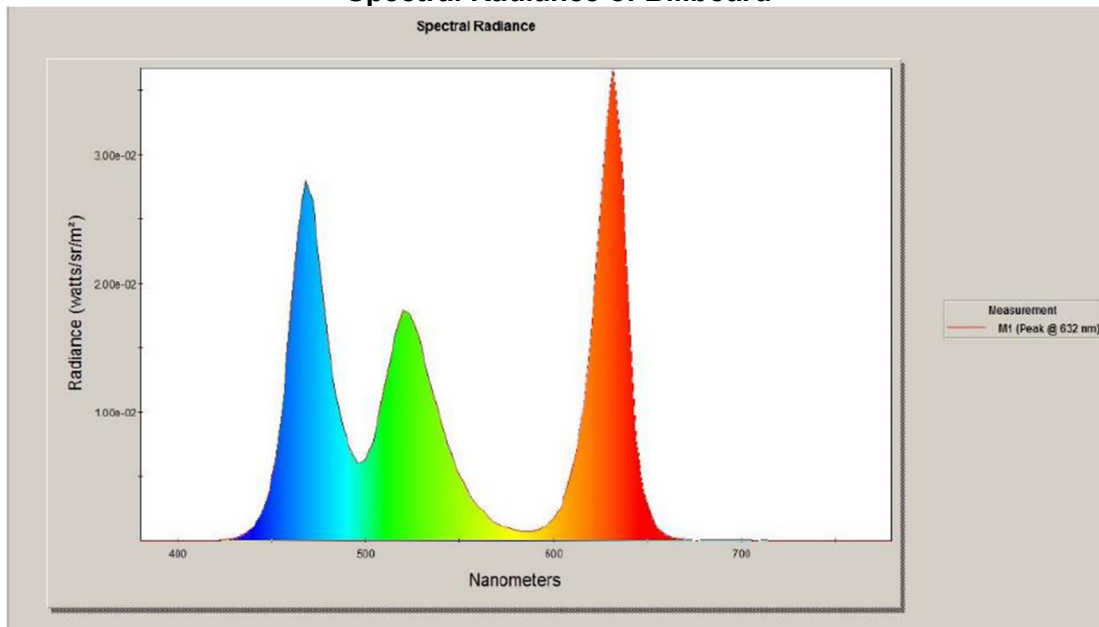


ATTACHMENT F

Spectral Radiance of Standard LED Lightbulb



Spectral Radiance of Billboard



ATTACHMENT G



Cindy McCormick

From: Mike Conrotto <conrottomike@gmail.com>
Sent: Thursday, December 8, 2022 3:33 PM
To: Sharon Goei
Cc: Cindy McCormick
Subject: EXTERNAL - Electronic Billboard Project
Attachments: Electronic Billboard Project PROS.pdf

CAUTION: This email originated from an **External Source**. Please use proper judgment and caution when opening attachments, clicking links, or responding to this email.

Hello Sharon,

Would you please forward a copy of the attached document (Pros for Electronic Billboard Ordinance Project) to each of the 7 Planning Commissioners?

Thank you so much,

Mike Conrotto
408-691-7775

PROS for Electronic Billboard Ordinance Project

1. Electronic billboards are proven to generate more sales for businesses who advertise on them.
2. It will provide an opportunity for local businesses to advertise in a professional way to a wider, more diverse audience. When local businesses (ie. car dealers) do well, it benefits the entire community, as sales tax goes right back to the city... thriving businesses = a better community for us all.
3. This electronic billboard will be a cleaner, more professional design than the many traditional billboards and haphazard notices posted around the region.
4. The modern design will include the name of the City of Gilroy, bringing recognition and pride of identity to the community.
5. NO cost to the City of Gilroy to build or operate the sign.
6. City of Gilroy will receive free advertising on the sign, and will actually generate revenue from the sign (% of gross sales).
7. Arguments against the sign stating that only the billboard company will gain are FALSE! The City of Gilroy, multiple local businesses and event organizers will benefit.
8. Special Events (ie. fairs, festivals, rodeos etc.) will be better advertised than by traditional methods (ie. small posters/paper flyers).
9. One electronic billboard is better for the environment than hundreds or thousands of paper ads that get thrown away becoming litter and/or landfill.
10. Sign can be utilized for state and regional **Amber Alerts and Emergency Messaging**.
11. It will NOT contribute to light pollution as opponents claim. Located along the highway, in a commercial zone, light emitted will be adaptive based on time of day, and will not affect any residential areas adversely.
12. Environmental study concluded there will be NO negative effects on local ecosystems or wildlife.
13. Opponents have argued an electronic billboard would change the architectural integrity, historic character and natural environment... The requested location of the sign would make the community look more modern and relevant, while drawing the eye away from the degradation caused by a roaming transient population and paper/plastic trash.
14. The following cities in the Bay Area have successful digital sign programs: Santa Clara, Milpitas, San Carlos, Belmont, Millbrae, South San Francisco, Oakland, Hayward, Martinez, Fairfield, Berkeley, San Pablo, Dublin, Benicia, and Alameda County.
15. Many of the opponents of the sign are not residents of Gilroy or the surrounding area.



Community Development Department

7351 Rosanna Street, Gilroy, California 95020-6197
Telephone: (408) 846-0451 Fax: (408) 846-0429
<http://www.cityofgilroy.org>

MEMORANDUM

TO: Planning Commission
FROM: Sharon Goei, Community Development Director
Kraig Tambornini, Senior Planner
DATE: January 19, 2023
SUBJECT: Planning Division Staff Approvals

The following table lists Minor Deviation approvals and Architectural and Site approval or denial actions made by the Planning Division since the last report was provided to the Planning Commission at its October 6, 2022 meeting.¹

APPROVED	PROJECT #	LOCATION	PROJECT NAME & DESCRIPTION
12/9/2022	AS 22-28	7554 Monterey Road	Gilroy Bowl facade upgrade
12/8/2022	AS 22-18	1920 Mantelli Drive	New Hillside SFR
12/5/2022	AS 21-17	Royal Way	Tentative Map, Zone Change, PUD Architectural & Site Review, and Habitat Plan Permit for a 45-unit townhouse project
11/21/2022	AS 22-27	8815 Forrest	Revision to AS 21-16, relocation of loading docks.
11/17/2022	AS 12-31	Bolsa Road	Cell Site Renewal for AT&T facility - 10 Year Extension
11/14/2022	AS 22-20	2040 Portmarnock	New hillside single-family residence
11/14/2022	AS 22-23	1986 Lavender	New hillside single-family residence
10/31/2022	AS 22-29	8300 Rancho Real	New Detached Garage - Hillside District
10/17/2022	AS 22-26	Glen Loma Ranch Nebbiolo Neighborhood	67 single-family homes in the Glen Loma Ranch Nebbiolo Phase II (Brix) neighborhood.
10/6/2022	AS 22-09	Portrush Court, Southerland Court, Walton Heath Court	Approval of plans for construction of 19 new detached SFRs in Eagle Ridge, Canyon Estates subdivision
DENIED	PROJECT #	LOCATION	PROJECT NAME & DESCRIPTION
None			

The current status of all active discretionary planning projects is available online at:
<https://www.cityofgilroy.org/DocumentCenter/View/12366/Current-Project-and-Development-Log>.

¹ Notification is required pursuant to Gilroy Municipal Code Sections 30.50.20(b) and 30.50.46.