



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/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.

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.

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.

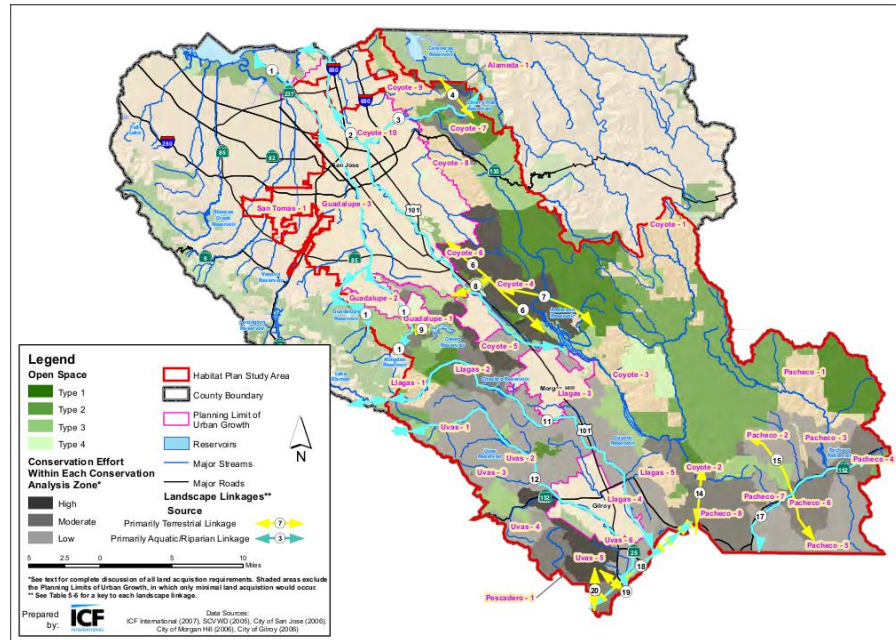


Figure 5-8
Land Acquisition Strategy with Applicable Landscape Linkages

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:

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- 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	<p>“customizable horizontal light shields, and a vertical alignment of LED RGB modules to eliminate light into specific zones”</p> <p>Vertical light is controlled by LED angles restricted to “65 degrees, with limited intensity above 18 degrees and below 47 degrees.”</p>	none
Brightness	<p>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.</p> <p>Max is 0.3 candlefoot. Compare with full moon which is max of 0.1 candlefoot.⁶</p> <p>Brightness changes with the amount of ambient light picked up by the sensors.</p>	<p>Max 0.3 candlefoot at 250ft from billboard. Compare with full moon which is max of 0.1 candlefoot.⁶</p> <p>Brightness changes with the amount of ambient light picked up by the sensors.</p>
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

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