



August 25, 2021

Adam Petersen
Environmental Project Manager
City of San José

Re: US 101 Airport Electronic Signs Initial Study/Addendum

Dear Mr. Petersen,

In April 2020, the Sierra Club Loma Prieta Chapter and Santa Clara Valley Audubon Society submitted scoping comments for San Jose's proposed for the City's Phase II Sign Ordinance Update. The comments provided an unequivocal scientific evidence to establish the significant and unavoidable harm that ALAN in general, and electronic billboards specifically, impose on human health and on ecosystems. We submit our April 2020 scoping letter - please consider our April 2020 letter and the resources it refers to as comments on the US 101 Airport Electronic Signs Initial Study/Addendum. (Attachment 1)

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."

The Sierra Club retained a 60-years policy which "opposes billboard development along highways and supports measures to restrict these billboards."

The Sierra club policy statement is supported by a comprehensive compilation of resources pointing to the significant impacts of Artificial Light at Night (ALAN) (Attachment 2), pointing to the devastating impact of lighting on ecosystems and organisms that comprise our biological resources. This evidence provides additional support to our assertion that electronic signs will cause significant and irreversible harm to the environment, especially

when the light can be visible from the riparian and aquatic habitats along the Guadalupe River.

The Santa Clara Valley Audubon Society is similarly concerned with the proliferation of ALAN and its pervasive harm to organisms, species, ecological food webs, and human health and safety.

Our organizations and our thousands of members in San Jose are all working to protect our common natural resources, and we are greatly concerned with detrimental impacts of programmable electronic billboards and signs to biological resources, the night sky, the aesthetic character of our region, and the health and quality of life of our region's residents. We 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. We are opposed to allowing electronic billboards and encourage the City of San Jose to tighten regulation and reduce, rather than increase their prevalence and impacts. We urge the City to adopt a No Project alternative.

We support the letter submitted by No Digital Billboards in San Jose-In addition to our comments in the Scoping Letter of April 2020, the Sierra Club Loma Prieta Chapter and the Santa Clara Valley Audubon Society submit the following comments on the US 101 Airport Electronic Signs Initial Study/Addendum (File No: ER21-015).

1. The light pollution impacts of this project have not been adequately analyzed

For the North Sign, the Addendum does include "custom side-shielding of the LED modules to eliminate spill light toward the Airport's air traffic control (ATC) tower located approximately 5,600 feet away." However, there is no mitigation to reduce such impacts on the River, which is much closer to the sign than the ATC tower. It's clear that both signs have light pollution and glare impacts for a great distance and both signs will have negative impacts on the riparian corridor and light pollution in general. Specifically, the impacts of the North Sign on the riparian corridor need to be analyzed and mitigated, preferably using an internally illuminated or 'backlighted' LED display facing toward the riparian zone as is proposed for the South Sign.

2. The Biological Report underestimates the potential impact to the aquatic and riparian ecosystems and the species that inhabit them

Recent scientific studies highlight the pervasive, cumulative, and harmful impacts of Artificial Light At Night (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 attached documents shows 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" (<https://www.frontiersin.org/articles/10.3389/fnins.2020.602796/full>). 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), food intake, mating and reproduction.

Recent studies also implicate ALAN as one of the primary drivers of the global decline in insect numbers and diversity (the insect apocalypse, see <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>). The loss of insects and the loss of ecological services they provide (for example, pollination, and as food for fish and birds) motivated Germany to adopt a law restricting ALAN and the use of pesticides (<https://phys.org/news/2021-06-german-climate-insect-laws-finish.html>).

The Biological report acknowledges the potential harmful impacts of ALAN on the riparian corridor and sensitive species that use the aquatic and the riparian habitats for subsistence and movement, yet finds no significant impacts because the area is already degraded and lit. The report does not include a photometric study, and thus its findings are subjective and unsubstantiated. Fish and wildlife in this area are dependent on the relatively dark and narrow riparian corridor for movement and migration. Incremental and cumulative increase in ambient light is likely to disrupt their migration, with the potential of limiting activity hours with detrimental and cumulative results.

While we agree that the area is not pristine, and that there are many stressors that impact Steelhead and other aquatic and riparian species in the Guadalupe River, we disagree with the finding of no significant impact after mitigation.

Migration is a crucial event in the Steelhead life cycle, which travels between the Bay and its breeding areas in the Guadalupe River system. Downstream migration brings young fry from their hatching area to the Bay, where they feed and mature. While water quality and quantity are indeed critical to this threatened species persistence in the river, the addition of ALAN impacts on rhythmic components such as migratory behavior, is likely to contribute a significant risk factor and adversely impact Steelhead in the Guadalupe River.

Furthermore, Steelhead feed on insects (aquatic Macroinvertebrates, see <https://fishbio.com/field-notes/population-dynamics/stuck-middle-insects-food-web>). As discussed above, 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. This science should also apply to the aquatic insects that are the basis of the food web in the Guadalupe River.

It is reasonable to expect that increased visibility of light from the riparian and aquatic ecosystem of the Guadalupe River will impact the migratory behavior of the threatened Steelhead and reduce their food source (insects). The direct, indirect and cumulative impacts to fish (as reviewed in the attachments and references we provided) may contribute to the hazards that challenge steelhead survival in the river.

We believe that we have a fair argument, based on substantial evidence, that the project will have significant unavoidable impacts to the riparian and aquatic systems of the Guadalupe River and to the threatened. ALAN generated by billboards also have the potential to harm steelhead and impede wildlife migration in the river aquatic and riparian corridor. We maintain that the finding that the project will cause no significant unavoidable impacts to the environment cannot be made, and a full, independent EIR is needed.

3. The project undermines driver safety

In addition to resources submitted in Attachment 2 and by other commenters, please add the following evidence that shows that billboards, especially electronic billboards, are hazardous to drivers:

- 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>

4. Regulatory Framework should include City Council Policy 6-4

Please include the City Council Policy 6-4, *Signs on City-Owned Land Including Billboards, Programmable Electronic Signs and Signs Displaying Off-Site Commercial Speech* (<https://www.sanjoseca.gov/your-government/departments/city-clerk/council-policy->

[manual/section-6-planning-zoning](#)) under Regulatory Framework and discuss how it applies to this project including the list of project locations for electronic signs included in the Policy.

5. Please describe and analyze the impacts of Energy Use and Heat Generation

Electronic signs generate a lot of heat and usually require air conditioning ([https://www.scenic.org/wp-content/uploads/2019/09/EXCERPT The Basics of Digital Signage and Energy Consumption1.pdf](https://www.scenic.org/wp-content/uploads/2019/09/EXCERPT_The_Basics_of_Digital_Signage_and_Energy_Consumption1.pdf)). Please update the Project Description to describe the type of air conditioning (or other cooling system) that will be installed and the operations plan for this air conditioning including use of water for these systems. Also, please include energy used for air conditioning in the analysis of impacts on Energy and Greenhouse Gas Emissions.

The heat-producing signs will also contribute to the urban heat island effect. The American Planning Association's Planning Advisory Service (PAS Quick Notes, Urban Heat Resilience) states "Heat kills more people in the United States than all other weather hazards combined." The report also says planners "should work to help their communities equitably prepare for and adapt to both chronic and acute heat risk through heat mitigation and management" and recommends mitigation strategies including "waste heat reduction."

Please describe in the project description how hot these signs are and under what conditions they would need to be cooled to continue operating. Also analyze the impact on temperatures in the vicinity of the sign during extreme heat emergencies and potential impact to the grid (temperatures above 90 degrees Fahrenheit). "Extreme heat is a period of high heat and humidity with temperatures above 90 degrees for at least two to three days." (<https://www.ready.gov/heat>)

6. The project is part of a larger project and neglects to consider cumulative impacts

If these signs are installed it's very likely at least 20 more similar signs will be installed on City property. This project fragments CEQA analysis as it fails to analyze the full impact of electronic signs on City owned properties.

Please estimate the **cumulative impacts** on ambient light in the city, energy use and extreme heat hazards that will result from adding 20 more electronic signs (mostly within a mile radius of Downtown).

7. The EIR should consider alternatives

Alternatives to the proposed project must be studied. Please analyze both the “no project” alternative and an alternative with smaller 2-sided signs and with both signs using internally illuminated or ‘backlighted’ LED displays facing toward the riparian zone.

8. Mitigation Measures

We continue to ask for the project to be stopped. However, if the project is approved, the following mitigation measures should be added for this project to help reduce the above-described impacts:

- Signs should not be illuminated between the hours of 10:00 p.m. and 6:00 a.m. (as provided for in Zoning Ordinance section 23.02.905 - Limitations on programmable electronic signs).
- Tree planting should be required on-site where the signs are installed to mitigate the tree removal and the heat island impacts created by these blazing signs.
- Billboards should include an ambient temperature sensor that automatically shuts down the display when temperatures exceed 90 degrees Fahrenheit to protect the environment, alleviate the urban heat island effect and reduce energy use during hot weather emergencies.
- It’s clear the residents of San José strongly oppose these signs and the negative impact they will have on the visual character of the City. The aesthetic impact of these signs must be mitigated by removing blight elsewhere in the vicinity of Downtown. We recommend removing existing paper billboards to mitigate this negative impact. The mitigation should be based on sign area not on number of signs and should remove signage at a ratio of at least 4 sq. ft. removed per sq. ft. of new signage.
- Mitigation should include independent monitoring for compliance with ordinance requirements, conditions, and mitigation measures including times of operation and lighting levels/intensity. This independent monitoring should be at the expense of the billboard operators, who should not be monitoring their own compliance. If dozens more of these signs are allowed, a monitoring system needs to be in place.

8. An Addendum to the Airport Master Plan EIR is not an acceptable CEQA process for this project

An Addendum to the Airport Master Plan EIR is not an acceptable CEQA process for this project, which is of great concern to the community. This project is a substantial change to the Airport Master Plan and will have substantial impacts that were not analyzed in the Airport Master Plan EIR. Electronic signs were not part of the project discussed in the Master Plan EIR, so this is a whole new project and a substantial change to the Airport Master Plan. A Subsequent EIR is needed to analyze those impacts in more detail, to

considers alternatives, and provide mitigation measures for the project-level impacts as well as cumulative impacts of all Programmable Electronic Signs allowed under Council Policy 6-4.

As discussed in this comment letter, the project will have significant impacts that were not discussed in the Airport Master Plan EIR and it may not be possible to mitigate the impacts on aesthetics, biological resources, energy and greenhouse gas emissions, and hazards such as heat and traffic collisions.

Respectfully,



Shani Kleinhaus
Environmental Advocate
Santa Clara Valley Audubon Society



Katja Irvin
Water Committee Co-chair
Sierra Club Loma Prieta Chapter