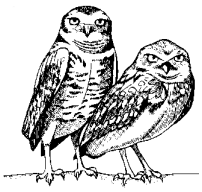

Land Protection Partners

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January 16, 2023

Via Email to LAART@metro.net

Mr. Cory Zelmer
Deputy Executive Officer
Los Angeles County Metropolitan Transportation Authority
One Gateway Plaza, Mail Stop 99-22-6
Los Angeles, California 90012

Re: Draft Environmental Impact Report: Los Angeles Aerial Rapid Transit Project

Dear Mr. Zelmer:

The Los Angeles County Metropolitan Transportation Authority ("Metro") has accepted an unsolicited project to build a private conveyance between Union Station and Dodger Stadium known as the Los Angeles Aerial Rapid Transit Project (the "Project"), has assumed Lead Agency status under dubious authority in that it is not the agency that has the principal responsibility for approving or carrying out the project, and has issued a Draft Environmental Impact Report ("DEIR").

The conclusions in an EIR must be based on substantial evidence, which is discussed in the California Environmental Quality Act as follows (Pub. Res. Code § 21080, subd. (c)):

> Argument, speculation, unsubstantiated opinion or narrative, evidence which is clearly inaccurate or erroneous, or evidence of social or economic impacts which do not contribute to or are not caused by, physical impacts on the environment, is not substantial evidence. Substantial evidence shall include facts, reasonable assumptions predicated upon facts, and expert opinion supported by facts.

In the comments that follow we focus on the impacts to biological resources and identify that most of the conclusions and assertions in the DEIR are not supported by substantial evidence, and in fact substantial evidence supports the opposite conclusion from those assertions. As experts in environmental impact analysis of biological resources with decades of experience (see biographies below), we provide these comments as facts, reasonable assumptions predicated on facts, and expert opinion supported by facts.

1 Inadequate Biological Surveys

Biological surveys for the Project are described in Appendix E of the DEIR. The consultants purport to have surveyed the entire alignment on a single day (April 1, 2020), including a 500-foot survey buffer around the route. The methods do not describe how the biologist surveyed the entire three-dimensional project area, which extends up to 200 feet upward from the alignment. This third dimension is often ignored by biologists and its study requires appreciation of the speed at which animals move when aloft (Kunz et al. 2008). A 500-foot survey buffer is inadequate for assessing species that are moving through the air at a rate of 30 miles per hour (the speed of a typical songbird), thereby traversing the entire study area in less than 23 seconds. Furthermore, a single daytime survey in April cannot describe the volume and diversity of migratory birds that traverse the project location at night (most bird species migrate at night) during spring and fall migrations. In short, the survey effort on which the project biological assessment was made is inadequate to be considered substantial evidence regarding any impacts to wildlife and especially to birds that traverse the three-dimensional volume that would be impacted by the proposed project.

Published guidelines to reduce impacts of power lines identify many techniques to evaluate the bird use of areas in route planning (APLIC 2006). These include: daytime and nighttime visual observation using tools to measure distance and altitude of birds (clinometers and theodolites), closed circuit television recordings, night vision tools such as image intensifiers, forward-looking infrared devices, and radar. Radar techniques are well established and were developed in 1978 to detect birds specifically to evaluate the risk of new transmission lines (Korschgen et al. 1984). These tools can be used to develop a reasonable assessment of the quantity and general species composition of birds that might be at risk of collision. Examples of such efforts are available in the published literature. Williams et al. (2001) used radar, visual observations, and a ceilometer to describe birds migrating through a mountain pass. Mabee and colleagues have described bird numbers and altitude of flight using radar at proposed wind power sites (Mabee and Cooper 2004, Mabee et al. 2006). Others have used nocturnal flight calls to identify passing migrants (Farnsworth et al. 2004, Farnsworth and Russell 2007). Nocturnal flight calls have been used by community scientists in Los Feliz to document nocturnal migrants passing over the downtown Los Angeles area (see https://www.youtube.com/watch?v=B1RyBDnCqcg&t=1s).

2 Collision Risk

The DEIR acknowledges that installing large cables up to 195 feet in the air could pose a collision risk. The preparers' subsequent analysis of that risk, however, is replete with unsupported assertions and mischaracterizations of the literature.

The analysis of collision risk in the DEIR consists of the following statements in the main text and Biological Resources report (Appendix E):

- Ropeway cables would pose less danger than transmission lines because they are 1.75 to 2.5 inches in diameter compared with 1–2 inches for transmission lines and 0.5 inches for ground wires above transmission lines.

- The three ropeway cables would be spaced tightly in the vertical plane and so would pose less risk than if they were spread more broadly.
- The tight spacing of cables vertically would make them more visible.
- Cables would be made more visible by the moving cabins.
- Therefore avian collision risk from the cables would be less than for transmission lines.
- Concentrated avian activity is not expected near the project. Migratory movement is focused on prominent ridgelines, shorelines, and where favorable stopover habitat is located. The project is located "on a broad urbanized coastal plain, midway between the coast and the mountains, and lacks significant wetlands or similar habitats that might attract large numbers of migrants as stopover habitat."
- Grouse and ptarmigan have poor maneuverability in flight and collide with ski lift cables but no similar species are found in the project area.

We consider these claims in turn.

Cable size. The DEIR relies on the idea that birds will be able to see the ropeway cables during the day because they can be half an inch larger than transmission wires. This is a preposterous claim. Notwithstanding citations in the DEIR, current published sources indicate that there is no evidence to back this claim, which derives from experiments on transmission lines comparing the main power lines, which are always lower and larger, with the ground wires, which are always smaller and located higher than the main lines (Bernardino et al. 2018). Studies that remove the upper, smaller wires document a decrease in avian mortality but there is "no possibility of disentangling the effects of wire height and diameter" (Bernardino et al. 2018). There is some experimental evidence suggesting that it is the placement of the ground wire that is the important factor and that making it larger does not decrease collisions (Brown et al. 1987). The DEIR therefore errs in relying on the assumption that a tiny difference in cable diameter will mitigate daytime collisions. It also will not mitigate collisions at night, which is when most migratory birds will encounter the structure and cables. Nocturnal migrants do not see cables, even the guy lines that hold up 2,000-ft communication towers that are much larger than the proposed cables (Longcore et al. 2008), because they encounter them in the dark. There may be "general agreement" in the literature that larger cables are safer, but the most recent scientific review "found little scientific evidence that these recommendations [including to use larger diameter cables] are effective" (Bernardino et al. 2018).

Vertical spacing of cables. The DEIR argues that because the three cables would be packed tightly in the vertical plane, they would pose less of a risk than if they were spaced out vertically. First of all, this claim has no evidence to support it in the published literature. Second, it imagines that all birds move in a single vertical plane through the atmosphere, as if they were aircraft on a flight path at a cruising altitude. That is not how birds move in space. Because birds increase and decrease in altitude as they use the airspace, the packing of the wires vertically is not the substantial mitigation measure that is assumed in the DEIR.

Increased visibility of three cables. The DEIR argues that because there are three cables in close proximity, birds will see them more. Again, power lines often have several lines together and still result in avian collisions and mortality. There is no evidence to support this self-serving claim, and it similarly does not address nocturnal collision risk.

Risk relative to transmission lines. The DEIR presents its unsupported assertion that the cables would cause less mortality than a similarly situated power line as if it were evidence that is impacts would be less than significant. This is incorrect on two fronts. First, the DEIR provides no substantial evidence that the rate of avian collision and mortality would be less than power lines. The height of the cables and of power lines are similar. There is no support to claim that moving cars attached to the cables would increase visibility (Bech et al. 2012) and especially moving cars would not be a factor in the middle of the night when the wires would be encountered by nocturnal migrants. Second, the question that must be answered for environmental analysis is not one of relative impacts, but whether the impact itself would be significant. Based on collision rates with power lines, any analysis of the impacts from the proposed project should start from the assumption that the 1.9 km length of the cables will kill up to 152 birds per year, and given the variability in collision rates, an average value would be 75 birds per year (Jenkins et al. 2010). This would be true of any aerial cable system at the heights proposed in the project area. The birds that could collide with it might include sensitive species (given their presence in the surrounding park and along the Los Angeles River) and therefore this should be considered to be a significant impact, both through direct adverse effects on sensitive species and interference with migratory wildlife corridors. The DEIR, in contrast, asserts there will be no adverse effects because it asserts that there will be no concentration of avian movement intersecting with the site, which we consider next.

Concentrated avian movement. The DEIR makes the claim that the project site is in the middle of a broad coastal plain, lacking topography to concentrate migrants and lacking habitat that would attract birds as stopover locations. These assertions are flawed.

Significance of impacts depends not necessarily on the quantity of birds but on whether sensitive species are affected. Many sensitive bird species migrate through Los Angeles and could encounter the project site.

The assertion that there is no stopover habitat to attract birds ignores the presence of the Los Angeles River and Silver Lake Reservoir Complex, which is a significant stopover habitat for waterfowl, in close proximity to the site. An assessment of this question must look at a broader landscape context than the 500-ft buffer considered in the DEIR because, as noted, birds fly quickly through the air and major stopover locations are found within a few minutes flight from the project site.

There is another factor that concentrates avian migrants that is entirely ignored by the DEIR: artificial light at night. Nocturnally migrating birds can be tracked on weather radar and research has now shown that light at night escaping upwards is associated with greater numbers of birds present during the day, especially in the fall when juveniles are migrating south (La Sorte et al. 2017). As birds are migrating southward they are attracted to lights and then end up disproportionately using habitats in and around cities as compared with potentially better habitats elsewhere (McLaren et al. 2018). Lights can rapidly increase the density of migratory birds in an area at night. A study of the "Tribute in Light" installation in New York documented an increase from 500 birds within 0.5 km of the vertical light beams before they were turned on to 15,700 birds within 0.5 km 15 minutes after illumination (Van Doren et al. 2017). Downtown Los Angeles also attracts and concentrates birds, especially in the springtime, based on radar

measurements (Horton et al. 2019). Dodger Stadium itself creates one of these exceptionally bright points on the landscape and would itself attract and disorient birds, as was seen recently with a Greater White-Fronted Goose at a Dodgers playoff game. Therefore, contrary to the assertions in the DEIR, this location is associated with concentrations of avian migrants.

Species susceptible to collision found in project area. The DEIR references a study of grouse and ptarmigan collision with ski lifts (Bech et al. 2012) to conclude that no similar low maneuverability species vulnerable to collision are found in the project area. The DEIR ignores the big message from that paper, which is that searches for carcasses only reveal a small fraction of the birds killed at elevated wires. In that instance, a bird had collided with the wires and was found 600 m (1,969 ft) away, far outside the zone typically searched for mortality at wires. The steep topography of the site may have contributed to this distance, but the genetic linking of an individual bird to feathers underneath an obstruction 600 m away suggests that many current estimates of avian mortality at elevated obstructions are low (Bech et al. 2012).

The DEIR does not provide important information about what groups of species are more vulnerable to collision (Bevanger 1994, Savereno et al. 1996, Bevanger 1998, Janss 2000). Although all bird species are potentially exposed, the species that are typically at greatest risk are large, heavy, relatively small-winged birds with poor vision (Jenkins et al. 2010). The most susceptible groups tend to be waterbirds and in particular large ducks, geese and swans, pelicans, large herons and waders (Jenkins et al. 2010). Rails, coots, and cranes (Gruiformes) are most frequently recorded birds killed at power lines (Bevanger 1998). Other groups at risk include waterbirds and diving birds such as ducks (Anseriformes) and loons (Gaviformes), which also have high "wing loading," which means that their wings are small relative to their weight (Bevanger 1998). Records of mortality of species in these groups are common also because they are larger, more easily detected, less likely to be carried off by scavenger, and therefore more likely to be recorded. Other species that are theoretically prone to collisions based on their size, wing loading ratio, and vision are found less in surveys, probably because they are smaller and harder to detect (Drewitt and Langston 2008), or travel significant distances after being injured (Bech et al. 2012). These more sensitive groups would include pigeons (including native Columbiformes such as Band-tailed Pigeon and Mourning Dove), some passerines, and high-speed predators such as falcons (Jenkins et al. 2010). Aerial predators, such as swifts, many raptors, and even gulls, are at risk because they spend so much time in flight that have an increased probability of colliding with wires than other species that fly less (Bevanger 1998, Janss 2000).

In conclusion, the collisions analysis in the DEIR misrepresents the published literature and is not based on substantial evidence. The proposed aerial tramway will kill birds through collisions and the proximity of waterbirds attracted to nearby habitats at the Los Angeles River and Silver Lake Reservoir Complex, combined with the excessive light escaping from downtown Los Angeles (Pack et al. 2017), increases the probability of such collisions and the resulting annual fatality rate. From a CEQA perspective, this represents interference with a migratory pathway and adverse impacts on sensitive species, which are included in the migratory species that traverse Los Angeles routinely. It deserves mention that avian collisions with power lines (or by extension, the proposed aerial tram system) cannot be eliminated through mitigations (Alonso et al. 1994, Brown and Drewien 1995, Janss and Ferrer 1998).

3 Lighting

The DEIR does not fully describe all sources of lighting. It makes a vague mention of digital billboards (p. ES-11) as follows:

> [E]lectronic digital displays and/or changeable message light-emitting diode (LED) boards that include both transit information and other content, which may include off-site advertising that generates proceeds to support transit system costs and operations. Signage would be architecturally integrated into the design of the ART system including its stations, the junction, towers, and cabins.

The prospect of LED billboards festooning the towers, gondolas, and stations is not adequately accounted for in the environmental analysis of biological resources and in fact is not considered at all. The aesthetics analysis contains no renderings of the project at night, so decisionmakers are lacking critical information to understand the full impacts of the lighting from the project both for impacts on visual resources and for the impacts of light pollution on biological resources.

The proposed "project design feature" for lighting (AES-PDF-A) violates national standards set by the Illuminating Engineering Society for off-roadway outdoor signage (RP-39-19). The project proposes 10,000 candela per square meter during the day, when the highest allowable brightness by national standards is 3,500 candela per square meter. At night, the project design feature proposes 300 candela per square meter, while the highest allowable brightness for the lighting zone appropriate for a business district (LZ3) is 80 candela per square meter. The portion of the project in the State Park and heading up into Chavez Ravine should probably be classified as LZ2, where the maximum allowable luminance is 40 candela per square meter. LZ3 is defined as, "Areas of human activity (i.e., habitation, recreation and/or work) where electric lighting may be continuous and is required for safety and convenience at night. This is the recommended default zone for large cities' business districts)," and LZ2 is defined as, "Areas of human activity (i.e., habitation, recreation and/or work) where electric lighting *may* be required for safety and convenience at night. This is the recommended default zone for light-commercial business districts and high-density or mixed-use residential districts" (Illuminating Engineering Society, RP-39-19, Recommended Practice: Off-Roadway Sign Luminance: An American National Standard).

The lighting "project design feature" also defines brightness in terms of Watts, which is not useful. Lights have different efficiencies and the restriction that, "Building Lighting will not exceed 60 watts" is not useful unless the lamp type is specified. It should indicate the total lumens that can be produced per fixture rather than specifying energy consumption. The related limitation on light output for outdoor luminaires of 6,200 lumens is set unreasonably high. That is the equivalent of having ten 60-Watt incandescent bulbs in a single fixture. A "design feature" with this limitation will do nothing to mitigate the impacts of the proposed lighting infrastructure on visual resources or people who are exposed to the lights from their residences.

The Visual Impact Analysis in the DEIR does not evaluate whether any of the proposed lighting from the project would violate Los Angles Municipal Code Section 93.0117, which reads:

No person shall construct, establish, create, or maintain any stationary exterior light source that may cause the following locations to be either illuminated by more than two footcandles (21.5 lx) of lighting intensity or receive direct glare from the light source:

1. Any exterior glazed window or sliding glass door on any other property containing a residential unit or units.

2. Any elevated habitable porch, deck or balcony on any other property containing a residential unit or units.

3. Any ground surface intended for uses such as recreation, barbecue, or lawn areas on any other property containing a residential unit or units.

EXCEPTIONS: This subsection shall not apply to:

1. Any frosted light source emitting 800 lumens or less.

2. Any other light source emitting more than 800 lumens where the light source is not visible to persons on other residential property.

Given that much of the infrastructure proposed will be several stories in the air, it is highly likely that even if lights are shielded from being directed upward, they will result in direct glare on residences in violation of Municipal Code. The calculations provided in the technical appendix are focused on illuminance measurements, when the code allows no direct glare, regardless of the illuminance. None of the Lighting Design Report calculations show compliance with this code section.

Finally, it is unclear the extent to which the stations will remain illuminated at night and overnight and to what extent the shells of the large canopies are transparent. From the renderings it appears that they are somewhat translucent, and therefore would result in escaping light at night, appearing as large glowing masses in the sky at night.

The lighting report also illustrates several examples of uplighting of structures and landscape elements, which is inconsistent with the text in the DEIR claiming that lights will be "shielded," which normally implies that light would be directed downward (see pp. 3.1-8 and 3.1-9 of DEIR). Uplighting is always an adverse environmental impact and illuminating trees at night is harmful to their health (Briggs 2006, Bennie et al. 2016, Meng et al. 2022) and should be avoided.

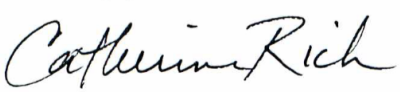
4 Structure Design Likely to Result in Large Rock Pigeon Roosts

Project designers do not appear to realize that a large open canopy as depicted in the project renderings in the Lighting Design Report, combined with exposed structural beams and girders, is likely to result in large Rock Pigeon roosts. Pigeons can be vectors of disease and their droppings would foul the surfaces in the stations. The DEIR should consider this eventuality and

disclose the chemical and/or physical methods that would be used to exclude pigeons from roosting from within these structures. The station design is setting up the operators to be under pressure to undertake ongoing, potentially inhumane, measures to control pigeon numbers.

Sincerely,

Travis Longcore, Ph.D.



Catherine Rich, J.D., M.A.

5 About the Authors

Dr. Travis Longcore and Catherine Rich are principals of Land Protection Partners. Dr. Longcore is Associate Adjunct Professor in the Institute of the Environment and Sustainability at UCLA. He has taught, among other courses, Bioresource Management, Environmental Impact Analysis, Field Ecology, and Ecological Factors in Design. He was graduated *summa cum laude* from the University of Delaware with an Honors B.A. in Geography, holds an M.A. and a Ph.D. in Geography from UCLA, and is professionally certified as a Senior Ecologist by the Ecological Society of America and as a GIS Professional by the Geographic Information System Certification Institute. He is a 24-year member of the Los Angeles County Environmental Review Board. Catherine Rich is Executive Officer of The Urban Wildlands Group. She holds an A.B. with honors from the University of California, Berkeley, a J.D. from the UCLA School of Law, and an M.A. in Geography from UCLA. She is lead editor of *Ecological Consequences of Artificial Night Lighting* (Island Press, 2006) with Dr. Longcore. Longcore and Rich have authored or co-authored over 60 scientific papers in top peer-reviewed journals such as *Auk, Biological Conservation*, *Conservation Biology*, *Environmental Management*, *Frontiers in Ecology and the Environment*, *Trends in Evolution and Ecology*, and *Urban Forestry and Urban Greening*. Longcore and Rich have provided scientific review of environmental compliance documents and analysis of complex environmental issues for local, regional, and national clients for 23 years.

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