



July 20, 2021

Sent via email

MTC Public Information
Attn: Draft EIR Comments
375 Beale Street, suite 800
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Re: Draft Program Environmental Impact Report for the Draft Plan Bay Area 2050

To whom it may concern:

These comments are submitted on behalf of the Center for Biological Diversity (the “Center”) regarding the Draft Program Environmental Impact Report (“DEIR”) for the Draft Plan Bay Area 2050 (“Plan”). The Center has reviewed the DEIR and Plan and provides these comments for consideration by the Metropolitan Transportation Commission (“MTC”) and the Association of Bay Area Governments (“ABAG”).

The Center is encouraged to see that the Plan includes conservation of high priority areas in the wildland-urban interface (EN05), investments in quality parks, trails and open spaces that provide inclusive recreation opportunities (EN06), building retrofits to make communities more resilient against climate change (EN02), and a greater mix of housing densities and types in defined growth geographies (H03). However, to achieve MTC’s and ABAG’s aspirations to “chart a course for a Bay Area that is affordable, connected, diverse, healthy and vibrant for all residents through 2050 and beyond” and to make human and natural communities more resilient to climate change, the Center urges for a more comprehensive approach to growth that addresses human transportation and development needs as well as the needs of wildlife and habitats that are removed, fragmented, and degraded by transportation infrastructure and development.

Overall, the Center’s comments can be summarized by the following:

- Wildlife connectivity should be prioritized to promote biodiversity conservation and climate resilience, improve driver safety, and reduce costs associated with wildlife vehicle collisions.
- New development should be prohibited in very high and high wildfire hazard severity zones.
- Maximizing on-site greenhouse gas emissions reductions and localized carbon offsets should be included as mitigation measures to combat climate change.
- Open space and parks should be preserved for their public health benefits and excluded from the land use growth footprint.
- Affordable housing should be defined by 50% of the area median income to help low-income families afford these new housing options.

More detailed comments are provided below.

I. Background on the Center

The Center is a non-profit, public interest environmental organization dedicated to the protection of native species and their habitats through science, policy, and environmental law. The Center has over 1.7 million members and online activists throughout California and the United States. The Center and its members have worked for many years to protect imperiled plants and wildlife, open space, air and water quality, and overall quality of life for people in the Bay Area and throughout California.

II. The Plan should include specific goals and funding to reduce wildlife vehicle collisions and preserve and enhance wildlife connectivity to promote conservation and improve public safety

The Center is encouraged to see that Environment is one of the four interrelated elements of the Plan, and according to the DEIR, environmental strategies to “promote conservation, adaptation, and climate mitigation” aim to “reduc[e] risks from hazards, expand[] access to parks and open space, and reduc[e] climate emissions” (DEIR at 2-9). However, another goal of the environmental strategies should include to preserve existing intact habitat and enhance wildlife connectivity at existing barriers, like roads.

Roads and development create barriers that lead to habitat loss and fragmentation, which harms native wildlife, plants, and people. As barriers to wildlife movement, poorly-planned development and roads can affect an animal’s behavior, movement patterns, reproductive success, and physiological state, which can lead to significant impacts on individual wildlife, populations, communities, landscapes, and ecosystem function (Brehme et al., 2013; Ceia-Hasse et al., 2018; Haddad et al., 2015; Marsh & Jaeger, 2015; Mitsch & Wilson, 1996; Trombulak & Frissell, 2000; van der Ree et al., 2011). For example, habitat fragmentation from roads and development has been shown to cause mortalities and harmful genetic isolation in mountain lions in southern California (Ernest et al., 2014; Riley et al., 2014; Vickers et al., 2015), increase local extinction risk in amphibians and reptiles (Brehme et al., 2018; Cushman, 2006), cause high levels of avoidance behavior and mortality in birds and insects (Benítez-López et al., 2010; Kantola et al., 2019; Loss et al., 2014), and alter pollinator behavior and degrade habitats (Aguilar et al., 2008; Goverde et al., 2002; Trombulak & Frissell, 2000). Habitat fragmentation also severely impacts plant communities. An 18-year study found that reconnected landscapes had nearly 14% more plant species compared to fragmented habitats, and that number is likely to continue to rise as time passes (Damschen et al., 2019). The authors conclude that efforts to preserve and enhance connectivity will pay off over the long-term (Damschen et al., 2019). In addition, connectivity between high quality habitat areas in heterogeneous landscapes is important to allow for range shifts and species migrations as climate changes (Cushman et al., 2013; Heller & Zavaleta, 2009; Krosby et al., 2018). Loss of wildlife connectivity decreases biodiversity and degrades ecosystems.

Edge effects of development in and adjacent to open space will likely impact key, wide-ranging predators, such as mountain lions and bobcats (Crooks, 2002; Delaney et al., 2010; J. S. Lee et al., 2012; Riley et al., 2006; Smith et al., 2015, 2017; Vickers et al., 2015; Wang et al., 2017), as well as smaller species with poor dispersal abilities, such as song birds, small

mammals, and herpetofauna (Benítez-López et al., 2010; Cushman, 2006; Kociolek et al., 2011; Slabbekoorn & Ripmeester, 2008). Limiting movement and dispersal can affect species' ability to find food, shelter, mates, and refugia after disturbances like fires or floods. Individuals can die off, populations can become isolated, sensitive species can become locally extinct, and important ecological processes like plant pollination and nutrient cycling can be lost. Negative edge effects from human activity, such as traffic, lighting, noise, domestic pets, pollutants, invasive weeds, and increased fire frequency, have been found to be biologically significant up to 300 meters (~1000 feet) away from anthropogenic features in terrestrial systems (Environmental Law Institute, 2003)

The Bay Area has the highest densities of reported wildlife vehicle collisions in the state (Shilling et al., 2018, 2019); making roads more permeable for wildlife by prioritizing the construction of effective wildlife crossing infrastructure will help to maintain or improve the health of species and ecosystems unique to the Bay Area while improving driver safety and saving people money. From 2015 to 2018 more than 25,000 wildlife vehicle collisions with large mammals were reported in California, resulting in human deaths, injuries, and property damages estimated to be worth more than \$1 billion (Shilling et al., 2017, 2018, 2019). Alarmingly, many of these types of collisions go unreported. State Farm estimated more than 92,000 deer collision insurance claims during that same time frame (State Farm Insurance, 2016, 2018). And while car strikes can be immediately fatal for wildlife, many animals that are struck by vehicles may survive the collision but then slowly die from their injuries away from the road (T. S. Lee et al., 2021). Additional deaths from collisions include young that are orphaned and unable to survive after their parent is killed. Such data should not be ignored in planning a regional transportation plan where lack of wildlife connectivity is causing harm to wildlife, ecosystems, and people.

If the Plan truly aims to promote conservation and mitigate impacts of climate change, then the strategies under the Environment theme should include funding to go towards preserving and enhancing wildlife connectivity. This should include funding that would go towards identifying roadkill hotspots; implementing wildlife crossing infrastructure (e.g., upgrading existing culverts to make them more wildlife-friendly, installing crossings and directional fencing at roadkill hotspots, etc.) in those hotspots; and protecting, managing, and restoring lands in perpetuity on both sides of the constructed wildlife crossings to facilitate wildlife movement. Wildlife crossing structures have been shown to be a cost-effective means of reducing such collisions and facilitating wildlife movement. States that have invested in wildlife crossing infrastructure, like Utah, Colorado, and Wyoming, have seen 81-98.5% reductions in wildlife vehicle collisions on sections of highways where they have implemented wildlife crossings (Bissonette & Rosa, 2012; Kintsch et al., 2019; Sawyer et al., 2012). The savings over the long-term from the avoided wildlife vehicle collisions more than pay for the upfront costs to build the crossings (Center for Large Landscape Conservation, 2020). The Transportation theme should have a specific goal to make existing and future roads safer for drivers, and the proposed Plan's \$441 billion going towards maintaining and optimizing the existing system should specifically allocate funding towards implementing wildlife crossing infrastructure.

IV. The DEIR fails to adequately describe, assess, and mitigate impacts to wildlife movement and habitat connectivity.

The DEIR points to mapped Essential Connectivity Areas provided in the California Essential Habitat Connectivity Project, commissioned by the California Department of Transportation (Caltrans) and the California Department of Fish and Wildlife (CDFW). Although this is an important resource to identify areas important for wildlife movement, there are additional resources that are additive and therefore should also be included when describing the wildlife connectivity in the area. For example, SC Wildlands' 2013 Report entitled "Critical Linkages: Bay Area & Beyond" identifies key bottlenecks or choke-points between open space as priority areas important for maintaining and improving connectivity in the region using least-cost pathway analyses for identified focal species (Penrod et al., 2013). Their analyses include key riparian corridors with associated buffer zones and important baylands that should be considered in any land-use planning throughout the Bay Area (Penrod et al., 2013). Other important studies at a more local level are also useful in describing existing conditions, including a report by Gray et al. (2018) titled, "Building Landscape Connectivity for Climate Adaptation: Mayacamas to Berryessa Connectivity Network (M2B) Final Report," which highlights important habitat linkages that are critical for biodiversity and watershed health as well as climate resilience (Gray et al., 2018). There is also a Diamond and Snyder (2016) report titled "Coyote Valley Linkage Assessment Study Final Report," a 2017 report by the Santa Clara Valley Open Space Authority and Conservation Biology Institute titled "Coyote Valley Landscape Linkage: A Vision for a Resilient, Multi-benefit Landscape," a 2020 Santa Clara Valley Open Space Authority report titled "Coyote Valley Reptile and Amphibian Linkage Study Findings and Recommendations," a Pathways for Wildlife (2020) report titled "Wildlife Permeability and Hazards across Highway 152 Pacheco Pass: Establishing a Baseline to Inform Infrastructure and Restoration," and another Pathways for Wildlife 2020 report titled "SR-152 Pacheco Pass Permeability and Pacheco Creek Wildlife Connectivity Study: Mountain lion Report 2018-2020," all of which provide more detailed data and information regarding wildlife movement and habitat connectivity at a local level (Diamond & Snyder, 2016; Pathways for Wildlife, 2020a, 2020b; Santa Clara Valley Open Space Authority & Conservation Biology Institute, 2017). In addition, the UC Davis Road Ecology Center's reports on wildlife vehicle collisions and roadkill hotspots also provide information regarding where wildlife are moving and being hit on roads (Shilling et al., 2017, 2018, 2019). And there are likely other studies that provide more information regarding important wildlife connectivity throughout the bay Area. The Plan and DEIR should provide the best available science when describing existing conditions and assessing potential impacts of the Plan. The DEIR fails to do this by only providing a fraction of the available information regarding wildlife movement and habitat connectivity.

The DEIR fails to adequately disclose information regarding the importance of the Bay Area's heterogeneous habitats that include wetlands, streams, grasslands, scrublands, woodlands, and pine forests to wildlife connectivity and migration at the local, regional, and global scale. Local connectivity that links aquatic and terrestrial habitats allows various sensitive and special-status species to persist, including California tiger salamander, California red-legged frog, and western pond turtles. At a regional scale, medium- and large-sized mammals, such as mountain lions, bobcats, ring-tailed cats, and mule deer, require large patches of heterogeneous habitat to

forage, seek shelter/refuge, and find mates. And at a global scale, numerous areas throughout the region have been identified by Audubon as Important Bird Areas for resident and migratory birds within the Pacific Flyway, a north-south migratory corridor that extends from Alaska to Patagonia. And anadromous and semi-anadromous fish, including coho salmon, steelhead, and delta smelt rely on healthy streams connected to upland areas for migration between freshwater spawning and rearing sites and the ocean (Lohse et al., 2008; Moyle et al., 2011; Opperman et al., 2005). The region is a hub for local and global biodiversity; wildlife movement and habitat connectivity must be maintained to preserve the area's rich animal and plant diversity.

The DEIR provides tables that show that the growth footprint, sea level rise adaptation footprint, and transportation footprint would remove and/or degrade approximately 1700 acres, 380 acres, and 1900 acres of mapped essential connectivity areas, respectively. This adds up to at least 3980 acres of removed habitat within CDFW-identified connectivity areas. However, not enough information is provided for the public to understand where these development footprints overlap with connectivity or if the footprints are designed in a way to avoid and/or minimize impacts to wildlife connectivity. Other important wildlife connectivity maps and models are not utilized in the assessment, which makes it difficult to determine if the priority connectivity areas identified by Penrod et al. (2013), Diamond & Snyder (2016), or Pathways for Wildlife (2020a, 2020b) are avoided to the maximum extent feasible. In fact, impacts to acreage within important wildlife connectivity areas and numerous sensitive and special-status animals and plants is likely much greater than what is provided in the DEIR.

The DEIR makes unfounded assumptions not based on any evidence or scientific understanding that areas within the proposed Plan's land use growth footprint "is concentrated primarily in or adjacent to already urban and built-up areas and along existing transit corridors where migratory corridors for wildlife have already been fragmented and degraded to the point that their function as linkages is either limited or lost entirely" (DEIR at 3.5-51). Such claims are unsubstantiated and dismiss how species move through landscapes. Even if some connectivity areas have been fragmented and degraded, given the limited remaining connectivity, even degraded connections should be prioritized for preservation, restoration, and enhancement of connectivity instead of written off as having no wildlife connectivity value. For example, connectivity between the Santa Cruz Mountains, the Gabilan Range, and the Diablo Range via Coyote Valley and the Aromas corridor is incredibly important because, although constrained by development and agriculture, they provide the last remaining chances for species like mountain lions and California red-legged frogs to have gene flow throughout these regions (Diamond & Snyder, 2016; Rottenborn et al., 2020). Some populations are already becoming dangerously isolated, as is evidenced by low genetic diversity and high human-caused mortalities in the Santa Cruz Mountains puma population (Gustafson et al., 2018; Saremi et al., 2019). The primary threat to the long-term survival of these mountain lions is genetic isolation due to lack of connectivity caused by continuous development in mountain lion habitat with little regard for their movement needs. Therefore, land use planning needs to consider the context of these landscapes. The DEIR fails to adequately describe, assess, and mitigate impacts to wildlife connectivity, for mountain lions and the many other species that inhabit the Bay Area.

The MTC and ABAG must also analyze and fully mitigate impacts of the Plan on the Santa Cruz mountain lions because this population is provisionally listed under the California

Endangered Species Act (“CESA”). Under CESA, ABAG may not approve projects (including the Plan) that could jeopardize the continued existence of this population or other protected populations or result in destruction of essential habitat (Cal. Fish & Game Code § 2053(a) and ABAG must require that appropriate mitigation measures be implemented for projects that could destroy mountain lion habitat or impair connectivity (Cal. Fish & Game Code § 2054).

The DEIR similarly downplays and dismisses the impacts of the transportation projects on wildlife connectivity, stating that enhancements or expansions of existing highways or other transportation routes that have already fragmented and degraded connectivity areas “to the point that their function as linkages is either limited or has been lost entirely” (DEIR at 3.5-52). However, the DEIR does acknowledge that some new transportation projects “could be located in areas that have not been subject to previous disturbance and fragmentation” (DEIR at 3.5-52), but it does not provide where these projects might be located, what habitats and species they might impact, and how any impacts to connectivity would be avoided, minimized, or adequately mitigated.

In addition, the acreage tallies of impacts to essential connectivity areas does not fully represent the negative impacts of developments and transportation infrastructure (expanded or new). The DEIR’s assessment of impacts to wildlife movement and habitat connectivity fails to consider edge effects of human infrastructure. As mentioned previously, negative edge effects from human activity, such as traffic, lighting, noise, domestic pets, pollutants, invasive weeds, and increased fire frequency, have been found to be biologically significant up to 300 meters (~1000 feet) away from anthropogenic features in terrestrial systems (Environmental Law Institute, 2003). Yet there is no mention of edge effects at all in the DEIR. The DEIR fails to adequately describe, assess, and mitigate impacts to wildlife connectivity.

The DEIR’s proposed mitigation measures are vague and insufficient to mitigate impacts to special-status species and sensitive habitats, designated critical habitat, and wildlife movement and habitat connectivity. For example, Mitigation Measure BIO-1(a) states that, where feasible and necessary based on project- and site-specific considerations, a species and habitat compensation plan “shall be prepared...” and a monitoring program “shall be designed...” (DEIR at 3.5-38), but the DEIR does not state the compensation plan or monitoring program shall be implemented. Both Mitigation Measures BIO-1(a) and BIO-1(b) state that compensatory mitigation may be achieved through mitigation credits or through Regional Advance Mitigation Planning (RAMP), but it is unclear how the appropriate compensatory mitigation would be decided upon or implemented. In addition, Mitigation Measure BIO-2 only calls for a minimum 1:1 mitigation ratio for restoration, preservation, or creation of designated critical habitat, which is grossly insufficient. Avoidance of impacts to sensitive habitats and designated critical habitat should be prioritized, after which in-kind mitigation should be a minimum of 3:1 given that critical habitat is designated for threatened and endangered species that are on a trajectory towards extinction without protective action and are already struggling to survive in the long-term, and 5:1 for off-site restoration or habitat creation with continued monitoring, adaptive management strategies, and well-defined success criteria, to be funded in perpetuity (not just for five years).

The DEIR lacks sufficient mitigation for wildlife connectivity as well. It should require project proponents to implement wildlife connectivity into the design and budget of the projects when planning starts, being sure to consider the local, regional, and global context of landscape connectivity for a given project in a given area. Opportunities to upgrade existing culverts or implement directional fencing to guide animals to existing culverts or underpasses should be actively sought when conducting expansion or enhancement projects on existing roads. Acquiring habitat on both sides of wildlife crossings should also be prioritized. And the different needs of the diverse species should be taken into account when designing crossings for wildlife passage. For example, mountain lions have been documented using culverts that are about 4 meters (~13 feet) in diameter (Clevenger & Waltho, 2005; Kintsch & Cramer, 2011; Riley et al., 2018), while smaller animals, including small mammals, reptiles, and amphibians, might require much smaller passageways to actually use them. In addition, smaller species with poor dispersal abilities would require more frequent intervals of crossings to increase their chances of finding a crossing compared to more mobile animals, like mountain lions or deer. And for some amphibian and reptile species, such as California red-legged frogs and western pond turtles, undercrossings could include elevated roads or tunnels with grated tops so that the light and moisture inside the crossings are similar to that of the ambient environment (Brehme & Fisher, 2020).

Here the Center aims to provide just a few examples of how the mitigation measures provided in the DEIR could be more robust and effective at minimizing impacts to sensitive and special-status species, designated critical habitat, and wildlife connectivity. But these recommendations are not comprehensive, and further assessments and analyses should be conducted by ABAG to improve the Plan and the DEIR to adequately disclose, assess, and mitigate of the proposed Plan.

V. The DEIR fails to adequately assess and mitigate impacts to wildfire risk due to the proposed Plan.

New development should be prohibited in high fire-prone areas. As outlined in the Center for Biological Diversity's report, "Built to Burn: California's Wildlands Developments Are Playing with Fire" (Yap et al., 2021), development in high fire-prone wildlands is leading to more human-caused ignitions where people live (Radeloff et al., 2018). Nearly all contemporary wildfires in California are caused by human sources such as power lines, car sparks, cigarettes, and electrical equipment (Balch et al., 2017; Syphard et al., 2007). Building new developments in high fire-risk areas increases unintentional ignitions and places more people in danger. Since 2015, almost 200 people in the state have been killed in wildfires, more than 50,000 structures have burned down, hundreds of thousands have had to evacuate their homes and endure power outages, and millions have been exposed to unhealthy levels of smoke and air pollution. With climate change only exacerbating the problem, this plan should align itself with the science and prohibit all new development in very high and high wildfire hazard severity zones.

The Proposed Plan would increase wildfire risk in the urban wildland interface. Allowing 33% of the land use growth footprint to be located in very high and high wildfire hazard severity areas would undoubtedly result in a significant impact to wildfire risk. High and very high fire hazard severity zones and state responsibility areas have been identified by Cal Fire as areas that

are likely to burn within 30 to 50 years. And hotter, drier and windier conditions due to climate change make the landscape more conducive to wildfire ignitions and spread.

Rampant sprawl development in fire-prone wildlands has contributed to fatalities, damaged property, and hundreds of thousands of people having to evacuate their homes and endure power outages, with millions more being exposed to unhealthy levels of smoke and air pollution. Furthermore, there has been a dramatic increase in costs due to fire-suppression and damages. Costs in areas managed by Cal Fire were \$23 billion during the 2015-2018 fire seasons, which is more than double the wildfire cost for the previous 26 years combined after adjusting for inflation (Yap et al., 2021). Fifteen of the 20 most destructive California wildfires have occurred in the past five years (Cal Fire, 2020).

In fact, the DEIR outlines the numerous reasons why increased development in high fire-prone areas directly correlates to increased risk of ignition and the associated pollutant release of particulate matter (PM) that is 4-10 times more harmful to the human respiratory system than other known PM pollutants (Aguilera et al., 2021).

“Extension of development along the WUI can result in loss of property and structures, as has been observed in several fires within the Plan area including the 2017 Tubbs fire and 1991 Tunnel fire. In 2020, large fires burned over 700,000 acres within and adjacent to the Plan area during the SNU Lightning Complex fires and LNU Lightning Complex fires.”(DEIR at 3.9-42)

In addition to the economic damage, public health impacts and human loss of life, altered wildfire regimes caused by increased human ignitions in shrubland habitats that have evolved with relatively infrequent (every 30 to 130 years or more) are degrading native habitats that many endangered and threatened plants and animals rely on. In California, increasing fire frequency due to development is converting chaparral and sage scrub ecosystems into non-native grasses that burn more easily, leading to a dangerous “feedback loop” of increasing fire and degraded habitats (Keeley, 2005; Syphard et al., 2018).

While community education and home hardening are important components of reducing a community’s risk to wildfire, it does not make a community fireproof. This fact is acknowledged in the mitigation conclusion that states:

“because development could occur in and near SRAs and lands classified as very high hazard severity zones, and because the potential for people or structure to be exposed to significant risk of loss, injury, or death involving wildfire cannot be avoided, this impact would be significant and unavoidable (SU).” (DEIR at 3.9-42)

Stating that implementing agencies and project sponsors should restrict development of areas mapped by CAL FIRE as high and very high fire hazard zones wherever possible as a mitigation measure to developing in these vary areas is inconsistent logic. This plan should help said agencies by providing the framework to restrict these new developments, as supported by the science. The best way to reduce wildfire risk is to avoid new development in high fire-prone areas because such reckless development increases risk of ignitions. Almost all contemporary

wildfires in California (95-97%) are caused by humans in the wildland urban interface (Balch et al., 2017; Radeloff et al., 2018; Syphard et al., 2007; Syphard & Keeley, 2020). And mitigation measures that reduce wildfire risk, like ember-resistant roofing and vents, irrigated defensible space immediately adjacent to structures, external sprinklers with an independent water source, and solar microgrids should be prioritized for existing at-risk communities. Yet the DEIR does not include such mitigation measures. The DEIR fails to adequately assess and mitigate impacts to wildfire risk due to the proposed Plan.

VI. The Plan should do more to minimize greenhouse gas emissions and mitigate impacts to climate change.

Recent science has made it clear that human-caused climate change is causing widespread harms to human society and natural systems, and climate change threats are becoming increasingly dangerous. In its 2018 *Special Report on Global Warming of 1.5°C*, the Intergovernmental Panel on Climate Change (“IPCC”)—the leading international scientific body for the assessment of climate change—describes the devastating harms that would occur at 2°C warming. The report highlights the necessity of limiting warming to 1.5°C to avoid catastrophic impacts to people and life on Earth (IPCC 2018). The report also provides overwhelming evidence that climate hazards are more urgent and more severe than previously thought, and that aggressive reductions in emissions within the next decade are essential to avoid the most devastating climate change harms.

The impacts of climate change are already being felt by humans and wildlife. Thousands of studies conducted by researchers around the world have documented changes in surface, atmospheric, and oceanic temperatures; melting glaciers; diminishing snow cover; shrinking sea ice; rising sea levels; ocean acidification; and increasing atmospheric water vapor (USGCRP, 2017). In California, climate change will result in impacts including, but not limited to, increased temperatures and wildfires and a reduction in snowpack and precipitation levels and water availability.

It is the “policy of the state that public agencies should not approve projects as proposed if there are feasible alternatives or feasible mitigation measures which will avoid or substantially lessen the significant environmental effects of such projects.” (Pub. Res. Code § 21002.) Adoption of additional feasible on-site and off-site mitigation measures during construction and operation of the Plan would lower the Plan’s overall greenhouse gas (GHG) emissions and contribution to climate change. Failure to mandate adoption of all feasible mitigation measures allows the projects that would be covered under the Plan off the hook and only worsens California’s climate crisis.

The emphasis on improving the public transit system with respect to infrastructure, streamlining fares and prioritizing underserved communities is a great framework. The one strategy the Center disagrees with is strategy T06, widening highways at bottlenecks. Highway widening does not solve traffic bottlenecks in the long-term, but rather just increases demand and therefore should *not* be considered a strategy for congestion relief (Angarita-Zapata et al., 2016). Facilitating more vehicles on freeways also leads to increased vehicle miles traveled and increased GHG emissions. In addition, freeway widenings make it even tougher for animals to

cross these dangerous movement barriers, especially if wildlife connectivity and crossing infrastructure are not implemented as part of the project. This leads to increased vehicle strikes, decimating already threatened species and endangering human lives (Shilling et al., 2017).

Avoiding the destruction of diverse, intact, native habitats should be a prioritized goal to store carbon and combat climate change. In addition to the carbon storage potential of trees and forests, other habitats in arid and semi-arid regions, such as shrublands, grasslands, and wetlands have been found to store significant amounts of carbon while being more resilient to drought and increased atmospheric carbon (Aranjuelo et al., 2011; Bohlman et al., 2018; Dass et al., 2018; Evans et al., 2014; Kravchenko et al., 2019; Luo et al., 2007; Mitsch et al., 2013; Soudzilovskaia et al., 2019; Vicente-Serrano et al., 2013). Notably, these habitats support high levels of biodiversity and endemism, and collectively, they could play a significant role in the carbon cycle and aid in combatting climate change while bringing the state closer to its commitment to conserve more than 30 percent of its lands and coastal waters by 2030 under executive order N-82-20.

If avoiding removal of these carbon-storing habitats is unfeasible and on-site GHG reduction measures are already maximized, localized carbon offsets should be included as a potential mitigation measure to address the potentially significant impacts of construction and operation emissions. While exported carbon offsets pose a barrier to reaching regional climate goals, localized offsets, such as regional renewable energy projects and preservation and restoration of ecological carbon sinks, can help to address emissions that cannot be avoided through efficiency standards. Local offsets ensure that the communities impacted by a project's GHG emissions also receives the benefits from mitigation of those emissions. Protecting and restoring the state's native shrublands, wetlands, and grasslands with funded monitoring, adaptive management, and measurable success criteria in perpetuity would help mitigate impacts of the proposed Plan to climate change.

In addition, the EN1 analysis states that “construction and operation of the proposed Plan’s land use development pattern, sea-level rise adaptation infrastructure, and transportation projects would not result in the wasteful, unnecessary, or inefficient use of energy because the energy associated with these projects would be serving necessary regional needs, would be subject to Plan strategies that result in increased efficiency, and would comply with applicable regulations and standards (e.g., RPS, California Energy Code), making energy impacts less-than-significant.” This assumption excludes the analysis between different project types. Building materials, equipment and design all determine the amount of energy used in the construction of a project; specifics should be addressed and recommendations on the most efficient models should be included.

The Center would also like to emphasize the importance of equity as a central component to all strategies. Strategy EN02 sets the model for a means-based financial support system for retrofits to reduce risk from climate-related hazards. This same model should be applied to strategy EN08, which will expand clean vehicle investments. A 2017 study found that rebate policy designs that are progressive with respect to income reduce the number of consumers who receive rebates, but who would have purchased the electric vehicles (EV) anyway (DeShazo et al., 2017). These policies also target lower-income consumers who have a higher marginal value

for the rebate and who are less likely to purchase an EV except in the presence of higher rebate levels. These policies increase the number of additional EVs sold per rebate dollar spent (i.e., the cost-effectiveness of the policy) relative to a policy without such income restrictions (DeShazo et al., 2017). Therefore, the Center recommends including a means-based standard to all new clean vehicle subsidies.

VII. Open space and parks should be preserved to promote biodiversity conservation and climate resilience and to provide public health benefits.

Open space and parks should be preserved to benefit biodiversity and public health. Such spaces should be excluded from the land use growth footprint. These native landscapes help us regulate our climate, purify our air and water, pollinate our crops and create healthy soil (Lawler et al., 2014). In addition to these environmental benefits, access to these spaces is critical to our long-term health and wellbeing (Martin et al., 2020).

Approximately 740 acres of the proposed Plan's land use growth footprint could overlap with open space and parklands, including 150 acres in transit priority areas (TPAs). While the DEIR states that these proposed developments *could* include preservation of open space and parklands, there is no guarantee. As acknowledged, this could be in direct conflict with some local general plans, the Bay Plan and LCPS (LU-2). In addition, providing only the acreage of overlap neglects the negative edge effects from human activity, such as traffic, lighting, noise, domestic pets, pollutants, invasive weeds, and increased fire frequency, which have been found to be biologically significant up to 300 meters (~1000 feet) away from anthropogenic features in terrestrial systems (Environmental Law Institute, 2003). The mitigation measure associated with this inconsistency is additional technical support to county and city agencies to help align their plans; however, this does not adequately address or mitigate the environmental impact of the loss of open space.

The COVID-19 pandemic has taught us many things, and a critical lesson that should not be overlooked is the link between environmental health and the health of people. Ensuring the protection of open space is a critical part of environmental health. Open space has been vital to many communities during the pandemic and provided essential community spaces for safe socially distanced gatherings. This reaffirms the need for continued preservation and increased access to ensure all community members experience the physical and mental health benefits of nature.

The Bay Area is unique in its diversity of habitats from the coastal wetlands and dunes to the rugged mountains. These ecoregions are tied together by the vast San Francisco Bay watershed that covers 4600 square miles, of which the Bay encompasses 1600 square miles. It is the largest Pacific estuary in the Americas.

The Center urges the MTC and ABAG to prioritize human health and safety by protecting the remaining open space and park areas against further degradation by excluding them from the land use growth footprint. We should be building up, not out, and while this Plan emphasizes densification, it needs to do more to protect our remaining natural areas and protect communities against the hazards of unsustainable sprawl.

VIII. *The proposed Plan should make affordable housing more inclusionary for low-income families.*

The Center is pleased to see a 10-20% affordable housing standard for all new developments (H5). However, this will only be truly inclusionary if affordability is defined to include low-income households. According to the federal government, housing is “affordable” if it costs no more than 30% of the monthly household income for rent and utilities. Most affordable housing developments are built for families and individuals with incomes of 60% or less than the area median income (AMI).¹ However, we recommend using 50% or less of the AMI as the set standard to better support low-income families. This is particularly relevant to the Bay Area, as San Francisco has the highest average rent of any U.S. city. Without adequate protections for low-income workers, these “affordable” units will continue to exclude those that are most in need.

IX. *Conclusion*

Thank you for the opportunity to submit comments on the DEIR and the Plan Bay Area 2050. We look forward to working with MTC and ABAG to foster land use policy and growth patterns that promote the preservation and enhancement of wildlife movement and habitat connectivity, facilitate public health and safety, and move towards the State’s biodiversity conservation and climate change goals. Please add the Center to your notice list for all future updates to the Plan and do not hesitate to contact the Center with any questions at the emails listed below.

Sincerely,



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¹ California Housing Consortium. “What is affordable housing?” Accessed, July 20, 2021.
<https://calhsng.org/resources/affordable-housing-101/what-is-affordable-housing/>

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