



CONNECT SOCAL PROGRAM ENVIRONMENTAL IMPACT REPORT ADDENDUM #1



SEPTEMBER 3, 2020

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1. INTRODUCTION

1.1 OVERVIEW

On May 7, 2020, the Regional Council adopted Resolution No. 20-621-1 certifying the Program Environmental Impact Report (PEIR) for the 2020-2045 Regional Transportation Plan/Sustainable Communities Strategies (“RTP/SCS,” “Connect SoCal” or “Plan”) for federal transportation conformity purposes only. This PEIR addendum for the Plan, which is proposed to be adopted in its entirety, is prepared by the Southern California Association of Governments (SCAG). This addendum is prepared in compliance with the California Environmental Quality Act (Pub. Resources Code, § 21000 et seq.; hereinafter “CEQA”) and the Guidelines for the Implementation of CEQA (Cal. Code Regs., tit. 14, § 15000, et seq.; hereinafter “Guidelines”).

The Draft PEIR was circulated for a 46-day public comment and review period (from December 9, 2019 to January 24, 2020). On May 7, 2020, during the hearing on the Plan, the Regional Council delayed adoption of the Plan in its entirety for a period of up to 120 days, during which time SCAG was directed to engage with local jurisdictions to make refinements to the Plan’s Growth Forecast in relation to entitlements, and to conduct analysis on the differences within the Sustainable Communities Strategy (SCS) and locally-approved General Plans, this process resulted in SCAG undertaking additional technical refinements to reflect adjustments at the sub-jurisdictional level. These shifts in housing and jobs are limited to a total of six jurisdictions. SCAG then assessed whether the technical refinements would potentially result in any additional environmental impacts beyond the impacts identified in the Final PEIR, which would warrant further environmental review. Since the technical refinements resulted in minimal impacts to Connect SoCal performance results, and the Plan still achieves federal Transportation Conformity and meets the State’s greenhouse gas reduction targets for passenger vehicles for 2020 and 2035, the need for additional environmental review was determined to not be necessary and a PEIR Addendum was determined to be appropriate.

After the PEIR comment and review period ended, and just prior to the May 7, 2020 PEIR hearing, SCAG received two comment letters from the Center for Biological Diversity (CBD) (May 1, 2020, and May 6, 2020). In the letters, CBD requested expanded background information be added to the PEIR related to environmental setting and environmental impacts, as well as the consideration of other mitigation measures. While SCAG is not obligated to respond to late comments, in the interest of providing as much information to the public as possible, SCAG is addressing CBD’s comments and incorporating additional information in this Addendum.

In sum, this Addendum comprises two parts, 1) SCAG's analysis of the technical refinements to the SCS, addressed in **Chapter 2.0, Technical Refinements to the Plan and Environmental Effects**; and 2) clarification and addition of information identified by CBD, addressed in **Chapters 3.0, PEIR Clarifications** and **4.0, Mitigation Measures** (detailed responses to both CBD comment letters are included in **Appendix A**). This Addendum concludes the PEIR is sufficient for addressing the potential environmental impacts and mitigation measures for the Plan.

Based on substantial evidence provided in this Addendum, the Final PEIR and other materials in the record, SCAG determines that the impacts of the Plan, including the technical refinements to the SCS and additional clarifications as identified by CBD, fall within the analyses in the Final EIR. Therefore, none of the following (as identified in CEQA Guidelines Section 15162) would result from the technical refinements and/or clarified information, analyses and mitigation measures:

- One or more significant effects not discussed in the PEIR.
- Substantial increase in the severity of a previously identified significant effect.
- New mitigation measures or alternatives that were previously found not to be feasible would be, in fact, be feasible and would substantially reduce on or more significant effects of the project but are declined to be adopted by the project proponent.
- Mitigation measures that are considerably different from those analyzed in the EIR that would substantially reduce on or more significant effects but are declined to be adopted.

Thus, neither a subsequent nor supplemental environmental impact report is required (Pub. Resources Code, § 21166; Guidelines §§ 15162, 15163). However, some minor refinements to the PEIR are included in this Addendum in accordance with CEQA (Guidelines § 15164).

Chapter 1.0, Introduction. Chapter 1.0 describes the purpose and organization of this document. The introduction includes applicable statutory sections of the Public Resources Code and Guidelines, and a brief planning history.

Chapter 2.0, Technical Refinements to the Plan and Environmental Effects. Chapter 2.0 describes the technical refinements and discusses the extent to which the changes would have effects on the environment.

Chapter 3.0, PEIR Clarifications. Chapter 3.0 discusses refinements to the regulatory framework, existing conditions and analyses.

Chapter 4.0, Mitigation Measures. Chapter 4.0 provides a list of refined SCAG and project-level mitigation measures. The proposed SCAG and project-level mitigation measures have been expanded to in the areas of air quality, biological resources, greenhouse gases, and wildlife and to provide additional clarity in terms of roles and responsibilities.

Appendix A. The Appendix includes responses to comments received on the PEIR from the Center for Biological Diversity.

1.2 PROJECT LOCATION

The Project location includes the entire SCAG region, which includes the following counties: Ventura, Los Angeles, San Bernardino, Riverside, Orange, and Imperial.

1.3 LEAD AGENCY AND ADDRESS

Southern California Association of Governments
900 Wilshire Boulevard, 17th Floor
Los Angeles, CA 90017

1.4 CONTACT PERSON AND PHONE NUMBER

Mr. Roland Ok
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1.5 STATUTORY AUTHORITY

CEQA recognizes that between the date an environmental document for a project is completed and the date that a project is fully implemented, one or more of the following changes may occur: 1) the project may change, 2) the environmental setting in which the project is set may change, and/or 3) previously unknown information can arise. Before proceeding with a project within the scope of a previously certified EIR, CEQA requires the lead agency to evaluate these changes to determine whether they affect the conclusions in the prior environmental document.

When an EIR has been certified and a project within the scope of that evaluated in a previous EIR is modified or otherwise changed after certification, additional CEQA review may be necessary. The key considerations in determining the need for the appropriate type of additional CEQA review are outlined in Public Resources Code section 21166 and Guidelines sections 15162 through 15164. Guidelines section 15162, subdivision a, provides that a subsequent EIR is not required unless any of the following occurs:

- (1) Substantial changes are proposed in the project which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects.
- (2) Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR or Negative Declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects.
- (3) New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete or the Negative Declaration was adopted, shows any of the following:
 - (A) The project will have one or more significant effects not discussed in the previous EIR or negative declaration;
 - (B) Significant effects previously examined will be substantially more severe than shown in the previous EIR;
 - (C) Mitigation measures or alternatives previously found not to be feasible would in fact be feasible, and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; and/or
 - (D) Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.

If a subsequent EIR is required pursuant to Guidelines section 15162, subdivision a, a supplemental EIR may be prepared instead if "only minor additions or changes would be necessary to make the previous EIR adequately apply to the project in the changed situation" (Guidelines, § 15163, subd. (a)).

If a subsequent EIR is not required pursuant to Guidelines section 15162, subdivision a, then the lead agency shall determine the appropriate further CEQA documentation, including no further documentation at all (Guidelines, § 15162, subd. (a)).

However, if a subsequent EIR is not required pursuant to Guidelines section 15162, subdivision a, but some changes or additions to the certified EIR have become necessary, an addendum is required (Guidelines, § 15164, subd. (a)). An addendum must include a brief explanation of the agency's decision not to prepare a

subsequent EIR, supported by substantial evidence in the record (Guidelines, §15164, subd. (e)). The addendum to the EIR need not be circulated for public review, but it may be included in or attached to the final EIR (Guidelines, § 15164, subd. (c)). The decision-making body must consider the addendum and the final EIR prior to making a decision on the project (Guidelines, § 15164, subd. (d)).

1.6 PLANNING HISTORY

The NOP was sent to the State Clearinghouse on January 23, 2019; posted with the County Clerks for the six counties in the SCAG region; and distributed to various federal, state, regional and local government agencies, and other interested agencies, organizations, and individuals. The NOP was made available on SCAG's website at <https://www.connectsocial.org/Documents/PEIR/NOP-PEIR-ConnectSoCal.pdf>. The NOP was published in 12 newspapers, including the Los Angeles Times, and additional newspapers that address the large geographic reach and diverse population within the SCAG region:

- Desert Sun
- Imperial Valley
- La Opinion
- Los Angeles Sentinel
- Los Angeles Times
- Nguoi Viet
- Press Enterprise
- San Bernardino County Sun
- The Korean Times
- The OC Register
- Ventura County Star
- World Journal (Chinese Daily News)

The NOP was circulated primarily using electronic mail to over 500 interested parties, including representatives of Native American tribes. The NOP was mailed directly to approximately 100 interested parties, including federal, state, regional and local agencies, organizations and major libraries in the region using the U.S. Postal Service certified mail service. The NOP was also posted at the following locations:

SCAG Main Office
900 Wilshire Boulevard, 17th Floor,
Los Angeles, CA 90017

SCAG Riverside County Regional Office
3403 10th Street, Suite 805
Riverside, CA 92501

SCAG Imperial County Regional Office
1503 N. Imperial Avenue, Suite 104
El Centro, CA 92243

SCAG San Bernardino County Regional Office
1170 West 3rd Street, Suite 140
San Bernardino, CA 92410

SCAG Orange County Regional Office
600 South Main Street, Suite 741
Orange, CA 92868

The NOP provided notification of the two public scoping meetings for interested parties to receive information on the Plan and the related CEQA process as well as providing an opportunity for the submittal of comments both by mail and electronically.

The Plan was developed with input from the public in accordance with the adopted Public Participation Plan. SCAG conducted 28 open house workshops on the Plan between June and July 2019.¹ These goals of these events was to share the purpose of Connect SoCal, introduce and provide information on policies and strategies under consideration, describe the performance outcomes of the different policy choices and receive input from participants. Scenarios were developed to help facilitate discussion during the development of the Draft Plan and to evaluate how each scenario would perform in terms of meeting the goals and guiding policies of the Plan and other performance metrics. SCAG also broadened its participation activities in the development of the Plan to engage a more extensive group of stakeholders in its planning and programming processes. SCAG held five public workshops on environmental justice for the Plan.

The Draft Plan was released by the Regional Council for a 70-day public comment and review period (from November 14, 2019 to January 24, 2020), while the Draft PEIR circulated for a 46-day public comment and review period. The public review and comment period for the Draft PEIR occurred between December 9, 2019 and January 24, 2020. To help further inform local, state and federal agencies, and other interested agencies, organizations, and individuals (“Interested Parties”) about the elements of the Draft Plan, SCAG posted announcements and videos on its website, blog sites, and its social networking pages (Facebook, Twitter); prepared factsheets and other outreach materials in English, Spanish, Chinese, Korean and Vietnamese; and placed ads and public announcements in 12 newspapers, including the ethnic press. During public review and comment period for the Draft Plan, SCAG held public workshops related to the Plan and a separate workshop on the PEIR.

¹ Southern California Association of Governments, Public Participation and Consultation Report, November 2019

Based on comments received during the public review period, SCAG prepared the Final PEIR to fulfill the basic purposes of CEQA,² which are:

- To disclose to the decision-makers and the public significant environmental effects of the proposed activities.
- To identify ways to avoid or reduce environmental damage.
- To prevent environmental damage by requiring implementation of feasible alternatives or mitigation measures.
- To disclose to the public reasons for agency approvals of projects with significant environmental effects.
- To foster interagency coordination in the review of projects.
- To enhance public participation in the planning process.

On May 7, 2020, the Regional Council adopted Resolution No. 20-621-1 certifying the Connect SoCal PEIR and approving Connect SoCal for federal conformity purposes only. The Resolution postponed for up to 120 days the date by which the Regional Council would be asked to consider approval of Connect SoCal in its entirety and for all other purposes, including but not limited to submittal to the California Air Resources Board (CARB). This delay allowed for more time to review Connect SoCal and consider its implications in light of the short and long-term impacts of the COVID-19 pandemic on the region as requested by many stakeholders, and to make refinements to the Plan's Growth Forecast in relation to entitlement information. Since the technical refinements resulted in minimal impacts to the performance of Connect SoCal, this addendum was determined to be the appropriate level of environmental review.

1.7 SUMMARY OF ENVIRONMENTAL EFFECTS

This Addendum will consider whether technical refinements at the sub jurisdictional level, undertaken to capture shifts in jobs and housing would result in a new significant environmental impact or more severe significant environmental impacts than previously identified in the Final PEIR, thereby, requiring a major revision to the EIR.

Chapter 2.0, Technical Refinements to the Plan and Environmental Effects, of this Addendum includes a detailed evaluation of environmental effects associated with the technical refinements, as compared to impacts identified in the Final PEIR for each CEQA environmental factor area, organized in the same manner as the Final PEIR. **Chapters 3.0, PEIR Clarifications**, and **4.0, Mitigation Measures**, include

² CEQA Guidelines § 15002.

updated and expanded regulatory framework and setting information as well as clarified analyses and revised mitigation measures. These refinements to the PEIR clarify and amplify the existing document and do not change the analyses or impact determinations provided within the Final PEIR.

As indicated in **Chapters 2.0, Technical Refinements to the Plan and Environmental Effects, 3.0, PEIR Clarifications, and 4.0, Mitigation Measures**, this Addendum does not identify any of the following: 1) substantial changes that require major revisions to the Final PEIR; 2) substantial changes to circumstances, related to significant effects, that require major revisions to the Final PEIR; 3) new information of substantial importance which was not known and could not have been known at the time to Final PEIR was certified. Therefore, none of the conditions that require the preparation of a subsequent or supplemental PEIR under Guidelines sections 15162 and 15163 would apply, and an Addendum to the Final PEIR is the appropriate CEQA document.

1.8 INCORPORATION BY REFERENCE

The following documents were used in the preparation of this Addendum, and are incorporated herein by reference, consistent with Section 15150 of the Guidelines:

- Southern California Association of Governments, Certified Final Connect SoCal PEIR, certified May 7, 2020. Available online at: <https://www.connectsocial.org/Pages/Final-2020-PEIR.aspx>
- The Connect SoCal Plan is available on SCAG's website at: <https://www.connectsocial.org/Pages/Connect-SoCal-Final-Plan.aspx>

2.0 TECHNICAL REFINEMENTS TO THE PLAN AND ENVIRONMENTAL EFFECTS

2.1 BACKGROUND

SCAG serves as the regional forum for cooperative decision-making by local government elected officials and its primary responsibilities in fulfillment of federal and state requirements include the development of the RTP/SCS; the Federal Transportation Improvement Program (FTIP); the annual Overall Work Program; and the transportation-related portions of local air quality management plans. SCAG's other major functions include determining that regional transportation plans and programs are in conformity with the federal Clean Air Act; determining that the RTP/SCS meets regional greenhouse gas (GHG) emissions reduction targets established by the California Air Resources Board (CARB); preparing a Regional Housing Needs Assessment (RHNA) every eight years; and intergovernmental review of regionally significant projects.

The Regional Council is SCAG's governing body. It consists of 86 elected officials, representing cities, counties, county transportation commissions, transportation corridor agencies, tribal governments, and air districts in the region. The Regional Council has general authority to conduct the affairs of SCAG and directs the actions of the agency throughout the year. Additionally, the Regional Council implements the policy direction provided at the annual General Assembly of its membership, acts upon policy recommendations from SCAG's standing policy committees and external agencies and appoints standing or ad-hoc subcommittees to study specific programs or issues. SCAG's Regional Council directs the policy initiatives of the organization. Consistent with state law and as a matter of policy, SCAG provides for local jurisdictions to have maximum flexibility to make decisions appropriate to their circumstances.

Connect SoCal is a long-range plan that builds upon and expands land use and transportation strategies aimed at increasing mobility options and achieving a more sustainable growth pattern. More than 4,000 individual transportation capital projects and programs, advanced through local and countywide plans, form the foundation of Connect SoCal. A comprehensive Plan update occurs every four-years, at which time the entirety of the Plan is reviewed and revised. During the comprehensive update, SCAG revises the Growth Forecast, integrates new projects and programs funded by the six county transportation commissions, confirms alignment with federal and state performance standards and environmental requirements, reviews and refines regional strategies to address gaps in achieving the region's vision for greater mobility, sustainability and economic prosperity.

Pursuant to the Sustainable Communities and Climate Protection Act of 2008 (Senate Bill (SB) 375), SCAG prepared a sustainable communities strategy (SCS), a required component of the Plan that sets forth a forecasted regional development pattern, integrated with the transportation network, measures, and policies, to reduce GHG emissions from cars and light duty trucks. The Connect SoCal SCS meets the 8 percent per capita greenhouse gas (GHG) emissions for the SCAG region by 2020 and the 19 percent reduction in per capita GHG emissions by 2035 as mandated by California Air Resources Board (CARB). SB 375, and by extension the SCS, are part of California's overall strategy to reach GHG emissions reduction goals as set forth by Assembly Bill (AB) 32, Senate Bill (SB) 32, and Executive Orders S-03-05 and B-30-15.

The Plan also:

- Describes how implementation of the Plan is anticipated to generate and support 168,000 annual jobs stemming from direct transportation investments and 264,500 jobs annually from the enhanced economic competitiveness resulting from infrastructural improvements;
- Describes where and how the region can accommodate a 23 percent increase in projected households and 16 percent increase in jobs between 2020 and 2045; and
- Details a regional transportation investment given \$633.9 billion in expected revenues from federal, state, regional and local sources over the next 25 years

The Plan is constrained by expected transportation revenues and identifies transportation and land use strategies to accommodate projected population, household and employment growth and improve the quality of life for existing and future residents.

Connect SoCal Growth Forecast

As described above, the Plan updates the growth forecast, land use assumptions, and transportation investments that served as a foundation to prior regional transportation plans. On a national level, population growth has slowed, with the US Census Bureau projecting a decrease in national annual growth rate from about 0.75 percent in 2016 to approximately 0.40 percent by the 2040s. In the SCAG region, growth is similarly slowing down, from about 0.85 percent in 2020 to about 0.45 percent by 2045.

While growth rates are at a historic low; a gradual increase to the total population is expected. In the SCAG region, a 0.6 annual growth rate corresponds to about 114,000 new residents annually, or 3.2 million new residents between 2019 and 2045. At the county level, the region anticipates population

increases of 9.1% to 35.4% for its six-county area (Table 2.0-1, 2019-2045 Population, Households and Employment Projections in the SCAG Region)

**Table 2.0-1
2019-2045 Population, Households, and Employment Projections in the SCAG Region**

County Name	Population 2019	Population 2045	Percentage Increase	Households 2019	Households 2045	Percentage Increase	Employment 2019	Employment 2045	Percentage Increase
Imperial	207,700	281,200	35%	58,000	92,500	59%	77,300	130,200	68%
Los Angeles	10,333,600	11,677,200	13%	3,409,500	4,124,500	21%	4,826,600	5,382,200	12%
Orange	3,250,100	3,534,600	9%	1,053,500	1,153,500	10%	1,765,600	1,980,400	12%
Riverside	2,462,600	3,251,700	32%	758,300	1,086,100	43%	812,800	1,102,700	36%
San Bernardino	2,217,100	2,815,500	27%	656,500	874,800	33%	828,300	1,063,800	28%
Ventura	868,600	947,500	9%	276,100	306,400	11%	346,400	389,400	12%
SCAG Region	19,339,700	22,507,200		6,211,900	7,638,600		8,657,138	10,048,500	

Source: SCAG 2019

As growth rates are declining, the population is also aging. From 2000 to 2016, the region’s median age increased from 32.3 to 35.8. By 2045, this number is expected to reach 39.7.

From 2010 to 2019, an additional 1,288,228 people moved to Southern California. Los Angeles County had the largest share of population growth among the six counties in the SCAG region during this period, adding an additional 514,935 new residents (approximately 42 percent of the region’s increase in population). Riverside County followed with the next largest share and experienced an increase of 272,951 new residents (nearly 22 percent of the region’s increase in population).

May 2020 Actions

On May 7, 2020, the Regional Council adopted Resolution No. 20-621-1 certifying the Connect SoCal Program Environmental Impact Report (PEIR) and approving Connect SoCal for federal conformity purposes only. The Resolution postponed for up to 120 days the date by which the Regional Council would be asked to consider approval of Connect SoCal in its entirety and for all other purposes, including but not limited to submittal to the CARB. The Resolution established the following expectations during this timeframe:

- Allow for more time to review Connect SoCal and consider its implications in light of the short and long-term impacts of the COVID-19 pandemic on the region as requested by many stakeholders;
- Work with local jurisdictions to make refinements to the Plan's Growth Forecast in relation to entitlements;
- Identify and quantify all differences within the SCS and locally-approved General Plans and quantify the increase (or decrease) in housing, jobs or population between Connect SoCal and each local General Plan within 60 days; and
- Provide a progress report describing modifications to the SCS and associated modeling and analysis within 60 days.

SCAG has addressed these directives as discussed below.

2.2 COVID-19 EFFECTS

Since the May 7th meeting, SCAG engaged in several outreach activities to learn more from stakeholders about how they have been impacted by COVID-19 and learn how Connect SoCal can best be positioned as a tool for recovery and regional resilience. Activities include engagement with regional planning working groups, direct outreach to specific stakeholders, focus groups with community-based organizations (CBOs), a public survey, and a public virtual town-hall.

Two focus groups with seven CBOs (including: Abundant Housing LA, People for Mobility Justice/ Ride in Living Color, Strategic Actions for a Just Economy, TRUST South LA, Kennedy Commission, Santa Ana Active Streets and Alianza Coachella Valley), reiterated issues raised during the Spring 2019 Connect SoCal outreach process and identified concerns in light of the on-going pandemic. Stakeholders continue to see significant value in strengthening connections within their established communities, but COVID-19 has amplified concerns about housing availability and affordability, evictions, limited alternative transportation options and displacement.

SCAG also conducted a survey asking stakeholders about the impact of COVID-19 on their communities as well as specific questions relating to SCAG's activities and long-range planning. The survey closed on June 25, 2020. A summary was provided in advance of the July Regional Council and Policy Committee meetings. The survey indicated the following concerns because of COVID-19:

- Lack of income to pay rent/mortgage and increased vehicle speeds on local roads

- Longer-term concerns include lack of government funding for services and programs
- Respondents noted that the Connect SoCal goals were either the same or more significant in light of COVID-19.

On June 24, 2020, SCAG held a Virtual Townhall: *Regional Dialogue on Connect SoCal and COVID-19 Recovery*. Small group breakout discussions were held to learn the specific impacts of COVID-19 in communities across the region and to hear from stakeholders about how Connect SoCal implementation, through the planning resources, research and convening functions of SCAG can help assist in moving the region forward.

Additionally, SCAG has undertaken some short-term socio-economic modeling of the effects of COVID-19, but it is not yet possible to forecast the potential long-term implications of the pandemic for the Connect SoCal horizon year of 2045. Since data from the pandemic is limited and the longer-term trajectory of recent trends is yet to be determined, SCAG staff recommends that any necessary changes based on impacts from the pandemic be reflected in the 2024 RTP/SCS.

2.3 TECHNICAL REFINEMENTS TO THE GROWTH FORECAST SINCE PUBLICATION OF THE FINAL PEIR

During the development of the Plan, SCAG coordinated an extensive local engagement process, called the Bottom-Up Local Input and Envisioning Process, with Southern California's 197 towns, cities and counties while developing Connect SoCal to create a growth forecast that respects local land use policies, reflects local entitlements, and advances regional goals. In addressing the Regional Council directives, SCAG has continued to work closely with local jurisdictions and the development community to review the growth forecast.

In May and June 2020, SCAG conducted targeted outreach to jurisdictions where quantitative analysis indicated the need for direct discussion, and also welcomed all jurisdictions to again review SCAG's Growth Forecast to ensure entitlements (with anticipated phasing) were captured and general plan maximums were reflected. In total, twelve jurisdictions provided feedback to SCAG – with six asking for adjustments due to general plan capacities and/or entitlements, and others specifically asking that the Growth Forecast not be changed for their jurisdiction at all.

In addition to reviewing general plan allowed densities, SCAG conducted further analysis to account for anticipated shifts—increases and decreases—in growth resulting from Connect SoCal policies. This analysis considered differences, within the locally allowed density ranges (i.e. not exceeding general plan

capacities), of the growth projected by Connect SoCal as compared to local growth assumptions (i.e. Local Input, provided directly by local jurisdictions). In some cases, the Connect SoCal growth assumptions are the same as the Local Input, where SCAG determined the jurisdiction's assumptions effectively capture regional policies. In other cases, the development anticipated is shifted to another location, within the same jurisdiction, to capture anticipated impacts of regional policies.

Capacities at the TAZ level were calculated using general plan designations for each jurisdiction (as updated by recent specific plans, development agreements and other entitlements) and the associated allowable maximum or average (as appropriate) dwelling unit densities per acre for each. This data was supplemented with "Local Input" (if growth conveyed by jurisdictions was higher than SCAG's calculated dwelling unit density). SCAG confirmed 95% of the evaluated TAZs (which account for 97% of the 2045 households) do not exceed allowable general plan densities. (For the remaining 5% SCAG did not have sufficient details regarding local density bonus, accessory dwelling unit ordinances and other zoning controls to definitively confirm allowable densities.) It is important to note that SCAG's assessment of general plan capacity is an estimate that does not consider all factors impacting development capacity (such as local ordinances for accessory dwelling units (ADUs), density bonuses, and zoning). These factors add additional capacity to TAZs.

SCAG modified the sub-jurisdictional growth forecast at the request of six jurisdictions to account for updated general plan capacities including entitlements. The sub-jurisdictional growth forecast modifications were limited to six jurisdictions in Los Angeles (Unincorporated County, Duarte and Malibu), Orange (Anaheim), and San Bernardino (Unincorporated County and Chino) counties. There were no changes to any TAZs in Imperial, Riverside, and Ventura counties. In total, 5,880 households were shifted which represents 0.08 percent of total households in the region, were shifted in 0.29% of the region's 13,257 TAZs and 33,037 jobs, which represents 0.33 percent of total projected regional employment, were shifted in 0.77% of TAZs.

The largest growth shift occurred in Los Angeles County, where 3,080 households and 24,428 jobs were shifted within the jurisdictions of the City of Duarte, City of Malibu, and unincorporated Los Angeles County. Within Orange County 2,598 households and 1,645 jobs, all within the City of Anaheim were shifted. In San Bernardino County, 202 households and 6,964 jobs within the City of Chino and unincorporated area of San Bernardino County were shifted. There were no changes to growth in any TAZs in Imperial, Riverside, and Ventura Counties.

It is important to note that household and employment shifts occurred within each respective jurisdiction at the TAZ level. These sub-jurisdictional level changes did not affect the jurisdictional totals as

households and employment shifts did not occur across counties and cities, but rather within counties and cities. This is important because SCAG adopts the growth forecast at the jurisdictional level. While the TAZ level data is made available to jurisdictions for modeling and other purposes, it is not adopted by SCAG for any purpose. TAZ-level growth projections are used by SCAG for regional modeling purposes and are not adopted as part of Connect SoCal, nor are they used in the growth forecasts. As such, the TAZ level data is not intended to promote or constrain growth in any TAZ. Further, these technical refinements did not result in any changes to the SCS land use maps. Because no shifts occurred across jurisdictions, the jurisdictional level totals remain same as the numbers presented in Connect SoCal Plan, adopted on May 7, 2020.

2.4 ENVIRONMENTAL IMPACTS OF TECHNICAL REFINEMENTS TO THE PLAN

Under state planning law (SB 375), the SCS developed as part of the RTP cannot supersede local General Plan policies.¹ Rather, it is intended to provide a regional policy foundation that local governments may build upon if they so choose and generally includes the quantitative growth projections for each city and county in the region going forward. The PEIR, page 1.0-16 notes as follows:

... SB 375 specifically provides that nothing in an SCS supersedes the land use authority of cities and counties, and that cities and counties are not required to change their land use policies and regulations, including their general plans, to be consistent with the SCS or an alternative planning strategy.² Moreover, cities and counties have plenary authority to regulate land use through their police powers granted by the California Constitution, art. XI, §7, and under several statutes, including the local planning law,³ the zoning law,⁴ and the Subdivision Map Act.⁵

SB 375 does not require that general plans be consistent with the SCS. However, to use CEQA streamlining under SB 375 a lead agency must find that a project is consistent with the SCS. SCAG has clearly indicated that lead agencies/local jurisdictions have sole discretion to make consistency findings with the SCS for the purposes of CEQA.

Connect SoCal's Growth Forecast Guiding Principle No. 3 states the following:

¹ Cal. Gov Code Section 65080(b)(2)(K).

² California Legislative Information. *Public Resources Code – PRC, Division 13. Environmental Quality, Chapter 2.5, Definitions [21060-21074]*.

³ California Legislative Information. *Chapter 3. Local Planning 65100-65763*.

⁴ California Legislative Information. *Chapter 4. Zoning Regulations 65800-65912*.

⁵ California Legislative Information. *Division 2 Subdivisions 66410-66499.38*.

2.0 Technical Refinements to the Plan and Environmental Effects

For the purpose of determining consistency with Connect SoCal for the California Environmental Quality Act (CEQA), grant or other opportunities, lead agencies such as local jurisdictions have the sole discretion in determining a local project's consistency; SCAG may also evaluate consistency for grants and other resource opportunities; consistency should be evaluated utilizing the goals and policies of Connect SoCal and its associated Program Environmental Impact Report (PEIR). However, TAZ growth projections for households, employment or population reflected in TAZ maps may not be utilized to determine consistency or inconsistency with Connect SoCal.^{6,7}

Changes to the distribution of growth have the potential to affect environmental impacts. The distribution of growth affects the transportation and air quality modeling undertaken by SCAG. The SCAG models are used to provide gross estimates of regional environmental parameters (in particular VMT, criteria pollutant emissions and GHG emissions). However, the inputs to these models are subject to variability (location and density of land uses, travel patterns, fuel make up, pricing assumptions and many more). Because of this, minor changes to assumptions result in minor changes to modeling results and are not statistically significant. As noted above, SCAG has made technical refinements to the growth forecast at the sub-jurisdictional (i.e., TAZ) level.

The environmental analysis provided in this Addendum describes the information that was considered in evaluating the environmental resource areas and checklist identified in Appendix G of the State CEQA Guidelines. None of these technical refinements result in substantial changes to the information presented in the Final PEIR, including modeling results (See **Table 2.0-2, Summary of Impacts from Technical Refinements to the Plan**). Nonetheless, below is a summary description of each topic area analyzed within the Final PEIR and how the changes described above would result in a change from the analysis presented in the Final PEIR.

⁶ Pending adoption from the Regional Council on September 3, 2020. Please refer to the Staff Report entitled: Final Connect SoCal Technical Refinements for details about the changes to the Growth Forecast Guiding Principles and other clarifications.

⁷ "TAZ-level growth projections" refer to the disaggregation of the regional and jurisdictional population, household, employment growth forecasts developed as part of the final, adopted Connect SoCal, and is in contrast to other TAZ-level data such as locally envisioned growth projections (i.e., "local input") or the 2016 base-year TAZ-level data developed by SCAG. "TAZ Maps" refer to visualizations in a map format of the TAZ-level growth projections within a TAZ boundary, which may be created by SCAG, and such maps are not developed, included, contained, approved or adopted as part of Connect SoCal.

**Table 2.0-2
Summary of Technical Refinements to the Plan**

Impact	Compared to the Certified Final Connect SoCal PEIR
Aesthetics	Same; no new impacts
Agriculture and Forestry Resources	Same; no new impacts
Air Quality	Same; no new impacts
Biological Resources	Same; no new impacts
Cultural Resources	Same; no new impacts
Energy	Same; no new impacts
Geology and Soils	Same; no new impacts
Greenhouse Gas Emissions and Climate Change	Same; no new impacts
Hazards and Hazardous Materials	Same; no new impacts
Hydrology and Water Quality	Same; no new impacts
Land Use and Planning	Same; no new impacts
Mineral Resources	Same; no new impacts
Noise	Same; no new impacts
Population, Housing, and Employment	Same; no new impacts
Public Services	Same; no new impacts
Recreation	Same; no new impacts
Transportation, Traffic, and Safety	Same; no new impacts
Tribal Cultural Resources	Same; no new impacts
Utilities and Service Systems	Same; no new impacts
Wildfire	Same; no new impacts
Comparison of Alternatives	Same; no new impacts
Long-Term CEQA Considerations	Same; no new impacts

For a summary of model rerun results and more information regarding Plan refinements, please refer to the September 3, 2020, Regional Council staff report entitled: Final Connect SoCal Technical Refinements.

Aesthetics and Views

The certified Final PEIR determined that the Plan would result in substantial degradation of the existing visual character or quality of sites and its surroundings, adverse effects on scenic vistas, damage to scenic resources, creating a new source of substantial light affecting day or nighttime thereby resulting in significant impacts.

SCAG prepared updated modeling and changes to the TAZ level growth forecasts. No changes were made to the transportation projects, Plan strategies, or the jurisdictional level forecasts. While the

distribution of households and jobs would change slightly, overall, the changes would not alter identified impacts with respect to scenic vistas, scenic highways, visual character, light, or glare. Therefore, impacts would not change as compared to those identified for the Final PEIR; no new or greater impacts would occur.

Regional-scale impacts to scenic resource and vista points would remain the same. None of the analysis presented in Section 3.1, Aesthetics, of the Final PEIR would be changed as a result of the technical refinements presented herein. While adjustments were made at the sub jurisdictional level, at the regional level, impacts would remain significant and unavoidable. The technical refinements would not result in any new significant impacts on aesthetic impacts at the regional level because the changes are minor and occur at the sub jurisdictional level.

Agriculture and Forestry

The certified Final PEIR determined that the Plan would have the potential to convert the following to non-agricultural use: Prime Farmland, Farmland of Statewide Importance, Unique Farmland, Farmland of Local Importance, and land managed pursuant to Williamson Act contracts. Significant impacts to agriculture and forestry resources would occur.

As described above, technical refinements included modifications to the growth forecast in the form of shifting jobs and housing within a limited number of TAZs. Based on these technical refinements, the loss of agricultural land as identified within the PEIR could change slightly, but at the regional scale such impacts would be negligible. Because the refinements only occurred at the TAZ level, and there were no changes to the jurisdictional level or regional level growth forecast numbers, the impacts identified within the PEIR would not be expected to change substantially. While there could be some change in the loss of important farmland, or forest land at TAZ level as households and jobs are shifted, at the regional scale such impacts would be negligible.

While the distribution of individual land use projects could change slightly, overall, the changes to the modeling would not alter the impacts with respect to conflicts with agricultural zoning, forest zoning, or loss of forest and farmlands. Therefore, the technical refinements would not substantially change impacts as compared to those identified in the PEIR; no new or greater impacts would occur.

Air Quality

The Final PEIR concluded that the Plan will result in a less than significant air quality impact related to the potential to conflict with or obstruct implementation of the adopted SIPs/AQMPs/Attainment Plans in

the SCAG region and with regard to objectionable odors. The Final PEIR also concluded that the Plan could contribute to an air quality violation due to an increase in total VMT, and impacts would be significant.

As described above, technical refinements included modifications to the growth forecast in the form of shifting jobs and housing within a limited number of TAZs. While the distribution of individual land use projects could change slightly, overall, the changes to the modeling would not alter the impacts with respect to conflicts with air quality plans (SIP/AQMPs/Attainment Plans). Regarding air quality emissions, the slight change in at the TAZ level could result in incremental changes in total air pollutants for which the region is in non-attainment under applicable NAAQs or CAAQs. However, since the total population, housing, and employment remains constant at the jurisdictional level, such changes would not be significant. Additionally, none of the technical refinements impacts the air quality modeling provided for federal Transportation Conformity. SCAG has also reviewed the background information and mitigation measures suggested by CBD specific to air quality. The revised mitigation measures, and background information clarify the information with the Final PEIR and do not affect the determination of impacts. (Refer to **Chapter 3.0, PEIR Clarifications**, and **Chapter 4.0, Mitigation Measures**, of this Addendum, for additional information regarding refinements made to the mitigation measures.) Therefore, the technical refinements would not substantially change impacts as compared to those identified in the PEIR; no new or greater impacts would occur.

Biological Resources

The Final PEIR concluded the Plan and development projects anticipated to occur under the Plan would affect biological resources, including direct loss of sensitive plant and/or wildlife species resulting from injury, death, or disturbance of these species. The Final PEIR also concluded that the Plan would have a substantial adverse effect on riparian habitats and other sensitive natural communities. Impacts would be significant and unavoidable.

Transportation projects, development projects anticipated to occur under the Plan, and Plan strategies, would not change as a result of the technical refinements described above, therefore the regional-scale direct impacts to biological resources would be the same as those identified in the PEIR. The impacts to natural vegetation, sensitive species and communities, habitat connectivity, and riparian and wetland areas, would also be the same. The acres of critical habitat would be similar to the amount impacted in Tables 3.4-13, Acres of Critical Habitat for Listed Species Potentially Affected by Connect SoCal Major Transportation Projects. The number of listed plant species and wildlife species affected by the Plan would be similar to those provided in Table 3.4-14, Records of Listed Plant Species within 500 Feet of

Connect SoCal Projects and Table 3.4-15, Records of Listed Wildlife Species within 500 Feet of Connect SoCal Projects. Similarly, acres of sensitive and riparian habitat within 500 feet of Connect SoCal projects (Table 3.4-16) would not substantively change based on the modifications described above. Miles of blueline streams and acres of federally protected waterways within 500 feet of Connect SoCal Projects would also not substantively change (Table 3.4-17, Table 3.4-18, and Table 3.4-19). Lastly acres used for wildlife movement (Table 3.4-20) would be minimally affected by the changes in the Final Plan. The changes in the Final Plan would not impact acres subject to HCP or NCCPs. SCAG has also reviewed the background information and mitigation measures suggested by CBD specific to biological resources. The revised mitigation measures, background information, and analysis amplify and clarify the information in the Final PEIR and do not affect the determination of impacts. (Refer to **Chapter 3.0, PEIR Clarifications**, and **Chapter 4.0, Mitigation Measures**, of this Addendum, for additional information regarding refinements made to the mitigation measures.)

While the distribution of housing and jobs would change slightly under limited circumstances as described above, overall, the refinements to the growth forecast would not alter the impacts with respect to threatened and/or endangered species, fully protected and sensitive species, locally important species, or associated critical habitat. Therefore, the technical refinements would not substantially change impacts as compared to those identified in the PEIR; no new or greater impacts would occur.

Cultural Resources

The Final PEIR concluded that the Plan would have the potential to cause significant and unavoidable impacts to historical and archaeological resources, including the potential to disturb human remains.

Transportation projects, potential land use development projects as a result of the Plan and Plan strategies, would not change as a result of the technical refinements described, therefore, regional-scale direct impacts to cultural resources, including impacts to historical and archaeological, resources would be similar to those identified in the Draft PEIR. The Plan would continue to include regional land use and transportation strategies that focus new growth in urbanized areas. Many urbanized areas are older urban or suburban town centers where structures of architectural or historical significance are likely to be located. Therefore, regional-scale impacts would not change. Transportation projects considered in the Plan would continue to have the potential to impact the nearly 100,000 archaeological resources in the SCAG region (Table 3.5-1). The Plan would continue to focus growth in urban areas and impacts would not substantively change.

While the distribution of housing and jobs would change slightly under limited circumstances as described above, overall, the refinements to the growth forecast would not alter the impacts with respect to historic and archaeological resources. Therefore, the technical refinements would not substantially change impacts as compared to those identified in the PEIR; no new or greater impacts would occur.

Energy

The Final PEIR concluded that the Plan would not result in wasteful or inefficient use of energy and would be consistent with energy conservation policies. This impact is less than significant.

Estimates of energy consumption are based on available consumption factors which are reasonably expected to change substantially over the coming years with increased focus on conservation and efficiency. The technical refinements to TAZ level jobs and housing numbers would not substantially affect the numbers presented in the Final PEIR. SCAG prepared updated modeling and changes to the TAZ level jurisdictional forecasts. While the distribution of housing and jobs would change slightly under limited circumstances as described above, overall, the refinements to the growth forecast would not alter the impacts with respect to wasteful, inefficient, or unnecessary consumption of energy. Therefore, the technical refinements would not substantially change impacts as compared to those identified in the PEIR; no new or greater impacts would occur.

Geology and Soils

The Final PEIR concluded that the Plan would result in less than significant impacts with regard to existing geologic hazards, including unstable geologic units or soils. However, impacts in relation to soil erosion and loss of topsoil were found to be significant and unavoidable.

Direct regional-scale impacts to geological resources would generally be similar as a result of the technical refinements. Implementation of the Plan would result in projects exposed to both direct and indirect effects of seismic activities compared to existing conditions (which is not an impact under CEQA). The Plan would neither cause nor exacerbate existing geologic hazards, including the likelihood of fault rupture. This condition exists throughout the SCAG region as it is a seismically active area.

Regarding impacts related to soil suitability, erosion and stability, because projects would be required to comply with existing state and local jurisdiction permitting, regulatory, and grading processes as well as the application of BMPs, regional-scale impacts would be the same as identified in the PEIR.

The potential regional-scale direct impacts on paleontological resources related to implementation of transportation projects and development projects anticipated to occur under the Plan and presented in the Draft PEIR would not change as a result of on the technical refinements.

While the distribution of housing and jobs would change slightly under limited circumstances as described above, overall, the refinements to the growth forecast would not alter the impacts with respect to seismic and geological hazards and soils. Therefore, the technical refinements would not substantially change impacts as compared to those identified in the PEIR; no new or greater impacts would occur.

Greenhouse Gases

The Final PEIR concluded that the Plan would generate greenhouse gas (GHG) emissions that would have a significant impact on the environment.

The technical refinements described above would result in minimal changes to the regional-scale GHG emission estimates presented in the PEIR. The Plan would continue to achieve GHG reduction targets of 8 for 2020 and 19 percent for 2035 (Table 3.8-10). As stated in Section 3.8, Greenhouse Gases, CARB has indicated that even if all MPOs meet their regional SB 375 GHG targets, the state would not be able to meet the statewide GHG reduction goals of AB 32, SB 32, and the Scoping Plan. As recognized by CARB, MPO's do not have land use authority to implement additional VMT reductions. Furthermore, SCAG has no control or authority over the other key sectors (e.g., energy, industry, water, waste and agriculture) in meeting the AB 32, SB 32, and Scoping Plan targets. Without additional information as to how other sectors would reduce emissions to meet targets, and assuming existing available emission factors, GHG emissions in the SCAG region are not on track to achieve targets identified in AB 32, SB 32 and the Scoping Plan. This would continue to be the case with the technical refinements. SCAG has also reviewed the background information and mitigation measures suggested by CBD specific to greenhouse gas emissions. The revised mitigation measures amplify and clarify the information in the Final PEIR and do not affect the determination of impacts. (Refer to **Chapter 4.0, Mitigation Measures**, of this Addendum, for additional information regarding refinements made to the mitigation measures.)

While the distribution of housing and jobs would change slightly under limited circumstances as described above, overall, the refinements to the growth forecast would not alter the impacts with respect to generating GHG emissions and conflicting with GHG reduction plans. Therefore, the technical refinements would not substantially change impacts as compared to those identified in the PEIR; no new or greater impacts would occur.

Hazards and Hazardous Materials

The Final PEIR concluded that the Plan would result in significant and unavoidable impacts related to hazards and hazardous materials, including through the routine transport, use, or disposal of hazardous materials.

Even with the technical refinements, the same land use strategies that encourage infill and redevelopment and the same transportation network would remain; therefore, transportation of hazardous materials would be similar to those described in the PEIR. Regional-scale impacts related to the routine transport, use, or disposal of hazardous materials, the risk of upset of hazardous materials, risk of disturbing contaminated sites during construction, and the risk of release of hazardous materials within one-quarter mile of a school would not change from what is described in the PEIR.

While the distribution of housing and jobs would change slightly under limited circumstances as described above, overall, the refinements to the growth forecast would not alter the impacts with respect to the routine transport, use, or disposal of hazardous materials, the risk of upset of hazardous materials, risk of disturbing contaminated sites during construction, and the risk of release of hazardous materials within one-quarter mile of a school. Therefore, the technical refinements would not substantially change impacts as compared to those identified in the PEIR; no new or greater impacts would occur.

Hydrology and Water Quality

The Final PEIR concluded that the Plan would result in significant and unavoidable impacts to surface and groundwater quality, groundwater recharge, drainage patterns, and pollutant release.

The technical refinements would result in limited changes in the distribution of jobs and housing at the TAZ / sub jurisdictional level. These changes would not be measurable at the regional level as they relate to hydrology. Because the total number of jobs and housing stays constant at the jurisdictional level, any changes in greenfield consumption as a result of the technical refinements would be minimal.

While the distribution of housing and jobs would change slightly under limited circumstances as described above, overall, the refinements to the growth forecast would not alter the impacts with respect to violation of water quality standards, potential to decrease groundwater supplies, alternation of an existing drainage pattern, and flood hazards. Therefore, the technical refinements would not substantially change impacts as compared to those identified in the PEIR; no new or greater impacts would occur.

Land Use and Planning

The Final PEIR concluded that the Plan would result in significant and unavoidable impacts with respect to physically dividing an existing community and conflicting with land use plans, policies, or regulations.

The transportation strategies in the Plan, such as emphasis on complete streets and TDM strategies would continue to have limited potential for dividing established communities because they are generally expected to occur in established communities. Many of these strategies (i.e., bike lanes, pedestrian access) improve connectivity. As land gets converted from urban or agricultural uses, there would continue to be the potential for infrastructure or land developments to divide existing communities. This impact would not substantially change with the technical refinements described above.

With regard to conflict with existing plans, land use policies and strategies in the Plan would continue to encourage development of underutilized areas (infill, etc.). Development patterns, would continue to be supported by transportation investments that emphasize system preservation and enhancement, active transportation, and land use integration, and are generally consistent with local land use plans, goals, and policies calling for higher density, compact, mixed-use development that may be served by high-quality transit, bicycle and pedestrian improvements. There would continue to be the potential for inconsistencies between SCAG's land use strategies and local planning documents that could potentially lead to physical environmental impacts. The refinements to the Plan would not substantively change the analysis presented in the PEIR. Therefore, the technical refinements would not substantially change impacts as compared to those identified in the PEIR; no new or greater impacts would occur.

Mineral Resources

The Final PEIR concluded that the Plan would result in significant and unavoidable impacts with respect to consumption of aggregate resources and the availability of mineral resources.

Construction of transportation projects would continue to require substantial amounts of aggregate resources, continuing to constitute a significant impact. The technical refinements would not substantively change the analysis presented in the PEIR.

While the distribution of housing and jobs would change slightly under limited circumstances as described above, overall, the refinements to the growth forecast would not alter the impacts with respect to with respect to the loss of mineral resources and mineral resource recovery sites. Therefore, the technical refinements would not substantially change impacts as compared to those identified in the PEIR; no new or greater impacts would occur.

Noise

The Final PEIR concluded that the Plan would result in significant and unavoidable impacts with respect to generation of increased noise and vibration levels, including impacts associated with aviation.

The technical refinements would not change the transportation projects or land use strategies in the Plan. As such noise impacts would remain generally the same. The potential for generation of substantial temporary or permanent increases in ambient noise or vibration would remain approximately the same, as transportation projects or locations of the projects would not change and there would only be limited changes in the growth pattern. Since the growth pattern remains generally similar, the same impacts would occur. For a regional scale analysis, the technical refinements would not substantively change the analysis. Regarding aviation noise, sensitive receptors would continue to be impacted by airport noise.

While the distribution of housing and jobs would change slightly for six jurisdictions as described above, overall, the refinements to the growth forecast would not alter the impacts with respect to increases in ambient noise or vibration. Therefore, the technical refinements would not substantially change impacts as compared to those identified in the PEIR; no new or greater impacts would occur.

Population and Housing

The Final PEIR concluded that the Plan would result in significant and unavoidable impacts with respect to unplanned population growth and displacement.

As described above, minor modifications at the TAZ level were made to the households and employment distributions for six jurisdictions. The analysis of impacts focuses on the Plan's potential to result in unplanned population growth. The Plan continues to include land use strategies and transportation projects and supporting strategies that generally encourage population growth in urbanized areas and HQTAs. Generally, most jurisdictions have started planning for increases in density in urban areas and the Plan builds on local input (and is not intended to result in re-designation of areas where such re-designation is not approved by the local agency). There continues to be the potential for the Plan's strategies to influence population growth in areas where local general plans have not yet been updated to reflect such growth.

Regarding potential to displace housing, construction of transportation projects that require expansion of existing or designation of new ROWs would continue to have the potential to result in the displacement of existing people and housing, necessitating the construction of replacement housing. The technical

refinements would not modify the transportation network and the growth distribution would generally remain the same.

While the distribution of housing and jobs would change slightly under limited circumstances as described above, overall, the refinements to the growth forecast would not alter impacts respect to unplanned growth and displacement. The changes to the modeling affect the plan at the TAZ level, not at the jurisdictional level. Therefore, the technical refinements would not substantially change impacts as compared to those identified in the PEIR; no new or greater impacts would occur.

Public Services (Fire, Police, Schools, Libraries)

The Final PEIR concluded that the Plan would result in significant and unavoidable impacts with respect to public services, including fire protection, police protection, schools, and libraries.

As described in Sections 3.15-1, 3.15-2, 3.15-3 and 3.15-4 of the PEIR, impacts to public services are largely population driven. As described under the preceding section (Population and Housing), only minor refinements to the housing and employment forecasts occurred. The analysis presented in the public services sections is regional in nature and generally discusses the potential for impacts to occur as a result of the increased population. As the population numbers have not changed (although limited changes were made to the housing and jobs distribution), the analysis presented in Sections 3.15-1, 3.15-2, 3.15-3 and 3.15-4 remains the same.

While the distribution of housing and jobs would change slightly under limited circumstances as described above, overall, the refinements to the growth forecast would not alter impacts respect to the need for new or expanded public facilities the construction of which could cause physical impacts. The changes to the modeling affect the plan at the TAZ level, not at the jurisdictional level. Therefore, the technical refinements would not substantially change impacts as compared to those identified in the PEIR; no new or greater impacts would occur.

Parks and Recreation

The Final PEIR concluded that the Plan would result in significant and unavoidable impacts with respect to parks and recreation facilities.

As described in Section 3.16 Parks and Recreation, impacts to parks and recreational facilities are largely population driven. As described under the preceding section (Population and Housing), only minor refinements to the growth distribution occurred. The analysis presented in the parks and recreation

section is regional in nature and generally discusses the potential for impacts to occur as a result of the increased population resulting in overuse of existing parks, primarily in urban areas. As the population numbers have not substantively changed, the analysis presented in Section 3.16 remains the same.

While the distribution of housing and jobs would change slightly under limited circumstances as described above, overall, the refinements to the growth forecast would not alter impacts with respect to the need for new or expanded parks and recreational facilities the construction of which could cause physical impacts. The changes to the modeling affect the plan at the TAZ level, not at the jurisdictional level. Therefore, the technical refinements would not substantially change impacts as compared to those identified in the PEIR; no new or greater impacts would occur.

Transportation, Traffic and Safety

The Final PEIR concluded that the Plan would result in less than significant impacts with respect to conflicting with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities. However, the Final PEIR also concluded that the Plan would be inconsistent with the state's VMT goals and would result in a significant impact.

The technical refinements resulted in minimal impacts to the performance results for Connect SoCal, and still achieves federal Transportation Conformity and meets the State's greenhouse gas reduction targets for passenger vehicles for 2020 and 2035. The transportation network and projects were not modified while conducting Plan refinements. As such, these minor changes do not substantively change the analysis presented in the PEIR.

The technical refinements and associated shifts in population and jobs resulted in shifts in trips. Most of the shift in trips resulted in similar trip lengths which resulted in only minor changes to modeling results (county-level and regional VMT as well as criteria pollutant and GHG emissions). One of the larger changes was the shift of 20,000 jobs and 2,500 households within northern Los Angeles County. While the specific location of these jobs and households changed, they were still largely in northern LA County and the number and length of trips remained similar. The modeling results for unincorporated Los Angeles County indicate that total trips and total VMT varied by a negligible amount (about 1 percent) between the May and September assumed land use distributions.

While the distribution of housing and jobs would change slightly under limited circumstances as described above, overall, the refinements to the growth forecast would not alter impacts with respect to programs, plans, ordinances, or policies addressing the circulation system, including transit, roadway,

bicycle, and pedestrian facilities. Therefore, the technical refinements would not substantially change impacts as compared to those identified in the PEIR; no new or greater impacts would occur.

Tribal Cultural Resources

The Final PEIR concluded that the Plan would result in significant and unavoidable impacts with respect to tribal cultural resources.

Transportation projects and anticipated growth under the Plan would continue to have the potential to cause a substantial adverse change in the significance of tribal cultural resources in the SCAG region, defined in Public Resources Code section 21074, as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe. The technical refinements would not change the transportation network and would only result in minor modifications to the growth distribution. Therefore, the impacts would be the same as in the PEIR.

While the distribution of housing and jobs would change slightly under limited circumstances as described above, overall, the refinements to the growth forecast would not alter impacts with respect to tribal cultural resources. Therefore, the technical refinements would not substantially change impacts as compared to those identified in the PEIR; no new or greater impacts would occur.

Utilities and Service Systems

The Final PEIR concluded that the Plan would result in significant and unavoidable impacts with respect to utilities and service systems, including water, wastewater, and solid waste.

As described in Sections 3.19-1, 3.19-2, and 3.19-3, impacts to utilities and service systems are largely population driven. As described under the preceding section (Parks and Recreation), only minor refinements to the jobs and housing forecasts occurred, and these changes were at the TAZ level. The analysis presented in the utilities sections is regional in nature and generally discusses the potential for impacts to occur as a result of the increased population. As the population numbers have not substantively changed, the analysis presented in Sections 3.19-1, 3.19-2, and 3.19-3 remains the same.

While the distribution of housing and jobs would change slightly under limited circumstances as described above, overall, the refinements to the growth forecast would not alter impacts with respect to utilities and service systems. Therefore, the technical refinements would not substantially change impacts as compared to those identified in the PEIR; no new or greater impacts would occur.

Wildfire

The Final PEIR concluded that the Plan would result in significant and unavoidable impacts with respect to risks associated with wildfires.

Transportation projects and anticipated development projects would continue to be located in wildfire-prone areas which could continue to potentially exacerbate wildfire risks and thereby expose project occupants to pollutant concentrations from wildfires or the uncontrolled spread of wildfires, particularly those populations living down wind of the fire. The technical refinements include minor shifts to jobs and housing but would maintain generally the same transportation and growth pattern, therefore, impacts would remain the same as in the PEIR. SCAG has also reviewed the background information and mitigation measures suggested by CBD specific to wildfire. The revised mitigation measures and background information amplify and clarify the information in the Final PEIR and do not affect the determination of impacts. (Refer to **Chapter 3.0, PEIR Clarifications**, and **Chapter 4.0, Mitigation Measures**, of this Addendum, for additional information regarding refinements made to the mitigation measures.)

While the distribution of housing and jobs would change slightly under limited circumstances as described above, overall, the refinements to the growth forecast would not alter impacts with respect to wildfire risk. Therefore, the technical refinements would not substantially change impacts as compared to those identified in the PEIR; no new or greater impacts would occur.

Cumulative Impacts

At the regional level, the cumulative analysis of impacts would not change. The potential for the Plan to combine with other regional plans to create impacts would remain the same as described in the Final PEIR. The technical refinements to the Plan resulted in minimal impacts to the performance results to Connect SoCal, and still achieves federal Transportation Conformity and meets the State's greenhouse gas reduction targets for passenger vehicles for 2020 and 2035 and do not substantively change the analysis of any of the impact areas (as described above). Therefore, cumulative impacts would remain the same as in the PEIR.

Comparison of Alternatives

Technical refinements for the Plan would not significantly change the comparison of alternatives in the Connect SoCal Final PEIR. Potential impacts from technical refinements are anticipated to be within the

scope of the programmatic-level comparison among the alternatives already considered in the Connect SoCal PEIR: 1) No Project Alternative; 2) Local Input Alternative; and 3) Intensified Land Use Alternative.

The Alternatives chapter of the Final PEIR adequately addresses the range of potential impacts at the programmatic level. Technical refinements would not require a comparison of any new alternatives or alternatives which are considerably different from or inconsistent with those already analyzed in the Connect SoCal PEIR. Therefore, no further comparison is required at the programmatic level.

Other CEQA Considerations

Technical refinements to the Plan, as described in Chapter 2.0, would not significantly change the scope of analysis presented in Chapter 5.0 Other CEQA Considerations, of the Final PEIR, which includes an assessment of programmatic level unavoidable impacts, irreversible impacts, and growth inducing impacts. The technical refinements to the Plan are reasonably covered by the unavoidable and irreversible impacts previously discussed in the Final PEIR.

At the programmatic level, any region-wide growth inducing impacts as a result of the technical refinements are expected to be approximately equivalent to those previously disclosed in the Final PEIR. As such, the technical refinements to the Plan would not be expected to result in any new long-term impacts that are considerably different from or inconsistent with those already analyzed in the Final PEIR.

2.5 SUMMARY OF EFFECTS

As shown above, the technical refinements discussed in this Addendum would be consistent with the Final PEIR. As a result, and as demonstrated in this Addendum, all impacts would be less than or equal to those analyzed in the Final PEIR.

Therefore, the technical refinements discussed in this Addendum would not result in 1) substantial changes in the Plan that require major revisions to the Final PEIR; 2) substantial changes to circumstances that require major revisions to the Final PEIR due to new significant environmental effects or a substantial increase in the severity of previously identified significant effects; 3) new information of substantial importance which was not known and could not have been known at the time to Final PEIR was certified which shows that the Plan will have more significant effects or substantially more severe effects, infeasible mitigation measures are in fact feasible, or other different mitigation measures which would substantially reduce significant effects are not adopted. Therefore, the technical refinements would not trigger any of the conditions that require the preparation of a subsequent or supplemental EIR under

Guidelines sections 15162 and 15163. However, because some changes or additions are necessary to the PEIR, an Addendum to the Final PEIR is the appropriate CEQA document to address the technical refinements (Guidelines § 15164).

2.6 ERRATA TO THE FINAL CONNECT SOCAL PEIR

The Final PEIR Corrections and Additions and accompanying May 7, 2020, Errata identified a change to the Plan Guiding Principles. The revisions incorrectly identified the Growth Forecast Guiding Principles as Plan Guiding Principles. The correct Guiding Principles for the Plan were correctly identified on Page 2.0-21, Table 2.0-6, of the Draft EIR and are provided again below:

**Table 2.0-3
Connect SoCal Guiding Principles**

Connect SoCal Guiding Principles	
1	Base transportation investments on adopted regional performance indicators and MAP-21/FAST Act regional targets.
2	Place high priority for transportation funding in the region on projects and programs that improve mobility, accessibility, reliability and safety, and that preserve the existing transportation system.
3	Assure that land use and growth strategies recognize local input, promote sustainable transportation options, and support equitable and adaptable communities.
4	Encourage RTP/SCS investments and strategies that collectively result in reduced non-recurrent congestion and demand for single occupancy vehicle use, by leveraging new transportation technologies and expanding travel choices.
5	Encourage transportation investments that will result in improved air quality and public health, and reduced greenhouse gas emissions.
6	Monitor progress on all aspects of the Plan, including the timely implementation of projects, programs, and strategies.
7	Regionally, transportation investments should reflect best-known science regarding climate change vulnerability, in order to design for long-term resilience.

Source: SCAG Connect SoCal, 2020

It is noted that the Growth Forecast Guiding Principles have been updated to address the use of TAZ-level data and maps. In addition, SCAG has clarified the use of TAZ-level data and maps in connection with RHNA compliance. Please refer to the September 3, 2020, Regional Council staff report entitled: Final Connect SoCal Technical Refinements for details about the changes to the Growth Forecast Guiding Principles and other clarifications.

3.0 PEIR CLARIFICATIONS

After the close of the public comment period for the Connect SoCal PEIR, several changes occurred to the regulatory context of the Plan. In addition to SCAG's technical refinements to Connect SoCal (described and analyzed in **Chapter 2.0, Technical Refinements to the Plan and Environmental Effects**, of this Addendum), SCAG received two comment letters from the Center of Biological Diversity (CBD), on May 1, 2020, and May 6, 2020, after the close of the comment period and prior to certification of the Connect SoCal PEIR on May 7, 2020. As the comments were received outside of the comment period, no formal response is required. However, the comment letters provide information related to the environmental setting, environmental impacts, and consideration of other mitigation measures in the PEIR. Therefore, SCAG determined that a PEIR Addendum should be prepared to reflect the additional information provided by CBD. This chapter presents such information so that it is available to the public and decisionmakers in taking action on the Plan.

Therefore, none of the following (as identified in CEQA Guidelines Section 15162) would result from the technical refinements and/or clarified information, analyses and mitigation measures:

- One or more significant effects not discussed in the PEIR.
- Substantial increase in the severity of a previously identified significant effect.
- New mitigation measures or alternatives that were previously found not to be feasible would be, in fact, be feasible and would substantially reduce on or more significant effects of the project but are declined to be adopted by the project proponent.
- Mitigation measures that are considerably different from those analyzed in the EIR that would substantially reduce on or more significant effects but are declined to be adopted.

In general, this information updates regulatory information, expands/clarifies environmental setting information, and further clarifies the significant impacts already identified in the PEIR. Detailed responses to CBD's letters are provided in the Appendix to the Addendum.

3.3 AIR QUALITY

PEIR Page 3.3-14 (within the discussion of environmental setting), provides information on particle pollutants related to humans. The following paragraphs expands the discussion by providing additional information related to pollutants and sensitive species. This information expands and clarifies the

existing information provided in Section 3.3, Air Quality, and is not new significant information as identified in CEQA Guidelines Section 15162.

Air Quality Impacts to Sensitive Species

In addition to impacts to human health, air pollutants have the potential to impact plants including trees and agricultural crops and wildlife. Impacts to sensitive species can be particularly important because such species are typically already stressed, and the additional stressor of poor air quality can have a disproportionate impact. The potential damage ranges from decreases in productivity, a weakened ability to survive drought and pests, to direct mortality. Wildlife can be both directly impacted by air pollution and also as the plants and trees that comprise their habitats are weakened or killed. Aquatic species and habitats are impacted by air pollution through the formation of acid rain that raises the pH level in oceans, rivers and lakes.¹ See also discussion of impacts of Nitrogen Deposition on Sensitive Species in the discussion of Biological Resources below.

PEIR Page 3.3-29 (within the discussion of regulatory framework), provides information on the Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule. The following paragraph expands the discussion by providing an update on the status of the SAFE Rule and is not new significant information as identified in CEQA Guidelines Section 15162.

Clean Air Act Waiver for California's GHG Emission Standards for New Motor Vehicles

After publication of the Final PEIR on March 27, 2020, the Safe Rule Part II was signed into law (March 31, 2020, published in the Federal Register April 30, 2020 and effective June 29, 2020). SCAG worked with CARB, USEPA, and FHWA/FTA to identify whether further adjustments to SCAG modeling were necessary to reflect SAFE Part II. It was determined by CARB (and accepted by US EPA and FHWA) that no additional EMFAC off-model adjustment factors were needed to account for the SAFE Part II Rule, and therefore no further adjustments have been made to SCAG modeling as a result of the SAFE Part II Rule.

3.4 BIOLOGICAL RESOURCES

PEIR starting on Page 3.4-12 and Table 3.4-3, Sensitive Wildlife Species Reported in the SCAG Region (within the environmental setting), provides general information on sensitive species in the SCAG region. There are numerous sensitive species including federally and state designated species located in the diverse habitats found in this large area. The PEIR does not provide a discussion of each species, rather

¹ EPA, What is Acid Rain? Webpage. <https://www.epa.gov/acidrain/what-acid-rain>

the PEIR follows the Plan’s multi-species approach to the regions high level of biodiversity. The list of species is updated regularly. Most recently (after publication of the Draft PEIR and substantial completion of the Final PEIR) the Southern California Mountain Lion was identified as a potential candidate species and the Western Joshua Tree and Quino Checkerspot butterfly are to be considered for candidate status in the near future. The following paragraphs provide discussion of these species to augment the information provided in Section 3.4, Biological Resources; it is not new significant information as identified in CEQA Guidelines Section 15162.

Southern California/Central Evolutionary Significant Unit (ESU) of Mountain Lion

On April 16, 2020, the California Fish and Game Commission (CFGC) voted unanimously to advance the Southern California/Central evolutionary significant unit (ESU) of mountain lion to candidacy under the California Endangered Species Act (CESA). Mountain lion populations in Southern and Central Coast California are imperiled as a result of human activities. Land use planning must integrate habitat connectivity in order to protect mountain lions. Continued habitat loss and fragmentation has led to 10 genetically isolated populations within California. There are six identified imperiled mountain lion populations in the ESU; four populations occur within the SCAG region, and they include: the Santa Monica Mountains lions, the Santa Ana Mountains lions, the San Gabriel/San Bernardino Mountains lions, and the Eastern Peninsular Range lions. At least two of the populations (Santa Monica Mountains and Santa Ana Mountains) are severely constrained and facing an extinction vortex due to high levels of inbreeding, low genetic diversity, and high human-caused mortality rates from car strikes on roads, depredation kills, rodenticide poisoning, poaching, disease, and increased human-caused wildfires.^{2,3,4,5,6}

The effective population sizes of the four populations within the SCAG region range from 4 to about 32 mountain lions. An effective population size of 50 is assumed to be sufficient to prevent

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- 2 Ernest HB, Boyce WM, Bleich VC, May B, Stiver SJ, Torres SG (2003) Genetic structure of mountain lion (*Puma concolor*) populations in California. *Conserv Genet* 353–366
 - 3 Ernest HB, Vickers TW, Morrison SA, Buchalski MR, Boyce WM (2014) Fractured genetic connectivity threatens a Southern California puma (*Puma concolor*) population. *PLoS One* 9: . doi: 10.1371/journal.pone.0107985
 - 4 Riley, S. P. D., Serieys, L. E. K., Pollinger, J. P., Sikich, J. A., Dalbeck, L., Wayne, R. K., & Ernest, H. B. (2014). Individual behaviors dominate the dynamics of an urban mountain lion population isolated by roads. *Current Biology*, 24(17), 1989–1994.
 - 5 Vickers, T. W., Sanchez, J. N., Johnson, C. K., Morrison, S. A., Botta, R., Smith, T., ... Boyce, W. M. (2015). Survival and mortality of pumas (*Puma concolor*) in a fragmented, urbanizing landscape. *PLoS ONE*, 10(7), 1–18
 - 6 Benson, J. F., Mahoney, P. J., Sikich, J. A., Serieys, L. E. K., Pollinger, J. P., Ernest, H. B., & Riley, S. P. D. (2016). Interactions between demography, genetics, and landscape connectivity increase extinction probability for a small population of large carnivores in a major metropolitan area. *Proceedings of the Royal Society B: Biological Sciences*, 283(1837), 20160957.

inbreeding depression over five generations, while an effective population size of 500 is considered sufficient to retain evolutionary potential in perpetuity. All of the populations in the SCAG region are well below that minimum threshold of 50, which indicates that these populations are at serious risk of becoming extirpated. Furthermore, mountain lions in the Santa Monica and Santa Ana mountains have been found to have dangerously low genetic diversity and effective population size, and they are likely to become extinct within 50 years if nothing is done to improve gene flow with other mountain lion populations.^{7,8,9}

The primary threat to the long-term survival of mountain lions in the Southern California/Central Coast ESU is genetic isolation due to lack of connectivity caused by continuous development in mountain lion habitat with little consideration to their movement needs. Mountain lions are wide ranging species that have home ranges of 75 to 200 mi². Thus, the persistence of the four populations with the SCAG region relies heavily on being connected with mountain lions throughout the ESU as well as statewide.

Negative edge effects from human activity, 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. Human development and associated noise can degrade adjacent wildlife habitat and behavior. One study concluded that even “nonconsumptive forms of human disturbance may alter the ecological role of large carnivores by affecting the link between these top predators and their prey”.¹⁰ In addition, mountain lions have been found to respond fearfully upon hearing human vocalizations, avoiding the area and moving more cautiously when hearing humans.

Western Joshua Tree

The western Joshua tree is currently being considered for listing under the California Environmental Species Act (CESA), if granted then CEQA status would grant the western Joshua tree temporary protections under CESA including heightened review and analysis of projects that have the potential

⁷ Ibid.

⁸ Gustafson, K. D., Gagne, R. B., Vickers, T. W., Riley, S. P. D., Wilmers, C. C., Bleich, V. C., ... Ernest, H. B. (2018). Genetic source-sink dynamics among naturally structured and anthropogenically fragmented puma populations. *Conservation Genetics*, 20(2), 215-227.

⁹ Benson, J. F., Mahoney, P. J., Vickers, T. W., Sikich, J. A., Beier, P., Riley, S. P. D., ... Boyce, W. M. (2019). Extinction vortex dynamics of top predators isolated by urbanization. *Ecological Applications*, 0(0), e01868

¹⁰ Smith JA, Suraci JP, Clinchy M, Crawford A, Roberts D, Zanette LY, Wilmers CC (2017) Fear of the human ‘super predator’ reduces feeding time in large carnivores. *Proc R Soc B Biol Sci* 284:20170433 . doi: 10.1098/rspb.2017.0433

to directly and indirectly impact the western Joshua tree. The species is found only within a specific range of temperature and precipitation, restricting the range. Increased temperatures, reduction in precipitation, development, wildfires, invasive species, and other threats endanger the continued viability of the species.

Quino checkerspot butterfly

The Quino checkerspot butterfly was listed on the Federal Endangered Species Act in 1997. The CBD released a petition to list the Quino checkerspot butterfly as endangered under CESA on June 29, 2020. Quino checkerspot (*Euphydryas editha quino*) was a common spring butterfly of the open forblands, grasslands, and sparse shrublands of Southern California where it typically laid its eggs on the small native forb, *Plantago erecta* (Mattoni et al. 1997). As these landscapes were lost to urban development throughout Los Angeles and Orange county, the remaining populations in Riverside and San Diego counties have been threatened by the invasion of nonnative grasses spread through the ranching era and accelerated by deposition of nitrogen.

PEIR Pages 3.4-5 to 3.4-44 characterize the biological resources in the SCAG region. The following paragraphs provide context as to existing threats to sensitive species posed by nitrogen deposition. This information expands the existing information provided in Section 3.4, Biological Resources, and is not new significant information as identified in CEQA Guidelines Section 15162.

Nitrogen Deposition Effects on to Sensitive Species

As discussed in Section 3.3, Air Quality, nitrogen oxides (NO_x) are released in the air through the burning of fossil fuels (including vehicles fueled by fossil fuels), agricultural fertilizer application, and livestock waste.¹¹ NO_x emissions react with dust or dissolve into rainwater and fall onto ecosystems as reactive nitrogen (Nr) deposition.¹² An increase in nitrogen inputs can lead to soil and water acidification, plant nutrient imbalances, declines in plant health, changes in species composition, increases in invasive species, increased susceptibility to secondary stresses (i.e. freezing, drought, and insect outbreaks). Nitrogen saturation occurs in areas where nitrogen exceeds the plant and microbial demand.¹³ In areas with nitrogen deficiencies, nitrogen deposition can be beneficial.

¹¹ Science News. 2016. *Study finds wide-reaching impact of nitrogen deposition on plants*. Available online at: <https://www.sciencedaily.com/releases/2016/03/160330174216.htm>

¹² National Park Service. *Studying Reactive Nitrogen Deposition*. Available online at: https://www.nps.gov/articles/cave_n_study.htm.

¹³ Pardo, L.H. 2010. USDA. *Assessment of Nitrogen Deposition Effects and Empirical Critical Loads of Nitrogen for Ecoregions of the United States*. Available online at: https://www.nrs.fs.fed.us/pubs/gtr/gtr_nrs80.pdf

Specifically, areas can see increases in forest growth, carbon sequestration, and stand health in general.¹⁴

Total nitrogen deposition includes wet and dry oxidized and reduced nitrogen. Wet deposition is when rain, snow, or fog carries gases and particles to the earth's surface. Dry deposition is when gases and particles are carried to the surface in the absence of rain, snow, or fog. Oxidized nitrogen is produced from the burning of fossil fuels as well as natural sources such as lightning, forest fires and bacterial decay.¹⁵ Oxidized nitrogen include nitric acid (HNO₃), nitric oxide (NO), nitrogen dioxide (NO₂), ammonia (NH₃), and particulate nitrate (NO₃).¹⁶ Reduced nitrogen is primarily emitted from agricultural systems but also from automobiles. Reduced nitrogen includes ammonia and particulate ammonium (NH₄).¹⁷ In March 2020, the U.S. EPA released regional trends in nitrogen deposition. The annual average total deposition rate of nitrogen in the Pacific region of the U.S. decreased by approximately 11% from 3.7 kg-N/ha to 3.3 kg-N/ha between the periods 2000 – 2002 and 2016-2018. The total deposition of oxidized nitrogen decreased by approximately 37% from an annual average 2.7 kg-N/ha to 1.7 kg-N/ha over the same time period. The total deposition of reduced nitrogen increased approximately 36% from an annual average of 1.1 kg-N/ha in 2000-2002 to 1.5 kg-N/ha over the same time period.^{18 19}

Studies have shown that automobile NH₃ emissions within the South Coast Air Basin come primarily from light-duty gasoline vehicles (depending on the age and mode of driving) and dairy facilities.²⁰ NH₃ can cause short-term and long-term health impacts including eye/lung irritation and impacts to the cardiovascular system. There are no state or national-scale measurements to establish a baseline for ammonia concentrations. However, the National Atmospheric Deposition Program has established the ammonia monitoring network to measure ambient ammonia gas in 100 sites across the U.S. The SCAG region only includes one of these monitoring stations located at Joshua Tree

14 National Park Service. *Studying Reactive Nitrogen Deposition*. Available online at: https://www.nps.gov/articles/cave_n_study.htm.

15 EPA Enviroatlas. *Total Annual Nitrogen Deposition*. Available online at: <https://enviroatlas.epa.gov/enviroatlas/DataFactSheets/pdf/ESN/TotalAnnualNitrogenDeposition.pdf>.

16 EPA Enviroatlas. *Total Annual Oxidized Nitrogen Deposition*. Available online at: <https://enviroatlas.epa.gov/enviroatlas/DataFactSheets/pdf/ESN/TotalAnnualOxidizedNitrogenDeposition.pdf>

17 EPA Enviroatlas. *Total Annual Reduce Nitrogen Deposition*. Available online at: <https://enviroatlas.epa.gov/enviroatlas/DataFactSheets/pdf/ESN/TotalAnnualReducedNitrogenDeposition.pdf>

18 EPA. *Progress Report. Acid Deposition*. Available online at: https://www3.epa.gov/airmarkets/progress/reports/acid_deposition_figures.html#figure3

19 EPA Enviroatlas. *Total Annual Reduce Nitrogen Deposition*. Available online at: <https://enviroatlas.epa.gov/enviroatlas/DataFactSheets/pdf/ESN/TotalAnnualReducedNitrogenDeposition.pdf>

20 National Atmospheric Deposition Program. *Ammonia Monitoring Network (AMoN)*. Available online at: <http://nadp.slh.wisc.edu/amon/>

National Park. Monitoring began in 2010 and the highest concentration of ammonia reported was 3.87 µg/m² in September 2012.²¹

As indicated in Section 3.3, Air Quality, of the PEIR, vehicular NO_x emissions are regulated by CARB. In general, vehicular NO_x emissions are controlled effectively by catalytic converters. A side effect of catalytic converters is the production of NH₃. As a result, although total NO_x is going down in response to regulation, NH₃ has continued to be produced by catalytic converters. NH₃ is an important driver of nitrogen deposition in urban-affected areas and near roadways.²²

Nitrogen deposition has the potential to impact sensitive habitats and species. An increase in nitrogen inputs can lead to soil and water acidification, plant nutrient imbalances, declines in plant health, changes in species composition, increases in invasive species, increased susceptibility to secondary stresses (i.e. freezing, drought, and insect outbreaks).

As stated above, there are no state or federal standards for measuring NH₃ (ammonia gas), and there is only one monitoring station in the SCAG region that measures ammonia gas. As such, measurement and quantification of NH₃ emissions is unreliable. Further, with no national or state standards, there is no threshold for comparison for CEQA purposes.

PEIR Pages 3.4-62 to 3.4-73 analyzes the potential impacts of the Plan on candidate, sensitive and special status species. The following discussion provides additional information regarding the effects of nitrogen deposition and the Plan's approach to habitat protection. This information expands the analysis of BIO-1 provided in Section 3.4, Biological Resources, and is not new significant information as identified in CEQA Guidelines Section 15162.

Potential Impact of Changes in Nitrogen Deposition

As shown in Table 3.3-4, PEIR page 3.3-18, all air quality management districts within the SCAG region are within attainment for NO₂. However, the Mojave Desert Air Basin, Salton Sea Air Basin, South Central Coast Air Basin, and South Coast Air Basin are all in non-attainment for ozone. ROG and NO_x emissions are precursors to ozone; therefore, the air basins are reducing NO_x emissions in order to reduce ozone and meet attainment. As a result, NO_x emissions must continue to be reduced in the SCAG region in order to meet NAAQS attainment standards for ozone; However, as noted above, one of the technologies used to reduce NO_x emissions (catalytic converters) results in the

²¹ National Atmospheric Deposition Program. *Ammonia Monitoring Network (AMoN)*. Available online at: <http://nadp.slh.wisc.edu/amon/>

²² https://www.fs.fed.us/psw/publications/fenn/psw_2018_fenn001.pdf

production of NH₃ (ammonia gas), which in turn drives nitrogen deposition in urban areas near roadways. Therefore, while NO_x may decrease in the region, NH₃ may still be produced by catalytic converters. NH₃, however, is expected to be reduced both with newer model cars and through the introduction of non-combustion engines. As total VMT increases, NH₃ could continue to rise depending on the composition of the vehicle fleet. As stated above, currently, there are no state or national standards for NH₃.

Within the SCAG region, the increase in total VMT and construction of transportation and development projects could lead to an increase in nitrogen deposition that would be harmful to sensitive species. As shown in Table 3.17-14, Total VMT 2019 and 2045 By County, of the Final PEIR, total daily VMT in 2045 would increase when compared to current daily VMT. However, per capita VMT would decrease compared to today and total VMT would be less than if the Plan were not implemented. Unlike NO_x, which is shown to decrease despite increasing total VMT, it is unclear whether NH₃ and total deposited nitrogen has the potential to increase with total VMT due to variables such as engine type and age of car.

The relationship between VMT and NH₃ is unclear. While catalytic converters control NO_x emissions, they do produce NH₃. But as more combustion engines are removed from the road and newer models with cleaner technologies increase, including prevalence of electric cars, NH₃ could actually decrease over the lifetime of the Plan. The Plan supports fleet changes through the inclusion of transportation strategies aimed at electric fleets and other emerging technologies, and in fact, LA Metro, the largest bus fleet in the region, is in the process of phasing out all combustion (gasoline and natural gas) buses from its fleet.

Emerging technologies vary when it comes to their effect on VMT and the removal of combustion engines, and the effect on NH₃ emissions. Some of these technologies, such as alternative fuel vehicles, micro-mobility, bikesharing and microtransit, have a mitigating influence on VMT and encourage fleet changes. Others, such as ride-hailing and automated vehicles, are expected to increase VMT and if their business models do not adapt, but also have the potential to reduce NH₃ emissions, if not powered by combustion engines. Emerging technologies and transportation strategies are further complicated by new work and travel patterns as a result of the ongoing pandemic. Nonetheless, as car fleets turn over, and there are fewer combustion engines on the road, overall nitrogen deposition may not continue to increase, but the overall effect is currently uncertain and speculative.

Plan Approach to Habitat Protection

There are numerous protected species in the SCAG Region (see PEIR Tables 3.4-2 and 3.4-3); it is not possible to determine which of these species may be impacted by specific projects. Rather, the Connect SoCal Plan takes a multi-species benefit approach to conservation, intended to protect and enhance the SCAG region's high-level of biodiversity. Connect SoCal includes key conservation approaches for the species' survival, including habitat preservation, restoration, and connectivity.

Jurisdictions within the SCAG region are aiming to reduce habitat loss and increase connectivity. Ventura County adopted the Habitat Connectivity and Wildlife Corridor project in March 2019. The project included the development of regulations and revisions to zoning ordinances (see Ventura County Ordinance No. 4537 and 4539) and general plan policies to address habitat loss and fragmentation resulting from urban growth. The California Department of Transportation (Caltrans) has also planned a wildlife life crossing through Route 101 Freeway at Liberty Canyon Road in Agoura Hills.

Connect SoCal includes a \$1 billion initiative to develop a Regional Advanced Mitigation Program (RAMP) as part of the Connect SoCal's Core Vision for Sustainable Development. SCAG anticipates that the RAMP will be funded from new revenues that are reasonably available over the life of the Plan, including the implementation of mileage-based user fees at the state and local levels. The RAMP would establish and/or supplement regional conservation and mitigation banks and/or other approaches to offset the impacts of transportation and other development projects. The program structure would be determined in the future by potential implementing entities within the region.

Inclusion of a RAMP in Connect SoCal is based upon an assessment of regional need and the support of stakeholders throughout the region. Support for regional advance mitigation programs as a key element of transportation planning strategy is growing nationally and statewide. Transportation agencies within California, and specifically the SCAG region, have been at the forefront of this trend. Due to SCAG's limited authority, the RAMP would not be able to acquire property in the same way that SANDAG's RAMP would. Instead, SCAG's role would focus more on agency coordination. SCAG plans to work with stakeholders in the future to identify how the RAMP can be structured and implemented and continue to support advanced mitigation initiatives throughout the region.

To assist in defining the RAMP, SCAG is currently leading a multi-year effort to develop a Regional Greenprint that will provide an easily accessible resource to help municipalities, conservation groups, developers and researchers prioritize lands for conservation based on the best available scientific data. Ultimately, the Regional Greenprint effort will also produce a whitepaper on Regional Advance

Mitigation Planning including approaches for RAMP in the SCAG region, needed science and analysis, models, challenges and opportunities and recommendations.

The Plan's Core Vision for Sustainable Development includes strategies intended to support implementation of the SCS, as well as a collection of land use tools that can support protection of mountain lion habit. The Green Region strategy seeks to "preserve, enhance and restore regional wildlife connectivity" (Connect SoCal page 50). Land use tools that are supported for implementation at the local level to meet this objective include Transfer of Development Rights; Urban Greening; and Greenbelts and Community Separators. Each of these strategies include policy language that directly calls for protecting wildlife habitat, enhancing biodiversity, and/or restoring habitat connectivity (Connect SoCal page 53). SCAG has already made progress in implementing the 2016 RTP/SCS by initiating development of a regional "Greenprint." The Greenprint will serve as a strategic web-based conservation tool to provide the best available scientific data and scenario visualizations to help cities, counties and transportation agencies make better land use and transportation infrastructure decisions and conserve natural and farmlands. Through an active, funded partnership with The Nature Conservancy, SCAG will deploy a regional Greenprint tool by 2022 to serve as an online mapping platform illuminating the multiple benefits of natural and agricultural lands through data related to key topics such as habitat connectivity, biodiversity, clean water, agriculture, and greenhouse gas sequestration.

The Natural & Farmlands Technical Report contains "Recommended Policies" and "Next Steps" that will benefit species, including mountain lions, Western Joshua Tree, and Quino checkerspot butterfly including improving natural corridor connectivity; encouraging advance mitigation programs; and encouraging jurisdictions to work across county lines (Connect SoCal page 21- 22).

3.20 WILDFIRE

PEIR Pages 3.20-15 of the PEIR provides regulatory framework information related to wildfire in the SCAG region. The following provides additional information on wildfire resources. This information expands the discussion provided in Section 3.20 Wildfire and is not new significant information as identified in CEQA Guidelines Section 15162.

EO N-16-19, AB 1116, SB 542 and Recent Steps to Augment Firefighting Resources

The California Department of Forestry and Fire Protection (CAL FIRE) is the state's fire protection agency responsible for protecting natural resources from fire on land designated by the State Board of Forestry as State Responsibility Areas. This includes approximately 31 million acres of the state's privately-owned wildlands. California has faced more intense fire seasons in recent years. In order to

support CAL FIRE, the state issued Executive Order (EO) N-16-19, Assembly Bill (AB) 1116, and Senate Bill (SB) 542 and increased the state budget dedicated to CAL FIRE.

In June 2019, the Governor issued EO N-16-19 which authorizes an additional 400 seasonal firefighters to CAL FIRE and 13 new fire engines.²³ In October 2019, Governor Newsom signed into law AB 1116 and SB 542 that focus on improving the physical and mental health of California's first responders. AB 1116, the California Firefighter Peer Support and Crisis Referral Services Act, establishes statewide standards for first responder peer support programs that will provide an agency-wide network of peer representatives available to help employees on emotional or professional issues. SB 542, the Trauma Treatment Act, provides first responders with worker's compensation while recovering from mental health scars and works to improve mental health awareness among firefighters.²⁴ The California 2019-2020 state budget includes \$240.3 million to enhance CAL FIRE's fire protection capabilities, with approximately \$6.6 million (and \$9.3 million ongoing) designated for CAL FIRE's health and wellness program. The health and wellness programs provide medical and psychological services as well as peer support to firefighters.²⁵

On July 9, 2020, Governor Newsom also announced that the state would retain an additional 858 firefighters and six California Conservation Corps (CCC) crews through October in order to protect emergency personnel and evacuees from wildfire during the COVID-19 pandemic.²⁶

²³ Office of Gavin Newsom. 2019. *Governor Newsom Highlights Emergency Preparedness, Additional Resources for this Year's Fire Season*. Available online at: <https://www.gov.ca.gov/2019/07/31/governor-newsom-highlights-emergency-preparedness-additional-resources-for-this-years-fire-season/>.

²⁴ Office of Gavin Newsom. 2019. *Governor Newsom Signs Bills to Support Firefighters and First Responders*. Available online at: <https://www.gov.ca.gov/2019/10/01/governor-newsom-signs-bills-to-support-firefighters-and-first-responders/>.

²⁵ State of California. *California State Budget 2019-20*. Available online at: <http://www.ebudget.ca.gov/2019-20/pdf/Enacted/BudgetSummary/FullBudgetSummary.pdf>.

²⁶ Capitol Public Radio (CapRadio 90.9 FM Sacramento) transcript of Governor Newsom's news conference <https://www.capradio.org/articles/2020/07/09/watch-live-gov-gavin-newsom-update-on-covid-19-and-fire-season-preparation/>.

4.0 MITIGATION MEASURES

Since publication of the Final PEIR, SCAG received comments and suggestions to clarify and amplify mitigation measures included in the Final PEIR. SCAG has comprehensively reviewed the mitigation measures and determined in some places, modifications to the mitigation measures is appropriate. These changes are presented below in ~~striketrough~~/underline.

The revised mitigation measures would not result in the need to prepare a supplemental or subsequent PEIR as they would not be considered new information under Guidelines section 15162:

The clarifications to mitigation measures do not represent new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the PEIR was certified and they do **not** indicate any of the following:

- (A) The project will have one or more significant effects not discussed in the previous EIR or negative declaration;
- (B) Significant effects previously examined will be substantially more severe than shown in the previous EIR;
- (C) Mitigation measures or alternatives previously found not to be feasible would in fact be feasible, and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; and/or
- (D) Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.

In general, these revised mitigation measures, expand and clarify the existing mitigation measures, providing additional detail where appropriate.

3.2 Agriculture and Forestry

SMM AG-1: SCAG shall host a Natural & Farmlands Conservation Working Group which will provide a forum for stakeholders to share best practices and develop recommendations for natural and agricultural land conservation throughout the region, including the

development ~~and implementation of Connect SoCal's of a Natural and Farm Lands Conservation Strategy for the Connect SoCal Plan.ies.~~

- SMM AG-2:** SCAG shall develop a Regional Greenprint, which is a strategic web-based conservation tool that provides the best available scientific data and scenario visualizations to help cities, counties and transportation agencies make better land use and transportation infrastructure decisions and conserve natural and farm lands. ~~expand on the Natural Resource Inventory Database and Conservation Framework & Assessment by incorporating strategic mapping layers to build the database and further refine the priority conservation areas by (1) further investing in mapping and farmland data tracking and (2) working with County Transportation Commissions (CTCs) and SCAG's subregions to support their county level efforts at data building.~~ SCAG shall use the Greenprint to identify priority conservation areas and work with ~~SCAG shall encourage~~ CTCs to develop advanced mitigation programs or include them in future transportation measures by (1) funding pilot programs that encourage advance mitigation including data and replicable processes, (2) participating in state-level efforts that would support regional advanced mitigation planning in the SCAG region, and (3) supporting the inclusion of advance mitigation programs at county level transportation measures.
- SMM AG-3:** SCAG shall align with funding opportunities and pilot programs to begin implementation of conservation strategies through (1) seeking planning and implementation funds, such as Greenhouse Gas Reduction Funds cap and trade auction proceeds that could advance local action on acquisition and restoration projects locally and regionally, (2) supporting CTCs and other partners, and (3) continuing policy alignment with the State Wildlife Action Plan 2015 Update and its implementation.
- SMM AG-4:** SCAG shall provide incentives to jurisdictions that cooperate across county lines to protect and restore natural habitat corridors, especially where corridors cross county boundaries, as detailed in the Natural & Farmlands ~~Appendix-Technical Report~~ strategies of Connect SoCal. SCAG will work with stakeholders to identify incentives and leverage resources that help protect habitat corridors.

3.3 Air Quality

- PMM AQ-1:** In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation

measures to reduce substantial adverse effects related to violating air quality standards. Such measures may include the following or other comparable measures identified by the Lead Agency:

- a. Minimize land disturbance.
- b. Suspend grading and earth moving when wind gusts exceed 25 miles per hour unless the soil is wet enough to prevent dust plumes.
- c. Cover trucks when hauling dirt.
- d. Stabilize the surface of dirt piles if not removed immediately.
- e. Limit vehicular paths on unpaved surfaces and stabilize any temporary roads.
- f. Minimize unnecessary vehicular and machinery activities.
- g. Sweep paved streets at least once per day where there is evidence of dirt that has been carried on to the roadway.
- h. Revegetate disturbed land, including vehicular paths created during construction to avoid future off-road vehicular activities.
- i. On Caltrans projects, Caltrans Standard Specifications 10-Dust Control, 17-Watering, and 18-Dust Palliative shall be incorporated into project specifications.
- j. Require contractors to assemble a comprehensive inventory list (i.e., make, model, engine year, horsepower, emission rates) of all heavy-duty off-road (portable and mobile) equipment (50 horsepower and greater) that could be used an aggregate of 40 or more hours for the construction project. Prepare a plan for approval by the applicable air district demonstrating achievement of the applicable percent reduction for a CARB-approved fleet. Daily logging of the operating hours of the equipment should also be required.
- k. Ensure that all construction equipment is properly tuned and maintained.
- l. Minimize idling time to 5 minutes or beyond regulatory requirements —saves fuel and reduces emissions.
- m. Provide an operational water truck on-site at all times. Use watering trucks to minimize dust; watering should be sufficient to confine dust plumes to the project work areas. Sweep paved streets at least once per day where there is evidence of dirt that has been carried on to the roadway.
- n. Utilize existing power sources (e.g., power poles) or clean fuel generators rather than temporary power generators.

- o. Develop a traffic plan to minimize community impacts as a result of traffic flow interference from construction activities. The plan may include advance public notice of routing, use of public transportation, and satellite parking areas with a shuttle service. Schedule operations affecting traffic for off-peak hours. Minimize obstruction of through-traffic lanes. Provide a flag person to guide traffic properly and ensure safety at construction sites. Project sponsors should consider developing a goal for the minimization of community impacts.
- p. As appropriate require that portable engines and portable engine-driven equipment units used at the project work site, with the exception of on-road and off-road motor vehicles, obtain CARB Portable Equipment Registration with the state or a local district permit. Arrange appropriate consultations with the CARB or the District to determine registration and permitting requirements prior to equipment operation at the site.
- q. Require projects to use Tier 4 Final equipment or better for all engines above 50 horsepower (hp). In the event that construction equipment cannot meet to Tier 4 Final engine certification, the Project representative or contractor must demonstrate through future study with written findings supported by substantial evidence that is approved by SCAG before using other technologies/strategies. Alternative applicable strategies may include, but would not be limited to, construction equipment with Tier 4 Interim or reduction in the number and/or horsepower rating of construction equipment and/or limiting the number of construction equipment operating at the same time. All equipment must be tuned and maintained in compliance with the manufacturer's recommended maintenance schedule and specifications. All maintenance records for each equipment and their contractor(s) should make available for inspection and remain on-site for a period of at least two years from completion of construction, unless the individual project can demonstrate that Tier 4 engines would not be required to mitigate emissions below significance thresholds. Project sponsors should also consider including ZE/ZNE technologies where appropriate and feasible.
- r. Projects located within the South Coast Air Basin should consider applying for South Coast AQMD "SOON" funds which provides funds to applicable fleets for the purchase of commercially available low-emission heavy-duty engines to achieve near-term reduction of NOx emissions from in-use off-road diesel vehicles.
- s. Projects located within AB 617 communities should review the applicable Community Emissions Reduction Plan (CERP) for additional mitigation that can be applied to individual projects.
- t. Where applicable, projects should provide information about air quality related programs to schools, including the Environmental Justice Community Partnerships (EJCP), Clean Air Ranger Education (CARE), and Why Air Quality Matters programs.

- u. Projects should work with local cities and counties to install adequate signage that prohibits truck idling in certain locations (e.g., near schools and sensitive receptors).
- v. As applicable for airport projects, the following measures should be considered:
 - Considering operational improvements to reduce taxi time and auxiliary power unit usage, where feasible. Additionally, consider single engine taxiing, if feasible as allowed per Federal Aviation Administration guidelines.
 - Set goals to achieve a reduction in emissions from aircraft operations over the lifetime of the proposed project.
 - Require the use of ground service equipment (GSE) that can operate on battery-power. If electric equipment cannot be obtained, require the use of alternative fuel, the cleanest gasoline equipment, or Tier 4, at a minimum.
- w. As applicable for port projects, the following measures should be considered:
 - Develop specific timelines for transitioning to zero emission cargo handling equipment (CHE).
 - Develop interim performance standards with a minimum amount of CHE replacement each year to ensure adequate progress.
 - Use short side electric power for ships, which may include tugboats and other ocean-going vessels or develop incentives to gradually ramp up the usage of shore power.
 - Install the appropriate infrastructure to provide shore power to operate the ships. Electrical hookups should be appropriately sized.
 - Maximize participation in the Port of Los Angeles' Vessel Speed Reduction Program or the Port of Long Beach's Green Flag Initiation Program in order to reduce the speed of vessel transiting within 40 nautical miles of Point Fermin.
 - Encourage the participation in the Green Ship Incentives.
 - Offer incentives to encourage the use of on-dock rail.
- x. As applicable for rail projects, the following measures should be considered:
 - Provide the highest incentives for electric locomotives and then locomotives that meet Tier 5 emission standards with a floor on the incentives for locomotives that meet Tier 4 emission standards.
- y. Projects that will introduce sensitive receptors within 500 feet of freeways and other sources should consider installing high efficiency of enhanced filtration units, such as

Minimum Efficiency Reporting Value (MERV) 13 or better. Installation of enhanced filtration units can be verified during occupancy inspection prior to the issuance of an occupancy permit.

- z. Develop an ongoing monitoring, inspection, and maintenance program for the MERV filters.
 - Disclose potential health impacts to prospective sensitive receptors from living in close proximity to freeways or other sources of air pollution and the reduced effectiveness of air filtration systems when windows are open or residents are outside.
 - Identify the responsible implementing and enforcement agency to ensure that enhanced filtration units are installed on-site before a permit of occupancy is issued.
 - Disclose the potential increase in energy costs for running the HVAC system to prospective residents.
 - Provide information to residents on where MERV filters can be purchased.
 - Provide recommended schedule (e.g., every year or every six months) for replacing the enhanced filtration units.
 - Identify the responsible entity such as future residents themselves, Homeowner’s Association, or property managers for ensuring enhanced filtration units are replaced on time.
 - Identify, provide, and disclose ongoing cost-sharing strategies, if any, for replacing the enhanced filtration units.
 - Set criteria for assessing progress in installing and replacing the enhanced filtration units; and
 - Develop a process for evaluating the effectiveness of the enhanced filtration units.
- aa. Consult the SCAG Environmental Justice Toolbox for potential measures to address impacts to low-income and/or minority communities.
- bb. The following criteria related to diesel emissions shall be implemented on by individual project sponsors as appropriate and feasible:
 - Diesel nonroad vehicles on site for more than 10 total days shall have either (1) engines that meet EPA on road emissions standards or (2) emission control technology verified by EPA or CARB to reduce PM emissions by a minimum of 85%.

- Diesel generators on site for more than 10 total days shall be equipped with emission control technology verified by EPA or CARB to reduce PM emissions by a minimum of 85%.
- Nonroad diesel engines on site shall be Tier 2 or higher.
- Diesel nonroad construction equipment on site for more than 10 total days shall have either (1) engines meeting EPA Tier 4 nonroad emissions standards or (2) emission control technology verified by EPA or CARB for use with nonroad engines to reduce PM emissions by a minimum of 85% for engines for 50 hp and greater and by a minimum of 20% for engines less than 50 hp.
- Emission control technology shall be operated, maintained, and serviced as recommended by the emission control technology manufacturer.
- Diesel vehicles, construction equipment, and generators on site shall be fueled with ultra-low sulfur diesel fuel (ULSD) or a biodiesel blend approved by the original engine manufacturer with sulfur content of 15 ppm or less.
- The construction contractor shall maintain a list of all diesel vehicles, construction equipment, and generators to be used on site. The list shall include the following:
 - i. Contractor and subcontractor name and address, plus contact person responsible for the vehicles or equipment.
 - ii. Equipment type, equipment manufacturer, equipment serial number, engine manufacturer, engine model year, engine certification (Tier rating), horsepower, engine serial number, and expected fuel usage and hours of operation.
 - iii. For the emission control technology installed: technology type, serial number, make, model, manufacturer, EPA/CARB verification number/level, and installation date and hour-meter reading on installation date.
- The contractor shall establish generator sites and truck-staging zones for vehicles waiting to load or unload material on site. Such zones shall be located where diesel emissions have the least impact on abutters, the general public, and especially sensitive receptors such as hospitals, schools, daycare facilities, elderly housing, and convalescent facilities.
- The contractor shall maintain a monthly report that, for each on road diesel vehicle, nonroad construction equipment, or generator onsite, includes:

- i. Hour-meter readings on arrival on-site, the first and last day of every month, and on off-site date.
 - ii. Any problems with the equipment or emission controls.
 - iii. Certified copies of fuel deliveries for the time period that identify:
 1. Source of supply
 2. Quantity of fuel
 3. Quantity of fuel, including sulfur content (percent by weight)
- cc. Project should exceed Title-24 Building Envelope Energy Efficiency Standards (California Building Standards Code). The following measures can be used to increase energy efficiency:
- Install programmable thermostat timers
 - Obtain Third-party HVAC commissioning and verification of energy savings (to be grouped with exceedance of Title 24).
 - Install energy efficient appliances (Typical reductions for energy-efficient appliances can be found in the *Energy Star and Other Climate Protection Partnerships Annual Reports*.)
 - Install higher efficacy public street and area lighting
 - Limit outdoor lighting requirements
 - Replace traffic lights with LED traffic lights
 - Establish onsite renewable or carbon neutral energy systems – generic, solar power and wind power
 - Utilize a combined heat and power system
 - Establish methane recovery in Landfills and Wastewater Treatment Plants.
 - Locate project near bike path/bike lane
 - Provide pedestrian network improvements, such as interconnected street network, narrower roadways and shorter block lengths, sidewalks, accessibility to transit and transit shelters, traffic calming measures, parks and public spaces, minimize pedestrian barriers.
 - Provide traffic calming measures, such as:

- i. Marked crosswalks
 - ii. Count-down signal timers
 - iii. Curb extensions
 - iv. Speed tables
 - v. Raised crosswalks
 - vi. Raised intersections
 - vii. Median islands
 - viii. Tight corner radii
 - ix. Roundabouts or mini-circles
 - x. On-street parking
 - xi. Chicanes/chokers
- Create urban non-motorized zones
 - Provide bike parking in non-residential and multi-unit residential projects
 - Dedicate land for bike trails
 - Limit parking supply through:
 - i. Elimination (or reduction) of minimum parking requirements
 - ii. Creation of maximum parking requirements
 - iii. Provision of shared parking
 - Require residential area parking permit.
 - Provide ride-sharing programs
 - i. Designate a certain percentage of parking spacing for ride sharing vehicles
 - ii. Designating adequate passenger loading and unloading and waiting areas for ride-sharing vehicles
 - iii. Providing a web site or messaging board for coordinating rides

- iv. Permanent transportation management association membership and finding requirement.

3.4 Biological Resources

SMM BIO-1: SCAG shall facilitate reducing future impacts to species identified as a candidate, sensitive, or special status species and its habitats through cooperation, information sharing, and program development. SCAG shall consult with the resource agencies, such as the USFWS, NMFS, USACE, USFS, BLM, and CDFW, as well as local jurisdictions including cities and counties, to incorporate designated critical habitat, federally protected wetlands, the protection of sensitive natural communities and riparian habitats, designated open space or protected wildlife habitat, local policies and tree preservation ordinances, applicable HCPs and NCCPs, or other related planning documents into SCAG's ongoing regional planning efforts and programs such as, such as web-based planning tools for local government including CA LOTS, and other GIS tools and data services, including, but not limited to, Map Gallery, GIS library, and GIS applications, and direct technical assistance efforts and sharing of associated online Training materials. Planning efforts shall be consistent with the approach outlined in the California Wildlife Action Plan. Additionally, SCAG's shall vet and distribute environmental data (i.e., endangered species and important habitat areas) to local jurisdictions.

SMM BIO-2: SCAG shall continue to develop a regional conservation strategy in coordination with local jurisdictions and other stakeholders, including the county transportation commissions. The conservation strategy will build upon existing efforts including those at the sub-regional and local levels to identify potential priority conservation areas. ~~SCAG shall develop new regional tools, like the Regional Data Platform and Regional Greenprint to help local jurisdictions identify areas well suited for infill and redevelopment as well as critical habitat and natural lands to be preserved, including natural habitat corridors.~~ SCAG will also collaborate with stakeholders to establish a new Regional Advanced Mitigation Program (RAMP) initiative to preserve habitat. The RAMP would establish and/or supplement regional conservation and mitigation banks and/or other approaches to offset the impacts of transportation and other development projects.

~~To assist in defining the RAMP, SCAG shall lead a multi-year effort to SCAG shall develop new regional tools, like the Regional Data Platform and Regional Greenprint that will provide an easily accessible resource to help municipalities, conservation groups, developers and researchers prioritize lands for conservation based on best available scientific data. The Regional Greenprint effort shall also produce a whitepaper on the RAMP initiative, which includes approaches for the RAMP in the SCAG region, needed science and analysis, models, challenges and opportunities and recommendations. will be supplemental initiative to regional conservation and mitigation banks and other approaches by evaluating, advocating and highlighting projects that support per capita VMT reduction.~~

SMM BIO-3: SCAG shall coordinate with Caltrans and encourage and facilitate research, programs and policies to identify, protect and restore natural habitat corridors, especially where corridors cross county boundaries. Additionally, continue support for preserving wildlife corridors and wildlife crossings to minimize the impact of transportation projects on wildlife species and habitat fragmentation. SCAG shall disseminate key information related to the preservation and implementation of wildlife corridors and crossings by showcasing best practices at SCAG's Natural Lands Working Groups. SCAG shall also distribute wildlife corridors and crossings data to local jurisdictions, so they may incorporate said data into their general plans, as applicable.

PMM BIO-1: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to threatened and endangered species, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency:

- a. Require project design to avoid occupied habitat, potentially suitable habitat, and designated critical habitat, wherever practicable and feasible.
- b. Where avoidance is determined to be infeasible, provide conservation measures to fulfill the requirements of the applicable authorization for incidental take pursuant to Section 7 or 10(a) of the federal ESA, Section 2081 of the California ESA to support issuance of an incidental take permit, and/or as identified in local or regional plans. Conservation strategies to protect the survival and recovery of federally and state-listed endangered and local special status species may include:
 - i. Impact minimization strategies

- ii. Contribution of in-lieu fees for in-kind conservation and mitigation efforts
 - iii. Use of in-kind mitigation bank credits
 - iv. Funding of research and recovery efforts
 - v. Habitat restoration
 - vi. Establishment of conservation easements
 - vii. Permanent dedication of in-kind habitat
- c. Design projects to avoid desert native plants protected under the California Desert Native Plants Act, salvage and relocate desert native plants, and/or pay in lieu fees to support off-site long-term conservation strategies.
- d. Temporary access roads and staging areas will not be located within areas containing sensitive plants, wildlife species or native habitat wherever feasible, so as to avoid or minimize impacts to these species.
- e. Develop and implement a Worker Environmental Awareness Program (environmental education) to inform project workers of their responsibilities to avoid and minimize impacts on sensitive biological resources.
- f. Retain a qualified botanist to document the presence or absence of special status plants before project implementation.
- g. Appoint a qualified biologist to monitor construction activities that may occur in or adjacent to occupied sensitive species' habitat to facilitate avoidance of resources not permitted for impact.
- h. Appoint a qualified biologist to monitor implementation of mitigation measures.
- i. Schedule construction activities to avoid sensitive times for biological resources (e.g. steelhead spawning periods during the winter and spring, nesting bird season) and to avoid the rainy season when erosion and sediment transport is increased.
- j. Develop an invasive species control plan associated with project construction.
- k. If construction occurs during breeding seasons in or adjacent to suitable habitat, include appropriate sound attenuation measures required for sensitive avian species and other best management practices appropriate for potential local sensitive wildlife.
- l. Conduct pre-construction surveys to delineate occupied sensitive species' habitat to facilitate avoidance.

- m. Where projects are determined to be within suitable habitat and may impact listed or sensitive species that have specific field survey protocols or guidelines outlined by the USFWS, CDFW, or other local agency, conduct preconstruction surveys that follow applicable protocols and guidelines and are conducted by qualified and/or certified personnel.
- n. Project design should address the protection of habitat on both sides of a freeway to improve effectiveness of the crossings.
- o. Project sponsors shall consider the impacts of nitrogen deposition on sensitive species.

PMM BIO-2: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to riparian habitats and other sensitive natural communities, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency:

- a. Consult with the USFWS and NMFS where such state-designated sensitive or riparian habitats provide potential or occupied habitat for federally listed rare, threatened, and endangered species afforded protection pursuant to the federal ESA.
- b. Consult with the USFS where such state-designated sensitive or riparian habitats provide potential or occupied habitat for federally listed rare, threatened, and endangered species afforded protection pursuant to the federal ESA and any additional species afforded protection by an adopted Forest Land Management Plan or Resource Management Plan for the four national forests in the six-county area: Angeles, Cleveland, Los Padres, and San Bernardino.
- c. Consult with the CDFW where such state-designated sensitive or riparian habitats provide potential or occupied habitat for state-listed rare, threatened, and endangered species afforded protection pursuant to the California ESA, or Fully Protected Species afforded protection pursuant to the State Fish and Game Code.
- d. Consult with the CDFW pursuant to the provisions of Section 1600 of the State Fish and Game Code as they relate to Lakes and Streambeds.
- e. Consult with the USFWS, USFS, CDFW, and counties and cities in the SCAG region, where state-designated sensitive or riparian habitats are occupied by birds afforded protection pursuant to the MBTA during the breeding season.
- f. Consult with the CDFW for state-designated sensitive or riparian habitats where furbearing mammals, afforded protection pursuant to the provisions of the State Fish and Game Code for fur-bearing mammals, are actively using the areas in conjunction with breeding activities.

- g. Require project design to avoid sensitive natural communities and riparian habitats, wherever practicable and feasible. Where practicable and feasible, require upland buffers that sufficiently minimize impacts to riparian corridors.
- h. Where avoidance is determined to be infeasible, develop sufficient conservation measures through coordination with local agencies and the regulatory agency (i.e., USFWS or CDFW) to protect sensitive natural communities and riparian habitats and develop appropriate compensatory mitigation, where required.
- i. Appoint a qualified wetland biologist to monitor construction activities that may occur in or adjacent to sensitive communities.
- j. Appoint a qualified wetland biologist to monitor implementation of mitigation measures.
- k. Schedule construction activities to avoid sensitive times for biological resources and to avoid the rainy season when erosion and sediment transport is increased.
- l. When construction activities require stream crossings, schedule work during dry conditions and use rubber-wheeled vehicles, when feasible. Have a qualified wetland scientist determine if potential project impacts require a Notification of Lake or Streambed Alteration to CDFW during the planning phase of projects.
- m. Consult with local agencies, jurisdictions, and landowners where such state-designated sensitive or riparian habitats are afforded protection pursuant an adopted regional conservation plan.
- n. Install fencing and/or mark sensitive habitat to be avoided during construction activities.
- o. Salvage and stockpile topsoil (the surface material from 6 to 12 inches deep) and perennial native plants, when recommended by the qualified wetland biologist, for use in restoring native vegetation to areas of temporary disturbance within the project area. Salvage of soils containing invasive species, seeds and/or rhizomes will be avoided as identified by the qualified wetland biologist.
- p. Revegetate with appropriate native vegetation following the completion of construction activities, as identified by the qualified wetland biologist.
- q. Complete habitat enhancement (e.g., through removal of non-native invasive wetland species and replacement with more ecologically valuable native species).
- r. Use Best Management Practices (BMPs) at construction sites to minimize erosion and sediment transport from the area. BMPs include encouraging growth of native vegetation in disturbed areas, using straw bales or other silt-catching devices, and using settling basins to minimize soil transport.

PMM BIO-4: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to wildlife movement, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency:

- a. Consult with the USFS where impacts to migratory wildlife corridors may occur in an area afforded protection by an adopted Forest Land Management Plan or Resource Management Plan for the four national forests in the six-County area: Angeles, Cleveland, Los Padres, and San Bernardino.
- b. Consult with counties, cities, and other local organizations when impacts may occur to open space areas that have been designated as important for wildlife movement related to local ordinances or conservation plans.
- c. Prohibit construction activities within 500 feet of occupied breeding areas for wildlife afforded protection pursuant to Title 14 § 460 of the California Code of Regulations protecting fur-bearing mammals, during the breeding season.
- d. Conduct a survey to identify active raptor and other migratory nongame bird nests by a qualified biologist at least two weeks before the start of construction at project sites from February 1 through August 31.
- e. Prohibit construction activities within 300 feet of occupied nest of birds afforded protection pursuant to the Migratory Bird Treaty Act, during the breeding season.
- f. Ensure that suitable nesting sites for migratory nongame native bird species protected under the Migratory Bird Treaty Act and/or trees with unoccupied raptor nests should only be removed prior to February 1 or following the nesting season.
- g. When feasible and practicable, proposed projects will be designed to minimize impacts to wildlife movement and habitat connectivity and preserve existing and functional wildlife corridors.
- h. Conduct site-specific analyses of opportunities to preserve or improve habitat linkages with areas on- and off-site.
- i. Long linear projects with the possibility of impacting wildlife movement should analyze habitat linkages/wildlife movement corridors on a broad scale to avoid critical narrow choke points that could reduce function of recognized movement corridor.
- j. Require review of construction drawings and habitat connectivity mapping by a qualified biologist to determine the risk of habitat fragmentation.

- k. Pursue mitigation banking to preserve habitat linkages and corridors (opportunities to purchase, maintain, and/or restore offsite habitat).
- l. When practicable and feasible design projects to promote wildlife corridor redundancy by including multiple connections between habitat patches.
- m. Evaluate the potential for installation of overpasses, underpasses, and culverts to create wildlife crossings in cases where a roadway or other transportation project may interrupt the flow of species through their habitat. Retrofitting of existing infrastructure in project areas should also be considered for wildlife crossings for purposes of mitigation.
- n. Install wildlife fencing where appropriate to minimize the probability of wildlife injury due to direct interaction between wildlife and roads or construction.
- o. Where avoidance is determined to be infeasible, design sufficient conservation measures through coordination with local agencies and the regulatory agency (i.e., USFWS or CDFW) and in accordance with the respective counties and cities general plans to establish plans to mitigate for the loss of fish and wildlife movement corridors and/or wildlife nursery sites. The consideration of conservation measures may include the following measures, in addition to the measures outlined in MM-BIO-1(b), where applicable:
 - Wildlife movement buffer zones
 - Corridor realignment
 - Appropriately spaced breaks in center barriers
 - Stream rerouting
 - Culverts
 - Creation of artificial movement corridors such as freeway under- or overpasses
 - Other comparable measures
- p. Where the lead agency has identified that a RTP/SCS project, or other regionally significant project, has the potential to impact other open space or nursery site areas, seek comparable coverage for these areas in consultation with the USFWS, CDFW, NMFS, or other local jurisdictions.
- q. Incorporate applicable and appropriate guidance (e.g. FHWA-HEP-16-059), as well as best management practices, to benefit pollinators with a focus on native plants.
- r. Implement berms and sound/sight barriers at all wildlife crossings to encourage wildlife to utilize crossings. Sound and lighting should also be minimized in

developed areas, particularly those that are adjacent to or go through natural habitats.

- s. Reduce lighting impacts on sensitive species through implementation of mitigation measures such as, but not limited to:
- Use high pressure sodium and/or cut-off fixtures instead of typical mercury-vapor fixtures for outdoor lighting.
 - Design exterior lighting to confine illumination to the project site
 - Provide structural and/or vegetative screening from light-sensitive uses.
 - Use non-reflective glass or glass treated with a non-reflective coating for all exterior windows and glass used on building surfaces.
 - Architectural lighting shall be directed onto the building surfaces and have low reflectivity to minimize glare and limit light onto adjacent properties.
- t. Reduce noise impacts to sensitive species through implementation of mitigation measures such as, but not limited to:
- Install temporary noise barriers during construction.
 - Include permanent noise barriers and sound-attenuating features as part of the project design. Barriers could be in the form of outdoor barriers, sound walls, buildings, or earth berms to attenuate noise at adjacent sensitive uses.
 - Ensure that construction equipment are properly maintained per manufacturers' specifications and fitted with the best available noise suppression devices (e.g., improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures, and acoustically attenuating shields or shrouds silencers, wraps). All intake and exhaust ports on power equipment shall be muffled or shielded.
 - Use hydraulically or electrically powered tools (e.g., jack hammers, pavement breakers, and rock drills) for project construction to avoid noise associated with compressed air exhaust from pneumatically powered tools. However, where use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust should be used; this muffler can lower noise levels from the exhaust by up to about 10 dBA. External jackets on the tools themselves should be used, if such jackets are commercially available, and this could achieve a further reduction of 5 dBA. Quieter procedures should be used, such as drills rather than impact equipment, whenever such procedures are available and consistent with construction procedures.
 - Using rubberized asphalt or "quiet pavement" to reduce road noise for new roadway segments, roadways in which widening or other modifications

- require re-pavement, or normal reconstruction of roadways where re-pavement is planned
- Use equipment and trucks with the best available noise control techniques (e.g., improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures, and acoustically attenuating shields or shrouds, wherever feasible) for project construction.
- Use techniques such as grade separation, buffer zones, landscaped berms, dense plantings, sound walls, reduced-noise paving materials, and traffic calming measures.
- u. Require large buffers between sensitive uses and freeways.
- v. Create corridor redundancy to help retain functional connectivity and resilience.

3.8 Greenhouse Gas Emissions

SMM GHG-1: SCAG, in partnership with local air districts, shall continue to work with the counties and cities to adopt qualified GHG reduction plans (e.g., climate action plans [CAPs]), develop GHG-reducing planning policies, and implement local climate initiatives. These reductions can be achieved through a combination of programs that implement plans developed collaboratively, including ZNE in new construction, retrofits of existing buildings, incentivizing the development of renewable energy sources that serve both new and existing land uses, as well as measures to reduce GHG emissions from transportation sources.

Additionally, SCAG shall continue to update the Green Region Initiative (GRI) Sustainability Indicators Mapping tool, which serves as an interactive information resource for jurisdictions within the SCAG region to measure and track sustainability progress in the region across 12 categories and 29 sustainability indicators. The tool fosters collaboration through the sharing of best practices across the 191 cities and six counties in the SCAG region, and identifies opportunities for improving sustainability practices (due to the recent inclusion of SB 535 Disadvantaged Communities data).

SMM GHG-3: SCAG shall continue supporting deployment of zero-emission (ZEV) vehicles and ZEV infrastructure in the region through its Clean Cities Program and Electric Vehicle (EV) Program. This will include working with partners including such as universities, utilities, regulating agencies, the private sector, national laboratories and the US Department of Energy, and NGO's, and member agencies to support deployment of electric vehicle

(EV) charging in the region to share information, resources, and data, to showcase best practices, and to provide support or teaming arrangements to help bring funding, projects, or other resources to the region. SCAG shall also support member agencies and other stakeholders in making decisions about and removing barriers to ZEV infrastructure. Potential deliverables include, but are not limited to:

- EV Charging Station Studies
- On-going webinars, meetings, outreach and GRI data to support AB1236 compliance and the forthcoming Hydrogen Permitting Guidebook.

SCAG shall also create the framework for a program to identify funding and provide rebates and/or other funding for light duty ZEVs and supportive infrastructure.

PMM GHG-1: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to greenhouse gas emissions, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency:

- a. Integrate green building measures consistent with CALGreen (California Building Code Title 24), local building codes and other applicable laws, into project design including:
 - i. Use energy efficient materials in building design, construction, rehabilitation, and retrofit.
 - ii. Install energy-efficient lighting, heating, and cooling systems (cogeneration); water heaters; appliances; equipment; and control systems.
 - iii. Reduce lighting, heating, and cooling needs by taking advantage of light-colored roofs, trees for shade, and sunlight.
 - iv. Incorporate passive environmental control systems that account for the characteristics of the natural environment.
 - v. Use high-efficiency lighting and cooking devices.
 - vi. Incorporate passive solar design.
 - vii. Use high-reflectivity building materials and multiple glazing.
 - viii. Prohibit gas-powered landscape maintenance equipment.

- ix. Install electric vehicle charging stations.
 - x. Reduce wood burning stoves or fireplaces.
 - xi. Provide bike lanes accessibility and parking at residential developments.
- b. Reduce emissions resulting from projects through implementation of project features, project design, or other measures, such as those described in Appendix F of the *State CEQA Guidelines*.
- c. Include off-site measures to mitigate a project's emissions.
- d. Measures that consider incorporation of Best Available Control Technology (BACT) during design, construction and operation of projects to minimize GHG emissions, including but not limited to:
- i. Use energy and fuel-efficient vehicles and equipment;
 - ii. Deployment of zero- and/or near zero emission technologies;
 - iii. Use lighting systems that are energy efficient, such as LED technology;
 - iv. Use the minimum feasible amount of GHG-emitting construction materials;
 - v. Use cement blended with the maximum feasible amount of flash or other materials that reduce GHG emissions from cement production;
 - vi. Incorporate design measures to reduce GHG emissions from solid waste management through encouraging solid waste recycling and reuse;
 - vii. Incorporate design measures to reduce energy consumption and increase use of renewable energy;
 - viii. Incorporate design measures to reduce water consumption;
 - ix. Use lighter-colored pavement where feasible;
 - x. Recycle construction debris to maximum extent feasible;
 - xi. Plant shade trees in or near construction projects where feasible; and
 - xii. Solicit bids that include concepts listed above.
- e. Measures that encourage transit use, carpooling, bike-share and car-share programs, active transportation, and parking strategies, including, but not limited to the following:
- i. Promote transit-active transportation coordinated strategies;

- ii. Increase bicycle carrying capacity on transit and rail vehicles;
- iii. Improve or increase access to transit;
- iv. Increase access to common goods and services, such as groceries, schools, and day care;
- v. Incorporate affordable housing into the project;
- vi. Incorporate the neighborhood electric vehicle network;
- vii. Orient the project toward transit, bicycle and pedestrian facilities;
- viii. Improve pedestrian or bicycle networks, or transit service;
- ix. Provide traffic calming measures;
- x. Provide bicycle parking;
- xi. Limit or eliminate park supply through:
 - i. Elimination (or reduction) of minimum parking requirements
 - ii. Creation of maximum parking requirements
 - iii. Provision of shared parking.
- xii. Unbundle parking costs;
- xiii. Provide parking cash-out programs;
- xiv. Implement or provide access to commute reduction program;
- f. Incorporate bicycle and pedestrian facilities into project designs, maintaining these facilities, and providing amenities incentivizing their use; and planning for and building local bicycle projects that connect with the regional network;
- g. Improving transit access to rail and bus routes by incentives for construction of transit facilities within developments, and/or providing dedicated shuttle service to transit stations; and
- h. Adopting employer trip reduction measures to reduce employee trips such as vanpool and carpool programs, providing end-of-trip facilities, and telecommuting programs including but not limited to measures that:
 - i. Provide car-sharing, bike sharing, and ride-sharing programs;
 - ii. Provide transit passes;

- iii. Shift single occupancy vehicle trips to carpooling or vanpooling, for example providing ride-matching services;
 - iv. Provide incentives or subsidies that increase that use of modes other than single-occupancy vehicle;
 - v. Provide on-site amenities at places of work, such as priority parking for carpools and vanpools, secure bike parking, and showers and locker rooms;
 - vi. Provide employee transportation coordinators at employment sites;
 - vii. Provide a guaranteed ride home service to users of non-auto modes.
- i. Designate a percentage of parking spaces for ride-sharing vehicles or high-occupancy vehicles, and provide adequate passenger loading and unloading for those vehicles;
 - j. Land use siting and design measures that reduce GHG emissions, including:
 - i. Developing on infill and brownfields sites;
 - ii. Building compact and mixed-use developments near transit;
 - iii. Retaining on-site mature trees and vegetation, and planting new canopy trees;
 - iv. Measures that increase vehicle efficiency, encourage use of zero and low emissions vehicles, or reduce the carbon content of fuels, including constructing or encouraging construction of electric vehicle charging stations or neighborhood electric vehicle networks, or charging for electric bicycles; and
 - v. Measures to reduce GHG emissions from solid waste management through encouraging solid waste recycling, composting, and reuse.
 - k. Consult the SCAG Environmental Justice Toolbox for potential measures to address impacts to low-income and/or minority communities. The measures provided above are also intended to be applied in low income and minority communities as applicable and feasible.
 - l. Require at least five percent of all vehicle parking spaces include electric vehicle charging stations, or at a minimum, require the appropriate infrastructure to facilitate sufficient electric charging for passenger vehicles and trucks to plug-in.
 - m. Encourage telecommuting and alternative work schedules, such as:
 - i. Staggered starting times
 - ii. Flexible schedules

- iii. Compressed work weeks
- n. Implement commute trip reduction marketing, such as:
 - i. New employee orientation of trip reduction and alternative mode options
 - ii. Event promotions
 - iii. Publications
- o. Implement preferential parking permit program
- p. Implement school pool and bus programs
- q. Price workplace parking, such as:
 - i. Explicitly charging for parking for its employees;
 - ii. Implementing above market rate pricing;
 - iii. Validating parking only for invited guests;
 - iv. Not providing employee parking and transportation allowances; and
 - v. Educating employees about available alternatives.

3.11 Land Use and Planning

SMM LU-2: SCAG shall continue to promote the Intergovernmental Review (IGR) Program as an internal and external informational tool by reviewing and monitoring all projects submitted to SCAG for review and working with local jurisdictions to ensure that submitted projects support the most currently adopted Connect SoCal Plan. SCAG shall ~~provide~~ submit comment letters on regionally significant projects to provide policies and goals from Connect SoCal, recommend the application of project-level mitigation measures from the Connect SoCal PEIR and provide additional resources to help the lead agency support or develop ~~a~~ projects that are consistent with the Plan, as appropriate. The IGR Mapping Tool can also be utilized by local jurisdictions to assess regional impacts. To visit the IGR Mapping tool, please go to: <https://maps.scag.ca.gov/IGR/>. For more information on SCAG's IGR Program, please visit: <http://www.scag.ca.gov/programs/Pages/IGR.aspx>.

3.17 Transportation, Traffic, and Safety

SMM TRA-1: SCAG shall facilitate minimizing VMT and related vehicular delay by minimizing impacts to circulation and access, improve mobility, and encourage transit use and Active Transportation via workshops (i.e., Mobility 21 workshop and Regional Transportation Workgroups) and web-based planning tools for local governments, forums with policy makers, and County Transportation Commissions, Planning Agencies, member cities, and state partners.

SMM TRA-2: SCAG shall identify further reduction in VMT set forth by CARB, and fuel consumption that could be obtained through land-use strategies, additional car-sharing programs with linkage to public transportation, additional vanpools, additional bicycle sharing and parking programs, and implementation of a universal employee transit access pass (TAP) program.

SMM TRA-3: SCAG shall continue to facilitate an SB 743 implementation program. Following initiation in 2018, the Sustainable Communities Program will continue to provide direct planning resources to support jurisdictions seeking to establish vehicle miles traveled (VMT) as the metric for evaluating transportation impacts, which will result in more efficient development patterns and support a comprehensive strategy for regional mitigation options. The SB 743 implementation program is a State grant-funded project, co-sponsored by SCAG and LADOT, which seeks to provide technical and mitigation strategy development guidance to local jurisdictions in the six-county SCAG region to facilitate implementation of the VMT-based CEQA transportation impact analysis provisions of SB 743. This coordinated program of technical guidance, evaluation of options, and cooperative engagement with local communities will serve to smooth the transition to the new VMT-reducing development paradigm, helping to ensure a successful region-wide implementation of SB 743 and attainment of the associated GHG reduction goals. Some of the primary features of the scope of work include:

- Evaluate the feasibility of various alternative VMT mitigation options, including local and regional VMT exchange and banking programs.
- Establish CEQA nexus to reduce VMT through a VMT mitigation exchange or banking program alternative.
- Substantiate the legal basis of a VMT exchange program for satisfying CEQA mitigation requirements.

- Collaborate with other communities and jurisdictions to reduce VMT through implementation of a VMT mitigation exchange or bank program.
- Improve the dissemination of transportation project VMT mitigation options.
- Support a variety of TDM strategies for Transportation Management Organization (TMO) membership agencies.
- Provide guidance to facilitate establishment of VMT mitigation exchange or bank programs throughout the region and state

SMM TRA-8: SCAG shall provide a forum ~~the means for~~ for collaboration in planning, communication, and information sharing before, during, or after a regional emergency (i.e., seismic activities, wildfires, and other natural disasters). This will be accomplished by the following:

- SCAG shall develop and incorporate strategies and actions pertaining to response and prevention of security incidents and events as part of the on-going regional planning activities.
- SCAG shall offer a regional repository of GIS data for use by local agencies in emergency planning, and response, in a standardized format.
- SCAG shall enter into mutual aid agreements with other MPOs (as feasible) to provide this data, in coordination with the California OES in the event that an event disrupts SCAG's ability to function.

3.20 Wildfire

SMM WF-1: SCAG shall facilitate minimizing future impacts to fire protection services through information sharing regarding Fire-wise Land Management (vegetation data, fire-resistant building materials, locations where development is vulnerable to wildfire, and best practices for safe land management) with county and city planning departments. SCAG shall provide an annual forum (or forums) aimed at increased wildfire resilience. Forums shall focus on how high wildfire risk towns, cities, and counties in the region can adopt a wildland-urban interface (WUI) code (or similar code) specifically designed to mitigate the risks from wildfire to life and property. Topics to be addressed will include best practices around:

- **Structure density and location:** number of structures allowed in areas at risk from wildfire, plus setbacks (distance between structures and distance between other features such as slopes).

- **Building materials and construction:** roof assembly and covering, eaves, vents, gutters, exterior walls, windows, non-combustible building materials, and non-combustible surface.
- **Vegetation management:** tree thinning, spacing, limbing, and trimming; removal of any vegetation growing under tree canopies (typically referred to as “ladder fuels”), surface vegetation removal, and brush clearance; vegetation conversion, fuel modifications, and landscaping.
- **Emergency vehicle access and evacuation routes:** driveways, turnarounds, emergency access roads, marking of roads, and property address markers.
- **Water supply:** approved water sources and adequate water supply.
- **Fire protection:** automatic sprinkler system, spark arresters, and propane tank storage.

The outcome of the forum shall be a summary of actionable items for local planners. Furthermore, SCAG shall examine wildfire risk management strategies in areas where at-risk critical electrical infrastructure is located based on CPUC and CAL FIRE maps.

SMM WF-2: SCAG, in partnership with technical experts and stakeholders, shall launch or continue existing initiatives to help local towns, cities, and counties to protect Southern California communities and economies from the disruption of wildfire occurrences. Initiatives could include but not be limited to seminars that review the risk of wildfire and approaches for preparation, including strengthening of infrastructure, emergency services, emergency evacuation plans and reviewing building safety codes.

SMM WF-3: SCAG shall develop a ~~regional resilience program~~ Regional Climate Adaptation Framework, which will assist local and regional jurisdictions in managing the negative impacts of wildfires and other hazards caused by climate change. The Climate Adaptation Framework will integrate existing State initiatives, policies, and guidance into the regional framework, helping to connect local and regional land use and transportation planning with State policy goals. The framework will specifically provide communication & outreach strategies and templates for local jurisdictions; toolkits for local jurisdictions to support project implementation, land use, and transportation infrastructure decisions; resources for cities to comply with Senate Bill 379; resources and templates for other metropolitan planning organizations (MPOs); tools and metrics for tracking implementation progress; and a regional framework and coordination strategy. SCAG shall also assist local jurisdictions with wildfire safety requirements for General

~~Plan Updates by providing the most recent fire-risk data and maps from state-wide resources, including isolated areas that could be subject to fire risk with limited egress routes based on the transportation modeling components of SCAG's Regional Climate Adaptation Framework, and identify specific strategies to reduce vulnerabilities from natural disasters related to land based or atmospheric hazards, climate change, wildfire and other extreme weather events.~~

PMM WF-1: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to wildfire risk, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency:

- a. Launch fire prevention education for local cities and counties such that local fire agencies, homeowners, as well as commercial and industrial businesses are aware of potential sources of fire ignition and the related procedures to curb or lessen any activities that might initiate fire ignition.
- b. Ensure structures in high fire risk areas are built to current state and federal standards which serve to greatly increase the chances the structure will survive a wildfire and also allow for people to shelter-in-place.
- c. Improve road access for emergency response and evacuation so people can evacuate safely and timely when necessary.
- d. Improve, and educate regarding, local emergency communications and notifications with residents and businesses.
- e. Enforce defensible space regulations to keep overgrown and unmanaged vegetation, accumulations of trash and other flammable material away from structures.
- f. Provide public education about wildfire risk and fire prevention measures, and safety procedures and practices to allow for safe evacuation and/or options to shelter-in-place.
- g. Include external sprinklers with an independent water source to reduce flammability of structures.
- h. Include local solar power paired with batteries to reduce power flow in electricity lines.
- i. For developments in high fire-prone areas, have a fire protection plan for residents and businesses.

- j. Provide fire hazard and fire safety education for homeowners in or near fire hazard areas.
- k. Developments in fire-prone areas should have fire-resistant feature, such as:
 - Ember-resistant vents
 - Fire-resistant roofs
 - Surrounding defensible space
 - Proper maintenance and upkeep of structures and surrounding area

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APPENDIX A

Responses to Comments



May 1, 2020

Sent via email

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Re: Proposed Final Connect SoCal Plan and Final Program Environmental Impact Report (State Clearing House Number 2019011061)

Dear President Jahn and Regional Councilmembers:

These comments are submitted on behalf of the Center for Biological Diversity (the “Center”) regarding the Final Program Environmental Impact Report (“FEIR”) for the Connect SoCal 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy (“Plan”). The Center has reviewed the FEIR and Plan and provides these comments for consideration by the Southern California Association of Governments (“SCAG”).

The Center is encouraged to see several conservation facets of the Plan, including SCAG’s attention to preserve, enhance, and restore regional wildlife connectivity (Plan at 50), avoid growth in wetlands, wildlife corridors, biodiverse areas, wildfire prone areas and floodplains (Plan at 55), encourage housing and commercial development near public transit and urban areas (Plan at 48) and incorporate greenbelts into planning initiatives (Plan at 55). However, the FEIR fails to adequately address critical issues regarding wildlife connectivity and the conservation of mountain lions in the Southern California/Central Coast Evolutionarily Significant Unit (“ESU”). **Given that these mountain lion populations were granted “candidacy status” under the California Endangered Species Act (“CESA”) on April 16, 2020, the FEIR must be revised and recirculated to analyze and mitigate potential impacts on these populations.**

The FEIR is further defective because it fails to account for significant changes in vehicle emissions that will be caused by the rollback of the federal vehicle greenhouse gas emissions and mileage standards. These changes require significant revisions to the air quality, greenhouse gas, and public health sections of the EIR, thus mandating recirculation. Moreover, the Plan and

FEIR remain legally deficient because they fail to offer concrete, enforceable and performance-based mitigation measures for individual projects that will be funded and/or implemented as a consequence of the Plan. The enclosed letter by Matt Hagemann, P.G., C.Hg. and Paul E. Rosenfeld, Ph.D of the consulting firm Soil/Water/Air Protection Enterprise (the “SWAPE Letter,” included as Exhibit A) further demonstrates that the EIR’s air quality and greenhouse gas analyses contain errors and unsubstantiated conclusions that render the FEIR legally inadequate. We note that the South Coast Air Quality Management District also has identified serious problems with FEIR’s air quality analysis.

1

The Plan provides an opportunity for SCAG to show leadership in land-use planning and greening our transportation infrastructure and development at a regional scale. To achieve SCAG’s goals of a “healthier, safer, more resilient and economically vibrant region,” SCAG must implement a comprehensive approach to growth that addresses human transportation and development needs, the needs of wildlife and habitats that are fragmented by transportation infrastructure and development, and how we can make human and natural communities more resilient to climate change. **We urge SCAG to postpone the May 7th approval hearing in order to address these issues.**

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 Southern California.

2

II. The FEIR Improperly Defers Analysis and Mitigation of Regional Impacts of the Plan.

While in some circumstances a program EIR may have less detailed analysis of impacts than a project EIR, a program EIR is not an excuse to avoid analysis and mitigation for regional problems which will be exacerbated by the proposed program. This is particularly true here where the Plan will increase the severity of *regional* environmental problems that require *regional* solutions that cannot be adequately addressed by project-specific analysis and mitigation. The CEQA Guidelines state:

3

Where a lead agency is using the tiering process in connection with an EIR for a large-scale planning approval, such as a general plan or component thereof (e.g., an area plan or community plan), the development of detailed, site-specific information may not be feasible but can be deferred, in many instances, until such time as the lead agency prepares a future environmental document in connection with a project of a more limited geographical scale, ***as long as deferral does not prevent adequate identification of significant effects of the planning approval at hand.***

(14 Cal. Code Regs. § 15152, emphasis added.) As outlined in further detail below, the FEIR does not comply with the Guidelines because the EIR fails to adequately identify – and then mitigate – significant effects of the “planning approval at hand.”

3

III. The FEIR Fails to Include Enforceable and Performance-based Mitigation Measures.

Many of the FEIR’s mitigation measures are legally inadequate and cannot be considered mitigation under CEQA and applicable case law. (*Lincoln Place Tenants Assn. v. City of Los Angeles* (2007) 155 Cal.App.4th 425, 445 [“A ‘mitigation measure’ is a suggestion or change that would reduce or minimize significant adverse impacts on the environment caused by the project as proposed”]); *Preserve Wild Santee v. City of Santee* (2012) 210 CA 4th 260, 281 [mitigation measures that are so undefined that their effectiveness is impossible to determine are legally inadequate].) The California Attorney General has also expressly disapproved such an approach for measures upon which an agency relies:

Can a lead agency rely on policies and measures that simply “encourage” GHG efficiency and emissions reductions?

4

No. Mitigation measures must be “fully enforceable.” *Adequate mitigation does not, for example, merely “encourage” or “support” carpools and transit options, green building practices, and development in urban centers.* While a menu of hortatory GHG policies is positive, it does not count as adequate mitigation because there is no certainty that the policies will be implemented.

(CA Attorney General 2009.) This guidance applies with equal force to SCAG and the FEIR. In *Sierra Club v. County of San Diego* (2014) 231 Cal.App.4th 1152, the Fourth District Court of Appeal criticized the County of San Diego for including measures in its climate action plan (“CAP”) that were not backed up by a firm commitment by the County that they would be implemented. The Court of Appeal noted that many of the measures in the CAP “are not currently funded,” such that the County of San Diego could not rely upon such unfunded programs to meet GHG reductions. (*Id.* at 1168-1169.) The *Sierra Club* opinion also questioned whether people would actually participate in various programs outlined in the CAP, given that the record contained no evidence of such participation. (*Id.* at 1170.) Here, the Plan and the FEIR suffer from similar defects – there is no evidence of funding for many of the various programs set forth in the Plan, nor evidence in the record that people or industry will actually participate in the voluntary programs described in the Plan.

Notably, in *Sierra Club v. County of San Diego*, the county absolved itself of responsibility to implement GHG reduction programs because San Diego County “does not control how SANDAG spends its money.... The County does not control regional plans or allocation of regional transportation funding.” (*Id.* at 1169.) Like SANDAG, SCAG *does* control how vast sums of money are spent, and can condition the dispersal of such funds to counties, cities, and transportation agencies on whether they comply with the Plan and with specific concrete and enforceable mitigation measures in the Plan. Unfortunately, the Plan and FEIR as currently written allow agencies to avail themselves of large sums of money for environmentally

damaging projects with minimal oversight and no commitment to actually implement mitigation measures.

SCAG can and should significantly revise the FEIR’s mitigation measures so that a lead agency seeking to move forward with an individual project must show compliance with *specific, enforceable, and performance-based mitigation measures in the FEIR in order for an individual project to be consistent with the Plan.* What SCAG cannot do is write a proverbial “blank check” to agencies for environmentally damaging projects, and then disclaim any responsibility for including conditions to limit the impacts of such projects on the environment.

Case law supports our view. In *City of Marina v. Board of Trustees of California State University* (2006) 39 Cal. 4th 341, 367, the Supreme Court held that a lead agency violated CEQA by disclaiming authority to mitigate significant environmental impacts of a project, particularly when it had not asked for funds to mitigate those impacts. The Supreme Court further stated that “[a] finding by a lead agency under Public Resources Code section 21081, subdivision (a)(2), disclaiming the responsibility to mitigate environmental effects is permissible only when the other agency said to have responsibility has *exclusive* responsibility.” (*Id.* at 366.) Here, there is no showing that other agencies have exclusive responsibility to mitigate environmental impacts of the Plan. Moreover, the Supreme Court stated this provision is designed in order to avoid “*the problem of agencies deferring to each other, with the result that no agency deals with the problem.*” (*Id.*, emphasis added.) As currently written, the Plan and FEIR would contribute to “no agency dealing with the problem” of diminishing wildlife connectivity, the plight of Southern California mountain lions, severe air pollution and attendant harm to public health, GHG emissions, among other issues.

4

Likewise, CEQA requires an EIR to analyze “the whole of an action, which has a potential for resulting in either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment” (CEQA Guidelines § 15378(a).) Approval of the Plan has the potential to result in reasonably foreseeable indirect changes in physical environment by streamlining approval – and providing funding – for various highway, road, and development projects. As such, the FEIR must describe those impacts and SCAG must use its authority to adopt all feasible mitigation measures to reduce those impacts.

This duty to analyze and mitigate extends to cumulative impacts, which are a particularly significant issue here. One freeway segment or development may not appear to have a significant effect on the environment (e.g., on mountain lions, wildlife connectivity, air quality, GHGs), but the combined impacts of all the projects within the Plan—combined with existing highways and development—can drastically harm California’s environment unless regional mitigation strategies are adopted and funded. Here, CEQA requires that an EIR consider both direct and indirect impacts of a project and fully disclose those impacts to adequately inform the public and decisionmakers. (CEQA Guidelines, § 15064.)

IV. The FEIR Fails to Adequately Assess and Mitigate Impacts to the Southern California/Central Coast Evolutionarily Significant Unit of Mountain Lions (*Puma concolor*), Wildlife Movement, and Habitat Connectivity.

The FEIR's response to comments states that at the time of the preparation of the draft and the final EIR, mountain lions were not listed under CESA. However, the Center, along with the Mountain Lion Foundation, submitted the petition to list Southern California and Central Coast mountain lions (*Puma concolor*) as threatened under CESA in June 2019, well before the December 9, 2019 DEIR release date. And if SCAG was not aware of it then, the Center brought attention to it in our DEIR comment letter, which was submitted in January of 2020 (Exhibit B). Just weeks later, on February 12, 2020, the California Fish and Game Commission (CFGF) published the recommendation of the California Department of Fish and Wildlife (CDFW), stating that "the Department has determined there is sufficient scientific information available at this time to indicate the petitioned action may be warranted" (CDFW 2020). Such a recommendation clearly indicates that the best available science supports the advancement of mountain lions in the SCAG region to candidacy status under CESA. And in at least the last decade or so the California Fish and Game Commission (CFGF) has voted in alignment with CDFW's recommendation (with one erroneous exception that was later overturned and corrected), given that the determination is based on a reasonable person standard and is supposed to be based solely on science. On April 16, 2020, the same month as the FEIR was published, the CFGF voted unanimously to advance the Southern California/Central Coast ESU of mountain lions to candidacy. SCAG should have anticipated CESA protections for mountain lions in the SCAG area and addressed them accordingly in the FEIR. Even if the Southern California/Central Coast ESU of mountains was not a candidate under CESA at the time of drafting, it is a candidate species at the time of this vote. The FEIR should be revised and recirculated to adequately assess and mitigate impacts to these mountain lions.

5

The response goes on to state that "The impact analysis reviewed potential environmental impacts to sensitive biological resources from a regional perspective" and that "Lead Agencies for each individual project will determine the level of environmental review required for subsequent project-level evaluation of individual projects," ultimately passing on responsibility to adequately assess and mitigate impacts to mountain lions and regional connectivity by various Lead Agencies on a project-by-project basis (FEIR at 9.0-115). However, SCAG fails to realize that conserving the mountain lion ESU requires a "regional perspective" that facilitates a land-use strategy that will effectively preserve or enhance wildlife connectivity while accommodating human population growth and needs. Continuing with a piecemeal approach that has already led to severely genetically isolated populations is a poor strategy and insufficient to adequately mitigate impacts to mountain lions or regional connectivity. This is just going on with business as usual with how the region plans for growth and development, which could drive some of the SCAG region's mountain lion populations to extinction within 50 years (Benson et al. 2019). This RTP is an opportunity for SCAG to formally recognize that historical and current land-use planning is not sustainable and that we need to alter course. To truly achieve SCAG's goal of a "healthier, safer, more resilient and economically vibrant region," planners and decisionmakers must aggressively implement greener transportation and development infrastructure that will make our communities and wild lands safer and healthier.

A. CEQA Requires Recirculation in These Circumstances.

CEQA requires recirculation in these circumstances. Public Resources Code section 21092.1 states that “[w]hen significant new information is added to an environmental impact report after notice has been given pursuant to Section 21092 and consultation has occurred pursuant to Sections 21104 and 21153, but prior to certification, the public agency shall give notice again pursuant to Section 21092, and consult again pursuant to Sections 21104 and 21153 before certifying the environmental impact report.” CEQA Guidelines section 15088.5 further state that “As used in this section, the term “information” can include changes in the project or environmental setting as well as additional data or other information.”

Significant new information includes “a disclosure that (1) a new significant environmental impact would result from the project or a new mitigation measure; (2) a substantial increase in the severity of an environmental impact would result unless mitigation measures are adopted; (3) a feasible alternative or mitigation measure considerably different from others previously analyzed would clearly lessen the project's significant impacts but the project's proponents decline to adopt it; or (4) the draft EIR ‘was so fundamentally and basically inadequate and conclusory in nature that meaningful public review and comment were precluded.’” (*North Coast Rivers Alliance v. Marin Municipal Water Dist. Bd. of Directors*, 216 Cal. App. 4th 614, 654-655.)

Here, “candidacy status” for Southern California mountain lion populations qualifies as significant new information under CEQA. Candidate species are given full protection under CESA.¹ As such, under CEQA, any impact to Southern California mountain lions requires a mandatory finding of significance, and adoption of all feasible mitigation measures. (See CEQA Guidelines § 15065(a)(1) [“mandatory finding of significance” required if there is substantial evidence in the record that a project may cause a “wildlife population to drop below self-sustaining levels; threaten to eliminate a plant or animal community; substantially reduce the number or restrict the range of an endangered, rare or threatened species”].) This means that a project is deemed to have a significant impact on the environment as a matter of law if it reduces the habitat of a species, or reduces the number or range of an endangered, rare, or threatened species. (See *Endangered Habitats League, Inc. v. County of Orange* (2005) 131 Cal.App.4th 777, 792 fn. 12 [citing *Defend the Bay v. City of Irvine* (2004) 119 Cal.App.4th 1261, 1273–1274].) Here, the EIR cannot simply label impacts to Southern California mountain lions as “significant,” and move on. (See *Sierra Club v. County of Fresno* (2018) 6 Cal.5th 502, 514 “[A]n EIR's designation of a particular adverse environmental effect as ‘significant’ does not excuse the EIR's failure to reasonably describe the nature and magnitude of the adverse effect.”].)

CESA also prohibits the “take” of any candidate species absent the issuance of an incidental take permit. (Fish & Game Code §2080; Cal. Code Regs., tit. 14, § 783.1.) As described in more detail in this letter, the Plan and projects included within the Plan will result in

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¹ See, e.g., California Department of Fish and Wildlife, *CESA to the Federal Endangered Species Act*, available at <https://wildlife.ca.gov/Conservation/CESA/FESA>.

significant habitat destruction, loss of habitat connectivity, and direct mortality to mountain lions through vehicle strikes and rodenticide poisoning. At a minimum, the EIR must analyze this issue and SCAG should coordinate with the California Department of Fish and Wildlife to ascertain whether an incidental take permit is required.

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B. The FEIR Fails to Adequately Assess and Mitigate the Sprawl-inducing Impacts of Approved Major Highway Projects

Although the extent of the induced demand effect has been debated, the co-dependent relationship between induced travel and car-oriented sprawl development and the construction/widening/expansion of roads has been widely accepted (Cervero 2001). So much so that in a 2014 policy brief, Caltrans was criticized for “not com[ing] to grips with the reality of induced traffic and the relationship between transportation and land use,” (State Smart Transportation Initiative 2014). The brief goes on to suggest that Caltrans’ failure to foster low-travel land use “has been a barrier to the compact development sought by state policy and may have induced the opposite—low-density, high travel exurban development,” and the authors chastise Caltrans’ negligence in operationalizing sustainability “or any similar concept” into their goals, measures, or actions (State Smart Transportation Initiative 2014).

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This suggests that the historical and recent patterns of growth and development have favored increasing road capacity, which promotes more sprawl. Continuing to approve projects that increase roadway capacity through new freeway developments, widenings, and expansions enables Caltrans to acquire funding for projects that will continue to perpetuate exurban sprawl. Furthermore, recent and historical development trends of more sprawl-centric growth are reflected in the FEIR’s demographics and growth forecasts, which exacerbates the issue. Such forecasts will provide guidance for the region’s transportation investments over the next 25 years, and if the building blocks of the forecasts are based on sprawl-centric growth, then those forecasts amplify a feedback loop of the perceived need for more roads, which will inevitably lead to more sprawl. Instead, the FEIR and the Plan should break the cycle and pivot the region’s land-use planning to facilitate greener transportation infrastructure that facilitates smart growth and actually preserves and enhances regional wildlife connectivity.

C. The FEIR Fails to Adequately Assess and Mitigate the Impacts of More Roads and Increased Sprawl Development to Mountain Lions in the Southern California/Central Coast ESU

Although the FEIR acknowledges that the Plan will have significant and unavoidable impacts to special-status species and wildlife connectivity, the assessment of impacts to mountain lions is inadequate. According to the FEIR the Plan “will result in the direct consumption of 41,546 acres of greenfield [including areas with] a high potential to contain sensitive plant communities and riparian habitats” (FEIR at 3.4-75). The FEIR further states that “[p]otential impacts exist for 16,167 acres of intact natural landscape blocks and 18,716 acres of associated major riparian connectors found within 500 feet of major transportation projects” (FEIR at 3.4-86). Yet SCAG only provides limited mitigation measures that they can uphold, including SMM BIO-1 through SMM BIO-3, which provide for information sharing, developing a regional conservation plan, and encouraging and facilitating research, programs, and policies

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that identify and protect natural habitat corridors. SMM- BIO-3 also states that SCAG will “support for preserving wildlife corridors and wildlife crossings to minimize the impact of transportation projects on wildlife species and habitat fragmentation,” (FEIR at 3.4-89), but it is unclear what “support” means. These mitigation measures are grossly insufficient to minimize the Plan’s significant impacts to mountain lions in the Southern California/Central Coastal ESU and regional wildlife connectivity.

There is ample scientific evidence that indicates mountain lion populations in Southern and Central Coast California are imperiled and that human activities and land use planning that does not integrate adequate habitat connectivity can have adverse impacts on mountain lions. Continued habitat loss and fragmentation has led to 10 genetically isolated populations within California. There are six identified imperiled mountain lion populations in the ESU; four populations occur within the SCAG region, and they include: the Santa Monica Mountains lions, the Santa Ana Mountains lions, the San Gabriel/San Bernardino Mountains lions, and the Eastern Peninsular Range lions. At least two of the populations (Santa Monica Mountains and Santa Ana Mountains) are severely constrained and facing an extinction vortex due to high levels of inbreeding, low genetic diversity, and high human-caused mortality rates from car strikes on roads, depredation kills, rodenticide poisoning, poaching, disease, and increased human-caused wildfires (Ernest et al. 2003; Ernest et al. 2014; Riley et al. 2014; Vickers et al. 2015; Benson et al. 2016; Gustafson et al. 2018; Benson et al. 2019).

The effective population sizes of the four populations within the SCAG region range from 4 to 31.6 (Gustafson et al. 2018; Benson et al. 2019). An effective population size of 50 is assumed to be sufficient to prevent inbreeding depression over five generations, while an effective population size of 500 is considered sufficient to retain evolutionary potential in perpetuity (Traill et al. 2010; Frankham et al. 2014). All of the populations in the SCAG region are well below that minimum threshold of 50, which indicates that these populations are at serious risk of becoming extirpated. Furthermore, mountain lions in the Santa Monica and Santa Ana mountains have been found to have dangerously low genetic diversity and effective population size, and they are likely to become extinct within 50 years if nothing is done to improve gene flow with other mountain lion populations (Benson et al. 2016; Gustafson et al. 2018; Benson et al. 2019). Populations in the San Gabriel/San Bernardino mountains are showing similar trends (Gustafson et al. 2018). This is detailed in the Center’s petition to the California Fish and Game Commission to protect Southern California and Central Coast mountain lions under the California Endangered Species Act (Yap et al. 2019).

The primary threat to the long-term survival of mountain lions in the Southern California/Central Coast ESU is genetic isolation due to lack of connectivity caused by continuous development in mountain lion habitat with little regard of their movement needs. Thus, the persistence of the four populations within the SCAG region relies heavily on being connected with mountain lions throughout the ESU *as well as* statewide. Although the geographic area of the SCAG region is relatively small compared to the state (SCAG covers about 38,000 mi², which is about 23% of the state’s 164,696 mi²), four of the 10 mountain lion populations are within its boundaries. Mountain lions are wide ranging species that have home ranges of 75 to 200 mi²; clearly, anthropogenic barriers are likely limiting their movement and preventing adequate gene flow for the long-term survival of mountain lions throughout the

SCAG region (Ernest et al. 2003; Ernest et al. 2014; Riley et al. 2014; Vickers et al. 2015; Gustafson et al. 2018; Benson et al. 2019). Yet the FEIR continues to approve funding for freeway expansions/widenings/construction without adequate mitigation for wildlife connectivity (e.g., wildlife crossings), which fragments the landscape more severely and propagates sprawl development further out into mountain lion habitat and movement corridors. Prime examples from the Transportation Project List include but are not limited to:

1. Adding HOV and Express lanes on the I-15 from near Murrieta north up to the Victorville area, which fortifies an already serious barrier between the mountain lions in the Santa Ana Mountains and the Eastern Peninsular Range (Ernest et al. 2014; Vickers et al. 2015; Benson et al. 2016) and further bisects the San Gabriel and San Bernardino mountains,
2. Adding mixed flow lanes on SR 138 from the I-5 to SR 14 and on SR 138/18 from SR 122 to US Route 395, which limits north-south movement through a critical linkage area important for genetic mixing between coastal, southern, and northern California lions and therefore an area that is important for statewide genetic connectivity for mountain lions and other native wildlife and plants (Ernest et al. 2003; Penrod et al. 2003; South Coast Wildlands 2008; Gustafson et al. 2018), and
3. Adding HOV lanes to Highway 101 just north of the Santa Monica Mountains from SR 33 to SR 23, which fortifies an already serious barrier between highly imperiled mountain lions in the Santa Monica Mountains and the Santa Susana Mountains and habitat further up the coast (Riley et al. 2014; Gustafson et al. 2018; Benson et al. 2019; Benson et al. 2020).

The approved projects on these three stretches of freeway would directly adversely impact the Santa Ana and Santa Monica mountain lion populations, the two most imperiled populations throughout the state that are predicted to become extinct within 50 years if nothing is done to improve connectivity (Benson et al. 2019). The I-15 and SR138/18 projects would also likely directly adversely impact the San Gabriel/San Bernardino population, an area that is important for genetic connectivity that has an extremely low effective population ($N_e=5$) and is showing similar signs of imperilment as the Santa Ana and Santa Monica populations (Ernest et al. 2003; Gustafson et al. 2017). Yet there are no requirements to mitigate impacts or enhance connectivity in these areas. If such projects are going to be approved, SCAG should require that the project proponents implement effective mitigation strategies into the design of the projects (when planning starts) prior to approving funding for the projects. In addition, SCAG should mitigate impacts to regional connectivity from these projects by allocating proportional funding for wildlife crossing infrastructure projects and acquiring and managing in perpetuity high quality, protected habitat on both sides of a freeway to improve effectivity of the crossings. The FEIR fails to adequately describe, assess, and mitigate impacts to the Southern California/Central Coast ESU of mountain lions.

The FEIR also fails to adequately describe, assess, and mitigate impacts of sprawl development and edge effects on mountain lions. Negative edge effects from human activity, 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). Human

development and associated noise can degrade adjacent wildlife habitat and behavior (*see e.g.*, Slabbekoorn and Ripmeester 2008). There is evidence documenting the effects of human activity specifically on mountain lions. One study found that mountain lions are so fearful of humans and noise generated by humans that they will abandon the carcass of a deer and forgo the feeding opportunity just to avoid humans (Smith et al. 2017).² The study concluded that even “non-consumptive forms of human disturbance may alter the ecological role of large carnivores by affecting the link between these top predators and their prey” (Smith et al. 2017). In addition, mountain lions have been found to respond fearfully upon hearing human vocalizations, avoiding the area and moving more cautiously when hearing humans (Smith et al. 2017; Suraci et al. 2019). Other studies have demonstrated that mountain lion behavior is impacted when exposed to other evidence of human presence, such as lighting or vehicles/traffic (Wilmers et al. 2013; Smith et al. 2015; Benson et al. 2016; Wang et al. 2017; Dellinger 2019).

Other impacts of extending human activities further into mountain lion habitat include increased exposure to rodenticides and other environmental toxicants from homeowners and businesses trying to remove pests. Although mountain lions are not the primary target of rodenticides, secondary poisoning has been documented in many non-target animals, especially predators, including mountain lions (Department of Pesticide Regulation 2018), coyotes (Riley et al. 2003), bobcats (Riley et al. 2007; Serieys et al. 2015), San Joaquin kit fox (McMillin et al. 2008), California fishers (Gabriel et al. 2012), raptors (Lima and Salmon 2010), and many more. Data regarding rodenticide poisoning in mountain lions are limited; however, there is evidence that these big cats are likely vulnerable to similar negative impacts that other predators experience, including direct death, weakened immune systems, and vulnerability to predators or conspecifics (Riley et al. 2003; Riley et al. 2007; Serieys et al. 2015). Several deaths due to rodenticide poisoning have been recently documented in the Santa Monica Mountains population, and such deaths can potentially push already struggling, small populations like the Santa Ana and Santa Monica lions closer to the brink of extinction. In addition, sprawl development can lead to placing more hobby farmers in mountain lion habitat, which can lead to increased conflict with mountain lions when animals are not placed in lion-proof enclosures at night, potentially more depredation events, and the potential issuance of lethal depredation permits or poaching to remove mountain lions from the area. Last, scientific studies have shown that the impacts of free-roaming dogs and cats on wildlife are often underestimated, and in fact, they can pose significant impacts to mountain lions and other wildlife, such as by degrading habitat and spreading disease (Young et al. 2011; Loss et al. 2013; CDFW 2020). To mitigate impacts of roads and development extending into mountain lion habitat and the edge effects associated with human activity, SCAG should provide funding for and implement education and awareness campaigns that teach people how to live in mountain lion habitat and safely coexist with mountain lions. Again, the FEIR fails to adequately assess and mitigate impacts to mountain lions.

The FEIR fails to adequately assess and mitigate impacts to mountain lions from increased frequency of wildfires caused by more human ignitions due to placing more homes in

² *See also* Sean Greene, “How a fear of humans affects the lives of California's mountain lions,” *Los Angeles Times* (June 27, 2017), available at <http://beta.latimes.com/science/sciencenow/la-sci-sn-pumas-human-noise-20170627-story.html>.

fire-prone habitats. Although fire is a natural disturbance in California ecosystems, sprawl development with low/intermediate densities extending into habitats that are prone to fire have led to more frequent wildfires that burn larger areas (Syphard et al. 2007; Syphard et al. 2009). Most wildfires in California are caused by human ignitions, like power lines, arson, improperly disposed cigarette butts, debris burning, fireworks, campfires, or sparks from cars or equipment (Keeley and Fotheringham 2003; Syphard et al. 2007; Syphard et al. 2012; Bistinas et al. 2013; Balch et al. 2017; Radeloff et al. 2018; Syphard et al. 2019). In fact, human-caused fires account for 95-97% of all fires in California's Mediterranean habitats (Syphard et al. 2007; Balch et al. 2017). In addition, climate change is leading to hotter, drier conditions that make fires more likely to burn. At least 29 fires throughout California in the last two years were caused by electric power and distribution lines, and transmission lines are suspected to be the cause of the 2018 Camp Fire and Woolsey Fire (Atkinson 2018; Chandler 2019). Such fires pose a threat to the survival of Southern California/Central Coast ESU mountain lions.

Although mountain lions are highly mobile and generally able to move away from wildfires, in severe weather conditions wind-driven fires can spread quickly – they can cover 10,000 hectares in one to two days, as embers are blown ahead of the fires and towards adjacent fuels (*e.g.*, flammable vegetation, structures) (Syphard et al. 2011). If their movement is constrained by roads and development and they are unable to access escape routes, then their chances of surviving wildfires are greatly reduced. Vickers et al. (2015) documented one death of a collared mountain lion in the Santa Ana Mountains and one in the Eastern Peninsular Range due to human-caused wildfires, and the deaths of two collared mountain lions in the Santa Monica Mountains in 2018 have been attributed to the Woolsey Fire. When researchers looked at Santa Monica mountain lion P-64's radio collar data, they found that in trying to escape from the Woolsey Fire, he ran to the urban edge, and, unable to find a path turned back and ran back to the burned land P-64 was found dead several weeks later, with severely burned paws (Reyes-Velarde 2018). Environmentally stochastic events (*e.g.*, wildfires, flooding) could destabilize small mountain lion populations and make them vulnerable to extinction (Benson et al. 2016; Benson et al. 2019). In addition, increased frequency of fire ignitions can cause shifts in natural fire regimes, which can lead to large-scale landscape changes, such as vegetation-type conversion or habitat fragmentation, which can impact wide-ranging species like the mountain lion (Jennings 2018). The FEIR fails to adequately assess and mitigate impacts of increased wildfires to mountain lions.

The FEIR should increase landscape connectivity (*e.g.*, by designing corridors, removing barriers, and preserving habitats that are close to each other) to help make mountain lions and other wildlife more resilient to environmentally stochastic events and climate change adaptation (Heller and Zavaleta 2009). Enhanced connectivity that incorporates corridor redundancy (*i.e.* the availability of alternative pathways for movement) would provide resilience to uncertainty, impacts of climate change, and extreme events, including wildfires, by providing alternate escape routes or refugia for mountain lions and other animals seeking safety (Cushman et al., 2013; Mcrae et al., 2008; Mcrae et al., 2012; Olson & Burnett, 2013; Pinto & Keitt, 2008).

Mountain lions are a key indicator species of wildlife connectivity and healthy ecosystems. As the last remaining wide-ranging top predator in the region, the ability to move through large swaths of interconnected habitat is vital for genetic connectivity and their long-

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term survival. In addition, impacts to mountain lions in the region could have severe ecological consequences; loss of the ecosystem engineer could have ripple effects on other plant and animal species, potentially leading to a decrease in biodiversity and diminished overall ecosystem function. Many scavengers, including California condors, kit foxes, raptors, and numerous insects, would lose a reliable food source (Ruth and Elbroch 2014; Barry et al. 2019). Fish, birds, amphibians, reptiles, rare native plants, and butterflies would potentially diminish if this apex predator were lost (Ripple and Beschta 2006; Ripple and Beschta 2008; Ripple et al. 2014). Any regional transportation plan that does not adequately address wildlife connectivity issues and integrate effective wildlife crossings and corridors based on the best available science could lead to the extirpation of mountain lion populations in the ESU and severe loss of biodiversity and ecosystem function in the region. The FEIR fails to adequately describe, assess, and mitigate impacts to mountain lions, wildlife movement, and habitat connectivity; SCAG should revise and recirculate the FEIR.

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D. The FEIR Fails to Adequately Assess and Mitigate the Impacts of More Roads and Increased Sprawl Development on Wildlife Movement and Habitat Connectivity

As mentioned previously, the FEIR states that the Plan “will result in the direct consumption of 41,546 acres of greenfield [including areas with] a high potential to contain sensitive plant communities and riparian habitats” (FEIR at 3.4-75). The FEIR further states that “[p]otential impacts exist for 16,167 acres of intact natural landscape blocks and 18,716 acres of associated major riparian connectors found within 500 feet of major transportation projects” (FEIR at 3.4-86). To mitigate these impacts, SCAG offers SMM BIO-1 through SMM BIO-3, discussed in the previous section, as well as SMM AG-1 through SMM AG-4, SMM GHG-1, and SMM WF-1. The Center is encouraged to see SCAG will host a multi-stakeholder working group for Natural and Farm Lands Conservation, work with counties to improve data management, encourage County Transportation Commissions to invest in advanced mitigation programs, align with funding opportunities, and provide incentives to jurisdictions that cooperate across county lines to protect and restore natural habitat corridors; however, these mitigation measures are insufficient given the severity and extent of impacts to regional wildlife connectivity. Although the FEIR provides recommendations for lead agencies to mitigate impacts to connectivity, leaving substantive, on-the-ground mitigation to be debated on a project-by-project basis will result in piecemeal protections and is grossly insufficient to adequately mitigate impacts to regional wildlife connectivity.

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The SCAG region’s heterogeneous habitats that include wetlands, streams, grasslands, scrublands, woodlands, pine forests, and desert are important for wildlife connectivity and migration at the local, regional, and global scale. Local connectivity that links aquatic and terrestrial habitats allows various sensitive species to persist, including state-protected foothill yellow-legged frogs (*Rana boylei*), California red-legged frog (*Rana draytonii*), western spadefoot toad (*Spea hammondi*) and western pond turtles (*Actinemys marmorata*). At a regional scale, medium- and large-sized mammals, such as mountain lions (*Puma concolor*), bobcats (*Lynx rufus*), ring-tailed cats (*Bassariscus astutus*), and mule deer (*Odocoileus hemionus*), 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. 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.

Impacts to 18,716 acres of associated major riparian connectors found within 500 feet of major transportation projects with insufficient mitigation is alarming because riparian habitats perform a number of biological and physical functions that benefit wildlife, plants, and humans. Loss of what little is left will have severe, harmful impacts on wildlife connectivity, special-status species, overall biodiversity, and ecosystem function. It is estimated that 90-95% of historic riparian habitat in the state has been lost (Bowler 1989; Riparian Habitat Joint Venture 2009). Using 2002 land cover data from CalFire, the Riparian Habitat Joint Venture estimated that riparian vegetation makes up less than 0.5% of California's total land area at about 360,000 acres (Riparian Habitat Joint Venture 2004). Numerous species rely on riparian corridors for both movement and habitat. In fact, 60% of amphibian species, 16% of reptiles, 34% of birds and 12% of mammals in the Pacific Coast ecoregion depend on riparian-stream systems for survival (Kelsey and West 1998). Many other species, including mountain lions and bobcats, often use riparian areas and natural ridgelines as migration corridors or foraging habitat (Dickson et al, 2005; Hilty & Merenlender, 2004; Jennings & Lewison, 2013; Jennings & Zeller, 2017). Yet the FEIR does little to ensure avoidance or minimization of impacts to these important corridors. The FEIR fails to adequately assess and mitigate impacts to riparian corridors that are important for regional wildlife connectivity.

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The recommended mitigation measures provided in PMM BIO-4 fall short for regional wildlife connectivity. For example, although the FEIR states wildlife movement buffer zones could be considered, the FEIR does not provide any guidance or the best available science regarding such buffers. A literature review found that recommended buffers for wildlife often far exceeded 100 meters (~325 feet), well beyond the largest buffers implemented in practice (Robins 2002). For example, Kilgo et al. (1998) recommend more than 1,600 feet of riparian buffer to sustain bird diversity. In addition, amphibians, which are considered environmental health indicators, have been found to migrate over 1,000 feet between aquatic and terrestrial habitats through multiple life stages (Semlitsch and Bodie 2003; Trenham and Shaffer 2005; Cushman 2006; Fellers and Kleeman 2007). The foothill yellow-legged frog, a state-threatened species that occurs within the proposed Project, has been observed wintering in abandoned rodent burrows and under logs as far as 100 m (or over 300 feet) from streams (Zeiner 1988). Other sensitive species, such as western pond turtles (*Actinemys marmorata*, a candidate species under the Endangered Species Act) and California newts (*Taricha torosa*), have been found to migrate over 1,300 feet and 10,000 feet respectively from breeding ponds and streams (Trenham 1998; Semlitsch and Bodie 2003). Accommodating the more long-range dispersers is vital for functional connectivity and continued survival of species populations and/or recolonization following a local extinction (Semlitsch and Bodie 2003, Cushman 2006). Additionally, fish rely on healthy upland areas to influence suitable spawning habitat (Lohse et al. 2008). More extensive buffers provide connectivity for species that use and/or rely on terrestrial and aquatic habitat and give biological communities resiliency in the face of climate change (Cushman et al., 2013; Heller & Zavaleta, 2009; Warren et al., 2011). This emphasizes the need to conserve

riparian corridors with large upland buffers, but the FEIR provides grossly insufficient mitigation measures to minimize impacts to riparian corridors.

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The FEIR fails to adequately assess and mitigate impacts of roads and sprawl development on regional wildlife connectivity. 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 (Mitsch and Wilson 1996; Trombulak and Frissell 2000; van der Ree et al. 2011; Haddad et al. 2015; Marsh and Jaeger 2015; Ceia-Hasse et al. 2018; Dornas et al. 2019). 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 (Cushman 2006; Brehme et al. 2018; Dornas et al. 2019), cause high levels of avoidance behavior and mortality in birds and insects (Benítez-López et al. 2010; Loss et al. 2014; Kantola et al. 2019), and alter pollinator behavior and degrade habitats (Trombulak and Frissell 2000; Goverde et al. 2002; Aguilar et al. 2008). 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 (Heller and Zavaleta 2009; Cushman et al. 2013; Krosby et al. 2018). Loss of wildlife connectivity decreases biodiversity and degrades ecosystems.

As mentioned previously, SCAG should require that the project proponents implement effective mitigation strategies to improve wildlife connectivity into the design of the projects (when planning starts) prior to approving funding for the projects. In addition, SCAG should mitigate impacts to regional connectivity from these projects by allocating proportional funding for wildlife crossing infrastructure projects and acquiring and managing in perpetuity high quality, protected habitat on both sides of a freeway to improve effectivity of the crossings. It is important to note that various wildlife have different movement needs, which should be accounted for when mitigating for wildlife connectivity. While overcrossings, if properly designed with native vegetation and vegetation structure that accommodates the movement tendencies of multiple species and protected habitat on both sides, can enhance connectivity for a wider ranges of species compared to culverts (Riley et al. 2018), culverts and underpasses have been shown to be effective. However, target species must be carefully considered when determining size and frequency of crossings. For example, mountain lions have been documented using culverts that are about 4 meters (~13 feet) in diameter (Riley et al. 2018; Clevenger and Waltho 2005, Kintsch and Cramer 2011, W. Vickers unpublished data), 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

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should have grated tops so that the light and moisture inside the crossings are similar to that of the ambient environment. Ultimately, the FEIR approves funding for billions of dollars worth of road construction/widening/expansion projects without requiring adequate mitigation measures for wildlife connectivity and approves limited funds for just one wildlife crossing. The FEIR fails to adequately assess and mitigate impacts to wildlife movement and connectivity.

The FEIR's lack of requiring or approving funding for wildlife crossings dismisses the importance of regional wildlife connectivity and the need for corridor redundancy (*i.e.* the availability of alternative pathways for movement). Corridor redundancy is important in regional connectivity plans because it allows for improved functional connectivity and resilience. Compared to a single pathway, multiple connections between habitat patches increase the probability of movement across landscapes by a wider variety of species, and they provide more habitat for low-mobility species while still allowing for their dispersal (Mcrae et al., 2012; Olson & Burnett, 2013; Pinto & Keitt, 2008). In addition, corridor redundancy provides resilience to uncertainty, impacts of climate change, and extreme events, like flooding or wildfires, by providing alternate escape routes or refugia for animals seeking safety (Cushman et al., 2013; Mcrae et al., 2008; Mcrae et al., 2012; Olson & Burnett, 2013; Pinto & Keitt, 2008).

In addition, adequate mitigation measures should include addressing light, noise, and other aspects of anthropogenic features that can have negative impacts on wildlife. Human development and associated noise can degrade adjacent wildlife habitat and behavior (*see e.g.*, Slabbekoorn and Ripmeester 2008). For instance, field observations and controlled laboratory experiments have shown that traffic noise can significantly degrade habitat value for migrating songbirds (Ware et al. 2015). Subjects exposed to 55 and 61 dBA (simulated traffic noise) exhibited decreased feeding behavior and duration, as well as increased vigilance behavior (Ware et al. 2015). Such behavioral shifts increase the risk of starvation, thus decreasing survival rates. A recent study also highlighted the detrimental impacts of siting development near areas protected for wildlife. The study noted that “Anthropogenic noise 3 and 10 dB above natural sound levels . . . has documented effects on wildlife species richness, abundance, reproductive success, behavior, and physiology” (Buxton et al. 2017). The study further noted that “there is evidence of impacts across a wide range of species [] regardless of hearing sensitivity, including direct effects on invertebrates that lack ears and indirect effects on plants and entire ecological communities (*e.g.*, reduced seedling recruitment due to altered behavior of seed distributors)” (Buxton et al. 2017). Moreover, human transportation networks and development resulted in high noise exceedances in protected areas (Buxton et al. 2017). In addition, preliminary results from studies underway by researchers at UC Davis and University of Southern California, as well as those by other researchers, suggest that the light, noise, and other aspects of highways can have negative impacts on wildlife numbers and diversity near the highways (Vickers 2020). Thus, highways and development expose wildlife to high levels of noise and lighting and can exert negative effects at some level, even if adequate wildlife passageways and fencing are well designed.

The Plan's impacts to 16,167 acres of intact natural landscape blocks will subject the surrounding open space to development edge effects and will likely impact key, wide-ranging predators, such as mountain lions and bobcats (Crooks 2002; Riley et al. 2006; Delaney et al. 2010; Lee et al. 2012; Vickers et al. 2015), as well as smaller species with poor dispersal

abilities, such as song birds, small mammals, and herpetofauna (Cushman 2006; Benítez-López et al. 2010; Kociolek et al. 2011). Negative edge effects from human activity, 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). As mentioned previously, limiting movement and dispersal can affect species' ability to find food, shelter, mates, and refugia during and 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. In addition, linkages and corridors between major core habitat areas are important to allow for range shifts and species migrations as climate changes. Berms and sound/light barriers should be implemented at all wildlife crossings to encourage wildlife to utilize the crossings. Sound and lighting should also be minimized developed areas, particularly those that are adjacent to or go through natural habitats. And SCAG should provide funding for and implement education and awareness campaigns that teach people how to safely coexist with wildlife and facilitate wildlife movement. Other mitigation measures can be found in a letter submitted to Caltrans regarding the California Transportation Plan 2050 (Exhibit C). Again, the FEIR fails to adequately assess and mitigate impacts to wildlife movement and habitat connectivity.

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E. The Plan Fails to Prioritize Funding to Support the Goals to Preserve, Enhance and Restore Regional Wildlife Connectivity and Increase Roadway Safety

The FEIR fails to adequately mitigate impacts to regional wildlife connectivity. Although the FEIR touts the construction of the Liberty Canyon Wildlife Crossing over Highway 101 in a mountain lion crossing hotspot identified by researchers (Riley et al. 2018), that project is not listed in the Transportation Project List Technical Report. In fact, only 20% of the funding for the Liberty Canyon wildlife crossing, projected to cost \$87 million, will be drawn from public funds allocated toward conservation campaigns. The remaining 80% must be raised from private sources. And only one wildlife crossing is included in the Transportation Project List at about \$1.9 million. Meanwhile, billions of dollars are being approved for numerous freeway construction/widening/expansion projects, including those that would directly impact imperiled mountain lion populations in the SCAG region. These actions do not reflect the Plan's laudable goal to "[p]reserve, enhance and restore regional wildlife connectivity," (Plan at 50). Transportation projects should have clear requirements to enhance wildlife connectivity prior to approval for funding. Implementing wildlife crossing infrastructure should be prioritized, to improve both wildlife connectivity and driver safety, and more funding should be allocated to such projects.

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Aside from the benefits to wildlife and plants discussed in previous sections, enhancing wildlife connectivity would improve public health and safety. Wildlife-vehicle collisions pose a major public safety and economic threat, as well as a threat to the region's wildlife and biodiversity. During 2015 to 2018 more than 26,000 incidents involving vehicles and wildlife were reported to the California Highway Patrol, which included reports of animals standing next to, in, or running across lanes, collisions with large animals, or swerving to avoid collisions and resulting in a crash (Shilling et al. 2019). State reports and car insurance companies estimate that

that 7,000 to 23,000 wildlife vehicle collisions (with large mammals) have occurred annually on California roads (Shilling et al. 2017; Shilling et al. 2018; Shilling et al. 2019; State Farm Insurance Company 2016, 2018). These crashes result in human loss of life, injuries, emotional trauma, and property damages that can add up to an estimated \$300-600 million per year and over \$1 billion from 2015-2018, based on reported wildlife vehicle collisions. And it is important to note that collisions with large animals often go unreported as much as 5- to 10-fold (Donaldson and Lafon 2008; Olson et al. 2014; Donaldson 2017). Numerous wildlife-vehicle collision hotspots have been identified throughout the SCAG region, but these areas are not being prioritized for highway improvements.

Allocating more funding for wildlife crossing infrastructure would help mitigate impacts to mountain lions and regional connectivity, and it would align with the Plan’s guiding principle to “[p]lace high priority for transportation funding in the region on projects and programs that improve mobility, accessibility, reliability and safety, and that preserve the existing transportation system” (Plan at 10). Other states, including Arizona, Colorado, Florida, Montana, Nevada, Oregon, New Mexico, Utah, Washington, and Wyoming, have been proactively addressing wildlife connectivity issues and realizing the benefits of wildlife crossing infrastructure. For example, Arizona, Colorado, and Wyoming have seen 80-96% reductions in wildlife vehicle collisions while gradually increasing the level of wildlife permeability over time (it appears that some species take more time than others to adapt to crossings) on sections of highways where they have implemented wildlife crossing infrastructure, such as underpasses, culverts, overpasses, wildlife fencing, and escape ramps (Dodd et al. 2012; Sawyer et al. 2012; Kintsch et al. 2018). Utah recently completed the state’s largest wildlife overpass at Parleys Canyon for moose, elk, and deer. Washington State is about to complete its largest wildlife overpass on I-90, which is anticipated to provide habitat connectivity for a wide variety of species between the North and South Cascade Mountains. The overpass cost \$6.2 million as part of a larger \$900 million expansion project that will include multiple wildlife crossings along a 15-mile stretch of highway. Savings from less hospital bills, damage costs, and road closures from fewer wildlife vehicle collisions will make up those costs in a few years (Valdes 2018). State transportation departments are actively pursuing these types of projects because of the benefits for wildlife connectivity, public safety, and the economy. California lags behind many states when it comes to building wildlife crossings. SCAG should more actively invest in preserving habitat connectivity where there are no roads while also enhancing or restoring connectivity where roads or other transportation infrastructure already exist. The FEIR fails to adequately assess and mitigate impacts to the region’s mountain lions and regional wildlife connectivity.

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V. The FEIR Does Not Adequately Analyze or Mitigate the Air Quality Impacts of the Plan.

A. Air pollution is a Public Health Crisis That Can Be Addressed by Focusing Development In and Near Existing Cities.

Air quality is a significant environmental and public health concern as unhealthy, polluted air contributes to, and exacerbates many diseases and mortality rates. In the U.S., government estimates indicate that between 10-12 percent of total health costs can be attributed

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to air pollution. (VCAQR 2003) Many plants and trees, including agricultural crops, are injured by air pollutants. This damage ranges from decreases in productivity, a weakened ability to survive drought and pests, to direct mortality. (VCAQR) Wildlife is also impacted by air pollution as the plants and trees that comprise their habitats are weakened or killed (yet the FEIR contains no analysis of the impacts of air pollution on wildlife). Aquatic species and habitats are impacted by air pollution through the formation of acid rain that raises the pH level in oceans, rivers and lakes. (EPA 2016) Greenhouse gases, such as the air pollutant carbon dioxide which is released by fossil fuel combustion, contribute directly to human-induced climate change. (EPA 2016) In this feedback loop, poor air quality that contributed to climate change will in turn worsen the impacts of climate change and attendant air pollution problems. (BAAQMD 2016)

Some of the nation's most polluted counties are in Southern California. (ALA 2016) Air pollution and its impacts are felt most heavily by young children, the elderly, pregnant women and people with existing heart and lung disease. People living in poverty are also more susceptible to air pollution as they are less able to relocate to less polluted areas, and their homes and places of work are more likely to be located near sources of pollution, such as freeways or ports, as these areas are more affordable. (BAAQMD 2016; ALA 2016.) Pollution sources include transportation, industry and manufacturing, construction, the importation and movement of goods, and energy development. Transportation presents one of the most significant sources of pollution in urban areas, where large segments of the population are constantly exposed to roads and traffic. (BAAQMD 2016; Newman)

Although there are many different types of air pollution, Ozone, Fine Particulate Matter and Toxic Air Contaminants are of greatest concern in urban areas, particularly in Southern California. These three air pollutants have been linked to an increased incidence and risk of cancer, birth defects, low birth weights and premature death, in addition to a variety of cardiac and lung diseases such as asthma, COPD, stroke and heart attack. (Laurent 2016; ALA 2016) Ozone, also commonly referred to as smog, is created by the atmospheric mixing of gases resulting from fossil fuel combustion and other volatile organic compounds and sunlight. Although it is invisible, ozone poses one of the greatest health risks, prompting the EPA to strengthen its National Ambient Air Quality Standard for Ozone in 2015. (ALA 2016) Fine Particulate Matter is generally found in urban areas as a result of vehicle exhaust emissions, and these microscopic particles are what contribute to visible air pollution. These tiny particles are dangerous because they are small enough to escape our body's natural defenses and enter the blood stream. Fugitive dust is a term used for fine particulate matter that results from disturbance by human activity such as construction and road-building operations. (VCAQR 2003) Fine Particulate Matter can also result from ash caused by forest fires, which will continue to impact those living in the urban-wildland interface and increasingly beyond as climate change exacerbates the risk of forest fires. (BAAQMD 2016) Toxic Air Contaminants are released from vehicle fuels, especially diesel, which accounts for over 50% of the cancer risk from TACs. (BAAQMD 2016) This is especially relevant for Southern California with its abundance of diesel shipping traffic. (Bailey; Betancourt 2012)

Urban infill is an effective plan for reducing the air pollution and greenhouse gas emission resulting from heavy reliance on vehicles. Centrally locating housing, shopping and places of employment reduces vehicle miles travelled and new road construction. With fewer

roads and less traffic, it will be less likely that housing will be located near busy, polluting roads, which is a large source of exposure. (BAAQMD 2016) Infill planning also allows for realistic promotion of alternative transportation such as walking or biking.

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B. The FEIR’s Analysis of Public Health Impacts Is Misleading and Inaccurate.

The FEIR must adequately analyze the potential health risks—including cumulative impacts—arising from air pollution generated directly or indirectly by the Plan, including projects funded or included in the Plan. The Guidelines require EIRs to discuss health impacts that are reasonably foreseeable consequence of a project. (Guidelines § 15126.2.) The EIR must assure that this is a robust health assessment for all criteria pollutants, Mobile Source Air Toxics, such as acrolein, benzene, 1,3-butadiene, diesel particulate matter, formaldehyde, naphthalene, and polycyclic organic matter, and Toxic Air Contaminants. Simply providing emissions levels or general descriptions of health impacts provides an inadequate context to decisionmakers and the public of the Plan’s reasonably foreseeable effects on public health. In *City of Long Beach v. City of Los Angeles* (2018) 19 Cal.App.5th 465, the court held the agency failed to proceed in a manner required by law because the EIR did not include information on the air pollution impacts of the project on specific areas near the project vicinity, including how frequently and for what length of time the level of particulate air pollution in the surrounding area would exceed standards of significance. (*Id.* at 487-88.)

Sierra Club v. County of Fresno (2018) 6 Cal.5th 502 likewise requires that an EIR “inform the public how its bare numbers translate to create potential adverse impacts or it must adequately explain what the agency does know and why, given existing scientific constraints, it cannot translate potential health impacts further.” Here, the FEIR does not meet this standard. While the FEIR does include a general discussion of “health implications” (FEIR at 3.3-61) it includes only general statements regarding potential health issues associated with air pollution. Moreover, the FEIR states:

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Both ozone and particulate matter are known to have negative public health impacts especially for sensitive populations, like children, the elderly, and those with respiratory or cardiovascular health problems. Therefore, the potential for Connect SoCal to adversely affect public health was evaluated using cancer risk from diesel particulate matter as a proxy for respiratory health.

(FEIR at 3.3-62.) The FEIR’s reasoning here is unclear—why is cancer risk from diesel particulate matter (“DPM”) being used as a proxy for respiratory health? While DPM is clearly one type of dangerous pollutant, there are various other pollutants that can cause health problems. The FEIR should include detailed analysis and studies on the health risks of all pollutants associated with the Plan. In addition, as discussed below, it appears that the FEIR does not account for recent rollbacks to emissions standards, which will likely intensify the public health impacts of the Plan. This requires revision and recirculation of the EIR.

To the extent the exact nature of development under the Plan is uncertain at this time, the agency must use its best efforts to find out all that it reasonably can, and then disclose any remaining uncertainties after conducting such an investigation and inquiry. (See *San Diego Citizenry Group v. County of San Diego* (2013) 219 Cal.App.4th 1, 21-24.)

C. The FEIR Fails to Remedy the Deficiencies in the Air Quality Analysis Identified by SCAQMD.

The South Coast Air Quality Management District (“SCAQMD”) submitted a lengthy comment letter on the EIR (the “SCAQMD Letter”), which identified various deficiencies with the EIR’s analysis. For instance, the SCAQMD Letter noted that the EIR’s analysis improperly credits the Plan with emissions reductions associated with air quality and health risks that will occur independently of the Plan due to CARB regulations. In responses to comments, SCAG concedes that emissions reductions “can be attributed to CARB regulations and efforts at implementing cleaner fuel standards and promoting lower emitting vehicle” and that “emission reductions from CARB regulations would occur regardless of the Plan.” (FEIR at 9.0-42.)

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Again, as discussed in Section VI below, recent federal actions have significantly changed the emissions standards applicable to California, rendering SCAG’s analysis incorrect. The corresponding public health analysis, including the health risk assessment, needs to be revised.

The SCAQMD Letter also is correct that the FEIR does not analyze or disclose public health impacts using the correct baseline—by comparing public health impacts from the Plan in 2045 to existing public health impacts in 2019, the FEIR misleadingly claims that cancer risk will be reduced. The HRA analysis shows that cancer risks will substantially exceed the significance threshold of 41.3 in a million, and SCAG should revise the FEIR to acknowledge the significant impacts of the Plan and describe those impacts in detail.

D. Independent Analysis By SWAPE Confirms That the EIR’s Air Quality and Greenhouse Gas Analysis Does Not Comply with CEQA.

The enclosed letter by Matt Hagemann, P.G., C.Hg. and Paul E. Rosenfeld, Ph.D of the expert consulting firm SWAPE (the “SWAPE Letter,” included as Exhibit A) demonstrates that the EIR’s air quality and greenhouse gas analyses contain errors and unsubstantiated conclusions that render the FEIR inaccurate.

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We urge SCAG to delay consideration of this project until the FEIR has been revised to address the issues outlined in the SWAPE Letter. As described in further detail in the SWAPE Letter, the basic problem with the FEIR is that it does not do what CEQA requires: provide an accurate and complete analysis of the Plan’s air quality and greenhouse gas impacts and consider and adopt alternatives and mitigation measures to reduce those impacts to the greatest extent feasible. Furthermore, it does not appear that the issues identified in the SWAPE Letter were addressed in the Corrections and Additions document included with the FEIR.

E. The FEIR should require stronger air quality mitigation measures.

CEQA requires that—prior to the approval of a project—the lead agency adopt all feasible mitigation measures which will avoid or substantially lessen the significant environmental effects of the project. (Pub. Res. Code § 21002.) In addition, “Where several

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measures are available to mitigate an impact, each should be discussed and the basis for selecting a particular measure should be identified.” (CEQA Guidelines § 15126.4(a)(1)(B).)

As outlined in more detail in the SWAPE Letter, the EIR does not demonstrate that the SCAG considered all potentially feasible mitigation measures for each type of air pollution, or adopted all feasible measures. Indeed, there are a wealth of mitigation measures already proposed by other agencies in technical reports that were not incorporated in the EIR.

Many mitigation measures that should be considered and adopted are described in detail in the documents attached: (1) San Joaquin Valley Air Pollution Control District: Mitigation Measures, (2) Bay Area Air Quality Management District, *California Environmental Quality Act: Air Quality Guidelines* (2011), (3) Sacramento Metropolitan Air Quality Management District, Recommended Guidance for Land Use Emission Reductions Version 3.3 (for Operational Emissions) (2016), (4) San Luis Obispo County Air Pollution Control District, CEQA Air Quality Handbook: A Guide for Assessing the Air Quality Impacts For Projects Subject to CEQA Review (2012), (5) California Air Pollution Control Officers Association (CAPCOA), *CEQA and Climate Change: Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act* (2008), and (6) California Attorney General’s Office, *Addressing Climate Change at the Project Level* (2010). The documents identify existing and potential mitigation measures that could be applied to projects during the CEQA process to reduce a project’s air pollution and GHG emissions. These mitigation measures also provide the co-benefit of reducing many criteria emissions that contribute to the significant impacts to air quality from the Plan and should be evaluated for their feasibility in reducing both GHGs and criteria pollutants.

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Because CEQA requires the adoption of all feasible mitigation measures to reduce significant impacts, the Plan must adopt all feasible mitigation measures to reduce air quality and GHG impacts or provide “substantial evidence” as to why the mitigation measures are infeasible. (Guidelines § 15091(b).) Again, even if the Plan’s impacts are *unavoidable* that does not absolve SCAG of its obligation to *mitigate* significant impacts to the extent feasible. The Center therefore suggest the FEIR consider and adopt all feasible mitigation measures set forth in the attached references and the SWAPE Letter. Their feasibility is proven, in many cases, by their actual implementation by cities and counties across California.

F. The FEIR Must Disclose and Mitigate the Public Health Impacts of Siting Residential Development Next to Freeways.

The FEIR does not properly disclose the health risks of siting residential development or other sensitive uses adjacent to freeways or highways. Numerous studies have documented the air pollution and health impacts associated with siting expressways and freeways in close proximity to residential development, particularly upon sensitive receptors such as children and the elderly. (Lin 2002.) A review of 700 studies concluded that pollution causes asthma attacks in children, the onset of childhood asthma, impaired lung function, premature death and death from cardiovascular diseases, and cardiovascular morbidity. (Health Effects Institute 2010³.)

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³ Full appendices of this study are available at <https://www.healtheffects.org/publication/traffic-related-air-pollution-critical-review-literature-emissions-exposure-and-health>.

The Health Effects Institute study concluded that the “exposure zone” was 300 to 500 meters from the highways (984 feet to 1640 feet). (*Id.*) Other studies have reached similar conclusions. (*See* Anderson 2011; Suglia 2008.) Living near expressways also increases the likelihood that residents will suffer from dementia. (Chen 2017.) The University of Southern California’s Environmental Health Centers have also collected data and studies showing risks and health impacts to pregnant women, babies, children, teenagers, adults, and seniors of living by a freeway.⁴ In short, the FEIR fails to address the overwhelming body of peer-reviewed scientific evidence demonstrating that siting development next to a freeway or expressway will lead to significant health effects on the residents.

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The Plan and EIR are particularly defective for failing to adequately account for how highway developments or expansion associated with or funded by the Plan will make this existing problem more severe (e.g., by bringing existing residents into closer proximity to highways).

The FEIR also fails to offer any real mitigation measures to address these public health impacts of the Plan. The FEIR could require certain minimum buffers between freeways and sensitive receptors, and could require high efficiency air filters in existing homes near freeways or planned freeways, and/or set aside a fund for such filters. The FEIR could also require vegetative barriers as a mitigation measure. The FEIR should have a detailed discussion of this issue and require project-level mitigation measures to address it.

VI. The EIR Must be Revised and Recirculated to Incorporate the SAFE Rule.

SCAG must revise and recirculate the EIR because its analysis fails to account for the significant changes in vehicle emissions that will be caused by the rollback of the federal vehicle greenhouse gas emissions and mileage standards.

The Safer, Affordable, Fuel-Efficient (“SAFE”) Vehicles Rule has been finalized in two parts. On September 19, 2019, the National Highway Traffic Safety Administration (“NHTSA”) and EPA issued SAFE I, which states that federal law preempts state and local laws regarding tailpipe GHG emissions standards, zero emissions vehicle mandates, and fuel economy for automobiles and light duty trucks. The rule revokes California’s Clean Air Act waiver and preempts California’s Advanced Clean Car Regulations. SCAG noted in its EIR that the SAFE I rule “may potentially impact SCAG’s Connect SoCal and transportation projects in the SCAG region.” (FEIR at 3.8-24.)

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On March 31, 2020, NHTSA and EPA signed the SAFE II rule (published in the Federal Register on April 30, 2020)⁵, under which EPA weakened its model year (“MY”) 2021-2026 greenhouse gas standards for passenger cars and light trucks, and NHTSA rolled back mileage standards for passenger cars and light trucks for MY 2021-2026 vehicles to (at most) 1.5%

⁴ See University of Southern California, *References: Living Near Busy Roads or Traffic Pollution*, available at <http://envhealthcenters.usc.edu/infographics/infographic-living-near-busy-roads-or-traffic-pollution/references-living-near-busy-roads-or-traffic-pollution> (collecting studies).

⁵ 85 Fed. Reg. 24,174 (April 30, 2020).

annual increases in fuel economy standards, as compared to annual increases of nearly 5% under the existing standards. According to the agencies' own analysis—which significantly underestimates emissions—the SAFE II rule results in a nearly 1 billion metric ton increase in CO₂ emissions compared with the prior Obama standards over the lifetime of vehicles through model year 2029,⁶ at least short-term increases in SO₂, and potential increases in NO_x emissions in the long-term.⁷

The failure to properly analyze the increases of emissions from SAFE I as well as the need to include the estimated increases from SAFE II infects the GHG, criteria pollutant, and public health analyses of the FEIR.⁸ As to the transportation conformity analysis, SCAG's EIR states that it incorporates the emissions increases resulting from the SAFE I rule “by using the EMFAC2014 off-model adjustment factors released by ARB on November 20, 2019 and approved by U.S. EPA on March 12, 2020.”⁹ However, EMFAC does not account for upstream emissions that are likely to result from changes to the fleet mix and fuel economy requirements in the rule.

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Moreover, the EIR states that “GHG emissions and transportation data were projected to 2045 using SCAG's Regional Travel Demand Model and ARB's EMFAC2014 emissions model. Estimates of energy and water use are based on current demand factors and emission rates associated with current power generation operations and water supply.” (FEIR at 3.8-60.) However, the EMFAC adjustment factors are approved by EPA for transportation conformity purposes (i.e., criteria pollutants), and therefore do not account for the increase in CO₂ emissions from either SAFE I or SAFE II.¹⁰ Additionally, estimates of emissions from energy use (as well as increases in emissions from refining) should be based on changes that may result as a consequence of *both* of the SAFE rules.

Because the EIR does not include SAFE II, and only partially incorporates SAFE I, the EIR fails to adequately analyze and mitigation air quality, public health, and climate impacts.¹¹

⁶ Safer, Affordable, Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021-2026 Passenger Cars and Light Trucks (2020) at 8; Tables I-5, I-6, VII-116, VII-117, VII-118, VII-119; 1569, https://www.nhtsa.gov/sites/nhtsa.dot.gov/files/documents/final_safe_preamble_web_version_200330.pdf.

⁷ *Id.* at Tables VII-122 – 127,

⁸ *See e.g.*, FEIR at 3.8-74, Table 3.8-10, which uses EMFAC14 to estimate per capita CO₂ emissions from cars and light-duty trucks in its SB 375 analysis.

⁹ SCAG, Connect SoCal Transportation Conformity Analysis at 28. (*See also* ARB, Comments re: Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021-2026 Passenger Cars and Light Trucks — Transportation Conformity Implications (June 17, 2019), submitted to docket no NHTSA-2018-0067-12417, <https://www.regulations.gov/document?D=NHTSA-2018-0067-12417>. ARB notes that “[n]ecessary model updates and SIP revisions alone are complex, and may take years to complete,” raising questions about the accuracy of the adjustment factors here.)

¹⁰ *See* ARB, EMFAC Off-Model Adjustment Factors to Account for the SAFE Vehicle Rule Part One November 20, 2019, https://ww3.arb.ca.gov/msei/emfac_off_model_adjustment_factors_final_draft.pdf.

¹¹ *See* California Association of Councils of Governments, Comments re: Significant concern regarding potential transportation impacts resulting from the Proposed NHTSA/U.S. EPA's Safer Affordable Fuel Efficient (SAFE) Vehicles Rule for Model Years, 2021-2026 (June 14, 2019), submitted to docket no. EPA-HQ-OAR-2018-0283-7581, <https://www.regulations.gov/document?D=EPA-HQ-OAR-2018-0283-7581>. CACOG argues that the SAFE rule threatens nearly \$130 billion in transportation projects statewide, as well as MPOs' ability to provide congestion relief, transportation system reliability, public health, housing, environmental sustainability, and equity.

SAFE II, in particular, provides important new information showing significant increases in the severity of CO₂ and potentially other impacts, such as air quality, conformity, and traffic flow (sticker prices, gas prices, and fuel economy affect driving habits). Failing to provide the public with this information deprives agencies and the public of the opportunity to meaningful review and comment on the EIR. As a result, it must be revised and recirculated to reflect this new regulatory regime. (CEQA Guidelines § 15088.5.)

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VII. The May 7th Hearing Should Be Postponed Due To the COVID-19 Crisis.

We also urge SCAG to postpone the May 7th hearing on the Plan and FEIR due to the COVID-19 crisis. Governor Newsom declared a state of emergency on March 4, 2020, and over the past seven weeks Californians have been grappling with truly unprecedented challenges. In order for members of the public to adequately participate in this critical planning process, more time is needed to review the Plan and offer comments for potential improvements to the Plan and FEIR. Notably, the California League of Cities sent a letter on March 22, 2020 seeking relief from various deadlines due to “this unprecedented public health crisis.” We are asking that SCAG to grant a similar extension to members of the public.

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In addition, the hearing should be postponed and the FEIR revised because the world is fundamentally different than it was when the FEIR was released earlier this year. Economic projections now predict a recession and a potential downturn in the housing market. SCAG should review the Plan and FEIR to evaluate whether these significant changes render the Plan or FEIR no longer accurate, and whether revisions to either document are necessary. In sum, the current draft of the Plan and FEIR reflects the pre-COVID-19 California, and the approved plan needs to account for these recent developments.

VIII. Conclusion

Given the possibility that the Center will be required to pursue appropriate legal remedies in order to ensure enforcement of CEQA and other laws, we would like to remind SCAG of its duty to maintain and preserve all documents and communications that may constitute part of the “administrative record.” As you may know, the administrative record encompasses any and all documents and communications which relate to any and all actions taken by SCAG with respect to the FEIR and Plan, and includes “pretty much everything that ever came near a proposed [project] or [] the agency’s compliance with CEQA” (*County of Orange v. Superior Court* (2003) 113 Cal.App.4th 1, 8.) The administrative record further contains all correspondence, emails, and text messages sent to or received by SCAG’s representatives or employees, which relate to the Plan, including any correspondence, emails, and text messages sent between the SCAG’s representatives or employees, including with EIR consultants. Maintenance and preservation of the administrative record requires that, *inter alia*, SCAG (1) suspend all data destruction policies; and (2) preserve all relevant hardware unless an exact replica of each file is made.

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Thank you for the opportunity to submit comments on the Plan and FEIR. The Center looks forward to working with SCAG to move the Plan forward in a way that truly minimizes impacts to special-status species like the mountain lion and regional wildlife connectivity while upholding air quality and GHG standards and goals. Please feel free to contact the Center with any questions at the number or email listed below.

Sincerely,



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Exhibit A



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Subject: Comments on the Connect SoCal Plan (SCH No. 0199011061)

Dear Mr. Rose,

We have reviewed the December 2019 Draft Program Environmental Impact Report (“DPEIR”) for the Connect SoCal Plan (“Project”) located in the Southern California Association of Governments (“SCAG”) region (“City”). The Project proposes to update SCAG’s 2016-2040 RTP/SCS through the adoption of Connect SoCal, a long-range visioning plan which forecasts how the transportation needs of the SCAG region will be met between 2020 and 2045.

Our review concludes that the DPEIR fails to adequately evaluate the Project’s air quality, health risk, and greenhouse gas impacts. As a result, emissions and health risk impacts associated with construction and operation of the proposed Project are underestimated and inadequately addressed. An updated CEQA analysis should be prepared to adequately assess and mitigate the potential air quality, health risk, and greenhouse gas impacts that the project may have on the surrounding environment.

Air Quality and Greenhouse Gas

Language Used in Project-Level Mitigation Measures Hinders Enforceability

Review of the DPEIR’s project-level mitigation measures, implemented as a result of potentially significant air quality and greenhouse gas (“GHG”) impacts, demonstrates that the DPEIR’s language hinders the enforceability of the proposed project-level mitigation measures. Specifically, regarding project-level air quality and GHG mitigation measures, the DPEIR states:

“In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the State CEQA Guidelines, a Lead Agency for a project *can and should consider* mitigation measures to reduce substantial adverse effects related to violating air quality standards. Such measures *may include the following or other comparable measures* identified by the Lead Agency” (emphasis added) (p. 2.0-24, 2.0-41).

As you can see in the excerpt above, the DPEIR fails to require the implementation of any project-level mitigation measures, instead stating that “a Lead Agency for a Project *can and should* consider mitigation measures.” Thus, future projects are simply encouraged to consider, instead of required to implement, the project-level mitigation measures listed in the DPEIR. Furthermore, the DPEIR fails to require any of the specific mitigation measures listed, instead stating that measures “*may include the following or other comparable measures,*” which leaves the decision of which mitigation measures to implement or omit up to future Project applicants. As a result of the DPEIR’s unenforceable language, we cannot verify that any of the DPEIR’s proposed project-level measures would be implemented by future projects.

However, while the DPEIR claims that SCAG has a “lack of authority to impose project-level mitigation measures,” the DPEIR may require projects to implement mitigation *in order to be consistent with the Connect SoCal plan* (3.1-31). As such, the DPEIR should require future projects to implement the project-level mitigation measures proposed by the DPEIR in order to be consistent with the Connect SoCal plan. Until an updated CEQA evaluation for the Project is prepared to include project-level mitigation measures with enforceable language, the Project should not be approved.

Project-Level Mitigation Measures Lack Quantifiable Metrics to Ensure Enforcement

Review of the DPEIR’s project-level mitigation measures, implemented as a result of potentially significant air quality and GHG impacts, demonstrates that the measures fail to include quantifiable or project-specific metrics. As such, the proposed Project (Connect SoCal Plan) is not a qualified GHG reduction plan under CEQA.

CEQA Guidelines §§ 15064.4(b)(3) and 15183(b) allows a lead agency to consider a project’s consistency with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions. When read together, CEQA Guidelines §§ 15064.4(b)(3) and 15183.5(b)(1) indicate that qualified GHG reduction plans should include:

- (1) **Inventory:** Quantify GHG emissions, both existing and projected over a specified time period, resulting from activities (e.g., projects) within a defined geographic area (e.g., lead agency jurisdiction);
- (2) **Establish GHG Reduction Goal:** Establish a level, based on substantial evidence, below which the contribution to GHG emissions from activities covered by the plan would not be cumulatively considerable;
- (3) **Analyze Project Types:** Identify and analyze the GHG emissions resulting from specific actions or categories of actions anticipated within the geographic area;

- (4) **Craft Performance Based Mitigation Measures:** Specify measures or a group of measures, including performance standards, that substantial evidence demonstrates, if implemented on a project-by-project basis, would collectively achieve the specified emissions level;
- (5) **Monitoring:** Establish a mechanism to monitor progress toward achieving said level and to require amendment if the plan is not achieving specified levels;

Collectively, these features connect qualitative measures to quantitative results, which become binding via proper monitoring and enforcement by the Lead Agency—all resulting in real GHG reductions that demonstrate that the project’s impacts are not cumulatively considerable. Here, however, the DPEIR fails to provide or address inventory, GHG reduction goals, specific project types, performance based measures, or monitoring. Thus, the DPEIR fails to substantiate the Project as a qualified GHG reduction plan for specific projects within SCAG’s jurisdiction to use for streamlined CEQA analysis.

Failure to Implement All Feasible Mitigation to Reduce Emissions

The DPEIR determines that the Project’s air quality and GHG impacts would be significant and unavoidable, even with the incorporation of mitigation. Regarding the Project’s air quality impact, the DPEIR states:

“[B]ecause of the anticipated regional increase in certain criteria pollutant emissions and SCAG’s lack of authority to impose project-level mitigation measures, this PEIR finds impacts related to a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment could be significant and unavoidable even with implementation of mitigation” (p. 3.3-71).

Regarding the Project’s GHG impact, the DPEIR states:

“Assuming existing available emission factors, GHG emissions in the SCAG region are not on-track to achieve targets identified in AB 32, SB 32 and the Scoping Plan resulting in a significant and unavoidable impact” (p. 3.8-80).

However, while we agree that the Project will result in a significant air quality and GHG impact, the DPEIR’s assertion that these impacts are significant and unavoidable is unsubstantiated. According to CEQA Guidelines § 15096(g)(2),

“When an EIR has been prepared for a project, the Responsible Agency shall not approve the project as proposed if the agency finds any feasible alternative or feasible mitigation measures within its powers that would substantially lessen or avoid any significant effect the project would have on the environment” (emphasis added).

As you can see, an impact can only be labeled as significant and unavoidable after all available, *feasible* mitigation has been considered. However, as shown below, the DPEIR fails to consider and implement *all feasible* mitigation to reduce criteria pollutant and GHG emissions. Until all feasible mitigation is considered and incorporated into the Project’s design, the Project’s air quality and GHG impacts should not be considered significant and unavoidable.

Failure to Recommend the Implementation of the More Efficient Tier 4 Final Mitigation

In an attempt to reduce the significance of future, project-level air quality impacts, the DPEIR recommends that Projects consider using Tier 4 equipment for construction in close proximity to residences, hospitals, and schools. Specifically, the DPEIR states that the Lead Agency should:

“Require projects within 500 feet of residences, hospitals, or schools to use Tier 4 equipment for all engines above 50 horsepower (hp) unless the individual project can demonstrate that Tier 4 engines would not be required to mitigate emissions below significance thresholds” (p. 2.0-25).

As you can see in the excerpt above, the DPEIR fails to specify whether Projects should use Tier 4 *Interim* or Tier 4 *Final* equipment. This is incorrect, as including Tier 4 Interim mitigation would not be the most conservative, as Tier 4 Final equipment has greater emission levels than Tier 4 Interim equipment. The United States Environmental Protection Agency (“U.S. EPA”) has slowly adopted more stringent standards to lower the emissions from off-road construction equipment since 1994. Since that time, Tier 1, Tier 2, Tier 3, Tier 4 Interim, and Tier 4 Final construction equipment has been phased in over time. Tier 4 Final represents the cleanest burning equipment and therefore has the lowest emissions compared to other tiers, including Tier 4 Interim equipment (see excerpt below):¹

Maximum horsepower	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015+
25shp<50							7.1 / 4.1 / 0.60			5.6 / 4.1 / 0.45				5.6 / 4.1 / 0.22						3.5 / 4.1 / 0.02	
50shp<75										5.6 / 3.7 / 0.30				3.5 / 3.7 / 0.22 ^f						3.5 / 3.7 / 0.02 ^g	
75shp<100							- / 6.9 / - / -			5.6 / 3.7 / 0.30				3.5 / 3.7 / 0.30							0.14 / 0.30 / 0.015
100shp<175									4.9 / 3.7 / 0.22					3.0 / 3.7 / 0.22							0.14 / 2.5 / 3.7 / 0.015 ^f
175shp<300									4.9 / 2.6 / 0.15					3.0 / 2.6 / 0.15 ^g							0.14 / 0.30 / 2.2 / 0.015
300shp<600				1.0 / 6.9 / 8.5 / 0.40					4.8 / 2.6 / 0.15					3.0 / 2.6 / 0.15 ^g							0.14 / 1.5 / 2.6 / 0.015 ^f
600shp<750									4.8 / 2.6 / 0.15					3.0 / 2.6 / 0.15 ^g							0.14 / 0.30 / 2.2 / 0.015
Mobile Machines > 750hp									4.8 / 2.6 / 0.15					3.0 / 2.6 / 0.15 ^g							0.14 / 2.6 / 2.6 / 0.07
750hp<GEN ≤1200hp							1.0 / 6.9 / 8.5 / 0.40			4.8 / 2.6 / 0.15				3.0 / 2.6 / 0.15 ^g							0.14 / 0.50 / 2.6 / 0.07
GEN>1200 hp									4.8 / 2.6 / 0.15					3.0 / 2.6 / 0.15 ^g							0.30 / 0.50 / 2.6 / 0.07

Source: derived from California Air Resources Board, http://www.arb.ca.gov/msprog/ordiesel/documents/Off-Road_Diesel_Std.xls.

- a) When ARB and USEPA standards differ, the standards shown here represent the more stringent of the two.
- b) Standards given for all sizes of Tier 1 engines are hydrocarbons/oxides of nitrogen (NOx)/carbon monoxide (CO)/particulate matter (PM) in grams per brakehorsepower per hour (g/bhp-hr).
- c) Standards given for all sizes of Tier 2 and Tier 3 engines, and Tier 4 engines below 75 horsepower are non-methane hydrocarbons (NMHC)+NOx/CO/PM in g/bhp-hr.
- d) Standards given for Tier 4 engines above 75 horsepower are NMHC/NOx/CO/PM in g/bhp-hr.
- e) Engine families in this power category may alternately meet Tier 3 PM standards (0.30 g/bhp-hr) from 2008-2011 in exchange for introducing final PM standards in 2012.
- f) The implementation schedule shown is the three-year alternate NOx approach. Other schedules are available.
- g) Certain manufacturers have agreed to comply with these standards by 2005.



As demonstrated in the figure above, Tier 4 Interim has greater emission levels than Tier 4 Final equipment. Thus, in order to implement *all feasible* mitigation, the DPEIR should have recommended or required the implementation of Tier 4 *Final* equipment. Until an updated CEQA evaluation recommends

¹ “San Francisco Clean Construction Ordinance Implementation Guide for San Francisco Public Projects.” August 2015, available at: https://www.sfdph.org/dph/files/EHSdocs/AirQuality/San_Francisco_Clean_Construction_Ordinance_2015.pdf, p.

the implementation of Tier 4 Final mitigation, the Project has failed to implement all feasible mitigation and the Project’s air quality impact cannot be considered significant and unavoidable.

Feasible Mitigation Measures Available to Reduce Emissions – Northeast Diesel Collaborative (NEDC)

In an effort to reduce the Project’s emissions, we identified several mitigation measures that are applicable to the Project but not previously considered by the DPEIR.

The Northeast Diesel Collaborative (NEDC) is a regionally coordinated initiative to reduce diesel emissions, improve public health, and promote clean diesel technology, which proposes actions that can reduce construction-related emissions in the *Best Practices for Clean Diesel Construction* report. Mitigation for criteria pollutant and GHG emissions should include consideration of the following measures in an effort to reduce construction emissions to the maximum extent feasible.

NEDC’s Diesel Emission Controls in Construction Projects²	
Measures – Diesel Emission Control Technology	
<p>a. Diesel On road Vehicles All diesel nonroad vehicles on site for more than 10 total days must have either (1) engines that meet EPA onroad emissions standards or (2) emission control technology verified by EPA or CARB to reduce PM emissions by a minimum of 85%.</p>	<p>Here, the DPEIR fails to mention requiring diesel on road vehicles to meet EPA on road emissions standards or reduce PM emissions by 85%. As a result, we cannot verify that the Project has implemented all feasible mitigation with respect to diesel on road vehicles.</p>
<p>b. Diesel Generators All diesel generators on site for more than 10 total days must be equipped with emission control technology verified by EPA or CARB to reduce PM emissions by a minimum of 85%.</p>	<p>Here, while the DPEIR states that Projects would “[u]tilize existing power sources (e.g., power poles) or clean fuel generators rather than temporary power generators,” the DPEIR fails to evaluate the feasibility of obtaining existing power sources or clean fuel generators (p. 2.0-24). However, evaluating the feasibility of this measure may be difficult at the plan-level. As a result, the DPEIR should include a mitigation measure requiring emission control technology to reduce PM emissions from diesel generators, in case the use of clean fuel generators or existing power sources is not feasible.</p>
<p>c. Diesel Nonroad Construction Equipment</p> <ul style="list-style-type: none"> i. All nonroad diesel engines on site must be Tier 2 or higher. Tier 0 and Tier 1 engines are not allowed on site ii. All diesel nonroad construction equipment on site for more than 10 total days must have either (1) engines meeting EPA Tier 4 nonroad emission standards or (2) emission control technology verified by EPA or CARB for use with nonroad engines to reduce PM 	<p>Here, the DPEIR states that it will: “Require projects within 500 feet of residences, hospitals, or schools to use Tier 4 equipment for all engines above 50 horsepower (hp) unless the individual project can demonstrate that Tier 4 engines would not be required to mitigate emissions below significance thresholds” (p. 2.0-95). However, the DPEIR fails to commit to a specific PM reduction percentage of 85%. Furthermore, as discussed above, the DPEIR fails to require the use of more efficient Tier 4 Final equipment mitigation. Finally, the DPEIR only commits to the</p>

² “Diesel Emission Controls in Construction Projects.” Northeast Diesel Collaborative (NEDC), December 2010, available at: <https://www.epa.gov/sites/production/files/2015-09/documents/nedc-model-contract-sepcification.pdf>.

<p>emissions by a minimum of 85% for engines 50hp and greater and by a minimum of 20% for engines less than 50hp.</p>	<p>use of Tier 4 equipment for projects within 500 feet of residences, hospitals, or schools. As a result, we cannot verify that the Project has implemented all feasible mitigation with respect to diesel non road construction equipment.</p>
<p>d. Upon confirming that the diesel vehicle, construction equipment, or generator has either an engine meeting Tier 4 non road emission standards or emission control technology, as specified above, installed and functioning, the developer will issue a compliance sticker. All diesel vehicles, construction equipment, and generators on site shall display the compliance sticker in a visible, external location as designated by the developer.</p>	<p>Here, while the DPEIR states that equipment should meet Tier 4 non road emissions standards, the DPEIR fails to require diesel vehicles, construction equipment, and generators to display the compliance sticker in a visible, external location (p. 2.0-95). As a result, we cannot verify that the Project has implemented all feasible mitigation with respect to Tier 4 emissions standards.</p>
<p>e. Emission control technology shall be operated, maintained, and serviced as recommended by the emission control technology manufacturer.</p>	<p>Here, while the DPEIR states that Projects would “[e]nsure that all construction equipment is properly tuned and maintained,” (p. 2.0-24) the DPEIR fails to discuss how construction equipment would be properly tuned and maintained. Thus, while the DPEIR generally commits to the maintenance of construction equipment, it fails to mention operating, maintaining, and servicing emission control technology as recommended by the emission control technology manufacturer. As a result, we cannot verify that the Project has implemented all feasible mitigation.</p>
<p>f. All diesel vehicles, construction equipment, and generators on site shall be fueled with ultra-low sulfur diesel fuel (ULSD) or a biodiesel blend³ approved by the original engine manufacturer with sulfur content of 15 ppm or less.</p>	<p>Here, the DPEIR fails to mention or require that all diesel vehicles, construction equipment, and generators be fueled with ultra-low sulfur diesel fuel (ULSD) or a biodiesel blend. As a result, we cannot verify that the Project has implemented all feasible mitigation.</p>
<p>Measures – Additional Diesel Requirements</p>	
<p>a. Construction shall not proceed until the contractor submits a certified list of all diesel vehicles, construction equipment, and generators to be used on site. The list shall include the following:</p> <ul style="list-style-type: none"> i. Contractor and subcontractor name and address, plus contact person responsible for the vehicles or equipment. ii. Equipment type, equipment manufacturer, equipment serial number, engine manufacturer, engine model year, engine certification (Tier rating), 	<p>Here, the DPEIR states that it will “[r]equire contractors to assemble a comprehensive inventory list (i.e., make, model, engine year, horsepower, emission rates) of all heavy-duty off-road (portable and mobile) equipment (50 horsepower and greater) that could be used an aggregate of 40 or more hours for the construction project. Prepare a plan for approval by the applicable air district demonstrating achievement of the applicable percent reduction for a CARB-approved fleet” (2.0-24). However, the comprehensive inventory list proposed by the DPEIR fails to include the contractor and subcontractor information, engine certification, expected fuel usage and hours of operation, as well as information about the control</p>

³ Biodiesel blends are only to be used in conjunction with the technologies which have been verified for use with biodiesel blends and are subject to the following requirements:
<http://www.arb.ca.gov/diesel/verdev/reg/biodieselcompliance.pdf>.

<p>horsepower, engine serial number, and expected fuel usage and hours of operation.</p> <p>iii. For the emission control technology installed: technology type, serial number, make, model, manufacturer, EPA/CARB verification number/level, and installation date and hour-meter reading on installation date.</p>	<p>technology installed. As a result, we cannot verify that the Project has implemented all feasible mitigation with respect to a construction equipment list.</p>
<p>b. If the contractor subsequently needs to bring on site equipment not on the list, the contractor shall submit written notification within 24 hours that attests the equipment complies with all contract conditions and provide information.</p>	<p>Here, the DPEIR fails to mention requiring written notification within 24 hours of needing to bring onsite equipment not on the equipment list. As a result, we cannot verify that the Project has implemented all feasible mitigation.</p>
<p>c. The contractor shall establish generator sites and truck-staging zones for vehicles waiting to load or unload material on site. Such zones shall be located where diesel emissions have the least impact on abutters, the general public, and especially sensitive receptors such as hospitals, schools, daycare facilities, elderly housing, and convalescent facilities.</p>	<p>Here, the DPEIR states that the Project would implement “Best Management Practices (BMPs) during construction such as locating construction staging areas in less visible locations (given other environmental considerations such as avoiding sensitive habitat, etc.)” and “fencing and/or screening staging areas” (p. 3.1-28). However, the DPEIR fails to define “less visible locations,” and only mentions avoiding sensitive habitats. Thus, we cannot verify that generator sites and truck-staging zones would be located where they will have the least impact on the public and sensitive receptors, including hospitals, schools, daycare facilities, elderly housing, and convalescent facilities. As a result, we cannot verify that the Project has implemented all feasible mitigation with respect to the impact of generator sites and truck-staging zones.</p>
<p>Reporting</p>	
<p>a. For each onroad diesel vehicle, nonroad construction equipment, or generator, the contractor shall submit to the developer’s representative a report prior to bringing said equipment on site that includes:</p> <ul style="list-style-type: none"> i. Equipment type, equipment manufacturer, equipment serial number, engine manufacturer, engine model year, engine certification (Tier rating), horsepower, and engine serial number. ii. The type of emission control technology installed, serial number, make, model, manufacturer, and EPA/CARB verification number/level. iii. The Certification Statement signed and printed on the contractor’s letterhead. 	<p>Here, the DPEIR states that it will “[r]equire contractors to assemble a comprehensive inventory list (i.e., make, model, engine year, horsepower, emission rates) of all heavy-duty off-road (portable and mobile) equipment (50 horsepower and greater) that could be used an aggregate of 40 or more hours for the construction project. Prepare a plan for approval by the applicable air district demonstrating achievement of the applicable percent reduction for a CARB-approved fleet” (2.0-24). However, the comprehensive inventory list proposed by the DPEIR fails to include the engine certification and information about the control technology installed, as well as the Certification Statement signed and printed on the contractor’s letterhead. As a result, we cannot verify that the Project has implemented all feasible mitigation with respect to reporting.</p>
<p>b. The contractor shall submit to the developer’s representative a monthly report that, for each</p>	<p>Here, the DPEIR fails to require submitting a monthly report to the developer’s representative that includes information about</p>

<p>on road diesel vehicle, nonroad construction equipment, or generator onsite, includes:</p> <ol style="list-style-type: none"> i. Hour-meter readings on arrival on-site, the first and last day of every month, and on off-site date. ii. Any problems with the equipment or emission controls. iii. Certified copies of fuel deliveries for the time period that identify: <ol style="list-style-type: none"> 1. Source of supply 2. Quantity of fuel 3. Quality of fuel, including sulfur content (percent by weight) 	<p>on road diesel vehicle, non-road construction equipment, and onsite generator use. As a result, we cannot verify that the Project has implemented all feasible mitigation with respect reporting.</p>
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Feasible Mitigation Measures Available to Reduce Emissions – California Air Pollution Control Officers Association (CAPCOA)

In an effort to reduce the Project’s emissions, we identified several mitigation measures that are applicable to the Project but not previously considered by the DPEIR.

Additional feasible mitigation measures can be found in CAPCOA’s *Quantifying Greenhouse Gas Mitigation Measures*, which attempt to reduce emissions.⁴ Mitigation for criteria pollutant and GHG emissions should include consideration of the following measures in an effort to reduce construction emissions to the maximum extent feasible.

CAPCOA’s Quantifying Greenhouse Gas Mitigation Measures⁵	
Measures – Energy	
Building Energy Use	
<p>BE-1 Exceed Title-24 Building Envelope Energy Efficiency Standards (California Building Standards Code) by X%</p> <p><i>Range of Effectiveness:</i> See document for specific improvement desired.</p>	<p>Here, while PMM-GHG-1(a) states that projects <i>may include</i> “green building measures consistent with CALGreen (California Building Code Title 24),” the DPEIR fails to evaluate the Project’s potential to <i>exceed</i> Title 24 standards. Without requiring projects to exceed Title 24 standards while concluding significant and unavoidable impacts, the DPEIR fails to conduct the most conservative analysis or require all feasible mitigation.</p>
<p>BE-2 Install Programmable Thermostat Timers</p> <p><i>Range of Effectiveness:</i> Best Management Practice – Influences building energy use for heating and cooling.</p>	<p>Here, the DPEIR fails to mention or recommend that applicable projects install programmable thermostat timers. As such, the DPEIR concludes significant and unavoidable impacts while failing to require all feasible mitigation.</p>

⁴ <http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf>

⁵ “Quantifying Greenhouse Gas Mitigation Measures.” California Air Pollution Control Officers Association (CAPCOA), August 2010, available at: <http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf>, p.

<p>BE-3 Obtain Third-party HVAC Commissioning and Verification of Energy Savings (to be grouped with BE-1)</p> <p><i>Range of Effectiveness:</i> Not applicable on its own. This measure enhances the effectiveness of BE-1.</p>	<p>Here, while PMM-GHG-1(a)(ii) states that projects <u>may include</u> “energy-efficient lighting, heating, and cooling systems (cogeneration); water heaters; appliances; equipment; and control systems,” the DPEIR fails to mention or address the potential to require third-party HVAC commissioning and verification. As such, the DPEIR concludes significant and unavoidable impacts while failing to require all feasible mitigation.</p>
<p>BE-4 Install Energy Efficient Appliances</p> <ul style="list-style-type: none"> • Typical reductions for energy-efficient appliances can be found in the <i>Energy Star and Other Climate Protection Partnerships Annual Reports</i>. <p><i>Range of Effectiveness:</i> Residential 2-4% GHG emissions from electricity use. Grocery Stores: 17-22% of GHG emissions from electricity use. See document for other land use types.</p>	<p>Here, PMM-GHG-1(a)(ii) states that projects <u>may include</u> “energy-efficient lighting, heating, and cooling systems (cogeneration); water heaters; appliances; equipment; and control systems.” However, the DPEIR fails to elaborate or discuss recommendations for implementing energy-efficient appliances, such as Energy Star, or anticipated energy reductions as a result of implementing this measure. As such, the DPEIR concludes significant and unavoidable impacts while failing to require all feasible mitigation.</p>
<p>BE-5 Install Energy Efficient Boilers</p> <p><i>Range of Effectiveness:</i> 1.2-18.4% of boiler GHG emissions.</p>	<p>Here, the DPEIR fails to mention or recommend that applicable projects install energy efficient boilers. As such, the DPEIR concludes significant and unavoidable impacts while failing to require all feasible mitigation.</p>
<p>Lighting</p>	
<p>LE-1 Install Higher Efficacy Public Street and Area Lighting</p> <p><i>Range of Effectiveness:</i> 16-40% of outdoor lighting.</p>	<p>Here, PMM-GHG-1(a) (ii) and (v) state that projects <u>may include</u> “energy-efficient lighting” and “high-efficiency lighting,” respectively. However, the DPEIR fails to elaborate on this or discuss which lights this measure applies to. As such, we cannot verify that this measure will apply to public streets and areas, or that it will actually be implemented on project sites. Thus, the DPEIR concludes significant and unavoidable impacts while failing to require all feasible mitigation.</p>
<p>LE-2 Limit Outdoor Lighting Requirements</p> <p><i>Range of Effectiveness:</i> Best Management Practice, but may be quantified.</p>	<p>Here, PMM-GHG-1(d)(iii) states that projects <u>may include</u> “lighting systems that are energy efficient, such as LED technology.” In addition, the DPEIR states that Lead Agencies <u>may</u> “[r]estrict the operation of outdoor lighting for construction and operation activities to the hours of 7:00 a.m. to 10:00 p.m.” (p. 3.1-40). However, the DPEIR fails to <u>limit</u> the outdoor lighting requirements. Thus, the DPEIR concludes significant and unavoidable impacts while failing to require all feasible mitigation.</p>
<p>LE-3 Replace Traffic Lights with LED Traffic Lights</p> <p><i>Range of Effectiveness:</i> 90% of emissions associated with existing traffic lights.</p>	<p>Here, the DPEIR fails to mention or recommend that applicable projects replace traffic lights with LED traffic lights. As such, the DPEIR concludes significant and unavoidable impacts while failing to require all feasible mitigation.</p>
<p>Alternative Energy Generation</p>	
<p>AE-1 Establish Onsite Renewable or Carbon-Neutral Energy Systems – Generic</p> <p><i>Range of Effectiveness:</i> 0-100% of GHG emissions associated with electricity use.</p>	<p>Here, while PMM-GHG-1(d)(vii) states that the Project <u>may include</u> “design measures to reduce energy consumption and increase use of renewable energy,” the DPEIR fails to mention or recommend establishing onsite renewable or carbon-neutral energy systems.</p>

	As such, the DPEIR concludes significant and unavoidable impacts while failing to require all feasible mitigation.
<p>AE-2 Establish Onsite Renewable Energy System – Solar Power</p> <p><i>Range of Effectiveness:</i> 0-100% of GHG emissions associated with electricity use.</p>	Here, the DPEIR states that the “2019 Building Energy Efficiency Standards go into effect on January 1, 2020 and will require most new residences to install solar panels” (p. 3.6-4). In addition, PMM-GHG-1(a)(vi) states that projects <i>may include</i> “passive solar design” and PMM-GHG-1(d)(vi) states that projects <i>may</i> increase the use of renewable energy. However, the DPEIR fails to include solar energy generation in its mitigation measures. As such, the DPEIR concludes significant and unavoidable impacts while failing to require all feasible mitigation.
<p>AE-3 Establish Onsite Renewable Energy System – Wind Power</p> <p><i>Range of Effectiveness:</i> 0-100% of GHG emissions associated with electricity use.</p>	Here, while PMM-GHG-1(d)(vii) states that the Project <i>may include</i> “design measures to reduce energy consumption and increase use of renewable energy,” the DPEIR fails to mention or recommend establishing onsite renewable or wind power energy systems. As such, the DPEIR concludes significant and unavoidable impacts while failing to require all feasible mitigation.
<p>AE-4 Utilize a Combined Heat and Power System</p> <p><i>Range of Effectiveness:</i> 0-46% of GHG emissions associated with electricity use.</p>	Here, the DPEIR fails to mention or recommend that applicable projects utilize a combined heat and power system. As such, the DPEIR concludes significant and unavoidable impacts while failing to require all feasible mitigation.
<p>AE-5 Establish Methane Recovery in Landfills</p> <p><i>Range of Effectiveness:</i> 73-77% reduction in GHG emissions from landfills without methane recovery.</p>	Here, the DPEIR fails to mention or recommend that applicable projects establish methane recovery in landfills. As such, the DPEIR concludes significant and unavoidable impacts while failing to require all feasible mitigation.
<p>AE-6 Establish Methane Recovery in Wastewater Treatment Plants</p> <p><i>Range of Effectiveness:</i> 95-97% reduction in GHG emissions from wastewater treatment plants without recovery.</p>	Here, the DPEIR fails to mention or recommend that applicable projects establish methane recovery in wastewater treatment plants. As such, the DPEIR concludes significant and unavoidable impacts while failing to require all feasible mitigation.
Measures – Transportation	
Land Use/Location	
<p>LUT-1 Increase Density</p> <p><i>Range of Effectiveness:</i> 0.8-30% vehicle miles traveled (VMT) reduction and therefore a 0.8-30% reduction in GHG emissions.</p>	Here, the DPEIR fails to mention or recommend that applicable projects implement measures to increase diversity on project sites. As such, the DPEIR concludes significant and unavoidable impacts while failing to require all feasible mitigation.
<p>LUT-2 Increase Location Efficiency</p> <p><i>Range of Effectiveness:</i> 10% vehicle miles traveled (VMT) reduction and therefore 10-65% reduction in GHG emissions.</p>	Here, the DPEIR fails to mention or recommend that applicable projects increase location efficiency for projects beyond PMM-GHG-1(e)(iv), which states that projects <i>may include</i> the measure “Increase access to common goods and services, such as groceries, schools, and day care.” As such, the DPEIR concludes significant and unavoidable impacts while failing to require all feasible mitigation.
<p>LUT-4 Increase Destination Accessibility</p>	Here, while PMM-GHG-1(a)(xi) states that projects <i>may</i> “[p]rovide bike lanes accessibility,” the DPEIR fails to mention or address

<p><i>Range of Effectiveness:</i> 6.7-20% vehicle miles traveled (VMT) reduction and therefore 6.7-20% reduction in GHG emissions.</p>	<p><i>increasing</i> destination accessibility for projects. As such, the DPEIR concludes significant and unavoidable impacts while failing to require all feasible mitigation.</p>
<p>LUT-7 Orient Project Toward Non-Auto Corridor <i>Range of Effectiveness:</i> Grouped strategy (see LUT-3).</p>	<p>Here, the DPEIR fails to mention or recommend that applicable projects orient themselves toward non-auto corridor. As such, the DPEIR concludes significant and unavoidable impacts while failing to require all feasible mitigation.</p>
<p>LUT-8 Locate Project near Bike Path/Bike Lane <i>Range of Effectiveness:</i> Grouped strategy (see LUT-4).</p>	<p>Here, while PMM-GHG-1(a)(xi) states that projects <i>may</i> “[p]rovide bike lanes,” the DPEIR fails to recommend that applicable projects locate themselves near bike paths or bike lanes. As such, the DPEIR concludes significant and unavoidable impacts while failing to require all feasible mitigation.</p>
<p>Neighborhood/Site Enhancements</p>	
<p>SDT-1 Provide Pedestrian Network Improvements, such as:</p> <ul style="list-style-type: none"> • Interconnected street network • Narrower roadways and shorter block lengths • Sidewalks • Accessibility to transit and transit shelters • Traffic calming measures • Parks and public spaces • Minimize pedestrian barriers <p><i>Range of Effectiveness:</i> 0-2% vehicle miles traveled (VMT) reduction and therefore 0-2% reduction in GHG emissions.</p>	<p>Here, while PMM-GHG-1(e)(viii) states that projects <i>may include</i> the measure “improve pedestrian or bicycle networks, or transit service,” the DPEIR fails to discuss or mention an interconnected street network. In addition, the DPEIR fails to mention the potential for projects to incorporate narrower roadways and shorter block lengths or sidewalks. Furthermore, while the DPEIR repeatedly mentions traffic calming measures, the document never actually details what these measures are or how they can be implemented. Finally, while the DPEIR lists “accessible parks, beaches, recreational waters, public lands, and public spaces” as Goal 6 in the Los Angeles Countywide Sustainability Plan, the DPEIR fails to include these in its mitigation measures. As such, the DPEIR concludes significant and unavoidable impacts while failing to require all feasible mitigation.</p>
<p>SDT-2 Provide Traffic Calming Measures, such as:</p> <ul style="list-style-type: none"> • Marked crosswalks • Count-down signal timers • Curb extensions • Speed tables • Raised crosswalks • Raised intersections • Median islands • Tight corner radii • Roundabouts or mini-circles • On-street parking • Chicanes/chokers <p><i>Range of Effectiveness:</i> 0.25-1% vehicle miles traveled (VMT) reduction and therefore 0.25-1% reduction in GHG emissions.</p>	<p>Here, while the DPEIR repeatedly mentions traffic calming measures, the document never actually details what these measures are or how they can be implemented. Some measures are included in the DPEIR’s FTIP Project list, but not in the document’s mitigation measures. As such, the DPEIR concludes significant and unavoidable impacts while failing to require all feasible mitigation.</p>
<p>SDT-4 Create Urban Non-Motorized Zones <i>Range of Effectiveness:</i> Grouped strategy (see SDT-1).</p>	<p>Here, the DPEIR fails to mention or recommend that applicable projects create urban non-motorized zones. As such, the DPEIR</p>

	concludes significant and unavoidable impacts while failing to require all feasible mitigation.
SDT-5 Incorporate Bike Lane Street Design (on-site) <i>Range of Effectiveness:</i> Grouped strategy (see LUT-9).	Here, while PMM-GHG-1(a)(xi) states that projects <i>may include</i> the measure “Provide bike lanes accessibility and parking at residential developments,” the DPEIR fails to discuss bike lane <i>street design</i> . As such, the DPEIR concludes significant and unavoidable impacts while failing to require all feasible mitigation.
SDT-6 Provide Bike Parking in Non-Residential Projects <i>Range of Effectiveness:</i> Grouped strategy (see LUT-9).	Here, PMM-GHG-1(a)(xi) states that projects <i>may include</i> the measure “Provide bike lanes accessibility and parking at residential developments.” In addition, PMM-GHG-1(h)(v) states that projects <i>may include</i> “secure bike parking” “at places of work.” However, this measure is specifically targeted at <i>non-residential</i> developments. As such, these mitigation measures should be all-encompassing, rather than specifically for residential projects. Thus, the DPEIR concludes significant and unavoidable impacts while failing to require all feasible mitigation.
SDT-7 Provide Bike Parking with Multi-Unit Residential Projects <i>Range of Effectiveness:</i> Grouped strategy (see SDT-3).	Here, PMM-GHG-1(a)(xi) states that projects <i>may include</i> the measure “Provide bike lanes accessibility and parking at residential developments.” However, this measure is specifically targeted at multi-unit residential developments. As such, the DPEIR fails to specifically address “multi-unit residential projects.” Thus, the DPEIR concludes significant and unavoidable impacts while failing to require all feasible mitigation.
SDT-8 Provide Electric Vehicle Parking <i>Range of Effectiveness:</i> Grouped strategy (see SDT-3).	Here, while PMM-GHG-1(a)(ix) states that projects <i>may include</i> the measure “Install electric vehicle charging stations,” the DPEIR fails to address electric vehicle <i>parking</i> . As such, the DPEIR concludes significant and unavoidable impacts while failing to require all feasible mitigation.
SDT-9 Dedicate Land for Bike Trails <i>Range of Effectiveness:</i> Grouped strategy (see LUT-9).	Here, the DPEIR fails to mention or recommend that applicable projects dedicate land for bike trails. As such, the DPEIR concludes significant and unavoidable impacts while failing to require all feasible mitigation.
Parking Policy/Pricing	
PDT-1 Limit Parking Supply through: <ul style="list-style-type: none"> • Elimination (or reduction) of minimum parking requirements • Creation of maximum parking requirements • Provision of shared parking <i>Range of Effectiveness:</i> 5-12.5% vehicle miles traveled (VMT) reduction and therefore 5-12.5% reduction in GHG emissions.	Here, while PMM-GHG-1(e) discusses states that projects <i>may include</i> the measure “Limit or eliminate park supply,” the DPEIR fails to elaborate on methods of doing so, such as eliminating or reducing minimum parking requirements, creation or maximum parking requirements, or a provision of shared parking. As such, the DPEIR concludes significant and unavoidable impacts while failing to require all feasible mitigation.
PDT-2 Unbundle Parking Costs from Property Cost	Here, PMM-GHG-1(e)(xii) states that projects <i>may include</i> the measure “Unbundle parking costs.” However, without any explanation of this measure in the DPEIR, we cannot verify that it

<p><i>Range of Effectiveness:</i> 2.6-13% vehicle miles traveled (VMT) reduction and therefore 2.6-13% reduction in GHG emissions.</p>	<p>refers to property cost or what actions it entails for projects. As such, the DPEIR concludes significant and unavoidable impacts while failing to require all feasible mitigation.</p>
<p>PDT-3 Implement Market Price Public Parking (On-Street)</p> <p><i>Range of Effectiveness:</i> 2.8-5.5% vehicle miles traveled (VMT) reduction and therefore 2.8-5.5% reduction in GHG emissions.</p>	<p>Here, the DPEIR fails to mention or recommend that applicable projects implement market price public parking (on-street or otherwise). As such, the DPEIR concludes significant and unavoidable impacts while failing to require all feasible mitigation.</p>
<p>PDT-4 Require Residential Area Parking Permits</p> <p><i>Range of Effectiveness:</i> Grouped strategy (see PPT-1, PPT-2, and PPT-3).</p>	<p>Here, the DPEIR fails to mention or recommend that applicable projects require (or include) residential area parking permits. As such, the DPEIR concludes significant and unavoidable impacts while failing to require all feasible mitigation.</p>
<p>Commute Trip Reduction Programs</p>	
<p>TRT-2 Implement Commute Trip Reduction (CTR) Program – Required Implementation/Monitoring</p> <ul style="list-style-type: none"> • Established performance standards (e.g. trip reduction requirements) • Required implementation • Regular monitoring and reporting <p><i>Range of Effectiveness:</i> 4.2-21% commute vehicle miles traveled (VMT) reduction and therefore 4.2-21% reduction in commute trip GHG emissions.</p>	<p>Here, PMM-GHG-1(e)(xiv) states that projects <i>may include</i> the measure “Implement or provide access to commute reduction program.” However, the DPEIR fails to establish or mention performance standards or trip reduction requirements, required implementation, or regular monitoring and reporting. As such, the DPEIR concludes significant and unavoidable impacts while failing to require all feasible mitigation.</p>
<p>TRT-3 Provide Ride-Sharing Programs</p> <ul style="list-style-type: none"> • Designate a certain percentage of parking spaces for ride sharing vehicles • Designating adequate passenger loading and unloading and waiting areas for ride-sharing vehicles • Providing a web site or messaging board for coordinating rides • Permanent transportation management association membership and funding requirement. <p><i>Range of Effectiveness:</i> 1-15% commute vehicle miles traveled (VMT) reduction and therefore 1-15% reduction in commute trip GHG emissions.</p>	<p>Here, PMM-GHG-1(h)(i) states that projects <i>may include</i> the measure “Provide car-sharing, bike sharing, and ride-sharing programs.” In addition, PMM-GHG-1(i) states that projects <i>may include</i> the measure “Designate a percentage of parking spaces for ride-sharing vehicles or high-occupancy vehicles, and providing adequate passenger loading and unloading for those vehicles.” However, the DPEIR fails to indicate what percentage of parking spaces should be designated for ride-share vehicles, how to define “adequate” loading and unloading areas, or mention permanent transportation management association membership and funding requirement. As such, the DPEIR concludes significant and unavoidable impacts while failing to require all feasible mitigation.</p>
<p>TRT-4 Implement Subsidized or Discounted Transit Program</p> <p><i>Range of Effectiveness:</i> 0.3-20% commute vehicle miles traveled (VMT) reduction and therefore a 0.3-20% reduction in commute trip GHG emissions.</p>	<p>Here, while PMM-GHG-1(h)(iv) states that projects <i>may include</i> “subsidies that increase that use of modes other than single-occupancy vehicle,” the DPEIR fails to elaborate on what these subsidies may entail. In addition, the DPEIR fails to mention or address a discounted transit program. As such, the DPEIR concludes significant and unavoidable impacts while failing to require all feasible mitigation.</p>
<p>TRT-6 Encourage Telecommuting and Alternative Work Schedules, such as:</p> <ul style="list-style-type: none"> • Staggered starting times 	<p>Here, while PMM-GHG-1(h) states that projects <i>may include</i> “telecommuting programs,” the DPEIR fails to mention or address alternative work schedules, staggered starting times, flexible</p>

<ul style="list-style-type: none"> • Flexible schedules • Compressed work weeks <p><i>Range of Effectiveness:</i> 0.07-5.5% commute vehicle miles traveled (VMT) reduction and therefore 0.07-5.5% reduction in commute trip GHG emissions.</p>	<p>schedules, or compressed work weeks. As a result, we cannot verify that the DPEIR’s vague “telecommuting programs” will actually include or consider these measures. Thus, the DPEIR concludes significant and unavoidable impacts while failing to require all feasible mitigation.</p>
<p>TRT-7 Implement Commute Trip Reduction Marketing, such as:</p> <ul style="list-style-type: none"> • New employee orientation of trip reduction and alternative mode options • Event promotions • Publications <p><i>Range of Effectiveness:</i> 0.8-4% commute vehicle miles traveled (VMT) reduction and therefore 0.8-4% reduction in commute trip GHG emissions.</p>	<p>Here, the DPEIR fails to mention or recommend that applicable projects implement Commute Trip Reduction marketing, including new employee orientation, event promotions, or publications. As such, the DPEIR concludes significant and unavoidable impacts while failing to require all feasible mitigation.</p>
<p>TRT-8 Implement Preferential Parking Permit Program</p> <p><i>Range of Effectiveness:</i> Grouped strategy (see TRT-1 through TRT-3).</p>	<p>Here, the DPEIR fails to mention or recommend that applicable projects implement a Preferential Parking Permit Program. As such, the DPEIR concludes significant and unavoidable impacts while failing to require all feasible mitigation.</p>
<p>TRT-10 Implement School Pool Program</p> <p><i>Range of Effectiveness:</i> 7.2-15.8% in school vehicle miles traveled (VMT) reduction and therefore 7.2-15.8% reduction in school trip GHG emissions.</p>	<p>Here, the DPEIR fails to mention or recommend that applicable projects implement a school pool program. As such, the DPEIR concludes significant and unavoidable impacts while failing to require all feasible mitigation.</p>
<p>TRT-13 Implement School Bus Program</p> <p><i>Range of Effectiveness:</i> 38-63% School VMT reduction and therefore 38-63% reduction in school trip GHG emissions.</p>	<p>Here, the DPEIR fails to mention or recommend that applicable projects implement a school bus program. As such, the DPEIR concludes significant and unavoidable impacts while failing to require all feasible mitigation.</p>
<p>TRT-14 Price Workplace Parking, such as:</p> <ul style="list-style-type: none"> • Explicitly charging for parking for its employees; • Implementing above market rate pricing; • Validating parking only for invited guests; • Not providing employee parking and transportation allowances; and • Educating employees about available alternatives. <p><i>Range of Effectiveness:</i> 0.1-19.7% commute vehicle miles traveled (VMT) reduction and therefore 0.1-19.7% reduction in commute trip GHG emissions.</p>	<p>Here, the DPEIR fails to include or mention the measure “Price Workplace Parking,” including, explicitly charging employees for parking, implementing above market rate pricing, validating parking only for invited guests, not providing employee parking or transportation allowances, and educating employees about available alternatives. As such, the DPEIR concludes significant and unavoidable impacts while failing to require all feasible mitigation.</p>
<p>Transit System Improvements</p>	
<p>TST-1 Transit System Improvements, including:</p> <ul style="list-style-type: none"> • Grade-separated right-of-way, including bus only lanes (for buses, emergency vehicles, and sometimes taxis), and other Transit Priority measures. Some systems use guideways which automatically steer the bus on portions of the route. • Frequent, high-capacity service 	<p>Here, PMM-GHG-1(e)(i) states that projects <i>may include</i> the measure “Promote transit-active transportation coordinated strategies.” In addition, PMM-GHG-1(e)(iii) states that projects <i>may include</i> the measure “Improve or increase access to transit.” However, the DPEIR fails to address or evaluate grade-separated right-of-way, bus only lanes, more frequent service, increasing the quality of vehicles, pre-paid fare systems, convenient user information, marketing programs, model integration, and other</p>

<ul style="list-style-type: none"> • High-quality vehicles that are easy to board, quiet, clean, and comfortable to ride. • Pre-paid fare collection to minimize boarding delays. • Integrated fare systems, allowing free or discounted transfers between routes and modes. • Convenient user information and marketing programs. • High quality bus stations with Transit Oriented Development in nearby areas. • Modal integration, with BRT service coordinated with walking and cycling facilities, taxi services, intercity bus, rail transit, and other transportation services. <p><i>Range of Effectiveness:</i> 0.02-3.2% vehicle miles traveled (VMT) reduction and therefore 0.02-3% reduction in GHG emissions.</p>	<p>Transit Priority Measures. The DPEIR also fails to elaborate upon possible “transit-active transportation coordinated strategies.” As such, the DPEIR concludes significant and unavoidable impacts while failing to require all feasible mitigation.</p>
<p>TST-2 Implement Transit Access Improvements, such as:</p> <ul style="list-style-type: none"> • Sidewalk/crosswalk safety enhancements • Bus shelter improvements <p><i>Range of Effectiveness:</i> Grouped strategy (see TST-3 and TST-4)</p>	<p>Here, while PMM-GHG-1(g) states that projects <i>may include</i> the measure “Improving transit access to rail and bus routes by incentives for construction and transit facilities within developments, and/or providing dedicated shuttle service to transit stations,” the DPEIR fails to address sidewalk/crosswalk safety enhancements. As such, the DPEIR concludes significant and unavoidable impacts while failing to require all feasible mitigation.</p>
<p>TST-4 Increase Transit Service Frequency/Speed</p> <p><i>Range of Effectiveness:</i> 0.02-2.5% vehicle miles traveled (VMT) reduction and therefore 0.02-2.5% reduction in GHG emissions.</p>	<p>Here, while the DPEIR discusses transit, the DPEIR fails to address the speed and frequency of transit service. As such, the DPEIR concludes significant and unavoidable impacts while failing to require all feasible mitigation.</p>
<p>TST-5 Provide Bike Parking Near Transit</p> <p><i>Range of Effectiveness:</i> Grouped strategy (see TST-3 and TST-4).</p>	<p>Here, while PMM-GHG-1(e)(x) states that projects <i>may include</i> the measure “Provide bicycle parking,” the DPEIR fails to indicate that this parking should be located near transit. As such, the DPEIR concludes significant and unavoidable impacts while failing to require all feasible mitigation.</p>
<p>Road Pricing/Management</p>	
<p>RPT-1 Implement Area or Cordon Pricing</p> <p><i>Range of Effectiveness:</i> 7.9-22% vehicle miles traveled (VMT) reduction and therefore 7.9-22% reduction in GHG emissions.</p>	<p>Here, the DPEIR fails to mention or recommend that applicable projects implement area or cordon pricing. As such, the DPEIR concludes significant and unavoidable impacts while failing to require all feasible mitigation.</p>
<p>RTP-3 Required Project Contributions to Transportation Infrastructure Improvement Projects</p> <p><i>Range of Effectiveness:</i> Grouped strategy (see RPT-2 and TST-1 through 7).</p>	<p>Here, the DPEIR fails to mention or recommend that applicable projects implement project contributions to transportation infrastructure improvement projects. As such, the DPEIR concludes significant and unavoidable impacts while failing to require all feasible mitigation.</p>

<p>RTP-4 Install Park-and-Ride Lots</p> <p><i>Range of Effectiveness:</i> Grouped strategy (see RPT-1, TRT-11, TRT-3, and TST-1 through 6).</p>	<p>Here, while the DPEIR vaguely references park-and-ride lots and the FTIP Projects table includes park-and-ride lots, the DPEIR fails to include “Install Park-and-Ride Lots” as a mitigation measure. As such, the DPEIR concludes significant and unavoidable impacts while failing to require all feasible mitigation.</p>
<p>Vehicles</p>	
<p>VT-1 Electrify Loading Docs and/or Require Idling-Reduction Systems</p> <p><i>Range of Effectiveness:</i> 26-71% reduction in TRU idling GHG emissions.</p>	<p>Here, the DPEIR fails to mention or recommend that applicable projects electrify loading docs and/or require idling reduction systems. As such, the DPEIR concludes significant and unavoidable impacts while failing to require all feasible mitigation.</p>
<p>VT-2 Utilize Alternative Fueled Vehicles, such as:</p> <ul style="list-style-type: none"> • Biodiesel (B20) • Liquefied Natural Gas (LNG) • Compressed Natural Gas (CNG) <p><i>Range of Effectiveness:</i> Reduction in GHG emissions varies depending on vehicle type, year, and associated fuel economy.</p>	<p>Here, the DPEIR fails to mention or recommend that applicable projects utilize alternative fueled vehicles, such as Biodiesel, liquefied natural gas, and/or compressed natural gas. As such, the DPEIR concludes significant and unavoidable impacts while failing to require all feasible mitigation.</p>
<p>VT-3 Utilize Electric or Hybrid Vehicles</p> <p><i>Range of Effectiveness:</i> 0.4-20.3% reduction in GHG emissions.</p>	<p>Here, while PMM-GHG-1(a)(ix) states that projects <i>may include</i> the measure “Install electric vehicle charging stations,” the DPEIR fails to discuss or mention hybrid vehicles whatsoever. As such, the DPEIR concludes significant and unavoidable impacts while failing to require all feasible mitigation.</p>
<p>Measures – Water</p>	
<p>Water Supply</p>	
<p>WSW-1 Use Reclaimed Water</p> <p><i>Range of Effectiveness:</i> Up to 40% in Northern California and up to 81% in Southern California.</p>	<p>Here, while PMM-GHG-1(d)(viii) states that projects <i>may include</i> the measure “Incorporate design measures to reduce water consumption,” the DPEIR fails to mention or elaborate on this measure whatsoever. As such, the DPEIR fails to mention or address using reclaimed water. Thus, the DPEIR concludes significant and unavoidable impacts while failing to require all feasible mitigation.</p>
<p>WSW-2 Use Gray Water</p> <p><i>Range of Effectiveness:</i> Up to 100% of outdoor water GHG emissions if outdoor water use is replaced completely with graywater.</p>	<p>Here, while PMM-GHG-1(d)(viii) states that projects <i>may</i> “Incorporate design measures to reduce water consumption,” the DPEIR fails to mention or elaborate on this measure whatsoever. As such, the DPEIR fails to mention or address using gray water. Thus, the DPEIR concludes significant and unavoidable impacts while failing to require all feasible mitigation.</p>
<p>WSW-3 Use Locally Sourced Water Supply</p> <p><i>Range of Effectiveness:</i> 0-60% for Northern and Central California, 11-75% for Southern California.</p>	<p>Here, while PMM-GHG-1(d)(viii) states that projects <i>may</i> “Incorporate design measures to reduce water consumption,” the DPEIR fails to mention or elaborate on this measure whatsoever. As such, the DPEIR fails to mention or address using locally sourced water supply. Thus, the DPEIR concludes significant and unavoidable impacts while failing to require all feasible mitigation.</p>
<p>Water Use</p>	

<p>WUW-1 Install Low-Flow Water Fixtures</p> <p><i>Range of Effectiveness:</i> 20% of GHG emissions associated with indoor Residential water use; 17-31% of GHG emissions associated with Non-Residential indoor water use.</p>	<p>Here, while PMM-GHG-1(d)(viii) states that projects <u>may</u> “Incorporate design measures to reduce water consumption,” the DPEIR fails to mention or elaborate on this measure whatsoever. As such, the DPEIR fails to mention or address low-flow water fixtures. Thus, the DPEIR concludes significant and unavoidable impacts while failing to require all feasible mitigation.</p>
<p>WUW-2 Adopt a Water Conservation strategy</p> <p><i>Range of Effectiveness:</i> Varies depending on Project Applicant and strategies selected. It is equal to the Percent Reduction in water commitment.</p>	<p>Here, while PMM-GHG-1(d)(viii) states that projects <u>may</u> “Incorporate design measures to reduce water consumption,” the DPEIR fails to mention or elaborate on this measure whatsoever. As such, the DPEIR fails to mention or address adopting a water conservation strategy. Thus, the DPEIR concludes significant and unavoidable impacts while failing to require all feasible mitigation.</p>
<p>WUW-3 Design Water-Efficient Landscapes (see California Department of Water Resources Model Water Efficient Landscape Ordinance), such as:</p> <ul style="list-style-type: none"> • Reducing lawn sizes; • Planting vegetation with minimal water needs, such as native species; • Choosing vegetation appropriate for the climate of the project site; • Choosing complimentary plants with similar water needs or which can provide each other with shade and/or water. <p><i>Range of Effectiveness:</i> 0-70% reduction in GHG emissions from outdoor water use.</p>	<p>Here, while PMM-GHG-1(d)(viii) states that projects <u>may</u> “Incorporate design measures to reduce water consumption,” the DPEIR fails to mention or elaborate on this measure whatsoever. As such, the DPEIR fails to mention or address water efficient landscapes, the California Department of Water Resources Model Water Efficient Landscape Ordinance, reducing lawn sizes, planting native or drought-tolerant species, climate-based plant selection, or choosing complementary plants with similar water needs or that can provide each other with shade/water. Thus, the DPEIR concludes significant and unavoidable impacts while failing to require all feasible mitigation.</p>
<p>WUW-4 Use Water-Efficient Landscape Irrigation Systems (“Smart” irrigation control systems)</p> <p><i>Range of Effectiveness:</i> 6.1% reduction in GHG emissions from outdoor water.</p>	<p>Here, while PMM-GHG-1(d)(viii) states that projects <u>may</u> “Incorporate design measures to reduce water consumption,” the DPEIR fails to mention or elaborate on this measure whatsoever. As such, the DPEIR fails to mention or address landscape-related water consumption or “smart” irrigation control systems. Thus, the DPEIR concludes significant and unavoidable impacts while failing to require all feasible mitigation.</p>
<p>WUW-5 Reduce Turf in Landscapes and Lawns</p> <p><i>Range of Effectiveness:</i> Varies and is equal to the percent commitment to turf reduction, assuming no other outdoor water use.</p>	<p>Here, the DPEIR fails to mention or recommend that applicable projects reduce turf in landscapes and lawns. Specifically, the DPEIR fails to address turf at all. As such, the DPEIR concludes significant and unavoidable impacts while failing to require all feasible mitigation.</p>
<p>WUW-6 Plant Native or Drought-Resistant Trees and Vegetation</p> <p><i>Range of Effectiveness:</i> Best Management Practice; may be quantified if substantial evidence is available.</p>	<p>Here, while PMM-GHG-1(j)(iii) states that projects <u>may include</u> the measure “Retaining on-site mature trees and vegetation, and planting new canopy trees,” the DPEIR fails to mention or evaluate native or drought-resistant trees. As such, the DPEIR concludes significant and unavoidable impacts while failing to require all feasible mitigation.</p>

Measures – Area Landscaping	
Landscaping Equipment	
A-2 Implement Lawnmower Exchange Program <i>Range of Effectiveness:</i> Best Management Practice, influences Area GHG emissions from landscape equipment.	Here, the DPEIR fails to mention or recommend that applicable projects implement a lawnmower exchange program. Specifically, the DPEIR fails to address lawnmowers at all. Thus, the DPEIR concludes significant and unavoidable impacts while failing to require all feasible mitigation.
A-3 Electric Yard Equipment Compatibility <i>Range of Effectiveness:</i> Best Management Practice, influences Area GHG emissions from landscape equipment. Not applicable on its own. This measure enhances effectiveness of A-1 and A-2.	Here, the DPEIR fails to mention or recommend that applicable projects ensure electric yard equipment compatibility. Specifically, the DPEIR fails to address electric yard equipment at all. Thus, the DPEIR concludes significant and unavoidable impacts while failing to require all feasible mitigation.
Measures – Solid Waste	
Solid Waste	
SW-1 Institute Recycling and Composting Services <i>Range of Effectiveness:</i> Varies depending on Project Applicant and strategies selected. Best Management Practice.	Here, PMM-GHG-1(j)(v) states that projects <i>may include</i> “Measures to reduce GHG emissions from solid waste management through encouraging solid waste recycling and reuse.” However, the DPEIR fails to mention composting services whatsoever. As such, the DPEIR concludes significant and unavoidable impacts while failing to require all feasible mitigation.
Measures – Vegetation	
Vegetation	
V-2 Create New Vegetated Open Space <i>Range of Effectiveness:</i> Varies based on amount and type of land vegetated.	Here, the DPEIR fails to mention or recommend that applicable projects create new vegetated open space. Thus, the DPEIR concludes significant and unavoidable impacts while failing to require all feasible mitigation.
Measures – Construction	
Construction	
C-1 Use Alternative Fuels for Construction Equipment <i>Range of Effectiveness:</i> 0-22% reduction in GHG emissions.	Here, PMM-AQ-1(n) states that projects would “[u]tilize existing power sources (e.g., power poles) or clean fuel generators rather than temporary power generators” (p. 2.0-24). However, the DPEIR fails to mention or address the use of alternative fuels for any other piece of construction equipment. Thus, the DPEIR concludes significant and unavoidable impacts while failing to require all feasible mitigation.
C-2 Use Electric and Hybrid Construction Equipment <i>Range of Effectiveness:</i> 2.5-80% of GHG emissions from equipment that is electric or hybrid if used 100% of the time.	Here, the DPEIR fails to mention or recommend using electric and hybrid construction equipment. Thus, the DPEIR concludes significant and unavoidable impacts while failing to require all feasible mitigation.
C-3 Limit Construction Equipment Idling Beyond Regulation Requirements <i>Range of Effectiveness:</i> Varies with the amount of Project Idling occurring and the amount reduced.	Here, while PMM-AQ-1(l) states that projects <i>may include</i> “[m]inimize idling time to 5 minutes,” the DPEIR fails to justify the choice of 5 minutes. As such, the DPEIR fails to evaluate the feasibility of reducing idling time to <i>less than</i> 5 minutes or beyond

	regulation requirements. Thus, the DPEIR concludes significant and unavoidable impacts while failing to require all feasible mitigation.
<p>C-4 Institute a Heavy-Duty Off-Road Vehicle Plan, including:</p> <ul style="list-style-type: none"> • Construction vehicle inventory tracking system; • Requiring hour meters on equipment; • Document the serial number, horsepower, manufacture age, fuel, etc. of all onsite equipment; and • Daily logging of the operating hours of the equipment. <p><i>Range of Effectiveness:</i> Not applicable on its own. This measure ensures compliance with other mitigation measures.</p>	Here, PMM-AQ-1(j) states that the projects should: “[r]equire contractors to assemble a comprehensive inventory list (i.e., make, model, engine year, horsepower, emission rates) of all heavy-duty off-road (portable and mobile) equipment (50 horsepower and greater) that could be used an aggregate of 40 or more hours for the construction project. Prepare a plan for approval by the applicable air district demonstrating achievement of the applicable percent reduction for a CARB-approved fleet” (2.0-24). However, the comprehensive inventory list proposed by the DPEIR fails to include daily logging of the operating hours of the equipment. As a result, we cannot verify that the Project has implemented all feasible mitigation with respect to a construction equipment list.
Measures – Miscellaneous	
Miscellaneous	
<p>Misc-1 Establish a Carbon Sequestration Project, such as:</p> <ul style="list-style-type: none"> • Geologic sequestration or carbon capture and storage techniques, in which CO₂ from point sources is captured and injected underground; • Terrestrial sequestration in which ecosystems are established or preserved to serve as CO₂ sinks; • Novel techniques involving advanced chemical or biological pathways; or • Technologies yet to be discovered. <p><i>Range of Effectiveness:</i> Varies depending on Project Applicant and projects selected. The GHG emissions reduction is subtracted from the overall baseline project emissions inventory.</p>	Here, while PMM-GHG-1(c) states that projects <i>may</i> “include off-site measures to mitigate a project’s emissions,” the DPEIR fails to elaborate or mention carbon sequestration projects. Specifically, the DPEIR fails to address carbon sequestration whatsoever. Thus, the DPEIR concludes significant and unavoidable impacts while failing to require all feasible mitigation.
<p>Misc-3 Use Local and Sustainable Building Materials</p> <p><i>Range of Effectiveness:</i> Varies depending on Project Applicant and strategies selected. Best Management Practice.</p>	Here, PMM-GHG-1(a)(i) states that projects <i>may include</i> the measure “Use energy efficient materials in building design, construction, rehabilitation, and retrofit.” However, the DPEIR fails to elaborate upon “energy efficient materials.” Furthermore, the DPEIR fails to mention using local materials at all. Thus, the DPEIR concludes significant and unavoidable impacts while failing to require all feasible mitigation.
<p>Misc-4 Require Best Management Practices in Agriculture and Animal Operations</p>	Here, the DPEIR fails to mention agriculture or animal operations whatsoever. Thus, the DPEIR concludes significant and unavoidable impacts while failing to require all feasible mitigation.
<p>Misc-5 Require Environmentally Responsible Purchasing, such as:</p>	Here, the DPEIR fails to mention or address environmentally responsible purchasing. Specifically, the DPEIR fails to discuss sustainable packaging, post-consumer recycled copier paper,

<ul style="list-style-type: none"> • Purchasing products with sustainable packaging; • Purchasing post-consumer recycled copier paper, paper towels, and stationary; • Purchasing and stocking communal kitchens with reusable dishes and utensils; • Choosing sustainable cleaning supplies; • Leasing equipment from manufacturers who will recycle the components at their end of life; • Choosing ENERGY STAR appliances and Water Sense-certified water fixtures; • Choosing electronic appliances with built in sleep-mode timers; • Purchasing ‘green power’ (e.g. electricity generated from renewable or hydropower) from the utility; and • Choosing locally-made and distributed products. <p><i>Range of Effectiveness:</i> Varies depending on Project Applicant and strategies selected. Best Management Practice.</p>	<p>reusable dishes and utensils, sustainable cleaning supplies, equipment that will be recycled at the end of its life, ENERGY STAR appliances, Water Sense fixtures, appliances with sleep-mode timers, “green power” from the utility, or locally-made and distributed products. While PMM-GHG-1(d)(vii) states that projects <i>may include</i> increasing the use of renewable energy, the measure fails to mention the utility or source of this renewable energy. Thus, the DPEIR concludes significant and unavoidable impacts while failing to require all feasible mitigation.</p>
<p>Measures – General Plans</p>	
<p>General Plans</p>	
<p>GP-2 Establish a Local Farmer’s Market</p> <p><i>Range of Effectiveness:</i> Varies depending on Project Applicant and strategies selected. Best Management Practice.</p>	<p>Here, the DPEIR fails to mention or recommend that applicable projects establish a local farmer’s market. Thus, the DPEIR concludes significant and unavoidable impacts while failing to require all feasible mitigation.</p>
<p>GP-3 Establish Community Gardens</p> <p><i>Range of Effectiveness:</i> Varies depending on Project Applicant and strategies selected. Best Management Practice.</p>	<p>Here, the DPEIR fails to mention or recommend that applicable projects establish community gardens. Thus, the DPEIR concludes significant and unavoidable impacts while failing to require all feasible mitigation.</p>

These measures offer a cost-effective, feasible way to incorporate lower-emitting design features into the proposed Project, which subsequently, reduces emissions released during Project operation. A revised CEQA evaluation should be prepared to include additional mitigation measures, as well as include an updated air quality analysis to ensure that the necessary mitigation measures are implemented to reduce emissions to below thresholds. The revised CEQA evaluation should also demonstrate a commitment to the project-level implementation of these measures prior to Project approval, to ensure that the Project’s significant emissions are reduced to the maximum extent possible.

Feasible Mitigation Measures Available to Reduce Emissions – Sacramento Metropolitan Air Quality Management District (SMAQMD)

In an effort to reduce the Project’s emissions, we identified several mitigation measures that are applicable to the Project but not previously considered by the DPEIR.

Additional feasible mitigation measures can be found in the Sacramento Metropolitan Air Quality Management District’s (“SMAQMD”) *Quantifying Greenhouse Gas Mitigation Measures*, which attempt to reduce emissions.⁶ Mitigation for criteria pollutant and GHG emissions should include consideration of the following measures in an effort to reduce construction emissions to the maximum extent feasible.

SMAQMD’s Basic Construction Emission Control Practices⁷	
<i>The following Basic Construction Emissions Control Practices are considered feasible for controlling fugitive dust from a construction site. The practices also serve as best management practices (BMPs), allowing the use of the non-zero particulate matter significance thresholds. Lead agencies should add these emission control practices as Conditions of Approval (COA) or include in a Mitigation Monitoring and Reporting Program (MMRP).</i>	
Water all exposed surfaces two times daily. Exposed surfaces include, but are not limited to soil piles, graded areas, unpaved parking areas, staging areas, and access roads.	Here, the DPEIR states that the Project would “[p]rovide an operational water truck on-site at all times. Use watering trucks to minimize dust; watering should be sufficient to confine dust plumes to the project work areas. Sweep paved streets at least once per day where there is evidence of dirt that has been carried on to the roadway” (p. 2.0-24). However, the DPEIR fails to specify that exposed surfaces would be watered twice daily. As a result, we cannot verify that the Project has implemented all feasible mitigation with respect to watering exposed surfaces.
Cover or maintain at least two feet of free board space on haul trucks transporting soil, sand, or other loose material on the site. Any haul trucks that would be traveling along freeways or major roadways should be covered.	Here, the DPEIR states that the Project would “[c]over trucks when hauling dirt” (p. 2.0-24). However, the DPEIR fails to specify how much or which of the haul trucks would be covered and when. As a result, we cannot verify that the Project has implemented all feasible mitigation with respect to watering exposed surfaces.
Use wet power vacuum street sweepers to remove any visible trackout mud or dirt onto adjacent public roads at least once a day. Use of dry power sweeping is prohibited.	Here, the DPEIR states that the Project would “[s]weep paved streets at least once per day where there is evidence of dirt that has been carried on to the roadway” (p. 2.0-24). However, the DPEIR fails to specify what kind of street sweepers would be used, and as a result, we cannot verify that streets would be swept with wet power vacuum street sweepers instead of dry power sweeping. Thus, we cannot verify that the Project has implemented all feasible mitigation with respect to street sweeping.

⁶ <http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf>

⁷ “Basic Construction Emission Control Practices (Best Management Practices).” Sacramento Metropolitan Air Quality Management District (SMAQMD), July 2019, available at: <https://www.epa.gov/sites/production/files/2015-09/documents/nedc-model-contract-sepcification.pdf>.

Limit vehicle speeds on unpaved roads to 15 miles per hour (mph).	Here, the DPEIR fails to mention limiting vehicle speeds on unpaved roads to 15 miles per hour. Thus, we cannot verify that the Project has implemented all feasible mitigation.
All roadways, driveways, sidewalks, parking lots to be paved should be completed as soon as possible. In addition, building pads should be laid as soon as possible after grading unless seeding or soil binders are used.	Here, the DPEIR fails to mention paving roadways, driveways, sidewalks, and parking lots as soon as possible, or laying down building pads after grading. Thus, we cannot verify that the Project has implemented all feasible mitigation.
<i>The following practices describe exhaust emission control from diesel powered fleets working at a construction site. California regulations limit idling from both on-road and offroad diesel-powered equipment. The California Air Resources Board (CARB) enforces idling limitations and compliance with diesel fleet regulations.</i>	
Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to 5 minutes [California Code of Regulations, Title 13, sections 2449(d)(3) and 2485]. Provide clear signage that posts this requirement for workers at the entrances to the site.	Here, the DPEIR states that the Project would “[m]inimize idling time to 5 minutes—saves fuel and reduces emissions” (p. 2.0-24). However, the DPEIR fails to mention providing clear signage that posts this requirement for workers at entrances to the site. Thus, we cannot verify that this measure will be fully implemented, and as a result, the Project has not implemented all feasible mitigation.
Provide current certificate(s) of compliance for CARB’s In-Use Off-Road Diesel-Fueled Fleets Regulation [California Code of Regulations, Title 13, sections 2449 and 2449.1].	Here, while the DPEIR states that “Off-Road Heavy-Duty trucks shall comply with the California State Regulation for In-Use Off-Road Diesel Vehicles (Title 13, CCR §2449),” the DPEIR fails to mention providing current certificates of compliance. Thus, we cannot verify that this measure will be fully implemented, and as a result, the Project has not implemented all feasible mitigation.
<i>Although not required by local or state regulation, many construction companies have equipment inspection and maintenance programs to ensure work and fuel efficiencies</i>	
Maintain all construction equipment in proper working condition according to manufacturer’s specifications. The equipment must be checked by a certified mechanic and determine to be running in proper condition before it is operated.	Here, while the DPEIR states that Projects would “[e]nsure that all construction equipment is properly tuned and maintained,” (p. 2.0-24) the DPEIR fails demonstrate how this would be achieved or requiring equipment to be checked by a certified mechanic. As a result, we cannot verify that that this measure would be implemented, and we find that the Project has not implemented all feasible mitigation.
SMAQMD’s Enhanced Exhaust Control Practices⁸	
1. The project representative shall ensure that emissions from all off-road diesel powered equipment used on the project site do not exceed 40% opacity for more than three minutes in any one hour.	Here, the DPEIR fails to mention ensuring emissions from all off-road diesel powered equipment do not exceed 40% for more than three minutes in any one hour. As a result, we cannot verify that that this measure would be implemented, and we find that the Project has not implemented all feasible mitigation.

⁸ “Enhanced Exhaust Control Practices.” Sacramento Metropolitan Air Quality Management District (SMAQMD) October 2013, available at: <http://www.airquality.org/LandUseTransportation/Documents/Ch3EnhancedExhaustControlFINAL10-2013.pdf>.

<ul style="list-style-type: none"> • Any equipment found to exceed 40 percent opacity (or Ringelmann 2.0) shall be repaired immediately. • Non-compliant equipment will be documented and a summary provided to the lead agency and District monthly. • A visual survey of all in-operation equipment shall be made at least weekly. • A monthly summary of the visual survey results shall be submitted throughout the duration of the project, except that the monthly summary shall not be required for any 30-day period in which no construction activity occurs. The monthly summary shall include the quantity and type of vehicles surveyed as well as the dates of each survey. 	
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Diesel Particulate Matter Health Risk Emissions Inadequately Addressed

The DPEIR concludes that the Project’s construction-related health risk impact would be significant. Specifically, the DPEIR states:

“[T]his PEIR identifies project-level mitigation measures consistent with applicable regulations and policies designed to reduce impacts. Lead Agencies may choose to include project-level mitigation measures in environmental documents as they determine to be appropriate and feasible. However, because of the anticipated construction emissions, the regional nature of the analysis and SCAG’s lack of authority to impose project-level mitigation measures, this PEIR finds impacts related to air emission impacts on sensitive receptors during construction could be significant and unavoidable even with implementation of mitigation” (p. 3.3-81).

However, despite the “regional nature of the analysis” and “SCAG’s lack of authority to impose project-level mitigation measures,” the DPEIR may require future projects to conduct project-level health risk assessments (“HRA”) *in order to be consistent with the Connect SoCal Plan*. As such, the DPEIR should require future projects that claim consistency with the plan to conduct project-level construction and operational HRAs in order to ensure that the Project’s health risk impact is fully evaluated. Until an updated CEQA evaluation for the Project is prepared requiring project-level HRAs, the Project should not be approved.

SWAPE has received limited discovery regarding this project. Additional information may become available in the future; thus, we retain the right to revise or amend this report when additional information becomes available. Our professional services have been performed using that degree of care and skill ordinarily exercised, under similar circumstances, by reputable environmental consultants

practicing in this or similar localities at the time of service. No other warranty, expressed or implied, is made as to the scope of work, work methodologies and protocols, site conditions, analytical testing results, and findings presented. This report reflects efforts which were limited to information that was reasonably accessible at the time of the work, and may contain informational gaps, inconsistencies, or otherwise be incomplete due to the unavailability or uncertainty of information obtained or provided by third parties.

Sincerely,

A handwritten signature in blue ink that reads "Matt Hagemann". The signature is fluid and cursive, with a long horizontal stroke at the end.

Matt Hagemann, P.G., C.Hg.

A handwritten signature in blue ink that reads "Paul Rosenfeld". The signature is cursive and clearly legible.

Paul E. Rosenfeld, Ph.D.

EXHIBIT B



January 24, 2020

Sent via email and USPS

Roland Ok
Senior Regional Planner
Southern California Association of Governments
900 Wilshire Blvd, Suite 1700
Los Angeles, California 90017
2020PEIR@scag.ca.gov

Re: Draft Program Environmental Impact Report for Connect SoCal 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy (State Clearing House Number 2019011061)

Dear Mr. Ok:

These comments are submitted on behalf of the Center for Biological Diversity (the “Center”) regarding the Draft Program Environmental Impact Report (“DEIR”) for Connect SoCal 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy (“RTP/SCS”). The Center has reviewed the DEIR and RTP/SCS and provides these comments for consideration by the Southern California Association of Governments (SCAG).

The Center is encouraged to see several conservation facets of the RTP/SCS, including SCAG’s attention to preserve, enhance, and restore regional wildlife connectivity (RTP/SCS at 50), avoid growth in wetlands, wildlife corridors, biodiverse areas, wildfire prone areas and floodplains (RTP/SCS at 55), encourage housing and commercial development near public transit and urban areas (RTP/SCS at 48) and incorporate greenbelts into planning initiatives (RTP/SCS at 55). The Center respectfully submits these comments to help achieve SCAG’s aspirations of a “healthier, safer, more resilient and economically vibrant region” by facilitating a comprehensive approach to growth that addresses human transportation and development needs, the needs of wildlife and habitats that are fragmented by transportation infrastructure and development, and how we can make human and natural communities more resilient to climate change.

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 Southern California.

I. The Connect SoCal Goals Should Include Maintaining and Enhancing Wildlife Movement and Habitat Connectivity

The Center is encouraged to see the inclusion of Goal #10, “Promote conservation of natural and agricultural lands and restoration of critical habitats” (DEIR at ES-7); however, integrating wildlife connectivity is critical to overall ecosystem health and biodiversity. Doing so would also improve chances of attaining other goals, including supporting healthy and equitable communities, reducing greenhouse gas emissions and improving air quality, and adapting to climate change. Preserving and restoring habitat connectivity would help ensure invaluable ecosystem services that benefit human communities, including but not limited to water purification, erosion control, groundwater recharge, resilience to extreme weather events (e.g., severe storms and flooding), carbon sequestration, and crop pollination.

As mentioned in the Center’s Notice of Preparation comment letter, roads and traffic create barriers that lead to habitat loss and fragmentation, which harms wildlife and people. As barriers to wildlife movement and the cause of injuries and mortalities due to wildlife vehicle collisions, roads and traffic 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 (Mitsch and Wilson 1996; Trombulak and Frissell 2000; van der Ree et al. 2011; Haddad et al. 2015; Marsh and Jaeger 2015; Ceia-Hasse et al. 2018). For example, habitat fragmentation from roads and traffic has been shown to cause mortalities and harmful genetic isolation in mountain lions in southern California (Riley et al. 2006, 2014, Vickers et al. 2015), increase local extinction risk in amphibians and reptiles (Cushman 2006; Brehme et al. 2018), cause high levels of avoidance behavior and mortality in birds and insects (Benítez-López et al. 2010; Loss et al. 2014; Kantola et al. 2019), and alter pollinator behavior and degrade habitats (Trombulak and Frissell 2000; Goverde et al. 2002; Aguilar et al. 2008). 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 and “[conservation] plans that focus solely on habitat area, will leave unrealized the substantial, complementary, and persistent gains in biodiversity attributable specifically to landscape connectivity,” (Damschen et al. 2019).

The Center recommends the goal be edited as follows:

Goal #10: “Promote conservation of natural and agricultural lands **and habitat connectivity** and restoration of critical habitats **and wildlife movement corridors.**”

II. The Connect SoCal Guiding Principles Should Include Maintaining and Enhancing Wildlife Movement and Habitat Connectivity to Protect Wildlife and Improve Public Safety

Wildlife vehicle collisions pose a major public safety and economic threat, as well as a threat to the region’s wildlife and biodiversity. During 2015 to 2018 more than 26,000 incidents involving vehicles and wildlife were reported to the California Highway Patrol, which included

reports of animals standing next to, in, or running across lanes, collisions with large animals, or swerving to avoid collisions and resulting in a crash (Shilling et al. 2019). State reports and car insurance companies estimate that that 7,000 to 23,000 wildlife vehicle collisions (with large mammals) have occurred annually on California roads (Shilling et al. 2017; Shilling et al. 2018; Shilling et al. 2019; State Farm Insurance Company 2016, 2018). These crashes result in human loss of life, injuries, emotional trauma, and property damages that can add up to an estimated \$300-600 million per year and over \$1 billion from 2015-2018, based on reported wildlife vehicle collisions. And it is important to note that collisions with large animals often go unreported as much as 5- to 10-fold (Donaldson and Lafon 2008; Olson et al. 2014; Donaldson 2017) Thus, avoiding and minimizing impacts of transportation projects and development on wildlife movement and habitat connectivity would help preserve biodiversity and ecosystem health while protecting human health and safety.

The Guiding Principles should reflect the need to adequately address wildlife movement and habitat connectivity issues to minimize wildlife vehicle collisions. Outside of California many states, including Arizona, Colorado, Florida, Montana, Nevada, Oregon, New Mexico, Utah, Washington, and Wyoming, have been proactively addressing wildlife connectivity issues and realizing the benefits of wildlife crossing infrastructure. For example, Arizona, Colorado, and Wyoming have seen 80-96% reductions in wildlife vehicle collisions while gradually increasing the level of wildlife permeability over time (it appears that some species take more time than others to adapt to crossings) on sections of highways where they have implemented wildlife crossing infrastructure, such as underpasses, culverts, overpasses, wildlife fencing, and escape ramps (Dodd et al. 2012; Sawyer et al. 2012; Kintsch et al. 2018). Utah just completed the state's largest wildlife overpass at Parleys Canyon for moose, elk, and deer. Washington State is about to complete its largest wildlife overpass on I-90, which is anticipated to provide habitat connectivity for a wide variety of species between the North and South Cascade Mountains. The overpass cost \$6.2 million as part of a larger \$900 million expansion project that will include multiple wildlife crossings along a 15-mile stretch of highway. Savings from less hospital bills, damage costs, and road closures from fewer wildlife vehicle collisions will make up those costs in a few years (Valdes 2018). State transportation departments are actively pursuing these types of projects because of the benefits for wildlife connectivity, public safety, and the economy. California needs to follow suit and more actively invest in preserving habitat connectivity where there are no roads while also enhancing or restoring connectivity where roads or other transportation infrastructure already exist.

The Draft Plan recognizes two important ecological components about southern California. First, it recognizes the incomparable biological diversity of California, due primarily to its flora:

“The region’s desert, mountain and coastal habitats have some of the highest concentrations of native plant and animal species on the planet. Southern California is part of the California Floristic Province, one of the planet’s top twenty-five biodiversity hotspots.” (RTP/SCS at 23)

Secondly, it recognizes the significant contribution to greenhouse gas sequestration that plants, exposed soils and open space provide:

“In addition to their respective roles in biodiversity and food production, both natural areas and farmlands help reduce the impacts of climate change by capturing greenhouse gases in the soil, plants, and trees instead of allowing them to concentrate in the atmosphere.” (RTP/SCS at 36)

In addition, southern California native plants are adapted to our unique “Mediterranean” climate and persist in our relatively arid conditions where rainfall primarily occurs on the winter. For all of these reasons, the Draft Plan needs to adopt the commitment to the preferential use of native plants as part of the final 2020-2045 Regional Transportation/Sustainable Communities Plan.

Much literature is available on the use of native plants on roadsides. The Federal Highway Administration produced a Managers Guide to Roadside Revegetation Using Native Plants (FHA-DOT 2007), which notes:

“Native plants are a foundation of ecological health and function. Revegetating roadsides with native plants is a key practice for managing environmental impacts and improving conditions for healthy ecosystems. The ability to establish native plant communities on roadsides is central to determining whether the transportation corridor will be a healthy environment or a damaged one.”

The Guide continues to tout the benefits of using native plants along transportation corridors as follows:

“Native plants along roadsides offer ecological, economic, safety, and aesthetic advantages. Ecologically, healthy native plant communities often are the best long-term defense against invasive and noxious weeds. Economically, maintenance costs for managing problematic vegetation are reduced, as are the concerns that sometimes result when weeds from roadsides invade neighboring lands or when pollution from herbicides occurs.”

From the perspective of safety, the FHA states:

“The establishment of native plant communities supports transportation safety goals in a number of ways. One of the most important is by improving the function of roadside engineering. Appropriate vegetation can enhance visibility and support design features to help drivers recover if their vehicles leave the pavement. When native plant materials are incorporated into road design, they can improve long-term slope stability while softening visual experiences.”

Native roadside vegetation helps to identify local place, reduces the cost of roadside maintenance, and requires little to no pesticides (Quarles 2003). Tinsley et al (2007) found that native revegetation grass and forb seed mixes outperformed non-native seed mixes in establishing cover on roadsides and concluded that “suites of early- and late-successional native species can provide a highly effective mix for revegetation projects”. In order to assure successful planting with native plant species, care must be taken when planning native roadside

plantings. Plant selection must consider soil type and compaction from engineered slopes, harsh microclimates directly adjacent to roads, invasive species, and pollution from vehicle emissions. Haan et al. (2012) found that “soil characteristics largely determined plant survival” but other considerations were also important considerations. Karim and Mallik (2007) found that “floristic zonation along roadsides is a function of roadside microtopography, substrate type and environmental gradients created by the road building process” and that certain native plant species were more successful in certain zones. Therefore, careful selection of native species is crucial to successfully vegetating transportation corridors. Fortunately, California’s diverse native flora provides the diversity to meet the roadside zones. Several drought tolerant native species lists, tailored to local conditions are readily available for the South Bay of Los Angeles County¹ and coastal southern California².

Because of the ongoing pollinator crisis, the Draft Plan also needs to adopt the commitment to use best management practices for pollinators as part of the final 2020-2045 Regional Transportation/Sustainable Communities Plan. The Federal Highways Administration (FHA-DOT 2015) provides guidelines for best management practices that will benefit pollinators and includes a focus on using native plants. Wildlife connectivity typically focuses on large animals that require safe passage through and beyond their home territories and because of that scale, automatically protects a suite of more localized plants and animals. Here, linear roadside corridors are obviously inappropriate for large mammals, but can still be important and indeed crucial to plants and small animals, including invertebrates. Therefore, these types of linear features should not be overlooked for their potential ecological benefits.

While some of the SCAG transportation goals include roads and road improvements in urbanized areas, these areas provide great opportunities to transition plantings to native plants that are drought tolerant, sequester carbon, provide linear habitat for local fauna and identify a sense of place based on southern California’s iconic flora. For these reasons and those listed above, the Draft Plan would benefit from the incorporation of a commitment to the preferential use of native plants as part of the final 2020-2045 Regional Transportation/Sustainable Communities Plan.

Therefore, the Center recommends Connect SoCal Guiding Principles to be edited as follows:

Guiding Principle #2: Place high priority for transportation funding in the region on projects and programs that improve **human** mobility, accessibility, reliability and safety, and **wildlife connectivity that is based on native southern California flora**. ~~that preserve the existing transportation system~~

Guiding Principle #5: Encourage transportation investments that will result in improved air quality and public health **and safety**, and reduced greenhouse gas emissions

¹ See <https://bestofthesouthbay.com/10-drought-tolerant-california-native-plants/>

² See <https://www.scpr.org/news/2015/05/13/51644/go-native-a-list-of-drought-friendly-california-pl/>

III. The Projects on the Transportation System Project List Undercut the SCAG's Stated Land Use Strategies and Sustainability Goals

The Center is encouraged to see that SCAG's land use strategies include prioritizing infill and redevelopment; facilitating multimodal transportation for various purposes (*i.e.*, work, education, other destinations); urban greening; and avoiding growth in wetlands, wildlife corridors, biodiverse areas, wildfire prone areas, and floodplains. However, the Transportation Project List contains over 300 pages of projects in Appendix 2.0, many of which include the widening and extension of freeways, which will result in increased greenhouse gas ("GHG") emissions and fragment landscapes and wildlife connectivity while promoting sprawl development, some of which is located in high fire hazard severity zones.

As the Center noted in its NOP comments to SCAG last year, scientific studies and state agency reports from the California Air Resources Board ("CARB") have shown the state will not achieve the necessary GHG emissions reductions to meet its mandates for 2030 and 2050 without significant changes to how communities and transportation systems are planned, funded and built. Significant reductions in GHG emissions is the only pathway to limiting the impacts of climate crisis, which are already being felt by people and wildlife throughout the state. Those reductions will not be achieved by small half measures of simply encouraging more zero-emission vehicles or hoping local agencies will change their land use decision-making in the future. Instead agencies at all levels—state, regional and local—must take head on the interconnected relationship between the climate crisis and land use, housing, workforce growth and transportation investments. Fundamental changes in land use planning for the future by local and regional land use agencies and hard questions about existing transportation plans must occur.

For example, the Transportation Project List earmarks an astounding \$600,000,000 for the 138 Northwest Corridor Improvement Project to support leapfrog sprawl development like Tejon Ranch Company's proposed Centennial city. Centennial would be located 60 miles away from a major work center (*i.e.*, downtown Los Angeles) so the Project's anticipated 57,000 residents will be forced to drive long distances to reach jobs, schools, and supplies for decades during Project build-out. Centennial alone would generate 75,000 new vehicle trips per day, with an average trip length of 45 miles. The development will also pave over pristine native grasslands rich with endemic and rare species in a mountain lion movement corridor important for statewide genetic connectivity and an area designated as having very high fire hazard severity.

In addition to the 138 Northwest Corridor Improvement Project, there are many projects that involve paving over dirt roads, which could lead to increased traffic that would result in increased greenhouse gas emissions from increasing VMT and significant impact on small animal species since roads with heavy traffic may deter movement from a wide range of small animals (Brehme et al. 2013; Brehme et al. 2018). Transportation projects should focus more on public transit infrastructure and less on widening already large freeways and paving dirt roads, both of which facilitate the use of more cars and increase vehicle miles traveled, commute times, air pollution, and greenhouse gas emissions.

The Transportation Project List allocates many millions of dollars on I-15 expansion projects even while the I-15 continues to be a major barrier to mountain lion and wildlife

movement, and critical wildlife crossings along the I-15 remain unfunded. Instead of further degrading habitat connectivity by expending hundreds of millions of dollars on multi-lane highways in remote areas that will fill up with GHG emitting vehicles, SCAG should prioritize funding for more public transit and adequate wildlife crossings on existing highways. For instance, critical wildlife crossings such as the Liberty Canyon Wildlife Crossing are not yet fully funded. In fact, in the 300-page project list, there is only a *single* listed proposal for a wildlife crossing.

As it stands, the RTP/SCS contains laudable goals regarding sustainable development, reducing VMT, and increasing wildlife connectivity. However, many of the projects on the Transportation Project List will undercut these goals by increasing VMT and exacerbating existing connectivity problems. If SCAG is serious about addressing this region-wide issue, it should work to reallocate funding away from particularly damaging projects and instead allocate funding towards public transit and wildlife connectivity projects.

IV. SCAG Should Aim for Higher Per Capita VMT Reductions

The Center is encouraged by SCAG's goals and guiding principles that focus on supporting more development supported by existing public transit. (RTP/SCS at 8.) However, the Center believes SCAG can and should do more to reduce daily vehicles miles traveled. Increases in VMT negatively impact communities by leading to more vehicle crashes, poorer air quality, increases in chronic diseases associated with reduced physical activity, and worse mental health. Also, as noted above, the natural environment is impacted as higher VMT leads to more collisions with wildlife and fragments habitat. Therefore, any additional step SCAG takes to reduce VMT will have co-benefits of better air quality, decreased chronic disease, decreased wildlife-vehicle collisions, and less habitat fragmentation.

As currently drafted, the RTP/SCS boasts of a 4.1% reduction in VMT per capita from a 2045 baseline and a 9.5% reduction from the base year of 2016. (RTP/SCS at 5, 122.) However, these reductions are far less than reductions in VMT detailed in the December 2018 Technical Advisory issued by the Governor's Office of Planning and Research ("OPR VMT Report"). The OPR VMT Report concluded, "achieving 15 percent lower per capita (residential) or per employee (office) VMT than existing development is both generally achievable and is supported by evidence that connects this level of reduction to the State's emissions goals." (OPR VMT Report at 12.) OPR emphasized that land use decisions to reduce GHG emissions associated with the transportation sector are crucial to meet the state's GHG reductions goals. (*Id.* at 3.) The OPR VMT Report further noted that because California cannot meet its climate goals without curbing single-occupancy vehicle activity, land use patterns and transportation options will need to change to support reductions in VMT. (*Id.* at 10.) Historically regional SCS and RTPs have lead increases in VMT rather than decreasing them as SB 375 intended. While SCAG's RTP/SCS has taken a small step in the right direction, it is not enough, and more fundamental changes are needed. The Center urges SCAG to utilize the RTP/SCS process to set the region on the path reducing its VMT at the level necessary to address the climate crisis and meet the state's GHG reduction goals.

V. The DEIR Fails to Adequately Assess or Mitigate Impacts to Mountain Lions (*Puma concolor*) and Regional Wildlife Connectivity Throughout the SCAG Region

The Center is encouraged to see SCAG acknowledge the importance of wildlife corridors and habitat connectivity by including the preservation, enhancement, and restoration of regional wildlife connectivity (RTP/SCS at 50), avoiding growth in wetlands, wildlife corridors, biodiverse areas, wildfire prone areas and floodplains (RTP/SCS at 55), and drawing attention to greenbelts (RTP/SCS at 55). Mountain lions are a key indicator species of wildlife connectivity. As the last remaining wide-ranging top predator in the region, the ability to move through large swaths of interconnected habitat is vital for genetic connectivity and their long-term survival. In addition, impacts to mountain lions in the SCAG region could have severe ecological consequences; loss of the keystone species would have ripple effects on other plant and animal species, potentially leading to a decrease in biodiversity and diminished overall ecosystem function. Without mountain lions, increased deer populations can overgraze vegetation and cause stream banks to erode (Ripple and Beschta 2006; Ripple and Beschta 2008). Many scavengers, including foxes, raptors, and numerous insects, would lose a reliable food source (Ruth and Elbroch 2014; Barry et al. 2019). Fish, birds, amphibians, reptiles, rare native plants, and butterflies would diminish if this apex predator were lost (Ripple and Beschta 2006; Ripple and Beschta 2008; Ripple et al. 2014).

In light of recent studies regarding imperiled mountain lion populations in Southern California, the DEIR fails to disclose or describe the RTP/SCS's severe impacts on mountain lion populations throughout the SCAG region. CEQA requires a "mandatory finding of significance" if there is substantial evidence in the record that the Project *may* cause a "wildlife population to drop below self-sustaining levels; threaten to eliminate a plant or animal community; substantially reduce the number or restrict the range of an endangered, rare or threatened species" (CEQA Guidelines § 15065(a)(1).) This means that a project is deemed to have a significant impact on the environment as a matter of law if it reduces the habitat of a species, or reduces the number or range of an endangered, rare, or threatened species.³ (See *Endangered Habitats League, Inc. v. County of Orange* (2005) 131 Cal.App.4th 777, 792 fn. 12 [citing *Defend the Bay v. City of Irvine* (2004) 119 Cal.App.4th 1261, 1273–1274].)

There is ample scientific evidence that indicates mountain lion populations in Southern California are imperiled and that human activities and land use planning that does not integrate adequate habitat connectivity can have adverse impacts on mountain lions. Continued habitat loss and fragmentation has led to 10 genetically isolated populations within California. Several populations in Southern California are facing an extinction vortex due to high levels of inbreeding, low genetic diversity, and high human-caused mortality rates from car strikes on roads, depredation kills, rodenticide poisoning, poaching, disease, and increased human-caused wildfires (Ernest et al. 2003; Ernest et al. 2014; Riley et al. 2014; Vickers et al. 2015; Benson et al. 2016; Gustafson et al. 2018; Benson et al. 2019). This is detailed in the Center's petition to

³ On June 25, 2019, the Center and Mountain Lion Foundation submitted a petition pursuant to 14 Cal. Code Regs. § 670.1 to the California Fish and Game Commission requesting the Commission list the Santa Ana mountain lion population and other populations as "endangered" or "threatened" under the California Endangered Species Act.

the California Fish and Game Commission to protect Southern California and Central Coast mountain lions under the California Endangered Species Act (Yap et al. 2019).

Mountain lions in the Santa Monica Mountains and Santa Ana Mountains were found to have dangerously low genetic diversity and effective population size, and they are likely to become extinct within 50 years if gene flow with other mountain lion populations is not improved (Benson et al. 2016; Gustafson et al. 2018; Benson et al. 2019). Due to extreme isolation caused by roads and development, the Santa Monica and Santa Ana mountains populations exhibit high levels of inbreeding, and, with the exception of the endangered Florida panther, have the lowest genetic diversity observed for the species globally (Ernest et al. 2014; Riley et al. 2014; Gustafson et al. 2018; Benson et al. 2019). In addition, Gustafson et al. (2018) found that the nearby mountain lion population in the San Gabriel/San Bernardino Mountains also has low genetic diversity and effective population size, which indicates that they too have a high risk of extinction. The long-term survival of these mountain lions, along with those in the Tehachapi and Sierra Pelona mountains, are vital for statewide genetic connectivity (Gustafson et al. 2018). Improved connectivity among the mountain lion populations within the SCAG Region and beyond is essential for the long-term survival of Southern California mountain lion populations (Gustafson et al. 2017; Gustafson et al. 2018; Benson et al. 2019).

Growth and development in identified “major highway projects” (RTP/SCS at Exhibit 3.2), “transit priority areas” (RTP/SCS at Exhibit 3.7), “priority growth area - high quality transit areas” (RTP/SCS at Exhibit 3.8), and “livable corridors” (RTP/SCS at 3.10) could have severe impacts on Southern California’s already-imperiled mountain lion populations. Such development without addressing wildlife connectivity issues and integrating effective wildlife crossings and corridors could lead to the extirpation of multiple mountain lion populations in the SCAG region. The RTP/SCS should encourage the involvement of wildlife connectivity experts from CDFW and other agencies, organizations, academic institutions, communities, and local groups starting at the initial planning stage of development and transportation projects so that habitat connectivity can be strategically integrated into project design and appropriately considered in the project budget. The RTP/SCS should require highway projects to include adequate wildlife crossing infrastructure in order to reduce impacts to mountain lions and other species.

Project planning should consider the impacts of climate change on wildlife movement and habitat connectivity in the design and implementation of projects and any mitigation. Climate change is increasing stress on species and ecosystems, causing changes in distribution, phenology, physiology, vital rates, genetics, ecosystem structure and processes, and increasing species extinction risk (Warren et al. 2011). A 2016 analysis found that climate-related local extinctions are already widespread and have occurred in hundreds of species, including almost half of the 976 species surveyed (Wiens 2016). A separate study estimated that nearly half of terrestrial non-flying threatened mammals and nearly one-quarter of threatened birds may have already been negatively impacted by climate change in at least part of their distribution (Pacifi et al. 2017). A 2016 meta-analysis reported that climate change is already impacting 82 percent of key ecological processes that form the foundation of healthy ecosystems and on which humans depend for basic needs (Scheffers et al. 2016). Genes are changing, species' physiology and physical features such as body size are changing, species are moving to try to keep pace with

suitable climate space, species are shifting their timing of breeding and migration, and entire ecosystems are under stress (Parmesan and Yohe 2003; Root et al. 2003; Parmesan 2006; Chen et al. 2011; Maclean and Wilson 2011; Warren et al. 2011; Cahill et al. 2012).

VI. Conclusion

Thank you for the opportunity to submit comments on the DEIR and RTP/SCS for Connect SoCal. We look forward to working with SCAG to foster land use policy and growth patterns that promote wildlife movement and habitat connectivity, facilitate public health and safety, and move towards the State's climate change goals. Please do not hesitate to contact the Center with any questions at the number or email listed below.

Sincerely,

A handwritten signature in black ink, appearing to read 'T. Yap', with a stylized flourish at the end.

Tiffany Yap, D.Env/PhD
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(provided on CD via USPS)

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EXHIBIT C



December 20, 2018

Sent via email and FedEx (if applicable)

California Department of Transportation (Caltrans)
Division of Transportation Planning
California Transportation Plan
Office of State Planning
1120 N Street, MS 32
Sacramento, CA 95814
(916) 654-2852
CTP@dot.ca.gov

Re: California Transportation Plan 2050 - Comments

Dear California Transportation Plan 2050 Planners:

These comments are submitted on behalf of the Center for Biological Diversity (the “Center”) regarding the California Transportation Plan (CTP) 2050. The Center is encouraged by Caltrans’ commitment to increase safety and security on bridges, highways, and roads and create a low-carbon transportation system that protects human and environmental health. To achieve these goals, it is imperative that Caltrans integrate wildlife connectivity into the design and implementation of California’s transportation infrastructure.

The Center urges Caltrans to improve driver safety and minimize the impact of roads and traffic on wildlife movement and habitat connectivity with the following actions:

1. Collect and analyze standardized roadkill and wildlife vehicle collision data.
2. Build climate-wise wildlife crossing infrastructure in high priority areas.
3. Prioritize wildlife movement and habitat connectivity on ALL transportation projects.
4. Designate an expert unit dedicated to address wildlife connectivity issues. This unit should form strategic collaborations and partnerships with other connectivity experts.
5. Evaluate the effectiveness of wildlife crossing infrastructure to inform future mitigation.
6. Upgrade existing culverts to facilitate wildlife connectivity as part of routine maintenance.
7. Provide up-to-date guidance for best practices for climate-wise connectivity.
8. Engage with volunteer and community scientists and platforms.
9. Improve multimodal transportation design.
10. Allocate more funding to prioritize wildlife connectivity.

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 68,000 thousand members and online activists throughout California and the United States. The Center has worked for many years to protect imperiled plants and wildlife, open space, air and water quality, and overall quality of life for people in location of Project.

I. ROADS CREATE BARRIERS THAT LEAD TO HABITAT LOSS AND FRAGMENTATION, WHICH HARMS WILDLIFE AND PEOPLE



Desert tortoise crossing the road in Joshua Tree National Park.
Photo Credit: National Park Service.

Roads and traffic are drivers of habitat loss and fragmentation, which have been identified as major stressors on California's unique ecosystems and biodiversity (CDFW 2015). As barriers to wildlife movement and the cause of injuries and mortalities due to wildlife vehicle collisions, roads and traffic can affect an animal's behavior, movement patterns, reproductive success, and physiological state, which can lead to significant impacts on individual wildlife, populations, communities, and landscapes (Trombulak and Frissell 2000, Haddad et al. 2015, van der Ree 2015, Ceia-Hasse et al. 2018). For example, habitat fragmentation from roads and traffic has been shown to cause mortalities and harmful genetic isolation in mountain lions in southern California (Riley et al. 2006, 2014, Vickers et al. 2015), increase local extinction risk in amphibians and reptiles (Cushman 2006, Brehme et al. 2018), cause high levels of avoidance behavior and mortality in birds (Benitez-Lopez et al. 2010, Loss et al. 2014), and alter pollinator behavior and degrade habitats (Trombulak and Frissell 2000, Goverde et al. 2002, Aguilar et al. 2008). In addition, wildlife vehicle collisions pose a major public safety and economic threat. Over the last three years (2015-2017) it is estimated that 7,000 to 23,000 wildlife vehicle collisions have occurred annually on California roads (Shilling et al. 2017, Shilling et al. 2018, State Farm Insurance Company 2016, 2018). These crashes result in human loss of life, injuries, emotional trauma, and property damages that can add up to \$300-600 million per year.

Caltrans' mission statement is to "[p]rovide a safe, sustainable, integrated, and efficient transportation system to enhance California's economy and livability" (Caltrans 2018a). Thus, **Caltrans should include an additional goal in the CTP 2050 to maintain and improve climate-wise connectivity to sustain functional, healthy ecosystems and ensure public safety.** This can be accomplished by avoiding intact wildlife corridors and the implementing effective wildlife crossing infrastructure. Crossing structures are useful as mitigation for new projects and as retroactive restoration in areas where existing roads have high incidence of wildlife vehicle conflict or where species movement has been severely impacted. When appropriately implemented, wildlife crossing infrastructure has been shown to improve wildlife permeability and reduce wildlife vehicle collisions (Dodd et al. 2004, 2012, Bissonnette and Rosa 2012, Sawyer et al. 2012, Sawaya et al. 2014, Kintsch et al. 2018). Thus, by maintaining and restoring climate-wise habitat connectivity that facilitates movement required for current and future species ranges and behaviors, Caltrans would improve driver safety while allowing California's special biodiversity to thrive.

II. CALTRANS IS NOT ADEQUATELY ADDRESSING WILDLIFE MOVEMENT OR HABITAT CONNECTIVITY ISSUES



A baby black bear was struck by a car on the road and a red fox feeds on roadkill.
Photo credit: Robert Berdan.

Because Caltrans has authority and jurisdiction over most of California's roads and highways, Caltrans is the best suited agency to make roads safe for both motorists and wildlife. Caltrans should be proactively addressing the environmental and public safety impacts that result from the maintenance, design, construction, and traffic of California roads. However, Caltrans is failing to keep people safe and ecosystems healthy by neglecting to acknowledge the need for appropriate data to determine priority areas for preserving, enhancing, or developing effective wildlife connectivity on existing or planned roads. Caltrans is falling behind other state transportation departments that are prioritizing road safety and wildlife connectivity in their project design and implementation.

A. Caltrans has insufficient data to identify priority areas, determine the magnitude of the problem, and inform effective mitigation

In July and August of 2018 the Center requested roadkill and wildlife vehicle collision data under the California Public Records Act (PRA), Government Code § 6250 *et seq.* In

response to the PRA requests, the Center received various documents, including records and summary reports of animal hits from 2010 to 2017 from the Transportation Systems Network (TSN) (these are reported animal vehicle collisions), carcass removal data from 2001 to 2018 from Caltrans Division of Maintenance, and website links to spatial data (i.e., GIS layers) for the locations of bridges, underpasses, culverts, and traffic volume (Appendix 1). In addition, the Center received a 2017 contract not to exceed \$250,000 between Caltrans and the Western Transportation Institute (WTI) to conduct a hotspot analysis for large mammal-vehicle collisions in California, the data used by WTI for their analyses, and summaries of WTI’s preliminary analyses (Appendix 2).

Following a close review of the documents, it became apparent that Caltrans has failed to systematically collect or record roadkill data. This is concerning because systematic, reliable roadkill and animal vehicle collision data are needed to accurately identify the existence and magnitude of road safety and conservation issues (Donaldson 2017, Shilling et al. 2018). Carcass removal data input varied and often did not include important details like species information, date and time information, or specific location information. For example, the 52 recorded roadkill pickups in 2017 in District 7 (Los Angeles and Ventura Counties) included two dogs, one coyote, one raccoon and 48 unidentified species. These data are insufficient for meaningful analyses. Alarming, four of the 12 Caltrans Districts (9, 10, 11, and 12) had no roadkill data for the past seven years (2011-2017), even though they cumulatively had an average of ~1200 roadkill pickups annually from 2004 to 2010. In addition, several of the remaining Districts with data, including Districts 4 (the San Francisco Bay Area) and 7 (Los Angeles and Ventura Counties), had markedly less records compared to previous years. The lack of data and low numbers contradict a study conducted by the UC Davis Road Ecology Center, which identified wildlife vehicle collision hotspots in all of these Districts using independently collected roadkill data from the California Roadkill Observation System and Caltrans animal crash data (Shilling et al. 2018). See Figure 1.

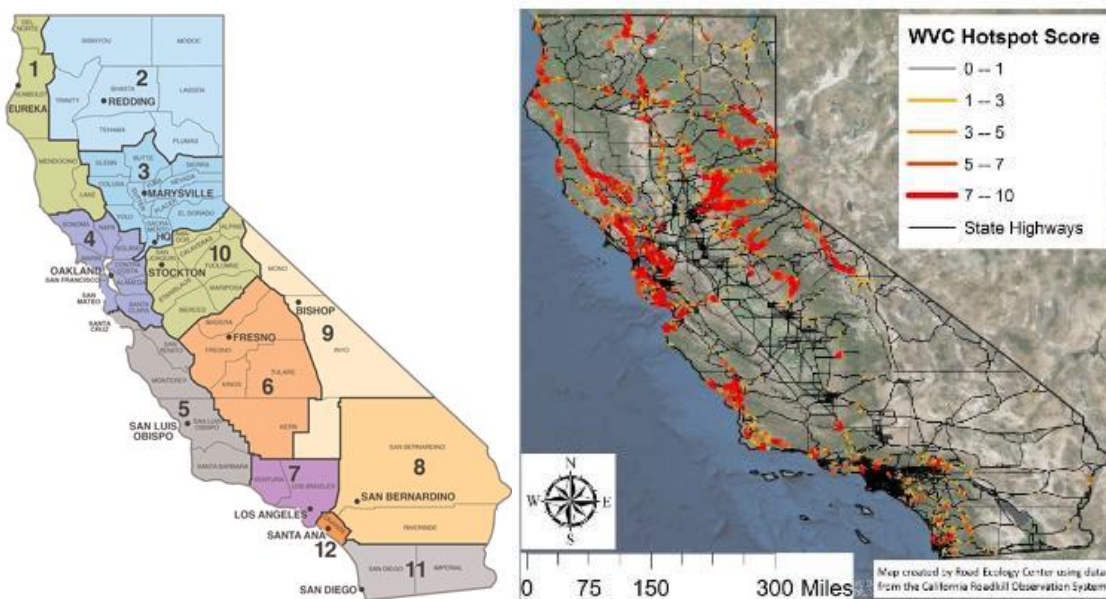


Figure 1. Map of Caltrans Districts and identified wildlife vehicle collision hotspots.
Sources: Caltrans, Shilling et al. 2018.

According to the WTI summary regarding carcass removal (Appendix 2.2), the number of records in the database for species of concern to human safety (except for mule deer) or biological conservation were low, and “[l]ooking at the species distribution maps for CA, there are probably many more hit of these species in locations that did not report these species at all” (Appendix 2.2). Thus, WTI concludes that the data are insufficient “to conduct meaningful analyses” on any species other than deer (Appendix 2.2). Search and reporting effort seemed to vary among the districts over time, and WTI recommended that Caltrans implement the same level of higher effort across all Caltrans Districts in order to be able to accurately identify roadkill hotspots and improve safety for both drivers and wildlife.

While animal collision data from reported crashes were somewhat better, there were significant discrepancies between data summaries from Caltrans and WTI. For example, Caltrans reported 10,538 total reported crashes with animals from 2005-2014, with 33 human fatalities and 1,708 human injuries (Appendix 2.4). WTI’s numbers were slightly different, with 10,552 reported animal collisions, 28 human fatalities, and 1,617 human injuries within that same timeframe (Appendix 2.3). The reasons for the mismatching numbers are unclear, but similar issues have occurred with other independent analyses of Caltrans data. Shilling et al. (2018) reported one fatality and 268 injuries from reported animal collisions in 2017 while Caltrans (2018b) reported 12 fatalities and 383 injuries. More data transparency is needed so these kinds of issues can be resolved, and accurate information can be provided to decisionmakers.

The large mammal vehicle collision hotspot analysis that Caltrans contracted out is narrow in focus and does not comprehensively address issues of habitat fragmentation and driver safety, as other animals on or near roads can be involved in crashes (Shilling et al. 2017, 2018). Caltrans’ insufficient data further limits WTI’s analysis to only mule deer, even though numerous other large mammals, such as mountain lions, black bears, and elk, are hit on California roads every year (Shilling et al. 2017, 2018). In addition, injuries and fatalities sustained by animals that are hit can impact the resilience and persistence of a species’ population (Trombulak and Frissell 2000, Marsh and Jaeger 2015, van der Ree 2015, Ceia-Hasse et al. 2018). Thus, this kind of limited analysis does not provide sufficient information regarding how to effectively minimize the environmental and safety impacts of roads and traffic.

The lack of systematic animal collision and roadkill data undermines Caltrans’ ability to accurately identify where and how often animal collisions are occurring. According to both Caltrans’ summary report and WTI’s preliminary analyses using only Caltrans’ reported animal crash data, there was an average of about 1,000 reported animal collisions per year between 2005 and 2014 (Appendix 2). However, independent analyses of Caltrans’ animal crash data combined with roadkill data recorded by volunteer scientists in the California Roadkill Observation System showed that ~7,000 animal collisions per year occurred between 2015 and 2017 (Shilling et al. 2017, 2018). Although these analyses are conducted for different timeframes, the stark difference in the magnitude of animal collisions occurring on California roads requires more attention. In addition, these estimates likely underrepresent the actual number of annual animal collisions. Several studies indicate that these types of collisions are often underreported (Donaldson and Lafon 2008, Donaldson 2017), which is further supported by car insurance claims; State Farm Insurance Company estimated that there were >23,000 deer collision claims per fiscal year from

2015-2018 (State Farm 2016, 2018). This underscores the need for systematic roadkill and crash data to determine animal crash hotspots so that the issues of wildlife movement and habitat connectivity on existing roads can be appropriately addressed. **The lack of such data makes Caltrans unable to effectively mitigate these wildlife vehicle collisions, thereby making them unable to make roads safer for both people and wildlife.** Without systematically collecting and analyzing roadkill and animal crash data, Caltrans will not be able to accomplish their mission to “[p]rovide a safe, sustainable, integrated, and efficient transportation system to enhance California’s economy and livability” (Caltrans 2018a).

B. Caltrans is not building enough wildlife crossing infrastructure.



Bobcat at a culvert. Photo credit: National Park Service.

According to Shilling et al. (2018), Caltrans builds only 2-3 wildlife crossings per year statewide, which is grossly insufficient to address the major threat that roads pose to wildlife connectivity and driver safety (12 human deaths and 383 human injuries due to ~7,000-23,000 wildlife vehicle collisions in 2017 [Caltrans 2018b, Shilling et al. 2018, State Farm Insurance Company 2018]). Generally, these crossings are not standalone projects that have the purpose of addressing wildlife connectivity issues; instead, they are embedded as mitigation in larger construction/expansion/maintenance projects that have already been approved or funded. Although embedded mitigation measures are important for minimizing connectivity impacts of those types of projects, they are limited in addressing wildlife connectivity and driver safety needs in identified high priority areas. Many identified major wildlife vehicle collision hotspots are not in areas where Caltrans has planned projects (Shilling et al. 2018). Thus, **a more efficient and effective way to address wildlife connectivity and driver safety issues is to proactively implement wildlife crossing infrastructure in areas where wildlife vehicle collisions are most numerous.**

An exception to this pattern is the Highway 17 Connectivity Project, a collaboration between Caltrans and local/regional stakeholders, including the UC Santa Cruz Puma Project, Pathways for Wildlife, Midpeninsula Regional Open Space District, Peninsula Open Space Trust, the Land Trust of Santa Cruz County, Santa Clara Valley Transportation Authority, and others, in the Santa Cruz Mountains. Based on existing knowledge of local experts, wildlife movement studies (with GPS telemetry data and camera monitoring data), and roadkill data analyses, wildlife vehicle collision hotspots were identified at Laurel Curve and Lexington Reservoir on Highway 17 and have been prioritized for the maintenance of habitat connectivity and the implementation of wildlife crossing infrastructure (Diamond et al. 2015). Land was purchased to preserve high quality habitat in the high priority areas on both sides of Highway 17 and the best locations to facilitate wildlife connectivity and reduce wildlife vehicle collisions were chosen to retrofit, construct, and maintain wildlife crossing structures (underpasses and culverts) (Diamond et al. 2015). The project is currently in the design phase and construction is expected to begin in 2020 (Gary 2018). More projects like the Highway 17 Connectivity Project need to be proactively planned, funded, and implemented.

C. Other state transportation departments are proactively addressing wildlife connectivity and wildlife movement issues.



Deer on a wildlife overpass in Colorado. Photo credit: Josh Richert.

Spotted salamanders exiting an underpass in Massachusetts. Photo credit Noah Charney.

Outside of California many states, including Arizona, Colorado, Florida, Montana, Nevada, Oregon, New Mexico, Utah, Washington, and Wyoming, have been proactively addressing wildlife connectivity issues and realizing the benefits of wildlife crossing infrastructure. For example, Arizona, Colorado, and Wyoming have seen 80-96% reductions in wildlife vehicle collisions while gradually increasing the level of wildlife permeability over time (it appears that some species take more time than others to adapt to crossings) on sections of highways where they have implemented wildlife crossing infrastructure, such as underpasses, culverts, overpasses, wildlife fencing, and escape ramps (Sawyer et al. 2012, Dodd et al. 2012, CDOT 2017, Kintsch et al. 2018). Utah just completed the state's largest wildlife overpass at Parleys Canyon for moose, elk, and deer. Washington State is about to complete its largest wildlife overpass on I-90, which is anticipated to provide habitat connectivity for a wide variety

of species between the North and South Cascade Mountains. The overpass cost \$6.2 million as part of a larger \$900 million expansion project that will include multiple wildlife crossings along a 15-mile stretch of highway. Savings from less hospital bills, damage costs, and road closures from fewer wildlife vehicle collisions will make up those costs in a few years (Valdes 2018). State transportation departments are actively pursuing these types of projects because of the benefits for wildlife connectivity, public safety, and the economy. California needs to follow suit and more actively invest in preserving habitat connectivity where there are no roads while also enhancing or restoring connectivity where roads or other transportation infrastructure already exist.

III. RECOMMENDATIONS FOR IMPROVED WILDLIFE CONNECTIVITY AND DRIVER SAFETY



Mountain lion using a culvert. Photo credit: Parks Canada.

Caltrans has stated that they are motivated to “provide a modern, statewide transportation system that is clean, safe, and integrated” (Caltrans 2014), and they proclaim that they “want the department to be the best state Department of Transportation in the country – one that is broadly viewed as well-performing, efficient, transparent, accountable and modern” (Caltrans 2014). If Caltrans is serious about being a leader in making California’s transportation infrastructure safe and sustainable, then they have some catching up to do. Caltrans must consider how to accommodate, enhance, and restore habitat connectivity and wildlife movement in the design, planning, and implementation of multimodal transportation systems. Below are recommendations the Center proposes Caltrans adopt in the CTP 2050.

Recommendation 1: Collect and analyze standardized roadkill and wildlife vehicle collision data.

Standardized roadkill and wildlife vehicle collision data should be a priority for transportation planning and wildlife management (Dodd et al. 2012, Shilling et al. 2017, 2018, Donaldson 2017). Data from reported collisions alone is insufficient, as collisions are often vastly underreported (Donaldson and Lafon 2008, Donaldson 2017, Shilling et al. 2017, 2018). In addition, data transparency is needed for accurate analyses to take place. Olson et al. (2014) has shown that implementing available technologies, such as GPS, mobile applications, map viewers, and electronic databases, is a cost-effective way to improve data efficiency, accuracy, and management. Utah's state personnel use a wildlife vehicle collision reporter mobile app to record roadkill data (Ashland 2018). California should do the same. Standardized data and data transparency will allow for analyses to be conducted at a finer spatial scale so that priority areas for wildlife road conflict can be accurately identified and appropriate mitigation measures can be implemented. These data should be made publicly available for other agencies and organizations to use and analyze.

Recommendation 2: Build climate-wise wildlife crossing infrastructure in high priority areas.

Caltrans should proactively identify high priority areas for wildlife crossing infrastructure using the best available scientific information and implement them as standalone retrofit projects. Although Caltrans does not currently have sufficient roadkill and wildlife collision data, they can turn to other experts for guidance regarding priority areas to investigate or address now. The scientific community is a valuable resource that can provide Caltrans with information regarding connectivity issues. For example, CDFW's California Essential Habitat Connectivity Project provides a working foundation to build upon. It can help identify areas that require finer-scale data collection and analyses to determine where there are intact connectivity areas to prioritize for preservation or areas that require connectivity enhancement or restoration. Caltrans should integrate systematic roadkill and wildlife vehicle collision data with existing data and platforms to improve their understanding of habitat connectivity and wildlife movement issues on existing and planned transportation infrastructure.

There are other sources of information that can be consulted to proactively address connectivity issues on California's roads. The UC Davis Road Ecology Center has published multiple studies in which they identify wildlife vehicle collision hotspots using Caltrans' animal collision data combined with roadkill data collected by volunteer scientists throughout the state (Shilling et al. 2017, 2018). These studies can be used to inform wildlife connectivity projects to reduce wildlife vehicle collisions and improve driver safety. Studies and experts can also be consulted to determine priority areas where species of conservation concern are being impacted by roads. For example, a 2009 study shows that traffic on Vasco Road in Livermore, CA causes high levels of mortality in two federally threatened species, California red-legged frogs and California tiger salamanders (Mendelsohn et al. 2009). Due to the sensitivity of these species and their need to migrate from terrestrial burrows to temporal pools for breeding, this area should be prioritized for connectivity infrastructure to facilitate the safe passage of these amphibians along this road. Caltrans should use the best scientific information available to protect, enhance, or

restore wildlife connectivity at existing and planned roads or other transportation infrastructure. These projects should be planned and implemented as standalone retrofit projects.

Recommendation 3: Prioritize wildlife movement and habitat connectivity on ALL transportation projects.

Caltrans should adequately assess the impacts of all maintenance, expansion, or new transportation projects on wildlife movement and habitat connectivity and require connectivity actions through the California Environmental Quality Act (CEQA) process. They should consult with CDFW as well as local and regional stakeholders to accurately identify connectivity impacts due to their projects and appropriately mitigate those impacts through avoidance and minimization measures. Local and regional wildlife movement, habitat connectivity, and wildlife vehicle collision data should be collected and analyzed in the project area before projects are approved and budgets are set (Lesbarreres and Fahrig 2012, Shilling et al. 2018). New and renovated roads should be designed with wildlife connectivity in mind – it is easier to plan a new road to avoid or minimize impacts to wildlife connectivity than it is to retroactively build wildlife crossings.

Caltrans recently published climate change vulnerability assessments that bring attention to current and potential future damage on roads and other transportation infrastructure due to extreme weather events associated with climate change (Caltrans 2018c). With climate change predicted to alter the landscape, it is important to consider potential shifts in wildlife movement patterns due to changes in species distributions and home ranges. To further increase the resiliency of the state highway system to climate change, Caltrans should integrate climate-wise wildlife connectivity needs, in consultation with CDFW and other connectivity experts, as they rebuild damaged roads, retrofit existing roads, and construct new roads. This, in addition to their proactive approach to other climate change vulnerabilities, will improve California's transportation infrastructure and help keep people and wildlife safe.

Recommendation 4: Designate an expert unit dedicated to address wildlife connectivity issues. This unit should form strategic collaborations and partnerships with other connectivity experts.

Caltrans should establish a dedicated team of experts to address the complicated and expansive issues of wildlife movement and habitat connectivity. In addition, Caltrans should involve wildlife connectivity experts from CDFW and other agencies, organizations, academic institutions, communities, and local groups at the beginning of transportation projects so that climate-wise connectivity can be strategically integrated into project design and appropriately considered in the project budget.

Caltrans should crowdsource for local knowledge by sponsoring, coordinating, and organizing connectivity working groups with local and regional stakeholders, including agencies, organizations, academic institutions, and communities, to more easily identify priority connectivity issues. As part of these working groups Caltrans engineers should be trained and updated on how high priority areas for wildlife road conflict are identified and best practices to incorporate climate-wise wildlife connectivity actions.

Recommendation 5: Evaluate the effectiveness of wildlife crossing infrastructure to inform future mitigation.

To provide appropriate mitigation for habitat connectivity and wildlife movement, the effectiveness of wildlife crossing infrastructure planning, design, and strategies should be thoroughly and systematically evaluated to determine which strategies work better than others and how they can be improved. This should include the long-term monitoring and maintenance of crossing infrastructure as well as the use of appropriate metrics that adequately reflect effectiveness, such as species passage rates and counts of wildlife vehicle collision occurrences. In addition, Caltrans should archive stamped engineering plans and drawings for crossings for engineers to reference for future projects. The data and evaluations should inform future mitigation strategies and be made available to the public.

Recommendation 6: Upgrade existing culverts to facilitate wildlife connectivity as part of routine maintenance.

A vast system of culverts already exists throughout California's road systems. Although some were built for purposes unrelated to habitat connectivity and wildlife movement, many can function as corridors for multiple species. Upgrading culverts to accommodate wildlife movement as part of standard routine maintenance could increase connectivity. Arizona does this on their highways. Caltrans already alters culverts for use by humans and farm animals (*e.g.*, horses, cattle). They should extend this practice to include improvements for habitat connectivity and wildlife movement.

Recommendation 7: Provide up-to-date guidance for best practices to improve climate-wise connectivity.

Caltrans' 2009 wildlife crossing guidance manual is outdated. Caltrans should be using the best available scientific information to preserve or improve habitat connectivity for multiple species, including small, medium, and large mammals, amphibians, reptiles, birds, fish, and invertebrates. Guidance should adequately reflect the ecological and behavioral needs of target species as well as climate change adaptations. As mentioned previously, strategic partnerships with connectivity experts from various agencies, institutions, and organizations could inform best practices to preserve, enhance, and restore wildlife connectivity. In addition, information from previous mitigation strategies, including those conducted within California as well as in other states (*e.g.*, Dodd et al. 2012, CDOT 2017) should provide insight on how to design the most effective wildlife crossing infrastructure. Caltrans should facilitate best practices by updating their wildlife crossing guidance manual to reflect the best available scientific information regarding wildlife connectivity. Guidance should incorporate lessons learned and areas in need of improvement based on previous projects and mitigation measures.

Recommendation 8: Engage with volunteer and community scientists and platforms.

Using data collected by community and volunteer scientists can be a cost-effective way to acquire reliable data needed to identify general patterns and conservation needs across large

biogeographical spatial scales (Devictor et al. 2010). Thus, using community science can help in identifying high-risk areas for wildlife connectivity and driver safety (Olson et al. 2014, Waetjen and Shilling 2017, Periquet et al. 2018), as evidenced by the studies from the Road Ecology Center (Shilling et al. 2017, 2018). Caltrans should work with community science platforms like the California Roadkill Observation System, iNaturalist, or other mobile applications to incorporate additional data into their database that can be included in their analyses.

Recommendation 9: Improve multimodal transportation design.

According to Caltrans, Californians seek more opportunities for walking, biking, or using public transit (Caltrans 2016). Yet Caltrans continues to focus most of their efforts on building and expanding more roads to accommodate (and facilitate) more cars. According to a 2017 analysis by INRIX, Los Angeles and San Francisco are two of the three most congested cities in the US, and at #1, Los Angeles residents spend over 100 hours a year stuck in traffic, which is estimated to cost the city's economy over \$19 billion (McCarthy 2018). Long commutes cause increased stress levels and leave little to no time to exercise or spend time with families or communities, which can lead to mental and physical health impacts, reduced quality of life, and shorter life spans (Leyden et al. 2003, Frumkin et al. 2004, Ewing et al. 2008). In addition, emissions from road transportation contribute to poor air quality that can lead to serious health effects, including respiratory and cardiovascular disease, compromised birth outcomes, and premature death (Anderson et al. 2011, Lin et al. 2012, Caiazzo et al. 2013, Chen et al. 2017). A recent study found that emissions from road transportation cause 53,000 premature deaths annually in the US, and California has about 12,000 early deaths every year due to air pollution from road transportation and commercial/residential sources (Caiazzo et al. 2013). Thus, Caltrans has a responsibility to make roads and other transportation infrastructure safer for drivers and communities where there are roads. Major cities around the world are acknowledging the detrimental effects of roads and traffic on people, and they are shifting their land use design focus from cars to human health and well-being (Conniff 2018). By reducing the amount of new roads and implementing design oriented towards pedestrians, cyclists, and transit instead of cars, Caltrans can (and should) create transportation infrastructure that improves public health and safety and preserves wildlife connectivity.

Recommendation 10: Allocate more funding to prioritize wildlife connectivity.

Wildlife connectivity is already severely impaired by over 400,000 road miles in California (FHWA 2017). Caltrans should prioritize restoring connectivity on existing roads by funding studies on how to improve connectivity and funding action towards reestablishing habitat connections. Although Caltrans is the lead agency for the Liberty Canyon Wildlife Connectivity Project, the first constructed wildlife overpass in California (Caltrans 2018d), unless funding is secured the project cannot be completed. Caltrans should not rely solely on outside sources to implement needed connectivity mitigation on roads they are managing. They should allocate more of their own funding to connectivity projects like Liberty Canyon to effectively restore wildlife connectivity.

V. CONCLUSION

California is a biodiversity hotspot with many endemic species and unique habitats. The health of these ecosystems and human well-being are intertwined, and they intersect on California's roads. Thus, to preserve healthy ecosystems and keep people safe as human populations continue to increase and climate change progresses, Caltrans has a responsibility to design and implement transportation infrastructure that facilitates climate-wise wildlife movement and habitat connectivity.

Thank you for the opportunity to submit comments on the California Transportation Plan 2050. Please add the Center to your notice list for all future updates to the California Transportation Plan 2050. We look forward to working to assure that Caltrans integrates climate-wise wildlife movement and habitat connectivity into California's transportation infrastructure design to safeguard the health and safety of both people and the natural environment. Please do not hesitate to contact the Center with any questions at the number or email listed below.

Sincerely,



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encl:
Appendices
Cited References

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(provided on CD via FedEx)

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APPENDICES

File	Description	Attached	Provided on CD
	APPENDIX 1		
A1.1	Center for Biological Diversity PRA dated Aug 9, 2018	x	
A1.2	Caltrans PRA Response dated Sept 14, 2018	x	
A1.3	Caltrans carcass removal data (excel spreadsheet)		x
A1.4	Caltrans animal crash data 2010-2017 Summary	x	
A1.5	Caltrans animal crash data 2010-2017 Detail		x
A1.6	zip drive of Caltrans culverts		x
A1.7	zip drive of Caltrans culverts		x
A1.8	Caltrans animal crash data key		x
	APPENDIX 2		
A2.1	Contract between Caltrans and Western Transport Institute (WTI) dated May 26, 2017	x	
A2.2	WTI summary report on Caltrans carcass data 2001-2009	x	
A2.3	WTI summary report on Caltrans animal crash data 2005-2014	x	
A2.4	Caltrans animal crash data 2005-2014	x	
A2.5	WTI - Caltrans animal crash data 2005-2014		x
A2.6	WTI - Caltrans animal crash data key		x

APPENDIX A1.1



August 9, 2018

Via U.S. Mail and Email:

Marcy Freer
Public Records Officer
Office of the General Counsel
Caltrans
1120 N Street
Sacramento, California 95814
marcy.freer@dot.ca.gov

Re: California Public Records Act Request: Caltrans Wildlife-Vehicle Collision Data, Dated July 5, 2018

Dear Ms. Freer:

On July 5, 2018, pursuant to the California Public Records Act, Government Code § 6250 *et seq.*, we requested any and all “public records” relating to wildlife vehicle collision data from all Caltrans Districts and Caltrans Headquarters, as follows:

1. Wildlife-vehicle-collision (roadkill carcass and vehicle collision) data from earliest date available to present from all Caltrans Districts and Caltrans Headquarters. This includes but is not limited to data within the Traffic Accident Surveillance and Analysis System (TASAS) and the Integrated Maintenance Management System (IMMS) databases, data maintained by Districts or Headquarters in Geographic Information Systems, and data from all Divisions and Offices or similar. Please include all data or reports relevant to wildlife-vehicle collisions or entities related to wildlife-vehicle collisions, including but not limited to data and reports from or to the California Department of Fish and Wildlife and the US Fish and Wildlife Service.
2. Electronic, GIS-compatible Point-Mile and Tenth Point-Mile highway-segment traffic volumes spatial datasets from 2010 to present for all state highways and existing, completed, and proposed wildlife crossings (e.g., maintained bridges/underpasses and culverts) spreadsheets and spatial datasets from 2010 to present for all state highways.

Per Government Code § 6253.9 we requested that the data be provided in the form of spreadsheets compatible with software analysis programs (e.g., xls or csv files) and spatial data compatible with ArcGIS (e.g., shapefiles). We also had asked that all files come with the appropriate metadata, including column heading descriptions for tabular data and code keys.

On July 12, 2018 we received roadkill data from IMMS in an Excel spreadsheet. Neither a code key nor heading descriptions were initially provided. We requested these on July 16, 2018, and received them on July 17, 2018. The data provided did not include any spatial data, nor did it provide appropriate resolution for spatial analysis.

On July 16, 2018 we received animal vehicle collision data from TASAS/TSN in the form of Word documents and text files. These data were not provided in a spreadsheet compatible with analysis programs, as requested, nor were they accompanied with the appropriate metadata. And again, no spatial data were provided. In addition, the response did not include any data regarding traffic volumes and wildlife crossings (item #2 in our original request). Yet according to Caltrans, our request was complete and the file was closed.

On July 26, 2018 we sent an email to Caltrans stating that we had not yet received all of the requested data and they had prematurely closed the file. We requested that the TASAS/TSN data be provided in an Excel or csv file, with a code key and header definitions. We also requested spatial data for both the IMMS and the TASAS/TSN data and the missing spatial data regarding traffic volumes and wildlife crossings. Caltrans responded on August 1, 2018, stating they could not provide the data in an Excel format. They resent a summary text file for the TASAS/TSN data, and they provided the following links to GIS data (not the specific GIS data requested):

- <http://www.dot.ca.gov/hq/tsip/gis/datalibrary/index.php>
- <https://caltrans.maps.arcgis.com/apps/webappviewer/index.html?id=11293df57acf40c99479aa9f466ce9ba>

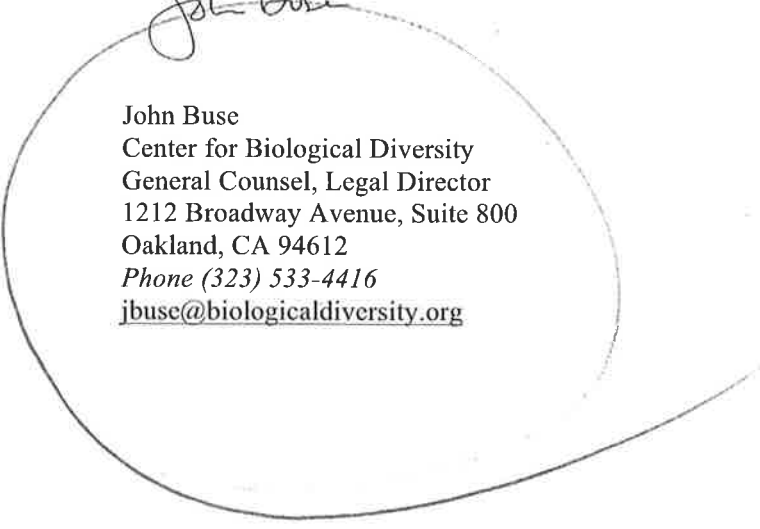
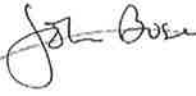
We are aware that the Western Transportation Institute (WTI) is working with Caltrans to conduct hotspot analyses for large mammal-vehicle collisions in California (https://westerntransportationinstitute.org/research_projects/hotspot-analyses-for-large-mammal-vehicle-collisions-in-california/), and data provided by Caltrans to WTI as well as any follow up data from WTI would fall within the scope of our request. Therefore, we expect those data to be provided in Caltrans' response. We respectfully request the contract between Caltrans and WTI for this project.

In summary, Caltrans has not fully responded to our request, and the file should not be closed. We will consider our initial PRA request complete once we receive the following:

1. Any and all carcass/roadkill data from IMMS, TASAS/TSN, or in standalone databases (GIS or otherwise) maintained by Caltrans Headquarters and individual districts (which should include, among other things, data provided to or by WTI).
 - a. Spreadsheets – csv or Excel files
 - b. Spatial data – GIS layers (*i.e.*, shapefiles)
 - c. Associated metadata for all files
2. Locations of current maintained bridges, underpasses, and culverts
 - a. Spatial data – GIS layers (*i.e.*, shapefiles)
 - b. Associated metadata for all files
3. Traffic volume data
 - a. Spatial data – GIS layers (*i.e.*, shapefiles)
 - b. Associated metadata for all files
4. Contract between Caltrans and WTI for the hotspot analysis project for large mammal-vehicle collisions in California

Thank you for time. We look forward to your response. If you have any questions or suggestions for facilitating this request, please email me at jbuse@biologicaldiversity.org or call me at (323) 533-4416. Thank you for your assistance.

Sincerely,



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jbuse@biologicaldiversity.org

APPENDIX A1.2

September 14, 2018

CPRa Request Replies To: Center for Biological Diversity

Dear Mr. Buse,

As your request is currently stated, not all records in Caltrans' possession are maintained or readily available in the specific format(s) that you have requested. Some divisions do own reporting systems that work with your requested formats, but not all. For any replies mentioned below that are not addressed in your specified format(s), please know that Caltrans does not produce those requested records in the requested format(s). Moreover, those requested electronic format(s) are not such that have been used by Caltrans to create copies of the subject records for its own use or for provision to other agencies.

We are providing to you, the most current records noted from those Caltrans divisions deemed appropriate to address this multi-faceted CPRa request. This letter summarizes what docs (or some links are provided below) are included. Some of the docs attached to the CPRa system are too large to read/open; therefore, we will also copy them onto a flash drive or disk to mail to you tomorrow. Your questions are below in bold black font; specific Caltrans divisions noted in blue font; their replies in black font referencing links or documents attached to this response.

1. Any and all carcass/roadkill data from IMMS, TASAS/TSN, or in standalone databases (GIS or otherwise) maintained by Caltrans Headquarters and individual districts (which should include, among other things, data provided to or by WTI):

a. Spreadsheets – csv or Excel files –

DRISI: Unfortunately, the TSN TSAR report is available only in pdf, text or doc format. Please see attached docs. It is not available in csv or Excel formats.

Division of Maintenance:

See attached Doc – 2018 Carcass CPRa; Sheet 1 contains 'Legend'; Sheet 2 contains 'Key'.

b. Spatial data – GIS layers (i.e., shapefiles) –

DRISI: Currently there are no GIS layers for collision data in TSN.

c. Associated metadata for all files –

DRISI: TSN uses collision data from CHP's SWITRS database; see TSAR reference card.

2. Locations of current maintained bridges, underpasses, and culverts:

a. Spatial data – GIS layers (i.e., shapefiles) –

DRISI: See link to the Caltrans GIS Library – regarding bridges:

<http://www.dot.ca.gov/hq/tsip/gis/datalibrary/Metadata/Bridges.html>

Division of Maintenance:

See attachment(s) - Culverts data to June 2018; Bridges data Excel file - April 1, 2017

Also from [Structure, Maintenance & Investigations](#) – Bridges reporting: US.DOT-FHWA – 2017;

See - <https://www.fhwa.dot.gov/bridge/nbi/ascii.cfm>

b. Associated metadata for all files – captured within; no additional keys.

3. Traffic volume data:

a. Spatial data – GIS layers (i.e., shapefiles) –

DRISI: See link to the Caltrans GIS Library – regarding traffic volumes

<http://www.dot.ca.gov/hq/tsip/gis/datalibrary/Metadata/AADT.html>

Division of Traffic Operations:

See shapefiles Traffic Volumes (Vehicle and Truck) on [Caltrans GIS Data Library](#)

b. Associated metadata for all files – captured within; no additional keys.

4. Contract between Caltrans and WTI:

a. For the hotspot analysis project for large mammal-vehicle collisions in California –

Division of Environmental Services:

See attachment including seven (7) docs of reporting, and this link is provided for you here:

- GIS – Critical Habitat. See link in Data Basin for CH-Region 8. Select CA records within the downloaded file > <https://psw.databasin.org/datasets/0185da5b1b0048cebef752f26c241e99>
- Click on "view record" in link above and download the zip file that is lower on the linked page.

Denise Delaney

Division of Research, Innovation and System Information (DRISI)

APPENDIX A1.4

California Department of Transportation

OTM22215

TSAR - ACCIDENT SUMMARY

Policy controlling the use of Traffic Accident Surveillance and Analysis System (TASAS) - Transportation Systems Network (TSN) Reports

1. TASAS - TSN has officially replaced the TASAS - "Legacy" database.
2. Reports from TSN are to be used and interpreted by the California Department of Transportation (Caltrans) officials or authorized representative.
3. Electronic versions of these reports may be emailed between Caltrans' employees only using the State computer system.
4. The contents of these reports shall be considered confidential and may be privileged pursuant to 23 U.S.C. Section 409, and are for the sole use of the intended recipient(s). Any unauthorized review, use, disclosure or distribution is prohibited. If you are not the intended recipient, please contact the sender by reply e-mail and destroy all copies of the original message. Do not print, copy o

California Department of Transportation

OTM22215

TSAR - ACCIDENT SUMMARY

REPORT PARAMETERS:

REPORT DATE : 07/16/2018
 REFERENCE DATE : 07/16/2018

SUBMITTOR : TRBDOMSI

REPORT TITLE : ' Animal hits '
 EVENT ID : 4026444

LOCATION CRITERIA:

Statewide Report

SELECTION CRITERIA:

1 1 AND 600 - PARTY TYPE IN W,X,Z

Accidents Date Range:

From -- 01/01/2010 To -- 12/31/2017

OTM22215

Page#1

07/16/2018 TASAS SELECTIVE RECORD RETRIEVAL Event 4026444
 08:14 AM TSAR - ACCIDENT SUMMARY ID
 ' Animal hits '

TOTAL		PERSONS		MOTOR VEHICLES INVOLVED				<---LINES CODED--->	
ACCIDENTS	FATAL	INJURY	PDO	KILLED	INJURED	NUMBER	PCT	CODE	NUMBER
9087	25	1097	7965	30	1322				
					8871	97.6	1		3 0.0 1
					181	2.0	2		8851 97.4 2
					22	0.2	3		189 2.1 3
					7	0.1	>3		36 0.4 4
									4 0.0 5
									1 0.0 6
									3 0.0 7
									0 0.0 8
									0 0.0 9

<---- HOUR OF DAY ---->			<--- ACCESS CONTROL --->			<--- SIDE OF HIGHWAY --->		
NUMBER	PCT	CODE	NUMBER	PCT	CODE	NUMBER	PCT	CODE
306	3.4	00- 12 MID.	4220	46.4	C-CONVENTIONAL	2855	31.4	N-NORTHBOUND

269 3.0 01- 1 A.M. 1766 19.4 E-EXPRESSWAY 2803 30.8 S-SOUTHBOUND
 265 2.9 02- 2 A.M. 3100 34.1 F-FREEWAY 1720 18.9 E-EASTBOUND
 252 2.8 03- 3 A.M. 1 0.0 S-1-WAY CITY ST 1709 18.8 W-WESTBOUND
 283 3.1 04- 4 A.M. 0 0.0 --INVALID DATA
 454 5.0 05- 5 A.M. 0 0.0 +-NO DATA
 513 5.6 06- 6 A.M.
 375 4.1 07- 7 A.M.
 355 3.9 08- 8 A.M.
 302 3.3 09- 9 A.M.
 287 3.2 10- 10 A.M. <----- YEAR -----> <----- MONTH -----> <----- DAY OF WEEK ----->

>

CODE	NUMBER	PCT	CODE	NUMBER	PCT	CODE	NUMBER	PCT
234	2.6	11-	11 A.M.	175	1.9	12-	12 NOON	
162	1.8	13-	1 P.M.	0	0.0	2006	510	5.6 01-JANUARY
140	1.5	14-	2 P.M.	0	0.0	2007	416	4.6 02-FEBRUARY
173	1.9	15-	3 P.M.	0	0.0	2008	420	4.6 03-MARCH
219	2.4	16-	4 P.M.	0	0.0	2009	604	6.6 04-APRIL
456	5.0	17-	5 P.M.	972	10.7	2010	829	9.1 05-MAY
565	6.2	18-	6 P.M.	1056	11.6	2011	814	9.0 06-JUNE
617	6.8	19-	7 P.M.	1108	12.2	2012	828	9.1 07-JULY
909	10.0	20-	8 P.M.	1182	13.0	2013	772	8.5 08-AUGUST
842	9.3	21-	9 P.M.	1102	12.1	2014	950	10.5 09-SEPTEMBER
522	5.7	22-	10 P.M.	1172	12.9	2015	1152	12.7 10-OCTOBER
402	4.4	23-	11 P.M.	1229	13.5	2016	1119	12.3 11-NOVEMBER
10	0.1	25-	UNKNOWN	1266	13.9	2017	673	7.4 12-DECEMBER

OTM22215

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07/16/2018
08:14 AM

TASAS SELECTIVE RECORD RETRIEVAL
 TSAR - ACCIDENT SUMMARY
 ' Animal hits '

Event 4026444
ID

<-- PRIMARY COLLISION FACTOR -->			<--- TYPE OF COLLISION --->			<--- ROADWAY		
CONDITION --->								
NUMBER	PCT	CODE	NUMBER	PCT	CODE	NUMBER	PCT	CODE
18	0.2	1-INFLUENCE ALCOHOL						
5	0.1	2-FOLLOW TOO CLOSE	101	1.1	A-HEAD-ON	8	0.1	A-HOLES, RUTS
4	0.0	3-FAILURE TO YIELD	31	0.3	B-SIDESWIPE	1	0.0	B-LOOSE MATERIAL
110	1.2	4-IMPROPER TURN	20	0.2	C-REAR END	87	1.0	C-OBSTRUCTION ON
ROA								
333	3.7	5-SPEEDING	109	1.2	D-BROADSIDE	49	0.5	D-CONSTRUCT-REPAIR-
ZONE								
39	0.4	6-OTHER VIOLATIONS	2984	32.8	E-HIT OBJECT	0	0.0	E-REDUCED ROAD
WIDTH								
2	0.0	B-IMPROPER DRIVING	40	0.4	F-OVERTURN	0	0.0	F-FLOODED
8469	93.2	C-OTHER THAN DRIVER	13	0.1	G-AUTO-PEDESTRIAN	24	0.3	G-OTHER
34	0.4	D-UNKNOWN	5750	63.3	H-OTHER	8882	97.7	H-NO UNUSUAL
CONDITION								
0	0.0	E-FELL SLEEP	39	0.4	<-NOT STATED	36	0.4	<-NOT STATED
73	0.8	<-NOT STATED	0	0.0	-INVALID CODES	0	0.0	-INVALID CODES
0	0.0	-INVALID CODES						

<----- WEATHER ----->			<----- LIGHTING ----->			<----- ROAD SURFACE ----->		
NUMBER	PCT	CODE	NUMBER	PCT	CODE	NUMBER	PCT	CODE
7243	79.7	A-CLEAR	2964	32.6	A-DAY LIGHT	8469	93.2	A-DRY
1469	16.2	B-CLOUDY	564	6.2	B-DUSK/DAWN	576	6.3	B-WET
218	2.4	C-RAINING	670	7.4	C-DARK-STREET LIGHT	9	0.1	C-SNOWY, ICY
10	0.1	D-SNOWING	4820	53.0	D-DARK-NO STREET LIGHT	0	0.0	D-SLIPPERY
101	1.1	E-FOG	38	0.4	E-DARK-INOPR STREET LIGHT	33	0.4	<-NOT STATED
6	0.1	F-OTHER	0	0.0	F-DARK-NOT STATED	0	0.0	-INVALID CODE
1	0.0	G-WIND	31	0.3	<-NOT STATED			
39	0.4	<-NOT STATED	0	0.0	-INVALID CODES			
0	0.0	-INVALID CODES						

<----- RIGHT OF WAY CONTROL ----->			<----- HIGHWAY GROUP ----->			<----- INTERSECTION/RAMP ACCIDENT LOCATION ----->		
NUMBER	PCT	CODE	NUMBER	PCT	CODE	NUMBER	PCT	CODE
326	3.6	A-CONTROL FUNCTIONING INTERSECTION (EXIT)	119	1.3	R-IND. ALIGN RIGHT	5	0.1	1-RAMP
2	0.0	B-CONTROL NOT FUNCTIONING	122	1.3	L-IND. ALIGN LEFT	129	1.4	2-RAMP
2	0.0	C-CONTROLS OBSCURED	4397	48.4	D-DIVIDED	7	0.1	3-RAMP ENTRY
8735	96.1	D-NO CONTROLS PRESENT INTERSECTION	4449	49.0	U-UNDIVIDED	11	0.1	4-RAMP AREA,
22	0.2	<-NOT STATED			66	0.7	5-IN INTERSECTION	
0	0.0	-INVALID CODES			9	0.1	6-OUTSIDE INTRSCCT-NONSTATE	
			8860	97.5	--DOES NOT APPLY			

OTM22215

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07/16/2018 08:14 AM	TASAS SELECTIVE RECORD RETRIEVAL TSAR - PARTY SUMMARY ' Animal hits '	ID	Event 4026444
------------------------	---	----	---------------

<----- PARTY TYPE ----->		<- MOVEMENT PRECEDING COLLISION ->				<----- OTHER ASSOCIATED FACTORS ----->	
NUMBER	PCT	CODE	NUMBER	PCT	CODE	NUMBER	PCT
6999	77.0	A-PASNGR CAR/STA WAGON	31	0.3	A-STOPPED	3	0.0
11	0.1	B-PASNGR CAR W/TRAILER	8773	96.5	B-PROCEDED STRAIGHT	6	0.1
398	4.4	C-MOTORCYCLE	46	0.5	C-RAN OFF ROAD	0	0.0

1000	11.0	D-PICKUP/PANEL TRUCK IMPROPER TURN	4	0.0	D-MAKING RIGHT TURN	20	0.2	0	0.0	4-
52	0.6	E-PICKUP/PANEL W/TRAILER SPEEDING	3	0.0	E-MAKING LEFT TURN	28	0.3	0	0.0	5-
40	0.4	F-TRUCK/TRUCK TRACTOR VIOLATIONS	0	0.0	F-MAKING U TURN	14	0.2	0	0.0	6-OTHER
185	2.0	G-TRUCK/TRACTOR & 1 TRAILER PHONE* (INATTN)	0	0.0	G-BACKING	28	0.3	0	0.0	A-CELL
21	0.2	2-TRUCK/TRACTOR & 2 TRAILER ELECTRC EQUIP*(INATTN)	149	1.6	H-SLOWING, STOPPING	0	0.0	0	0.0	B-
0	0.0	3-TRUCK/TRACTOR & 3 TRAILER RADIO/CD/HDPHN*(INATTN)	13	0.1	I-PASS OTHER VEHICLE	0	0.0	0	0.0	C-
0	0.0	4-SINGLE UNIT TANKER (INATTN)	39	0.4	J-CHANGING LANES	0	0.0	0	0.0	D-SMOKING*
2	0.0	5-TRUCK/TRA & 1 TANK TRALR OBSCUREMENT	0	0.0	K-PARKING	10	0.1	0	0.0	E-VISION
2	0.0	6-TRUCK/TRA & 2 TANK TRALR INATTENTION - OTHER	1	0.0	L-ENTER FROM SHLDR	15	0.2	0	0.0	F-
12	0.1	H-SCHOOL BUS TRAFFIC	34	0.4	M-OTHER UNSAFE TURN	2	0.0	0	0.0	G-STOP & GO
22	0.2	I-OTHER BUS RAMP	13	0.1	N-CROSS INTO OPP LN	26	0.3	3	0.0	H-ENTER/LEAVE
377	4.1	J-EMERGENCY VEHICLE COLLISION	4	0.0	O-PARKED	45	0.5	1	0.0	I-PREVIOUS
0	0.0	K-HIGHWAY CONST EQUIP.** WITH ROAD	2	0.0	P-MERGING	3	0.0	0	0.0	J-UNFAMILIAR
3	0.0	L-BICYCLE VEHICLE EQUIP	0	0.0	Q-TRAVEL WRONG WAY	0	0.0	0	0.0	K-DEFECT
44	0.5	M-OTHER-MOTOR VEH VEHICLE	40	0.4	R-OTHER	11	0.1	0	0.0	L-UNINVOLVED
11	0.1	N-OTHER-NON-MOTOR VEH	31	0.3	<-NOT STATED	38	0.4	2	0.0	M-OTHER
1	0.0	O-SPILLED LOADS			8864	97.5	15	0.2	N-NONE APPARENT	
2	0.0	P-DISENGAGED TOW			1	0.0	0	0.0	P-WIND	
0	0.0	Q-UNINVOLVED VEHICLE ACCIDENT			PEDESTRIAN	0	0.0	0	0.0	R-RAMP
0	0.0	R-MOPED			14	0.2	0	0.0	S-RUNAWAY VEHICLE	
0	0.0	T-TRAIN	1	0.0	2- XING XWALK - INTRST	0	0.0	0	0.0	T-EATING* (INATTN)
17	0.2	U-PEDESTRIAN (INATTN)	0	0.0	3- XING XWALK - NOT INTR	0	0.0	0	0.0	U-CHILDREN*
1	0.0	V-DISMOUNT PEDESTRIAN ANIMALS* (INATTN)	3	0.0	4- XING NOT XWALK	0	0.0	0	0.0	V-
826	9.1	W-ANIMAL - LIVESTOCK PERSNL HYGIENE*(INATTN)	9	0.1	5- ROADWAY - INCL SHLDR	0	0.0	0	0.0	W-
6096	67.1	X-ANIMAL - DEER (INATTN)	0	0.0	6- NOT IN ROADWAY	0	0.0	0	0.0	X-READING*
2165	23.8	Z-ANIMAL - OTHER STATED	0	0.0	7- APRH-LEAVE SCHL BUS	9069	99.8	9087	100.0	<-NOT STATED
		1244	13.7	- INVALID CODES						
					1	0.0	1	0.0	--DOES NOT APPLY	

<---- DIRECTION OF TRAVEL ----> <---- SPECIAL INFORMATION ----> * INATTENTION
CODES EFF. 01-01-01

NUMBER PCT CODE NUMBER PCT CODE

2873	31.6	N-N, NE, NW BOUND	2	0.0	A-HAZARDOUS MATERIALS
2847	31.3	S-S, SE, SW BOUND	81	0.9	B-CELL PHONE IN USE*
1722	19.0	E-EASTBOUND	8921	98.2	C-CELL PHONE NOT IN USE*
1717	18.9	W-WESTBOUND	2	0.0	D-CELL PHONE NONE/UNKNOWN*
9076	99.9	<-NOT STATED	9064	99.7	<-NOT STATED
0	0.0	--DOES NOT APPLY	10	0.1	--DOES NOT APPLY
0	0.0	-INVALID CODES	0	0.0	-INVALID CODES

* SPECIAL INFORMATION CODES EFF. 04-01-01

** INCLUDES EQUIPMENT ENGAGED IN
 CONST/MAINT ACTIVITIES AS OF
 00-02-22
 OTM22215

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07/16/2018 TASAS SELECTIVE RECORD RETRIEVAL Event 4026444
 08:14 AM TSAR - PARTY SUMMARY ID
 ' Animal hits '

<----- OBJECT STRUCK ----->

<----- LOCATION OF COLLISION ----->

PRIMARY				OTHERS				PRIMARY				OTHERS			
NUMBER	PCT	NUMBER	PCT	CODE	NUMBER	PCT	NUMBER	PCT	CODE	NUMBER	PCT	NUMBER	PCT	CODE	
1	0.0	7	0.1	01-SIDE OF BRIDGE RAILING											
0	0.0	0	0.0	02-END OF BRIDGE RAILING	5	0.1	10	0.1	A-BEYOND MEDIAN OR						
STRIPE-LEFT															
0	0.0	0	0.0	03-PIER, COLUMN, ABUTMENT	38	0.4	135	1.5	B-BEYOND SHLDER						
DRIVERS LEFT															
0	0.0	0	0.0	04-BOTTOM OF STRUCTURE	5	0.1	3	0.0	C-LEFT SHOULDER AREA						
0	0.0	0	0.0	05-BRIDGE END POST IN GORE	1972	21.7	109	1.2	D-LEFT LANE						
2	0.0	5	0.1	06-END OF GUARD RAIL	569	6.3	38	0.4	E-INTERIOR LANES						
0	0.0	0	0.0	07-BRIDGE APPROACH GUARD RAIL	6392	70.3	399	4.4	F-RIGHT LANE						
0	0.0	2	0.0	10-LIGHT OR SIGNAL POLE	15	0.2	25	0.3	G-RIGHT SHOULDER AREA						
1	0.0	5	0.1	11-UTILITY POLE	58	0.6	259	2.9	H-BEYOND SHLDER DRIVERS						
RIGHT															
1	0.0	3	0.0	12-POLE (TYPE NOT STATED)	1	0.0	0	0.0	I-GORE AREA						
6	0.1	24	0.3	13-TRAFFIC SIGN/SIGN POST	9	0.1	0	0.0	J-OTHER						
0	0.0	0	0.0	14-OTHER SIGNS NOT TRAFFIC	25	0.3	6	0.1	V-HOV LANE(S)						
4	0.0	29	0.3	15-GUARDRAIL	1	0.0	0	0.0	W-HOV LANE BUFFER AREA						
9	0.1	43	0.5	16-MEDIAN BARRIER	1182	13.0	18	0.2	<-NOT STATED						
0	0.0	3	0.0	17-WALL (EXCEPT SOUND WALL)	7793	85.8	9087	100.0	--DOES NOT APPLY						
3	0.0	14	0.2	18-DIKE OR CURB	0	0.0	0	0.0	-INVALID CODES						
0	0.0	0	0.2	19-TRAFFIC ISLAND											
0	0.0	0	0.0	20-RAISED BARS											
0	0.0	2	0.0	21-CONCRETE OBJ (HDWL, D.I.)											
1	0.0	19	0.2	22-GUIDEPOST, CULVERT, PM											
9	0.1	50	0.6	23-CUT SLOPE OR EMBANKMENT											
12	0.1	62	0.7	24-OVER EMBANKMENT											
0	0.0	3	0.0	25-IN WATER											
5	0.1	20	0.2	26-DRAINAGE DITCH											
6	0.1	52	0.6	27-FENCE											
3	0.0	50	0.6	28-TREES											
2	0.0	11	0.1	29-PLANTS	8897	97.9	0	0.0	A-HAD NOT BEEN DRINKING						
0	0.0	0	0.0	30-SOUND WALL	32	0.4	0	0.0	B-HBD - UNDER INFLUENCE						

<----- DRUG/PHYSICAL ----->

PRIMARY OTHERS
 NUMBER PCT NUMBER PCT CODE

1	0.0	0	0.0	40-NATURAL MATRL ON ROAD	33	0.4	0	0.0	C-HBD - NOT UNDER
INFLUENCE									
1	0.0	1	0.0	41-TEMP BARRICADES, CONES	11	0.1	0	0.0	D-HBD - IMPAIRMENT
UNKNOWN									
2	0.0	3	0.0	42-OTHER OBJECT ON ROAD	0	0.0	6	0.1	E-UNDER DRUG INFLUENCE
6	0.1	17	0.2	43-OTHER OBJECT OFF ROAD	0	0.0	1	0.0	F-OTHER PHYSICAL
IMPAIRMENT									
22	0.2	461	5.1	44-OVERTURNED	106	1.2	0	0.0	G-IMPAIRMENT NOT KNOWN
0	0.0	0	0.0	45-CRASH CUSHION (SAND)	23	0.3	0	0.0	H-NOT APPLICABLE
0	0.0	1	0.0	46-CRASH CUSHION (OTHER)	0	0.0	3	0.0	I-FATIGUE
1	0.0	1	0.0	51-CALL BOX	9068	99.8	9086	100.0	< NOT STATED
0	0.0	1	0.0	98-UNKNOWN OBJECT STRUCK	0	0.0	0	0.0	--DOES NOT APPLY
4	0.0	3	0.0	99- NO OBJECT INVOLVED	0	0.0	0	0.0	-INVALID CODES
8986	98.9	218	2.4	V1 THRU V9 VEHICLE 1 TO 9					
2	0.0	1	0.0	<< NOT STATED					
2243	24.7	9087	100.0	-- DOES NOT APPLY					
0	0.0	0	0.0	- INVALID CODES					

APPENDIX A2.1

EXHIBIT A
Out of State University (State Funds) Agreement

SCOPE OF WORK

1. The work to be performed under this Agreement shall be in accordance with the Contractor's Technical Proposal entitled *Hotspot Analyses for Large Mammal-Vehicle Collisions in California*, dated January 15, 2017, **Attachment 1**, and the Scope of Work in this Agreement. The proposal is attached hereto and incorporated by reference. If there is any conflict between the Contractor's Technical and Cost Proposals, and provisions in the **STD 213 Agreement**, including **Exhibits A, B, C, D and E**, and **Attachments 1** to this Agreement, the latter will prevail over **Attachments 1**.
2. The services shall be performed at Western Transportation Institute at Montana State University.
3. Subcontracting is not permitted under this Agreement. All references to subcontracting or subcontractors as found herein are not applicable to this Agreement.
4. This Agreement will commence on the start date **June 1, 2017** as presented herein or upon approval by Department of General Services (DGS), whichever is later and no work shall begin before that time. This Agreement is of no effect unless approved by DGS. The Contractor shall not receive payment for work performed prior to approval of the Agreement and before receipt of notice to proceed by the Contract Manager. This Agreement shall expire on **December 31, 2018**. The services shall be provided during. The parties may amend this agreement as permitted by law.
5. All inquiries during the term of this Agreement will be directed to the project representatives listed below:

Department of Transportation	Contractor: Montana State University, Western Transportation Institute
Section/Unit: Biology	Section/Unit: Road Ecology
Contract Manager: James Henke	Project Manager: Marcel Huijser
Address: 1120 N Street Sacramento, CA 95814	Address: P.O. Box 172470 Bozeman, MT 59717
Phone Number: (916) 653-6121	Phone Number: (406) 543-2377
Email: James.Henke.Jr@dot.ca.gov	Email: mhuijser@montana.edu

The project representatives during the term of this Agreement may be changed by advance written notice without the necessity of an amendment to the Agreement.

EXHIBIT B

Out of State University (State Funds) Agreement

BUDGET DETAIL AND PAYMENT PROVISIONS

1. Invoicing and Payment

- A. For services satisfactorily rendered and approved by the Caltrans' Contract Manager, and upon receipt and approval of the invoices, Caltrans agrees to compensate the Contractor in accordance with the **Cost Proposal, Attachment 1**, or appropriate section in **Exhibit B**. Incomplete or disputed invoices shall be returned to the Contractor, unpaid, for correction.
- B. Invoices shall include the Agreement Number and shall be submitted in triplicate not more frequently than monthly in arrears to:

Department of Transportation
Division of Environmental Analysis
Office of Biological Studies
Attention: James Henke, Contract Manager
1120 N Street, MS 27
Sacramento, CA 95814

- C. Invoices shall be itemized in accordance with the **Cost Proposal, Attachment 1**, and include supporting documentation for materials and supplies.

2. Budget Contingency Clause

- A. It is mutually understood between the parties that this Agreement may have been written before ascertaining the availability of congressional or legislative appropriation of funds, for the mutual benefit of both parties in order to avoid program and fiscal delays that would occur if the Agreement were executed after that determination was made.
- B. This Agreement is valid and enforceable only if sufficient funds are made available to Caltrans by the United States Government or the California State Legislature for the purpose of this program. In addition, this Agreement is subject to any additional restrictions, limitations, conditions, or any statute enacted by the Congress or the State Legislature that may affect the provisions, terms or funding of this Agreement in any manner.
- C. It is mutually agreed that if the Congress or the California State Legislature does not appropriate sufficient funds for the program, this Agreement shall be amended to reflect any reduction in funds.
- D. Caltrans has the option to terminate the Agreement under the thirty (30) day termination clause or to amend the Agreement to reflect any reduction of funds.

3. Prompt Payment Clause

Payment will be made in accordance with, and within the time specified in, Government Code (GC) Chapter 4.5, commencing with Section 927.

4. Rates

- A. Rates for these services may be found on **Attachment 1** of this document.

EXHIBIT B

Out of State University (State Funds) Agreement

- B. If the Contractor has not entered into an Agreement with a Federal Agency and therefore is not bound by that Federal Agency's negotiated rates, the basis for determining overhead and indirect costs shall be based upon the cost principles as outlined in **Attachment 1**

5. Allowable Costs and Payments

- A. The method of payment for this Agreement will be based on actual costs. There will be no fixed fee as Montana State University Western Transportation Institute is a non-profit organization. Wages and fringe benefits will be reimbursed at actual costs. Actual costs shall not exceed the estimated wage rates and other estimated costs set forth in the Contractor's **Cost Proposal, Attachment 1**, without prior written agreement between Caltrans and the Contractor.
- B. The Contractor will be reimbursed for direct costs, other than salary costs that are identified in the Contractor's **Cost Proposal, Attachment 1**.
- C. Contractor will bill in arrears for costs incurred during the billing period. If applicable, salary costs will be itemized and billed by position classification. Documentation supporting specific salary costs will be presented if requested by Caltrans. Non-wage costs will be billed, in summary, according to general expense categories. A detailed report of transactions will support the billing. Individual expenditures exceeding five hundred dollars (\$500.00) will be supported a photocopy of the original documentation. Documentation in support of expenditures less than five hundred dollars (\$500.00) will be presented if requested by Caltrans.
- D. Transportation and subsistence costs shall not exceed rates authorized to be paid non-represented state employees under current California Department of Human Resources rules. Travel and subsistence information can be found at the following website:
<http://www.dot.ca.gov/hq/asc/travel/>
- E. The total amount payable by Caltrans shall not exceed **\$250,000.00**.
- F. The Contractor shall not commence performance of work or services until this Agreement has been approved by Caltrans. No payment will be made prior to approval nor for any work performed prior to approval of this Agreement.

EXHIBIT B

Out of State University (State Funds) Agreement

6. Cost Principles

- A. The Contractor agrees that the Contract Cost Principles and Procedures in 48 CFR, Part 31, and the Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards, in 2 CFR, Part 200, shall be used to determine the allowable individual items of cost.
- B. Any costs for which payment has been made to the Contractor that are determined by subsequent audit to be unallowable under 48 CFR, Part 31 or 2 CFR, Part 200, are subject to repayment by Contractor to Caltrans.
- C. Any subcontract entered into as a result of this Agreement shall contain all of the provisions of this Section.

7. Excise Tax

The State of California is exempt from federal excise taxes, and no payment will be made for any taxes levied on employees' wages. Caltrans will pay for any applicable State of California or local sales or use taxes on the services rendered or equipment or parts supplied pursuant to this Agreement. Caltrans may pay any applicable sales and use tax imposed by another state.

EXHIBIT D

Out of State University (State Funds) Agreement

SPECIAL TERMS AND CONDITIONS

1. Settlement of Disputes

- A. Any dispute concerning a question of fact arising under this Agreement that is not disposed of by agreement shall be decided by the Contract Officer, who may consider any written or verbal evidence submitted by the Contractor. The decision of the Contract Officer, issued in writing, shall be conclusive and binding on both parties to the Agreement on all questions of fact considered and determined by the Contract Officer.
- B. Neither the pendency of a dispute nor its consideration by the Contract Officer will excuse the Contractor from full and timely performance in accordance with the terms of the Agreement.

2. Evaluation of Contractor

Performance of the Contractor under this Agreement will be evaluated. The evaluation shall be prepared on Contract/Contractor Evaluation Sheet, STD 4, and maintained in the Office file, and DGS, Office of Legal Services, if it is negative and over \$5,000.

3. Subcontractors

The contractor shall perform the work contemplated with resources available within its own organization and no portion of the work shall be subcontracted.

4. Contractor's Reports and/or Meetings

- A. The Contractor shall submit progress reports on a quarterly basis to allow the Caltrans' Contract Manager to determine if the Contractor is performing to expectations or is on schedule, to provide communication of interim findings and to afford occasions for airing difficulties or special problems encountered so that remedies can be developed.
- B. The Contractor shall meet with the Caltrans' Contract Manager as needed to discuss progress on the Agreement.
- C. Prior to completion of the Agreement, the Contractor shall hold a final meeting with the Caltrans' Contract Manager to present findings, conclusions and recommendations and shall submit a comprehensive final report on the project.
- D. Montana State University Western Transportation Institute will furnish Caltrans with a draft final report and a final report detailing the work performed in **Technical Proposal, Attachment 1** as follows:
 - 1. Five (5) copies of the draft final report shall be submitted to Caltrans for review and comment. Caltrans is allowed sixty (60) days for review and comment.
 - 2. Seventy (70) copies of the final report shall be submitted to Caltrans. At least ten (10) copies shall be submitted in hard-bound format and sixty (60) copies shall be placed on CD-ROM disks using standard PDF format.
- E. Any document or written report prepared as a requirement of this Contract shall contain, in a separate section preceding the main body of the document, a list of all Contracts and subcontracts (including

EXHIBIT D

Out of State University (State Funds) Agreement

dollar amounts) relating to the preparation of those documents or reports if the combined costs for work by non-employees of the Contractor exceed \$5,000.

5. Publication

- A. The Contractor shall not copyright any deliverable(s) developed and funded under this Agreement.
- B. The Contractor shall have the right to publish any and all information, conclusions and developments (except that which is designated as CONFIDENTIAL by the State) resulting from work conducted under this Agreement.
- C. Any publication by Contractor shall give proper credit to the State. All publications shall bear an appropriate inscription acknowledging the State's copyright ownership to the Work and Deliverable(s) (including but not limited to, all reports, design materials, advertisements, training materials, writings, articles, computer programs, inventions and any documentation related to the Agreement) consisting of a "c" in a circle followed by the four-digit year in which the Work or Deliverable was produced, followed by the words "California Department of Transportation. All rights reserved."
- D. The Contractor shall submit to the State any materials released for publication simultaneously with submission to the publisher for the purpose of comment and review by the State with respect to the presence of patentable, confidential and/or proprietary subject matter within the materials released for publication.
- E. The State will take all reasonable steps to have United States Patent Applications, or other appropriate protection of intellectual property, filed prior to the time the information, conclusions or developments are published or otherwise made available to the public.
- F. The Contractor agrees to keep confidential any proprietary information supplied to it by the State during the course of the Agreement and designated in writing as "CONFIDENTIAL". Such information will not be included in any published material without the prior written approval of the parties.
- G. All publications shall contain the following disclaimer in a separate section preceding the main body of the document.

"The contents of this report reflect the views of the author who is responsible for the facts and accuracy of the data presented herein. The contents do not necessarily reflect the official views or policies of the State of California or the Federal Highway Administration. This publication does not constitute a standard, specification or regulation."

6. Ownership of Proprietary Property:

- A. For the purposes of this section (**Ownership of Proprietary Property**), the following definitions shall apply:
- B. **Work:** As delineated in **Exhibit A (Scope of Work)** of the Agreement and **Attachment 1, Cost Proposal**.

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- C. **Work Product:** As defined as Deliverables in **Attachment 1** and **Exhibit A** of the Agreement including but not limited to, all Work and Deliverables conceived or made, or made hereafter conceived or made, either solely or jointly with others during the term of this Agreement and during a period of six (6) months after the termination thereof, which relates to the Work commissioned or performed under this Agreement.
- D. **Inventions:** Any idea, methodologies, design, concept, technique, invention, discovery, improvement or development regardless of patentability made solely by the Contractor or jointly with the Contractor's subcontractor and/or the Contractor's subcontractor's employee's with one or more employees of Caltrans, during the term of this Agreement and in performance of any Work under this Agreement, provided that either the conception or reduction to practice thereof occurs during the term of this Agreement and in performance of Work issued under this Agreement.

E. **Ownership of Work Product and Rights:**

- 1) **Ownership of Work Product:** All Work Product derived by the Work performed by the Contractor, its employees or by any of the Contractor's subcontractor's employees under this Agreement, shall be owned by Caltrans and shall be considered works made for hire by the Contractor's subcontractor for Caltrans. Caltrans shall own all United States and international copyrights in the Work Product.

As such, all Work Product shall contain, in a conspicuous place, a copyright designation consisting of a "c" in a circle followed by the four-digit year in which the Work Product was produced, followed by the words "California Department of Transportation." For example, a Work Product created in the year 2003 would contain the copyright designation © 2003 California Department of Transportation.

- 2) **Vesting of Copyright Rights:** Contractor, its employees or any of Contractor's subcontractor's employees agrees to perpetually assign, and upon creation of each Work Product automatically assigns, to Caltrans, its successors and assigns, ownership of all United States and international copyrights in each and every Work Product, insofar as any such Work Product, by operation of law, may not be considered work made for hire by the Contractor's subcontractor from Caltrans. From time to time upon Caltrans request, the Contractor's subcontractor and/or its employees shall confirm such assignments by execution and delivery of such assignments, confirmations or assignment, or other written instruments as Caltrans may request. Caltrans, its successors and assigns, shall have the right to obtain and hold in its or their own name(s) all copyright registrations and other evidence of rights that may be available for Work Product. Contractor hereby agrees to waive all moral rights relating to identification of authorship restriction or limitation on use, or subsequent modifications of the Work.
- 3) **Avoidance of Infringement:** In performing services under this Agreement, Contractor and its employees agree to avoid designing or developing any items that infringe one or more patents or other intellectual property rights of any third party. If Contractor or its employees becomes aware of any such possible infringement in the course of performing any work under this Agreement, Contractor or its employees shall immediately notify Caltrans in writing.

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Out of State University (State Funds) Agreement

4) **Confidentiality and Information:** Caltrans may provide its own intellectual property, confidential business and technical information to the Contractor in connection with the work to be performed by the Contractor under this Agreement. Such intellectual property and information shall be designated as confidential upon or prior to disclosure by Caltrans. In addition, the preparation and specifications of the deliverables shall in all instances be treated as confidential, unless and until disclosed publically by Caltrans. All confidential written materials shall be marked with the legend "California Department of Transportation-Confidential." The Contractor shall use its best efforts to prohibit any use or disclosure of Caltrans' confidential information, except as necessary to perform work under this Agreement. In the event that Contractor is an entity or otherwise will be causing individuals in its employ or under its supervision to participate in the rendering of the work, Contractor warrants that it shall cause each of such individuals to execute a Confidentiality Agreement.

5) **Additional Conditions**

SUBCONTRACTORS: Contractor shall affirmatively bind by contract all subcontractors or service vendors providing services under this Agreement to conform to the provisions of this Exhibit E. Contractor shall then provide the signed contract to the Caltrans Contract Manager prior to the commencement of any work.

F. Caltrans hereby agrees to grant Western Transportation Institute, Montana State University, a nonexclusive royalty-free right to use the Work Product under this agreement solely and exclusively for educational and research purposes and for no other purpose whatsoever.

7. **Confidentiality of Data**

- A. All financial, statistical, personal, technical, or other data and information relative to the Caltrans' operations, which is designated confidential by Caltrans' and made available to the Contractor in order to carry out this Agreement, shall be protected by the Contractor from unauthorized use and disclosure.
- B. Permission to disclose information on one occasion or public hearing held by the Caltrans relating to this Agreement shall not authorize the Contractor to further disclose such information or disseminate the same on any other occasion.
- C. The Contractor shall not comment publicly to the press or any other media regarding this Agreement or the Caltrans' actions on the same, except to the Caltrans' staff, Contractor's own personnel involved in the performance of this Agreement, at public hearings, or in response to questions from a Legislative committee.
- D. The Contractor shall not issue any news release or public relations item of any nature whatsoever regarding work performed or to be performed under this Agreement without prior review of the contents thereof by Caltrans and receipt of Caltrans' written permission.
- E. All information related to the construction estimate is confidential and shall not be disclosed by the Contractor to any entity, other than Caltrans.

EXHIBIT D

Out of State University (State Funds) Agreement

F. Any subcontract, entered into as a result of this Agreement, shall contain all of the provisions of this clause.

8. State-Owned Data - Integrity and Security

A. Contractor shall comply with the following requirements to ensure the preservation, security, and integrity of State-owned data on portable computing devices and portable electronic storage media:

1. Encrypt all Caltrans-owned data stored on portable computing devices and portable electronic storage media using government-certified Advanced Encryption Standard (AES) cipher algorithm with a 256-bit or 128-bit encryption key to protect Caltrans' data stored on every sector of a hard drive, including temp files, cached data, hibernation files, and even unused disk space.
Data encryption shall use cryptographic technology that has been tested and approved against exacting standards, such as FIPS 140-2 Security Requirements for Cryptographic Modules.
2. Encrypt, as described above, all State-owned data transmitted from one computing device or storage medium to another.
3. Maintain confidentiality of all State-owned data by limiting data sharing to those individuals contracted to provide services on behalf of the State, and limit use of State information assets for State purposes only.
4. Install and maintain current anti-virus software, security patches, and upgrades on all computing devices used during the course of the Agreement.
5. Notify the Contract Manager immediately of any actual or attempted violations of security of Caltrans-owned data, including lost or stolen computing devices, files, or portable electronic storage media containing State-owned data.
6. Advise the owner of the Caltrans-owned data, the agency Information Security Officer, and the agency Chief Information Officer of vulnerabilities that may present a threat to the security of State-owned data and of specific means of protecting that State-owned data.

B. Contractor shall use the Caltrans-owned data only for State purposes under this Agreement.

C. Contractor shall not transfer State-owned data to any computing system, mobile device, or desktop computer without first establishing the specifications for information integrity and security as established for the original data file(s). (State Administrative Manual (SAM) section 5335.1)

9. Termination

A. Caltrans reserves the right to terminate this Agreement without cause upon thirty (30) days written notice to the Contractor or immediately in the event of material breach by the Contractor.

B. In the event that the total contract amount is expended prior to the expiration date, Caltrans may, at its discretion, terminate this contract with thirty (30) days notice to contractor.

EXHIBIT D

Out of State University (State Funds) Agreement

10. Disabled Veterans Business Enterprise (DVBE) Participation (Without Goals)

Caltrans has established no goals for the participation of DVBE for this Agreement. However, the Contractor shall be fully informed respecting the California Public Contract Code Section 10115 et seq., which is incorporated by reference. Contractor is urged to obtain DVBE subcontractor participation should clearly defined portions of the work become available.

11. Retention of Records/Audits

A. For the purpose of determining compliance with Government Code Section 8546.7, the Contractor, subcontractors and Caltrans shall maintain all books, documents, papers, accounting records, and other evidence pertaining to the performance of the Agreement, including but not limited to, the costs of administering the Agreement. All parties shall make such materials available at their respective offices at all reasonable times during the Agreement period and for three years from the date of final payment under the Agreement. Caltrans, the State Auditor, FHWA, or any duly authorized representative of the Federal government having jurisdiction under Federal laws or regulations (including the basis of Federal funding in whole or in part) shall have access to any books, records, and documents of the Contractor that are pertinent to the Agreement for audits, examinations, excerpts, and transactions, and copies thereof shall be furnished if requested.

12. Prohibition From Bidding

This Agreement is subject to the provisions of Section 10365.5 of the Public Contract Code which states: "No contractor who has been awarded a consulting services Agreement may submit a bid for, nor be awarded a Agreement for, the provision of services, goods and supplies, or any other related action which is required, suggested or otherwise deemed appropriate in the end product of the original consulting services Agreement."

13. Consultant Contractor's Rights and Obligations

The Contractor is advised that the provisions of Public Contract Code Sections 10335 through 10381 pertaining to the duties, obligations and rights of a consultant service Contractor are applicable to this Agreement.

14. Audit Review Procedures

- A. Any dispute concerning a question of fact arising under an interim or post audit of this Agreement that is not disposed of by agreement shall be reviewed by Caltrans' Chairperson of the Audit Review Committee (ARC). The ARC will consist of the Deputy Director, Audits & Investigations (Chairperson); Deputy Director of the functional Program area; the Chief Counsel, Legal Division, or their designated alternates; and if the Caltrans chooses, two representatives of the Caltrans' choosing, from private industry. The two representatives from private industry will be advisory in nature only and will not have voting rights. Additional members or their alternates may serve on the ARC.
- B. Not later than thirty (30) days after issuance of the final audit report, the Contractor may request a review by the ARC of unresolved audit issues. The request for review will be submitted in writing to the Chairperson of the ARC. The request must contain detailed information of the factors involved in the dispute as well as justifications for reversal. A meeting by the ARC will be scheduled if the

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Out of State University (State Funds) Agreement

Chairperson concurs that further review is warranted. After the meeting, the ARC will make recommendations to the appropriate Chief Deputy Director. The Chief Deputy Director will make the final decision for Caltrans. The final decision will be made within three (3) months of receipt of the notification of dispute.

- C. Neither the pendency of a dispute nor its consideration by Caltrans will excuse the Contractor from full and timely performance, in accordance with the terms of this Agreement.
- D. Nothing in this Agreement shall be construed to waive the Sovereign immunity of Contractor as a state entity of the State of Montana.

EXHIBIT E

Out of State University (State Funds) Agreement

Additional Provisions

1. General Provisions Required in all Insurance Policies

- A. Deductible: Contractor is responsible for any deductible or self-insured retention contained within the insurance program.
- B. Coverage Term: Coverage must be in force for the complete term of this Agreement. If insurance expires during the term of this Agreement, a new certificate must be received by the Caltrans Contract Manager at least ten (10) days prior to the expiration of the insurance. Any new insurance must continue to comply with the original terms of this Agreement (enter agreement number).
- C. Policy Cancellation or Termination and Notice of Non-Renewal: Contractor shall provide, to the Caltrans Contract Manager within five (5) business days, following receipt by Contractor, a copy of any cancellation or non-renewal of insurance required by this Agreement. In the event Contractor fails to keep, in effect at all times, the specified insurance coverage, the State may, in addition to any other remedies it may have, terminate this Agreement upon the occurrence of such event, subject to the provisions of this Agreement.
- D. Primary Clause: Any required insurance contained in this Agreement shall be primary, and not excess or contributory, to any other insurance carried by the State.
- E. Inadequate Insurance: Inadequate or lack of insurance does not negate the Contractor's obligations under this Agreement.
- F. Endorsements: Any required endorsements requested by the State must be physically attached to all requested certificates of insurance and not substituted by referring to such coverage on the certificate of insurance.
- G. Insurance Carrier Required Rating: All insurance companies must carry a rating acceptable to the Department of General Services, Office of Risk and Insurance Management (ORIM). If the Contractor is self-insured for a portion or all of its insurance, review of financial information including a letter of credit may be required. Department of General Services, ORIM Website: <http://www.dgs.ca.gov/orim/home.aspx>
- H. Contractor shall include all of its subcontractors as insured's under Contractor's insurance or supply evidence of insurance to the State equal to the policies, coverage's and limits required of Contractor.
- I. The State will not be responsible for any premiums or assessments on the policy.
- J. Montana State University, as a state agency, warrants and represents that it is self-funded for liability insurance, both public and property, with such protection being limited to the officers, employees, servants and agents of Montana State University while acting within the scope of their employment. The parties further agree that nothing contained herein shall be construed or interpreted as (1) denying to either party any remedy or defense available to such party under the laws of the State of Montana; (2) the consent of the State of Montana or its agents and-agencies to be sued; or (3) a waiver of sovereign immunity of the State of Montana beyond the waiver provided in Title 2, Ch. 9, Montana Codes Annotated.

EXHIBIT E

Out of State University (State Funds) Agreement

K. Montana State University shall require all subcontractors to comply with the provisions of Exhibit E.

2. Insurance Requirements

A. Commercial General Liability

- 1) Contractor shall maintain general liability on an occurrence form with limits not less than \$1,000,000 per occurrence and \$2,000,000 aggregate for bodily injury and property damage liability. The policy shall include coverage for liabilities arising out of premises, operations, independent contractors, products, completed operations, personal and advertising injury, and liability assumed under an insured Agreement. This insurance shall apply separately to each insured against whom claim is made or suit is brought subject to the Contractor's limit of liability. The policy must include:

Caltrans, State of California, its officers, agents, and employees are included as additional insured, but only with respect to work performed under this Agreement. The additional insured endorsement must accompany the certificate of insurance.

- 2) This endorsement must be supplied under form acceptable to the Department of General Services, Office of Risk and Insurance Management.

3. Automobile Liability

Contractor shall maintain motor vehicle liability with limits not less than \$1,000,000 combined single limit per accident. Such insurance shall cover liability arising out of a motor vehicle including owned, hired and non-owned motor vehicles. The same additional insured designation and endorsement required for general liability is to be provided for this coverage.

4. Workers' Compensation and Employer's Liability

Contractor shall maintain statutory worker's compensation and employer's liability coverage for all its employees who will be engaged in the performance of the Agreement. Employer's liability limits of \$1,000,000 are required. When work is performed on State owned or controlled property the workers' compensation policy shall contain a waiver of subrogation in favor of the State. The waiver of subrogation endorsement shall be provided to the Caltrans' Contract Manager.

Hotspot analyses for large mammal-vehicle collisions in California
Technical proposal
15 January 2017
Marcel Huijser, WTI-MSU

Background

Wildlife-vehicle collisions affect human safety, property and wildlife. The total number of large mammal-vehicle collisions has been estimated at one to two million in the United States annually (Conover et al. 1995, Huijser et al. 2009a). These collisions were estimated to cause 211 human fatalities, 29,000 human injuries, and over one billion US dollars in property damage annually (Conover et al. 1995). More recent studies that include costs associated with human injuries and human fatalities estimated the yearly costs associated with wildlife-vehicle collisions between 6-12 billion US dollars (Huijser et al. 2009a). In most cases, the animals die immediately or shortly after the collision (Allen & McCullough 1976). In some cases, it is not just the individual animals that suffer. Road mortality may also affect some species on the population level (e.g., van der Zee et al. 1992, Huijser & Bergers 2000), and some species may even be faced with a serious reduction in population survival probability because of direct road mortality, habitat fragmentation, and other negative effects associated with roads and traffic (Proctor 2003, Huijser et al. 2007). In addition, some species also represent a monetary value that is lost once an individual animal dies (Romin & Bissonette 1996, Conover 1997).

The highways in the State of California are important for local, state and interstate travel. However, the frequency of wildlife-vehicle collisions, specifically with mule deer (or black-tailed deer) (*Odocoileus hemionus*), was considered high enough for Caltrans to explore procedures and tools to identify and prioritize wildlife-vehicle collision hotspots, using District 10 as an example (Huijser et al. 2014). These procedures and tools are intended to help standardize future analyses of wildlife-vehicle collision data. Once wildlife-vehicle collision hotspots have been identified and prioritized, potential future mitigation measures need to be evaluated based improving human safety, biological conservation, and cost-benefit analyses. These mitigation measures should be aimed at reducing wildlife-vehicle collisions, particularly with mule deer and other large mammals, and at providing safe crossing opportunities for a wide range of wildlife species.

Goals and Objectives

This project aims to conduct a statewide hotspot analysis of wildlife-vehicle collisions in the state of California. The results of the analyses will help Caltrans make informed decisions on the potential future implementation of mitigation measures for wildlife along highways. The goals are to improve human safety, reduce unnatural deaths of large mammals, while also maintaining or improving habitat connectivity for wildlife. This project will be based on the methods developed from a pilot study we conducted in Caltrans District 10 titled, Procedures and Tools

for Wildlife-Vehicle Collision Hotspot Analyses; Using Caltrans District 10 as an Example (Huijser et al. 2014). The objectives for the current project are to:

1. Provide sound data on locations where collisions with large mammal species along highways in California may be a safety and economic concern. In this case an economic concern is primarily based on parameters related to human safety.

2. Prioritize hotspot locations within each of the 12 Caltrans Districts based on:

a. Human safety data: i.e. wildlife-vehicle crash data and carcass removal data managed by Caltrans).

b. Cost-benefit data on the implementation of mitigation measures including wildlife fences and wildlife crossings structures, and animal detection systems based on the model developed by Huijser et al. (2009a). Note that other mitigation measures are not effective, not evaluated at all, or not substantially effective (up to 50% reduction in wildlife-vehicle collisions at best).

c. Biological conservation data derived from the California Essential Habitat Connectivity analyses (Spencer et al, 2010)).

The prioritization will assist with funding decisions and prioritizing transportation investments in the State Highway Operations and Protection Plan within each district. Note: Wildlife fencing in combination with wildlife underpasses and overpasses can reduce collisions with large ungulates by about 80% or more (range 79 to nearly 100%) if they are implemented over road sections that are at least 3 mi long (Huijser et al. 2016), and a wide variety of species uses wildlife underpasses and overpasses extensively (Clevenger & Huijser 2011). Animal detection systems can also reduce collisions with large mammals substantially (range: about 58 to nearly 100%) but this measure should be considered experimental still as there are often installation and reliability problems associated with animal detection system projects. In addition, animal detection systems are only suitable for large mammal species; small and medium sized species are not or unlikely to be detected. For more discussion on the pros and cons of wildlife fencing in combination with wildlife underpasses and overpasses vs. animal detection systems see Huijser et al. (2008; 2009b).

3. The procedures, tools and outcome of the project should be aligned with and be consistent with the Caltrans 2015-2020 Strategic Plan and goals related to Safety and Sustainability.

This project relates to all state managed highways in California. The total length of these highways is estimated at about 15,117 mi (total length of the highways, ignoring potential multiple lanes).

Tasks

The specific tasks for this project are:

Task 1: Kick-off meeting. The researchers will participate in a kick-off meeting over the phone with Caltrans personnel to discuss the tasks in greater detail and to ensure that both Caltrans and the researchers understand what the tasks are and how they will be conducted. Caltrans will invite the appropriate personnel from within Caltrans (including traffic safety staff) and other stakeholders (e.g. natural resource management agency personnel). The researchers will take notes and will deliver meeting notes including action items.

Task 2: Obtain data. The researchers will request three statewide datasets from Caltrans: 1. Wildlife-vehicle crash data recorded by California Highway Patrol (CHP) in the TASAS, 2. Carcass removal data recorded by Caltrans maintenance personnel in the Integrated Maintenance and Management System (IMMS), and 3. Caltrans Animal Vehicle Collision (AVC) data base. The researchers will request data for the last 10 years (e.g. 1 January 2007 – 31 December 2016). Note that the analyses will be based on existing digital data. However, some digital data may have to be imported in excel from PDFs. Note that the researchers hope to have the crash (TASAS) and carcass removal data (IMMS) relate to the exact same time period so that they are directly comparable. The period for which the Caltrans Animal Vehicle Collision (AVC) data are available for may not be for the same ten years. Note that the species that are included in the data are large mammals only (i.e. deer size and larger): i.e. deer species (mule deer), black bear, mountain lion, elk, and bighorn sheep. Note that the carcass removal data are likely to contain the species name for each record. Only records of wild mammal species that are similar in size to deer or that are larger than deer will be included in the analyses as smaller species are less likely to result in substantial vehicle damage and be a serious threat to human safety. See Huijser et al. (2014) for an example of the hotspot identification process. Data that relate to domestic species (including e.g. domestic cats, domestic dogs, cattle, horses) will be excluded as livestock is or should be controlled by people. Note that the carcass data for the highways in California are likely to mostly relate to mule deer (Pers. Com. James Henke, Caltrans). Most likely, the crash data do not contain the species name of the animals involved. Crash data typically only include a fraction of the number of animal carcasses that are removed, and crash data also tend to relate to more serious accidents with substantial vehicle damage and/or potential human injuries and human fatalities. Therefore, even though the crash data may lack data on the species involved, these data are likely to be wildlife-vehicle crashes with a relatively high level of threat to human safety.

Task 3: Conduct statewide wildlife-vehicle collision hotspot analysis. Hotspots are highway segments that have a relatively high concentration of wildlife-vehicle collisions. The researchers will conduct separate analyses for the TASAS, IMMS, and AVC data and identify hotspots on a map (i.e. in a Geographical Information System). The hotspot identification process will result in hotspots that are based on human safety only. This is important as an alternative process that would identify hotspots based on – for example - nature conservation may result in the

identification of very different road segments as this may include different species and habitat. This is not a problem, but it is important to recognize that the “departure point” for the identification and prioritization process is to identify wildlife-vehicle collision hotspots based on human safety rather than anything else. The researchers propose to identify hotspots based on a “disproportionate” concentration of crashes or carcasses given the distribution of crashes or carcass in each Caltrans District (see Bingham & Noon 1997; Huijser et al. 2014). In addition, the researchers propose to identify the “worst” hotspots in each Caltrans District, regardless of whether they have a disproportionate concentration of crashes or carcasses (see Huijser et al. 2014). The researchers will select the five highest ranking hotspots based on wildlife-vehicle collisions in each district for further analyses (Task 4, 5, 6, and 7). The identification and prioritization process will be documented in a step by step manner (similar to Huijser et al. 2014) as a reference for potential future analyses by Caltrans.

Task 4: Conduct cost-benefit analysis for potential wildlife-mitigation measures for the five highest ranking hotspots in each district (see Task 3) based on Huijser et al. (2009a). Note that these analyses are primarily based on human safety parameters. The mitigation measures evaluated will include wildlife fences and wildlife crossing structures, and animal detection systems. The researchers will also summarize the ongoing costs associated with large mammal-vehicle collisions if no mitigation measures are implemented. The researchers will rank the five highest ranking collision hotspots within each district based on the cost benefit analyses. Note: The economic parameters will be based on the costs for deer, elk and moose-vehicle collisions described in Huijser et al. (2009a). Almost all of the records in California are likely to relate to large wild mammals that are similar in size to deer rather than elk or moose. The economic parameters will likely include the total costs associated with wildlife-vehicle collisions in each hotspot as well as the costs standardized per mile road length within each hotspot. The identification and prioritization process will be documented in a step by step manner (similar to Huijser et al. 2014) as a reference for potential future analyses by Caltrans.

Task 5. Evaluate the five highest ranking collision hotspots within each district (see Task 3) for overlap with the habitat and corridors identified through the California Essential Habitat Connectivity analyses (Spencer et al, 2010)), the international (IUCN), federal and state conservation status of the species that have been reported as roadkill, and overlap with federally designated critical habitat for amphibians, reptiles, and mammals, as identified by the US Fish and Wildlife Service. The identification and prioritization process will be documented in a step by step manner (similar to Huijser et al. 2014) as a reference for potential future analyses by Caltrans.

Task 6. Summarize the human safety, economic, and biological conservation rankings for the five highest ranking collision hotspots in each district (see Task 3). The researchers propose to weigh each group of parameters (human safety, economic, and biological conservation) equally for this final prioritization step; i.e. human safety, economics and nature conservation have equal weight for the five highest ranking collision hotspots within each district. Note that road sections that are not a major concern for human safety are not part of this process to start with. Showing

the data for each parameter and parameter group allows Caltrans and others to change parameter selection and add potential weight to the parameters at a later time, should they choose to do so.

Task 7. The researchers will identify the target species based on the crash and carcass data and other species that occur in the area and that are a conservation concern (Task 5). The researchers will formulate appropriate mitigation measures aimed at reducing direct road mortality and providing safe crossing opportunities for the selected species. Besides general recommendations for mitigation measures the researchers will formulate site specific suggestions for potential future mitigation measures for the five highest ranking collision hotspots within each district. This includes a site visit to the five highest ranking collision hotspots within each of the 12 Caltrans districts (60 hotspots in total). The researchers will evaluate the five highest ranking collision hotspots for potential water crossings as structures that are primarily designed for water may also be made suitable for terrestrial and semi-aquatic species.

Task 8: Deliver report and in person presentation. The researchers will address the comments by Caltrans on the draft report. In addition, the researchers will present the results of the project in person to Caltrans in Sacramento, California.

Deliverables

1. Notes kickoff meeting: 30 June 2017.
2. Draft methodology for review and comment: 31 Dec 2017.
3. Statewide collision hotspot map (GIS files): 31 May 2018.
4. Draft report for review and comment (MS Word and PDF files): 31 Aug 2018.
5. In person presentation to Caltrans in Sacramento, California (incl. Powerpoint file): 31 Oct 2018.
6. Final report and maps (MS Word, PDF, GIS files): 31 Dec 2018.

Responsibilities Caltrans

1. Caltrans invites the appropriate people for the kick-off meeting (through telephone)
2. Caltrans provides the following shapefiles for GIS:
 - a. The highways to be included for this project
 - b. The coordinates for the mile reference posts (or other geo referencing system) used to describe the location of wildlife-vehicle crashes, or wildlife carcasses.
 - c. The wildlife-vehicle crash data (TASAS), carcass removal data (IMMS), and Caltrans Animal Vehicle Collision data (AVC) data base for the last 10 years (e.g. 1 January 2007 – 31 December 2016).
 - d. The shape files (GIS) with the habitat and corridors identified through the California Essential Habitat Connectivity analyses (Spencer et al, 2010).

- e. The shape files (GIS) with federally designated critical habitat for amphibians, reptiles, and mammals (as identified by the US Fish and Wildlife Service).
- f. The shape files for stream, rivers, lakes, and other water bodies in the state of California.

3. Provide the Caltrans 2015-2020 Strategic Plan and goals related to Safety and Sustainability.

Montana State University Western Transportation Institute
 Agreement Number 43A0359
 Attachment 1
 Page 8 of 13

Budget

Budget						Other Direct Expenses			Totals
Task #	Task Title	Marcel Huijser	James Begley	Rob Ament	Jerilyn Brodowy	Total Hours/Total Costs	Travel	Supplies/Minor equipment	Total Costs
		\$62.62	\$40.76	\$69.50	\$55.93				
1	Kick off meeting	40				40			\$2,504.80
		\$2,504.80	\$0.00	\$0.00	\$0.00	\$2,504.80			\$2,504.80
2	Obtain data	160	160			320			\$16,540.80
		\$10,019.20	\$6,521.60	\$0.00	\$0.00	\$16,540.80			\$16,540.80
3	Hotspot analyses	320	800			1120		\$2,000.00	\$54,646.40
		\$20,038.40	\$32,608.00	\$0.00	\$0.00	\$52,646.40		\$2,000.00	\$54,646.40
4	Cost benefit analyses	160				160			\$10,019.20
		\$10,019.20	\$0.00	\$0.00	\$0.00	\$10,019.20			\$10,019.20
5	Biol. Cons. Analyses	320	80			400			\$23,299.20
		\$20,038.40	\$3,260.80	\$0.00	\$0.00	\$23,299.20			\$23,299.20
6	Summarize rankings	40				40			\$2,504.80
		\$2,504.80	\$0.00	\$0.00	\$0.00	\$2,504.80			\$2,504.80
7	Mitigation recommendations	355.1375				355.1375		\$6,000.00	\$28,238.71
		\$22,238.71	\$0.00	\$0.00	\$0.00	\$22,238.71	\$6,000.00		\$28,238.71
8	Final report and presentation	320	160	80	40	600		\$1,500.00	\$35,857.20
		\$20,038.40	\$6,521.60	\$5,560.00	\$2,237.20	\$34,357.20	\$1,500.00		\$35,857.20
	TOTAL HOURS	1715.1375	1200	80	40	3035.1375			0
	TOTAL DIRECT COSTS (includes ben.)	\$107,401.91	\$48,912.00	\$5,560.00	\$2,237.20	\$164,111.11	\$7,500.00	\$2,000.00	\$173,611.11
0.44	Indirect Costs at 44%	\$47,256.84	\$21,521.28	\$2,446.40	\$984.37	\$72,208.89	\$3,300.00	\$880.00	\$76,388.89
	TOTAL	\$154,658.75	\$70,433.28	\$8,006.40	\$3,221.57	\$236,320.00	\$10,800.00	\$2,880.00	\$250,000.00

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Romin, L. A., and Bissonette, J. A., "Deer-vehicle collisions: status of state monitoring activities and mitigation efforts." *Wildlife Society Bulletin*, Vol. 24 (1996) pp. 276-283.

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RESUMES

Marcel Huijser, PhD

Research Ecologist, Western Transportation Institute

Qualifications Overview

Marcel Huijser is a research ecologist with 24 years of experience. Specializing in road ecology since 1995, he has conducted research in Europe, North America, South America and Asia. His focus is on the ecological impacts of transportation infrastructure as well as mitigation measures aimed at reducing these impacts. Most of his research relates to reducing large mammal-vehicle collisions, providing safe crossing opportunities for wildlife, and cost-benefit analyses of mitigation measures. Huijser has taught a road ecology course for MSc and PhD students and has also provided several multiple day courses to various agencies and toll road companies.

Marcel Huijser has led several dozens of road ecology projects, **including a report to U.S. Congress** on reducing wildlife-vehicle collisions (2008), and several handbooks containing practical suggestions on implementing effective mitigation measures aimed at reducing wildlife-vehicle collisions and providing safe crossing opportunities for wildlife (2011). While mitigation measures may be required based on human safety and biological conservation parameters alone, Huijser also developed a cost-benefit model (2009) that serves as a decision support tool based on economics. While Huijser is an applied research ecologist he values publishing in peer-reviewed journals, including a recent article on wildlife fences (2016).

Selected Relevant Project Experience

1. Evaluation of wildlife crossing structures and fencing along Hwy 93, Montana. Funded by Montana Department of Transportation, Federal Highway Administration, and US DOT (\$900,000; 2002-2016).
2. Survey for all states and provinces in the US and Canada to document the current practices with the collection, analyses and use of animal-vehicle collision and animal carcass data. Funded by the Transportation Research Board, National Academies (\$30,000; 2005-2007).

Years of Experience: 24

Project Role

- Principal Investigator

Subject Area Expertise

- Road ecology
- Ecological impacts of transportation infrastructure
- Mitigation measures aimed at reducing large mammal-vehicle collisions and providing safe crossing opportunities for wildlife
- Cost-benefit analyses for wildlife mitigation measures

Education

- PhD, road ecology, Wageningen University, The Netherlands
- MSc, ecology, Wageningen University, The Netherlands

Key Skills

- Ecology
- Data analyses
- Writing and presentation
- Project management

Contact:

- mhuijser@montana.edu

3. Wildlife-vehicle collision reduction study: report to congress. Funded by Federal Highway Administration (\$185,000; 2006-2009).
4. Cost-benefit analyses of mitigation measures aimed at reducing collisions with large ungulates in the United States and Canada: a decision support tool. Funded by the Wilburforce Foundation (\$3,000; 2008-2009).

James S. Begley, M.S.

Spatial Data Analyst, Western Transportation Institute

Key Qualifications

James Begley has 20 years of experience with wildlife research and management issues pertaining to a wide variety of wildlife species. He has extensive experience with GIS analyses, modeling, and mapping for projects ranging from small urban forests to national forest planning clusters. For example, James was heavily involved with wildlife sustainability assessments required for forest plan revisions of national forests in Northeast Washington and Northeast Oregon.

Selected Relevant Project Experience

Assisted with WTI's efforts with pre-construction wildlife research and monitoring for proposed wildlife crossing structures associated with the Snoqualmie Pass East project. Duties included surveying for carnivores using non-invasive techniques, remote camera surveys, small mammal live-trapping, snow tracking, and database/project management.

Conducted GIS analyses for road ecology projects in Jasper National Park (Canada), Boundary County (Idaho), Cabinet-Purcell range (Montana), Jackson area (Wyoming), and central California.

Developed dispersal habitat connectivity models for American marten, Canada lynx, grizzly bear, and wolverine to help managers determine impacts of a proposed expansion for the Stevens Pass Resort, Washington.

Conducted GIS modeling for terrestrial species sustainability assessments for forest plan revisions of national forests in Northeast Washington and Northeast Oregon.

Developed land stewardship plans as a natural resources consultant for a conservation easement within the Suncadia master plan resort and the City of Roslyn's designated urban forest. Duties and responsibilities included the development of stand by stand, site specific prescriptions to achieve goals of wildlife habitat enhancement/restoration, hazardous fuels reduction, human safety, recreation, and visual aesthetics.

Years of Experience: 20

Project Role

- Geographical Information Systems expert, spatial analyst

Subject Area Expertise

- Spatial data analyses
- Natural Resource Management

Education

- M.Sc., Resource Management, Central Washington University.
- B.Sc., Natural Resource Management (Wildlife), Washington State University.

Key Skills

- Spatial data analyses
- Natural Resource Management

Participated in the following wildlife research studies for the United States Forest Service: (1) National Fire/Fire Surrogate Study; (2) I-90 Wildlife Habitat Linkage Assessment; (3) Pendleton Dry Forest Management Study; (4) Barred Owl Ecology Study; (5) Yakima Elk Habitat Study; and (6) Post Fire/Salvage Harvest Effects on Cavity Nesting Birds. Duties included field data collection, data entry, database management, and analyses.

STATE OF CALIFORNIA
AGREEMENT SUMMARY

STD 215 (Rev. 04/2017)

CHECK HERE IF ADDITIONAL PAGES ARE ATTACHED

AGREEMENT NUMBER 43A0359	AMENDMENT NUMBER
------------------------------------	------------------

1. CONTRACTOR'S NAME Montana State University Western Transportation Institute		2. FEDERAL I.D. NUMBER 81-6010045
3. AGENCY TRANSMITTING AGREEMENT Department of Transportation	4. DIVISION, BUREAU, OR OTHER UNIT Office of Biology	5. AGENCY BILLING CODE 60961
6a. CONTRACT ANALYST NAME Ehite Gebre	6b. EMAIL ehite.gebre@dot.ca.gov	6c. PHONE NUMBER (916)227 6029

7. HAS YOUR AGENCY CONTRACTED FOR THESE SERVICES BEFORE?
 No Yes (If Yes, enter prior Contractor Name and Agreement Number)
 PRIOR CONTRACTOR NAME _____ PRIOR AGREEMENT NUMBER _____

8. BRIEF DESCRIPTION OF SERVICES
 Procedures and Tools for Wildlife-Vehicle Collision Hotspot Analysis

9. AGREEMENT OUTLINE (Include reason for Agreement; Identify specific problem, administrative requirement, program need or other circumstances making the Agreement necessary; include special or unusual terms and conditions.)
 This Agreement conduct a statewide hotspot analysis of wildlife-vehicle collisions in the state of California. The results of the analyses will help Caltrans make informed decisions on the potential future implementation of mitigation measures for wildlife along highways. The goals are to improve human safety, reduce unnatural deaths of large mammals, while also maintaining or improving habitat connectivity for wildlife.

10. PAYMENT TERMS (More than one may apply)

- Monthly Flat Rate Quarterly One-Time Payment Progress Payment
 Itemized Invoice Withhold _____ % Advanced Payment Not To Exceed
 Reimbursement / Revenue \$ _____ or _____ %
 Other (Explain) Arrears

11. PROJECTED EXPENDITURES


FUND TITLE	ITEM	FISCAL YEAR	CHAPTER	STATUTE	PROJECTED EXPENDITURES
SHA	2660-001-0042	16/17	23	2017	\$ 250,000
					\$
					\$
					\$
					\$

OBJECT CODE 032	AGREEMENT TOTAL \$ 250,000
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OPTIONAL USE 3292 0000000812 N 032	AMOUNT ENCUMBERED BY THIS DOCUMENT \$ 250,000.00
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I certify upon my own personal knowledge that the budgeted funds for the current budget year are available for the period and purpose of the expenditure stated above.

PRIOR AMOUNT ENCUMBERED FOR THIS AGREEMENT \$ 0.00
TOTAL AMOUNT ENCUMBERED TO DATE \$ 250,000.00

ACCOUNTING OFFICER'S SIGNATURE 	ACCOUNTING OFFICER'S NAME (Print or Type) Aurora T. Blader	DATE SIGNED 5/15/17
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AGREEMENT SUMMARY

STD 215 (Rev. 04/2017)

12. AGREEMENT	TERM		TOTAL COST OF THIS TRANSACTION	BID, SOLE SOURCE, EXEMPT
	FROM	THROUGH		
Original	6/0117	12/31/18	\$ 250,000	Exempt SCM 5.80 (A)(5)
Amendment No. 1			\$	
Amendment No. 2			\$	
Amendment No. 3			\$	
TOTAL			\$ 250,000	

13. BIDDING METHOD USED

- Request for Proposal (RFP) (Attach justification if secondary method is used)
 Use of Master Service Agreement
 Invitation for Bid (IFB)
 Exempt from Bidding (Give authority for exempt status)
 Sole Source Contract (Attach STD. 821)
 Other (Explain) SCM 5.80 (A)(5)

Note: Proof of advertisement in the State Contracts Register or an approved form STD. 821, Contract Advertising Exemption Request, must be attached

14. SUMMARY OF BIDS (List of bidders, bid amount and small business status) (if an amendment, sole source, or exempt, leave blank)

15. IF AWARD OF AGREEMENT IS TO OTHER THAN THE LOWER BIDDER, EXPLAIN REASON(S) (if an amendment, sole source, or exempt, leave blank)

16. WHAT IS THE BASIS FOR DETERMINING THAT THE PRICE OR RATE IS REASONABLE?

Contractor is a non-profit Organization; therefore only actual allowable costs for approved project will be paid.

17a. JUSTIFICATION FOR CONTRACTING OUT (Check one)

- Contracting out is based on cost savings per Government Code 19130(a). The State Personnel Board has been so notified.
 Contracting out is justified based on Government Code 19130(b). When this box is checked, a completed JUSTIFICATION - CALIFORNIA CODE OF REGULATIONS, TITLE 2, SECTION 547.60 must be attached to this document.

17b. EMPLOYEE BARGAINING UNIT NOTIFICATION

- By checking this box, I hereby certify compliance with Government Code section 19132(b)(1).

AUTHORIZED SIGNATURE



SIGNER'S NAME (Print or Type)

Kathleen Stonetakai

DATE SIGNED

5/17/2017

18. FOR AGREEMENTS IN EXCESS OF \$5,000: Has the letting of the agreement been reported to the Department of Fair Employment and Housing? No Yes N/A

19. HAVE CONFLICT OF INTEREST ISSUES BEEN IDENTIFIED AND RESOLVED AS REQUIRED BY THE STATE CONTRACT MANUAL SECTION 7.10? No Yes N/A

20. FOR CONSULTING AGREEMENTS: Did you review any contractor evaluations on file with the DGS Legal Office? None on file No Yes N/A

21. IS A SIGNED COPY OF THE FOLLOWING ON FILE AT YOUR AGENCY FOR THIS CONTRACTOR?

A. Contractor Certification Clauses

B. STD 204 Vendor Data Record

No Yes N/A

No Yes N/A

22. REQUIRED RESOLUTIONS ARE ATTACHED No Yes N/A

24. IS THIS A SMALL BUSINESS AND/OR A DISABLED VETERAN BUSINESS CERTIFIED BY DGS?

No Yes

SB/DVBE Certification Number:

23. ARE DISABLED VETERANS BUSINESS ENTERPRISE GOALS REQUIRED?

(If an amendment, explain changes if any)

No (Explain below) Yes _____ % of Agreement

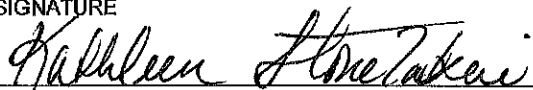
Exempt per SCM 8:12 (D)

25. IS THIS AGREEMENT (WITH AMENDMENTS) FOR A PERIOD OF TIME LONGER THAN THREE YEARS?

No Yes (If Yes, provide justification below)

I certify that all copies of the referenced Agreement will conform to the original agreement sent to the Department of General Services.

SIGNATURE



NAME/TITLE (Print or Type)

Kathleen Stonetakai, Contract Officer

DATE SIGNED

5/17/2017

AGREEMENT SUMMARY

STD 215 (Rev. 04/2017)

JUSTIFICATION - CALIFORNIA CODE OF REGULATIONS, TITLE 2, SECTION 547.60

In the space provided below, the undersigned authorized state representative documents, with specificity and detailed factual information, the reasons why the contract satisfies one or more of the conditions set forth in Government Code section 19130(b). Please specify the applicable subsection. Attach extra pages if necessary.


The section of GC 19130(b)(3) noted below applies to this proposed contract.

(b) Personal services contracting also shall be permissible when any of the following conditions can be met:

(3) The services contracted are not available within civil service, cannot be performed satisfactorily by civil service employees, or are of such a highly specialized or technical nature that the necessary expert knowledge, experience, and ability are not available through the civil service system.

The hot spot and cost benefit analysis that will be conducted requires understanding of specialized scientific methodology involving statistical analysis and functional analysis of animal-vehicle collision data and cost-benefit of associated mitigation measures for avoidance and minimization of animal-vehicle collisions and ultimately for conservation purposes. The contractors have developed this methodology and are recognized experts in this field: Huijser, M. P., J. W. Duffield, A. P. Clevenger, R. J. Ament, and P. T. McGowen. 2009. Cost-benefit analyses of mitigation measures aimed at reducing collisions with large ungulates in the United States and Canada; a decision support tool. Ecology and Society 14(2): 15. [online] URL: <http://www.ecologyandsociety.org/vol14/iss2/art15/>

The undersigned represents that, based upon his or her personal knowledge, information or belief the above justification correctly reflects the reasons why the contract satisfies Government Code section 19130(b).

SIGNATURE 	NAME/TITLE(Print or Type) James Henke - Senior Environmental Planner	DATE SIGNED 5/12/17
PHONE NUMBER (916) 653-6121	STREET ADDRESS 1120 N Street	
EMAIL james.henke.jr@dot.ca.gov	CITY Sacramento, CA	STATE CA
		ZIP 95814

APPENDIX A2.2

Carcass removal data

Period 1 Jan 2000 – 31 Dec 2009 (10 years)

Includes the following data sources and periods:

- AVC data 1 Jan 2000 – 31 Dec 2005
- IMMS data 1 Jan 2006 – 31 Dec 2009

Note: Each individual carcass now corresponds to a record in the database

Note: The species descriptions were made consistent and are as precise as possible.

Certain: We will conduct hotspot analyses for mule deer (excluding other species). There are 3424 observations of mule deer carcasses in the database.

Question 1: During kickoff meeting it was mentioned that additional (statewide) analyses should be conducted for certain species, e.g. Elk (*Cervus canadensis*), Bighorn sheep (*Ovis canadensis*), and Mountain lion (*Puma concolor*). Now that we have the full species list, do we want to add species for which Caltrans wants statewide analyses?

Question 2: However, looking at the low numbers in the database for species that could be of concern to human safety (with the exception of mule deer) or biological conservation, it seems that these species have too low of a number to conduct meaningful analyses. Looking at the species distribution maps for CA, there are probably many more hit of these species in locations that did not report these species at all. So, do we want to cancel statewide analyses for these species? Just a simple map (per species) for the selected species (see first question) that has the observations plotted?

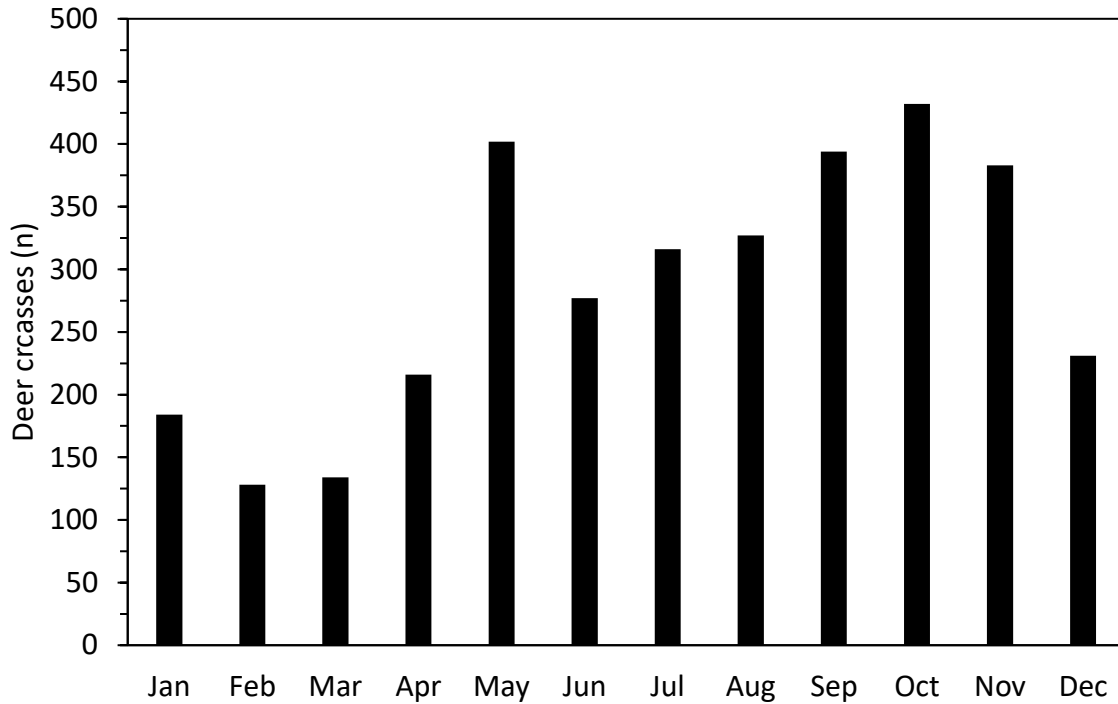
Discussion: perhaps these carcass removal data show that when it comes to specific species that are relatively rare (even if they are big), other organizations/people may have removed the carcasses before the road maintenance crews come by. So, this then suggests that for these species other data sources may need to be consulted (e.g. data from natural resource management agencies, citizen science data etc.).

Table A. Species reported in carcass removal database 2000-2009.

Species ID by Marcel	Total	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Mule deer (<i>Odocoileus hemionus</i>)	3424	357	123	833	487	462	142	155	287	321	257
Unknown	743			7				201	207	176	152
Raccoon (<i>Procyon lotor</i>)	315	24	5	13	17	18	9	14	37	104	74
Coyote (<i>Canis latrans</i>)	211	28	2	25	29	29	12	6	11	18	51
Virginia opossum (<i>Didelphis</i>)	99	14	2	17	16	8	14	3	6	13	6
Skunk sp.	88	10		4	5	3	8	6	16	21	15
Bird	65	8	1	7	3	8	34		3	1	
Black bear (<i>Ursus americanus</i>)	50			20		7		2	13	5	3
Fox sp.	22	6			2	1		1	6	4	2
Rabbit sp.	21							2	9	8	2
Bobcat (<i>Lynx rufus</i>)	20	5		2	5	2	1		1	1	3
Rabbit or hare sp.	18	6		3	2	2	5				
Elk (<i>Cervus canadensis</i>)	17			2	1	5			3	4	2
Squirrel sp.	5	1		1			2			1	
Gray fox (<i>Urocyon cinereoargenteus</i>)	4	2	1						1		
Mammal sp.	4				1	2	1				
Mountain lion (<i>Puma concolor</i>)	4		1	2						1	
American badger (<i>Taxidea taxus</i>)	3										3
Red fox (<i>Vulpes vulpes</i>)	3									2	1
Wild boar (<i>Sus scrofa</i>)	3										3
Jack rabbit (<i>Lepus sp.</i>)	2								1	1	
Bighorn sheep (<i>Ovis canadensis</i>)	1								1		
Kit fox (<i>Vulpes macrotis</i>)	1	1									
River otter (<i>Lontra canadensis</i>)	1									1	
Pronghorn (<i>Antilocapra americana</i>)	1			1							
	5125	462	135	937	568	547	228	390	602	682	574

Mule deer only

Peak in May, and longer peak in Sep-Nov.



Mule deer were not reported in some years (Table B).

For district 1 through 8, reporting seems to be (mostly) restricted to 2006-2009.

For district 9, 12, reporting seems to be mostly restricted to 2000-2005.

Suggestions:

1. Conduct analyses for each district, using all available carcass removal data for the individual districts. Note that District 8 and 11 have very few observations though.

2. Do not conduct state-wide analyses... If you do, you would need huge correction factors that are questionable to begin with. It is better to conduct state-wide analyses only with the deer crash data (and forego the state-wide analyses with deer carcass removal data).

Discussion: Not all districts seem to report deer carcasses, at least not with the same level of effort. In addition, within each district, the search and reporting level seems to vary substantially. If the purpose of collecting the carcass data is to be able to identify carcass hotspots, then this suggests that more attention needs to be given to report carcasses with similar search and reporting effort between years as well as between districts.

Table B. Deer carcasses reported per district per year.

District	Total Of Count	<>	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
1	230		15	10	18				41	71	37	38
2	202				175					3	14	10
3	9								1	3	1	4
4	367								40	83	135	109
5	32								11	12	6	3
6	58				2	1			4	14	22	15
7	14								6	1	3	4
8	5								2	2		1
9	670		95	35	140	127	157	115		1		
10	1746		222	73	487	347	290	13	48	95	99	72
11	3		1							1	1	
12	88		24	5	11	12	15	14	2	1	3	1
	3424		357	123	833	487	462	142	155	287	321	257

APPENDIX A2.3

Crash data. 1 Jan 2005 – 31 December 2014

There were 10,552 reported crashes with either livestock, deer, or other animals (Table x). There were 25 crashes with 28 human fatalities, mostly with deer (Table A). There were 1351 crashes with 1617 human injuries, also mostly with deer (Table B).

Table A. Human fatalities because of a crash with livestock, deer, or other animal species

Human fatalities in an individual crash (n)	Crashes (n)			
	Livestock	Deer	Other species	Total
0	1156	6909	2462	10527
1	6	12	4	22
2	0	1	2	3
Total crashes (n)	1162	6922	2468	10552
Total crashes (%)	11.01	65.60	23.39	100.00
Total crashes with human fatalities (n)	6	13	6	25
Total crashes with human fatalities (%)	24.00	52.00	24.00	100.00

Table B. Human injuries because of a crash with livestock, deer, or other animal species

Human injuries in an individual crash (n)	Crashes			
	Livestock	Deer	Other species	Total
0	954	6075	2172	9201
1	149	736	240	1125
2	49	102	48	199
3	3	7	7	17
4	6	1	0	7
5	1	1	1	3
Total crashes (n)	1162	6922	2468	10552
Total crashes (n)	11.01	65.60	23.39	100.00
Total crashes with human injuries (n)	208	847	296	1351
Total crashes with human injuries (%)	15.40	62.69	21.91	100.00

Most of the crashes were with passenger cars (7764 out of 10552 crashes) (Table C). However, the percentage of crashes that resulted in at least one human injury or human fatality was 9.66% for passenger cars (vehicle type A) and 5.72% for pickups (vehicle type D), whereas this was 91.13% for motorcycles (vehicle type C) (Table C). For passenger cars the percentage of human injuries or human fatalities was higher with livestock crashes (22.36%) compared to crashes with deer or other species (Table D). The same applied to pickups (9.88%), but for motorcyclists the percentage of human injuries or human fatalities was at least 90% regardless of the species group involved (Table D).

Table C. Human injuries or fatalities because of a crash with livestock, deer, or other species by vehicle type.

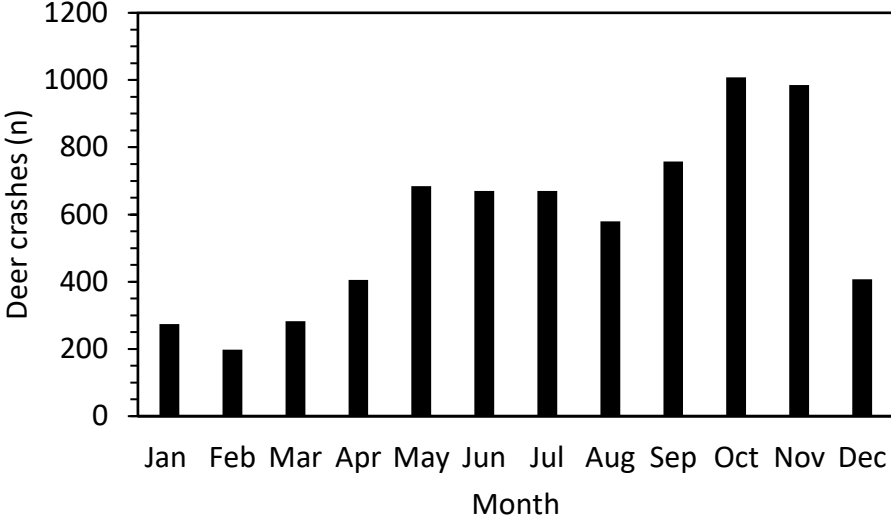
Vehicle type	Crashes with human injuries or fatalities (n)			Crashes with at least one human injury or fatality (%)
	None	≥1	Total	
A-PASNGR CAR/STA WAGON	7014	750	7764	9.66
B-PASNGR CAR W/TRAILER	12	1	13	7.69
C-MOTORCYCLE	47	483	530	91.13
D-PICKUP/PANEL TRUCK	1253	76	1329	5.72
E-PICKUP/PANEL W/TRAILER	53	5	58	8.62
F-TRUCK/TRUCK TRACTOR	48	4	52	7.69
G-TRUCK/TRACTOR & 1 TRAILER	204	8	212	3.77
H-SCHOOL BUS	20	1	21	4.76
I-OTHER BUS	22	1	23	4.35
J-EMERGENCY VEHICLE	404	28	432	6.48
L-BICYCLE	0	3	3	100.00
M-OTHER-MOTOR VEH	43	1	44	2.27
N-OTHER-NON-MOTOR VEH	1	0	1	0.00
2-TRUCK/TRACTOR & 2 TRAILER	32	2	34	5.88
U-PEDESTRIAN	1	6	7	85.71
UNKNOWN	27	1	28	3.57
V-DISMOUNT PEDESTRIAN	1	0	1	0.00

Table D. Human injuries or fatalities because of a crash with livestock, deer, or other species by vehicle type.

Species group	Human injuries or fatalities (n)	A-PASNGR CAR/STA WAGON	C-MOTORCYCLE	D-PICKUP/PANEL TRUCK
Livestock	None	552	0	228
	≥1	159	14	25
	≥1 (%)	22.36	100.00	9.88
Deer	None	4703	37	820
	≥1	410	378	38
	≥1 (%)	8.02	91.08	4.43
Other species	None	1759	10	205
	≥1	181	91	13
	≥1 (%)	9.33	90.10	5.96

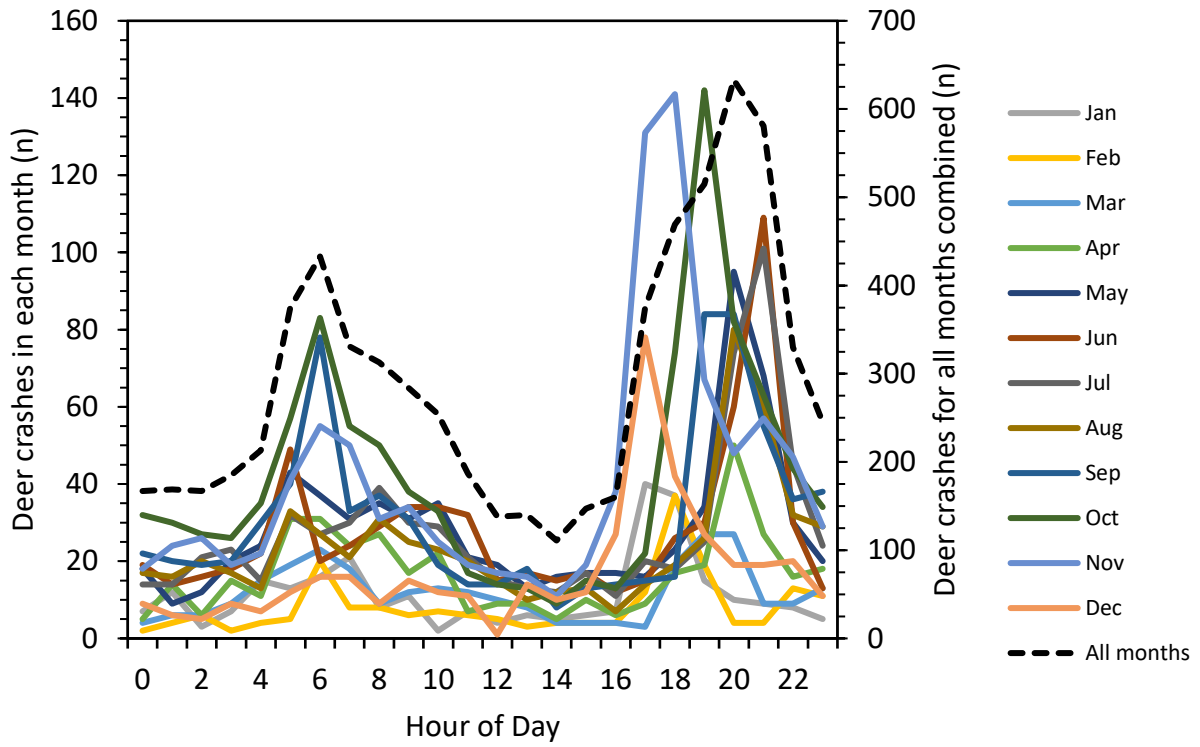
Deer only analyses

Distribution of deer crashes per month (n=6922 in total)



Deer crashes by the hour of the day

Per month and for all months combined



The number of deer crashes per district per year.

This appears relatively consistent, allowing for statewide analyses

District	Total	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
1	790	77	64	70	78	75	66	72	94	103	91
2	1366	110	115	155	140	139	121	150	141	146	149
3	913	74	69	74	93	100	92	94	90	114	113
4	789	93	82	91	92	80	75	75	63	75	63
5	1104	90	70	105	108	108	114	139	128	148	94
6	272	38	33	35	28	25	22	23	24	27	17
7	205	18	18	10	21	13	12	25	33	31	24
8	129	4	10	9	19	7	13	10	21	15	21
9	540	35	32	33	38	38	54	74	70	83	83
10	568	60	66	59	76	65	44	42	59	60	37
11	143	7	8	10	14	16	11	16	25	14	22
12	103	9	17	10	12	6	12	7	12	14	4
Total	6922	615	584	661	719	672	636	727	760	830	718

APPENDIX A2.4

California Department of Transportation

OTM22215

TSAR - ACCIDENT SUMMARY

Policy controlling the use of Traffic Accident Surveillance and Analysis System (TASAS) - Transportation Systems Network (TSN) Reports

1. TASAS - TSN has officially replaced the TASAS - "Legacy" database.
2. Reports from TSN are to be used and interpreted by the California Department of Transportation (Caltrans) officials or authorized representative.
3. Electronic versions of these reports may be emailed between Caltrans' employees only using the State computer system.
4. The contents of these reports shall be considered confidential and may be privileged pursuant to 23 U.S.C. Section 409, and are for the sole use of the intended recipient(s). Any unauthorized review, use, disclosure or distribution is prohibited. If you are not the intended recipient, please contact the sender by reply e-mail and destroy all copies of the original message. Do not print, copy or forward.

California Department of Transportation

OTM22215

TSAR - ACCIDENT SUMMARY

REPORT PARAMETERS:

REPORT DATE : 07/07/2017
REFERENCE DATE : 07/07/2017
SUBMITTOR : TRRKIM
REPORT TITLE : ' Animal Crashes '
EVENT ID : 3926696

LOCATION CRITERIA:

Statewide Report

SELECTION CRITERIA:

1 1 AND 600 - PARTY TYPE IN W,X,Z

Accidents Date Range:

From -- 01/01/2005 To -- 12/31/2014

TASAS SELECTIVE RECORD RETRIEVAL
TSAR - ACCIDENT SUMMARY
' Animal Crashes '

Table with columns: TOTAL ACCIDENTS, FATAL, INJURY, PDO, PERSONS KILLED, INJURED, MOTOR VEHICLES INVOLVED NUMBER, PCT, CODE, <---LINES CODED---> NUMBER, PCT, CODE.

Table with columns: <---- HOUR OF DAY ----> NUMBER, PCT, CODE; <--- ACCESS CONTROL ---> NUMBER, PCT, CODE; <--- SIDE OF HIGHWAY ---> NUMBER, PCT, CODE; <----- YEAR -----> NUMBER, PCT, CODE; <----- MONTH -----> NUMBER, PCT, CODE; <----- DAY OF WEEK -----> NUMBER, PCT, CODE.

TASAS SELECTIVE RECORD RETRIEVAL
TSAR - ACCIDENT SUMMARY
' Animal Crashes '

Table with 3 columns: NUMBER, PCT, CODE. Rows include collision factors like 1-INFLUENCE ALCOHOL, 2-FOLLOW TOO CLOSE, etc.

Table with 3 columns: NUMBER, PCT, CODE. Rows include collision types like A-HEAD-ON, B-SIDESWIPE, C-REAR END, etc.

Table with 3 columns: NUMBER, PCT, CODE. Rows include roadway conditions like A-HOLES, RUTS, B-LOOSE MATERIAL, etc.

Table with 3 columns: NUMBER, PCT, CODE. Rows include weather conditions like A-CLEAR, B-CLOUDY, C-RAINING, etc.

Table with 3 columns: NUMBER, PCT, CODE. Rows include lighting conditions like A-DAY LIGHT, B-DUSK/DAWN, C-DARK-STREET LIGHT, etc.

Table with 3 columns: NUMBER, PCT, CODE. Rows include road surface conditions like A-DRY, B-WET, C-SNOWY, ICY, etc.

Table with 3 columns: NUMBER, PCT, CODE. Rows include right of way control conditions like A-CONTROL FUNCTIONING, B-CONTROL NOT FUNCTIONING, etc.

Table with 3 columns: NUMBER, PCT, CODE. Rows include highway group conditions like R-IND. ALIGN RIGHT, L-IND. ALIGN LEFT, etc.

Table with 3 columns: NUMBER, PCT, CODE. Rows include intersection/ramp accident location conditions like 1-RAMP INTERSECTION (EXIT), 2-RAMP, etc.

TASAS SELECTIVE RECORD RETRIEVAL
TSAR - PARTY SUMMARY
' Animal Crashes '

Table with columns: PARTY TYPE, MOVEMENT PRECEDING COLLISION, OTHER ASSOCIATED FACTORS. Includes sub-columns for NUMBER, PCT, CODE, and #1/#2. Lists various vehicle types and collision codes.

Table with columns: DIRECTION OF TRAVEL, SPECIAL INFORMATION. Includes sub-columns for NUMBER, PCT, CODE. Lists travel directions and special information codes.

** INCLUDES EQUIPMENT ENGAGED IN CONST/MAINT ACTIVITIES AS OF 00-02-22

* SPECIAL INFORMATION CODES EFF. 04-01-01

* INATTENTION CODES EFF. 01-01-01

TASAS SELECTIVE RECORD RETRIEVAL
TSAR - PARTY SUMMARY
' Animal Crashes '

Table with columns for PRIMARY NUMBER, PCT, OTHERS NUMBER, PCT, CODE, and LOCATION OF COLLISION (NUMBER, PCT, CODE). Includes sub-sections for DRUG/PHYSICAL and various object codes like 01-SIDE OF BRIDGE RAILING, 02-END OF BRIDGE RAILING, etc.

LETTER CBD 1: CENTER FOR BIOLOGICAL DIVERSITY

Tiffany Yap, D. Env/PhD
Wildlife Corridor Advocate
Center for Biological Diversity
1212 Broadway, Suite 800
Oakland, California 94612
May 1, 2020

This letter was submitted outside the public comment period on the Draft PEIR. A summary of the following responses was e-mailed to the commenter on May 6, 2020. Individual comments are responded to below. CBD's letter provides valuable input to the Plan process and SCAG has prepared an Addendum to clarify and expand upon certain information and refined mitigation measures in response to some of the issues raised in the letter. However, this added information and refined mitigation measures do not result in any of the following:

- One or more significant effects not discussed in the PEIR.
- Substantial increase in the severity of a previously identified significant effect.
- New mitigation measures or alternatives that were previously found not to be feasible would be feasible and would substantially reduce on or more significant effects of the project but are declined to be adopted by the project proponent.
- Mitigation measures or alternatives that are considerably different from those analyzed in the PEIR would substantially reduce one or more significant effects but are declined to be adopted.

In general, the new information updates regulatory information, expands/clarifies environmental setting information, further clarifies the significant impacts already identified in the PEIR and refines mitigation measures to provide more detail as to how SCAG will carry out their role and provides more options for project-level mitigation.

Response CBD 1-1

The comment provides introductory remarks and a general summary of the comments below regarding wildlife connectivity, mountain lion conservation, the rollback of vehicle emission standards, inadequate mitigation, and the air quality and greenhouse gas analysis. Refer to **Response CBD 1-21** for responses related to SAFE rules.

Please see **Response CBD 1-4, Response CBD 1-5, Response CBD 1-18, and Response CBD 1-21.**

Response CBD 1-2

The comment provides introductory remarks highlighting the background on the Center for Biological Diversity (CBD). It presents no environmental issues within the meaning of CEQA.

Response CBD 1-3

The comment states that a program EIR may not avoid analysis and mitigation for regional programs. As described throughout the below responses, the PEIR addresses regional-scale impacts as appropriate for a plan that covers six counties, more than 38,000 square miles, 191 cities, numerous communities (with a diverse set of community values), several climate types, and a wide variety of environmental conditions.

A “project EIR” is generally prepared for the construction-level project and focuses primarily on the changes in the environment that would result from the project, and it examines all phases of the project including planning, construction, and operation. In contrast, a “program EIR” evaluates the broad policy direction of a planning document, such as a general plan, but does not examine the potential site-specific impacts of the many individual projects that may be proposed in the future consistent with the plan. The degree of specificity required in an EIR corresponds to the degree of specificity involved in the underlying activity that is described in the EIR. More specifically, CEQA allows that a PEIR, “may be prepared on a series of actions that can be characterized as one large project and are related either (1) geographically, (2) as logical parts of the chain of contemplated actions, (3) in connection with issuance of rules, regulations, plans or other general criteria to govern the conduct of a continuing program, or (4) as individual activities carried out under the same authorizing statutory or regulatory authority and having generally similar environmental effects which can be mitigated in similar ways” (*CEQA Guidelines* § 15168).

Connect SoCal includes thousands of projects that are selected in accordance with specific guidance, by the CTCs and local agencies before being included in the Plan. Because Connect SoCal is a regional planning document that does not examine site-specific impacts, it is appropriately analyzed with a program EIR.

The Connect SoCal PEIR is a programmatic document that provides a region-wide assessment of the potential significant environmental effects of implementing policies, strategies, projects, and programs included in Connect SoCal. It provides mitigation measures to be implemented by SCAG at the regional level and identifies a framework of mitigation measures for individual lead agencies to choose from for subsequent site-specific environmental review, including project-level EIRs as appropriate for each project, site, and community.

The focus of the environmental analysis in the PEIR is on potential regional-scale impacts associated with implementation of Connect SoCal as a whole. Connect SoCal conceptually identifies individual transportation projects and provides land use policies set forth in the SCS component of the Plan. Because

the Plan and PEIR is programmatic in nature and regional in approach, it does not include site-specific analysis of any project contained in Connect SoCal. Many of the individual transportation projects included in the Plan are early in the development phase, and detailed project/site specific analysis is not appropriate at this time without undue speculation (see *CEQA Guidelines* § 15126.6(f)(3)).

While the PEIR identifies several significant impacts at the regional level, individual projects and their potential impacts must be separately assessed at the project level by individual lead/implementing agencies to determine whether specific project conditions may result in significant impacts at the local or sub-regional level. Subsequent project-level environmental analyses will determine whether or not an individual project has significant, project-level impacts requiring the consideration of project-level mitigation measures.

Use of a program-level approach ensures consideration of the cumulative effects of the transportation projects contemplated over the 25-year planning horizon and avoids duplicative reconsideration of the basic policy consideration in the Plan related to land use patterns, alternative modes of travel, active transportation, and sustainability. As specified by Section 15168(c) of the *State CEQA Guidelines*, subsequent activities analyzed in the PEIR must be examined to determine whether an additional environmental document must be prepared. If a later activity would have effects that were not examined in the PEIR, a new initial study would need to be prepared leading to determine the appropriate level of environmental compliance documentation pursuant to CEQA (see *CEQA Guidelines* § 15002(k)).

The analysis in the Connect SoCal PEIR is based on scientific and factual data which has been reviewed by the lead agency and reflects its independent judgement and conclusions. CEQA permits disagreements between experts with respect to environmental issues addressed in an EIR. As stated in Section 15151 of the *CEQA Guidelines*, disagreement among experts does not make an EIR inadequate. The courts have looked not for perfection but for adequacy, completeness and a good faith effort at full disclosure.

Response CBD 1-4

The comment states that many of the PEIR's mitigation measures are legally inadequate and cannot be considered mitigation under CEQA and case law. The commenter asserts that SCAG should revise the PEIR's mitigation measures.

Contrary to the commenter's assertions, SCAG is not like SANDAG.¹ SANDAG is an implementing agency, as well as a metropolitan planning organization (MPO). As such, SANDAG has "purse string authority" over projects and therefore can require and enforce mitigation measures. SCAG has no such

¹ The San Diego Association of Governments <https://www.sandag.org/index.asp?fuseaction=about.home>

authority over projects, nor does it have any land use authority. SCAG serves as the regional forum for cooperative decision-making by local government elected officials and its primary responsibilities in fulfillment of federal and state requirements include the development of the RTP/SCS; the Federal Transportation Improvement Program (FTIP); the annual Overall Work Program; and the transportation-related portions of local air quality management plans. SCAG's other major functions include determining the regional transportation plans and programs are in conformity with the federal Clean Air Act; determining that the RTP/SCS meets regional greenhouse gas (GHG) emissions reduction targets established by the California Air Resources Board (CARB); preparing a Regional Housing Needs Assessment (RHNA) every eight years; and intergovernmental review of regionally significant projects.

The Regional Council is SCAG's governing body. It consists of 86 elected officials, representing cities, counties, county transportation commissions, transportation corridor agencies, tribal governments, and air districts in the region. The Regional Council has general authority to conduct the affairs of SCAG and directs the actions of the agency throughout the year. Additionally, the Regional Council implements the policy direction provided at the annual General Assembly of its membership, acts upon policy recommendations from SCAG's standing policy committees and external agencies and appoints standing or ad-hoc subcommittees to study specific programs or issues. SCAG's Regional Council directs the policy initiatives of the organization. Consistent with state law and as a matter of policy, SCAG provides for local jurisdictions to have maximum flexibility to make decisions appropriate to their circumstances.

Under state planning law (SB 375), the SCS developed as part of the RTP cannot supersede local General Plan policies.² Rather, it is intended to provide a regional policy foundation that local governments may build upon if they so choose and generally includes the quantitative growth projections for each city and county in the region going forward. The PEIR, page 1.0-16 notes as follows:

... SB 375 specifically provides that nothing in an SCS supersedes the land use authority of cities and counties, and that cities and counties are not required to change their land use policies and regulations, including their general plans, to be consistent with the SCS or an alternative planning strategy.³ Moreover, cities and counties have plenary authority to regulate land use through their police powers granted by the California Constitution, art. XI, §7, and under several statutes, including the local planning law,⁴ the zoning law,⁵ and the Subdivision Map Act.⁶ As such, SCAG has no concurrent authority/jurisdiction to implement

² Cal. Gov Code Section 65080(b)(2)(K).

³ California Legislative Information. *Public Resources Code – PRC, Division 13. Environmental Quality, Chapter 2.5, Definitions [21060-21074].*

⁴ California Legislative Information. *Chapter 3. Local Planning 65100-65763.*

⁵ California Legislative Information. *Chapter 4. Zoning Regulations 65800-65912.*

⁶ California Legislative Information. *Division 2 Subdivisions 66410-66499.38.*

mitigation related to land use plans and projects that implement the Plan. With respect to the transportation projects in the Plan, these projects are to be implemented by Caltrans, county transportation commissions, local transit agencies, and local governments (i.e., cities and counties), and not SCAG. SCAG also has no authority/jurisdiction to require these agencies to implement project-specific mitigation measures.

As such, SCAG makes clear that lead agencies have the sole discretion to determine which mitigation measures are appropriate and feasible for individual projects, and SCAG has taken steps to ensure that the language of project level mitigation measures allow maximum flexibility to address multiple jurisdictions, circumstances, community values, environmental conditions, etc.

Unlike SANDAG, SCAG does not implement transportation projects in the RTP/SCS (except for a limited role in certain active transportation projects, as noted below). The six County Transportation Commissions (CTCs) in the SCAG region are designated as the Regional Transportation Planning Agencies (RTPAs), and responsible for developing short-term, county-level transportation improvement programs (TIPs). Each of the CTCs in the SCAG region are considered implementing agencies that have the ultimate authority in their respective counties to identify, select, prioritize and implement transportation projects which are included in their TIP submittals to SCAG. As the designated metropolitan planning organization (MPO) for the six-county region, SCAG serves primarily as a regional planning agency that conducts regional transportation planning activities as required under federal and state laws. In fulfilling this role, SCAG reviews the regional project lists contained in each RTP and FTIP which include the programs of projects submitted by the CTCs, primarily for purposes of determining compliance with transportation conformity requirements under the federal Clean Air Act and meeting the established GHG emissions reduction targets pursuant to SB 375.

SCAG does not generally provide funding for implementation of transportation projects in Connect SoCal, except for a limited role in active transportation projects described below. Funding for such projects is programmed (reasonably available funding identified) by the County Transportation Commissions (CTCs) and Caltrans. Implementing agencies, including Caltrans and the CTCs, conduct project-level analysis, programming, construction and implementation of such projects.

However, as the designated recipient for certain Federal Transit Administration (FTA) funds for the region, SCAG provides formula and pass through funds to transit agencies for capital improvements such as bus replacements and related facilities improvements.⁶ While SCAG does not have a role in prioritizing these expenditures, SCAG is required to ensure such expenditures are consistent with the adopted and conforming RTP/SCS and FTIP.

Additionally, SCAG serves a role in programming regional funds under the California Active Transportation Program which is administered by the California Transportation Commission to encourage increased use of active modes of transportation, such as biking and walking. Under this program, active transportation infrastructure projects are implemented by local agencies, and SCAG receives a small portion of funding for planning, non-infrastructure, and pilot projects. More information about the regional ATP program is available on SCAG's website.⁷

Also, as part of its Go Human program, SCAG receives funding to implement small active transportation projects involving for example, temporary demonstrations and outreach activities.

SCAG's Intergovernmental Review (IGR) program is responsible for two main functions: (1) the clearinghouse function which includes reviewing applications for federal grants and financial assistance programs, federally required state plans, federal development activities and federal environmental documents pursuant to Presidential Executive Order 12372 and (2) the CEQA function which includes reviewing regionally significant plans, projects and programs per *CEQA Guidelines*. The clearinghouse function enables SCAG to maintain a database of submitted projects and provides acknowledgement letters.

SCAG staff provides comment letters for regionally significant projects pursuant to *CEQA Guidelines* Section 15206(a)(1). The comment letter is intended to assist lead agencies with information such as RTP/SCS goals, jurisdictional-level growth forecasts, and to suggest consideration of project-level mitigation measures included in the RTP/SCS's PEIR. Project-level mitigation measures are within the responsibility, authority, and/or jurisdiction of project-implementing agency or other public agency serving as lead agency under CEQA in the subsequent project- and site- specific design, CEQA review, and decision-making processes of those projects. As discussed above, SCAG recognizes that lead agencies have the sole discretion in determining which mitigation measures included in the PEIR should be considered for adoption and implementation, as applicable and feasible.

In a few limited situations, grants require applicants to receive letters from SCAG confirming the proposed projects for grant award would support the implementation of the regional SCS. One such example is the Affordable Housing and Sustainable Communities (AHSC) Program administered by the California Strategic Growth Council. Since the AHSC Program promotes transit-oriented development and accordingly supports the implementation of the regional SCS, SCAG was able to provide confirmation that the project supports and is consistent with the RTP/SCS goals.

⁷ <http://www.scag.ca.gov/programs/Pages/ActiveTransportationFunding.aspx?opentab=8>

The FEIR includes both SCAG mitigation and a framework of project-level mitigation. SCAG mitigation measures are appropriately limited to those actions that can be directly undertaken by SCAG. SCAG mitigation measures maximize SCAG's influence and authority by encouraging and facilitating data collection, information-sharing, and regional coordination and action. The project-level mitigation measures necessarily provide guidance and flexibility given the enormous range of projects and conditions as well as diversity of community values that are present in the region. It is not possible, nor required under CEQA, for a regional document to provide specific guidance for every type of project and condition. (See also Master Response 5 Final PEIR p. 9.0-13). SCAG's role, as undertaken within the PEIR is to identify such impacts and provide broad policy direction regarding project level implementation.

With regard to proper use of programmatic mitigation, since SCAG has no authority to impose project-level mitigation, it is the responsibility of local lead/implementing agencies, to identify impacts and determine and commit to the appropriate mitigation measures for the individual projects. The PEIR identifies mitigation measures based on appropriate performance standards. As part of identifying significant impacts of each project in each jurisdiction, agencies need the flexibility to identify appropriate detailed performance standards.

The Connect SoCal PEIR provides guidance in the form of programmatic mitigation measures that can be used by local jurisdictions in developing project-specific mitigation. The PEIR does not rely on the project-level mitigation measures being implemented in making significance findings (since the measures are within the jurisdiction of another agency and cannot be implemented by SCAG). Refer to Master Response No. 5 Approach to Mitigation Measures, of the Final PEIR.

SCAG has successfully conducted workshops and regional forums for many years and will continue to do so. Examples of these regional forums include the Natural Lands Working Group, Environmental Justice Working Group, Toolbox Tuesday training sessions and many others. These forums also provide valuable feedback and input into developing mitigation measures for future PEIRs. For more details on SCAG's programs, please refer to: <http://scag.ca.gov/programs/Pages/Home.aspx>

With regard to the need to revise mitigation measures, SCAG has reviewed the PEIR mitigation measures and clarified, refined and amplified to incorporate some of the suggestions provided by CBD (see PEIR Addendum, **Chapter 4.0, Mitigation Measures**). The PEIR states (PEIR 1.0-18), that in order to use the document for streamlining purposes, a lead agency must apply mitigation measures in the PEIR or comparable measures. It is up to the lead agency to determine the appropriate mitigation measure as SCAG recognizes the specifics of a project including site conditions and community values will dictate the appropriate mitigation. SCAG provides guidance for project-specific mitigation measures commensurate with SCAG's role and authority and regional perspective. It is appropriate and necessary that local

jurisdictions select, and tailor mitigation measures based on their judgment as to what constitutes a significant impact and the mitigation measures appropriate to their circumstances.

SCAG has reviewed the suggested mitigation measures provided by CBD and has refined/clarified mitigation measures as appropriate; see PEIR Addendum **Chapter 4.0, Mitigation Measures**.

Regarding cumulative impacts, the PEIR appropriately analyzes the “whole of the action”, meaning, all projects, policies, and strategies within the Plan are evaluated as one action. That is to say, while the PEIR does recognize that impacts can vary based on the type of project (i.e., rail, highway, land development, etc.), the regional effect of these projects is viewed in combination. The PEIR does not attempt to analyze any one particular project, which as described above, is not appropriate for this regional document. Instead the PEIR recognizes the complex interaction between land use and transportation projects and the environment.

See also **Response CBD 1-3** regarding the differences between a Program EIR and a Project EIR.

Response CBD 1-5

The comment states that the FEIR fails to adequately assess and mitigate impacts to mountain lions, wildlife movement, and habitat connectivity.

See **Responses CBD 1-3** and **CBD 1-4** regarding appropriate level of detail in a Program EIR.

On April 16, 2020, the California Fish and Game Commission (CFGC) determined that the petition to list the mountain lion as threatened or endangered may be warranted and became a candidate of California Endangered Species Act (CESA) listing. The determination of candidacy began a 12-month status review, which is currently underway. The Southern California/Central California Coast Evolutionarily Significant Unit (ESU) of mountain lion will remain a candidate species during the CDFW’s one-year status review process. California law affords protection to candidate species as if they were already listed as threatened or endangered.

There are numerous protected species in the SCAG Region (see PEIR Tables 3.4-2 and 3.4-3); it is not possible to determine which of these species may be impacted by specific projects (see **Response CBD 1-3** regarding Program and Project EIRs). Rather, the Connect SoCal Plan takes a multi-species benefit approach to conservation, intended to protect and enhance the SCAG region’s high-level of biodiversity. While Connect SoCal does not directly reference mountain lion populations, the Plan includes key conservation approaches for the species’ survival, including habitat preservation, restoration, and connectivity.

Due to the scope and scale of the six county-wide SCAG region, PEIR analyses were limited to plants and animals listed in regional databases with georeferenced known locations (such as the California Natural Diversity Data Base [CNDDDB]). The impact analysis reviewed potential environmental impacts to sensitive biological resources from a regional perspective and is programmatic in nature. As such, lead agencies for each individual project will determine the level of environmental review required at the subsequent project-level evaluation of individual projects.

Project specific analysis and reporting will be required, and specific environmental documents are to be prepared that must consider local regulations, as outlined in project level mitigation measures, for example when a project will:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

Moreover, jurisdictions within the SCAG region are aiming to reduce habitat loss and increase connectivity. Ventura County adopted the Habitat Connectivity and Wildlife Corridor project in March 2019. The project included the development of regulations and revisions to zoning ordinances (see Ventura County Ordinance No. 4537 and 4539) and general plan policies to address habitat loss and fragmentation resulting from urban growth.⁸ The California Department of Transportation (Caltrans) has also planned a wildlife life crossing through Route 101 Freeway at Liberty Canyon Road in Agoura Hills, see PEIR page 3.4-42.

Connect SoCal includes a \$1 billion initiative to develop a Regional Advanced Mitigation Program (RAMP) as part of the Connect SoCal's Core Vision for Sustainable Development. SCAG anticipates that the RAMP will be funded from new revenues that are reasonably available over the life of the Plan, including the implementation of mileage-based user fees at the state and local levels.⁹ The RAMP would establish and/or supplement regional conservation and mitigation banks and/or other approaches to offset the impacts of

⁸ VCRMA. *Habitat Connectivity and Wildlife Corridor*. Available online at: <https://vcrma.org/habitat-connectivity-and-wildlife-movement-corridors>.

⁹ For more information regarding SCAG's fiscal analysis, please refer to Chapter 4: Paying our Way Forward and Transportation Finance Technical Report of the Plan.

transportation and other development projects. The program structure would be determined in the future by potential implementing entities within the region.

Inclusion of a RAMP in Connect SoCal is based upon an assessment of regional need and the support of stakeholders throughout the region. Support for regional advance mitigation programs as a key element of transportation planning strategy is growing nationally and statewide. Transportation agencies within California, and specifically the SCAG region, have been at the forefront of this trend. Due to SCAG's limited authority, the RAMP would not be able to acquire property in the same way that SANDAG's RAMP would. Instead, SCAG's role would focus more on agency coordination. SCAG plans to work with stakeholders in the future to identify how the RAMP can be structured and implemented and continue to support advance mitigation initiatives throughout the region.

To assist in defining the RAMP, SCAG is currently leading a multi-year effort to develop a Regional Greenprint that will provide an easily accessible resource to help municipalities, conservation groups, developers and researchers prioritize lands for conservation based on the best available scientific data. The Greenprint will serve as a strategic web-based conservation tool to provide the best available scientific data and scenario visualizations to help cities, counties and transportation agencies make better land use and transportation infrastructure decisions and conserve natural and farmlands. Through an active, funded partnership with The Nature Conservancy, SCAG will deploy a regional Greenprint tool by 2022 to serve as an online mapping platform illuminating the multiple benefits of natural and agricultural lands through data related to key topics such as habitat connectivity, biodiversity, clean water, agriculture, and greenhouse gas sequestration. Ultimately, the Regional Greenprint effort will also produce a whitepaper on Regional Advance Mitigation Planning including approaches for RAMP in the SCAG region, needed science and analysis, models, challenges and opportunities and recommendations.

Furthermore, the Plan's Core Vision for Sustainable Development includes strategies intended to support implementation of the SCS, as well as a collection of land use tools that can support protection of mountain lion habit. The Green Region strategy seeks to "preserve, enhance and restore regional wildlife connectivity" (Connect SoCal, page 50). Land use tools that are supported for implementation at the local level to meet this objective include Transfer of Development Rights; Urban Greening; and Greenbelts and Community Separators. Each of these strategies include policy language that directly calls for protecting wildlife habitat, enhancing biodiversity, and/or restoring habitat connectivity (Connect SoCal page 53).

Finally, the Natural & Farmlands Technical Report contains "Recommended Policies" and "Next Steps" that will benefit mountain lions, including improving natural corridor connectivity; encouraging advance mitigation programs; and encouraging jurisdictions to work across county lines (Connect SoCal, page 21-22).

Natural and Farmlands Conservation Technical Report Policies ¹⁰

- Improve Natural Corridor Connectivity. Encourage and facilitate research, programs and policies to identify, protect and restore natural habitat corridors, especially where corridors cross county boundaries. Additionally, continue support for preserving wildlife corridors and wildlife crossings to minimize the impact of transportation projects on wildlife species and habitat fragmentation.
- Facilitate Partnerships and Collaboration. Encourage, cultivate, and facilitate partnerships and collaboration on natural/ farmlands policies and programs between public, educational and non-profit agencies throughout the SCAG region.
- Encourage Regional Conservation. Planning Seek and expand engagement with resource and permitting agencies, County Transportation Commissions, Caltrans, California High Speed Rail Authority and other partners on regional advance mitigation and integrated regional conservation planning.
- Support Innovative Land Use Policies. Recognize the region’s growth potential and its inherent connection between the conservation of existing natural/farmlands and strategies to promote infill, such as transfer of development rights and land banking, which relieve pressure to expand the urban footprint. Additionally, continue efforts to work toward identifying priority conservation areas, including habitat and farmland areas, to permanently protect as part of future regional plans.
- Encourage Urban Greening/Green Infrastructure. Support planning and implementation efforts that improve the relationship between the urban built environment and the urban natural environment, such as urban forestry, urban greenways and trail systems, watershed management and expansion of green infrastructure systems.

The PEIR includes plan-level and project-level mitigation measures aimed at reducing urban sprawl, preserving natural ecosystems, and reducing human-induced impacts on wildlife in the SCAG region, including the Southern California/Central California Coast ESU of mountain lions, see **SMM POP-1** through **SMM POP-5**; **SMM BIO-1** through **SMM BIO-3**; and **PMM BIO-1** through **PMM BIO-4**. The PEIR Addendum provides expanded background information on mountain lions and other species as identified by the commenter (see PEIR Addendum **Chapter 4.0, Mitigation Measures**).

The new information further clarifies the significant impacts already identified in the PEIR, including Impact BIO-1 – impacts to sensitive species, and Impact BIO-4 – impacts to wildlife corridors.

¹⁰ Connect SoCal, Natural and Farmlands Technical Report.

After Connect SoCal is adopted in its entirety, SCAG will continue collaboration with stakeholders to guide implementation of recommended policies and chart a course for next steps.

Response CBD 1-6

The comment states that the candidacy status for the Southern California mountain lion populations qualifies as significant new information under CEQA and as a candidate species of CESA, any impact to the mountain lion should require a mandatory finding of significance and the adoption of all feasible mitigation measures. SCAG has expanded the discussion and analysis related to PEIR impact BIO-1 (see Addendum **Chapter 3.0, PEIR Clarifications**). This expanded discussion clarifies and amplifies the existing background information and analyses and does not represent significant new information which would materially change the analysis. The CBD comments were received outside of the comment period, no formal response was required, and even if SCAG had responded prior to certification, because the comments did not raise significant new information or issues, recirculation was not required.

SCAG identified in the PEIR that implementation of the transportation projects identified in the Plan and development projects anticipated to occur under the Plan would result in a significant impact to wildlife movement and habitat, see PEIR page 3.4-86. The PEIR identifies 135 listed species and biological resources within the SCAG region, see Table 3.4-2 on page 3.4-7 of the PEIR. Due to the size of the SCAG region and the duration of the Plan, it is not possible, nor is it appropriate at the program level, to evaluate how each species may be individually impacted by the transportation projects identified in the Plan and development projects anticipated under the Plan. In order to reduce the impacts to wildlife from implementation of the Plan, both plan level and project level mitigation measures are included in the PEIR, see **SMM BIO-3** and **PMM BIO-1** through **PMM BIO-3**.

The commenter suggests SCAG coordinate with CDFW to determine if a “take” permit is required. As described above, SCAG is not an implementing agency and does not have the authority to coordinate with CDFW on take permits, or to implement mitigation specific to mountain lion habitat. The PEIR (page 9.0-116) found that the Plan would interfere substantially with the movement of any native resident or migratory fish or wildlife species, such as mountain lion, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites and would result in a significant and unavoidable impact (Impact BIO-4, Section 3.3, Biological Resources). Numerous project level mitigation measures were identified for migratory species (including mountain lions). These measures included consulting with “wildlife corridor authorities”; counties, cities, and other local organizations; USFS, CDFW, and USFWS and other agencies for projects that could impact wildlife corridors or migration for project planning. The PEIR also includes project-specific mitigation measures consistent with the multi-species

approach taken in the analysis. For example, PMM BIO-4 has been expanded to provide further clarifications (see **Chapter 4.0, Mitigation Measures, PMM BIO-4**).

The commenter provides many mitigation measures throughout the comment letter in order to reduce impacts posed to mountain lions. The suggested mitigation has been reviewed by SCAG, and to address CBD's comments SCAG has refined/clarified mitigation measures, where applicable. **Chapter 4.0, Mitigation Measures**, of the PEIR Addendum. Measures suggested by CBD that relate to regional connectivity and habitat preservation, which will also mitigate impacts to mountain lions, have been added to **PMM-BIO-1** and **SMM-BIO-1**; see PEIR Addendum **Chapter 4.0, Mitigation Measures**. The PEIR Addendum includes clarifications to the PEIR; see PEIR Addendum **Chapter 3.0, PEIR Clarifications**.

The new information further clarifies the significant impacts already identified in the PEIR, including Impact BIO-1 – impacts to sensitive species, and Impact BIO-4 – impacts to wildlife corridors.

Response CBD 1-7

The comment states that the PEIR fails to adequately assess and mitigate the sprawl-inducing impacts of approved major highway projects.

The Connect SoCal Plan includes land use strategies and transportation projects and supporting strategies that generally encourage population growth in urban areas and high-quality transit areas (HQTAs). These land use strategies include focusing growth near destinations and mobility options, promoting diverse housing choices, leveraging technology innovations, supporting implementation of sustainability policies, and promoting a green region. The land use development pattern of the Plan assumes a significant increase in small-lot single-family, and multi-family housing that is expected to mainly occur in infill locations near transit infrastructure in HQTAs and neighborhood mobility areas. Implementation of the Plan's land use development pattern would accommodate 60 percent of new homes and 73 percent of new jobs located within Priority Growth Areas (PGAs). This will move the region towards more compact, mixed-use development and reduce sprawl as compared to growth without Plan implementation.

The PEIR indicates that unplanned population growth may occur due to the extension of roads or other transportation projects, citing the impact as significant, see PEIR page 3.14-21. As a result, the PEIR includes plan-level and project-level mitigation to reduce this impact; see **SMM POP-1** through **SMM POP-5**. The PEIR also includes mitigation to reduce the impact of growth on wildlife and natural habitat; see **SMM BIO-1** through **SMM BIO-3** and **PMM BIO-1** through **PMM BIO-4**. The commenter identifies mitigation measures to reduce the risks associated with urban sprawl. SCAG has reviewed the suggested mitigation measures provided by CBD and has refined/clarified mitigation measures as appropriate; see PEIR Addendum **Chapter 4.0 Mitigation Measures**.

Response CBD 1-8

The comment states that the FEIR fails to adequately assess and mitigate the impacts of more roads and increased sprawl development to mountain lions in the Southern California region. Additional background information specific to mountain lions is included in **Chapter 3.0, PEIR Clarifications**, of the PEIR Addendum.

The new information further clarifies the significant impacts already identified in the PEIR, including Impact BIO-1 – impacts to sensitive species, and Impact BIO -4 – impacts to wildlife corridors.

See **Response CBD 1-4** through **Responses CBD 1-7** for discussion of impacts to wildlife and mountain lions in particular.

Response CBD 1-9

The comment states that the FEIR fails to adequately describe, assess, and mitigate the impacts of sprawl development and edge effects associated with human activities on mountain lions. Additional background information specific to mountain lions is included in the PEIR Addendum, see PEIR Addendum **Chapter 3.0, PEIR Clarifications**.

See **Response CBD 1-4** through **Responses CBD 1-7** for discussion of impacts to wildlife and mountain lions in particular.

Response CBD 1-10

The comment states that the PEIR fails to adequately assess and mitigate the impacts of mountain lions from the increased frequency of wildfires caused by human ignitions due to placing more homes in fire-prone habitat.

See **Response CBD 1-4** through **Responses CBD 1-7**. Additional PEIR clarifications specific to mountain lions is included in the PEIR Addendum, see PEIR Addendum **Chapter 3.0, PEIR Clarifications**. The PEIR identifies plan-level and project-level mitigation to reduce the impact posed by human induced wildfires which would in turn reduce impacts to mountain lions, see **SMM WF-1** through **SMM WF-3** and **PMM WF-1** through **PMM WF-2**. SCAG has reviewed the suggested mitigation measures provided by CBD and has refined/clarified mitigation measures as appropriate; see PEIR Addendum **Chapter 4.0, Mitigation Measures**.

Response CBD 1-11

The comment summarizes the importance of mountain lions in the region and asserts the importance of increasing landscape connectivity. Additional information specific to mountain lions is included in the PEIR Addendum, see PEIR Addendum **Chapter 3.0, PEIR Clarifications**.

The new information further clarifies the significant impacts already identified in the PEIR, including **Impact BIO-1** – impacts to sensitive species, and **Impact BIO -4** – impacts to wildlife corridors.

See also **Responses CBD 1-4** through **Responses CBD 1-7**.

Response CBD 1-12

The comment states that while SCAG implements many mitigation measures in order to reduce the impacts of more roads and increased sprawl development on wildlife movement and habitat connectivity, the measures are insufficient. Specifically, the commenter asserts that **PMM BIO-4** falls short of addressing regional wildlife connectivity as it fails to evaluate buffers. However, **PMM BIO-4** does identify wildlife movement buffer zones as a project-level measure that should be considered as appropriate. See **Responses CBD 1-3** and **1-4** related to evaluation of regional scale impacts.

The PEIR includes plan-level mitigation measures in order to address urban sprawl and wildlife connectivity, see **SMM POP-1** through **SMM POP-5** and **SMM BIO-1** through **SMM BIO-3**, see PEIR Addendum **Chapter 4.0, Mitigation Measures**, for refinements to these measures. As addressed in **Response CBD 1-6**, the Connect SoCal Plan focuses growth in HQTAs which will reduce urban sprawl by planning housing and job growth in existing urban areas.

Response CBD 1-13

The comment states that the PEIR fails to adequately assess and mitigate impacts of roads and sprawl development on regional wildlife connectivity.

See **Response CBD 1-12**. The PEIR includes plan-level and project-level mitigation to reduce the impacts from anthropogenic features, see **SMM NOI-1** and **PMM NOI-1** through **PMM NOI-2**.

Response CBD 1-14

The comment states that the PEIR fails to adequately mitigate impacts to regional wildlife connectivity and transportation projects should be required to enhance wildlife connectivity prior to approval for funding. Mitigation measure **PMM BIO-4** identifies wildlife movement buffer zones as a project-level measure that should be considered as appropriate.

See **Response CBD 1-4** through **Response CBD 1-7** for discussion of impacts to wildlife and mountain lions in particular.

Response CBD 1-15

The comment summarizes the health risks associated with air pollution, specifically focusing on ozone, fine particulate matter, and toxic air contaminants (TACs) which are of the greatest concern in urban areas of Southern California.

As stated in **Response CBD 1-6**, the Connect SoCal Plan is intended to focus growth in HQTAs, with 60 percent of new homes and 73 percent of new jobs being located in these PGASs which include existing main streets, downtowns, and commercial corridors. Through focusing on concentrated growth patterns and through vehicle emission reduction policies, such as the federal SAFE Vehicles Rule, and CARB programs, SCAG estimates that mobile-source ozone precursors (ROG and NOx) are expected to decrease in every county under implementation of the Plan, see PEIR Table 3.3-16. Mobile-source particulate matter is expected to increase in every county except Los Angeles County (which will see a decrease) and Ventura County (which will remain the same) from 2019 to 2045, see PEIR Table 3.3-16. As stated on PEIR page 3.3-69, the increases in particulate matter emissions from the Plan have the potential to worsen health concerns for sensitive groups. As a result, the FEIR includes several mitigation measures that would reduce particulate matter emissions, as detailed below.

The PEIR also included an analysis of the health risk posed to sensitive receptors living along heavily trafficked transportation segments in the SCAG region, see Appendix 3.3, Health Risk Technical Assessment. The health risk assessment (HRA) evaluated the cancer risks posed to residences, schools, retirement homes, and day care facilities from diesel particulate matter (DPM), a type of TAC. The HRA determined that the health risks posed to these receptors after implementation of the Plan would be less than baseline conditions (2019).

Therefore, while the PEIR does not specifically evaluate the air quality impacts and health risks posed to wildlife from Plan implementation, the PEIR does evaluate the criteria air pollutant emissions and health risks posed to the populations living nearest heavily trafficked transportation segments. Any reduction in air pollutant emissions as a result of the Plan would also be expected to benefit wildlife populations. See also **Responses CBD 1-16** and **Response 1-17** regarding evaluation of health risks.

The PEIR identifies plan-level and project-level mitigation measures to reduce air quality, greenhouse gas, and health risk impacts. Implementation of these measures will further reduce air quality and greenhouse gas emissions, which will benefit communities throughout the SCAG region as well as wildlife impacted

by air pollution, see SMM AQ-2 through SMM AQ-3; PMM AQ-1; SMM GHG-1 through SMM GHG-4; and PMM GHG-1.

Response CBD 1-16

The comment asserts that the FEIR must adequately analyze the potential health risks, including cumulative impacts, that may occur from air pollution generated directly or indirectly by the Plan, including projects funded or included in the Plan as CEQA Guidelines require EIRs to discuss health impacts that are reasonable foreseeable consequences of a project including acrolein, benzene, 1,3-butadiene, diesel particulate matter, formaldehyde, naphthalene, polycyclic organic material, and TACs.

Ozone is not emitted directly but is formed in the atmosphere from chemical reactions of NO_x and VOCs in the presence of sunlight. Local ozone concentrations vary from location to location and day to day driven by changes in weather patterns that influence the chemistry and physical transport of NO_x and VOCs. Ozone can last in the atmosphere anywhere from days to weeks. As a result, local ozone is difficult to model and is often modeled as an average seasonal concentration.¹¹ As stated on PEIR page 3.3-70, according to the SCAQMD in its amicus brief to the California Supreme Court in Friant Ranch, from a scientific standpoint, it takes a large amount of additional precursor emissions to cause a modeled increase in ambient ozone levels over an entire air basin, and provided evidence from its 2012 AQMP that showed that if the daily emissions of NO_x and ROG were reduced in amounts of 432 and 187 tons per day respectively, the ozone concentrations at SCAQMD's monitoring site would go down by only 9 parts per billion as compared to ozone readings without these ROG and NO_x reductions.

In order to evaluate the risk ozone poses to sensitive groups, the US EPA and CARB have set NAAQS and CAAQS, respectively, for ozone concentrations. Significantly harmful health effects could occur among adults and children if exposed to levels above these standards.¹² Therefore, particulates are frequently used to assess respiratory health in cancer risk assessments. Diesel engine emissions are known to be responsible for about 70% of California's estimated known cancer risk attributable to toxic air contaminants.¹³ Approximately 90% of diesel exhaust is made up of DPM.¹⁴ As a result, DPM is regularly used as a proxy for all particulate matter in health risk assessments. As such, the PEIR's analysis of cancer risk is appropriate for a regional level document focused on transportation. It would be infeasible for the

¹¹ Congressional Research Service. 2019. *Background Ozone: Challenges in Science and Policy*. Available: <https://fas.org/sgp/crs/misc/R45482.pdf>, accessed May 5, 2020.

¹² CARB. *Ozone & Health*. Available: <https://ww2.arb.ca.gov/resources/ozone-and-health>, accessed May 5, 2020.

¹³ California Air Resources Board. *Overview: Diesel Exhaust & Health*. Available: <https://ww2.arb.ca.gov/resources/overview-diesel-exhaust-and-health>, accessed July 2, 2020.

¹⁴ California Air Resources Board. *Overview: Diesel Exhaust & Health*. Available: <https://ww2.arb.ca.gov/resources/overview-diesel-exhaust-and-health>, accessed July 2, 2020.

PEIR to include detailed analysis and studies on the health risks of all pollutants associated with Plan projects. As described above, the Plan includes thousands of transportation projects, the details of which are not known to SCAG.

With regard to cumulative impacts of individual transportation and land use projects, use of a program-level approach provides consideration of the cumulative effects of these projects contemplated over the 25-year planning horizon and avoids duplicative reconsideration of the basic policy consideration in the Plan related to land use patterns, alternative modes of travel, active transportation, and sustainability. As specified by Section 15168(c) of the *State CEQA Guidelines*, subsequent activities analyzed in the PEIR must be examined to determine whether an additional environmental document must be prepared. If a later activity would have effects that were not examined in the PEIR, a new initial study would need to be prepared to determine the appropriate level of environmental documentation pursuant to CEQA (See *CEQA Guidelines* § 15002(k)).

See also **Response CBD 1-3** regarding programmatic and project EIRs and **Response CBD 1-17** and **Response CBD 1-20** regarding evaluation of health risks.

Response CBD 1-17

The comment states that the South Coast Air Quality Management District (SCAQMD) submitted comments on the EIR that were not sufficiently addressed.

The SCAQMD submitted a comment letter to SCAG on January 24, 2020. Responses to SCAQMD comments were provided within the Final PEIR released March 31, 2020 (see PEIR pages 9.0-39 to 9.0-53). The SCAQMD noted within their comment letter that the Draft PEIR incorrectly assigns reduction credit of air emissions to the Plan and the Draft PEIR used an incorrect baseline (existing conditions rather than future without the Plan) to determine significance.

Environmental impacts for the PEIR were determined by applying the thresholds of significance which compare future Plan conditions to the existing environmental setting (See *CEQA Guidelines* §15126.2(a)). The PEIR must identify significant impacts that would be expected to result from implementation of the Plan. Significant impacts are defined as a “substantial or potentially substantial, adverse change in the environment” (Public Resources Code § 21068).¹⁵ Significant impacts must be determined by applying explicit significance criteria to compare the future Plan conditions to the existing environmental setting (*CEQA Guidelines* § 15126.2(a)).¹⁶ The existing setting is described in detail in each resource section of

¹⁵ California Legislative Information. *Public Resources Code – PRC, Division 13. Environmental Quality, Chapter 2.5. Definitions [21060-21074]*.

¹⁶ CEQA. *Article 9. Contents of Environmental Impact Reports*.

Chapter 10.0 of this document, and represents the most recent, reliable, and representative data to describe current regional conditions at the time of publication of the NOP for the PEIR, January 23, 2019. In most instances, the most recent available data was for 2018 or 2019. For population, land use and related modeling analyses (air quality, transportation and noise), base year information is collected every four years as part of the Plan. The base year for the Plan is 2016. For purposes of the PEIR baseline, 2019 data has been estimated based on an interpolation of 2016 to 2045 projections. Available data that differs from this generalized explanation and used to determine existing conditions is specified in each resource section in Chapter 3.0 of this document.

The existing environmental setting was described in detail for each of the resource categories (see Chapter 1.0, Introduction, and Chapter 3.0, Environmental Analysis, for further clarification) and represents the most recent and representative data to describe current regional conditions during the publication of the NOP for the PEIR.

While SCAG uses existing conditions as the baseline to assess the significance of potential environmental impacts, as is the default under CEQA, the PEIR nevertheless identifies Future No Project (i.e., future no build) impacts compared to Future Plan impacts for the information of the public and decision makers. Adding anticipated increases in traffic to existing conditions (and using existing emission factors) would be unreasonable; SCAG is no more responsible for all the growth in the region than it is responsible for changes in emissions factors. SCAG conservatively analyzes changes in the region between 2019 and 2045 as a whole in the context in which they could reasonably occur.

The environmental baseline as used in the PEIR is, in fact, the existing physical conditions, i.e., the condition on the ground as of 2019. Only those projects that are existing and operational today are considered in the environmental baseline. However, the RTP baseline is different (referred to as the 2045 No Project in the PEIR) and includes transportation projects underway. This difference is to account for the federal requirements for RTPs, which require a baseline that shows the difference between a plan and no plan scenario. The alternatives analysis also appropriately compares 2045 conditions to existing conditions.

As discussed in the PEIR, in general, as compared to existing (2019) conditions, on-road vehicle emissions are anticipated to decrease by the 2045 horizon year (PM10 would increase in Imperial, Orange, Riverside, and San Bernardino Counties and PM2.5 would increase in Imperial, Riverside, and San Bernardino Counties), these reductions can be attributed to CARB regulations and efforts at implementing cleaner fuel standards and promoting lower emitting vehicles. These reductions would occur regardless of implementation of the Plan. In much the same way that growth would occur regardless of the Plan. The control measures set by CARB cannot be separated from future emissions. The PEIR cannot separate out all emissions anticipated to occur only as a result of the Plan. As explained in detail in the PEIR, the

comparison to existing conditions is the appropriate baseline consistent with CEQA requirements (CEQA Guidelines § 15125).

In response to the SCAQMD, it was noted that Connect SoCal is a planning document that supports a combination of transportation and land use strategies to achieve reductions in emissions. On-road vehicle emissions are anticipated to decrease by the horizon year (2045), these reductions can be attributed to CARB regulations, efforts at implementing cleaner fuel standards, and promoting lower emitting vehicles. These reductions would occur regardless of implementation of the Plan (FEIR page 9.0-42). As the Plan is a transportation and land use planning document, it does not take credit for any of the air quality rules, regulations, or technologies that CARB has implemented. However, the control measures set by CARB cannot be separated from future emissions. Similarly, the PEIR cannot separate out all emissions anticipated to occur only as a result of the Plan. See page 9.0-42 of the FEIR for the full comments made to the SCAQMD regarding emission reduction credits.

As noted by the commenter, Federal SAFE Rule Part 1 and Part 2 would reduce emission reductions. The impacts of the SAFE rules are discussed below in **Response CBD 1-21**.

As explained in the PEIR, in *California Building Industry Association (CBIA) vs. Bay Area Air Quality Management District (BAAQMD)*, the California Supreme Court ruled that agencies subject to CEQA generally are not required to analyze the impact of existing environmental conditions on a project's future users or residents unless the proposed project risks exacerbating those environmental hazards or conditions that already exist.¹⁷ Therefore, emissions from the existing transportation network, including freeways, are generally not considered impacts under CEQA unless the project exacerbates the existing environmental conditions.¹⁸ The Connect SoCal includes transportation projects, including freeway improvements, that could occur within 500 feet of sensitive receptors (thereby having the potential to exacerbate an existing condition), and therefore the EIR evaluated the risk posed from existing freeways on sensitive receptors. However, the PEIR found that Connect SoCal would not exacerbate the existing risk from freeways.

Consistent with the SCAQMD's cancer risk threshold of "Maximum Incremental Cancer Risk \geq 10 in 1 million," the incremental difference between horizon year (2045) and baseline conditions (2019) were used

¹⁷ *Cal. Building Industry Assn. v. Bay Area Air Quality Management District* (2015) 62 Cal.4th 369; see also *Cal. Building Industry Assn. v. Bay Area Air Quality Management District* (2016) 2 Cal.App.5th 1067.

¹⁸ CEQA review of school construction generally does require an evaluation of the effects of existing air quality exposure on pupils, and to the extent the health risk is unacceptable, the school would not be built. CEQA also provides limited protection and requires analysis of impacts of the existing environment on certain housing development projects exercising exemptions under Pub. Res. Code §§ 21159.21(f), (h), 21159.22(a), (b)(3), 21159.23 (a)(2)(A), 21159.24(a)(1), (3), and 21155.1(a)(4), (6).

to determine project cancer risk impacts. Since the incremental cancer risk does not exceed 10 chances in a million and actually decreases as compared to baseline emissions, the health risk posed to receptors near these heavily trafficked roadways remains less than significant.

Response CBD 1-18

The comment introduces an outside consultant (SWAPE) hired to review the air quality and greenhouse gas analysis. See **Responses CBD 1-19** and **CBD 1-20** regarding the issues raised in the referenced letter.

Response CBD 1-19

The comment states that CEQA requires that the lead agency adopt all feasible mitigation measures which will avoid or substantially lessen the significant impacts of the project but claims that the PEIR does not demonstrate that SCAG considered all potentially feasible mitigation measures.

As stated in **Response CBD 1-4**, SCAG only serves as the lead agency in the preparation of the Connect SoCal Plan and supporting PEIR. SCAG does not serve as the lead agency for any individual project and, as a result, has limited authority to require any individual project to adopt mitigation. Regardless, the measures suggested by CBD have been added to the framework of recommended project-level mitigation measures as appropriate in **PMM-AQ-1**; see PEIR Addendum **Chapter 4.0, Mitigation Measures**. See also **Response CBD 1-3** regarding programmatic vs project EIR.

Response CBD 1-20

The comment states that the project failed to disclose the health risks of siting residential development or other sensitive uses adjacent to freeways or highways. Furthermore, the FEIR failed to offer any real mitigation measures to address these public health impacts of the Plan.

The FEIR includes Appendix 3.3, Health Risk Technical Assessment, in order to evaluate the cancer risk posed to nearby residences, schools, senior retirement homes, and day care centers located near highly traffic transportation segments across the SCAG region. In total, sixteen transportation segments were chosen based on the density of heavy-duty diesel truck traffic and the proximity to sensitive receptors in order to determine a conservative health risk under the baseline (2019) conditions and future conditions (2045) under the Plan. The health risk assessment provided in Appendix 3.3 estimates the risk posed to the sensitive receptors most impacted by mobile-source traffic in the SCAG region. Throughout the Plan, other sensitive land uses may be placed in the close proximity to freeways, however due to the size of the Plan area and duration of the Plan, it is impossible to know where. Therefore, the health risk assessment provided can serve as a proxy to evaluate that impact.

SCAG has reviewed the suggested mitigation measures provided by CBD and has refined/clarified mitigation measures as appropriate; see PEIR Addendum **Chapter 4.0, Mitigation Measures**.

See also **Response CBD 1-17** regarding the appropriate baseline and how the risk analysis in the PEIR is consistent with CEQA requirements.

Response CBD 1-21

The comment states that SCAG must recirculate the EIR because it fails to account for the changes made in vehicle emissions caused by the Safer, Affordable, Fuel-Efficient (“SAFE”) Vehicles Rule in two parts. The commenter argues that the failure to analyze the increases of emissions from SAFE Rule Part 1 as well as the need to include the estimated increase from SAFE Rule Part 2 that would impact the GHG, criteria pollutant, and public health analysis of the FEIR.

For the Final Plan, SCAG undertook updated transportation and air quality modeling to reflect refinements including: 1) an updated project list, 2) modifications to land use patterns, and 3) adjustments to EMFAC 2014 to reflect the SAFE Rule Part 1 (see PEIR pages 8.0-4 to 8.0-8). The adjustments to EMFAC 2014 were provided by CARB. The resultant changes to analyses and modeling from these refinements taken together were minor and did not result in substantial changes to the information presented in the Draft EIR (see Final EIR pages 8.0-8 through 8.0-15).

After publication of the Final EIR on March 27, 2020, the SAFE Rule Part 2 was signed into law (March 31, 2020, published in the Federal Register April 30, 2020 and effective June 29, 2020). SCAG worked with CARB, USEPA, and FHWA/FTA to identify whether further adjustments to SCAG modeling were necessary to reflect SAFE Rule Part 2. It was determined by CARB (and accepted by US EPA and FHWA) that no additional EMFAC off-model adjustment factors were needed to account for the SAFE Rule Part 2, and therefore no further adjustments have been made to SCAG modeling as a result of the SAFE Rule Part 2.

Response CBD 1-22

The comment states that SCAG should postpone the May 7th hearing on the Plan and the FEIR due to the COVID-19 crisis. Furthermore, the comment states that the hearing should be postponed because the economic projections following the COVID-19 situation present a much different situation than when the Plan and FEIR was prepared.

The COVID-19 situation is ongoing and uncertain. The situation presents a unique challenge that could not have been predicted or modeled for during the preparation of the Connect SoCal Plan. It is acknowledged that all leading economic indicators predict a downturn in the California economy. However, this does not

absolve state and local agencies from their obligation to continue their planning efforts to continue to improve living conditions for all Californians, and as such agencies have a responsibility to continue developing, reviewing and approving future plans.

While the May 7 hearing was not postponed, the Plan was adopted for limited purposes only (conformity) and staff committed to taking 120 days to review all the issues raised by the commenter and others. The result of that 120-day review is summarized in the PEIR Addendum.

Response CBD 1-23

The comment provides conclusionary remarks in order to provide a reminder to SCAG of its duty to maintain and preserve all communications and records. SCAG fully recognizes and acknowledges this obligation. CBD's letter provides valuable input to the Plan process and SCAG has prepared an Addendum to clarify and expand upon certain information and refined mitigation measures in response to some of the issues raised in the letter.



May 6, 2020

Sent via email

President Bill Jahn
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**Re: Proposed Final Connect SoCal Plan and Final Program Environmental Impact Report
(State Clearing House Number 2019011061)**

Dear President Jahn and Regional Councilmembers:

These comments are submitted on behalf of the Center for Biological Diversity (the “Center”) regarding the Connect SoCal 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy (“Plan”) and the Plan’s Final Program Environmental Impact Report (“FEIR”). As outlined in our letter of May 1, 2020 (the “May 1 Letter”), the Center requests the Southern California Association of Governments (“SCAG”) to postpone the May 7 hearing and revise and recirculate the Plan and FEIR.

The Center understands from reviewing the staff report released on May 5 and from discussions with SCAG staff that SCAG intends to approve the Plan and FEIR on May 7 for federal transportation conformity purposes only, and then continue to work with stakeholders over the following 120 days to address remaining issues with the Plan. The Center looks forward to working collaboratively with SCAG to address our concerns over the next few months, and urges SCAG to recirculate the EIR and/or prepare a supplemental EIR in order to assist in addressing these concerns. A recirculated or supplemental EIR will help ensure that the public is able to participate fully in this critical planning process.

This letter identifies further issues with the Plan and FEIR that we hope can be resolved through future discussions and collaboration with SCAG.

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 Southern California.

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I. The FEIR Does Not Adequately Analyze or Mitigate the Plan's Impacts of Nitrogen Deposition on Sensitive Habitats and Listed Species.

The Center has retained Stuart B. Weiss, Ph.D and Travis Longcore, Ph.D to evaluate the impacts of nitrogen deposition from transportation sources on sensitive habitats and species within the Plan region. Attached as Exhibit A (and incorporated by reference) is an analysis prepared by Drs. Weiss and Longcore (the "Nitrogen Deposition Analysis") which concludes that (1) deposition of nitrogen on natural lands represents is a significant threat to sensitive resources; (2) expansion of the transportation system associated with the Plan may increase deposition of nitrogen; and (3) the FEIR does not assess the impacts of nitrogen deposition on sensitive natural resources, including listed species. The Nitrogen Deposition Analysis provides examples of mitigation projects throughout California which address increased nitrogen deposition impacts, demonstrating that feasible mitigation measures are available. The Center is submitting this analysis to highlight this regional issue which requires a regional solution, and to remind SCAG of its obligation to analyze and mitigate all reasonably foreseeable significant impacts of the Plan. Impacts on listed species such as the Quino checkerspot butterfly also require the EIR to include a mandatory finding of significance, detailed analysis of the impact, and adoption of all feasible mitigation measures. Potential impacts to listed species may also require issuance of applicable take permits under the California Endangered Species Act ("CESA") and Federal Endangered Species Act.

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Nitrogen deposition associated with the Plan also has the potential to impact the western Joshua tree,¹ which is currently being considered for listing under CESA. On April 13, 2020, the California Department of Fish and Wildlife issued a report determining that there is sufficient scientific information available to indicate that listing of the western Joshua tree may be warranted and recommended that the petition be accepted and considered.² The California Fish and Game Commission will vote on whether to grant candidacy status to the western Joshua tree at the hearing on June 24-25, 2020. Candidacy status would then grant the western Joshua tree temporary protections under CESA, and require heightened review and analysis of projects that have the potential to directly or indirectly impact the western Joshua tree. As noted in the May 1 Letter, CESA prohibits the "take" of any candidate species absent the issuance of an incidental

¹ See Center for Biological Diversity, *A Petition to List the Western Joshua Tree (Yucca brevifolia) as Threatened under the California Endangered Species Act (CESA)* (Oct. 15, 2019), available at <https://www.biologicaldiversity.org/species/plants/pdfs/CESA-petition-Western-Joshua-Tree-10-15-19.pdf>.

² State of California, Natural Resources Agency, Department of Fish and Wildlife, *Report to the Fish and Game Commission, Evaluation of a Petition from the Center for Biological Diversity to List Western Joshua Tree (Yucca brevifolia) as Threatened under the California Endangered Species Act* (February 2020), available at https://www.biologicaldiversity.org/species/plants/pdfs/SS_04_15-16_Item_19_Western-Joshua-Tree-consent.pdf.

take permit. (Fish & Game Code §2080; Cal. Code Regs., tit. 14, § 783.1.) As such, candidacy status would require incidental take permits for actions that may result in the take of western Joshua trees. The EIR must analyze this issue and SCAG should coordinate with the California Department of Fish and Wildlife to ascertain whether an incidental take permit is required.

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II. The FEIR Fails to Adequately Assess and Mitigate Impacts of Sprawl Development in High Fire-prone Areas to Wildfire Risk.

Fire is a natural and necessary ecological process for many different ecosystems within the region; however, increased human-caused ignitions and the expansion of flammable non-native grasses has led to increased fire activity in the area, which is harmful to numerous biological resources and people. Although the Plan “de-prioritizes growth on lands that are vulnerable to wildfire” (Plan at 47), the Plan fails to acknowledge the potential impacts of more fire ignitions from placing homes and people in high fire-prone areas. The FEIR points to changing climate as the primary driver of increased fire-risk, stating that the wildfires of 2017 and 2018 were “created by perfect fire conditions” due to “record-breaking” heat, years of drought, and an increase of forest pests and disease linked to climate change (FEIR at 3.20-4). The FEIR neglects to mention the major role sprawl development has had in increasing wildfire ignitions, fire frequency, and burned area over the past few decades.

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On November 13, 2018, the Center sent a letter to the San Diego County Board of Supervisors discussing the wildfire impacts of poorly planned development in San Diego County (the “November 13 Letter”). A copy of the November 13 Letter is attached hereto as Exhibit B and is hereby incorporated by reference. The issues raised in the November 13 Letter are equally applicable to the Connect SoCal Plan and FEIR—(1) developments in fire-prone natural areas that have historically burned have the highest chances of burning; (2) development in fire-prone areas will lead to more frequent fires in Southern California; (3) public safety in developments in high fire-prone areas cannot be guaranteed; (4) developments often contain insufficient fire safety measures and fire protection plans; (5) increased human ignitions will increase unnatural levels of smoke; (6) the direct economic impacts of wildfires are worsening; (7) the devastating environmental, health, social, and economic costs of poorly-planned, leapfrog developments in areas that will burn are too great, such that there is no justification for approving this Plan as currently proposed. The FEIR does not contain sufficient analysis of these issues.

A. The FEIR Fails to Adequately Assess Wildfire Risk and the Potential Impacts of More Fire Ignitions from Placing Homes and People in High Fire-Prone Areas.

According to a report from Governor Gavin Newsom’s Office, construction of more homes in the wildland-urban interface is one of the main factors that “magnify the wildfire threat and place substantially more people and property at risk than ever before” (Governor Newsom’s Strike Force 2019). In a new scientific study, Syphard et al. (2019) found that housing and human infrastructure in fire-prone wildlands are the main drivers of fire ignitions and structure loss. This is not new information; scientists have been reporting it for many years in scientific, peer-reviewed journals, and firefighters have observed it. And the Plan acknowledges that it will result in the “direct consumption of 41,546 acres of greenfield” (FEIR at 3.4-75), most of which

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likely consists of high fire-prone habitats, like chaparral, shrub/scrubland, and grasslands. Yet the FEIR fails to adequately assess the Plan's impacts on wildfire risk by neglecting to use the best available science.

Sprawl developments with low/intermediate densities extending into habitats that are prone to fire have led to more frequent wildfires caused by human ignitions, like power lines, arson, improperly disposed cigarette butts, debris burning, fireworks, campfires, or sparks from cars or equipment (Keeley et al. 1999; Keeley and Fotheringham 2003; Syphard et al. 2007; Syphard et al. 2012; Bistinas et al. 2013; Balch et al. 2017; Keeley and Syphard 2018; Radeloff et al. 2018; Syphard et al. 2019). Human-caused fires account for 95-97% of all fires in Southern California's Mediterranean habitats (Syphard et al. 2007; Balch et al. 2017). In the SCAG region counties, Keeley and Syphard (2018) found that human ignitions were responsible for 98-100% of fires between 1919-2016. Leapfrog developments in high fire-prone areas have the highest predicted fire risk (Syphard et al. 2013), and multiple studies indicate that developments with low/intermediate-density clusters surrounded by fire-dependent vegetation (*i.e.*, grasslands, chaparral, scrub) in areas with a history of fires have the highest chances of burning (Syphard et al. 2012; Bistinas et al. 2013; Syphard et al. 2013; Syphard et al. 2019). Yet, the FEIR ignores this ample scientific evidence linking sprawl development in high fire-prone wildlands with increased fire risk; the Plan could result in the placement of more homes and communities in high fire-prone areas that have burned in the past and will inevitably burn again.

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The FEIR fails to acknowledge the potential wildfire hazard from increased human-caused ignitions in the SCAG region. By placing people in fire-prone areas, the induced sprawl perpetuated by the Plan would increase the number of potential ignition sources, and therefore the risk of wildfires occurring. In particular, the FEIR fails to mention the increase of electrical equipment in the SCAG region due to the Plan. Power lines and electrical equipment are a significant source of human-caused ignitions (Keeley and Syphard 2018). The 2017 Thomas Fire, 2017 Tubbs Fire, 2018 Camp Fire, and 2018 Woolsey Fire were found to have been caused by electrical transmission lines and electrical equipment, and the 2019 Kincade Fire is suspected to have been caused by power lines as well. Placing homes and people in high fire-prone areas would only increase the potential likelihood of these ignition sources, as has been documented in multiple scientific studies (Keeley et al. 1999; Keeley and Fotheringham 2003; Syphard et al. 2007; Syphard et al. 2012; Bistinas et al. 2013; Balch et al. 2017; Keeley and Syphard 2018; Radeloff et al. 2018; Syphard et al. 2019). Thus, the FEIR fails to adequately assess wildfire risk in the Project area.

Although public utilities companies (*i.e.*, PG&E and Southern California Edison) are altering operations in the form of power outages and blackouts during extreme weather conditions (Callahan et al. 2019; Krishnakumar et al. 2019; Fry et al. 2019a), wildfires can still spark and spread quickly towards homes, as evidenced by the recent fires in Moraga (Hernández et al. 2019) and Saddle Ridge/Sylmar (Fry et al. 2019b). And the power outages themselves disproportionately burden our most vulnerable communities, including the elderly, poor, and disabled (Chabria and Luna 2019), and can cause traffic jams and collisions (CBS San Francisco 2019). Michael Wara, Director of the Climate and Energy Policy Program and a senior research scholar at the Stanford Woods Institute for the Environment, estimated that PG&E's power outage in Northern and Central California could have an economic impact of \$2.5 billion in

losses, with most of the burden on businesses (Callahan et al. 2019). It is clear that placing more homes and businesses in known fire-prone areas and wind corridors is irresponsible and can lead to deadly and costly consequences. Again, the FEIR fails to adequately assess and mitigate impacts of increased wildfire risk.

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B. The FEIR Fails to Adequately Assess and Mitigate the Impacts to Special-status Species Due to Increased Human-caused Ignitions.

As mentioned previously, sprawl developments with low/intermediate densities extending into habitats that are prone to fire, such as chaparral and scrub/shrubland habitats, have led to more frequent wildfires caused by human ignitions, and these types of developments have the highest chances of burning (Keeley et al. 1999; Keeley and Fotheringham 2003; Syphard et al. 2007; Syphard et al. 2012; Bistinas et al. 2013; Syphard et al. 2013; Balch et al. 2017; Keeley and Syphard 2018; Radeloff et al. 2018; Syphard et al. 2019). This could disrupt the natural fire regime and lead to a dangerous feedback loop of deadly fires and habitat destruction.

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Much of the non-desert SCAG region is dominated by chaparral and scrub/shrublands, native California habitats that are adapted to infrequent (every 30 to 150 years), large, high-intensity crown fire regimes (Keeley and Fotheringham 2001). However, if these regimes are disrupted, the habitats become degraded (Keeley 2005; Keeley 2006; Syphard et al. 2018). When fires occur too frequently, type conversion occurs and the native shrublands are replaced by non-native grasses and forbs that burn more frequently and more easily, ultimately eliminating native habitats and biodiversity while increasing fire threat over time (Keeley 2005; Keeley 2006; Syphard et al. 2009; Safford and Van de Water 2014; Syphard et al. 2018). This could have serious consequences for special-status species in the SCAG region that rely on these native habitats for survival, such as the federally endangered Quino checkerspot butterfly (*Euphrdryas editha quino*) and the federally threatened coastal California gnatcatcher (*Polioptila californica californica*). In addition, large-scale landscape changes due to vegetation-type conversion from shifts in natural fire regimes could impact wide-ranging species like mountain lions (Jennings 2018), whose populations are already struggling in the area due to lack of connectivity and genetic isolation (Gustafson et al. 2018; Dellinger 2019). There is no mention of this in the FEIR. Thus, the FEIR fails to adequately disclose, assess, and mitigate potential wildfire impacts of the Project on special-status species.

C. The FEIR Fails to Adequately Assess and Mitigate the Potential Health and Air Quality Impacts from Increased Smoke from Human-caused Ignitions.

Human-caused wildfires at the urban wildland interface that burn through developments, as is becoming more common with housing extending into fire-prone habitats, increase the frequency and toxicity of smoke exposure to communities in and downwind of the fires. This can lead to harmful public health impacts due to increased air pollution not only from burned vegetation, but also from burned homes, commercial buildings, cars, etc. Buildings and structures often contain plastic materials, metals, and various stored chemicals that release toxic chemicals when burned, such as pesticides, solvents, paints, and cleaning solutions (Weinhold 2011).

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Increased fire frequency due to human activity and ill-placed developments lead to increased occurrences of poor outdoor and indoor air quality from smoke (*e.g.*, Phuleria et al. 2005), which can have public health effects. Hospital visits for respiratory symptoms (*e.g.*, asthma, acute bronchitis, pneumonia, or chronic obstructive pulmonary disease) and cardiovascular systems have been shown to increase during and/or after fire events (Künzli et al. 2006; Viswanathan et al. 2006; Delfino et al. 2009; Rappold et al. 2012; Liu et al. 2015; Reid et al. 2016). Children, elderly, and those with underlying chronic disease are the most vulnerable to the harmful health effects of increases in wildfire smoke. The FEIR fails to adequately assess and mitigate the Plan's potential impacts of increased smoke exposure due to increased human-caused ignitions.

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D. The FEIR Fails to Adequately Assess and Mitigate the Impact of Increased Wildfires on Fire Protection Services and Utilities.

The FEIR fails to consider the impacts on firefighters and first responders of the Plan inducing growth and perpetuating sprawl in a high fire-prone natural areas subject to intermittent wildfires. Adding over 41,000 acres of development to these wild areas will necessitate significant firefighting costs from both state and local authorities. Cal Fire is primarily responsible for addressing wildfires when they occur, and its costs have continued to increase as wildfires in the wildland urban interface have grown more destructive. During the 2017-2018 and the 2018-2019 fiscal years, Cal Fire's fire suppression costs were \$773 million and an estimated \$635 million, respectively (Cal Fire 2019). Note that this does not include the cost of lives lost, property damage, or clean up during these years, which is estimated to be billions of dollars. The vast majority of wildfires in Southern California are caused by humans (Balch et al. 2017; Keeley and Syphard 2018), and inducing sprawl development in high fire hazard areas will increase the frequency and likelihood of such fires (Syphard et al. 2012; Syphard et al. 2013; Radeloff et al. 2018; Syphard et al. 2019). The FEIR fails to consider how the Plan will impact utilities and state finances or draw limited fire-fighting resources from other areas. The Regional Council should not be approving a Regional Transportation Plan that will induce unsustainable sprawl in high fire-prone areas and burden future generations of California with the costs of defending and recovering even more cities from dangerous blazes.

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According to Captain Michael Feyh of the Sacramento Fire Department, California no longer has a fire season (Simon 2018); wildfires in California are now year-round because of increased human ignitions in fire-prone areas. Emergency calls to fire departments have tripled since the 1980s (Gutierrez and Cassidy 2018), and firefighters (and equipment) are being spread thin throughout the state. Firefighters often work 24- to 36-hour shifts for extended periods of time (often weeks at a time), and they are being kept away from their homes and families for more and more days out of the year (Bransford et al. 2018; Del Real and Kang 2018; Gutierrez 2018; Simon 2018; Ashton et al. 2018). In addition, the firefighting force often must rely on volunteers to battle fires year-round.

The extended fire season is taking a toll on the physical, mental, and emotional health of firefighters, as well as the emotional health of their families (Del Real and Kang 2018; Simon 2018; Ashton et al. 2018). The physical and mental fatigue of endlessly fighting fires and

experiencing trauma can lead to exhaustion, which can cause mistakes in life-or-death situations while on duty, and the constant worry and aftermath that family members endure when their loved ones are away working in life-threatening conditions can be harrowing (Ashton et al. 2018). According to psychologist Dr. Nancy Bohl-Penrod, the strain of fighting fires without having sufficient breaks can impact firefighters' interactions with their families, their emotions, and their personalities (Bransford et al. 2018). There have also been reports that suicide rates and substance abuse have been increasing among firefighters (Simon 2018; Greene 2018). This is not sustainable.

The FEIR fails to adequately assess and mitigate the impacts to fire protection services. Placing an additional development in fire-prone areas will further burden already strained people and resources. Funding is already lacking for the increasing costs of fire suppression and property damage from wildfires in California; costs were over \$30 billion from 2010 to 2017, and the destruction from 2018's Camp Fire and Woolsey Fire will likely cost additional billions of dollars. And the Plan provides no mechanism for developers to reimburse Cal Fire for the many millions (or billions) of dollars Cal Fire will likely expend when—not if—Southern California communities need to be defended from natural or human-caused wildfires in the vicinity. If costs are not sufficiently covered by the developers, California and federal residents end up paying in the form of fire insurance premiums and taxes that support Cal Fire and federal government subsidies and grants for homes in high risk areas. And these costs do not include other indirect/hidden costs associated with wildfires, such as the costs of doctors' appointments, medication, sick days taken from places of work, funerals, etc. As the costs of housing in California continues to increase, these costs will also continue to rise. Given the current lack of funding and shortage of firefighting personnel, any development in high fire-prone areas should be required to provide adequate funding and resources for firefighting operations and safety measures. The FEIR fails to adequately assess and mitigate impacts of increased wildfire risk.

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E. The FEIR Fails to Provide Adequate Fire Safety Measures to Effectively Mitigate Wildfire Impacts.

Although the FEIR provides mitigation measures SMM WF-1 through SMM WF-3 to participate in information sharing, education, and outreach and develop a regional resilience program, these measures are insufficient to mitigate the increased risk of human ignitions and the increased strain on firefighting resources that would accompany the Plan's propagation of sprawl in fire-prone areas. In addition, recommended project level mitigation measures are threadbare. First and foremost, the primary recommendation to minimize impacts to wildfire risk should be to avoid placing human infrastructure in high fire-prone areas, yet this is not mentioned in any of the mitigation measures. Second, developers should be required to go above and beyond current state and federal standards and building codes to further minimize wildfire risk. While enforceable defensible space regulations is a laudable goal, recommending that developers follow the law and build to code is insufficient. Although defensible space immediately adjacent to structures, ember-resistant vents and roofing, and internal sprinklers may help make homes *fire-resistant*, even the best mitigation cannot make a development *fire-proof*. According to an analysis conducted in the aftermath of the Camp Fire, while 51% of homes built to code survived the blaze, the remaining 49% did not (Kasler and Reese 2019). In addition, homes can add fuel to fires, and fire safety is not guaranteed.

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There are other mitigation measures that should be implemented to minimize wildfire impacts sprawl development in high fire-prone areas. For example, external sprinklers with an independent water source would reduce flammability of structures (California Chaparral Institute 2018). Although external sprinklers are not required by law, water-protected structures are much less likely to burn compared to dry structures, yet the FEIR does not provide this in the recommended project level mitigation measures. In addition, local solar power paired with batteries could reduce power flow (and therefore reduce extreme temperatures) in electricity lines, which would reduce the need for power outages during extreme weather conditions and provide power for communities when outages are necessary (Lee 2019). Michael Wara argues that solar power and batteries for homes and “microgrids” linking business districts would help make communities in high fire risk areas safer because it would provide backup power for medical devices, refrigerators, and the internet to run while allowing the main power grid to get shut down (Wara 2018). Yet the FEIR does not provide, or even discuss, these mitigation measures to minimize wildfire impacts.

Public safety threats are often exacerbated by infrastructure unable to accommodate the consequences of more human-caused fires at the wildland urban interface. Thus, it is imperative that adequate safety plans for residents and construction/maintenance workers that reflect real-world experience associated with wildfires in California are in place prior to an emergency. Notification systems may not function as expected during an emergency, and evacuation routes can get clogged with traffic quickly, endangering the lives of those trying to evacuate. In addition, the combination of smoke obscuring roads and signage, trees collapsing or being flung into roadways by the wind, and the emotional state of those fleeing for their lives can lead to deadly collisions and roadblocks. And survivors are left to cope with the death of loved ones, physical injuries, and emotional trauma from the chaos that wildfires have inflicted on their communities. These issues are heartbreakingly depicted in an article published in the Sacramento Bee on Oct 22, 2017 (Lundstrom et al. 2017). Thus the FEIR should require any new developments in or near high fire-prone areas to have a substantive fire protection plan for residents and businesses, yet it only provides a recommendation for a fire protection plan for construction/maintenance activity (in PMM WF-2). The FEIR fails to adequately assess and mitigate fire impacts of the Plan.

It is important to note that even if an adequate evacuation plan is in place, in natural areas with high fire threat where fires have historically burned, a public safety or evacuation plan may not be enough to safeguard people and homes from fires. Having warning systems and evacuation routes in place is important for fire preparedness and fire safety, but these are not guaranteed to function when a fire occurs. And wildfires may ignite with little or no notice, and, as mentioned previously, in severe weather conditions, wind-driven fires can spread quickly—they can cover 10,000 hectares in one to two days as embers are blown ahead of the fires and towards adjacent fuels (e.g., flammable vegetation, structures) (Syphard et al. 2011). This occurred in the recent Camp Fire in Butte County, which spread at a rate of 80 hectares a minute (about one football field per second) at its fastest, and in its first 14 hours burned over 8,000 hectares (Sabalow et al. 2018). In these types of emergencies warning systems can be slow and ineffective at reaching all residents in harm’s way, and planned evacuation routes may not be sufficient. These issues were observed during the Camp Fire, which led to at least 85 deaths and

13,000 burned homes (Sabalow et al. 2018), as well as in last year’s Tubbs Fire in Sonoma County and Thomas Fire in Santa Barbara County and Ventura County, which led to more than 40 deaths and almost \$12 billion in property damage (Lundstrom et al. 2017; St. John 2017). The FEIR fails to adequately consider or assess the danger of fast-moving wildfires and mitigate the resulting impacts.

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To the extent SCAG believes it has no authority or obligation to impose specific mitigation measures or standards on projects included in the Plan, we would respectfully disagree. Our legal basis for this position is outlined in section III (pages 2-4) the May 1 Letter, which is incorporated herein by reference.

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II. The “Baseline” Set Forth in the Plan and FEIR May Not Comply with CEQA.

CEQA requires that the EIR describe the environmental “baseline,” which is normally “the physical environmental conditions in the vicinity of the project, as they exist at the time the notice of preparation is published.” (*Communities for a Better Environment v. South Coast Air Quality Management Dist.* (2010) 48 Cal.4th 310, 320-321; Guidelines § 15125(a).) The “baseline” must be sufficiently detailed that it provides “an understanding of the significant effects of the proposed project and its alternatives.” (*Id.*) An agency must use its “best efforts to find out and disclose all that it reasonably can” and gather this information “at the earliest possible time in the environmental review process.” (Guidelines § 15144; Pub. Res. Code § 21003.1(a).)

Importantly, the baseline is not determined based upon “hypothetical situations,” but upon *existing physical conditions*. (*Communities for a Better Environment*, 48 Cal.4th at 322.) The Supreme Court held that “an approach using hypothetical allowable conditions as the baseline results in illusory comparisons that can only mislead the public as to the reality of the impacts and subvert full consideration of the actual environmental impacts, a result at direct odds with CEQA’s intent.” (*Id.*, internal quotations omitted)

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The Center is concerned that the Plan and FEIR may not comply with this mandate. The Plan defines the “baseline” to include projects that “will result” from current programs including “transportation projects that have already received environmental clearance.” (Plan at 120.) There is a significant difference between existing physical conditions and *hypothetical conditions* based upon when the region *might* look like if currently entitled projects are actually built. For instance, the EIR/EIS for the Highway 138 Northwest Improvement Project was approved a few years ago, but according to MTA’s website the project will only be constructed if “demand requires.” Likewise, the 12,000-acre Centennial City proposed for Tejon Ranch received CEQA approvals from L.A. County over a year ago, but there are no current plans to begin construction. The Plan and FEIR fail to provide the public with a clear picture of *existing physical conditions* and instead impermissibly assume that such “paper projects” are or *will* be built.

This error impacts numerous sections of the EIR, including, but not limited to its analysis of air quality, GHGs, biological resources, and land use. The error also leads to a flawed

alternatives analysis, as “all three alternatives assume the same regional employment, population, and housing growth projections and roughly the same overall transportation budget.” (FEIR at 4.0-5.) It’s simply incorrect to assume the same overall transportation budget as the approval (or lack of approval) of the Plan will have a significant impact on transportation budgets and funding. These assumptions baked into the alternatives analysis also ignore the link between highway construction/expansion and sprawl development—the FEIR is wrong to assume that housing growth projects will be the same with or without the Plan and attendant highway construction. The FEIR and Plan need to be revised to give the public a clear picture of the project and no project conditions.

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III. The FEIR’s GHG Analysis is Incomplete and Inadequate.

The FEIR’s GHG analysis unfortunately remains incomplete and inadequate. The FEIR states that the CARB report on which the FEIR bases its goals and targets “is based on modeling that incorporates cleaner technologies and fuels (CTF) . . .” (FEIR at 3.8-34.) As noted in section VI of the May 1 Letter, we are concerned that these assumptions may not be applicable due to federal rollbacks in emissions standards. By the same token, the estimates that GHG emissions will *decrease* during the life of the Plan may be incorrect. (See FEIR at 3.8-63 & 64; see also FEIR at 3.8-60 [“GHG emissions and transportation data were projected to 2045 using SCAG’s Regional Travel Demand Model and ARB’s EMFAC2014 emissions model”].) Likewise, the FEIR may not necessarily assume that “increasingly stringent regulations . . . will result in a reduced demand for all types of energy” when in fact the opposite appears to be true. (FEIR at 3.8-60.)

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As with the air quality section of the FEIR discussed in the May 1 Letter, the FEIR fails to provide a clear comparison of no project versus project conditions – what will projected GHG emissions be in the absence of the Plan versus with the Plan? The Plan does not appear to squarely address how the billions of dollars in funding it will release for GHG-inducing highway projects (and attendant sprawl) will actually increase GHG emissions. Instead, the FEIR claims that GHG emissions will not be “reduced sufficiently to meet the GHG emissions reduction targets established for California . . .” (FEIR at 3.8-61.) This misleadingly suggests the Plan will in fact be reducing GHG emissions as compared to a “no project” alternative, when that may not be the case.

IV. The FEIR’s GHG Mitigation Measures are Inadequate, Unfunded, and Unenforceable.

The FEIR states that impacts of the Plan on GHGs will be significant. As such, CEQA requires that SCAG adopt all feasible mitigation measures to reduce the impacts of GHGs. The letter by Matt Hagemann, P.G., C.Hg. and Paul E. Rosenfeld, Ph.D of the expert consulting firm SWAPE (the “SWAPE Letter,” included as Exhibit A to the May 1 Letter) explains that the FEIR does not include all feasible mitigation measures, and that the proposed measures lack performance standards or are otherwise unenforceable.

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The FEIR states that “SCAG cannot require implementing agencies to adopt mitigation, and it is ultimately the responsibility of the implementing agency to determine and adopt project-

specific mitigation.” (FEIR at 3.8-60.) While SCAG cannot compel another agency to take a certain step, SCAG can provide in the Plan and FEIR that if certain specific and performance-based measures are *not* incorporated into individual projects, then such individual projects are *not* consistent with the Plan.

Instead, the Plan and FEIR attempt to have it both ways by offering the Plan as a means to “streamline environmental review pursuant to SB 375, SB 743, or SB 226” and a tiering document while also simply saying mitigation proposals should simply be “considered” by lead agencies. (FEIR at 3.8-60.) In other words, a lead agency may disregard concrete mitigation measures while still availing itself of the Plan as a CEQA streamlining document. Such bureaucratic “hot potato” serves no public purpose and creates the illusion of government agencies addressing problems while failing to provide any real solutions. It also violates CEQA. (See *City of Marina v. Board of Trustees of California State University* (2006) 39 Cal. 4th 341, 366-67.)

More specifically, while the “SCAG Mitigation Measures” have laudatory goals, they simply don’t require SCAG or any other agency to take concrete steps to reduce GHG emissions. For instance, SMM GHG-1 states that SCAG shall continue to work with counties to adopt climate action plans. (FEIR at 3.8-68.) SMM GHG-2, SMM GHG-3, and SMM GHG-4 are similarly vague, unenforceable, and lack performance-based standards. Nonetheless, as noted in the May 1 Letter (at page 3), San Diego County in the adjacent SANDAG region disclaimed responsibility to reduce GHGs using a climate action plans by citing a lack of funding from SANDAG.

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We are concerned that counties and cities will similarly adopt climate action plans that lack enforceable and performance-based mitigation measures, particularly when SCAG is not committing to assist in funding these plans or conditioning the release of funds upon clear and enforceable mitigation measures. This concern is already being born out with the L.A. County Public Review Draft CAP,³ which is woefully inadequate to reduce GHGs in L.A. County. We have attached our comments on the L.A. County Draft herein as Exhibit C. Like the Plan, L.A. County’s Public Review Draft CAP contains many laudatory goals but fails to set forth enforceable and performance-based measures to actually reach those goals. L.A. County’s Public Review Draft CAP also fails to identify any funding sources for GHG reduction programs. Nonetheless, both the Plan and L.A. County’s CAP intend to act as “CEQA streamlining” documents, thus having the effect of streamlining GHG-intensive development while failing to offer enforceable and performance-based mitigation measures to reduce the impacts of such development. The Center urges SCAG to redirect significant resources to programs to reduce GHG emissions.

The FEIR’s “Project Level Mitigation Measures” are likewise deficient, as outlined in more detail in the SWAPE Letter. The SWAPE Letter, our letter on the L.A. County Draft CAP, and South Coast Air Quality Management District’s comment letter (“SCAQMD Letter”) outline

³ Los Angeles County Department of Regional Planning, Los Angeles County Climate Action Plan Public Review Draft (March 2020), available at http://planning.lacounty.gov/assets/upl/case/2019-002015_cap-public-review-draft.pdf.

mitigation measures the FEIR can require of lead agencies in order to show consistency with the Plan.

For instance, the Plan and FEIR could require that new projects incorporate EV-charging infrastructure in order to show consistency with the Plan. The SCAQMD Letter specifically proposes *requiring* “at least five percent of all vehicle parking spaces include electric vehicle (EV) charging stations, or at a minimum, require the appropriate infrastructure to facilitate sufficient electric charging for passenger vehicles and trucks to plug-in.” (SCAQMD Letter at 11.) Instead of adopting this as an enforceable mitigation measure, the FEIR simply refers back to the optional and unenforceable PMM GHG-1. (FEIR at 9.0-51.)

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The lack of EV chargers is a regional issue necessitating regional approaches. SCAG can and should condition consistency with the Plan (and access to billions of dollars for transportation projects associated with the Plan) on feasible measures to reduce GHGs, such as requiring minimum numbers of EV chargers.

V. The FEIR and Plan Should Include Stronger Policies To Limit Sprawl Development and Minimize Habitat Loss.

The Center remains concerned that the FEIR does not provide a clear picture of the loss of habitat caused by the Plan. On the one hand, the FEIR disclaims responsibility for specific land uses, claiming that “SCAG lacks the land use authority to enforce specific land uses.” (FEIR at 3.8-780) On the other hand, the Plan on its own terms will result in the destruction of “41,546 acres of greenfield [including areas with] a high potential to contain sensitive plant communities and riparian habitats” (FEIR at 3.4-75). Likewise, the Plan claims a “reduction” in greenfield development of 29 percent and points to a “2045 baseline” of 100 square miles of greenfield development, versus 71 square miles in the Plan. (Plan at 118, 123.)

As the Plan notes, “decades of lower-density development (particularly housing) has occurred farther from employment-rich areas, increasing congestion, automobile dependency, leapfrog development and air pollution, and limiting the effectiveness of public transit.” (Plan at 20.) Unfortunately, it appears that the Plan will continue this legacy.

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The Center supports the goals in the 2017 CARB Scoping Plan Update, which are referenced in the FEIR. This document recommends that “local governments consider policies to reduce VMT, including: land use and community design that reduces VMT; transit-oriented development; street design policies that prioritize transit, biking, and walking; and increasing low carbon mobility choices, including improved access to viable and affordable public transportation and active transportation opportunities.” (FEIR at 3.8-39.)

There are other measures the Plan and FEIR can take to reduce impacts of the Plan while ensuring adequate housing development. The Center’s comments on the L.A. County Sustainability Plan (Exhibit D, incorporated by reference) include recommendations to (1) require larger buffers between sensitive uses and freeways; (2) implement zero net energy standards; (3) use concrete and enforceable policies to limit sprawl development; and (4) limit discretionary development in high fire areas.

VI. Conclusion

Thank you for the opportunity to submit comments on the Plan and FEIR. The Center looks forward to working with SCAG to move the Plan forward in a way that truly minimizes impacts to special-status species like the mountain lion and regional wildlife connectivity while upholding air quality and GHG standards and goals. Please feel free to contact the Center with any questions at the number or email listed below.

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Sincerely,



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Exhibit A

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Effects of Nitrogen Deposition on Sensitive Species and Habitats Resulting from the Southern California Association of Governments Regional Transportation Plan

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May 6, 2020

The Southern California Association of Governments (SCAG) prepared a long-range Regional Transportation Plan (RTP) and associated Program Environmental Impact Report (PEIR). The plan is known as Connect SoCal and includes over \$650 billion in future transportation infrastructure. The Center for Biological Diversity has retained us to evaluate the potential impacts of nitrogen deposition from transportation sources on sensitive habitats and species within the project region.

Deposition of nitrogen on natural lands represents a significant threat to sensitive resources (Bytnerowicz and Fenn 1996, Allen et al. 1998, Weiss 1999). Nitrogen is, quite literally, fertilizer and its presence encourages growth of plants that are nutrient limited. For southern California scrublands and grasslands, the addition of excess nitrogen promotes the growth of nonnative, invasive grass species. The PEIR does not assess the impacts of this adverse impact on sensitive natural resources, including endangered species, as we present in detail below.

Expanding the Transportation System May Increase Deposition of Nitrogen

Vehicles powered by internal combustion engines emit nitrogen oxides (NO_x) produced by high temperature combustion. Vehicular NO_x emissions are closely regulated by the California Air Resources Board and are controlled effectively by catalytic converters. An unfortunate side-effect of the catalytic converters is the production of ammonia gas (NH_3); there is a fundamental tradeoff between NO_x and NH_3 production from vehicles equipped with catalytic converters (Heeb et al. 2006). Even as NO_x emissions decline in response to regulation, NH_3 emissions from roadways will increase (Kean et al. 2009, Leip et al. 2011, Fenn et al. 2018). For example, on-road NH_3 emissions increased 91% between 1990 and 2010 in the United States (Leip et al. 2011, Xing et al. 2013) and nitrogen deposition in this form has increased throughout many regions even as NO_x emissions have decreased (Du et al. 2014, Li et al. 2016, Hůnová et al. 2017).

Ammonia is not a regulated element of tailpipe emissions, but its deposition causes environmental impacts. The PEIR does not consider NH₃ emissions and the analysis of impacts cannot rely on CARB regulations to reduce them over the life of the RTP. All sources of nitrogen emissions should be considered together, and the amount of emissions with the RTP compared to a no project scenario that still takes into account CARB regulations already in place. It is highly likely that the RTP will result in increased nitrogen emissions over that period and in specific locations when compared with a scenario with existing regulations in place but without the road construction associated with the RTP.

Southern California Is Already a Nitrogen Deposition Hotspot

Southern California has some the highest nitrogen deposition in the United States (Fenn et al. 2003, Fenn et al. 2010, Fenn et al. 2018). The maps below are from TDEP (Total Deposition), produced by the US Environmental Protection Agency (**Figure 1**). TDEP synthesizes measurements and atmospheric models and represent the state of the art in deposition estimates at regional scales, presented on a 4 km grid (Schwede and Lear 2014). Dry deposition, a complex process whereby gases adsorb onto surfaces or are absorbed directly by plants in the absence of precipitation, dominates in coastal California. Total deposition in the region (at the 4 km scale) can exceed 25 kg-N ha⁻¹ year⁻¹, and local hotspots can exceed 50 kg-N ha⁻¹ year⁻¹ (Fenn et al. 2003). Pre-industrial background is estimated at < 1 kg-N ha⁻¹ year⁻¹. Oxidized-N results from emissions of nitrogen oxides (NO_x) and reduced-N results from emissions of ammonia (NH₃). Both forms are important, but have different magnitudes and local patterns (**Figure 1**).

Nitrogen Exceeding Critical Loads Degrades Sensitive Natural Communities

Deposition of atmospheric nitrogen favors non-native annual plants; and native annual forbs are declining due to competition from those non-native annuals (Padgett and Allen 1999, Padgett et al. 1999, Weiss 1999, Cione et al. 2002, Fenn et al. 2010).

Fenn et al. (2010) identified the “critical loads” of nitrogen deposition beyond which vegetation communities are disrupted. In native grasslands, nonnative grass invasion is facilitated at 6 kg N ha⁻¹ y⁻¹ of deposition (Weiss 1999, Fenn et al. 2010). For coastal sage scrub, a decrease in native plant richness is seen at 7.8–10 kg N ha⁻¹ y⁻¹ (Fenn et al. 2011). At 10 kg N ha⁻¹ y⁻¹, a significant decrease in arbuscular mycorrhizal spore density is observed (Fenn et al. 2011), which has potentially significant impacts on the ability of native plants to form symbiotic relationships with these fungi and exclude nonnative plants (St. John 1993, Corkidi et al. 2002). In chaparral and oak woodlands, the epiphytic lichen community is transformed into nutrient-tolerant species at 5.5 kg N ha⁻¹ y⁻¹.

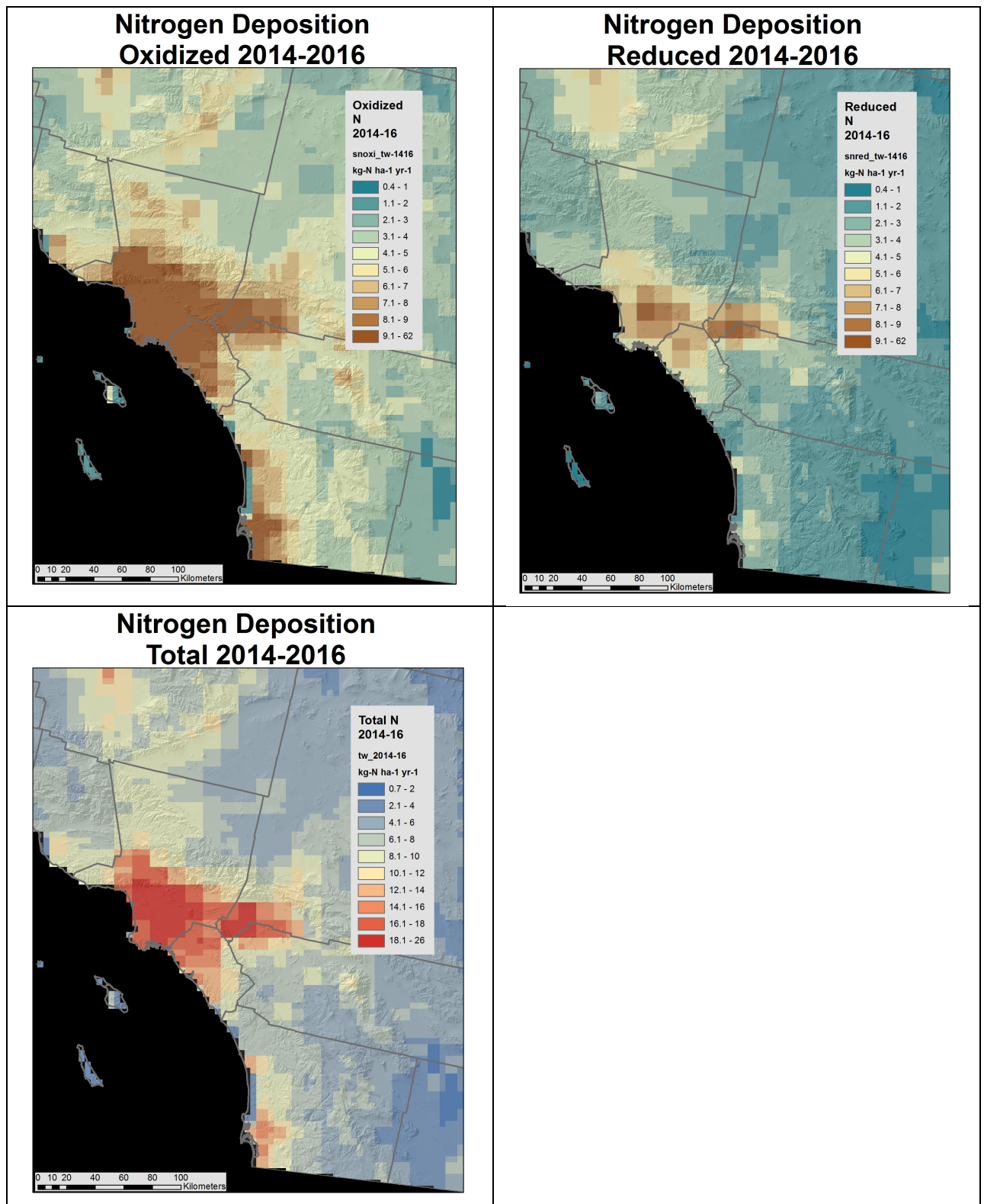


Figure 1. TDEP estimates of oxidized, reduced, and total nitrogen deposition (Schwede and Lear 2014).

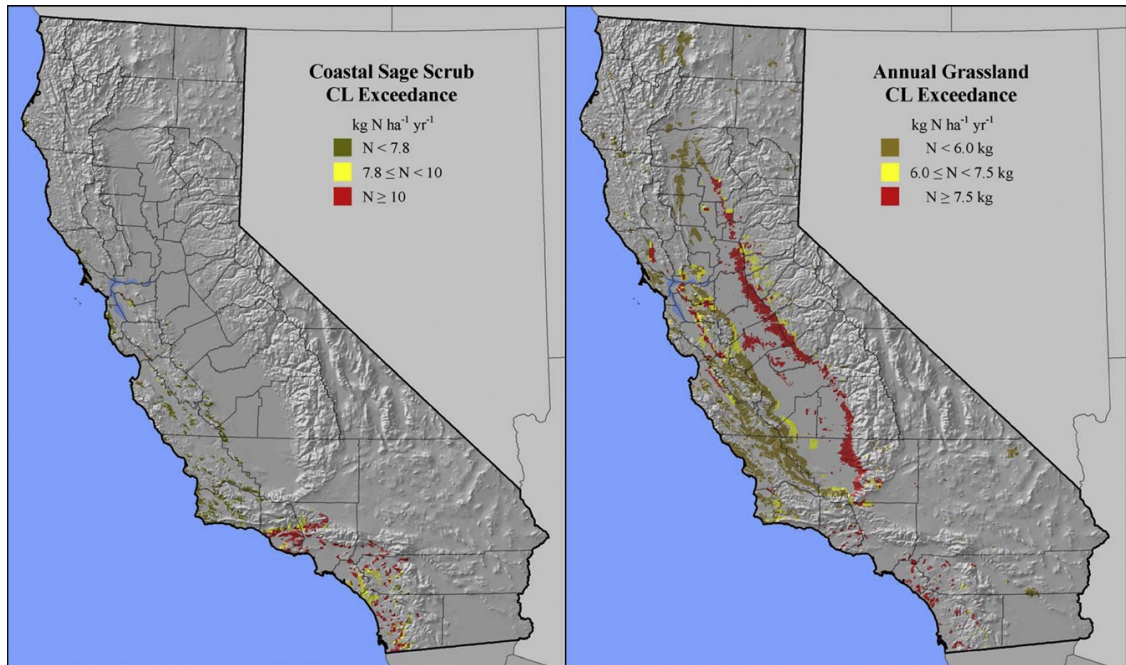


Figure 2. Critical load exceedances for coastal sage scrub and grassland in California (Fenn et al. 2010). The critical load for CSS is $7.8 \text{ kg N ha}^{-1} \text{ yr}^{-1}$ and $6.0 \text{ kg N ha}^{-1} \text{ yr}^{-1}$ for grassland.

Much of the region subject to additional development of transportation infrastructure under the SoCal Connect RTP is approaching or has exceeded the critical loads for coastal sage scrub and grasslands. Those areas already exceeding critical levels have been mapped (**Figure 2**).

Because the scrublands and grasslands of the project area are already subject to nitrogen deposition at or near established critical loads, any additional deposition would constitute a significant impact. Although the PEIR claims that NO_x will decline over the life of the project, total nitrogen deposition is not considered, and the control measures that reduce NO_x from internal combustion engines will result in an increase in NH_3 emissions.

Emissions from Roads Impacts Endangered Species Habitat

The NO_x and NH_3 emissions from a road have local and regional impacts, both of which can impact endangered species in the project area. The plume from the road line source elevates pollutant concentrations for several hundred yards downwind, falling off in an exponential decay with distance, because of dispersion upward and deposition downward (Seinfeld and Pandis 2016). For example, along Highway 280 in San Mateo County, ammonia deposition at the fence line (~50 yards from the road centerline) was about $10 \text{ kg-N ha}^{-1} \text{ yr}^{-1}$, and was reduced to $1 \text{ kg-N ha}^{-1} \text{ yr}^{-1}$ 500 yards to the east (Fenn et al. 2010, Fenn et al. 2018). The situation with NO_x is more complicated, because of the rapid (scale of seconds) conversion of the primary emissions of NO (little deposition) to NO_2 (higher deposition) as the plume moves downwind, which mutes the distance effect so that NO_2 deposition decreases by only 50% over the same gradient.

Once the local plume disperses upward, emissions contribute to, but become difficult to detect relative to, background, especially in polluted regions like Southern California. The emissions merge with the regional plume and undergo further chemical transformations, such as the

oxidation of NO₂ into HNO₃ and formation of particulate of NH₄NO₃ (a major component of PM_{2.5}). These compounds can travel and deposit long distances downwind.

The PEIR sets a standard for assessing local impacts of individual projects that is too conservative. The PEIR limits consideration of impacts on sensitive species to only 500 feet surrounding projects. Elevated local deposition of nitrogen occurs at least to 1,500 feet away from a roadway or point source (Fenn et al. 2010, Fenn et al. 2018), and other edge effects such as light pollution have impacts more than 500 feet away.

Nitrogen deposition originating both locally and as part of the regional plume impacts habitat for threatened, rare, and endangered species in the project area. We focus on two examples, the Quino checkerspot butterfly and the array of endangered and threatened plant species that are found in Southern California.

Quino Checkerspot Butterfly

Quino checkerspot (*Euphydryas editha quino*) was once an unimaginably common spring butterfly of the open forblands, grasslands, and sparse shrublands of Southern California where it typically laid its eggs on the small native forb, *Plantago erecta* (Mattoni et al. 1997). As these landscapes were lost to urban development throughout Los Angeles and Orange county, the remaining populations in Riverside and San Diego counties have been threatened by the invasion of nonnative grasses spread through the ranching era and accelerated by deposition of nitrogen. The grasses thrive in the presence of additional nitrogen and choke out the diminutive native forbs that once carpeted the understory of sparse scrublands in the spring (Minnich and Dezzani 1998, Minnich 2008), a pattern that has been repeated across the state (Huenneke et al. 1990, Weiss 1999). The decline in grasslands has been underway for 200 years, associated with widespread grazing, then urbanization. The degradation of open scrublands and their forb understory has only accelerated in the past 40–50 years (Allen et al. 1998, Minnich and Dezzani 1998, Talluto and Suding 2008).

Nitrogen deposition is currently high across the recovery units of Quino checkerspot butterfly, and artificially elevated soil nitrogen is identified as a key threat that must be remediated in the recovery plan (U.S. Fish and Wildlife Service 2003). Within the project area, Recovery Units in Riverside County are vulnerable to impacts from the RTP (**Figure 3**). The species Recovery Plan is clear, that “Conversion from native vegetation to nonnative annual grassland will be the greatest threat to Quino checkerspot butterfly reserves,” and ties this conversion to nitrogen pollution, along with fire, grazing, and off-road vehicle activity (U.S. Fish and Wildlife Service 2003). This concern is well-founded, since additional nitrogen decreases the size and density of the larval host plant *P. erecta* (Koide et al. 1988).

Highway expansion projects included in the Plan’s project list may have local nitrogen deposition impacts on listed species like Quino checkerspot. At a minimum, these include (1) the widening of highway 79 (RTP ID 3A04SH12), which is within 1.5 miles of critical habitat for Quino checkerspot at Skinner Reservoir and (2) the widening of I-15, which is adjacent to the Northwest Riverside recovery unit outlined in the recovery plan. In addition to these local impacts, the regional plume of nitrogen pollution threatens the remaining range of the species.

Both types of impacts should be recognized and a framework for mitigation established in the PEIR.

Nitrogen deposition poses a direct threat to the viability of Quino checkerspot butterfly in areas that have been set aside and are being managed for the species, because nitrogen deposition critical levels are being exceeded. To be clear, nitrogen deposition is a threat to habitats that have already been protected for conservation and are being held in perpetuity for that purpose. Without a strategy to offset impacts of nitrogen deposition, those investments will be in vain.

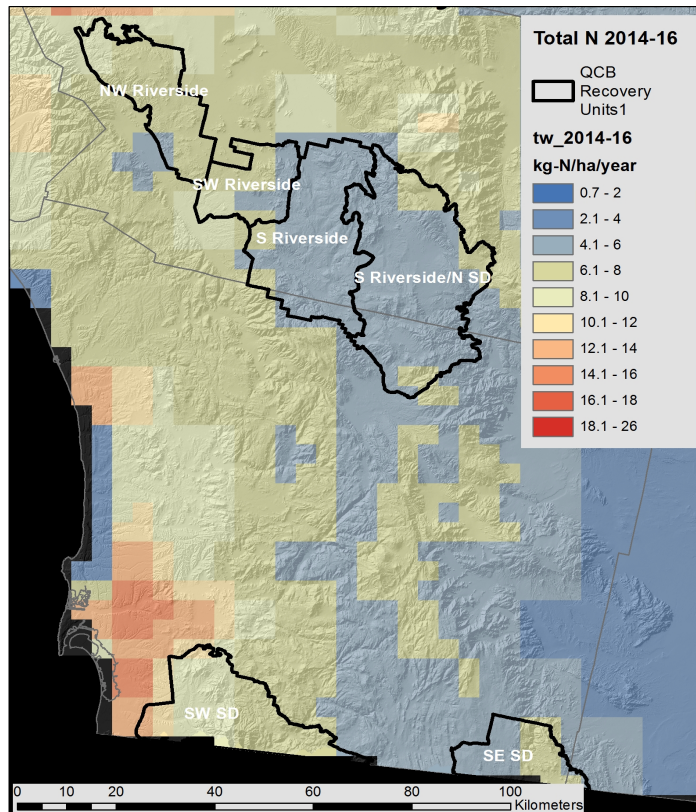


Figure 3. 2014–2016 total nitrogen deposition in relation to Recovery Units for Quino checkerspot butterfly (U.S. Fish and Wildlife Service 2003).

Endangered Plant Species

The RTP area includes many plant species that are threatened, rare, or endangered. All of these species are adversely impacted by nitrogen deposition through direct and indirect mechanisms (Fenn et al. 2010). Directly, additional nitrogen favors nonnative invasive species that out-compete native species, as documented above. Indirectly, the additional nonnative annual grasses and weeds on the landscape fundamentally transforms fire return intervals. Areas subject to annual grass invasion facilitated by nitrogen deposition burn more often than native habitats and the repeated fire then excludes species that must grow for years before they set seed (e.g., some coastal sage scrub and chaparral species) or are not adapted to fire (e.g., desert species).

To illustrate that listed plant species are already found within the RTP area and are threatened by nitrogen deposition, we collated the total nitrogen deposition for listed plant taxa located in

Riverside and Orange Counties that have been subject to Habitat Conservation Plans (HCPs) and Natural Community Conservation Plans (NCCPs). The exposure of the locations of these listed plant taxa near or exceed the defined critical thresholds defined for the vegetation communities where they are found (**Figure 4**).

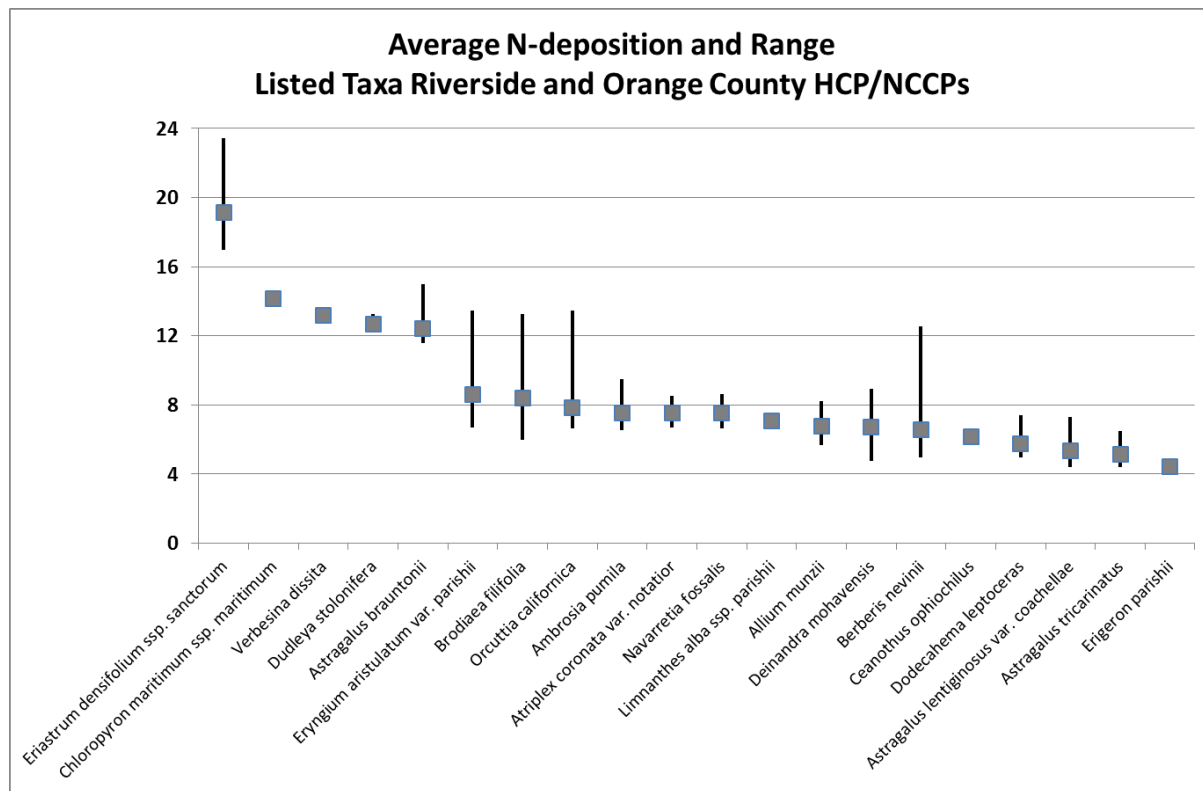


Figure 4. Average and range of annual total nitrogen deposition (N-kg ha⁻¹ yr⁻¹) for 2014-2016 period for habitat occupied by listed plant species covered by HCPs and NCCPs in Los Angeles County and Orange County.

A Regional Strategy Is Necessary to Mitigate Nitrogen Deposition

Mitigation of nitrogen deposition associated with continued expansion of the transportation system will not be effective if put off to project-level environmental review and mitigation planning. A program-level approach is necessary because of the difficulty of reversing impacts and the need to act regionally to protect sensitive habitats and imperiled species.

It is difficult to restore habitats that have been degraded by nitrogen deposition. Invasive grasses end up dominating the seedbank, the point of completely excluding native plant species (Cione et al. 2002). Although fire has been suggested to reduce exotic seed banks, use of fire to restore degraded grasslands is generally not feasible because of air quality regulations and risk. Effective restoration of scrublands can be achieved through the use of mechanical or chemical weed control over a sustained period, followed by seeding of native species (Brooks et al. 2019). Such an approach is labor intensive, requires large amounts of seed, and also relies on use of mycorrhizal inoculum that forms a network with the planted species and helps exclude nonnative species (St. John 1993).

The transportation network has contributed substantially to the existing conditions of nitrogen pollution that degrade private and protected lands on an ongoing basis. Mitigating these impacts requires a regional plan and mitigation scheme so that mitigation offsets from individual projects can be used to protect, manage, and restore habitats for endangered species that may not occur at a transportation project location but are nevertheless incrementally harmed by that project. Only a program-level approach can analyze these impacts and establish an equitable process through which each project can pay its fair share of the consequences of nitrogen pollution.

Precedents for Mitigation for Nitrogen Deposition Impacts on Sensitive Species in California

Mitigation for increased nitrogen deposition impacts on sensitive species emissions has been implemented in California since 2001. The link between N-deposition and adverse modification of Bay checkerspot butterfly habitat through increased annual grass growth was established by Weiss (1999). Since that time, prime examples of off-site mitigation for nitrogen emissions resulting from infrastructure projects include:

Metcalf Energy Center, Los Esteros Critical Energy Facility, Donald von Raesfeld Generating Plant: These three natural gas-fired powerplants in Santa Clara County independently provided mitigation for cumulative impacts of increased NO_x and NH₃ emissions, starting in 2001. Mitigation actions included acquisition of sensitive serpentine grassland habitat (211 acres of habitat), ongoing funding for monitoring and management (>\$100,000 per year), and establishment of endowments (~\$2,000,000) for funding after the power plants are retired.

Highway projects in Santa Clara County: Widening Highway 101 and construction of interchanges in Coyote Valley by the Santa Clara Valley Transportation Authority (VTA) triggered a Section 7 consultation that resulted in 540 acres of serpentine being acquired along with ongoing monitoring and management funding, and a \$700,000 management endowment. The project was also the trigger for the development of the Santa Clara Valley Habitat Plan.

Santa Clara Valley Habitat Conservation Plan/Natural Communities Conservation Plan (Valley Habitat Plan): This comprehensive plan covers 19 taxa, including 10 taxa dependent on nitrogen sensitive serpentine grassland. The 50-year, \$665,000,000 (2013 dollars) plan will result in a reserve system of ~42,000 acres, provide monitoring and management funds for the duration of the plan, and a >\$100,000,000 endowment for management in perpetuity. One funding source for the Valley Habitat Plan is a small *one-time* nitrogen deposition fee based on vehicle trips generated by a project (\$45.80 per single residence, or \$4.70 per new daily vehicle trip for commercial projects).

Otay Power Generating Station: This natural gas-fired powerplant at the western base of Otay Mountain (San Diego County) provided \$400,000 for habitat management to mitigate impacts on the Quino checkerspot butterfly.

Lange's Metalmark butterfly at Antioch Dunes National Wildlife Refuge: The Refuge is a remnant sand dune system supporting the endangered butterfly and two endangered plants. Nitrogen deposition has contributed to the nutrient poor dunes becoming overrun with annual grass growth. Five gas-fired powerplants surrounding the Antioch Dunes NWR were approved

by the California Energy Commission in the 2000s. As part of a lawsuit settlement, the Marsh Landing Generating Station committed to ~\$2,000,000 in funding for dune management and community pollution response.

About the Authors

Stuart B. Weiss (Ph.D. Stanford University) is founder and Chief Scientist of the Creekside Center for Earth Observation, which provides scientific support for conservation and restoration. Dr. Weiss has expertise in population biology, climate change, statistical analysis, GIS, and most aspects of conservation biology. He is a recognized expert in nitrogen deposition and biodiversity, not only publishing scientific papers but also consulting on mitigation strategies and implementation, as well as organizing scientific sessions on nitrogen deposition at major conferences.

Dr. Travis Longcore is a principal of Land Protection Partners and Associate Adjunct Professor in the Institute of the Environment and Sustainability at UCLA. 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. He is a 23-year member of the Los Angeles County Environmental Review Board. Longcore has authored or co-authored over 45 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*. He has provided scientific review of environmental compliance documents and analysis of complex environmental issues for local, regional, and national clients for 22 years.

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EXHIBIT B



November 13, 2018

Via Electronic Mail and Hand Delivery (with references)

San Diego County Board of Supervisors
Attn: David Hall
Clerk of the Board of Supervisors
1600 Pacific Highway, Room 335
San Diego, CA 92101
David.hall@sdcounty.ca.gov

Re: Wildfire Impacts of Poorly-planned Development in San Diego County

Dear Supervisors:

These comments are submitted on behalf of the Center for Biological Diversity (Center) regarding the approval or pending approval of the following Projects:

1. Warner Ranch
2. Lilac Hills
3. Newland Sierra
4. Valiano
5. Harmony Grove Village South
6. Otay Ranch Village 14, 16, 19
7. Otay Ranch Village 13
8. Otay 250 Sunroad
9. Project Specific Requests (PSRs)

While the Center has many concerns regarding the environmental impacts and inadequate analyses provided in the Environmental Impact Reports of the proposed Projects, the purpose of this letter is to voice our concern regarding the public safety impacts of these poorly-planned, sprawl developments in fire-prone chaparral ecosystems in San Diego County. The Center reviewed the Environmental Impact Report of each Project to determine the cumulative impacts of these developments on wildfire risk and analyze the adequacy of proposed mitigation measures. Project footprints were compared to the fire history and fire threat of the region, as identified by state agencies (the Department of Forestry and Fire Protection [Cal Fire] and the California Public Utilities Commission [CPUC]), and the total number of housing units and potential residents for all the developments were calculated.

The proposed developments would be placed in natural landscapes dominated by fire-prone native chaparral and coastal sage scrub habitats that rely on wildfires to persist. Exurban developments like those proposed – with low to intermediate housing densities extending into chaparral and scrublands – have been shown to lead to frequent human-caused ignitions and fire

frequencies that exceed historical, natural levels in Southern California (Syphard et al. 2018). When fires occur too frequently, chaparral and sage scrub ecosystems are replaced by highly flammable non-native grasses, ultimately eliminating native habitats and increasing fire risks to communities.

By approving these sprawl Projects, the County will allow for the construction of almost 15,000 homes in natural areas dominated by chaparral and sage scrub habitat that regularly experience fire. The U.S. Census Bureau estimates that there are 2.87 persons per household in San Diego County, so together the developments would put more than 40,000 potential residents at risk. Placing more than 40,000 potential residents in fire-prone natural areas that are anticipated to burn without thoroughly considering the severe environmental, health, social, and economic consequences or requiring appropriate, science-based analyses regarding wildfire risk is reckless and a dereliction of your duty to the public. The developments will increase wildfire risks that could cause residents to lose their homes and the lives of loved ones and first responders. The increased fire risk could also worsen public health, destroy native ecosystems, and reduce biodiversity. These poorly-planned developments are not a solution to current housing needs; they will only lead to increased risk of harm and expenses for the County's residents.

Wildland fires are inevitable, natural processes in Southern California that are necessary and beneficial for chaparral and scrub ecosystems. The Center urges the County to protect human lives, property, and native biodiversity, by reforming growth strategies to focus on avoiding the placement of developments in high fire threat areas. Existing homes in fire-risk areas should be incentivized to complete retrofits with fire-resistant construction, appropriate defensible space, and homeowner fire safety education. Urban planning and design should focus on infill development in urban core areas, where wildfire threat is lower and people have access to jobs, public transit, and community. We can no longer dismiss California's natural fire regime and the direct relationship between urban sprawl and deadly wildfires. The County needs to stop approving development in high wildfire threat areas to keep its residents healthy and safe and to protect native biodiversity.

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 million members and online activists throughout California and the United States. The Center has worked for many years to protect imperiled plants and wildlife, open space, air and water quality, and overall quality of life in Southern California, including San Diego County.

I. Developments in Fire-prone Natural Areas That Have Historically Burned Have the Highest Chances of Burning

Approving these Projects will allow for the construction of almost 15,000 homes in areas that Cal Fire has identified as having extreme fire threat to people and the CPUC has determined to have elevated and/or extreme fire threat. Almost all the proposed Projects are located in or adjacent to natural areas that have evolved with fire historically and have burned multiple times in the last 140 years. In fact, 20 fires have burned in areas of the Otay Ranch Villages since

1910, with the most recent and largest fire in the area occurring in 2007 (the Harris 2 Fire, ~91,000 acres burned).

Between the years 2000 and 2011, nearly 1,000 homes per year were destroyed by wildfires in Southern California (Syphard et al. 2012), and those numbers appear to be rising, considering last year's fires burned over 10,000 structures and this year's Camp Fire in Butte County and Woolsey Fire in Ventura County have destroyed almost 7,000 homes. Multiple studies indicate that developments with low/intermediate-density clusters surrounded by fire-dependent vegetation (*i.e.*, chaparral) in areas with a history of fires – like those proposed by the County – have the highest chances of burning (Syphard et al. 2012; Syphard et al. 2013). By approving these Projects, the San Diego Board of Supervisors will be directly endangering the lives of more than 40,000 people by placing homes in the exact arrangement and placement for maximum fire susceptibility in areas where fires will inevitably burn.

II. Development in Fire-prone Areas Will Lead to More Human Ignitions and Too Frequent Fire in Southern California Shrublands

In Southern California, sprawl developments with low/intermediate densities extending into chaparral and sage scrub habitats that are prone to fire have led to more frequent wildfires caused by human ignitions, like arson, improperly disposed cigarette butts, debris burning, fireworks, campfires, or sparks from cars or equipment (Keeley et al. 1999; Keeley and Fotheringham 2003; Syphard et al. 2007; Syphard et al. 2012; Bistinas et al. 2013; Balch et al. 2017; Radeloff et al. 2018). Human-caused fires account for 95% of all fires in Southern California (Syphard et al. 2013), and homes filled with petroleum-based products, such as wood interiors, paint, and furniture, provide additional fuel for the fires to burn longer and spread farther (Keeley et al. 2007). The most numerous and largest fires in San Diego County have been caused by equipment and powerlines in the wildland-urban interface, where housing density is low to intermediate (Syphard and Keeley 2015), and leapfrog developments have been found to have the highest predicted fire risk in the County (Syphard et al. 2013). With the increased ignition risk that comes with these poorly planned developments in high fire-prone areas, the County will only be fueling more frequent, larger, and more destructive wildfires.

The proposed developments would lead to a dangerous feedback loop of deadly fires and habitat destruction. Most would be placed in areas dominated by chaparral and sage scrub, native California habitats that rely on wildfires to persist. These habitats are adapted to infrequent (every 30 to 150 years), large, high-intensity crown fire regimes (Pyne et al. 1996; Keeley and Fotheringham 2001), and if these regimes are disrupted, the habitats become degraded (Keeley 2005, 2006a,b; Syphard et al. 2018). When fires occur too frequently, type conversion occurs and the native shrublands are replaced by non-native grasses and forbs that burn more frequently and more easily, ultimately eliminating native habitats and biodiversity while increasing fire threat over time (Keeley 2005, 2006a,b; Syphard et al. 2009; Safford and Van de Water 2014; Syphard et al. 2018). Thus, placing developments in these high fire-prone areas will lead to more frequent fires that will threaten the lives of more than 40,000 people who will live in or near these areas while degrading the health and biodiversity of Southern California's special ecosystems.

III. Public Safety in These New Development Areas Cannot be Guaranteed

Public safety issues are exacerbated by unreliable infrastructure to accommodate the consequences of more fires. Evacuating from wildfires can be life-threatening and having safety plans in place beforehand is not always enough. For example, while having warning systems and evacuation routes in place are important for fire preparedness and fire safety (e.g., County of San Diego, 2018, Lilac Hills Ranch App J Fire Protection Plan) their functionality when a fire occurs is not guaranteed. Wildfires may ignite with little or no notice, and warning systems can be slow and ineffective at reaching all residents in harm's way. This was the case in last year's Tubbs Fire in Sonoma County and Thomas Fire in Santa Barbara and Ventura Counties, which led to more than 40 deaths and almost \$12 billion in property damage (St. John 2017; Lundstrom et al. 2017).

Instead of placing people and homes in places where residents will have to rely on potentially faulty warning systems and evacuation routes to escape from fires, the County should build homes in areas where fire is least likely to occur, such as in infill development in urban core areas. By avoiding placing developments in fire prone natural areas, the County could reduce the risk of fire and more effectively protect lives, property, and the natural environment.

IV. The Developments Contain Insufficient Fire Safety Measures and Fire Protection Plans

Despite the glaring wildfire issues of placing developments in fire-prone ecosystems, the County remains complacent with the developers' fire protection plans that rely on fuel modification zones that are counterproductive and guidelines that are inadequate (e.g., County of San Diego, 2018, Harmony Grove Village South FEIR Appendix L Fire Protection Plan). Reliance on general guidelines and firesafe building/planning codes without sufficiently analyzing site-specific conditions or strategically implementing precautionary fire safety measures can lead to a false sense of safety and preparedness. Wildfire risk cannot be addressed with a one-size-fits-all solution.

Large fires in Southern California landscapes dominated by chaparral and shrublands are often associated with foehn winds (strong, warm, dry, and often downslope winds), such as the Santa Ana winds (Keeley 2006b). The region's largest fires have historically occurred in known wind corridors (Moritz et al. 2010). And in severe weather conditions, wind-driven fires can spread quickly – they can cover 10,000 hectares in one to two days (that's an area the size of Escondido, CA), as embers are blown ahead of the fires and towards adjacent fuels (e.g., flammable vegetation, structures) (Syphard et al. 2011).

The primary approach to mitigating fire risk is through home safety measures to make structures less flammable and vegetation reduction in the defensible space immediately surrounding homes. However, a common misconception regarding defensible space in chaparral and scrub habitats immediately surrounding structures is that the wider the fuel modification zone the more protected the structures are from wildfires. For example, the Newland Sierra Project states that they plan to implement a 250-foot fuel modification zone to reduce fire risk, which is more than double the 100-foot fuel modification zone required by state law (County of

San Diego, 2018 Newland Sierra FEIR, Appendix N Fire Protection Plan). In the September 26, 2018 public hearing, the Board of Supervisors was satisfied that the project was doing as much as they could to mitigate the threat of fire. In addition, some local ordinances require homeowners to clear 300 feet or more of defensible space, and there have been reports of some people being unable to obtain fire insurance without that 300-foot zone (Syphard et al. 2014). However, these actions and guidelines neglect science and may not be appropriate for all regions or habitat types, and they could be dangerously misleading.

In a study conducted in San Diego County, the most effective vegetation treatment distances ranged between 16 to 58 feet from the home (Syphard et al. 2014). Fuel reduction treatments more than 100 feet from structures did not provide additional protection, even for structures situated on steep slopes (Syphard et al. 2014). And because continued disturbance can lead to type conversion from native shrublands to nonnative grasslands that can burn more quickly and easily, extended fuel modification zones could lead to further habitat degradation and increased fire threat (Merriam 2006; Keeley 2006a,b). Thus, asserting that a fuel modification zone beyond the 100-foot requirement provides additional mitigation and improved fire safety in a high fire-prone area gives a false sense of security. The best way to improve fire safety is to proactively reduce exposure to wildfire risk by avoiding the placement of homes in fire-dependent ecosystems (Syphard et al. 2014).

Another critical component of protecting lives and property from wildfires is fire hazard and fire safety education for homeowners in or near fire hazard areas. Structures with fire-resistant features, such as ember-resistant vents, fire-resistant roofs, and surrounding defensible space, have been shown to reduce the risk of destruction due to wildfires (Quarles et al. 2010; Syphard et al. 2014). However, simply stating that the structures are built to fire code does not guarantee that fire threat will be reduced. Proper maintenance and upkeep of the structures themselves as well as the immediate surroundings (*e.g.*, removing leaf litter from gutters and roofing; removing flammable materials like wood fences, overhanging tree branches, or trash cans away from the home) are required to reduce the chances of the structures burning. In addition, external sprinklers with an independent water source would reduce flammability of structures, yet none of the proposed developments include this feature on their structures. And while these fire-resistant structural features are important for fire safety and homeowners should be properly informed, the focus should be on retrofitting existing homes and structures in or near high fire-prone areas with these features, not putting these features on new homes that should not be placed in high fire-prone areas in the first place.

As noted above, the number of homes being destroyed by fires in Southern California are starting to become thousands per year. The arrangement and location of developments have been found to be the main drivers of fire susceptibility, with the highest chances of burning in developments like those proposed by the County – low/intermediate-density clusters surrounded by wildland vegetation in areas with a history of fires (Syphard et al. 2012; Syphard et al. 2013). Thus, the best way to make new construction as fire safe as possible is to avoid placing them in high fire-prone areas (Pincetl et al. 2008; Syphard et al. 2012; Syphard et al. 2013; Moritz et al. 2014). Land-use planning must be reformed to more appropriately consider wildfire risk management.

V. Increased Human Ignitions Will Increase Unnatural Levels of Smoke.

Smoke is a product of the natural and necessary wildfire regime in chaparral and sage scrub ecosystems. However, new leapfrog developments situated in fire-prone chaparral and sage scrub habitats, like those at issue here, will lead to increased human ignitions that will produce increased levels of smoke beyond what is natural. This can lead to harmful public health impacts due to increased air pollution not only from burned vegetation, but also from burned homes, commercial buildings, cars, etc. Buildings and structures often contain plastic materials, metals, and various stored chemicals that release toxic chemicals when burned, such as pesticides, solvents, paints, and cleaning solutions (Weinhold 2011). Thus, human-caused wildfires at the urban wildland interface that burn through developments, as is becoming more common with housing extending into fire-prone chaparral and shrublands, increase the frequency and toxicity of smoke exposure to communities in and downwind of the fires.

Increased fire frequency due to human activity and ill-placed developments will lead to increased occurrences of poor air quality from smoke, which can have public health effects. Hospital visits for respiratory symptoms (*e.g.*, asthma, acute bronchitis, pneumonia, or chronic obstructive pulmonary disease) have been shown to increase during and/or after fire events (Kunzli et al. 2006; Viswanathan et al. 2006; Delfino et al. 2009; Rappold et al. 2012; Liu et al. 2015; Reid et al. 2016). In particular, a study assessing the health impacts of the 2003 Cedar Fire in San Diego County, which burned an area of about 280,000 acres that consisted of chaparral and scrub-dominated landscapes and almost 3,000 structures, there were increases in hospital emergency room visits for asthma, respiratory problems, eye irritation, and smoke inhalation (Viswanathan et al. 2006). The proposed Projects do not thoroughly consider the health impacts that communities will have to suffer if developments are placed in fire-prone shrublands where they will disrupt the natural fire regime and increase fire frequency and smoke exposure. The County needs to consider these public health impacts and refrain from placing poorly-planned, leapfrog developments in landscapes dominated by fire-prone chaparral and shrublands.

VI. The Direct Economic Impacts of Wildfires Are Worsening

The direct economic impacts of human-caused wildfires are staggering. The cost of fire suppression and property damage from wildfires in California is over \$18 billion since 2010, which, after adjusting for inflation, is double the cost from the previous three decades combined (Figure 1). Placing more housing in fire-prone natural areas has led to more costly fires, and these patterns will continue should the proposed Projects be approved.

Who shoulders these costs? California and federal residents end up paying in the form of fire insurance premiums and taxes that support Cal Fire and federal government subsidies and grants for homes in high risk areas. And these costs do not include other indirect/hidden costs associated with wildfires, such as the costs of doctors' appointments, medication, sick days taken from places of work, funerals, etc. As the costs of housing in California continues to increase, these costs will also continue to rise, further exacerbating the affordable housing crisis.

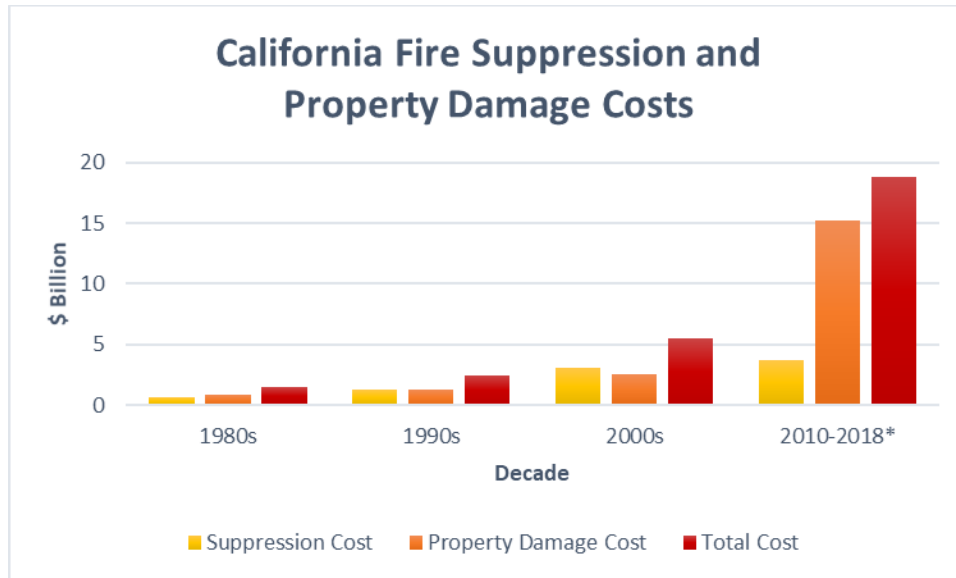


Figure 1. Costs of Fire Suppression and Property Damage by Decade. *Property damage cost data include 2017 insurance claim estimates and no 2018 costs. Data Source: Cal Fire and the Bureau of Labor Statistics.

VII. Conclusion

San Diego County can no longer afford to recklessly neglect the science of wildfires and wildfire risk in Southern California. The devastating environmental, health, social, and economic costs of poorly-planned, leapfrog developments in areas that *will* burn are too great. The Center urges the County to avoid placing developments like Newland Sierra and the Otay Ranch Villages in high fire-prone natural areas. Instead, the County should focus on creating communities in areas with lower wildfire risk, such as in infill development in urban core areas, where people will have access to jobs, public transit, and amenities. In addition, the County should prioritize retrofitting older homes and structures in the wildland-urban interface with fire resistant features, like ember-resistant vents, fire-resistant roofs, external sprinklers, and appropriate defensible space/fuel modification zones. Land-use planning must be reformed to more appropriately consider wildfire risk management and protect human lives, property, and the native biodiversity of Southern California’s unique landscape.

Any focus on forest management to address California’s fires is profoundly misguided. It makes no sense to complain about, and spend millions of dollars on, logging forests that are far away from communities when the actual fire threat facing thousands of families results primarily from poor planning in the interface adjacent to homes and businesses. Moreover, most of 2018’s most extensive fires in California were not even in forests, and instead primarily burned grasslands and chaparral. We must also be honest about the conditions that are actually driving the fires – human ignitions, high winds, drought, and climate-change leading to hotter, drier conditions. Forest management is simply a scapegoat to ignore the difficult problems that need to be addressed, like poor land-use planning and climate change. California needs to stop allowing the building of flammable homes in flammable terrain, and fight climate change, instead of blaming the condition of California’s forests for these fires.

Thank you for the opportunity to submit comments on these proposed Projects. We look forward to working to assure that the County forges responsible, fire safe planning to safeguard the health and safety of its residents and the natural environment. Please do not hesitate to contact the Center with any questions at the email listed below.

Sincerely,

A handwritten signature in black ink, appearing to read 'T. Yap', with a large, stylized flourish at the end.

Tiffany Yap, D.Env/PhD
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(Attached on CD)

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EXHIBIT C



April 30, 2020

Sent via email

Los Angeles County
Department of Regional Planning
320 West Temple Street
Los Angeles, California 90012
climate@planning.lacounty.gov

Re: Comments on Public Review Draft of Los Angeles County Climate Action Plan

Dear Department of Regional Planning:

The Center for Biological Diversity (“Center”) submits the following comments on the Los Angeles County Climate Action Plan Public Review Draft (“Draft CAP”). While the Draft CAP includes some laudable goals, it suffers from a lack of clear and enforceable measures to ensure significant reductions in regional greenhouse gas (“GHG”) emissions. Many of our concerns were also reflected in our comments on the Draft Sustainability Plan, which is included as Attachment 1 and incorporated by reference.

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 one million members and online activists throughout California and the United States. The Center has worked for many years to protect imperiled plants and wildlife, open space, air and water quality, and overall quality of life for people in Los Angeles County (“County”).

I. Climate Change Is an Urgent and Existential Concern.

Recent science has made 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 transform our climate, resulting in impacts including, but not limited to, increased temperatures and wildfires and a reduction in snowpack and precipitation levels and water availability.

II. The County Has a Responsibility to Reduce GHG Emissions.

California gives local authorities like the County significant responsibility over land use and planning decisions within their jurisdictions. But with that responsibility comes a corresponding obligation to account for the negative environmental impacts of those decisions—especially when it comes to controlling GHG emissions. As the California Air Resources Board (“CARB”) explains:

Local governments are essential partners in achieving California’s goals to reduce GHG emissions. Local governments can implement GHG emissions reduction strategies to address local conditions and issues and can effectively engage citizens at the local level. Local governments also have broad jurisdiction, and sometimes unique authorities, through their community-scale planning and permitting processes, discretionary actions, local codes and ordinances, outreach and education efforts, and municipal operations. Further, local jurisdictions can develop new and innovative approaches to reduce GHG emissions that can then be adopted elsewhere.

(CARB 2017.) California’s Scoping Plan, which lays out the statewide blueprint for meeting the legislature’s greenhouse gas reduction targets, also specifically calls out local governments as essential to meeting these targets:

[L]ocal governments and agencies are critical leaders in reducing emissions through actions that reduce demand for electricity, transportation fuels, and natural gas, and improved natural and working lands management. . . . Over the last 60 years, development patterns have led to sprawling suburban neighborhoods, a vast highway system, growth in automobile ownership, and under-prioritization of infrastructure for public transit and active transportation. Local decisions about these policies today can establish a more sustainable built environment for the future.

(CARB 2017.) Thus, the County must take seriously its obligation to do its utmost to ensure that it is reducing GHG emissions and contributing to the state’s achievement of its emissions reduction targets.

III. The Draft CAP Fails to Explain How It Will Meet State Goals.

While the Draft CAP acknowledges statewide climate goals (Draft CAP at 6-8 & 36), it does not explain how measures in the Draft CAP will actually meet these statewide climate goals. For instance, statewide targets require GHG emissions to be reduced to 1990 levels by 2020, 40 percent below 1990 levels by 2030, and 80 percent below 1990 levels by 2050, and achieve statewide carbon neutrality by 2045. (Draft CAP at 17 & 36.)

In contrast, the Draft CAP includes a different set of goals: by 2025, reduce GHG emissions by 25 percent below 2015 levels; by 2035, reduce GHG emissions by 50 percent below 2015 levels; and by 2045, achieve carbon neutrality in unincorporated Los Angeles County. (Draft CAP at 8.) The Draft CAP fails to explain how these goals are either consistent or inconsistent with each of the statewide goals.

The Draft CAP therefore does not qualify as a CEQA “streamlining” document. CEQA Guidelines section 15183.5(b)(1)(D) require that a climate action plan demonstrate that it will achieve planned reductions on a project by project basis. In *Cleveland National Forest Foundation v. San Diego Association of Governments*, the California Supreme Court provided more clarity on what facts, data, and goals projects should analyze in their greenhouse gas analyses under CEQA. ((2017) 3 Cal.5th 497.) The Court found that although an “Executive Order ‘is not an adopted GHG reduction plan’ and that ‘there is no legal requirement to use it as a threshold of significance[.]’ ... [t]he Executive Order’s 2050 goal of reducing California’s greenhouse gas emissions to 80 percent below 1990 levels expresses the pace and magnitude of reduction efforts that the scientific community believes necessary to stabilize the climate. This scientific information has important value to policymakers and citizens in considering the emission impacts of a project like SANDAG’s regional transportation plan.” (*Id.* at 515-516.) Therefore, the Draft CAP should include further discussion on measures that could ensure the County meets statewide goals.

IV. The Draft CAP’s GHG Emissions Inventory Is Incomplete.

The Draft CAP lists five categories of GHG emissions in its GHG inventory: transportation, stationary energy, waste, industrial processes and product use (“IPPU”), and agriculture, forestry and, other land use (“AFOLU”). (Draft CAP at 30-32.) The CAP should set forth the emissions categories in more detail. A guide prepared by the Bay Area Air Quality Management District (“BAAQMD”) recommends, for example, listing the GHG emissions of specific items such as streetlights and traffic signals. (BAAQMD 2009.)

The Draft CAP also does not explain whether “transportation” emissions include emissions outside the County by activity within the County (for example, from exported goods or tourist travel to County from outside the County). This very shortcoming led to a judge invalidating Sonoma County’s CAP last year, after the judge determined that it failed to account for all of the County’s emissions by excluding transboundary emissions.¹ (Attachment 2.)

¹ The court also held that the CAP’s GHG reduction measures were not clearly defined or enforceable, which is also an issue with the Draft CAP here.

V. The Draft CAP's Reduction Strategies and Measures Are Non-Binding And Unenforceable.

The Draft CAP states that if future projects “tier” off of it, then compliance will negate the need for a qualitative analysis of future projects’ GHG emissions. (Draft CAP at 15.) The Draft CAP also correctly lays out the legal requirements of a climate action plan. (Draft CAP at 15.) For instance, a CAP must “Specify measures or a group of measures, including performance standards, that substantial evidence demonstrates, if implemented on a project-by-project basis, would collectively achieve the specified emissions level....” (Draft CAP at 15.) Therefore, the Final CAP, and any such plan prepared pursuant to CEQA Guidelines 15183.5, must meet the requirements for all first-tier environmental review documents and thus must impose enforceable requirements and measures with defined performance standards.²

Unfortunately, many of the Draft CAP’s reduction measures are largely non-binding and unenforceable, and generally lack performance standards. Notably, the words “encourage,” “promote,” “support” or “whenever feasible” occur many times in the sections describing the Draft CAP’s implementation measures. These measures are legally inadequate and cannot be considered mitigation under CEQA and applicable case law. (*Lincoln Place Tenants Assn. v. City of Los Angeles* (2007) 155 Cal.App.4th 425, 445 [“A ‘mitigation measure’ is a suggestion or change that would reduce or minimize significant adverse impacts on the environment caused by the project as proposed”]); *Preserve Wild Santee v. City of Santee* (2012) 210 CA 4th 260, 281 [mitigation measures that are so undefined that their effectiveness is impossible to determine are legally inadequate].) The California Attorney General has also expressly disapproved such an approach for measures upon which an agency relies:

Can a lead agency rely on policies and measures that simply “encourage” GHG efficiency and emissions reductions?

No. Mitigation measures must be “fully enforceable.” *Adequate mitigation does not, for example, merely “encourage” or “support” carpools and transit options, green building practices, and development in urban centers.* While a menu of hortatory GHG policies is positive, it does not count as adequate mitigation because there is no certainty that the policies will be implemented.

(CA Attorney General 2009.) The California Attorney General further states that programmatic plans to reduce GHG emissions pursuant to CEQA Guidelines section 15183.5 must “[i]dentify a set of specific, enforceable measures that, collectively, will achieve the emissions targets....” (CA Attorney General 2019.)

In *Sierra Club v. County of San Diego* (2014) 231 Cal.App.4th 1152, the Fourth District Court of Appeal criticized the County of San Diego for including measures in its CAP that were not backed up by a firm commitment by the County that they would be implemented. The Court noted that many of the measures in the CAP “are not currently funded,” such that the County of San Diego could not rely upon such unfunded programs to meet GHG reductions. (*Id.* at 1168-

² Specifically, CEQA Guidelines section 15183.5(b)(1)(D) states that measures should have “performance standards” which demonstrate they will achieve the planned reductions on a project by project basis.

1169.) The *Sierra Club* opinion also questioned whether people would actually participate in various programs outlined in the CAP, given that the record contained no evidence of such participation. (*Id.* at 1170.) Here, the Draft CAP suffers from similar defects – there is no evidence of funding for many of the various programs set forth in the Final CAP, nor evidence in the record that people or industry will actually participate in the voluntary programs described in the Draft CAP.

Accordingly, although the Draft CAP’s reduction measures may generally be worthwhile objectives for the County to pursue, the Draft CAP fails as a CEQA compliance tool because it relies upon non-enforceable measures. The Draft CAP also does not have adequate mechanisms to monitor progress towards achieving verifiable reduction targets.

VI. Strategy 2 Fails to Include Sufficient Measures to Support Transit Oriented Communities.

The Center generally supports the goals of Strategy 2 to support transit oriented communities. However, the targets are unclear, inadequate, and do not provide a path to actually achieve this goal. For instance, the 2025 target is to (1) “increase new housing built within 1/2 mile of high frequency transit to 50%” and (2) “reduce VMT per capita to 20 miles.” This target does not specify what the “50%” is a percent of – does this mean 50% of all new housing units in the County? This needs to be clarified in the Final CAP. In addition, it is unclear whether the County is intending to reduce VMT per capita to 20 miles *per day* or some other amount of time. More importantly, VMT per capita of 20 miles a day is still an extremely high number; the CAP should have more aggressive goals to reduce VMT per capita by 2025. As described in further detail in our comment letter on the Draft Sustainability Plan, significant reductions in VMT are required if the state is to meet its GHG reduction goals. (See Attachment 1 at p. 9-10.)

Unfortunately, the Actions supporting Strategy 2 provide no concrete requirements or criteria, or way to measure success. For instance, Action T1 states “Expand the number and extent of transit oriented communities, by encouraging development within High Quality Transit Areas, while ensuring vital public amenities such as parks and active transportation infrastructure are included.” (Draft CAP at 50.) Action T1 fails to contain a clear plan how such development will be “encouraged” such that it is little more than a hortatory statement. Likewise, Action T2 states “Develop community plans that will increase the percentage of residents who could live and work within the same community, and that could decrease the vehicle miles traveled.” (*Id.*) This action suffers from the same defects as Action T1. It also fails to specify any target increase in percentage of residents who live or work in the same community, or elements of such “community plans.”

VII. Strategy 3 Fails to Include Sufficient Measures to Reduce VMT.

Strategy 3 aims to reduce single occupancy vehicle (“SOV”) vehicle trips. However, the Draft CAP does not contain sufficiently aggressive goals. For instance, the Draft CAP only seeks 15 percent of trips to be non-SOV trips by 2025. (Draft CAP at 51.) As we noted in our comments on the Draft Sustainability Plan (Attachment 1), even if this target is met, in five years 85 percent of trips in the County will still be by car. The Draft CAP should call for much stronger measures to reduce SOV trips and VMT. The best way to do this is to limit development

in areas far from existing cities, as remote developments generate disproportionately high levels of VMT.

The actions within Strategy 3 are similarly inadequate. For instance, Action T5 states “develop a transportation technology strategy to proactively address how evolving tech-enabled mobility options can support public transit and advance OurCounty goals.” (Draft Plan at 51.) This is extremely vague and suffers from the defects outlined in Section V above. Similarly, Action T8 generally refers to “expand[ing] shade along and over pedestrian networks through zoning code revisions that encourage shade-providing building features,” but provides no enforceable requirements or metrics as to how much “shade expansion” will be required. (Draft CAP at 52.) Also illustrative of this problem is Action T11, which states, “Develop and implement a transportation demand management (TDM) ordinance that requires developers to incorporate measures such as subsidized transit passes and car share.” (Draft CAP at 53.) The time and opportunity to develop measures to require of developers for future projects is here in the CAP, if the County wishes to use the CAP as a CEQA streamlining document.

VIII. Strategy 4 Does Not Include A Clear Plan to Institutionalize Low-Carbon Transportation.

The Center supports Strategy 4 – institutionalize low-carbon transportation. (Draft CAP at 44.) However, the related “Targets” are woefully inadequate – the Draft Plan only seeks 500 EV and 200 ZEV charging stations at County-owned or public properties, and contains no targets for the remainder of the County (e.g., private businesses, residential developments). (Draft CAP at 55.) Likewise, the “Actions” provide no actual mandate for developers or landowners to incorporate charging stations into infrastructure.

If the County is serious about institutionalizing low carbon transportation, it needs to do far more than simply add a few hundred EV chargers at public venues. The CAP should instead include aggressive mandates for every new development (commercial and residential) to include an adequate number of EV chargers, as well as a crediting system in order to incentivize the retrofitting of existing commercial and residential developments with EV chargers.

The CAP should also require installation of charging stations at *all* County-owned properties and public venues, as well as in appropriate public right-of-ways.

And as with the other sections of the CAP, the “Actions” are vague, unenforceable, and do not include any performance criteria. For instance, Action T20 states: “Partner with a car or ride-sharing organization to provide access to EVs for low-income and disadvantaged community residents.” (Draft CAP at 57.) Action T20 does not provide any guidance as to what “partnering” means, nor does it provide any benchmark for success. How much expanded access to EVs will the County pursue via this measure? By failing to include any actual target or goal to measure success, the Draft CAP dooms this (and many other Actions) to failure.

IX. Strategy 5 Does Not Contain Clear Plan To Accelerate Freight Decarbonization.

The Center supports the goal to accelerate freight decarbonization. Unfortunately, once again, the Draft CAP’s Targets and Actions are not sufficient to meaningfully support this goal.

The Draft CAP does not even clear targets for medium-duty delivery trucks – it simply states that 25-50 percent of medium-duty delivery trucks should be electric or zero emission by 2025. (Draft CAP at 58.) This renders it unclear whether the goal is 25 percent or 50 percent. And the Draft CAP simply has no corresponding and more aggressive targets for 2035 and 2045.

Likewise, the Actions are untenably vague. By way of example, Action T25 states: “Implement freight decarbonization technologies along highway corridors passing through unincorporated communities ...” (Draft CAP at 59.) No specifics, enforceable mandates, or performance criteria are used to define this purportedly “Major Action.”

X. Strategy 6 Contains No Plan to Implement Zero Emissions Technologies for Off-road Vehicles and Equipment.

The Draft CAP should include concrete plans to implement and eventually require zero emissions technologies off-road vehicles and equipment. Instead, the Action items include non-binding language like: “Partner with SCAQMD and AVAQMD to *encourage* the use of zero-emission and near-zero-emission construction, agriculture, and manufacturing equipment.” (Draft CAP at 60, emphasis added.) The CAP can, and should, require zero emission or near-zero emission equipment by a specific date.

XI. Strategy 7 Does Not Provide A Plan To Decarbonize Building Energy Use.

The Center supports decarbonizing building energy use, but finds that the Draft CAP squanders an opportunity to establish the County as a leader in this area. The Final CAP should require zero net energy on all new commercial and residential construction. Zero net energy is feasible, as other projects in the County that have recently been approved include a goal of zero net greenhouse gas emissions.³

Indeed, the Draft CAP does not even contain goals that are consistent with state-wide goals. The California Energy Efficiency Strategic Plan provides:

All new residential construction will be zero net energy (ZNE) by 2020.
All new commercial construction will be ZNE by 2030
50% of commercial buildings will be retrofit to ZNE by 2030
50% of new major renovations of state buildings will be ZNE by 2025.⁴

In contrast, the Draft CAP only sets a target of 50 percent of all new buildings and major building renovations being “net zero carbon” by 2025 and 100 percent by 2045. (Draft CAP at 63.) The Draft Plan should contain far more aggressive goals that are consistent with climate science; the entire building sector should achieve zero emissions no later than later than 2045,

³ See California Department of Fish and Wildlife, *Newhall Ranch Resource and Development Management and Development Plan, Final Additional Environmental Analysis*, Appendix 2.1, available at http://planning.lacounty.gov/assets/upl/case/tr_53108_appendix-2-0-cdfw-final-aea-excerpts.pdf.

⁴ California Public Utilities Commission, *Zero Net Energy*, available at <https://www.cpuc.ca.gov/ZNE/>.

with interim enforceable benchmarks.⁵ Moreover, the Draft CAP also does not explain whether term “net zero carbon” is consistent with the state definition of zero net energy.

Strategy 7’s Actions fair no better. For instance, Action SE2 simply states “Establish carbon intensity limits for buildings over 20,000 square feet.” (Draft CAP at 64.) This contains no objection performance criteria – at best, it is a promise to develop performance criteria at some unspecified time in the future. As such, it fails as a CEQA mitigation measure. (See discussion in Section V above.)

Action SE4 also vaguely promises to “Adopt building code requirements for electric water and space heating and encourage alternatives to other natural gas uses in new and existing buildings.” (Draft CAP at 64.) The CAP needs to actually describe building code requirements or provide performance criteria. And “encouraging alternatives” is not a CEQA mitigation measure. Action SE7 likewise promises collaboration with the City of Los Angeles and Santa Monica to “develop building energy and emissions performance standards,” but provides no specifics on what those standards will entail, or what level of emissions reductions they would be expected or required to provide. (Draft CAP at 65.)

Action SE5 states “Adopt CALGreen Tier 1 green building standards and identify which Tier 2 standards could be adopted as code amendments.” (Draft CAP at 64.) However, significant portions of the California Green Building Standards are already mandatory. Such that it is unclear whether there is simply a restatement of existing law.⁶

Action SE6 is problematic for other reasons. This Action states, “Incentivize net zero energy residential and commercial buildings through streamlined development reviews.” (Draft CAP at 65.) First, as noted above, zero net energy should be *required*, not simply incentivized. Second, the Action does not explain what or how development review will be “streamlined.” While a CAP that complies with CEQA can streamline some aspects of development, development review should not be streamlined in a way that overlooks other non-climate impacts of a project, such as impacts on air quality, public health, wildlife, and traffic.

In contrast to the vague and unenforceable Actions in the Draft CAP, there are number of enforceable policies that can be used to reach achieve zero emissions by 2045 for all buildings. The Sierra Club’s *Building Electrification Action Plan for Climate Leaders* outlines various proposals, including a zero emission building code, local ordinances restricting gas and requiring all-electric new construction for all building types, GHG performance benchmarking, and air pollution standards for appliances. (See footnote 5.)

⁵ Rachel Golden, *Building Electrification Action Plan for Climate Leaders* <https://www.sierraclub.org/sites/www.sierraclub.org/files/Building%20Electrification%20Action%20Plan%20for%20Climate%20Leaders.pdf> (Dec. 2019).

⁶ See California Building Standards Commission, “California’s Green Building Code,” available at <https://www.dgs.ca.gov/BSC/Resources/Page-Content/Building-Standards-Commission-Resources-List-Folder/CALGreen>.

XII. Strategy 9 Does Not Provide A Concrete Plan To Increase Energy Resilience.

The Center supports the Draft CAP's goal to shift to a renewables-based electricity supply which ensures equitable access to affordable, local, and reliable energy sources. (Draft CAP at 69.) The Center urges the County to include more ambitious targets for distributed energy resources ("DER"). The Draft CAP calls for a 200 megawatt increase in DER capacity by 2025 and a 1 gigawatt increase by 2045. The Center urges the County to incorporate a target of 1 gigawatt in photovoltaic ("PV") energy by 2025 and 4 gigawatts by 2045. The Draft CAP should include a target for 500 megawatts of distributed storage capacity by 2045 and 2 gigawatts by 2045.

DER plays a unique and vital role in creating a renewable energy future that not only promotes deeper renewable penetration, but also advances fundamental goals of equal access to clean energy, social justice, and biodiversity protection. With minimal water use, no emissions from generation, and minimal land use impacts, distributed solar is the most sustainable energy source currently in production.⁷ Further, building up distributed solar allows communities to gain local control over their energy system rather than leaving that control in the hands of investor-owned monopoly utilities. This shift empowers communities to make their own energy choices and gives them access to cheaper and cleaner energy, driving energy democracy. Progressive community solar policy can also enable renters and individuals who cannot afford to buy solar energy systems to invest in renewable energy, which in turn creates economic growth and local employment opportunities.

Studies show that far more ambitious targets for DER are currently feasible. A study by the National Renewable Energy Laboratory found that Los Angeles could support 9 gigawatts of rooftop solar, or 60 percent of its estimated total energy demand, using fairly conservative estimates.⁸ Another study by the Institute of the Environment and Sustainability at the University of California, Los Angeles ("UCLA") found that rooftop solar can provide 7200 gigawatt hours of on-site building demands in a study area of 1.2 million parcels in L.A. County, which would meet approximately 29 percent of on-site building demands.⁹

The UCLA study found that remaining building demand that would be met by grid sources is approximately 18,000 gigawatt hours, and the potential solar output to export to the grid that is not used on-site is 16,400 gigawatt hours – this significant amount of additional electricity could be available for use by neighboring properties or elsewhere. The UCLA study also found that existing policies regulating grid operations limit potential rooftop solar output; in 20 percent of communities, current policies would reduce the technical potential of net solar generation by limiting the size of the arrays that can be installed. Moreover, the UCLA study found that lower-income and at-risk communities have greatest capacity for solar energy exports

⁷ Wiser, R. et al., "The environmental and public health benefits of achieving high penetrations of solar energy in the United States," *Nature Energy* Vol. 113, pp. 472-486 (2016); Hernandez, R.R., Hoffacker, M.K. and C. Fields, "Efficient Use of Land to Meet Sustainable Energy Needs," *Nature Climate Change*, Vol. 5: 353-358, (2015).

⁸ Pieter Gagnon, et al., *Rooftop Solar Photovoltaic Technical Potential in the United States: A Detailed Assessment* (Jan. 2016), available at <https://www.nrel.gov/docs/fy16osti/65298.pdf>.

⁹ Erik Porse, et al., *Net solar generation potential from urban rooftops in Los Angeles*, Energy Policy (July 2020).

to the grid. In short, the County should take a hard look at the actual solar capacity of the County based upon existing studies and include policies to meet or exceed the actual solar capacity.

The proposed Actions are also insufficient to address either the targets in the Draft CAP or the more aggressive targets proposed by the Center. Action SE14 proposes developing a community energy map that identifies opportunities for deploying distributed energy resources and microgrids in order to improve energy resiliency in disadvantaged communities. (Draft CAP at 69.) Instead of merely generating a map, the County should develop a program or ordinance to fund and facilitate PV and storage microgrid development, especially for unincorporated and fire-prone areas. The County could begin this program in fire-prone communities, and aim for a minimum of 10 percent PV and storage microgrids instead of simply 10 percent DER installation in fire-prone communities.

XIII. Strategy 10 Fails to Provide a Plan To Reach the Target Renewable Energy Goals.

The Center supports the general goal of Strategy 10 to increase renewable energy, but notes that much stronger targets should be incorporated into the Draft CAP. The Draft CAP calls for installation of solar on only 20 percent of commercial buildings over 50,000 square feet and at least 10 percent of single family residential buildings by 2025, and higher targets for 2035 and 2045.

The Draft CAP should set far more ambitious targets. It should require solar on 60 percent of commercial buildings of any size that are solar compatible and 50 percent of residential buildings by 2025, and 100 percent of all solar compatible buildings by 2030.

The Draft CAP also does not specify *how much* solar must be installed on buildings; by its own terms, a single small panel could be installed on a building, and that building could potentially count towards the goals. As with other sections of the Draft CAP, the Draft CAP does not explain or provide data (e.g., in appendices) how the anticipated GHG mitigation potential is supported by the target.

Once again, the proposed mitigation strategies or “Actions” fall far short of even meeting the Draft CAP’s existing targets. For instance, Action SE17 simply promises that the County will “encourage 100% renewable energy resource mix by 2025.” (Draft CAP at 72.) The severity and urgency of the climate crisis requires governments to do far more than simply “encourage” positive steps—the climate crisis (and state laws and policies) *requires* far more aggressive actions.

Moreover, the Draft CAP should strengthen the County’s role in supporting the community choice aggregation program. More specifically, the Draft CAP should include a no-cost subscription program for low-income families as well as tenants to participate. Such programs could be funded by creating a Community Energy Benefits Fund that would then be overseen by citizen task force or other non-governmental body—the Portland Clean Energy Fund illustrate of how such a program could function. Another example is East Bay Community Energy, which serves Alameda County.

XIV. The Draft CAP Fails to Contain Any Clear Plan To Support Strategy 16, Conserve Forests and Working Lands

The Center supports the conservation of forests and working lands. The Center also supports the targets to increase urban tree canopy. However, the Draft CAP fails to acknowledge how this plan fits into other related plans and programs. In particular, the City of Los Angeles is currently moving forward with a “Safe Sidewalks” initiative that will likely result in the destruction of many thousands of urban trees.¹⁰

Moreover, the Center supports Action A1 – supporting “the preservation of agricultural and working lands, including rangelands, and restore forest lands, by limiting the conversion of these lands to residential or other uses through tools such as the creation of agricultural easements, particularly within high climate-hazard areas and SEAs.” (Draft CAP at 87.) Yet, as outlined in our comments on the Draft Sustainability Plan, the County has a pattern and practice of *approving* large-scale development in rangelands and forest lands, particularly in high fire hazard areas. (See Attachment 1 at p. 4.) Action A1’s unenforceable promise to “limit” such conversion is unavailing and fails as a CEQA mitigation measure. (Draft CAP at 87.)

XV. The Draft CAP Fails to Identify Funding Sources for Mitigation Strategies.

As noted above, in *Sierra Club v. County of San Diego* (2014) 231 Cal.App.4th 1152, the Court of Appeal determined that measures in a CAP were insufficient when they were not adequately funded. (*Id.* at 1168-1169.) Here, the various “actions” in the Draft CAP acknowledge that funding will be required (using icons ranging from a \$ to \$\$\$\$\$), but fail to include a specific estimate of how much funding may cost, or identify an available source of funding. Similarly, the handful of sentences in the Implementation Plans “identification of funding sources” provide no specificity nor commitment for funding any of the Draft CAP’s Actions. (See Draft CAP at 92.) This renders the Draft CAP inadequate as a CEQA streamlining document. Moreover, this omission calls into question whether any of the programs outlined in the Draft CAP will ever be implemented.

XVI. The Draft EIR Should Provide Further Detail on Mitigation Measures for Individual Projects.

The Center understands that the County will be preparing an EIR for the CAP. (See, e.g., Draft CAP at 15 [“With the adopted CAP, project-specific environmental documents that incorporate applicable CAP actions can “tier off” the environmental document adopted for the CAP to meet project-level CEQA evaluation requirements for GHG emissions.”].) In addition, CEQA Guidelines section 15183.5(b)(1)(F) requires that a climate action plan be adopted in a public process “after environmental review.” Subdivision (b)(2) provides that “[a] plan for the reduction of greenhouse gas emissions, once adopted following certification of an EIR or adoption of an environmental document, may be used in the cumulative impacts analysis of later project.”

¹⁰ Safe Sidewalks LA, Draft Environmental Impact Report, available at <https://sidewalks.lacity.org/environmental-impact-report>.

The Center hereby requests a minimum 90-day comment period for the Draft EIR in order to allow for adequate review by the public, particularly given the importance of the document for region-wide planning and the complexity of the issues. We hope that the Draft EIR and next draft of the CAP include and evaluate clear and enforceable measures to put the County on track to reach each of the statewide goals.

XVII. Conclusion

Thank you for the opportunity to submit comments on the Draft CAP. The Center strongly supports many of the goals of the Draft CAP. But these goals are not supported by clear, enforceable, and funded policies. The Center urges the County to significantly revise the CAP in order to address these deficiencies.

Please do not hesitate to contact us if you would like to meet to further discuss these issues.

Sincerely,



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(attached via OneDrive link)

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Attachment 1



May 24, 2019

Sent via email and FedEx

Los Angeles County Chief Sustainability Office
Kenneth Hahn Hall of Administration
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Los Angeles, California 90012
sustainability@lacounty.gov

Re: Comments on Discussion Draft of Los Angeles Countywide Sustainability Plan

Dear Los Angeles County Chief Sustainability Office:

These comments are submitted on behalf of the Center for Biological Diversity (“Center”) regarding the Discussion Draft of the Los Angeles Countywide Sustainability Plan (“Draft Plan”). The Center appreciates the Chief Sustainability Office’s efforts in developing the Draft Plan and generally supports the goals of the Draft Plan. We urge the Chief Sustainability Office and the Los Angeles County Board of Supervisors (“Board”) to ensure that the strategies and policies supporting these goals are clear and enforceable.

A. Background on the Center for Biological Diversity.

The Center for Biological Diversity (“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 one million members and online activists throughout California and the United States. The Center has worked for many years to protect imperiled plants and wildlife, open space, air and water quality, and overall quality of life for people in Los Angeles County.

B. The Center Urges Stronger Buffers to Ensure Healthy Community Environments.

We strongly support Goals 1 and 4—“resilient and healthy community environments where residents thrive in place” and opportunities for residents and businesses to “transition to clean economy sectors.” (Draft Plan at 20 & 72.) We also support strong efforts to decrease the public health problems generated by freeways and oil and gas drilling, but are concerned that the proposed targets and actions do not go far enough.

The Plan Should Require Larger Buffers between Sensitive Uses and Freeways

We support “siting of new sensitive uses, such as playgrounds, daycare centers, schools, residences, or medical facilities” farther from freeways, but are concerned that the proposed 500-foot buffers are insufficient. Studies indicate even people **900 to 1200 feet** from freeways experience health impacts and sensitive receptors such as children and the elderly suffer the most. (Lin 2002.) A review of 700 studies concluded that pollution causes asthma attacks in children, the onset of childhood asthma, impaired lung function, premature death and death from cardiovascular diseases, and cardiovascular morbidity. (Health Effects Institute 2010.) The Health Effects Institute study concluded that the “exposure zone” was 300 to 500 meters from the highways (984 feet to 1640 feet). (*Id.*) Other studies have reached similar conclusions. (Suglia 2008.) Living near expressways also increases the likelihood that residents will suffer from dementia. (Chen 2017.) The University of Southern California’s Environmental Health Centers have also collected data and studies showing risks and health impacts to pregnant women, babies, children, teenagers, adults, and seniors of living by a freeway.¹

The Plan Should Require 2500-foot Setbacks to Separate Oil and Gas Facilities from Homes

We would like to emphasize our support for the Draft Plan’s inclusion of a series of actions to address the disproportionate exposure of low-income communities of color to fossil fuel extraction and refining (Actions 2, 3, 4, 5 and 7). In addition, we support Action 78 that calls for collaborating with the City of Los Angeles to develop a sunset strategy for oil and gas operations that prioritizes disproportionately impacted neighborhoods. In the final adoption of the plan, we urge the County to incorporate a more specific, concrete and common sense measure that we have supported at the City and County as an ally of the STAND-LA coalition: a 2500-foot setback (or buffer zone) to separate oil and gas facilities from homes, schools and other sensitive land uses, with a plan to phase out existing oil and gas within no more than five years. We are also supportive of the Draft Plan’s inclusion of a commitment to a “Just Transition” that examines the impact of the transition to a cleaner economy and develops strategies for supporting displaced workers and connecting them with meaningful job training and employment opportunities (Actions 56 and 57).

¹ University of Southern California Environmental Health Centers, *References: Living Near Busy Roads or Traffic Pollution*, available at <http://envhealthcenters.usc.edu/infographics/infographic-living-near-busy-roads-or-traffic-pollution/references-living-near-busy-roads-or-traffic-pollution> (collecting studies). See also Tony Barboza and Jon Schleuss, “L.A. keeps building near freeways, even though living there makes people sick,” *Los Angeles Times* (Mar. 2, 2017), available at <http://www.latimes.com/projects/la-me-freeway-pollution/>.

Reducing Asthma and Toxic Emissions through Less VMT

The Center strongly supports decreasing child asthma rates as proposed by the Draft Plan. However, this will not be possible if the Board continues to approve projects that add more unnecessary freeway traffic and air pollution to the region. An example of this is the recently-approved Centennial development approved by the Board, which will add 75,000 new long distance car commuters onto our freeways, increasing air pollution and hindering efforts to reduce toxic emissions.

C. The Center Supports Goal 2 and Urges Implementation of Zero Net Energy Standards.

We support the Plan’s Goal 2—ensuring that “[b]uildings and infrastructure that support human health and resilience.” (Draft Plan at 42.) The Center notes that Action Item 30 envisions the County will “Pilot high performance building standards for new County buildings beyond the current LEED Gold standard, such as Passive House, Zero Net Energy, Net Zero Water, Net Zero Waste...” (Draft Plan at 50.) The Center urges the Plan to require more than just a “pilot” for Zero Net Energy and instead move forward with policies and standards to require zero net energy for new construction.

Zero net energy is feasible, as other projects in the County that have recently been approved include a goal of zero net greenhouse gas emissions. Such projects intend to achieve that goal through reducing onsite greenhouse gas emissions to the greatest extent practicable, but also by offsetting any other emissions through local emissions reductions projects.²

D. The Center Supports Goal 3 and Urges Concrete and Enforceable Policies to Limit Sprawl Development.

The Center strongly supports the Draft Plan’s goal of equitable and sustainable land use and development without displacement. (Draft Plan at 58.) The Center agrees that the way the County “choose[s] to direct that growth has huge implications for the environment, the economy and social equity.” (*Id.*) Likewise, the Center agrees:

Patterns of exurban sprawl and development in high-hazard areas can place major burdens on our infrastructure and public budgets, especially for unincorporated communities where the County of Los Angeles acts as the municipal service provider. Outward growth limits the resources we could otherwise be investing in our existing communities, where we can promote sustainability, health and well-being by improving walkability and promoting a mixture of uses.

(Draft Plan at 58.) The Draft Plan is correct that exurban sprawl imposes a hidden tax on existing communities. Studies recognize that sprawl “may deprive the poor of economic

² See California Department of Fish and Wildlife, *Newhall Ranch Resource and Development Management and Development Plan, Final Additional Environmental Analysis*, Appendix 2.1, available at http://planning.lacounty.gov/assets/upl/case/tr_53108_appendix-2-0-cdfw-final-aea-excerpts.pdf.

opportunity...when jobs, stores, good schools and other resources migrate outward from the core city, poverty is concentrated in the neighborhoods that are left behind.” (Frumkin 2002.) Studies also show that sprawl disproportionately increases costs on local government through increased infrastructure costs. (Litman 2015.) One study found that the external costs of sprawl are around \$500 billion annually and \$650 billion internally. (*Id.*) Sprawl also has significant equity implications—“the abandonment of the metropolitan core leaves inner cities and first-ring suburbs struggling to provide adequate services with an eroded tax base even as growth continues on the periphery.” (Belzer 2002.)

The Draft Plan is also correct that “[u]rban sprawl generally requires expensive and expansive infrastructure networks that drain resources and contribute significantly to greenhouse gas emissions.” (Draft Plan at 60.)

Unfortunately, with the exception of Supervisor Kuehl, the Board has not shown they are serious about curbing urban sprawl. County supervisors just approved one of the biggest urban sprawl projects in California history last month, the 12,000-acre Centennial Specific Plan, on remote wildlands in the northern corner of the County. The Center informed the County that Centennial would result in less investment in existing communities and—as observed by the developer’s own consultants—draw demand away from existing communities in Santa Clarita and San Fernando. The development would also require the construction of a new six-lane freeway (the Northwest 138 Corridor “Improvement Project”), at an initial cost to taxpayers of \$830 million.

The Board also just approved the 1,300-acre Northlake development over the objection of the Santa Monica Mountains Conservancy (and the Center). That project will pave over pristine wildlands, inhibit wildlife connectivity in the region, and disproportionately contribute to greenhouse gas emissions, traffic, and air pollution.

If the County is serious about ending its historical pattern of approving more development in the county’s diminishing wildlands and rangelands, then it needs to adopt strong enforceable policies to meet this goal. Action 44 is a step in the right direction. The Draft Plan states, “Prohibit the conversion of working lands to residential uses, including farms and rangelands.” (Draft Plan at 60.) Such a policy—if it were actually consistently enforced—would be a strong step forward in protecting the County’s natural resources.

E. The Center Supports the Draft Plan’s Target to Limit Discretionary Development in High Fire Areas.

We support Strategy 3E—limiting development in high fire areas. The science is clear that we can no longer continue building new large-scale development in high fire areas. In Southern California, sprawl developments with low/intermediate densities extending into chaparral and sage scrub habitats that are prone to fire have led to more frequent wildfires caused by human ignitions, like arson, improperly disposed cigarette butts, debris burning, fireworks, campfires, or sparks from cars or equipment (Keeley et al. 1999; Keeley and Fotheringham 2003; Syphard et al. 2007; Syphard et al. 2012; Bistinas et al. 2013; Balch et al. 2017; Radeloff et al. 2018). Human-caused fires account for 95% of all fires in Southern California (Syphard et al.

2013), and homes filled with petroleum-based products, such as wood interiors, paint, and furniture, provide additional fuel for the fires to burn longer and spread farther (Keeley et al. 2007). The most numerous and largest fires in Southern California have been caused by equipment and powerlines in the wildland-urban interface, where housing density is low to intermediate (Syphard and Keeley 2015), and leapfrog developments have been found to have the highest predicted fire risk in the County (Syphard et al. 2013).

More development in high fire areas such as chaparral and sage scrub would lead to a dangerous feedback loop of deadly fires and habitat destruction. These habitats are adapted to infrequent (every 30 to 150 years), large, high-intensity crown fire regimes (Pyne et al. 1996; Keeley and Fotheringham 2001), and if these regimes are disrupted, the habitats become degraded (Keeley 2005, 2006a,b; Syphard et al. 2018). When fires occur too frequently, type conversion occurs and the native shrublands are replaced by non-native grasses and forbs that burn more frequently and more easily, ultimately eliminating native habitats and biodiversity while increasing fire threat over time (Keeley 2005, 2006a,b; Syphard et al. 2009; Safford and Van de Water 2014; Syphard et al. 2018). Thus, placing developments in these high fire-prone areas will lead to more frequent fires while degrading the health and biodiversity of Southern California's ecosystems.

Nonetheless, the "actions" in the Draft Plan do not set forth a clear plan to actually limit development in high fire areas. In particular, while the Countywide "Target" states "no new discretionary development in high hazard areas" by 2025, there is no "action" proposed to meet this target. (Draft Plan at 70.) Instead, as mentioned above, the County has been approving large-scale development such as Centennial and Northlake in high fire areas. By approving entitlements for these projects now despite the science showing such development is dangerous, costly, and environmentally harmful, the County is ensuring large-scale development will continue in fire-prone areas for many years.

F. The Center Strongly Supports Goal 5 and Urges The County To Develop a Wildlife Connectivity Ordinance

The Center strongly supports the Draft Plan's goal of thriving ecosystems, habitats, and biodiversity. (Draft Plan at 78.) To realize this goal, the Plan must consider the issue of wildlife connectivity and the effects of suburban development on wild areas, as explained below.

Habitat Connectivity Is Essential for Wildlife Movement and Biodiversity Conservation.

Habitat connectivity is vital for wildlife movement and biodiversity conservation. Limiting movement and dispersal with barriers (*e.g.*, development, roads, or fenced-off croplands) can affect animals' behavior, movement patterns, reproductive success, and physiological state, which can lead to significant impacts on individual wildlife, populations, communities, and landscapes (Trombulak and Frissell 2000; Tewksbury et al. 2002; Cushman 2006; van der Ree et al. 2011; Haddad et al. 2015; Ceia-Hasse et al. 2018). 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. In addition, connectivity between high quality habitat areas in heterogeneous landscapes is important to

allow for range shifts and species migrations as climate changes (Heller and Zavaleta 2009, Cushman et al. 2013). Lack of wildlife connectivity results in decreased biodiversity and degraded ecosystems. Thus, preserving and maintaining natural and created corridors is critical for species and habitat conservation in fragmented landscapes (Gilbert-Norton et al., 2010).

Wildlife connectivity and migration corridors are important at the local, regional, and continental scale. Local connectivity that links aquatic and terrestrial habitats would allow various sensitive species to persist, including state- and federally-protected California red-legged frogs (*Rana draytonii*), arroyo toads (*Anaxyrus californicus*), and other species. At a regional scale, medium- and large-sized mammals that occur in Los Angeles County, such as mountain lions (*Puma concolor*), bobcats (*Lynx rufus*), gray foxes (*Urocyon cinereoargenteus*), ring-tailed cats (*Bassariscus astutus*), and mule deer (*Odocoileus hemionus*), require large patches of heterogeneous habitat to forage, seek shelter/refuge, and find mates.

Climate Change Is Likely to Significantly Alter Wildlife Behavior and Movement.

A strong, international scientific consensus has established that human-caused climate change is causing widespread harms to human society and natural systems, and climate change threats are becoming increasingly dangerous. In a 2018 *Special Report on Global Warming of 1.5°C* from 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, highlighting the necessity of limiting warming to 1.5°C to avoid catastrophic impacts to people and life on Earth (IPCC 2018). In addition to warming, many other aspects of global climate are changing. 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).

Climate change is increasing stress on species and ecosystems, causing changes in distribution, phenology, physiology, vital rates, genetics, ecosystem structure and processes, and increasing species extinction risk (Warren et al., 2011). A 2016 analysis found that climate-related local extinctions are already widespread and have occurred in hundreds of species, including almost half of the 976 species surveyed (Wiens 2016). A separate study estimated that nearly half of terrestrial non-flying threatened mammals and nearly one-quarter of threatened birds may have already been negatively impacted by climate change in at least part of their distribution (Pacifici et al. 2017). A 2016 meta-analysis reported that climate change is already impacting 82 percent of key ecological processes that form the foundation of healthy ecosystems and on which humans depend for basic needs (Scheffers et al. 2016). Genes are changing, species' physiology and physical features such as body size are changing, species are moving to try to keep pace with suitable climate space, species are shifting their timing of breeding and migration, and entire ecosystems are under stress (Cahill et al., 2012; Chen et al., 2011; Maclean & Wilson, 2011; Parmesan, 2006; Parmesan & Yohe, 2003; Root et al., 2003; Warren et al., 2011). As such, it is imperative that current and future land use planning consider the impacts of climate change on wildlife movement.

Corridor Redundancy Helps Retain Functional Connectivity and Resilience.

Corridor redundancy (*i.e.* the availability of alternative pathways for movement) is important in regional connectivity plans because it allows for improved functional connectivity and resilience. Compared to a single pathway, multiple connections between habitat patches increase the probability of movement across landscapes by a wider variety of species, and they provide more habitat for low-mobility species while still allowing for their dispersal (Mcrae et al., 2012; Olson & Burnett, 2013; Pinto & Keitt, 2008). In addition, corridor redundancy provides resilience to uncertainty, impacts of climate change, and extreme events, like flooding or wildfires, by providing alternate escape routes or refugia for animals seeking safety (Cushman et al., 2013; Mcrae et al., 2008; Mcrae et al., 2012; Olson & Burnett, 2013; Pinto & Keitt, 2008).

Human Development and Associated Noise and Lighting Can Interfere with the Behavior of Local Wildlife Such as Mountain Lions.

Human development and associated noise can degrade adjacent wildlife habitat and behavior. (*See, e.g.,* Slabbekoorn 2008.) For instance, field observations and controlled laboratory experiments have shown that traffic noise can significantly degrade habitat value for migrating songbirds. (Ware et al. 2015.) This finding followed lab results indicating that subjects exposed to 55 and 61 dBA simulated traffic noise exhibited decreased feeding behavior and duration, as well as increased vigilance behavior. (*Id.*) Such behavioral shifts increase the risk of starvation, thus decreasing survival rates. A recent study also highlighted the detrimental impacts of siting development near areas protected for wildlife. The study noted that “Anthropogenic noise 3 and 10 dB above natural sound levels . . . has documented effects on wildlife species richness, abundance, reproductive success, behavior, and physiology.” (Buxton, et al.) The study further noted that “there is evidence of impacts across a wide range of species [] regardless of hearing sensitivity, including direct effects on invertebrates that lack ears and indirect effects on plants and entire ecological communities (e.g., reduced seedling recruitment due to altered behavior of seed distributors).” (*Ibid.*) Moreover, human transportation networks and development resulted in high noise exceedances in protected areas. (*Ibid.*)

There also is strong evidence documenting the effects of human activity specifically on mountain lions. One study found that mountain lions are so fearful of humans and noise generated by humans that they will abandon the carcass of a deer and forgo the feeding opportunity just to avoid humans. (Smith 2017.)³ The study concluded that even “non-consumptive forms of human disturbance may alter the ecological role of large carnivores by affecting the link between these top predators and their prey.” (Smith 2017.) In addition, the study found that mountain lions respond fearfully upon hearing human vocalizations. Another study demonstrates that mountain lions exposed to other evidence of human presence (lighting, vehicles, dogs) will impact mountain lion behavior. (Wilmers 2013.) Other studies documented diet shifts in mountain lions near human development, and recommended minimizing any development in mountain lion habitat. (Smith 2016; *see also* Smith 2015.)

³ *See also* Sean Greene, “How a fear of humans affects the lives of California's mountain lions,” *Los Angeles Times* (June 27, 2017), available at <http://beta.latimes.com/science/sciencenow/la-sci-sn-pumas-human-noise-20170627-story.html>.

Additional studies similarly documented that mountain lions avoid “urban, agricultural areas, and roads and prefer[] riparian areas and more rugged terrain.” (Zeller 2017; *see also* Vickers 2015.) One study found that over half (55 percent) of radio collared mountain lions in urban areas did not survive, and the majority were killed by humans either by vehicle strikes or using depredation permits. (Vickers 2015.) As such, the Plan should include policies to minimize development in open space areas, as “edge effects” from such development can interfere with animal behavior and movement.

Creating and Enhancing Wildlife Crossings Is Critical to Maintaining Healthy Ecosystems.

We recommend that the Draft Plan include stronger policies to promote wildlife movement and/or include a goal to develop a county wildlife connectivity ordinance. Enhanced connectivity helps sustain functional ecosystems and ensure public safety. Although natural, existing corridors in fragmented landscapes have been shown to have more wildlife movement compared to created corridors (Gilbert-Norton et al., 2010), crossing structures combined with setbacks at the entrances and exits are useful as retroactive restoration in areas where existing roads have high incidence of wildlife vehicle conflict or where species movement has been severely impacted. When appropriately implemented, wildlife crossing infrastructure has been shown to improve wildlife permeability and reduce wildlife vehicle collisions (Bissonette & Rosa, 2012; Dodd Jr. et al., 2004; Dodd et al., 2012; Kintsch et al., 2018; Sawaya et al., 2014; Sawyer et al., 2012).

Outside of California many other states and jurisdictions have been proactively addressing wildlife connectivity issues. For example, Arizona, Colorado, and Wyoming have seen 80-96% reductions in wildlife vehicle collisions while gradually increasing the level of wildlife permeability over time (it appears that some species take more time than others to adapt to crossings) on sections of highways where they have implemented wildlife crossing infrastructure, such as underpasses, culverts, overpasses, wildlife fencing, and escape ramps (Dodd et al., 2012; Kintsch et al., 2017; Kintsch et al., 2018; Sawyer et al., 2012). Utah just completed the state’s largest wildlife overpass at Parleys Canyon for moose, elk, and deer. Washington State is about to complete its largest wildlife overpass on I-90, which is anticipated to provide habitat connectivity for a wide variety of species between the North and South Cascade Mountains. The overpass cost \$6.2 million as part of a larger \$900 million expansion project that will include multiple wildlife crossings along a 15-mile stretch of highway. Savings from less hospital bills, damage costs, and road closures from fewer wildlife vehicle collisions will make up those costs in a few years (Valdes 2018). State and local officials are actively pursuing these types of projects because of the benefits for wildlife connectivity, public safety, and the economy. And in neighboring Ventura County, the Board of Supervisors recently adopted a first-of-its-kind ordinance to protect wildlife connectivity.

The Draft Plan Should Provide Clear Action Items To Support Wildlife Connectivity

We are concerned that the action items proposed in the Draft Plan are insufficient to support Goal 5. In particular, lacking from the action items is any clear plan for ensuring habitat connectivity within the region.

Instead, it appears that the County has not prioritized this issue. For instance, the County General Plan EIR anticipated a significant adverse effect on wildlife movement.⁴ The California Department of Fish and Wildlife (“CDFW”) urged the County to develop mitigation opportunities for wildlife connectivity, since such “opportunities for wildlife corridors and nursery sites are best established during large scale planning efforts such as this General Plan.” CDFW noted that “Wildlife corridor areas can be delineated and set aside in the General Plan for current and future conservation efforts. An assessment could be placed on development within the Project area to secure the acquisition of these critical linkages and sites, therefore reducing impacts to wildlife corridors and nursery sites and ensuring biological diversity.”⁵ The County did not implement CDFW’s recommendations.

The Plan should include a goal to develop a wildlife connectivity ordinance. Moreover, while the proposed “actions” to support Goal 5 are all helpful measures, more is needed. The Plan should incorporate policies that support an “urban growth boundary.” Urban growth boundaries have been used in other jurisdictions as a tool to encourage development in or near existing communities while leaving natural areas undeveloped. Without a clearly defined urban growth boundary, developers will continue to propose—and the Board will continue to approve—development in wild and fire-prone areas, which will further inhibit wildlife connectivity while increasing traffic and air pollution.

G. The Center Supports Goals 7 and 8 and Encourages Stronger Policies To Reduce VMT.

We support Goals 7 and Goal 8—a fossil fuel-free LA County with convenient, safe and affordable transportation that reduces car dependency. However, the targets and associated actions do not include sufficiently ambitious goals to reduce vehicle miles travelled (“VMT”). The Draft Plan’s aims for “[a]t least 15% of all trips will be by foot, bike, micromobility, or public transit.” (Draft Plan at 108.) This means that even if this target is met, in six years 85 percent of trips in the County will still be by car. The Draft Plan should call for much stronger measures to reduce single occupancy vehicle trips and VMT. The best way to do this is to limit development in areas far from existing cities that generate high VMT and limit new freeway development, which induces additional VMT.

The December 2018 Technical Advisory issued by the Governor’s Office of Planning and Research (the “VMT Report”)⁶ contains helpful guidance and analysis that could be

⁴ County of Los Angeles, *Los Angeles County General Plan Update Draft Environmental Impact Report* (June 2014), available at http://planning.lacounty.gov/assets/upl/project/gp_2035_deir.pdf.

⁵ County of Los Angeles, *Los Angeles County General Plan Update Final Environmental Impact Report* (March 2015), available at http://planning.lacounty.gov/assets/upl/project/gp_2035_lac-gpu-final-eir-final.pdf.

⁶ The VMT Report is available at http://opr.ca.gov/docs/20190122-743_Technical_Advisory.pdf.

incorporated into the Draft Plan. For instance, the VMT Report states that land use decisions to reduce GHG emissions associated with the transportation sector are crucial in order to meet the GHG reductions set forth in SB 375. (VMT Report at 3.) The VMT Report further notes that California cannot meet its climate goals without curbing single-occupancy vehicle activity; land use patterns and transportation options will need to change to support reductions in VMT. (*Id.* at 10.) The VMT Report also proposes a “per capita” or “per employee” threshold of 15 percent below existing development as a reasonable threshold. (*Id.* at 10.) The VMT Report reiterates the conclusion of the California Air Resources Board that “there is a gap between what SB 375 can provide and what is needed to meet the State’s 2030 and 2050 goals.” (*Id.*)

The VMT Report confirms that VMT-intensive development impacts human health and the environment: “Human health is impacted as increases in vehicle travel lead to more vehicle crashes, poorer air quality, increases in chronic diseases associated with reduced physical activity, and worse mental health. Increases in vehicle travel also negatively affect other road users, including pedestrians, cyclists, other motorists, and many transit users. The natural environment is impacted as higher VMT leads to more collisions with wildlife and fragments habitat. Additionally, development that leads to more vehicle travel also tends to consume more energy, water, and open space (including farmland and sensitive habitat). This increase in impermeable surfaces raises the flood risk and pollutant transport into waterways.” (VMT Report at 3.) As such, if the County took strong steps to reduce VMT, it would have co-benefits of better air quality, decreased chronic disease, decreased wildlife-vehicle collisions, and less habitat fragmentation.

The VMT Report further states that roadway expansion projects can induce substantial VMT such that the environmental reviews should incorporate quantitative estimates of induced VMT. (VMT Report at 23.) The VMT Report explains that “[b]uilding new roadways, adding roadway capacity in congested areas, or adding roadway capacity to areas where congestion is expected in the future, typically induces additional vehicle travel.” (*Id.* at 24.) The Plan should thus contain policies to discourage unnecessary highway development and instead focus infrastructure resources on alternative transportation projects.

H. Conclusion

Thank you for the opportunity to submit comments on the Draft Plan. Again, the Center strongly supports the goals of the Draft Plan. But if the goals in the plan are not supported by clear and enforceable policies, then the final Plan will be ineffective in achieving these goals.

Los Angeles County’s traffic jams, air pollution, fragmented wildlife habitat, and diminishing wildlands are a legacy of poor planning decisions made by local officials, often made under pressure from profit-driven developers. Unfortunately Los Angeles County and its Board have continued to approve costly, dangerous, and environmentally-damaging development despite (1) strong public opposition and (2) science confirming that such development is inappropriate in light of the climate crisis, extinction crisis, and the risks of building in fire-prone landscapes.

The Center urges the Chief Sustainability Office and Board to use this Plan as a means to establish a new vision for Los Angeles County that supports healthy communities and healthy wildlands. For such a vision to become reality, it must be supported by clear, binding, and legally enforceable policies. As long as such policies are vague or absent, developers will continue proposing—and officials will likely keep approving—projects that take the county in the wrong direction.

Please do not hesitate to contact the Center at the number or email listed below.

Sincerely,

A handwritten signature in blue ink, appearing to read 'J.P. Rose', with a stylized flourish at the end.

J.P. Rose
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(Attached on CD)

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Attachment 2

1 Hon. Nancy Case Shaffer
2 Superior Court for the County of Sonoma
3 3035 Cleveland Avenue, Suite 200
4 Santa Rosa, CA 95403
5 Telephone: (707) 521-6729

FILED
SUPERIOR COURT OF CALIFORNIA
COUNTY OF SONOMA

JUL 20 2017

BY M. Conley
Deputy Clerk

8 SUPERIOR COURT FOR THE STATE OF CALIFORNIA
9 COUNTY OF SONOMA

11 CALIFORNIA RIVERWATCH,
12 Petitioner,
13 v.
14 COUNTY OF SONOMA, ET AL.
15 Defendants.
16

Case No.: SCV-259242

ORDER GRANTING PETITION
FOR WRIT OF MANDATE

18 This matter was tried to the court on March 23, 2017, the Honorable Nancy Case
19 Shaffer presiding. The Law Office of Jack Silver and Jerry Bernhaut and Jack Silver
20 appeared on behalf of Petitioner; the Office of Sonoma County Counsel and Bruce Goldstein
21 and Verne Ball appeared on behalf of Respondent Sonoma County Regional Climate
22 Protection Authority. At the conclusion of the hearing, the court ordered further briefing.
23 The matter was deemed submitted on April 21, 2017, when all briefs were submitted.

24 I. SUMMARY OF RULING

25 The court finds that the Sonoma County Regional Climate Protection Authority's Final
26 Programmatic EIR ("the PEIR") for Climate Action 2020 and Beyond, its Climate Action
27 plan ("CAP") and the County of Sonoma's approval of the CAP violate CEQA, in that the
28 inventory of greenhouse gas emissions is based on insufficient information; the PEIR fails to

1 include effectively enforceable, clearly defined performance standards for the mitigation
2 measures regarding Green House Gas ("GHG") emissions, identified as "GHG Reduction
3 Measures;" and fails to develop and fully analyze a reasonable range of alternatives.

4 Accordingly, the approval of the PEIR was a prejudicial abuse of discretion by
5 Respondent. Given the lack of information and other material defects, as a matter of law the
6 PEIR cannot fulfill its basic CEQA purpose as an information document.

7 The court finds that there is insufficient information in the administrative record to
8 support the factual conclusion that the CAP will achieve its fundamental purpose of reducing
9 Respondent's countywide GHG emissions to the stated target of 25% below 1990 levels by
10 2020.

11 I. FACTS

12 Petitioner seeks a writ of mandate overturning Respondent's certification and of a
13 Final Programmatic EIR (the PEIR) for its Climate Action Aplan (CAP) and the approval of
14 the CAP on the grounds that the approvals violate CEQA.

15 A. The Project

16 The CAP Project is a planning-level document to guide analysis of the greenhouse gas
17 (GHG) impacts of future projects in the county.

18 In 2006, the California legislature passed AB 32, the Global Warming Solutions Act
19 (the Act) which, among other things, establishes a statewide goal of achieving 1990-level
20 GHG impacts by 2020.

21 CEQA Guideline 15183.5 allows agencies to adopt an overall long-range plan such as
22 a general plan or similar plan governing GHG analysis of subsequent projects. Respondent
23 adopted the CAP in accord with Guideline 15183.5 as a method of providing an overall *tiered*
24 *analysis* of GHG impacts in subsequent projects as a method of complying with the Act's
25 mandate. (1 AR 4, 10.)
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B. The Petition for Writ of Mandamus

Petitioner argues that the EIR fails to provide an accurate description of the existing conditions or a means for calculating GHG emissions; that the PEIR contains inadequate mitigation measures, alternatives analysis, or response to public comments.

Respondent opposes the petition, contending that Petitioner relies on non-existent requirements in 15183.5; that Petitioner fails to discuss the substantial evidence in the record, that the EIR sufficiently discusses existing conditions; that the PEIR properly discloses methodology; that the CAP is not a mitigation measure and does not need to contain mitigation measures; that substantial evidence supports the CAP emissions reduction estimates; that the alternatives analysis complies with CEQA; that Petitioner failed to exhaust administrative remedies on the responses to comments; and that Petitioner has demonstrated no prejudicial error.

II. ANALYSIS

A. Request for Judicial Notice

The court grants, in full, Respondents' request to take judicial notice of certain government and regulatory documents, including a statement from the Natural Resources Agency on amendments to the Guidelines regarding GHG emissions; the California Air Resources Board ("CARB") Climate Change Scoping Plan; the CARB draft 2030 Target Scoping Plan Update; the County of Napa CAP; Guideline 15183.5, AB32, and SB 97; and the lodgment of the record in this case.

B. CEQA

An EIR is required for a project which substantial evidence indicates may have a significant effect on the environment. (Guidelines for the Implementation of CEQA (Guidelines), 14 CCR section 15063(b)¹; PRC sections 21100, 21151.) EIRs are, in the words

¹These are at 14 Cal Code Regs §§ 15000, *et seq.* Courts should at a minimum afford great weight to the Guidelines except when a section is clearly unauthorized or erroneous under CEQA. *Laurel Heights Improvement Ass'n v. Regents of Univ. of Cal. (Laurel Heights I)* (1988) 47 Cal.3d 376, 391, fn 2; *Sierra Club v. County of Sonoma* (1992) 6 Cal.App.4th 1307, 1315.

1 of the California Supreme Court, “the heart of CEQA.” *Laurel Heights Improvement Assn. v.*
2 *Regents of the University of California* (1988) 47 Cal.3d 376, 392 (*Laurel Heights I*).

3 The ultimate mandate of CEQA is “to provide public agencies and the public in
4 general with *detailed information* about the effect [of] a proposed project” and to minimize
5 those effects and choose possible alternatives. (emphasis added) (PRC 21061.) The public
6 and public participation hold a “privileged position” in the CEQA process based on
7 fundamental “notions of democratic decision-making.” (*Concerned Citizens of Costa Mesa,*
8 *Inc. v. 32nd District Agricultural Association* (1986) 42 Cal.3d 929, 936.)

9 As a fundamental benchmark that generally applies to all issues in CEQA the court, is
10 that the court, in considering an issue, should look to see if “the public could discern... the
11 ‘analytic route the... agency traveled from evidence to action.’” (See *Al Larson Boat Shop*
12 *Inc. v. Bd. of Harbor Commissioners* (1993) 18 Cal.App.4th 729, 749; see also *Topanga Assn.*
13 *for a Scenic Community v. County of Los Angeles* (1974) 11 Cal.3d 506, 513-514, 522.)

14 The burden of investigation rests with the government and not the public. (*Lighthouse*
15 *Field Beach Rescue v. City of Santa Cruz* (2005) 131 Cal.App.4th 1170, 1202.)

16 **C. Standard of review**

17 **1. Preliminary Basis for Standard of Review**

18 The standard of review is in dispute here. This dispute arises out of the divergent
19 characterizations of the issues by the parties.

20 Public Resources Code section 21168 provides that when a court reviews a
21 determination, finding, or decision of a public agency, "as a result of a proceeding in which
22 by law a hearing is required to be given, evidence is required to be taken and discretion in the
23 determination of facts is vested in a public agency ... the court shall not exercise its
24 independent judgment on the evidence but shall only determine whether the act or decision is
25 supported by substantial evidence in the light of the whole record." However, review is *de*
26 *novo* when the court must determine whether the agency has prejudicially abused its
27 discretion either by failing to proceed in the manner required by law or by reaching a decision
28 that is not supported by substantial evidence. (*Laurel Heights I, supra* 47 Cal.3d 392, fn.5.)

1 “[A] reviewing court must adjust its scrutiny to the nature of the alleged defect, depending on
2 whether the claim is predominantly one of improper procedure or a dispute over the facts.”
3 *Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova* (2007) 40
4 Cal.4th 412, 435 (“*Vineyard*”).

5 As the court explained in *Vineyard*:

6 [A]n agency may abuse its discretion under CEQA either by failing to proceed in the
7 manner CEQA provides or by reaching factual conclusions unsupported by substantial
8 evidence. (§21168.5.) Judicial review of these two types of error differs significantly:
9 while we determine de novo whether the agency has employed the correct procedures,
10 “scrupulously enforc[ing] all legislatively mandated CEQA requirements” (*Citizens of*
11 *Goleta Valley v. Board of Supervisors* (1990) 52 Cal.3d 553, 564...), we accord greater
12 deference to the agency's substantive factual conclusions. In reviewing for substantial
13 evidence, the reviewing court “may not set aside an agency's approval of an EIR on
14 the ground that an opposite conclusion would have been equally or more reasonable,”
15 for, on factual questions, our task “is not to weigh conflicting evidence and determine
16 who has the better argument.”(*Laurel Heights I, supra*, 47 Cal.3d at p. 393....)²

17 While courts must give deference as to substantive factual decisions, courts demand
18 strict compliance with “legislatively mandated CEQA requirements.” (*Citizens of Goleta*
19 *Valley v. Bd. of Supervisors* (1990) 52 Cal.3d 553, 564 (*Goleta II*)). A Respondent is entitled
20 to no deference where the law has been misapplied, or where the decision was based on “an
21 erroneous legal standard.” (*East Peninsula Educ. Council, Inc. v. East Peninsula Unif. Sch.*
22 *Dist.* (1989) 210 Cal.App.3d 155, 165.)

23 Courts must ‘determine de novo whether the agency has employed the correct
24 procedures, “scrupulously enforc[ing] all legislatively mandated CEQA requirements”....’
25 (*Vineyard Area Citizens for Responsible Growth, supra*, 40 Cal.4th 435, citing *Goleta II*, 52
26 Cal.3d at 564.) *Failure to include required information is a failure to proceed in the manner*
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28

² *Laurel Heights I* is *Laurel Heights Improvement Assn. v. Regents of University of California* (1988) 47 Cal.3d 376, 400 (*Laurel Heights I*

1 required by law and demands strict scrutiny. (*Sierra Club v. State Bd. of Forestry* (1994) 7
2 Cal.4th 1215, 1236; *Vineyard, supra*, 40 Cal.4th at 435.) The court reviews the PEIR here de
3 novo.

4 Nevertheless, agency actions are presumed to comply with applicable law unless the
5 petitioner presents proof to the contrary. (Evid. Code § 664; *Foster v. Civil Service*
6 *Commission of Los Angeles County* (1983) 142 Cal.App.3d 444, 453.) The petitioner in a
7 CEQA action thus has the burden of proving that an EIR is insufficient. (*Al Larson Boat*
8 *Shop, Inc. v. Board of Harbor Commissioners* (1993) 18 Cal.App.4th 729, 740.)

9 **2. Standard of Review: Substantial-Evidence Test**

10 The substantial-evidence test applies to substantive issues in a decision certifying an
11 EIR. The court must uphold the decision if it is supported by substantial evidence in the
12 record as a whole. (*Bowman v. City of Petaluma* (1986) 185 Cal.App.3d 1065, 1075; see
13 *River Valley Preservation Project v. Metropolitan Transit Dev. Bd.* (1995) 37 Cal.App.4th
14 154, 166; see *Santa Teresa Citizen Action Group v. City of San Jose* (2003) 114 Cal.App.4th
15 689, 703. The “substantial evidence” test requires the court to determine “whether the act or
16 decision is supported by substantial evidence in the light of the whole record.” (*Chaparral*
17 *Greens v. City of Chula Vista* (1996) 50 Cal.App.4th 1134, 1143; *River Valley Preservation*
18 *Project v. Metropolitan Transit Develop. Bd.* (1995) 37 Cal.App.4th 154, 168.)

19 When applying the substantial-evidence standard, the court must focus not upon the
20 “correctness” of a report’s environmental conclusions, but only upon its “sufficiency as an
21 informative document.” (*Laurel Heights I* 47 Cal.3d at 393.) The findings of an administrative
22 agency are presumed to be supported by substantial evidence. (*Taylor Bus. Service, Inc. v.*
23 *San Diego Bd. of Education* (1987) 195 Cal.App.3d 1331.) The court must resolve reasonable
24 doubts in favor of the findings and decision. (*Id.*)

25 A claim that the EIR lacks *sufficient* information regarding an issue will be treated as
26 an argument that the EIR is not supported by substantial evidence. (*Barthelemy v. Chino*
27 *Basin Munic. Water Dist.* (1995) 38 Cal.App.4th 1609, 1620.) The petitioners in *Barthelemy*
28

1 asserted that it was a failure to proceed in the manner required by law where an EIR did not
2 include key information. The court rejected that argument.

3 **a) The Definition of “Substantial Evidence”**

4 Substantial evidence is “enough relevant information and reasonable inferences” to
5 allow a “fair argument” supporting a conclusion, in light of the whole record before the lead
6 agency. (14 CCR § 15384(a); PRC §21082.2; *City of Pasadena v. State of California* (2nd
7 Dist.1993) 14 Cal.App.4th 810, 821-822.) Other decisions define “substantial evidence” as
8 that with “ponderable legal significance,” reasonable in nature, credible, and of solid value.
9 (*Stanislaus Audubon Society, Inc., v. County of Stanislaus* (1995) 33 Cal.App.4th 144.)

10 Substantial evidence includes facts, reasonable assumptions predicated upon facts,
11 and expert opinion supported by facts. (PRC §21082.2(c); see also Guidelines 15064(g)(5),
12 15384.) It does not include argument, speculation, unsubstantiated opinion or narrative,
13 clearly incorrect evidence, or social or economic impacts not related to an environmental
14 impact. (Guideline 15384.)

15 **3. Prejudicial Abuse of Discretion**

16 A court may only issue a writ in a CEQA case for an abuse of discretion, including
17 making a finding without substantial evidence, if the error was *prejudicial*. (*Chaparral*
18 *Greens v. City of Chula Vista* (1996) 50 Cal.App.4th 1134, 1143.) The court must defer to the
19 agency’s substantive conclusions and uphold the determination unless. ((Id); see PRC §
20 21168, 21168.5, *Laurel Heights I, supra*, 47 Cal.3d at 392, fn.5; Remy, et al., Guide to the
21 California Environmental Quality Act (10th Ed.1999) Chapter XI (D), p.590.)

22 **4. Tiered EIRs**

23 As discussed further below, the PEIR here is a tiered EIR prepared in accordance with
24 Guideline 15183.5, which specifically allows for preparation of an overall, first-tier EIR and
25 planning document to govern analysis of GHG emissions and control GHG emissions in order
26 to comply with the statewide mandates to reduce GHG emissions.
27

28 A tiered EIR scheme allows an agency to produce a general EIR focusing on an
overall plan or policy and later conduct more limited, narrow subsequent EIR review for

1 individual projects within the broad plan or scope of the original, general EIR. (PRC 21068.5,
2 21093(a); Guideline 15152; *Koster v. County of San Joaquin* (1996) 47 Cal.App.4th 29, 36.)

3 “Tiering” is defined in PRC 21068.5 as:

4 coverage of general matters and environmental effects in an [EIR] prepared for a
5 policy, plan, program or ordinance followed by narrower or site-specific [EIRs] which
6 incorporate by reference the discussion in any prior [EIR] and which concentrate on
7 the... effects which (a) are capable of being mitigated, or (b) were not analyzed... in
8 the prior [EIR].

9 In other words, it is ‘a process by which agencies can adopt programs, plans, policies, or
10 ordinances with EIRs focusing on “the big picture” and can use streamlined CEQA review for
11 individual projects that are consistent with such... [first tier plans]....’ (*Koster v. County of*
12 *San Joaquin* (3d Dist. 1996) 47 Cal.App. 4th 29, 36.) The later EIRs need not repeat the
13 analysis or revisit the issues from the original EIR. (Guideline 15385.)

14 Guideline 15152 is the overall provision governing first-tier documents in general and
15 in its detailed discussion demonstrates clearly what such documents must do, what they must
16 include, and how they may be used.ⁱ Environmental impact reports “shall be tiered whenever
17 feasible, as determined by the lead agency.” (PRC 21093(b).) This “is needed in order to
18 provide increased efficiency in the CEQA Process. It allows agencies to deal with broad
19 environmental issues in EIRs at planning stage and then to provide more detailed examination
20 of specific effects....These later EIRs are excused by the tiering concept from repeating the
21 analysis of the broad environmental issues examined in the [first tier] EIRs.” (Discussion
22 following Guideline 15385.)

23 PRC 21094(c) states that “[f]or purposes of compliance with this section, an initial
24 study shall be prepared to assist the lead agency in making the determinations required by this
25 section.”

26 27 **C. GREENHOUSE GAS EMISSIONS**

28 The Global Warming Solutions Act (“the Act”) ‘implements deep reductions in
greenhouse gas emissions, recognizing that “[g]lobal warming poses a serious threat to the

1 economic well-being, public health, natural resources, and the environment of California...”
2 (Health & Saf.Code, § 38501, subd. (a).) Through this enactment, the Legislature has
3 expressly acknowledged that greenhouse gases have a significant environmental effect.’
4 (*Communities for a Better Environment v. City of Richmond* (2010) 184 Cal.App.4th 70, 91
5 (*CEB*).) Guideline 15183.5 governs tiering and streamlining the analysis of GHG
6 emissions.ⁱⁱ Subdivision (b) sets forth the specific things such a plan should do.

7 **1. The Role of the CAP in Subsequent GHG Analysis**

8 A key issue is the ultimate role this CAP will play in subsequent GHG analysis of
9 future projects. Here neither party clearly addresses the intended role and effect of the CAP
10 in the review of subsequent projects.

11 The CAP at 1013-1016 generally indicates that the CAP is intended to eliminate any
12 need to conduct any GHG analysis in future discretionary projects that comply with the CAP.
13 Specifically, the introduction to the checklist of standards and measures, states that:

14 Discretionary projects that utilize the checklist, as modified by the individual agency,
15 and can demonstrate consistency with all applicable mandatory local or regional
16 measures in the CAP, can conclude that their impacts related to [GHG] emissions
17 would be less than significant under CEQA because the project would be consistent
18 with a qualified GHG reduction plan under... Guidelines Section 15183.5.

19 The introduction then quotes 15183.5(b) and (b)(2) in part as follows:

20 (b) Pursuant to sections 15064(h)(3) and 15130(d), a lead agency may determine that a
21 project's incremental contribution to a cumulative effect is not cumulatively
22 considerable if the project complies with the requirements in a previously adopted
23 plan or mitigation program under specified circumstances.

24 ...

25 (b)(2) A plan for the reduction of greenhouse gas emissions, once adopted following
26 certification of an EIR or adoption of an environmental document, may be used in the
27 cumulative impacts analysis of later projects. An environmental document that relies
28 on a greenhouse gas reduction plan for a cumulative impacts analysis must identify

1 those requirements specified in the plan that apply to the project, and, if those
2 requirements are not otherwise binding and enforceable, incorporate those
3 requirements as mitigation measures applicable to the project.

4 It reiterates that the ‘significance threshold for projects using the checklist for streamlining is
5 “consistency with an applicable plan for the reduction of [GHG] emissions meeting the
6 requirements of...15183.5” ’ All of this indicates an intent that a future project complying
7 with this CAP and its standards and measures need include no independent GHG analysis.

8 **2. Respondent’s Contention That Petitioner Imposes Non-Existent Requirements**

9 Respondent argues, that Petitioner is improperly trying to impose requirements on the
10 CAP that do not exist in Guideline 15183.5. This argument is expressly stated at the start of
11 its brief and is repeated throughout its papers. This argument is itself groundless; it is
12 contrary to the fundamental purpose of CEQA requirements.

13 First, Respondent contends that the Guideline merely gives a list of what such a plan
14 “should” do; not what it “must” do. Although the Guideline does only state what such a plan
15 “should” include, (see end note ii, Guideline 15183.5), it expressly states that it is a tiering
16 mechanism and that it must comply with the standards for first-tier programs or plan EIRs. It
17 is titled “Tiering and Streamlining the Analysis of Greenhouse Gas Emissions.” (Emphasis
18 added.) It begins by explaining that agencies may develop a GHG plan or standards in a plan
19 using a tiering method, governed by the standards for tiering. It states that agencies *may*
20 handle GHG analysis:

21 at a *programmatic* [i.e., first-tier] level, such as in a general plan, a long range
22 development plan, or a separate plan to reduce greenhouse gas emissions. *Later*
23 project-specific environmental documents *may tier from* and/or incorporate by
24 reference that existing programmatic review. Project-specific environmental
25 documents *may* rely on an EIR containing a programmatic analysis of greenhouse gas
26 emissions as provided in *section 15152 (tiering), 15167 (staged EIRs) 15168*
27 *(program EIRs), 15175-15179.5 (Master EIRs), 15182 (EIRs Prepared for Specific*
28 *Plans), and 15183 (EIRs Prepared for General Plans, Community Plans, or Zoning).*

1 (emphasis added.)

2 As noted above, the CAP also makes it clear that, as a first-tier document, it is to be
3 used in such a manner that, if complied with, will excuse the analysis of a future project from
4 revisiting GHG emissions. Therefore, the CAP, and any such plan prepared under 15183.5,
5 must meet the requirements for all first-tier documents and thus must impose effectively
6 enforceable requirements and measures with defied performance standards.

7 Second, although Respondent is correct that the requirements on which Petitioner
8 relies are not necessarily in the Guideline itself, they are applicable to *all* CEQA review and,
9 specifically, to first-tier documents, as explained above. Petitioner's further arguments, such
10 as that the CAP must provide a clear, complete, and accurate GHG "inventory," i.e., the
11 existing GHG emissions associated with activities in the county, are consistent with a
12 standard CEQA mandate, which is that an environmental document must present clear,
13 meaningful information sufficient to allow the agency and public to make an intelligent,
14 informed decision, or, stated another way, sufficient to make clear the analytic route of the
15 agency. (*Concerned Citizens of Costa Mesa, Inc. v. 32nd District Agricultural Association*
16 (1986) 42 Cal.3d 929, 936; *Al Larson Boat Shop Inc. v. Bd. of Harbor Commissioners,*
17 *supra*, 18 Cal.App.4th at 749; *Topanga Assn. for a Scenic Community v. County of Los*
18 *Angeles* (1974) 11 Cal.3d 506, 513-514, 522. Therefore, it must be based on substantial
19 evidence. (See section C.2., above.)
20

21 **3. Existing Conditions**

22 Petitioner first argues that the PEIR fails to describe existing conditions accurately
23 because it limits the range of emissions from vehicles miles traveled (VMT) associated with
24 land-use activities in the county and to and from 18 nearby regional locations. Petitioner
25 contends that the baseline or current GHG emissions level associated with the county should
26 include all VMT for trips associated with activities in the county, not only within the county
27 and to and from the 18 nearby regional locations used in the PEIR and that Respondent thus
28 understates the current GHG emissions. Respondent focuses on two general categories of
VMT omitted from the PEIR: VMTs generated by goods exported from the county to

1 locations beyond (produce, medical equipment, beer, and wine) , and tourist travel to Sonoma
2 County.

3 **a) CEQA Baselines and Quantifying Current GHG Levels**

4 Ordinarily, an EIR must clearly and consistently describe the baseline, which is
5 *normally* the *existing* environmental setting or conditions. The existing conditions, at the time
6 the notice of preparation ("NOP") is published, "normally constitute the baseline physical
7 conditions by which the lead agency determines whether an impact is significant." (Guideline
8 15125(a).) Guideline 15126.2(a) states that the agency "should normally limit its examination
9 to changes in the existing physical conditions in the affected area as they exist at the
10 time...environmental analysis is commenced."

11 Guideline 15183.5(b)(1)(A) sets forth special requirements for GHG first-tier plans
12 such as the CAP. Such plans are required to "[q]uantify greenhouse gas emissions, both
13 existing and projected over a specified time period, resulting from activities within a defined
14 geographic area."

15 Respondent notes that the ordinary requirements governing determination of the
16 "baseline" apply where there is a project that may alter this in of itself in order to determine
17 the extent of any impact which a project will have. (See Guideline 15126.2(a).)

18 **b) VMT Data**

19 The CAP explanation of how it determined the GHG inventory is found at AR 1050,
20 et seq. It used 2010 data because that year includes largely complete or complete activity data
21 for all sectors as needed to calculate GHG levels; this is not challenged by Petitioner. (See
22 AR 1052; Memorandum of Points and Authorities in Support of Petition for Writ of Mandate,
23 9:1-3.) The response to comment at AR 1084 explains that the VMTs were determined by
24 considering the travel in the county plus travel between the county and 18 external "traffic
25 analysis zones" ("TAZ").
26

27 Respondent relies on Guideline 15130(b) which provides that studies of cumulative
28 impacts are guided by "standards of practicality and reasonableness." According to Guideline
15364, "Feasible" means capable of being accomplished in a successful manner within a

1 reasonable period of time, taking into account economic, environmental, legal, social, and
2 technological factors.’ Thus, “[a]n evaluation of the environmental effects of a proposed
3 project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in the light of
4 what is reasonably feasible The courts have looked not for perfection but for adequacy,
5 completeness, and a good faith effort at full disclosure.” (Guideline 15151; see also *Citizens*
6 *to Preserve the Ojai v. County of Ventura, supra*, 176 Cal.App.3d at 429.) Petitioner argues
7 that an agency is “not required to engage in sheer speculation as to future environmental
8 consequences [Citations], [but an] EIR [is] required to set forth and explain the basis for any
9 conclusion that analysis of the cumulative impact of offshore emissions [is] wholly infeasible
10 and speculative.” (*Citizens to Preserve the Ojai, supra*, 176 Cal.App.3d at 430.)

11 Respondent correctly argues that ultimately GHG emissions must be considered in
12 light of their cumulative worldwide impact because of their nature. The Supreme Court in
13 *Center for Biological Diversity v. California Dept. of Fish and Wildlife* (2015) 62 Cal.4th 204,
14 at 219-220, considered a challenge to an agency’s GHG analysis. The Court explained:

15 [W]e address two related aspects of the greenhouse gas problem that inform our
16 discussion of CEQA significance.

17 First, because of the global scale of climate change, *any one project's contribution is*
18 *unlikely to be significant by itself. The challenge for CEQA purposes is to determine*
19 *whether the impact of the project's emissions of greenhouse gases is cumulatively*
20 *considerable*, in the sense that “the incremental effects of [the] individual project are
21 considerable when viewed in connection with the effects of past projects, the effects of
22 other current projects, and the effects of probable future projects.” (§ 21083, subd.
23 (b)(2); see Guidelines, § 15064, subd. (h)(1).) “With respect to climate change, an
24 individual project's emissions will most likely not have any appreciable impact on the
25 global problem by themselves, but they will contribute to the significant cumulative
26 impact caused by greenhouse gas emissions from other sources around the globe. *The*
27 *question therefore becomes whether the project's incremental addition of greenhouse*
28 *gases is ‘cumulatively considerable’ in light of the global problem, and thus*

1 significant.” (Crockett, Addressing the Significance of Greenhouse Gas Emissions
2 Under CEQA: California's Search for Regulatory Certainty in an Uncertain World
3 (July 2011) 4 Golden Gate U. Env'tl. L.J. 203, 207–208 (hereafter Addressing the
4 Significance of Greenhouse Gas Emissions).)

5 Second, the global scope of climate change and the fact that carbon dioxide and other
6 greenhouse gases, once released into the atmosphere, are not contained in the local
7 area of their emission means that *the impacts to be evaluated are also global rather*
8 *than local. For many air pollutants, the significance of their environmental impact*
9 *may depend greatly on where they are emitted; for greenhouse gases, it does not.* For
10 projects, like the present residential and commercial development, which are designed
11 to accommodate long term growth in California's population and economic activity,
12 this fact gives rise to an argument that a certain amount of greenhouse gas emissions is
13 as inevitable as population growth. Under this view, a significance criterion framed in
14 terms of efficiency is superior to a simple numerical threshold because CEQA is not
15 intended as a population control measure.

16 (emphasis added.)

17 Consistent with the Supreme Court’s discussion in that case, the EIR here expressly
18 discusses the global nature of GHG emissions, explaining that “unlike other resource areas
19 that are primarily concerned with localized project impacts... the global nature of climate
20 change requires a broader analytic approach. Although this section focuses on GHG
21 emissions generated as a result of the CAP, the analysis considered them in the context of
22 potential state, national, and global GHG impacts.” (AR 314.) It also noted global GHG
23 concentrations. (AR 81, 106, 316.)

24 The PEIR analysis considered VMT for the county and the 18 TAZs in the region, and
25 only for automobile traffic and “emissions that local governments have primary influence or
26 control over.” (AR 85.) It did not consider travel by other means such as by airplane or
27 emissions over which the local entities have no direct control. (AR 85.) The PEIR explained
28

1 at AR 82 and 85 that it was relying on the International Council for Local Environmental
2 Initiatives (ICLEI) Protocol and that:

3 the ICLEI Community Protocol does not require air travel emissions to be included in
4 the basic emissions necessary for protocol-compliance GHG inventories because it
5 recognizes that local governments have less control over such sources as air travel and
6 that information is often not available to precisely describe an airport's emissions to a
7 specific community.

8 Similarly, it noted that methodologies exist to estimate emissions further afield but associated
9 with local activities but rejected these methodologies because the information might be
10 difficult to obtain or are not "common" approaches. (AR 85-86.) For example, the response
11 to the comment at AR 85-86 stated:

12 [w]hile there are methodologies to estimate upstream emissions..., these
13 methodologies are commonly used to prepare what is known as a "consumption-
14 based" inventory, which estimate the life cycle "carbon footprint" of everything
15 households (and...other consumers) consume. There are also methodologies to
16 estimate "downstream" emissions associated with the transportation, end use, and
17 disposal of goods produced in a jurisdiction, but such methodologies require highly
18 detailed information about the entire downstream supply chain, including the ultimate
19 geographical destination of goods that can be difficult to come by, especially if such
20 data is privately held. While one could estimate emissions using a consumption-based
21 approach of a "downstream" emissions method, these are not the common approach
22 used for community emissions, or national emissions at present, and if used, would
23 make it impossible to compare regional inventories.

24 As a result, the response contends, "nearly every" national, state, and local agency preparing a
25 CAP has used the "activity-based" approach to calculate and define the GHG inventories.
26 (AR 86.) Respondent asserts that by avoiding the methodologies which include upstream or
27 downstream data, and instead using the ICLEI Protocol, the CAP inventory "can be compared
28 to those other communities, using a common standard..." (Ibid.)

1 The question before the court is whether there is information in the record showing
2 that Respondent might or might not feasibly have included the additional data as Petitioner
3 contends, or whether Respondent did not need to include it.

4 Respondent's primary argument that it did not need to include additional emissions
5 estimates is based on its assertion that CEQA only requires an agency to do what is feasible,
6 and further that it need not, and should not, engage in speculation over data that is
7 unknowable. The basic that a public agency is only required to do what is feasible, discussed
8 above, is correct, but Respondent has not persuasively shown that it defeats Petitioner's
9 arguments regarding the need for more information about MVT. The response to comments
10 at AR 84-86 expressly admits that there are methodologies to quantify the additional sources
11 of GHG emissions Petitioner identifies, but did not use them because they are not
12 "commonly" used or the information "can be difficult to come by." This argument does not
13 establish that Respondent had substantial evidence to support its approval.

14 The record, including the admissions in the PEIR shows that Respondent had a
15 feasible ability to include the additional GHG data. Respondent compares the data used in
16 this CAP to that used by other agencies. (AR 86; generally AR 84-86.) This is a logical
17 explanation for employing the ICLEI Protocol used, but it does not demonstrate that it was
18 "infeasible" to obtain the additional MVT data, especially given that Respondent
19 acknowledges that the methodologies exist.

20 Had the EIR explained that it was unable to obtain the necessary information, or that
21 there were no methodologies that it could have used to obtain/include it, Respondent's would
22 have been justified in failing to obtain this data. However, here, Petitioner complains that
23 Respondent appears merely to have avoided including greater, more complete, information
24 based on the assumption that it would be "too much work."

25 The court grants the petition on this point.

26 **D. MITIGATION MEASURES**

27 Petitioner also argues that Respondent failed to adopt "definite, clearly defined and
28 enforceable" mitigations measures. It contends that at least some of the mitigation measures

1 and standards it sets forth are unclear, vague, and not fully enforceable. Petitioner points out
2 that the EIR concludes that the CAP would be “beneficial” and would thus support applicable
3 regulatory plans for reducing GHG emissions, so, it contends, no mitigation for GHG
4 emissions is necessary. (AR 204.)

5 Respondent argues that the CAP is not intended as a mitigation measure. No
6 mitigation is needed because it is a plan to reduce GHG emissions in subsequent projects.

7 What Petitioner contends is not that the CAP and EIR need to adopt mitigation
8 measures for the CAP itself, but instead that the CAP, in setting forth purported mitigation
9 measures for future analysis and handling of GHG emissions, fails to present sufficient clearly
10 defined and enforceable mitigation measures and standards.

11 Respondent points out this is not a “project” in the sense of an activity that will do
12 anything that might create GHG emissions but instead is a plan for handling analysis and
13 mitigation of GHG emissions in future projects. Therefore, there is clearly nothing about this
14 Project to mitigate. Petitioner's contention that the PEIR should imposing sufficiently defined
15 and enforceable mitigations measures, is a different issue.

16 Guideline 15183.5(b)(1)(D) and (E) are instructive. Subdivision (D) states that the
17 plan should “[s]pecify measures or a group of measures, including performance standards,
18 that substantial evidence demonstrates, if implemented on a project-by-project basis, would
19 collectively achieve the specified emissions level. Subdivision (E) states that the plan should
20 “[e]stablish a mechanism to monitor the plan's progress toward achieving the level and to
21 require amendment if the plan is not achieving specified levels.” (Emphasis added.)
22

23 **1. Role and Purpose of Mitigation Measures in CEQA**

24 Mitigation measures are needed, even required, where a project may have a significant
25 impact and the purpose of the measures is to reduce any impact to less than significant. (PRC
26 21003.1(b); Guideline 15002(a)(3).)

27 **2. Deferral of Mitigation**

28 In general, it is improper for an agency to rely on *deferred* mitigation. (*Sundstrom v.*
County of Mendocino (1988) 202 Cal.App.3d 296, 306; *Defend the Bay v. City of Irvine*

1 (2004) 119 Cal.App.4th 1261, 1275-1276.) An agency cannot find a significant impact to be
2 mitigated to a less-than-significant level based on a deferred mitigation measure. (*Sundstrom*
3 *v. County of Mendocino, supra*, 202 Cal.App.3d at 306. It is a violation of CEQA when an
4 agency “simply requires a project applicant to obtain a biological report and then comply with
5 any recommendations that may be made in the report. [Citation.]” (*Defend the Bay v. City of*
6 *Irvine* (2004) 119 Cal.App.4th 1261, 1275; see also *Endangered Habitats League, Inc. v.*
7 *County of Orange* (2005) 131 Cal.App.4th 777, 793.)

8 “Deferral of the specifics of mitigation is permissible where the local entity commits
9 itself to mitigation and lists the alternatives to be considered, analyzed and possibly
10 incorporated in the mitigation plan.” (*Defend the Bay v. City of Irvine* (2004) 119 Cal.App.4th
11 1261, 1275-1276; see also *Sacramento Old City Assn. v. City Council* (1991) 229 Cal.App.3d
12 1011, 1028-1030.) This applies where “mitigation is known to be feasible, but where the
13 practical considerations prohibit devising such measures early,” so that “[w]here future action
14 to carry a project forward is contingent on devising means to satisfy such criteria, the agency
15 should be able to rely on its commitment as evidence that significant impacts will in fact be
16 mitigated.” (*Sacramento Old City Assn., supra*, 229 Cal.App.3d at 1028-1029.)

17 Because of the nature of first-tier tier EIRs, in particular, deferral of the specifics of
18 mitigation measures, as long as they contain clear performance standards, is particularly
19 appropriate and logical. (See, e.g., *Rio Vista Farm Bureau Center v. County of Solano* (1st
20 Dist.1992) 5 Cal.App.4th 351 (“*Rio Vista Farm Bureau*”); *Al Larson Boat Shop Inc. v. Bd. of*
21 *Harbor Commissioners, supra*, 18 Cal.App.4th 729.) In *Rio Vista Farm Bureau*, a first-tier
22 “program EIR” serving as “primary planning document for hazardous waste management in
23 the county” was found to contain sufficient mitigation measures adopted as policies to guide
24 subsequent projects. The court rejected a challenge based on the assertion that the mitigation
25 measures were “vague, inconclusive, and even inconsistent,” finding the measures sufficient
26 “given the broad, nebulous scope of the project under evaluation.” (*Rio Vista Farm Bureau,*
27 *supra*, 5 Cal.App.4th at 376.) The court found that the specificity of mitigation measures
28

1 should be proportionate to the specificity of the underlying project, which in that case was a
2 broad planning document to guide later site-specific projects.

3 The court in *Coastal Hills Rural Preservation v. County of Sonoma* (2016) 2
4 Cal.App.5th 1234, 1258, upholding the trial court’s order denying a CEQA petition for writ of
5 mandate, explained that although “CEQA usually requires mitigation measures to be defined
6 in advance” and not deferred, “deferral [of mitigation measures] is permitted if, in addition to
7 demonstrating some need for deferral, the agency (1) commits itself to mitigation; and (2)
8 spells out, in its environmental impact report, the possible mitigation options that would meet
9 “specific performance criteria” contained in the report.”

10 In *Sundstrom, supra*, the county required future hydrological studies as conditions of a
11 use permit and required that any mitigation measures that the study suggested would become
12 mandatory. This was held to be improper because the impacts and mitigation measures were
13 not determined.

14 The court in *Gentry v. City of Murrieta* (1995) 36 Cal.App.4th 1359 found an Negative
15 Declaration defective because it improperly relied on deferred formulation of specific
16 mitigation measures. There, the city required the applicant to comply with any existing
17 ordinance protecting the Stephens’ kangaroo rat and allowed the city to require a biological
18 report on the rat and compliance with any recommendations in the report. The court found
19 this to be insufficient because it, like the approval in *Sundstrom*, was based on compliance
20 with a report that had not yet even been performed.

21 By contrast, the court in *Schaeffer Land Trust v. San Jose City Council* (1989) 215
22 Cal.App.3d 612, upheld an Negative Declaration for a general plan amendment for a parcel of
23 land which, regarding traffic issues, required any future development to comply with
24 applicable “level of service” standards. Unlike the other cases mentioned above, here the
25 mitigation measures were delayed because the development and impacts were not concrete,
26 but the mitigation was fixed to set standards which, by definition, ensured that there would be
27 no significant impact. Mitigation with deferred specifics was found to satisfy CEQA where
28 the lead agency had committed to mitigation meeting a specified range of criteria and project

1 approval required the developer to obtain permits and adopt seven itemized measures in
2 coordination and consultation with relevant agencies. *Defend the Bay, supra*, 1276.

3 In *Endangered Habitats League, Inc. v. County of Orange* (2005) 131 Cal.App.4th
4 777, 794, the court found a mitigation measure that required replacement habitat preservation
5 to satisfy CEQA even though the specifics were not fully determined but where the approval
6 set forth *specific possibilities and parameters that the mitigation needed to meet*.

7 **3. The Role of the CAP in Subsequent GHG Analysis**

8 The key issue here in determining the sufficiency of mitigation measures is the role
9 this CAP is intended to play in a GHG analysis of future projects. As noted above, one aspect
10 of first-tier plans and EIRs is that they may obviate the need for later projects falling within
11 their ambit to conduct new CEQA review on certain issues where the future projects comply
12 with the first-tier plan. Any later discretionary project that complies with its criteria, such as
13 the standards and requirements it imposes, would not need to do further study of GAG
14 emissions. Accordingly, the standards and requirements the CAP imposes for reducing or
15 minimizing GHG emissions must be considered mitigation measures for purposes of CEQA
16 and must comply with the CEQA requirements. This means that they must set forth clearly
17 defined and enforceable performance standards to be met. Because of the intended
18 streamlining, Petitioner correctly contends that the performance standards and measures set
19 forth the PEIR must be clear, definite, and enforceable.
20

21 Here also, Respondent contends that Petitioner is imposing requirements and standards
22 that do not exist in Guideline 15183.5. Respondent ignores the fundamental CEQA
23 requirements which underlie Petitioner's claims. Respondent contends that Guideline 15183.5
24 does not require mitigation measures for the CAP or within the CAP imposed on future
25 projects. This position not only conflicts with 15183.5 itself, it is fundamentally contrary to
26 the principles of CEQA review.

27 It is axiomatic in CEQA that any measures or requirements imposed be sufficiently
28 defined to be enforceable and that, in the context of tiering, any subsequent project may avoid
analysis of an issue only if it complies with a first-tier document that satisfies CEQA

1 requirements. As noted above, PRC 21094(a) states that where a prior first-tier EIR has been
2 certified and applies to a subsequent project, the agency “*need not examine those effects*
3 *which ... were either (1) mitigated or avoided... as a result of the prior [EIR] or (2) examined*
4 *at a sufficient level of detail in the prior [EIR] to enable those effects to be mitigated or*
5 *avoided by site specific revisions, the imposition of conditions, or by other means....”*

6 Accordingly, to obviate the need to address an issue or impact as part of a later project’s
7 CEQA review, a first-tier plan or program document and EIR must sufficiently analyze that
8 issue or impact to determine that compliance with the document and its mitigations will
9 mitigate or avoid the impact. The mitigation requirements in a first-tier document for
10 avoiding or mitigating the impact *must* include performance standards that are mandatory and
11 include specific, and effectively enforceable performance standards. (*Coastal Hills Rural*
12 *Preservation v. County of Sonoma* (2016) 2 Cal.App.5th 1234, 1258.)

13 The prior discussion of Guideline 15183.5 addresses the impact of tiering
14 mechanisms. Again, the CAP, and any such plan prepared under 15183.5, must meet the
15 requirements for all first-tier documents and thus must impose effectively enforceable
16 requirements and measures with defied performance standards.

17 Further, Guideline 15183.5 *does require the CAP to impose mitigation measures* on
18 future projects. As both Respondent and the CAP itself acknowledge, and as noted above,
19 subdivision (b) expressly states that “a lead agency may determine that a project's incremental
20 contribution to a cumulative effect is not cumulatively considerable *if* the project complies
21 with *the requirements* in a previously *adopted plan or mitigation program* under specified
22 circumstances.” This plan or mitigation program, i.e., the CAP, according to (b)(2), “*may be*
23 *used in the cumulative impacts analysis of later projects*” which clearly means that it need not.
24 However, (b)(2) continues to state that *if it is* so used for a later project, that project must
25 comply with the requirements and mitigation measures from the CAP. Once again, in the
26 Guideline’s words, a later project that in fact “relies on [the CAP] for a cumulative impacts
27 analysis *must* identify those *requirements specified in the plan* that apply to the project, and, *if*
28

1 *those requirements are not otherwise binding and enforceable, incorporate those*
2 *requirements as mitigation measures....”*

3 In countering Petitioner's complaint that some of the so-called measures or standards
4 are too vague or loose or ill-defined to be properly enforceable, Respondent asserts that this
5 will be “cured” because Guideline 15183.5(b)(2) states that any requirements that are not
6 “binding and enforceable” will be incorporated as mitigation measures in the project’s CEQA
7 document. This “interpretation” does not withstand scrutiny. As explained above, a first-tier
8 document, in order to be used to avoid revisiting analysis of an issue in a later project, must
9 have sufficiently analyzed the issue and found any significant impact to be mitigated or
10 avoided by complying with the document. That means that any requirement, such as
11 mitigation, must have sufficiently defined, clear, and mandatory performance standards to be
12 effectively enforceable and to have predictable results. If the requirements or measures are so
13 ill-defined as to be unenforceable as a practical matter, and effectively meaningless, merely
14 “incorporating” them into the later project’s CEQA document will obviously not fix that
15 problem. What the state in the Guideline must mean, therefore, is not that an ineffective
16 measure may simply be incorporated into a later project’s document, as Respondent asserts,
17 but that a measure or requirement must be incorporated in the document *if it is not enforced*
18 *independently, or through some other mechanism.*

20 **4. The Measures in the CAP**

21 The CAP sets forth requirements and standards or mitigation measures at AR 1015-
22 1048.

23 Respondent primarily argues that under Guideline 15183.5(b)(2), any measure which
24 the CAP imposes and which is “not otherwise binding and enforceable” must be incorporated
25 into future projects. As addressed above, this argument is not meritorious. Guideline
26 15183.5(b)(2) expressly requires that:

27 *"An environmental document that relies on a greenhouse gas reduction plan for a*
28 *cumulative impacts analysis must identify those requirements specified in the plan that*
apply to the project, and, if those requirements are not otherwise binding and

1 *enforceable, incorporate those requirements as mitigation measures* applicable to the
2 project. *If there is substantial evidence that the effects of a particular project may be*
3 *cumulatively considerable notwithstanding the project's compliance with the specified*
4 *requirements in the plan for the reduction of greenhouse gas emissions, an EIR must*
5 *be prepared for the project.*

6 (emphasis added.)

7 Petitioner singles out three of the specific measures or requirements in the CAP for
8 discussion as demonstrating a lack of meaningful enforceability and clear standards.

9 **a) 5-R4 (AR 1026)**

10 The first is 5-R4 (AR 1026.) This “trip-reduction ordinance” requires employers with
11 50+ employees to offer one of several options to employees in order to reduce GHG
12 emissions: “pre-tax transit expenses, transit or vanpool subsidy, free or low cost shuttle, *or an*
13 *alternative benefit.*” (Emphasis added.) It is the latter to which Petitioner objects, arguing
14 that it is vague and undefined either in what it must be like or what it must achieve, so that
15 there is no way to enforce this. As a result, Petitioner contends, a project could offer as
16 “alternative benefit” which no-one can at this point predict, and argue that it need not do GHG
17 analysis because it has “complied” with this measure. Respondent contends that an
18 alternative of purchasing GHG offsets is considered and this is correct but this is not the
19 definition of “an alternative benefit,” which is left open and could be anything. Petitioner is
20 correct on this point.

21 Respondent contended that Petitioner failed to exhaust administrative remedies on this
22 specific issue.

23 According to PRC section 21177, “[a] person shall not maintain an action or
24 proceeding unless that person objected to the approval of the project orally or in writing
25 during the public comment period provided by this division or prior to the close of the public
26 hearing on the project before the filing of the notice of determination.” This does not,
27 however, bar an association or organization formed after approval from raising a challenge
28 which one of its constituent members had raised, directly or by agreeing with or supporting

1 another's comments. (PRC section 21177(c).) Moreover, someone may file a legal challenge
2 based on an issue as long as "any person" raised that issue during the review process. PRC
3 section 21177(a); see *Friends of Mammoth v. Board of Supervisors* (1972) 8 Cal.3d 247, 267-
4 268. It also does not apply to any grounds of which the agency did not give required notice
5 and for which there was no hearing or opportunity to be heard. PRC section 21177(e).

6 A party challenging decision under CEQA cannot, to exhaust administrative remedies,
7 rely merely on "general objections" or "unelaborated comments." *Sierra Club v. City of*
8 *Orange* (2008) 163 Cal.App.4th 523, 535; *Coalition for Student Action v. City of Fullerton*
9 (1984) 153 Cal.App.3d 1194, 1197. However, "[l]ess specificity is required to preserve an
10 issue for appeal in an administrative proceeding than in a judicial proceeding...." *Citizens*
11 *Association for Sensible Development of Bishop Area v. County of Inyo* (1985) 172
12 Cal.App.3d 151, 163.

13 Petitioner responds that only the substance of the issue must be raised at the
14 administrative level, relying on *Save Our Residential Environment v. City of West Hollywood*
15 (1992) (Cal.App.4th 1745, 1750.) And further that less specificity is required to exhaust an
16 issue in an administrative proceeding than in a judicial one, relying on *Woodward park*
17 *Homeowners Assn. v. City of Fresno* (2007) 150 Cal.app.4th 683, 712 and *Brothers Real*
18 *Estate Group v. City of Los Angeles* (2008) 153 Cal.App.4th 1385, 1395. The court finds that
19 Petitioner did articulate this as a basic contention in the underlying administrative
20 proceedings. (AR 66 and AR 67.)

21 **b) 4-L-1 (AR 1024)**

22 Petitioner's attack 4-L-1, at AR 1024, which requires consistency with applicable
23 "adopted policies" on mixed-use and transit-oriented development, such as zoning codes,
24 general plans, etc., and states that agencies must "support mixed use [sic] development in
25 city-centers and transit-oriented development locations through their General Plans, etc." is
26 not persuasive. Petitioner contends that this is too vague because "mixed-use" has been
27 interpreted to allow hotels and tourist destinations built downtown or near rail stations.
28 Petitioner focuses on one portion of this requirement that is open-ended. Nothing indicates

1 that the type of use that could be allowed in a mixed-use development, whether store,
2 museum, eatery, office, or hotel, has any bearing on GHG emissions. Petitioner cites no
3 evidence or explanation in support of this claim and does not explain how this is material.
4 What matters is that there are clear, adopted standards mandating such development and
5 Petitioner does not challenge that portion of the measure at all.

6 It is possible that the measure could be found too vague and Petitioner may be
7 challenging it on that basis as well. Petitioner refers to it when mentioning how an
8 “undefined alternative... lacks the required specificity” and Petitioner again mentions it on the
9 following page with reference to “tentative plans” for future mitigation in ill-defined
10 subsequent regulation to be adopted. This, merely requires each jurisdiction to “identify such
11 appropriate areas and include unspecified policies and incentives to encourage development
12 near high-quality transit service.” It requires the jurisdiction to define requirements and
13 identify potential incentives, giving a list of the types that these “may include,” the last being
14 “other related items.” Again, this does not give any clear performance standards regarding
15 how to achieve this or what the parameters are. As Petitioner argues, for the third measure,
16 the court in *Communities for a Better Environment v. City of Richmond*, 184 Cal.App.4th 70,
17 92, found a measure insufficiently specific where it required reduction of mobile emission
18 sources though “transportation smart” development because “reliance on tentative plans for
19 future mitigation... significantly undermines CEQA’s goals of full disclosure and informed
20 decision making.” Under this analysis, this measure is also defective.

21
22 **c) 2-L-1 (AR 1021)**

23 Lastly, Petitioner argues that 2-L-1, at AR 1021, is defective. This measure mandates
24 that the project “comply with local requirement(s) for rooftop solar PV on new residential
25 development. It states that each jurisdiction “will define which new development must
26 provide rooftop solar [PV] by defining qualifying criteria... and the amount of solar
27 required...” As Petitioner argues, this sets no standards at all, just like 4-L-1, but instead
28 merely general principles and future possibilities. This violates CEQA.

1 Petitioner further argues that the measures in general do not guarantee any likelihood
2 of implementation. This is clear from the ones discussed above. Petitioner cites 1-R2 as
3 another example. It states that two named agencies “will work with the participating
4 communities to implement energy efficient retrofits. Actions may include: Implementing a...
5 weatherization program, expanding energy efficiency outreach/education campaigns...,
6 promoting the smart grid,” etc. Again, none of this goes beyond stating wishful thinking,
7 good intentions, and an intent to “work” with others. Measures that fall into this category
8 violate CEQA as well.

9 Petitioner also generally attacks the measures as lacking meaningful enforceability.
10 Petitioner also contends that of all of them, only 1-S1 and 1-S2 are actually enforceable
11 because they govern building energy and lighting efficiency, both controlled by state
12 regulation. The court finds a few others in addition to 1-S1 and 1-S2 to be similarly
13 enforceable. These include 1-L1, based on Windsor’s building code, 1-L2, requiring LED
14 lights in new development.

15 Aside from those few, Petitioner is correct that most are not enforceable, either
16 because they are too vague and lacking in meaningful mandatory requirements such as those
17 already discussed, which only “require” some “alternative” that is not specified or governed
18 by set parameters. Others, such as 1-L3 through 2-L2, state mitigation measures but then state
19 that these are “voluntary,” or “encouraged,” or only necessary where “applicable” based on
20 circumstances or criteria that are not defined. Others again rely on other jurisdictions such as
21 the cities creating applicable requirements that in some unspecified manner promote the
22 stated, vague, open-ended policies that lack any parameters or requirements. These are too
23 numerous to list them all here but this general characteristic dominates almost all of the
24 measures from what I have read.

25 Accordingly, the court grants the petition with respect to mitigation. Because the
26 record does not provide adequate information about extraterritorial emissions the agency and
27 the public could not and the court cannot determine whether the CAP would achieve its stated
28 goal to reduce GAG impacts to pre-1990 levels by 2020.

1 **E. ALTERNATIVES**

2 Petitioner asserts that Respondent violated CEQA by adopting as the “environmentally
3 superior alternative” the Zero Net Energy Buildings Alternative because it fails to address
4 GHG emissions from transportation while Respondent declined to evaluate an alternative with
5 a moratorium on, or significant reduction of, new or expanded vineyards, wineries and tourist
6 destinations. (AR 94; 426-427.)

7 Respondent contends that the analysis is sufficient because Petitioner believes that
8 reducing or stopping growth, and in particular growth that involves travel of people and goods
9 to and from the county, is necessary, and Petitioner cannot impose such mandates on R;
10 Respondent considered a range of alternatives; and choosing the moratorium alternative
11 would require the court to “dramatically substitute” its judgment for Respondent's.

12 CEQA requires all EIRs to consider alternatives to the project. (*Friends of the Old*
13 *Trees v. Dept. of Forestry & Fire Protection* (1st Dist.1997) 52 Cal.App.4th 1383, 1393-1395
14 (*Friends of Old Trees*).

15 **1. Importance and Central Role of Alternatives Analysis**

16 PRC section 21002 states that “it is the policy of the state that public agencies should
17 not approve projects as proposed if there are feasible alternatives or feasible mitigation
18 measures available which would substantially lessen the significant environmental effects...”
19 An agency may not approve a project that will result in significant impacts *unless it first finds*
20 *that mitigation measures or alternatives are infeasible*. (PRC section 21081; Guidelines
21 15091, 15093.)

22 The Supreme Court decided that considering alternatives is one of the most important
23 functions of an EIR. (*Wildlife Alive v. Chickering* (1976) 18 Cal.3d 190, 197.) In fact, “[t]he
24 core of the EIR is the mitigation and alternatives sections.” (*Citizens of Goleta Valley v. Bd.*
25 *of Supervisors* (1990) 52 Cal.3d 553, 564, 566 (*Goleta II*).

26 Without evidence regarding why the alternatives are insufficient to meet the project or
27 CEQA goals, meaningful analysis is impossible. An EIR must “explain in meaningful detail
28 the reasons and facts supporting [the] conclusion.” (*Marin Municipal Water Dist. v. KG Land*

1 *Corp. California* (1991) 235 Cal.App.3d 1652, 1664.) Failure to provide sufficient analysis
2 or alternatives makes it impossible for the court to “intelligently examine the validity of the...
3 action.” (*Topanga Assn. for a Scenic Community v. County of Los Angeles* (1974) 11 Cal.3d
4 506, 513-514, 522.)

5 The alternatives must be discussed in the EIR itself, provided for public review, and
6 subject to analysis, and the agency cannot cure defects by providing analysis in its official
7 response. (See *Friends of the Old Trees, supra*, 52 Cal.App.4th at 1403-1405.)

8 **2. Authority on Analyzing Alternatives and Feasibility**

9 The discussion should evaluate the relative merits of each alternative 14 CCR
10 §15126.6(a). Respondents need not analyze or adopt alternatives that are not feasible. 14
11 CCR ' 15126.6(c), (f); *Citizens of Goleta Valley v. Bd. of Supervisors* (1990) 52 Cal.3d 553,
12 564, 566 (*Goleta II*). However, the document *must* consider alternatives that *are* feasible.
13 *EPIC v. Johnson* (1985) 170 Cal.App.3d 604, 610; *Friends of the Old Trees, supra*, 52
14 Cal.App.4th 1404.

15 Ultimately, determining if alternatives are suitable involves a three-part test governed
16 by the “rule of reason” as set forth in Guideline 15126.6. (See *Citizens of Goleta Valley v.*
17 *Bd. of Supervisors* (1990) 52 Cal.3d 553, 564, 566 (*Goleta II*); *Save San Francisco Bay*
18 *Association v. San Francisco Bay Conservation and Development Commission* (1992) 10
19 Cal.App.4th 908, 919.) The analysis must consider alternatives that 1) may “attain most of the
20 basic objectives of the project,” 2) reduce or avoid the project’s impacts, and 3) are
21 “potentially feasible.” (Guideline 15126.6(a), (f).)

22 The analysis of alternatives is required to set forth facts and “*meaningful analysis*” of
23 these alternatives rather than “just the agency’s bare conclusions or opinions.” (*Laurel*
24 *Heights I, supra*, 47 Cal.3d 376, 404-405; *Goleta II, supra*, 52 Cal.3d 569; *Preservation*
25 *Action Council v. City of San Jose* (2006) 141 Cal.App.4th 1336, 1353.) All analysis must
26 include “detail sufficient to enable those who did not participate... to understand and to
27 consider meaningfully” the alternatives. (*Laurel Heights I, supra*, 404-405.)
28

1 As notes above, “feasible” means able to be “accomplished in a successful manner
2 within a reasonable period... taking into account economic, environmental, social, and
3 technological factors.” (PRC section 21061.1.)

4 When the agency determines that alternatives are infeasible, it “shall describe the
5 specific reasons for rejecting identified...project alternatives.” (Guideline 15091(a), (c).) The
6 analysis of alternatives is required to set forth facts and “*meaningful analysis*” of these
7 alternatives rather than “just the agency’s bare conclusions or opinions.” (*Laurel Heights I*,
8 *supra*, 47 Cal.3d 376, 404-405; *Goleta II, supra*, 52 Cal.3d 569; *Preservation Action Council*
9 *v. City of San Jose* (2006) 141 Cal.App.4th 1336, 1353.) All analysis must include “detail
10 sufficient to enable those who did not participate... to understand and to consider
11 meaningfully” the alternatives. (*Laurel Heights I, supra*, 404-405.)

12 The agency must make findings identifying specific considerations making an
13 alternative infeasible and the specific benefits of the Project that outweigh the relative harm.
14 (PRC § 21002.1(b), 21081, Guideline 15092(b); *Preservation Action Council, supra*, 1353.)

15 On the other hand, as usual, the requirement is one of reasonableness and a “crystal
16 ball” inquiry is not necessary. (*Residents Ad Hoc Stadium Committee v. Bd. of Trustees* (3d
17 Dist.1979) 89 Cal.App.3d 272, 286.) The key, as with most aspects of an EIR is that the
18 agency must provide enough information about the analytical path taken to allow the court to
19 “intelligently examine the validity of the administrative action.” (*Topanga Assn. for a Scenic*
20 *Community v. County of Los Angeles* (1974) 11 Cal.3d 506, 513-514, 522.) However, no
21 “ironclad rule” other than the “rule of reason” governs the decision. (Guideline 15126.6(a).)

22 An agency cannot find an alternative infeasible simply because the developer does not
23 want to do it. (*Uphold Our Heritage v. Town of Woodside* (2007) 147 Cal.App.4th 587, 601.)
24 In fact, the analysis must include alternatives that are reasonable “even if they substantially
25 impede the project or are more costly.” (*San Bernardino Valley Audubon Society v. County of*
26 *San Bernardino* (1984) 155 Cal.App.3d 738, 750; see also *Preservation Action Council v.*
27 *City of San Jose* (2006) 141 Cal.App.4th 1336.)
28

1 An EIR or decision thereon also cannot merely state that an alternative is infeasible
2 simply because it is too expensive or will not lead to sufficient return without providing
3 supporting analysis. (*Preservation Action Council v. City of San Jose* (2006) 141 Cal.App.4th
4 1336.) “The fact that an alternative may be more expensive or less profitable is not sufficient
5 to show that the alternative is financially infeasible. What is required is evidence that the
6 *additional costs or lost profitability* are sufficiently severe as to render it impractical to
7 proceed with the project.” (*Citizens of Goleta Valley v. Board of Supervisors* (1988) 197
8 Cal.App.3d 1167, 1181; *Uphold Our Heritage, supra*, 599; (emphasis added).)

9 An alternative should be capable of “substantially lessening” adverse impacts but it
10 need only have fewer impacts and it need not be impact free. PRC 21002; Guideline
11 15126.6(a); *Citizens of Goleta Valley v. Board of Supervisors (Goleta II)* (1990) 52 Cal.3d
12 553, 566.

13 **3. Reasonable Range**

14 An EIR must describe a reasonable range of alternatives to the proposed project or its
15 location that would feasibly achieve most of the project’s objectives, while reducing or
16 avoiding any of its significant effects. (Guideline 15126.6(a), (d).)

17 The EIR “shall focus on alternatives... which are capable of avoiding or substantially
18 lessening any significant effects of the project, even if these alternatives would impede to
19 some degree the attainment of the project objective, or would be more costly.” (Guideline
20 15126.6(b).)

21 The EIR must set forth the alternatives necessary to permit a reasoned choice and in a
22 manner that will allow “meaningful evaluation.” (Guideline 15126.6(a), (d), (f); *Goleta II*;
23 see also *Laurel Heights I, supra*; see also *San Bernardino Valley Audubon Soc., Inc. v. County*
24 *of San Bernardino* (1984) 155 Cal.App.3d 738, 750-751 (the detail must allow a reasonable
25 choice “so far as environmental aspects are concerned.”).)

26 If an EIR excludes certain alternatives, it should identify the alternatives and set forth
27 the reasons. (*Goleta II, supra*, 569; Guideline 15126.6(b).) The court in determining if the
28

1 EIR included a reasonable range of alternatives may consider the entire record to determine if
2 alternatives were properly excluded from consideration. (*Goleta II, supra*, 569.)

3 Alternatives that would eliminate or reduce significant environmental impacts *must* be
4 considered even if they would cost more or “to some degree” impede attainment of the
5 project’s objectives. (Guideline 15126.6(b).)

6 **4. Detail of Relevant Decisions on the Adequacy of Alternatives**

7 In *Friends of the Old Trees, supra*, 52 Cal.App.4th 1383, an extreme case, there was
8 no discussion of alternatives in the versions submitted for public review. The agency argued
9 that the fact it considered mitigation should suffice, while the real party marked a box
10 selecting a certain method of cutting. The court also noted that the *public* brought forth “the
11 only true alternatives,” and that these were discussed only after the document was approved.
12 (*Friends of the Old Trees, supra*, 52 Cal.App.4th 1405.) The court found the discussion
13 inadequate. (*Id.*, 1403-1405.)

14 In *Citizens of Goleta Valley v. Board of Supervisors (Goleta I)*, (1988) 197
15 Cal.App.3d 1167, the EIR considered a smaller hotel to be an economically infeasible
16 alternative to the proposed hotel at issue. Because the EIR lacked *evidence* that the smaller
17 hotel was economically infeasible, the court considered it error to deny the writ of mandate.
18 The court found that although the EIR contained estimated figures of costs, the record did not
19 reveal any *evidence* which *analyzed* the alternative in terms of comparative costs, comparative
20 profits or losses, or comparative economic benefit to the project proponent, residents, or the
21 community at large. (*Id.*, 1180.)

22 The court in *Uphold Our Heritage v. Town of Woodside* (2007) 147 Cal.App.4th 587,
23 at 599, addressed a project to demolish an historic mansion in order to construct a new,
24 smaller single-family residence. The court found that evidence that alternatives of historic
25 rehabilitation or rehabilitation with a new addition, would cost between \$4.9 million and \$10
26 million was not substantial evidence that alternatives were not economically feasible since
27 there was no evidence of the likely cost of a proposed replacement home or average cost of
28

1 building the proposed 6,000 square foot home in the city. It also found that whether the
2 developer wanted to do the alternative was irrelevant to determining if it is not feasible.

3 *San Joaquin Raptor/Wildlife Rescue Center v. County of Stanislaus (Arambel and*
4 *Rose Development, Inc.)* (1994) 27 Cal.App.4th 713, also dealt with alternatives analysis.
5 The court found, in the context of a proposed housing development, that the discussion of
6 housing density alternatives was inadequate. The DEIR stated that a lower density would
7 “lessen the impacts,” but failed to identify which impacts it meant or to what degree. The
8 court ruled that “[s]uch a bare conclusion without an explanation of its factual and analytical
9 basis is insufficient.” *Id.*, at 736. The court went on to state:

10 That lower density might not be “economically feasible,” is not sufficient
11 justification for the failure to give basic information as to density alternatives
12 which were considered and rejected. Contrary to [respondent’s] argument,
13 [petitioners] are not required to show there are reasonable alternatives. *It is the*
14 *project proponent’s responsibility to provide an adequate discussion of*
15 *alternatives....* If the project proponent concludes there are no feasible
16 alternatives, it must explain in *meaningful detail* in the EIR the basis for that
17 conclusion. Thus, even if alternatives are rejected, an EIR *must explain why*
18 each suggested alternative either does not satisfy the goals of the proposed
19 project, does not offer substantial environmental advantages or cannot be
20 accomplished.

21 *Id.*, at 737 (emphasis added).

22 **5. Whether Feasibility Finding Is Necessary**

23 As noted above, PRC sections 21002, 21081, and Guidelines 15091, 15093 together
24 forbid approval of a project that *will result in significant impacts without first finding that*
25 *any environmentally superior alternatives are infeasible*. Petitioner argues that Respondent
26 failed to consider an alternative that is environmentally superior.
27

1 **6. The Alternatives Analysis for the CAP**

2 The alternatives analysis is at AR 425-438. The PEIR explains that it developed and
3 analyzed only *one* other alternative, the Carbon Offset Alternative, in addition to the chosen
4 Zero Net Energy Buildings plan and the mandatory no-project alternative. It expressly
5 rejected a growth moratorium, reduced density, greater density, increased Sonoma Clean
6 Power, expanded transit service, 1990 Levels by 2020 (AB32), and 80% Below 1990 Levels
7 by 2020.

8 The real issue here is whether the Respondent, in rejecting formulating other
9 alternatives, has considered a reasonable range, as required, and whether Respondent has
10 provided sufficient explanation of infeasibility or other reasoning to support not considering
11 other proposed alternatives.

12 Respondent's analysis is insufficient. Respondent considered almost no range at all,
13 and only one other alternative that essentially is one that does nothing other than to authorize
14 Respondent to buy GHG offsets for all GHG impacts from projects. Although Respondent
15 argues to the contrary, this alternative seems both infeasible and at the same time would not
16 actually do anything to control or limit actual GHG production. As an alternative, this
17 appears to be one of form, but not of substance.

18 By contrast, the moratorium or reduced-development alternative which Petitioner
19 proposes, and which was presented to Respondent in public comments (see, e.g., AR 93-94,
20 response to comment) along with others noted but rejected without being developed, include
21 real solutions that differ significantly from the chosen CAP. At least some, like the
22 moratorium or growth limit, also address issues of GHG production from travel. While it is
23 logical that some may be infeasible or incompatible with goals of growth, this is not alone,
24 without explanation or support, a basis for not even considering those alternatives, or
25 modified versions. For example, Respondent noted a moratorium on growth of wineries or
26 housing “until the jobs-housing balance in the County is more equitable,” but this does not
27 even address the issues of Petitioner's proposed moratorium, it is arbitrarily limited, and it
28 does not even seem to make much sense. There is no evidence or explanation for what it

1 would be or why Respondent could not consider a similar, but different one, such as Petitioner
2 proposed. That is the purpose of actually developing and considering alternatives. Given
3 that there are available alternatives that differ drastically from what Respondent has
4 considered and given that Respondent has, in effect, considered only one other option that is
5 perhaps only nominally an alternative, this analysis fails to consider a reasonable range of
6 alternatives, or even any range at all.

7 The court Grants the petition on this issue.

8 **F. RESPONSE TO PUBLIC COMMENTS**

9 Petitioner next argues that Respondent's response to public comments was insufficient
10 in violation of Guideline 15088(c).

11 The “evaluation and response to public comments is an essential part of the CEQA
12 process.” (Discussion following CEQA Guideline 15088.) The final EIR must include
13 evaluation and responses to all comments received in the public-comment period. PRC
14 section 21091(d)(2)(A). Guideline 15088 governs responses to comments and subdivision (c)
15 governs the substance of such responses. It requires responses to address issues “in detail”
16 and demonstrate “why specific comments and suggestions were not accepted.” Most
17 importantly, perhaps, the responses must explain the reasons for rejecting suggestions with a
18 “good faith, reasoned analysis” and must not rely on “[c]onclusory statements unsupported by
19 factual information.” Guideline 15088(c).

20 **1. Exhaustion of Administrative Remedies**

21 Respondent first contends that Petitioner failed to exhaust administrative remedies on
22 this issue. The court has found, above, that Petitioner exhausted its administrative remedies.
23

24 Petitioner's argument here is collateral and not persuasive. Although Petitioner points
25 out that a few responses may not sufficiently resolve issues, that is of little importance in of
26 itself. What matters are the fundamental defects that have not been cured as discussed above:
27 failure to properly determine GHG inventory, or demonstrate that Respondent could not
28 practically have done more or did not need to do more; ill-defined mitigation measures
lacking enforceable criteria or parameters; and lack of reasonable range of alternatives.

1 The court denies the Petition with respect to the comments..

2 **G. WHETHER RESPONDENTS' ERROR WAS PREJUDICIAL**

3 Respondent contends that even if Petitioner demonstrated error, it was not prejudicial.

4 As noted at the outset, in order for the court to issue a writ of mandate, it must find not only
5 error, i.e., a violation of CEQA, but that error was prejudicial. (*Chaparral Greens v. City of*
6 *Chula Vista* (1996) 50 Cal.App.4th 1134, 1143; see PRC 21168, 21168.5, *Laurel Heights I,*
7 *supra* 47 Cal.3d 392, fn.5; Remy, et al., Guide to the California Environmental Quality Act
8 (10th Ed.1999) Chapter XI(D), p.590.)

9 Respondent's failure to impose meaningful, effectively enforceable mitigation
10 measures, when presenting compliance with the CAP as a way for future projects to avoid any
11 other GHG analysis, is fundamentally and on its face, prejudicial. The failure to present a
12 reasonable range of alternatives or to properly inventory GHG emissions as required are also
13 on, their face, prejudicial because they prevent informed decision making or public review,
14 the very bases of CEQA. (*Sierra Club v. State Bd. of Forestry* (1994) 7 Cal.4th 1215, 1228-
15 1230, 1235-1237 (failure to put critical information in an environmental document was in of
16 itself a prejudicial abuse of discretion partly because it "frustrated the purpose of the public
17 comment provisions"); *Save Cuyama Valley v. County of Santa Barbara* (2013) 213
18 Cal.App.4th 1059, at 1073 ("[a]n error is prejudicial when an agency fails to comply with a
19 mandatory CEQA procedure or when a report omits information and thereby precludes
20 informed decision making); *Lighthouse Field Beach Rescue v. City of Santa Cruz* (2005) 131
21 Cal.App.4th 1170, 1182.; *Schoen v. Dept. of Forestry & Fire Protection* (1997) 58
22 Cal.App.4th 556, 565 ("We cannot overlook a prejudicial error by surmising that the project
23 would have gone forward anyway.")) .)

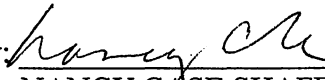
24
25 Based on the foregoing,
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28

1 NOW, THEREFORE,

2 ORDER

3 1. The Petition for Mandamus is granted as stated above.

4 Dated: 7/20/17

5 By: 
6 NANCY CASE SHAFFER
7 Judge of the Superior Court

8 END NOTES

9 (a) "Tiering" refers to using the analysis of general matters contained in a broader EIR (such
10 as one prepared for a general plan or policy statement) with later EIRs and negative
11 declarations on narrower projects; incorporating by reference the general discussions from the
broader EIR; and concentrating the later EIR or negative declaration solely on the issues
specific to the later project.

12 (b) Agencies are encouraged to tier the environmental analyses which they prepare for
13 separate but related projects including general plans, zoning changes, and development
14 projects. This approach can eliminate repetitive discussions of the same issues and focus the
15 later EIR or negative declaration on the actual issues ripe for decision at each level of
16 environmental review. Tiering is appropriate when the sequence of analysis is from an EIR
17 prepared for a general plan, policy, or program to an EIR or negative declaration for another
18 plan, policy, or program of lesser scope, or to a site-specific EIR or negative declaration.
Tiering does not excuse the lead agency from adequately analyzing reasonably foreseeable
significant environmental effects of the project and does not justify deferring such analysis to
a later tier EIR or negative declaration. However, the level of detail contained in a first tier
EIR need not be greater than that of the program, plan, policy, or ordinance being analyzed.

19 (c) Where a lead agency is using the tiering process in connection with an EIR for a large-
20 scale planning approval, such as a general plan or component thereof (e.g., an area plan or
community plan), the development of detailed, site-specific information may not be feasible
21 but can be deferred, in many instances, until such time as the lead agency prepares a future
22 environmental document in connection with a project of a more limited geographical scale, as
long as deferral does not prevent adequate identification of significant effects of the planning
approval at hand.

23 (d) Where an EIR has been prepared and certified for a program, plan, policy, or ordinance
24 consistent with the requirements of this section, any lead agency for a later project pursuant to
or consistent with the program, plan, policy, or ordinance should limit the EIR or negative
25 declaration on the later project to effects which:

- 26 (1) Were not examined as significant effects on the environment in the prior EIR; or
27 (2) Are susceptible to substantial reduction or avoidance by the choice of specific revisions in
the project, by the imposition of conditions, or other means.

28 (e) Tiering under this section shall be limited to situations where the project is consistent with
the general plan and zoning of the city or county in which the project is located, except that a
project requiring a rezone to achieve or maintain conformity with a general plan may be
subject to tiering.

1
2 (f) A later EIR shall be required when the initial study or other analysis finds that the later
3 project may cause significant effects on the environment that were not adequately addressed
4 in the prior EIR. A negative declaration shall be required when the provisions of Section
5 15070 are met.

6 (1) Where a lead agency determines that a cumulative effect has been adequately addressed in
7 the prior EIR, that effect is not treated as significant for purposes of the later EIR or negative
8 declaration, and need not be discussed in detail.

9 (2) When assessing whether there is a new significant cumulative effect, the lead agency shall
10 consider whether the incremental effects of the project would be considerable when viewed in
11 the context of past, present, and probable future projects. At this point, the question is not
12 whether there is a significant cumulative impact, but whether the effects of the project are
13 cumulatively considerable. For a discussion on how to assess whether project impacts are
14 cumulatively considerable, see Section 15064(i).

15 (3) Significant environmental effects have been "adequately addressed" if the lead agency
16 determines that:

17 (A) they have been mitigated or avoided as a result of the prior environmental impact report
18 and findings adopted in connection with that prior environmental report; or

19 (B) they have been examined at a sufficient level of detail in the prior environmental impact
20 report to enable those effects to be mitigated or avoided by site specific revisions, the
21 imposition of conditions, or by other means in connection with the approval of the later
22 project.

23 (g) When tiering is used, the later EIRs or negative declarations shall refer to the prior EIR
24 and state where a copy of the prior EIR may be examined. The later EIR or negative
25 declaration should state that the lead agency is using the tiering concept and that it is being
26 tiered with the earlier EIR.

27 (h) There are various types of EIRs that may be used in a tiering situation. These include, but
28 are not limited to, the following:

(1) General plan EIR (Section 15166).

(2) Staged EIR (Section 15167).

(3) Program EIR (Section 15168).

(4) Master EIR (Section 15175).

(5) Multiple-family residential development/residential and commercial or retail mixed-use
development (Section 15179.5).

(6) Redevelopment project (Section 15180).

(7) Projects consistent with community plan, general plan, or zoning (Section 15183).

One specific example of a first-tier EIR is a "program" EIR as set forth in Guideline
15168. This details the nature and requirements and uses of such a first-tier EIR, in a manner
similar to that set forth in 15152, and gives another good picture of how they are to be used
and what they must do to be so used in compliance with CEQA. It states, in full,

(a) General. A program EIR is an EIR which may be prepared on a series of actions
that can be characterized as one large project and are related either:

(1) Geographically,

(2) As logical parts in the chain of contemplated actions,

(3) In connection with issuance of rules, regulations, plans, or other general criteria to
govern the conduct of a continuing program, or

1
2 (4) As individual activities carried out under the same authorizing statutory or
3 regulatory authority and having generally similar environmental effects which can be
4 mitigated in similar ways.

(b) Advantages. Use of a program EIR can provide the following advantages. The
5 program EIR can:

(1) Provide an occasion for a more exhaustive consideration of effects and alternatives
6 than would be practical in an EIR on an individual action,

(2) Ensure consideration of cumulative impacts that might be slighted in a case-by-
7 case analysis,

(3) Avoid duplicative reconsideration of basic policy considerations,

(4) Allow the lead agency to consider broad policy alternatives and program wide
8 mitigation measures at an early time when the agency has greater flexibility to deal with basic
9 problems or cumulative impacts,

(5) Allow reduction in paperwork.

(c) Use With Later Activities. Subsequent activities in the program must be examined
10 in the light of the program EIR to determine whether an additional environmental document
11 must be prepared.

(1) If a later activity would have effects that were not examined in the program EIR, a
12 new initial study would need to be prepared leading to either an EIR or a negative declaration.

(2) If the agency finds that pursuant to Section 15162, no new effects could occur or
13 no new mitigation measures would be required, the agency can approve the activity as being
14 within the scope of the project covered by the program EIR, and no new environmental
15 document would be required.

(3) An agency shall incorporate feasible mitigation measures and alternatives
16 developed in the program EIR into subsequent actions in the program.

(4) Where the subsequent activities involve site specific operations, the agency should
17 use a written checklist or similar device to document the evaluation of the site and the activity
18 to determine whether the environmental effects of the operation were covered in the program
19 EIR.

(5) A program EIR will be most helpful in dealing with subsequent activities if it deals
20 with the effects of the program as specifically and comprehensively as possible. With a good
21 and detailed analysis of the program, many subsequent activities could be found to be within
22 the scope of the project described in the program EIR, and no further environmental
23 documents would be required.

(d) Use With Subsequent EIRS and Negative Declarations. A program EIR can be
24 used to simplify the task of preparing environmental documents on later parts of the program.
25 The program EIR can:

(1) Provide the basis in an initial study for determining whether the later activity may
26 have any significant effects.

(2) Be incorporated by reference to deal with regional influences, secondary effects,
27 cumulative impacts, broad alternatives, and other factors that apply to the program as a whole.

(3) Focus an EIR on a subsequent project to permit discussion solely of new effects
28 which had not been considered before.

(e) Notice With Later Activities. When a law other than CEQA requires public notice
when the agency later proposes to carry out or approve an activity within the program and to

1
2 rely on the program EIR for CEQA compliance, the notice for the activity shall include a
statement that:

- 3 (1) This activity is within the scope of the program approved earlier, and
4 (2) The program EIR adequately describes the activity for the purposes of CEQA.

5 ii (a) Lead agencies may analyze and mitigate the significant effects of greenhouse gas
6 emissions at a programmatic level, such as in a general plan, a long range development plan,
7 or a separate plan to reduce greenhouse gas emissions. Later project-specific environmental
8 documents may tier from and/or incorporate by reference that existing programmatic review.
9 Project-specific environmental documents may rely on an EIR containing a programmatic
analysis of greenhouse gas emissions as provided in section 15152 (tiering), 15167 (staged
EIRs) 15168 (program EIRs), 15175-15179.5 (Master EIRs), 15182 (EIRs Prepared for
Specific Plans), and 15183 (EIRs Prepared for General Plans, Community Plans, or Zoning).

10 (b) Plans for the Reduction of Greenhouse Gas Emissions. Public agencies may *choose to*
11 *analyze and mitigate significant greenhouse gas emissions in a plan for the reduction of*
12 *greenhouse gas emissions or similar document.* A plan to reduce greenhouse gas emissions
13 may be used in a cumulative impacts analysis as set forth below. Pursuant to sections
14 15064(h)(3) and 15130(d), a lead agency may determine that a project's incremental
contribution to a cumulative effect is not cumulatively considerable if the project complies
with the requirements in a previously adopted plan or mitigation program under specified
circumstances.

15 (1) *Plan Elements. A plan for the reduction of greenhouse gas emissions should:*

16 (A) Quantify greenhouse gas emissions, both existing and projected over a specified
time period, resulting from activities within a defined geographic area;

17 (B) Establish a level, based on substantial evidence, below which the contribution to
greenhouse gas emissions from activities covered by the plan would not be cumulatively
considerable;

18 (C) Identify and analyze the greenhouse gas emissions resulting from specific actions
or categories of actions anticipated within the geographic area;

19 (D) Specify measures or a group of measures, including performance standards, that
substantial evidence demonstrates, if implemented on a project-by-project basis, would
collectively achieve the specified emissions level;

20 (E) Establish a mechanism to monitor the plan's progress toward achieving the level
and to require amendment if the plan is not achieving specified levels;

21 (F) Be adopted in a public process following environmental review.

22 (2) Use with Later Activities. A plan for the reduction of greenhouse gas emissions,
23 once adopted following certification of an EIR or adoption of an environmental document,
24 may be used in the cumulative impacts analysis of later projects. An environmental document
25 that relies on a greenhouse gas reduction plan for a cumulative impacts analysis must identify
26 those requirements specified in the plan that apply to the project, and, if those requirements
27 are not otherwise binding and enforceable, incorporate those requirements as mitigation
28 measures applicable to the project. If there is substantial evidence that the effects of a
particular project may be cumulatively considerable notwithstanding the project's compliance
with the specified requirements in the plan for the reduction of greenhouse gas emissions, an
EIR must be prepared for the project.

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(c) Special Situations. As provided in Public Resources Code sections 21155.2 and 21159.28, environmental documents for certain residential and mixed use projects, and transit priority projects, as defined in section 21155, that are consistent with the general use designation, density, building intensity, and applicable policies specified for the project area in an applicable sustainable communities strategy or alternative planning strategy need not analyze global warming impacts resulting from cars and light duty trucks.

A lead agency should consider whether such projects may result in greenhouse gas emissions resulting from other sources, however, consistent with these Guidelines.

PROOF OF SERVICE BY MAIL

I certify that I am an employee of the Superior Court of California, County of Sonoma, and that my business address is 600 Administration Drive, Room 107-J, Santa Rosa, California, 95403; that I am not a party to this case; that I am over the age of 18 years; that I am readily familiar with this office's practice for collection and processing of correspondence for mailing with the United States Postal Service; and that on the date shown below I placed a true copy of Order Granting Petition for Writ of Mandate in an envelope, sealed and addressed as shown below, for collection and mailing at Santa Rosa, California, first class, postage fully prepaid, following ordinary business practices.

Date: July 20, 2017

JOSÉ OCTAVIO GUILLÉN
Court Executive Officer

By: Missy Lemley
Missy Lemley, Deputy Clerk

-ADDRESSEES-

✓ JERRY BERNHAUT
708 Gravenstein Hwy N # 407
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BRUCE D GOLDSTEIN
COUNTY COUNSEL
575 Administration Dr Rm 105a
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EXHIBIT D



May 24, 2019

Sent via email and FedEx

Los Angeles County Chief Sustainability Office
Kenneth Hahn Hall of Administration
500 West Temple Street
Los Angeles, California 90012
sustainability@lacounty.gov

Re: Comments on Discussion Draft of Los Angeles Countywide Sustainability Plan

Dear Los Angeles County Chief Sustainability Office:

These comments are submitted on behalf of the Center for Biological Diversity (“Center”) regarding the Discussion Draft of the Los Angeles Countywide Sustainability Plan (“Draft Plan”). The Center appreciates the Chief Sustainability Office’s efforts in developing the Draft Plan and generally supports the goals of the Draft Plan. We urge the Chief Sustainability Office and the Los Angeles County Board of Supervisors (“Board”) to ensure that the strategies and policies supporting these goals are clear and enforceable.

A. Background on the Center for Biological Diversity.

The Center for Biological Diversity (“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 one million members and online activists throughout California and the United States. The Center has worked for many years to protect imperiled plants and wildlife, open space, air and water quality, and overall quality of life for people in Los Angeles County.

B. The Center Urges Stronger Buffers to Ensure Healthy Community Environments.

We strongly support Goals 1 and 4—“resilient and healthy community environments where residents thrive in place” and opportunities for residents and businesses to “transition to clean economy sectors.” (Draft Plan at 20 & 72.) We also support strong efforts to decrease the public health problems generated by freeways and oil and gas drilling, but are concerned that the proposed targets and actions do not go far enough.

The Plan Should Require Larger Buffers between Sensitive Uses and Freeways

We support “siting of new sensitive uses, such as playgrounds, daycare centers, schools, residences, or medical facilities” farther from freeways, but are concerned that the proposed 500-foot buffers are insufficient. Studies indicate even people **900 to 1200 feet** from freeways experience health impacts and sensitive receptors such as children and the elderly suffer the most. (Lin 2002.) A review of 700 studies concluded that pollution causes asthma attacks in children, the onset of childhood asthma, impaired lung function, premature death and death from cardiovascular diseases, and cardiovascular morbidity. (Health Effects Institute 2010.) The Health Effects Institute study concluded that the “exposure zone” was 300 to 500 meters from the highways (984 feet to 1640 feet). (*Id.*) Other studies have reached similar conclusions. (Suglia 2008.) Living near expressways also increases the likelihood that residents will suffer from dementia. (Chen 2017.) The University of Southern California’s Environmental Health Centers have also collected data and studies showing risks and health impacts to pregnant women, babies, children, teenagers, adults, and seniors of living by a freeway.¹

The Plan Should Require 2500-foot Setbacks to Separate Oil and Gas Facilities from Homes

We would like to emphasize our support for the Draft Plan’s inclusion of a series of actions to address the disproportionate exposure of low-income communities of color to fossil fuel extraction and refining (Actions 2, 3, 4, 5 and 7). In addition, we support Action 78 that calls for collaborating with the City of Los Angeles to develop a sunset strategy for oil and gas operations that prioritizes disproportionately impacted neighborhoods. In the final adoption of the plan, we urge the County to incorporate a more specific, concrete and common sense measure that we have supported at the City and County as an ally of the STAND-LA coalition: a 2500-foot setback (or buffer zone) to separate oil and gas facilities from homes, schools and other sensitive land uses, with a plan to phase out existing oil and gas within no more than five years. We are also supportive of the Draft Plan’s inclusion of a commitment to a “Just Transition” that examines the impact of the transition to a cleaner economy and develops strategies for supporting displaced workers and connecting them with meaningful job training and employment opportunities (Actions 56 and 57).

¹ University of Southern California Environmental Health Centers, *References: Living Near Busy Roads or Traffic Pollution*, available at <http://envhealthcenters.usc.edu/infographics/infographic-living-near-busy-roads-or-traffic-pollution/references-living-near-busy-roads-or-traffic-pollution> (collecting studies). See also Tony Barboza and Jon Schleuss, “L.A. keeps building near freeways, even though living there makes people sick,” *Los Angeles Times* (Mar. 2, 2017), available at <http://www.latimes.com/projects/la-me-freeway-pollution/>.

Reducing Asthma and Toxic Emissions through Less VMT

The Center strongly supports decreasing child asthma rates as proposed by the Draft Plan. However, this will not be possible if the Board continues to approve projects that add more unnecessary freeway traffic and air pollution to the region. An example of this is the recently-approved Centennial development approved by the Board, which will add 75,000 new long distance car commuters onto our freeways, increasing air pollution and hindering efforts to reduce toxic emissions.

C. The Center Supports Goal 2 and Urges Implementation of Zero Net Energy Standards.

We support the Plan’s Goal 2—ensuring that “[b]uildings and infrastructure that support human health and resilience.” (Draft Plan at 42.) The Center notes that Action Item 30 envisions the County will “Pilot high performance building standards for new County buildings beyond the current LEED Gold standard, such as Passive House, Zero Net Energy, Net Zero Water, Net Zero Waste...” (Draft Plan at 50.) The Center urges the Plan to require more than just a “pilot” for Zero Net Energy and instead move forward with policies and standards to require zero net energy for new construction.

Zero net energy is feasible, as other projects in the County that have recently been approved include a goal of zero net greenhouse gas emissions. Such projects intend to achieve that goal through reducing onsite greenhouse gas emissions to the greatest extent practicable, but also by offsetting any other emissions through local emissions reductions projects.²

D. The Center Supports Goal 3 and Urges Concrete and Enforceable Policies to Limit Sprawl Development.

The Center strongly supports the Draft Plan’s goal of equitable and sustainable land use and development without displacement. (Draft Plan at 58.) The Center agrees that the way the County “choose[s] to direct that growth has huge implications for the environment, the economy and social equity.” (*Id.*) Likewise, the Center agrees:

Patterns of exurban sprawl and development in high-hazard areas can place major burdens on our infrastructure and public budgets, especially for unincorporated communities where the County of Los Angeles acts as the municipal service provider. Outward growth limits the resources we could otherwise be investing in our existing communities, where we can promote sustainability, health and well-being by improving walkability and promoting a mixture of uses.

(Draft Plan at 58.) The Draft Plan is correct that exurban sprawl imposes a hidden tax on existing communities. Studies recognize that sprawl “may deprive the poor of economic

² See California Department of Fish and Wildlife, *Newhall Ranch Resource and Development Management and Development Plan, Final Additional Environmental Analysis*, Appendix 2.1, available at http://planning.lacounty.gov/assets/upl/case/tr_53108_appendix-2-0-cdfw-final-aea-excerpts.pdf.

opportunity...when jobs, stores, good schools and other resources migrate outward from the core city, poverty is concentrated in the neighborhoods that are left behind.” (Frumkin 2002.) Studies also show that sprawl disproportionately increases costs on local government through increased infrastructure costs. (Litman 2015.) One study found that the external costs of sprawl are around \$500 billion annually and \$650 billion internally. (*Id.*) Sprawl also has significant equity implications—“the abandonment of the metropolitan core leaves inner cities and first-ring suburbs struggling to provide adequate services with an eroded tax base even as growth continues on the periphery.” (Belzer 2002.)

The Draft Plan is also correct that “[u]rban sprawl generally requires expensive and expansive infrastructure networks that drain resources and contribute significantly to greenhouse gas emissions.” (Draft Plan at 60.)

Unfortunately, with the exception of Supervisor Kuehl, the Board has not shown they are serious about curbing urban sprawl. County supervisors just approved one of the biggest urban sprawl projects in California history last month, the 12,000-acre Centennial Specific Plan, on remote wildlands in the northern corner of the County. The Center informed the County that Centennial would result in less investment in existing communities and—as observed by the developer’s own consultants—draw demand away from existing communities in Santa Clarita and San Fernando. The development would also require the construction of a new six-lane freeway (the Northwest 138 Corridor “Improvement Project”), at an initial cost to taxpayers of \$830 million.

The Board also just approved the 1,300-acre Northlake development over the objection of the Santa Monica Mountains Conservancy (and the Center). That project will pave over pristine wildlands, inhibit wildlife connectivity in the region, and disproportionately contribute to greenhouse gas emissions, traffic, and air pollution.

If the County is serious about ending its historical pattern of approving more development in the county’s diminishing wildlands and rangelands, then it needs to adopt strong enforceable policies to meet this goal. Action 44 is a step in the right direction. The Draft Plan states, “Prohibit the conversion of working lands to residential uses, including farms and rangelands.” (Draft Plan at 60.) Such a policy—if it were actually consistently enforced—would be a strong step forward in protecting the County’s natural resources.

E. The Center Supports the Draft Plan’s Target to Limit Discretionary Development in High Fire Areas.

We support Strategy 3E—limiting development in high fire areas. The science is clear that we can no longer continue building new large-scale development in high fire areas. In Southern California, sprawl developments with low/intermediate densities extending into chaparral and sage scrub habitats that are prone to fire have led to more frequent wildfires caused by human ignitions, like arson, improperly disposed cigarette butts, debris burning, fireworks, campfires, or sparks from cars or equipment (Keeley et al. 1999; Keeley and Fotheringham 2003; Syphard et al. 2007; Syphard et al. 2012; Bistinas et al. 2013; Balch et al. 2017; Radeloff et al. 2018). Human-caused fires account for 95% of all fires in Southern California (Syphard et al.

2013), and homes filled with petroleum-based products, such as wood interiors, paint, and furniture, provide additional fuel for the fires to burn longer and spread farther (Keeley et al. 2007). The most numerous and largest fires in Southern California have been caused by equipment and powerlines in the wildland-urban interface, where housing density is low to intermediate (Syphard and Keeley 2015), and leapfrog developments have been found to have the highest predicted fire risk in the County (Syphard et al. 2013).

More development in high fire areas such as chaparral and sage scrub would lead to a dangerous feedback loop of deadly fires and habitat destruction. These habitats are adapted to infrequent (every 30 to 150 years), large, high-intensity crown fire regimes (Pyne et al. 1996; Keeley and Fotheringham 2001), and if these regimes are disrupted, the habitats become degraded (Keeley 2005, 2006a,b; Syphard et al. 2018). When fires occur too frequently, type conversion occurs and the native shrublands are replaced by non-native grasses and forbs that burn more frequently and more easily, ultimately eliminating native habitats and biodiversity while increasing fire threat over time (Keeley 2005, 2006a,b; Syphard et al. 2009; Safford and Van de Water 2014; Syphard et al. 2018). Thus, placing developments in these high fire-prone areas will lead to more frequent fires while degrading the health and biodiversity of Southern California's ecosystems.

Nonetheless, the "actions" in the Draft Plan do not set forth a clear plan to actually limit development in high fire areas. In particular, while the Countywide "Target" states "no new discretionary development in high hazard areas" by 2025, there is no "action" proposed to meet this target. (Draft Plan at 70.) Instead, as mentioned above, the County has been approving large-scale development such as Centennial and Northlake in high fire areas. By approving entitlements for these projects now despite the science showing such development is dangerous, costly, and environmentally harmful, the County is ensuring large-scale development will continue in fire-prone areas for many years.

F. The Center Strongly Supports Goal 5 and Urges The County To Develop a Wildlife Connectivity Ordinance

The Center strongly supports the Draft Plan's goal of thriving ecosystems, habitats, and biodiversity. (Draft Plan at 78.) To realize this goal, the Plan must consider the issue of wildlife connectivity and the effects of suburban development on wild areas, as explained below.

Habitat Connectivity Is Essential for Wildlife Movement and Biodiversity Conservation.

Habitat connectivity is vital for wildlife movement and biodiversity conservation. Limiting movement and dispersal with barriers (*e.g.*, development, roads, or fenced-off croplands) can affect animals' behavior, movement patterns, reproductive success, and physiological state, which can lead to significant impacts on individual wildlife, populations, communities, and landscapes (Trombulak and Frissell 2000; Tewksbury et al. 2002; Cushman 2006; van der Ree et al. 2011; Haddad et al. 2015; Ceia-Hasse et al. 2018). 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. In addition, connectivity between high quality habitat areas in heterogeneous landscapes is important to

allow for range shifts and species migrations as climate changes (Heller and Zavaleta 2009, Cushman et al. 2013). Lack of wildlife connectivity results in decreased biodiversity and degraded ecosystems. Thus, preserving and maintaining natural and created corridors is critical for species and habitat conservation in fragmented landscapes (Gilbert-Norton et al., 2010).

Wildlife connectivity and migration corridors are important at the local, regional, and continental scale. Local connectivity that links aquatic and terrestrial habitats would allow various sensitive species to persist, including state- and federally-protected California red-legged frogs (*Rana draytonii*), arroyo toads (*Anaxyrus californicus*), and other species. At a regional scale, medium- and large-sized mammals that occur in Los Angeles County, such as mountain lions (*Puma concolor*), bobcats (*Lynx rufus*), gray foxes (*Urocyon cinereoargenteus*), ring-tailed cats (*Bassariscus astutus*), and mule deer (*Odocoileus hemionus*), require large patches of heterogeneous habitat to forage, seek shelter/refuge, and find mates.

Climate Change Is Likely to Significantly Alter Wildlife Behavior and Movement.

A strong, international scientific consensus has established that human-caused climate change is causing widespread harms to human society and natural systems, and climate change threats are becoming increasingly dangerous. In a 2018 *Special Report on Global Warming of 1.5°C* from 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, highlighting the necessity of limiting warming to 1.5°C to avoid catastrophic impacts to people and life on Earth (IPCC 2018). In addition to warming, many other aspects of global climate are changing. 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).

Climate change is increasing stress on species and ecosystems, causing changes in distribution, phenology, physiology, vital rates, genetics, ecosystem structure and processes, and increasing species extinction risk (Warren et al., 2011). A 2016 analysis found that climate-related local extinctions are already widespread and have occurred in hundreds of species, including almost half of the 976 species surveyed (Wiens 2016). A separate study estimated that nearly half of terrestrial non-flying threatened mammals and nearly one-quarter of threatened birds may have already been negatively impacted by climate change in at least part of their distribution (Pacifici et al. 2017). A 2016 meta-analysis reported that climate change is already impacting 82 percent of key ecological processes that form the foundation of healthy ecosystems and on which humans depend for basic needs (Scheffers et al. 2016). Genes are changing, species' physiology and physical features such as body size are changing, species are moving to try to keep pace with suitable climate space, species are shifting their timing of breeding and migration, and entire ecosystems are under stress (Cahill et al., 2012; Chen et al., 2011; Maclean & Wilson, 2011; Parmesan, 2006; Parmesan & Yohe, 2003; Root et al., 2003; Warren et al., 2011). As such, it is imperative that current and future land use planning consider the impacts of climate change on wildlife movement.

Corridor Redundancy Helps Retain Functional Connectivity and Resilience.

Corridor redundancy (*i.e.* the availability of alternative pathways for movement) is important in regional connectivity plans because it allows for improved functional connectivity and resilience. Compared to a single pathway, multiple connections between habitat patches increase the probability of movement across landscapes by a wider variety of species, and they provide more habitat for low-mobility species while still allowing for their dispersal (Mcrae et al., 2012; Olson & Burnett, 2013; Pinto & Keitt, 2008). In addition, corridor redundancy provides resilience to uncertainty, impacts of climate change, and extreme events, like flooding or wildfires, by providing alternate escape routes or refugia for animals seeking safety (Cushman et al., 2013; Mcrae et al., 2008; Mcrae et al., 2012; Olson & Burnett, 2013; Pinto & Keitt, 2008).

Human Development and Associated Noise and Lighting Can Interfere with the Behavior of Local Wildlife Such as Mountain Lions.

Human development and associated noise can degrade adjacent wildlife habitat and behavior. (*See, e.g.,* Slabbekoorn 2008.) For instance, field observations and controlled laboratory experiments have shown that traffic noise can significantly degrade habitat value for migrating songbirds. (Ware et al. 2015.) This finding followed lab results indicating that subjects exposed to 55 and 61 dBA simulated traffic noise exhibited decreased feeding behavior and duration, as well as increased vigilance behavior. (*Id.*) Such behavioral shifts increase the risk of starvation, thus decreasing survival rates. A recent study also highlighted the detrimental impacts of siting development near areas protected for wildlife. The study noted that “Anthropogenic noise 3 and 10 dB above natural sound levels . . . has documented effects on wildlife species richness, abundance, reproductive success, behavior, and physiology.” (Buxton, et al.) The study further noted that “there is evidence of impacts across a wide range of species [] regardless of hearing sensitivity, including direct effects on invertebrates that lack ears and indirect effects on plants and entire ecological communities (e.g., reduced seedling recruitment due to altered behavior of seed distributors).” (*Ibid.*) Moreover, human transportation networks and development resulted in high noise exceedances in protected areas. (*Ibid.*)

There also is strong evidence documenting the effects of human activity specifically on mountain lions. One study found that mountain lions are so fearful of humans and noise generated by humans that they will abandon the carcass of a deer and forgo the feeding opportunity just to avoid humans. (Smith 2017.)³ The study concluded that even “non-consumptive forms of human disturbance may alter the ecological role of large carnivores by affecting the link between these top predators and their prey.” (Smith 2017.) In addition, the study found that mountain lions respond fearfully upon hearing human vocalizations. Another study demonstrates that mountain lions exposed to other evidence of human presence (lighting, vehicles, dogs) will impact mountain lion behavior. (Wilmers 2013.) Other studies documented diet shifts in mountain lions near human development, and recommended minimizing any development in mountain lion habitat. (Smith 2016; *see also* Smith 2015.)

³ *See also* Sean Greene, “How a fear of humans affects the lives of California's mountain lions,” *Los Angeles Times* (June 27, 2017), available at <http://beta.latimes.com/science/sciencenow/la-sci-sn-pumas-human-noise-20170627-story.html>.

Additional studies similarly documented that mountain lions avoid “urban, agricultural areas, and roads and prefer[] riparian areas and more rugged terrain.” (Zeller 2017; *see also* Vickers 2015.) One study found that over half (55 percent) of radio collared mountain lions in urban areas did not survive, and the majority were killed by humans either by vehicle strikes or using depredation permits. (Vickers 2015.) As such, the Plan should include policies to minimize development in open space areas, as “edge effects” from such development can interfere with animal behavior and movement.

Creating and Enhancing Wildlife Crossings Is Critical to Maintaining Healthy Ecosystems.

We recommend that the Draft Plan include stronger policies to promote wildlife movement and/or include a goal to develop a county wildlife connectivity ordinance. Enhanced connectivity helps sustain functional ecosystems and ensure public safety. Although natural, existing corridors in fragmented landscapes have been shown to have more wildlife movement compared to created corridors (Gilbert-Norton et al., 2010), crossing structures combined with setbacks at the entrances and exits are useful as retroactive restoration in areas where existing roads have high incidence of wildlife vehicle conflict or where species movement has been severely impacted. When appropriately implemented, wildlife crossing infrastructure has been shown to improve wildlife permeability and reduce wildlife vehicle collisions (Bissonette & Rosa, 2012; Dodd Jr. et al., 2004; Dodd et al., 2012; Kintsch et al., 2018; Sawaya et al., 2014; Sawyer et al., 2012).

Outside of California many other states and jurisdictions have been proactively addressing wildlife connectivity issues. For example, Arizona, Colorado, and Wyoming have seen 80-96% reductions in wildlife vehicle collisions while gradually increasing the level of wildlife permeability over time (it appears that some species take more time than others to adapt to crossings) on sections of highways where they have implemented wildlife crossing infrastructure, such as underpasses, culverts, overpasses, wildlife fencing, and escape ramps (Dodd et al., 2012; Kintsch et al., 2017; Kintsch et al., 2018; Sawyer et al., 2012). Utah just completed the state’s largest wildlife overpass at Parleys Canyon for moose, elk, and deer. Washington State is about to complete its largest wildlife overpass on I-90, which is anticipated to provide habitat connectivity for a wide variety of species between the North and South Cascade Mountains. The overpass cost \$6.2 million as part of a larger \$900 million expansion project that will include multiple wildlife crossings along a 15-mile stretch of highway. Savings from less hospital bills, damage costs, and road closures from fewer wildlife vehicle collisions will make up those costs in a few years (Valdes 2018). State and local officials are actively pursuing these types of projects because of the benefits for wildlife connectivity, public safety, and the economy. And in neighboring Ventura County, the Board of Supervisors recently adopted a first-of-its-kind ordinance to protect wildlife connectivity.

The Draft Plan Should Provide Clear Action Items To Support Wildlife Connectivity

We are concerned that the action items proposed in the Draft Plan are insufficient to support Goal 5. In particular, lacking from the action items is any clear plan for ensuring habitat connectivity within the region.

Instead, it appears that the County has not prioritized this issue. For instance, the County General Plan EIR anticipated a significant adverse effect on wildlife movement.⁴ The California Department of Fish and Wildlife (“CDFW”) urged the County to develop mitigation opportunities for wildlife connectivity, since such “opportunities for wildlife corridors and nursery sites are best established during large scale planning efforts such as this General Plan.” CDFW noted that “Wildlife corridor areas can be delineated and set aside in the General Plan for current and future conservation efforts. An assessment could be placed on development within the Project area to secure the acquisition of these critical linkages and sites, therefore reducing impacts to wildlife corridors and nursery sites and ensuring biological diversity.”⁵ The County did not implement CDFW’s recommendations.

The Plan should include a goal to develop a wildlife connectivity ordinance. Moreover, while the proposed “actions” to support Goal 5 are all helpful measures, more is needed. The Plan should incorporate policies that support an “urban growth boundary.” Urban growth boundaries have been used in other jurisdictions as a tool to encourage development in or near existing communities while leaving natural areas undeveloped. Without a clearly defined urban growth boundary, developers will continue to propose—and the Board will continue to approve—development in wild and fire-prone areas, which will further inhibit wildlife connectivity while increasing traffic and air pollution.

G. The Center Supports Goals 7 and 8 and Encourages Stronger Policies To Reduce VMT.

We support Goals 7 and Goal 8—a fossil fuel-free LA County with convenient, safe and affordable transportation that reduces car dependency. However, the targets and associated actions do not include sufficiently ambitious goals to reduce vehicle miles travelled (“VMT”). The Draft Plan’s aims for “[a]t least 15% of all trips will be by foot, bike, micromobility, or public transit.” (Draft Plan at 108.) This means that even if this target is met, in six years 85 percent of trips in the County will still be by car. The Draft Plan should call for much stronger measures to reduce single occupancy vehicle trips and VMT. The best way to do this is to limit development in areas far from existing cities that generate high VMT and limit new freeway development, which induces additional VMT.

The December 2018 Technical Advisory issued by the Governor’s Office of Planning and Research (the “VMT Report”)⁶ contains helpful guidance and analysis that could be

⁴ County of Los Angeles, *Los Angeles County General Plan Update Draft Environmental Impact Report* (June 2014), available at http://planning.lacounty.gov/assets/upl/project/gp_2035_deir.pdf.

⁵ County of Los Angeles, *Los Angeles County General Plan Update Final Environmental Impact Report* (March 2015), available at http://planning.lacounty.gov/assets/upl/project/gp_2035_lac-gpu-final-eir-final.pdf.

⁶ The VMT Report is available at http://opr.ca.gov/docs/20190122-743_Technical_Advisory.pdf.

incorporated into the Draft Plan. For instance, the VMT Report states that land use decisions to reduce GHG emissions associated with the transportation sector are crucial in order to meet the GHG reductions set forth in SB 375. (VMT Report at 3.) The VMT Report further notes that California cannot meet its climate goals without curbing single-occupancy vehicle activity; land use patterns and transportation options will need to change to support reductions in VMT. (*Id.* at 10.) The VMT Report also proposes a “per capita” or “per employee” threshold of 15 percent below existing development as a reasonable threshold. (*Id.* at 10.) The VMT Report reiterates the conclusion of the California Air Resources Board that “there is a gap between what SB 375 can provide and what is needed to meet the State’s 2030 and 2050 goals.” (*Id.*)

The VMT Report confirms that VMT-intensive development impacts human health and the environment: “Human health is impacted as increases in vehicle travel lead to more vehicle crashes, poorer air quality, increases in chronic diseases associated with reduced physical activity, and worse mental health. Increases in vehicle travel also negatively affect other road users, including pedestrians, cyclists, other motorists, and many transit users. The natural environment is impacted as higher VMT leads to more collisions with wildlife and fragments habitat. Additionally, development that leads to more vehicle travel also tends to consume more energy, water, and open space (including farmland and sensitive habitat). This increase in impermeable surfaces raises the flood risk and pollutant transport into waterways.” (VMT Report at 3.) As such, if the County took strong steps to reduce VMT, it would have co-benefits of better air quality, decreased chronic disease, decreased wildlife-vehicle collisions, and less habitat fragmentation.

The VMT Report further states that roadway expansion projects can induce substantial VMT such that the environmental reviews should incorporate quantitative estimates of induced VMT. (VMT Report at 23.) The VMT Report explains that “[b]uilding new roadways, adding roadway capacity in congested areas, or adding roadway capacity to areas where congestion is expected in the future, typically induces additional vehicle travel.” (*Id.* at 24.) The Plan should thus contain policies to discourage unnecessary highway development and instead focus infrastructure resources on alternative transportation projects.

H. Conclusion

Thank you for the opportunity to submit comments on the Draft Plan. Again, the Center strongly supports the goals of the Draft Plan. But if the goals in the plan are not supported by clear and enforceable policies, then the final Plan will be ineffective in achieving these goals.

Los Angeles County’s traffic jams, air pollution, fragmented wildlife habitat, and diminishing wildlands are a legacy of poor planning decisions made by local officials, often made under pressure from profit-driven developers. Unfortunately Los Angeles County and its Board have continued to approve costly, dangerous, and environmentally-damaging development despite (1) strong public opposition and (2) science confirming that such development is inappropriate in light of the climate crisis, extinction crisis, and the risks of building in fire-prone landscapes.

The Center urges the Chief Sustainability Office and Board to use this Plan as a means to establish a new vision for Los Angeles County that supports healthy communities and healthy wildlands. For such a vision to become reality, it must be supported by clear, binding, and legally enforceable policies. As long as such policies are vague or absent, developers will continue proposing—and officials will likely keep approving—projects that take the county in the wrong direction.

Please do not hesitate to contact the Center at the number or email listed below.

Sincerely,

A handwritten signature in blue ink, appearing to read 'J.P. Rose', with a stylized flourish at the end.

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(Attached on CD)

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LETTER CBD 2 CENTER FOR BIOLOGICAL DIVERSITY

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May 6, 2020

This letter was submitted outside the public comment period on the Draft EIR. A summary of the following responses was e-mailed to the commenter on July 24, 2020.

Response CBD 2-1

The comment provides introductory remarks and states that the Southern California Association of Governments (SCAG) should postpone the May 7th hearing on the Connect SoCal 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy Plan (Plan) and the associated Final Program Environmental Impact Report (FEIR), and further requests a recirculation of the PEIR. Individual comments are responded to below.

On May 7, 2020, the SCAG Regional Council certified the PEIR for Connect SoCal and approved Connect SoCal for federal transportation conformity purposes only, in order to meet the federal transportation conformity deadline. In light of requests to delay consideration of Connect SoCal due to the COVID-19 pandemic, the Regional Council also delayed approval of Connect SoCal for all other purposes, for up to 120 days. This period allowed SCAG to work with stakeholders to address issues raised concerning Connect SoCal and make refinements to the Plan and prepare a PEIR Addendum. On June 5, 2020, SCAG received the transportation conformity approval from the Federal Highway Administration and Federal Transit Administration. In the PEIR Addendum, SCAG expands upon the existing setting and impact analysis discussions and presents refined mitigation measures in response to CBD comments. This new information and refined mitigation measures included in the PEIR Addendum do not result in any of the following:

- One or more significant effects not discussed in the PEIR.
- Substantial increase in the severity of a previously identified significant effect.
- New mitigation measures or alternatives that were previously found not to be feasible would be, in fact, be feasible and would substantially reduce on or more significant effects of the project but are declined to be adopted by the project proponent.

- Mitigation measures or alternatives that are considerably different from those analyzed in the PEIR that would substantially reduce one or more significant effects but are declined to be adopted.

In general, the new information updates regulatory information, expands/clarifies environmental setting information, further clarifies the significant impacts already identified in the PEIR and refines mitigation measures to provide more detail as to how SCAG will carry out their role and provides more options for project-level mitigation.

Response CBD 2-2

The comment provides introductory remarks highlighting the background on the Center for Biological Diversity (CBD).

Response CBD 2-3

The comment states that the FEIR fails to adequately analyze or mitigate the Plan's impacts of nitrogen deposition on sensitive habitats and listed species. The commenter retained Stuart B. Weiss, Ph.D., and Travis Longcore, Ph.D., to evaluate the impacts of nitrogen deposition from transportation on sensitive habitats and species, included as Exhibit A to their letter. The analysis concludes the following: deposition of nitrogen on natural lands represents a significant threat to sensitive resources; the expansion of the transportation system associated with the Plan may increase deposition of nitrogen; and the FEIR does not assess the impacts of nitrogen deposition on sensitive natural resources, including listed species. Specifically, nitrogen deposition has the potential to impact the western Joshua tree, which is currently being considered for listing under the California Endangered Species Act (CESA). The California Fish and Game Commission (CFGC) is expected to vote on the Joshua tree's listing on August 19 - 20, 2020. The commenter states that the FEIR must analyze this issue and coordinate with the California Department of Fish and Wildlife (CDFW) to ascertain whether an incidental take permit is required.

SCAG has reviewed the included materials specific to nitrogen deposition and listed species. The complex science behind the release of nitrogen oxides (NO_x) and their effect on sensitive habitats and species is not well documented. Nitrogen oxides (NO_x) are released in the air through the burning of fossil fuels, agricultural fertilizer application, and livestock waste.¹ NO_x emissions react with dust or dissolve into rainwater and fall onto ecosystems as reactive nitrogen (Nr) deposition.² Reactive nitrogen is a term used for nitrogen compounds that support plant growth either directly or indirectly. An increase in nitrogen inputs can lead to soil and water acidification, plant nutrient imbalances, declines in plant health, changes

¹ Science News. 2016. *Study finds wide-reaching impact of nitrogen deposition on plants*. Available online at: <https://www.sciencedaily.com/releases/2016/03/160330174216.htm>

² National Park Service. *Studying Reactive Nitrogen Deposition*. Available online at: https://www.nps.gov/articles/cave_n_study.htm

in species composition, increases in invasive species, increased susceptibility to secondary stresses (i.e. freezing, drought, and insect outbreaks). Nitrogen saturation occurs in areas where nitrogen exceeds the plant and microbial demand.³ In areas with nitrogen deficiencies, nitrogen deposition can be beneficial. Specifically, areas can see increases in forest growth, carbon sequestration, and stand health in general.⁴

Oxidized nitrogen is produced from the burning of fossil fuels as well as natural sources such as lightning, forest fires and bacterial decay.⁵ Oxidized nitrogen include nitric acid (HNO₃), nitric oxide (NO), nitrogen dioxide (NO₂), ammonia (NH₃), and particulate nitrate (NO₃).⁶ Reduced nitrogen is primarily emitted from agricultural systems but also from automobiles. Reduced nitrogen includes NH₃ and particulate ammonium (NH₄).⁷

The commenter notes two species that will be impacted by nitrogen deposition: the western Joshua tree and the Quino checkerspot butterfly. The western Joshua tree is currently being considering for listing under CESA. The CFGC is expected to vote on August 20th to decide whether to consider the CBD's petition to list the tree.⁸ Within Joshua Tree National Park, nitrogen deposition is occurring from both automobile and powerplant pollution from the Los Angeles area and ammonia from agricultural sources in the Coachella and Imperial Valleys.⁹ The Quino checkerspot butterfly was listed on the Federal Endangered Species Act in 1997. The CBD released a petition to list the Quino checkerspot butterfly as endangered under CESA on June 29, 2020.¹⁰

As stated above, vehicles powered by internal combustion engines (i.e., gasoline or natural gas-powered vehicles) emit nitrogen oxides (NO_x) produced by high temperature combustion. As stated in Section 3.3, Air Quality, of the PEIR, vehicular NO_x emissions are regulated by CARB. In general, vehicular NO_x

³ Pardo, L.H. 2010. USDA. *Assessment of Nitrogen Deposition Effects and Empirical Critical Loads of Nitrogen for Ecoregions of the United States*. Available online at: https://www.nrs.fs.fed.us/pubs/gtr/gtr_nrs80.pdf

⁴ National Park Service. *Studying Reactive Nitrogen Deposition*. Available online at: https://www.nps.gov/articles/cave_n_study.htm.

⁵ EPA Enviroatlas. *Total Annual Nitrogen Deposition*. Available online at: <https://enviroatlas.epa.gov/enviroatlas/DataFactSheets/pdf/ESN/TotalAnnualNitrogenDeposition.pdf>.

⁶ EPA Enviroatlas. *Total Annual Oxidized Nitrogen Deposition*. Available online at: <https://enviroatlas.epa.gov/enviroatlas/DataFactSheets/pdf/ESN/TotalAnnualOxidizedNitrogenDeposition.pdf>

⁷ EPA Enviroatlas. *Total Annual Reduce Nitrogen Deposition*. Available online at: <https://enviroatlas.epa.gov/enviroatlas/DataFactSheets/pdf/ESN/TotalAnnualReducedNitrogenDeposition.pdf>

⁸ Sahagun, Louis. 2020. Los Angeles Times. *Worries mount in Yucca Valley that Joshua trees will be designated an endangered species*. Available online at: <https://www.latimes.com/environment/story/2020-07-03/worries-mount-in-yucca-valley-that-joshua-trees-will-be-designated-an-endangered-species>.

⁹ Allen, E.B., L.E. Rao, R.J. Steers, A. Bytnerowicz, and M.E. Fenn. 2009. Impacts of atmospheric nitrogen deposition on vegetation and soils at Joshua Tree National Park. *The Mojave Desert: Ecosystem Processes and Sustainability*.

¹⁰ <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=180750&inline>

emissions are controlled effectively by catalytic converters. A side effect of catalytic converters is the production of ammonia gas (NH₃); meaning that although total NO_x is going down in response to regulation, NH₃ continues to be produced as vehicles equipped with catalytic converters remain in the fleet. However, there are many variables in the understanding and quantification of NO_x emissions. As stated above, there are no state or federal standards for measuring NH₃ (ammonia gas), and there is only one monitoring station in the entirety of the SCAG region. As such, measurement, and quantification of NH₃ emissions is unreliable. Further, with no national or state standards, there is no threshold for comparison for CEQA purposes. An expanded discussion of nitrogen deposition has been added to **Chapter 3.0, PEIR Clarifications**. Refer to **Chapter 3.0, PEIR Clarifications**.

The relationship between VMT and NH₃ is unclear. While catalytic converters control NO_x emissions, they do produce NH₃. But as more combustion engines are removed from the road and newer models with cleaner technologies increase, including prevalence of electric cars, NH₃ could decrease over the lifetime of the Plan. The Plan supports fleet changes through the inclusion of transportation strategies aimed at electric fleets and other emerging technologies, and in fact, LA Metro, the largest bus fleet in the region, is in the process of phasing out all combustion (gasoline and natural gas) buses from its fleet.

There are numerous protected species in the SCAG Region (see PEIR Tables 3.4-2 and 3.4-3); it is not possible to determine which of these species may be impacted by specific projects (see **Response CBD 1-3** regarding Program and Project EIRs). Rather, the Connect SoCal Plan takes a multi-species benefit approach to conservation, intended to protect and enhance the SCAG region's high-level of biodiversity. While Connect SoCal does not directly reference the western Joshua Tree, the Plan includes key conservation approaches including habitat restoration and an emphasis on urban development. The strategies outlined in the Plan, as well as PEIR mitigation measures, are consistent with the mitigation measures included in the research paper provided by CBD (*Effects of Nitrogen Deposition on Sensitive Species and Habitats Resulting from the Southern California Association of Governments Regional Transportation Plan*). In particular, the cited paper indicates expanding the transportation system may increase deposition of nitrogen. It is important to note that population growth is considered a constant, with or without the Plan, and while VMT as a whole does go up as a result of expanding population, it does not go up as fast as population. Therefore, implementation of the Plan results in reduced per capita VMT. The RTP/SCS focuses on transit and enhancing and making more efficient (through HOT lanes and enhanced goods movement) existing infrastructure to reduce per capita VMT rather than expanding the roadway transportation system which typically increases per capita VMT. The Plan seeks to reduce VMT through a series of land use and transportation strategies. These strategies are further outlined in the Plan and PEIR.

Exhibit A of the commenter's letter noted mitigation implemented by other conservation plans or roadway expansions to reduce the impacts from nitrogen deposition. The mitigation recommended includes funding

for monitoring and management, establishing endowments for funding after project retirement, and the payment of a one-time nitrogen deposition fee based on vehicle trips generated by a project. SCAG has evaluated and reviewed the recommended nitrogen deposition measures and added mitigation measures as applicable; see PEIR Addendum **Chapter 4.0, Mitigation Measures**.

See also **Response CBD 1-5** regarding mitigation of sensitive species and habitat loss in general.

Response CBD 2-4

The comment states that human-caused ignitions and the expansion of non-native grasses has led to increased fire activity in the SCAG region which is harmful to biological resources and wildlife.

SCAG and the PEIR recognize the effects wildfires have on degraded air quality, associated health risks, and special status species and how these effects will be exacerbated by climate change (see PEIR pg. 3.3-60, pg. 3.4-63, pg. 3.8-67, and pg. 3.20-10). The PEIR discusses the role human beings play in wildfires (see PEIR pg. 3.20-5).

The Plan aims to address constraints to expansive regional growth. The Plan includes land use strategies to conserve farmland, resources areas and habitat corridors, and guide growth away from lands that are vulnerable to wildfire, flooding, and near-term sea-level rise. The Plan discourages urban sprawl by focusing growth within Priority Growth Areas (PGAs). While PGAs represent only four percent of the region's total land area, implementation of growth strategies will help these areas accommodate 60 percent of the forecasted household growth and 73 percent of forecasted employment growth between 2016 and 2045 (see PEIR pg. 3.11-43).

Connect SoCal also discourages placing homes and people in high fire-prone areas. Connect SoCal emphasizes land use development options that conserve important farmland, resource areas and habitat corridors, and deprioritizes growth on lands that are vulnerable to wildfire, flooding and near-term sea-level rise (pg. 47 of the Plan). The Plan includes the CalFire "Very High Severity Fire Risk" designation as a constrained area (pg. 177 of the Plan). Wildfires are also a factor in the 'Climate Vulnerability' performance measure, which seeks to identify disparities in vulnerability to the impacts of climate change among the various communities in the SCAG region (pg. 147 of the Plan). Connect SoCal's land use strategies were identified with guidance from stakeholders in SCAG's Natural and Farmlands Conservation Working Group as high priorities for conservation based on climate change vulnerability, water quality impacts, and decline of native species (pg. 53 of the Plan).

SCAG is currently developing a Regional Climate Adaptation Framework, which will assist local and regional jurisdictions in managing the negative impacts of wildfires and other hazards caused by climate

change. The Climate Adaptation Framework will integrate existing State initiatives, policies, and guidance into the regional framework, helping to connect local and regional land use and transportation planning with State policy goals. The framework will specifically provide communication & outreach strategies and templates for local jurisdictions; toolkits for local jurisdictions to support project implementation, land use, and transportation infrastructure decisions; resources for cities to comply with Senate Bill 379; resources and templates for other metropolitan planning organizations (MPOs); tools and metrics for tracking implementation progress; and a regional framework and coordination strategy.

Regarding SCAG's land use authority, SCAG does not implement land use development patterns discussed in the Plan. Refer to **Response CBD 2-10** regarding SCAG's authority.

The Natural and Farm Lands Conservation Technical Report outlines Connect SoCal Plan's integrated land use and conservation planning approach and identifies programs (often offered through the greenhouse gas reduction fund) that provide local assistance grants to fire departments within High Hazard Severity Zones to support activities directly related to the reductions of greenhouse gas emissions from uncontrolled wildfires and regional response and readiness (pg. 20 of the Technical Report).

As stated in the Plan, 'greenfield' land consumption refers to new urban development occurring on land that has not previously been developed, or otherwise impacted by, urbanized use, including agricultural lands, forests, deserts and other open spaces. Rural land consumption under Connect SoCal would be substantially less (71 square miles) than build out of the region without the Plan (i.e., RTP Baseline) (100 square miles) (pg. 118 of the Plan). Connect SoCal would reduce greenfield development by 29 percent by focusing new residential and commercial development in higher density areas that are already equipped with the requisite urban infrastructure (pg. 118 of the Plan).

As stated above, Connect SoCal presents a holistic approach to reduce many of the environmental threats indicated in CBD's letter (wildfire risk, nitrogen deposition, species protection). Together, the policies in the Plan aim to reduce environmental threats by focusing development on urban lands. SCAG reviewed the suggested mitigation measures provided by CBD and has refined/clarified mitigation measures as recommended by CBD as appropriate; see PEIR Addendum **Chapter 4.0, Mitigation Measures**.

Response CBD 2-5

The comment states that the FEIR fails to adequately assess wildfire risk and the potential impacts of more fire ignitions from placing homes and people in high fire-prone areas. See **Response CBD 2-4** above.

As detailed in **Response CBD 2-4**, the Plan will focus growth in PGA's, thereby reducing urban sprawl and associated fire risks.

The PEIR includes a series of plan-level and project-level mitigation measures to reduce the impacts of wildfire and urban sprawl, see **SMM WF-1** through **SMM WF-3**, **PMM WF-1**, **SMM AG-3**, **SMM AG-4**, and **SMM LU-1**. SCAG welcomes CBD's participation in the development of programs to further reduce wildfire risk within the plan area. Further, SCAG reviewed the measures suggested by CBD and has refined/clarified mitigation measures as appropriate; see PEIR Addendum **Chapter 4.0, Mitigation Measures**.

Response CBD 2-6

The comment states that the expansion of sprawl development could lead to a disruption of the natural fire regime and lead to a dangerous feedback loop of deadly fires and habitat destruction.

The PEIR recognizes the increasing hazards posed by climate change and building in proximity to wildlands. California is experiencing longer fire seasons that are extending from summer into December (see PEIR, pg. 3.20-2). The state is also experiencing more severe, large wildfires such as the November 2018 Camp Fire and Woolsey Fire (see PEIR, pg. 3.20-6 and 3.20-12). As discussed in **Response CBD 2-4** and **Response CBD 2-5** the Plan focuses growth in PGAs and will reduce the amount of development in greenfield locations by the horizon year (2045). Moreover, the Plan implements a series of mitigation measures to reduce the risk of exasperating wildfire risks, as detailed in **Response CBD 2-5**. The PEIR also identifies a series of greenhouse gas mitigation measures to limit the Plan's effects on climate change that can contribute to these large fire events, see **SMM GHG-1** through **SMM GHG-4** and **PMM GHG-1**.

SCAG has also proposed plan-level and project-level mitigation to reduce the impact posed by human induced wildfires which would in turn reduce impacts to special status species, see **SMM WF-1** through **SMM WF-3** and **PMM WF-1** through **PMM WF-2**. The commenter's May 1, 2020, and the May 6, 2020, letters have provided SCAG with suggested mitigation measures to reduce the risk posed to mountain lions from wildfire. SCAG has evaluated these measures and has refined/clarified mitigation measures as appropriate; see PEIR Addendum **Chapter 4.0, Mitigation Measures**.

Response CBD 2-7

The comment states that the FEIR failed to adequately assess and mitigate the potential health and air quality impacts posed from increased smoke from human-caused ignitions.

The PEIR addresses wildfires within Section 3.3, Air Quality, noting that emissions from wildfires contribute a substantial amount of pollutants to the atmosphere, but are unaccounted for within air quality management plan (AQMP). They are not included within these plans because wildfires are part of the U.S. EPA's Exceptional Events Rule and are not considered for NAAQS attainment status (see PEIR, pg. 3.3-60).

The emissions from wildfires are unpredictable year to year and it is not feasible to estimate their contribution to regional air quality, the Plan's Public Health Technical Report includes a discussion about how climate change can lead to air pollution through the increased frequency of wildfires. As stated by the Plan, wildfires can lead to the formation of excess air pollutants including carbon dioxide, fine particulate matter, and ground-level ozone (see Plan's Public Health Technical Report, pg. 27). In order to reduce the risk posed by wildfires and reduce the risk of wildfire pollutants impacting human health, the Plan focuses growth in PGA's and discourages development in fire-prone areas or natural lands.

The PEIR includes a series of plan-level and project-level mitigation measures to reduce the impacts of wildfire and air pollution, see **SMM WF-1** through **SMM WF-3**, **SMM AQ-1** through **SMM AQ-3**, and **PMM AQ-1**. The comments provide a series of plan- and project-level mitigation aimed at reducing wildfire risks. Further, SCAG reviewed these suggested measures and has refined/clarified mitigation measures as appropriate; see PEIR Addendum **Chapter 4.0, Mitigation Measures**.

Response CBD 2-8

The comment states that the FEIR fails to assess and mitigate the impact of increased wildfires on fire protection services and utilities.

The California Department of Forestry and Fire Protection (CAL FIRE) is the state's fire protection agency responsible for protecting natural resources from fire on land designated by the State Board of Forestry as State Responsibility Areas. This includes approximately 31 million acres of the state's privately-owned wildlands. California has faced more intense fire seasons in recent years, see **Response CBD 2-6**. In order to support CAL FIRE, the state issued Executive Order (EO) N-16-19, Assembly Bill (AB) 1116, and Senate Bill (SB) 542 and increased the state budget dedicated to CAL FIRE. See **Chapter 3.0, PEIR Clarifications**, for additional information related to CAL FIRE.

The effect of wildfire season on the funding and mental health of firefighters is a socioeconomic issue that is not a topic addressed by CEQA unless it were to result in physical environmental impacts. Any potential for funding issues and firefighter mental health to result in physical impacts is speculative and is therefore, not appropriately discussed in the PEIR. The Plan provides strategies for coordinating with state and regional agencies on wildfire readiness. To the extent that the Plan has the potential to affect wildfires and cause physical environmental impacts, such impacts are evaluated in the PEIR (refer to PEIR 3.3-79). Providing a mechanism for developers to reimburse Cal Fire is also beyond the limits of SCAG's authority.

See **Response CBD 2-4** and **Response CBD 2-5**. The Plan focuses growth on PGA's and implementation of the Plan will reduce the planned development on greenfield, which will reduce urban sprawl and human-induced wildfire impacts. The comments provide a series of plan- and project-level mitigation aimed at

reducing wildfire risks and the financial burden to CAL FIRE. SCAG has reviewed the suggested mitigation measures provided by CBD and has refined/clarified mitigation measures as appropriate; see PEIR Addendum **Chapter 4.0, Mitigation Measures**.

Response CBD 2-9

The comment states that mitigation measures **SMM WF-1** through **SMM WF-3** are insufficient to mitigate the increased risk of human ignitions and the increased strain on firefighting resources created from the Plan's sprawl in fire-prone areas.

As discussed in **Response CBD 2-4** and **Response CBD 2-5**, the Plan focuses growth on PGA's and implementation of the Plan will reduce the planned development on greenfield, which will reduce urban sprawl and human-induced wildfire impacts. The PEIR includes a series of plan-level and project-level mitigation measures to reduce the impacts of wildfire, see **SMM WF-1** through **SMM WF-3**. The comments provide a series of plan- and project-level mitigation aimed at reducing wildfire risks. SCAG has reviewed the suggested mitigation measures provided by CBD and has refined/clarified mitigation measures as appropriate; see PEIR Addendum **Chapter 4.0, Mitigation Measures**.

Response CBD 2-10

The comment asserts that the CBD disagrees that SCAG has no authority or obligation to impose specific mitigation measures or standards on projects included in the Plan. Refer to **Response to CBD 1-4**.

See also **Response CBD 2-4**. SCAG has reviewed the suggested mitigation measures provided by CBD and has refined/clarified mitigation measures as appropriate; see PEIR Addendum **Chapter 4.0, Mitigation Measures**.

Response CBD 2-11

The comment asserts that the baseline used within the FEIR may not comply with CEQA.

See **Response CBD 1-17** regarding baseline. The environmental baseline as used in the PEIR is, in fact, the existing physical conditions, i.e., the condition on the ground as of 2019. Only those projects that are existing and operational today are considered in the environmental baseline. However, the RTP baseline is different (referred to as the 2045 No Project in the PEIR) and includes transportation projects underway. This difference is to account for the federal requirements for RTPs, which require a baseline that shows the difference between a plan and no plan scenario. The alternatives analysis also appropriately compares 2045 conditions to existing conditions.

Response CBD 2-12

The commenter states that the FEIR's GHG is incomplete and inadequate as the FEIR bases its goals and targets on CARB vehicle emissions reductions.

The PEIR analyzes potential impacts from the Plan utilizing available sources of data and models. SCAG recognizes that there are limitations on the scope of analysis for the PEIR. The PEIR focuses on regional conditions affected by activities related to Plan implementation relating to air basins, streams and watersheds, and localized conditions including impacts on cultural and biological resources. The global consequences of regional GHG emissions are dependent on a wide range of factors such as the willingness of federal, state, regional and local governments in the United States and worldwide to adopt and implement meaningful measures to reduce GHG emissions within their authority/jurisdiction; the development and deployment of technologies that reduce GHG emissions; and the many factors that affect the pricing and availability of fuels that result in GHG emissions such as global conflict and taxes.

Refer to **Response CBD 1-21** regarding the SAFE Rule.

The GHG analysis provided in the PEIR demonstrates a gross estimated reduction in GHG emissions between 2019 and 2045 (see PEIR Table 3.8-8, Greenhouse Gas Emissions All On-Road and Other Transportation Sources by County [CO₂e] Million Metric Tons per Year). This table also provides the analysis of the Plan versus the No Plan 2045 scenarios. As shown in the referenced table, between 2019 and 2045, GHG emission from on-road mobile sources and other transportation sources, inclusive of light and medium duty vehicles and heavy-duty trucks, would decrease by approximately 12 percent (on road only would decrease by approximately 17 percent). See PEIR page 3.8-64.

The PEIR further draws the important connection between VMT and GHG emissions and is clear about SCAG's limits of authority (PEIR page 3.8-78).

Given the state's emphasis on VMT reduction as the only feasible way to achieve additional GHG reductions needed from cars and light-duty trucks, and in recognition of the climate change benefits that occur from reduced VMT resulting in reductions in GHGs, the projected land use pattern proposed under the Plan supports HQTAs. However, SCAG lacks the land use authority to enforce specific land uses. Implementation of the projected land use pattern under the Plan is within the purview of local agencies. Nevertheless, as described in Section 2.0, Project Description, in order to incentivize implementation, SCAG has established several programs that support transit-oriented development in the region. For example: promoting congestion pricing, implementing complete streets strategies, and improving connectivity between existing transit systems.

Response CBD 2-13

The commenter states that the FEIR's GHG mitigation measures are inadequate, unfunded, and unenforceable.

Pursuant to Appendix G of the *CEQA Guidelines*, a significant GHG impact is identified if a project could “conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.” Pursuant to SB 375, the SCS aligns transportation, land use, and housing strategies to meet regional GHG emission reduction targets for cars and light-duty trucks for 2020 and 2035 (compared to 2005 emissions) on a per capita basis. These targets were initially intended to meet the statewide AB 32, SB 32, and Scoping Plan GHG emissions reduction goals for land use-related emissions from cars and light-duty trucks.

The PEIR explains that while Connect SoCal meets the SB 375 targets, CARB has indicated that the regional 2035 GHG emissions reduction targets under SB 375 are not adequate to fully meet the goals of the 2017 Scoping Plan for cars and light-duty trucks. Collectively, CARB determined that if the state’s 18 MPOs all met the SB 375 GHG cars and light-duty trucks emission reduction targets set by CARB in 2018, only a 19 percent reduction in per capita vehicle miles traveled (VMT) from cars and light-duty trucks, would be achieved by 2035 resulting in a 6 percent gap to meet the state’s 25 percent reduction need.

The Governor’s Office of Planning and Research (OPR) and CARB have both provided recommendations for reducing VMT reductions at the project level which could be a means to close the gap between GHG reductions achieved through SCS implementation and the GHG reductions necessary to meet the state’s GHG reduction goals. For example, OPR has provided a recommended threshold of 15 percent VMT reduction at the project level. CARB also recommends project specific VMT reduction thresholds of 16.8 percent reduction from baseline for light-duty vehicle VMT (i.e., passenger cars and light trucks) or a 14.3 percent reduction for total VMT (i.e., all vehicles).

As such, SCAG found that while the Plan meets the SB 375 targets established by CARB, it does not reduce GHG emissions from cars and light-duty vehicles enough to meet the AB 32, SB 32, and Scoping Plan targets. MPOs have no authority to implement VMT reductions. Furthermore, SCAG does not have jurisdiction over other key sectors (e.g., energy, industry, water, waste and agriculture) to address statewide GHG emissions reduction goals. Therefore, the Plan was found to result in a significant and unavoidable GHG impact.

Lead agencies have the discretion to determine whether projects conflict with plans, policies, or regulations adopted for the purpose of reducing GHG emissions including, but not limited to, the SCS, AB 32, SB 32, Scoping Plan, and applicable Climate Action Plans (CAPs). SCAG provided Table 3.8-4 – California Jurisdictions Addressing Climate Change in the SCAG Region (2019) on page 3.8-51, which shows the jurisdictions that have adopted CAPs.

Contrary to CBD's assertions, SCAG has undertaken several planning efforts to assist jurisdictions in developing CAPs.¹¹ The Sustainable Communities Program provides technical assistance to SCAG member jurisdictions to complete planning and policy efforts that enable implementation of the regional SCS. Examples include: Sustainable Land Use Planning, Transit Oriented Development (TOD) and Land Use & Transportation Integration, Bicycle, Pedestrian and Safe Routes to School Plans, Natural Resource Plans, Climate Action Plans (CAPs) and Greenhouse Gas (GHG) Reduction programs.

Additionally, SCAG is developing a Regional Climate Adaptation Framework, which is intended to assist local and regional jurisdictions in managing the negative impacts of climate change. This will look at how the Southern California region can work together to plan and prepare for the impacts of sea level rise, extreme heat, increasingly frequent and damaging wildfires, and other climate-related issues. The PEIR includes the following mitigation measure reflecting SCAG's work to support local greenhouse gas reduction planning:

SMM GHG-1: SCAG, in partnership with local air districts, shall continue to work with the counties and cities to adopt qualified GHG reduction plans (e.g., climate action plans [CAPs], develop GHG-reducing planning policies, and implement local climate initiatives. These reductions can be achieved through a combination of programs, that implement plans developed collaboratively, including ZNE in new construction, retrofits of existing buildings, incentivizing the development of renewable energy sources that serve both new and existing land uses, as well as measures to reduce GHG emissions from transportation sources.

Additionally, SCAG shall continue to update the Green Region Initiative (GRI) Sustainability Indicators Mapping tool, which serves as an interactive information resource for jurisdictions within the SCAG region to measure and track sustainability progress in the region across 12 categories and 29 sustainability indicators. The tool fosters collaboration through the sharing of best practices across the 191 cities and six counties in the SCAG region, and identifies opportunities for improving sustainability practices (due to the recent inclusion of SB 535 Disadvantaged Communities data.

Regarding streamlining, the PEIR states that in order to use the document for streamlining purposes, (PEIR 1-0-18) the lead agency must apply mitigation measures in the PEIR or comparable measures. It is up to the lead agency to determine the appropriate mitigation measure as SCAG recognizes the specifics of the project will dictate the appropriateness of the measure. SCAG provides guidance for project-specific

¹¹ See SCAGs Sustainable Communities Program:
<http://sustain.scag.ca.gov/Pages/Grants%20and%20Local%20Assistance/GrantsLocalAssistance.aspx>

mitigation measures that are performance based commensurate with SCAG's role and authority and regional perspective. It is appropriate and necessary that lead agencies select and tailor mitigation measures based on their judgment as to what constitutes a significant impact and the mitigation measures appropriate to their circumstances.

As discussed above, SCAG encourages and provides funding for individual jurisdictions to develop Climate Action Plans at the local level. *CEQA Guidelines* Section 15183.5 identifies what a plan for the reduction of greenhouse gas emissions should include.

Response CBD 2-14

The commenter asserts that the FEIR does not provide a clear picture of the loss of habitat caused by the Plan.

As detailed in **Response CBD 2-5**, Connect SoCal would reduce greenfield development by 29 percent by focusing new residential and commercial development in higher density areas that are already equipped with the requisite urban infrastructure (pg. 118 of the Plan). As described throughout this document, the Plan includes numerous strategies aimed at reducing "sprawl" development. As stated in the Plan, 'greenfield' land consumption refers to new urban development occurring on land that has not previously been developed, or otherwise impacted by, urbanized use, including agricultural lands, forests, deserts and other open spaces. Rural land consumption under Connect SoCal would be substantially less (71 square miles) than build out of the region without the Plan (i.e., RTP Baseline) (100 square miles) (pg. 118 of the Plan). Connect SoCal would reduce greenfield development by 29 percent by focusing new residential and commercial development in higher density areas that are already equipped with the requisite urban infrastructure (pg. 118 of the Plan).

As stated above, Connect SoCal presents a holistic approach to reduce many of the environmental threats indicated in CBD's letter (wildfire risk, nitrogen deposition, species protection). Together, the policies in the Plan aim to reduce environmental threats by focusing development on urban lands. SCAG has reviewed the suggested mitigation measures provided by CBD and has refined/clarified mitigation measures as appropriate; see PEIR Addendum **Chapter 4.0, Mitigation Measures**.

Response CBD 2-15

The comment provides a conclusion to the CBD's remarks. CBD's letter provides valuable input to the Plan process and SCAG has prepared an Addendum to clarify and expand upon certain information and refined mitigation measures in response to some of the issues raised in the letter.