Appendix A

Notice of Preparation

Appendix A-1

NOP

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sandag.org

November 14, 2016

File Number 3102000

TO: Interested Agencies, Organizations, and Individuals

FROM: SANDAG Staff

SUBJECT: Notice of Preparation of a Program Environmental Impact Report for San Diego Forward: The Regional Plan

Notice of Preparation

The San Diego Association of Governments (SANDAG), as Lead Agency, will prepare a Program Environmental Impact Report (EIR) for San Diego Forward: The Regional Plan (Regional Plan). Responsible and trustee agencies, and other interested agencies, organizations, and individuals are invited to provide written comments on the scope and content of the EIR. An overview of the Regional Plan, its probable environmental effects, and related information is attached. An initial study was not prepared.

Scoping Meeting

A public scoping meeting will be held on Thursday, December 8, 2016, at 12 noon (immediately preceding the Regional Planning Technical Working Group meeting). The meeting will be held at SANDAG, 401 B Street, Suite 800, San Diego, CA 92101. Attendees will have the opportunity to provide verbal and written comments to SANDAG at the scoping meeting.

Submitting Comments

Comments also can be provided in writing to SANDAG. State law requires that responsible and trustee agencies provide comments no later than 30 days after receipt of this notice. For all other parties, SANDAG is providing a 60-day comment period. As such, comments from all other parties must be received by January 13, 2017. Please include a name and contact information, if appropriate.

Contact Information

Please send written comments via mail or email to:

Andrew Martin, Senior Regional Planner
401 B Street, Suite 800
San Diego, CA 92101
andrew.martin@sandag.org

Lead Agency: San Diego Association of Governments (SANDAG)

Project Title: Program Environmental Impact Report for San Diego Forward: The Regional Plan

Project Location: The 18 cities and unincorporated areas of San Diego County

Prepared By:

Andrew Martin

11-10-16

ANDREW MARTIN
Senior Regional Planner
(619) 595-5375

Date

AMA/hbr

Attachment: 1. Plan Information and Scope of Environmental Analysis

Attachment 1. Plan Information and Scope of Environmental Analysis

Background and Plan Overview

The San Diego Association of Governments (SANDAG), as the Lead Agency under the California Environmental Quality Act (CEQA), will prepare a Program Environmental Impact Report (EIR) for an update to San Diego Forward: The Regional Plan (Regional Plan). The Regional Plan will consist of a Regional Transportation Plan (RTP) and a Sustainable Communities Strategy (SCS) that identify the San Diego region's future transportation investments and growth through 2050.

In accordance with state and federal guidelines, the RTP and SCS are updated every four years. On October 9, 2015, the SANDAG Board of Directors adopted the current version of the Regional Plan and certified its EIR. The Regional Plan is scheduled for consideration by the SANDAG Board of Directors in 2019. A new EIR will be prepared for the Regional Plan to evaluate its significant effects on the environment, identify alternatives to the Regional Plan, and indicate the manner in which significant effects can be mitigated or avoided.

Plan Location

The Regional Plan location includes all of San Diego County, including all 18 cities and all unincorporated areas. The Regional Plan considers cross-border and interregional travel patterns with neighboring counties and Mexico.

Senate Bill 375

Senate Bill 375 (Chapter 728, Statutes of 2008) (SB 375) provides for a planning process to coordinate land use planning and RTPs to help California meet the greenhouse gas (GHG) reductions established in Assembly Bill 32 (Chapter 488, Statutes of 2006). SB 375 requires RTPs prepared by Metropolitan Planning Organizations (MPOs), including SANDAG, to incorporate an SCS in their RTPs that demonstrates how the region would achieve GHG emission reduction targets for passenger vehicles set by the Air Resources Board (ARB).

In September 2010, the ARB adopted GHG targets for major MPOs, including SANDAG. The current SANDAG targets are per capita carbon dioxide emission reductions from passenger vehicles of 7 percent by 2020 and 13 percent by 2035, relative to 2005 levels. However, the ARB is expected to adopt a new 2035 target for SANDAG sometime in 2017. SANDAG anticipates that the new 2035 target will be in effect for the Regional Plan.

SB 375 has three major components:

1. Using the regional transportation planning process to achieve reductions in GHG emissions from passenger vehicles;
2. Offering incentives under CEQA to encourage projects that are consistent with an SCS that achieves GHG emission reductions; and
3. Coordinating the regional housing need allocation process with the regional transportation planning process while maintaining local authority over land use decisions.

If an SCS is unable to achieve the GHG emission reduction targets set by the ARB, an Alternative Planning Strategy must be developed to demonstrate how the targets could be achieved.

Resource Topics Addressed in the EIR

The EIR will analyze the Regional Plan's significant environmental effects for the following 16 resource topics:

- Aesthetics and Visual Resources
- Agricultural and Forestry Resources
- Air Quality
- Biological Resources
- Cultural and Paleontological Resources
- Energy
- Geology, Soils, and Mineral Resources
- GHG Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use
- Noise and Vibration
- Population and Housing
- Public Services and Utilities
- Transportation
- Water Supply

In addition, the EIR will address cumulative impacts, growth inducing impacts, and other considerations required by CEQA.

Alternatives Analyzed in the EIR

As required by CEQA Guidelines Section 15126.6, the EIR will describe a range of reasonable alternatives to the Regional Plan that would feasibly attain most of the Regional Plan's basic objectives, but would avoid or substantially lessen any of the Regional Plan's significant effects, and evaluate the comparative merits of the alternatives. In addition, the EIR will identify other alternatives that were initially considered, but rejected for reasons including, but not limited to, infeasibility due to economic, legal, or other considerations; inability to meet most of the basic project objectives; or failure to avoid or substantially lessen any of the Regional Plan's significant environmental impacts. SANDAG is seeking input on alternatives as part of the Notice of Preparation process.

Appendix A-2

NOP Comments

Bill Tippets
5850 Soledad Mtn Rd
La Jolla, CA 92037

December 16, 2016

SANDAG (Submitted via email)
401 B Street, Suite 800
San Diego, CA 92101
Attention: Andrew Martin, Senior Regional Planner (andrew.martin@sandag.org)

Re: SANDAG NOP for Preparation of a Program EIR for San Diego Forward: The Regional Transportation Plan/Sustainable Communities Strategy

Dear Mr. Martin:

I am submitting this letter to comment on the NOP issued by SANDAG on November 14, 2016. The project is described as an update to the current 2050 RTP/SCS, a plan that is primarily intended to implement the requirements of SB 375. However, the current RTP/SCS was also prepared to update and incorporate the Regional Comprehensive Plan (RCP). The NOP should have described – and SANDAG must declare - whether this project also includes an update of the RCP component.

As noted in the NOP, SB 375, and thus the RTP, has three primary goals:

1. Using the regional transportation planning process to reduce greenhouse gas (GHG) emissions from passenger vehicles;
2. Offering incentives under CEQA to encourage projects that are consistent with a SCS that achieves the GHG emission reductions; and
3. Coordinating the Regional Housing Need Allocation process with the Regional Transportation Planning process while maintaining local authority over land use decisions.

Preparing an RTP/SCS that achieves these goals is critical to the San Diego Region's continued quality of life and would contribute significantly to larger state, national and global GHG emission objectives. However, to do so the RTP must acknowledge and successfully overcome several misconceptions and fundamental flaws in the previous RTP/SCS (source information is provided at the end of this letter):

1. SANDAG does not seem to acknowledge that building more general purpose freeway lanes is responsible for induced travel (particularly single-passenger vehicle) demand. One of the key reasons that many criticize SANDAG's current approach to transportation system network planning is its retention of general purpose lanes. Induced travel demand is not an "academic fallacy" as some have improperly asserted: building more roads just causes more drivers to use them. This knowledge is addressed in numerous studies and real-world assessments, including a widely cited 2015 UC Davis study that Caltrans has agreed was valid: more freeways do not solve traffic congestion and they lead to an increase in air pollution. Also, the next RTP/SCS needs to effectively integrate HOV lanes and "automated vehicles" (particularly freight trucks, which are expected to be implemented fairly soon and will need transfer stations to local

delivery) into the peripheral (e.g., the cities') transportation networks/smart growth-TOD land uses. Failure to do so will translate into more traffic delays and air pollution. What we don't need is for SANDAG to continue to promote more freeways that haven't, and won't, solve our transportation problems.

2. The next RTP/SCS could greatly improve the region's transit networks, while addressing needed local road/infrastructure repairs and improvements. San Diego's transit systems' (rail, bus, bike, walking) performance has substantial room for improvement. Increased funding for regional and local bikeways, safe (walking) routes are essential, but rail and rapid bus services can be greatly increased and improved. Recent studies have demonstrated that the San Diego metropolitan area's transit ridership is ranked 33rd of the top 75 largest metropolitan areas and our transit stations have among the worst rating in the state. Why is transit lagging? In large part, it seems that SANDAG has not given sufficient consideration – and funding - to leading-edge transit system improvements (one example is the Quickway approach that has been presented to SANDAG). Also, SANDAG could work more effectively with the local jurisdictions to coordinate the housing-jobs-transit mix. Transit works well in other US metropolitan areas; we need the next RTP/SCS to provide real leadership and utilization of new opportunities, and not to essentially rely on the historical approach to "improving" transit.
3. The next RTP/SCS must better understand and plan for our population growth and demographics. For example, millennials, who are expected to dominate housing demand, are not as fixated on single family homes and vehicles as previous generations. A 2015 study by Freddie Mac found that millennials tend to favor rentals and denser housing. A study in the Journal of the American Planning Association (2015) found that millennials are driving less and tending to live in urban areas, lowering their need for cars. Southern California demographics show a trend favoring multi-family housing and higher-density housing that is close to transit and generally more affordable than single family homes. And, San Diego is projected to locate about 80% of new residential growth within the existing developed urban areas, which is where transit works best.

   Regarding housing – and commercial/industrial – development, the RTP/SCS should identify policies, initiatives and incentives that will promote smart growth and seamless integrated transportation networks. The RTP/SCS should encourage/incentivize new developments that achieve net zero GHG emissions. For example, the recently announced FivePoint Net Zero Newhall (Ranch) plan outlines how this 21,500-unit development will meet net zero emissions. The RTP/SCS approach should prioritize San Diego and California-based GHG reduction options (rather than outside CA options) where onsite measures are not fully-sufficient.

SANDAG's update of its current RTP must recognize and address several significant changes in policies, plans and environmental conditions since that version was prepared. Among the most significant changes:

1. The State of California passed and enacted SB 32, which establishes a requirement that the statewide GHG reduction be 40% below the 1990 baseline by 2030 (codifying Executive Order B-30-15). The RTP should demonstrate how the projects that SANDAG is specifically responsible for implementing will meet – or preferably exceed - that reduction level.
2. The City of San Diego has a new, certified Climate Action Plan (CAP) that adopts the same GHG reduction target for 2030 as the State, and establishes a goal of an 80% reduction from the 1990 baseline by 2050. Other cities' CAPs and the County of San Diego's CAP also have or call for similar GHG reduction targets/timelines. A key means to meet these targets will be for the

region to adopt Community Choice Energy (CCE) and to prioritize local, distributed photovoltaic (PV) supply opportunities, not to promote and rely on mega PV facilities (e.g., desert solar).

3. The City of San Diego is preparing its Community Planning Updates that will specify land uses and densities that must be addressed in the RTP (and EIR). Other cities will, through their CAPs and General Plan Updates, specify land uses/densities that must be addressed in the RTP. Similarly, the County's CAP, which is currently in preparation and will be completed before the RTP, may identify opportunities and needs to changes to the RTP to allow the County to achieve its GHG reductions.
4. The State of California's climate policies and legislation establish clear guidance for regional planning agencies, counties and local governments that would complement the intent of international treaties and national policies to reduce GHG emissions. The RTP must, at the very least, fully contribute its "fair share" toward meeting those GHG emission targets/requirements. To that end, SANDAG must have a clear accounting of current GHG emissions – from each sector/major emission component – and be able to monitor/account for any claimed reductions by the project and its mitigation measures.

The RTP/SCS must clearly specify and identify how it will ensure:

1. Timelines/milestones for the project elements and mitigation measures and how these will become binding and legally enforceable.
2. Because the RTP/SCS involves or assumes many actions that are outside of SANDAG's authority (e.g., local land use decisions, economic development, etc.), it must clearly delineate how SANDAG and the local entities will ensure that the RTP/SCS goals, objectives, projects, and mitigation will be implemented.
3. A number of news articles have documented that SANDAGs TransNet program has not generated the (sales tax) revenues that it projected – and are needed to fund RTP projects. SANDAG must provide a more realistic assessment of its proposed revenues and project costs. This is particularly important when identifying the priorities for RTP projects and mitigation.
4. SANDAG has resources/programs, including its Dashboard, for providing summaries of its projects/results. The RTP/SCS must establish monitoring methods for tracking each of its project actions as well as their GHG emission reductions. It must work with the cities and county to integrate GHG emission monitoring so that meaningful, consistent implementation and enforcement mechanisms are established. The public should be able to access data and results of the RTP/SCS and not have to rely on annual or more infrequent formal reporting on the RTP/SCS by SANDAG.

Resource Topics, Alternatives and Cumulative/Growth-Inducing Issues. The NOP does not state what will comprise the "range of reasonable alternatives" to the project nor what the "update" to the current RTP/SCS will encompass, and it is not possible to provide specific comments on potential alternatives and project impacts. The NOP presents a reasonable list of resource topics that will be analyzed in the EIR; many of these had significant, unavoidable impacts in the previous RTP/SCS (Aesthetics/Visual; Agriculture and Forestry; Air Quality; Biological Resources; Cultural and Paleontological Resources; Energy; Mineral Resources; GHGs (consistency with state goals); Hydrology and Water Quality; Land Use; Noise and Vibration; Population and Housing; Public Services and Utilities; Transportation; and Water Supply). Based on the previous RTP/SCS process and EIR, the updated RTP/SCS could result in many of the same significant, unavoidable (and not fully mitigated) impacts.

Given that many cities and the County will have adopted rigorous CAPs (e.g., committing to state targets), the updated RTP/SCS will have to develop new alternatives that are consistent with those plans

and presumed changed land uses, transportation and housing needs. For example, the previous RTP projected very little increase (about 3.5%) in total transit from 2012-2050, but as cities and the county become more dependent on density and transit to achieve GHG reductions, SANDAG must develop alternatives to its approaches and project list to better serve and provide incentives to local governments that will improve the jobs-housing-transportation balance. SANDAG must also substantially improve its assessment of and plan for utilization of reasonable technological improvements/innovations in transportation and transit. The likely introduction of self-driving freight trucks and cars, computer-assisted routing, and related advances must be part of the RTP.

San Diego cannot effectively employ, house and transport an additional projected 1.3 million residents by 2050 unless our thinking, planning and funding are based on the "real" facts and best available forecasts of our housing and driving trends. We need a new approach that prioritizes and funds our regional and local transit systems, not one that continues the past failed approach that relies on more freeways.

Please include these comments into the administrative record for the RTP/SCS project and keep me informed of the process to update the RTP/SCS and prepare the EIR.

Thank you,

Bill Tippets

Sources:

Induced travel demand - the real studies documenting it is real:

http://www.sutp.org/files/contents/documents/resources/B_Technical-Documents/GIZ_SUTP_TD1_Demystifying-Induced-Travel-Demand_EN.pdf

UCDavis Study: http://www.dot.ca.gov/newtech/researchreports/reports/2015/10-12-2015-NCST_Brief_InducedTravel_CS6_v3.pdf

CityLab summary of CA DOT/UCD study: http://www.citylab.com/commute/2015/11/californias-dot-admits-that-more-roads-mean-more-traffic/415245/

Young Americans driving less: http://www.citylab.com/commute/2015/07/the-clearest-explanation-yet-for-why-millennials-are-driving-less/398366/

Poor performance of San Diego's transit:

Poor transit ridership rate: http://fivethirtyeight.com/datalab/how-your-citys-public-transit-stacks-up/

Poor transit stop performance (Caltrans rating): http://next10.org/transitscorecard

Housing trends:

http://www.sandiegouniontribune.com/news/2013/may/01/demographics-california-san-housing/

Freddie Mac 2015 US overview with millennials favoring rentals and multifamily housing strong demands: http://www.freddiemac.com/multifamily/pdf/2015_outlook.pdf

Net Zero Housing: http://www.netzeronewhall.com/the-latest/

Automated Vehicles

Google driverless vehicle tests: https://waymo.com/

University of Michigan Mobility Transformation Center campus pilot program: http://www.mtc.umich.edu/test-facility

Future of Automated Freight Trucking: https://www.wired.com/2015/05/worlds-first-self-driving-semi-truck-hits-road/

China Testing Automated Vehicles: https://www.technologyreview.com/s/602854/chinas-driverless-trucks-are-revving-their-engines/?set=602902

TransNet Tax Revenue Shortfall:

http://www.voiceofsandiego.org/topics/politics/sandags-last-tax-hike-is-billions-short-and-measure-a-could-be-too/

From:	Bill Tippets
To:	Martin, Andrew; Gallegos, Gary; Stoll, Muggs; Rundle, Rob
Cc:	Nicole Capretz; Micah Mitrosky; Kayla Race; Colin Parent; Masada Disenhouse; Mike Bullock; Dave Grubb; Mike McCoy; Jim Peugh; Samantha; Alan Hoffman; Jack Shu; WILLIAM TIPPETS; Diane Nygaard; Kathleen Ferrier; Mary Lydon; Michael YOUNG; Mike Stepner; Cary Lowe; Betsy Morris; Vicki Estrada; Brooke Peterson
Subject:	Re: Comments on SANDAG"s NOP for an EIR for the 2019 RTP/SCS
Date:	Sunday, January 08, 2017 3:36:42 PM

Mr. Martin/SANDAG,

Please include the following comments, which augment my previous comment letter, into the record for the NOP for the upcoming EIR for the next iteration/update of San Diego Forward (the RTP/SCS).

As SANDAG prepares the next iteration/update to its RTP/SCS, it will have to address the plan's conformance with revelant, new regulations and standards, including SB 32, which increases the amount of greenhouse gas (GHG) emission reduction that the state of CA - as implemented through regional/local projects - must attain. The new GHG standard, 40% below GHG emissions compared to1990 level by 2030, should be the CEQA threshold of significance for SANDAG's RTP/SCS relative to GHGs.

Based on the existing RTP/SCS approach, there does not appear to be any feasible way to "adjust" the existing RTP to attain this additional GHG reduction: it will require SANDAG and its member cities/county to adopt substantially different and more aggressive approaches and measures to reduce those emissions, particularly from the transportation sector, which is the largest GHG emission sector in our region. The cities and county, most of which have or are in the process of adopting climate action plans (CAPs) that would comply with the state's SB 32 targets/standards, will need assistance, via the RTP/SCS, to help them meet those commitments.

An example of the kind of new thinking that SANDAG should adopt is already occurring elsewhere. For example, Seattle's regional transportation leadership has determined that a significant reduction in vehicle use and concomitant increase in transit is required (see: http://www.citylab.com/commute/2017/01/a-growing-seattle-goes-all-in-on-transit/512321/). Like Seattle, San Diego is not an appropriate place to rely on more cars and freeway/highway lanes to solve its transportation (and in part its GHG emission) problems.

A revamped and substantially improved transportation system network that does not rely on additional vehicles and lanes, and is linked to functioning/effective development/housing (particularly affordable housing), should be the overarching focus and outcome of the next RTP/SCS.

Thank you,

Bill Tippets

On Fri, Dec 16, 2016 at 11:52 AM, Bill Tippets <billtippets@gmail.com> wrote:

> Mr. Martin/SANDAG,
>
> Attached is a letter that comments on the above-referenced NOP. Please include this letter into the project's public record and any publicly-accessible electronic and hard files

associated with the project record. At the end of this letter I have included a number of references and information sources that relate directly to critical elements of the RTP/SCS and opportunities to substantially improve upon the current RTPSCS.

The next RTP/SCS faces and must effectively integrate many new legislative, technical, planning, environmental and physical challenges and opportunities.

Sincerely,

Bill Tippets

CALIFORNIA COASTAL COMMISSION
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(619) 767-2370

December 19, 2016

Andrew Martin
Associate Regional Planner
SANDAG
401 B Street, Suite 800
San Diego, CA 92101

RE: Update to San Diego Forward, Regional Transportation Plan and Sustainable Community Strategy, Comments on Notice of Preparation of Environmental Impact Report (SCH # 2010041061)

Dear Mr. Martin:

The above referenced Notice of Preparation of an Environmental Impact Report (EIR) for a four year update to San Diego Forward: The Regional Plan (2015), including the Regional Transportation Plan and Sustainable Communities Strategy, was received by Coastal Commission staff on November 18, 2016. We appreciate the opportunity to comment on the environmental review process for the Regional Plan update. One of the primary tenets of the Coastal Act is to protect and enhance public access to the coast, which requires a well-planned and interconnected public transportation system. Several of the policy objective categories of the Regional Plan, including Habitat and Open Space Preservation, Environmental Stewardship, Mobility Choices, and Healthy and Complete Communities, create an opportunity to enhance San Diego's transportation system and protect coastal resources in a manner that is supportive of the Coastal Act. This update provides an opportunity to enhance those sections of the Regional Plan, considering current infrastructure, planned future infrastructure, and environmental conditions including sea level rise. Given the California Coastal Commission's mandate to protect coastal resources through planning and regulation of the use of land and water within the Coastal Zone, we are providing the following comments and topics that should be considered, analyzed, and addressed in the EIR.

1) California Coastal Act and North Coast Corridor Public Works Plan and Transportation and Resource Enhancement Program (NCC PWP/TREP). The transportation corridors located within the San Diego region bisect or are located directly adjacent to sensitive marine resources including coastal lagoon systems and the Pacific Ocean. Impacts to these resources are restricted by Coastal Act policies. Except for certain specific instances, fill of a wetland or other coastal waters is prohibited (Section 30233), and the marine resources (Section 30230), water quality (Section 30231), and environmentally sensitive habitat areas (Section 3024) often associated with the coastal environment are also protected. Many of these coastal systems have already significantly deteriorated due to historical transportation infrastructure development. Future transportation improvements planned for the Coastal Zone should seek to ameliorate and improve these constraints to the greatest extent feasible. Many of these improvements, and policies that will guide project planning and implementation, are identified in the

North Coast Corridor Public Works Plan/Transportation and Resource Enhancement Program (NCC PWP/TREP), adopted in June 2014, and subsequently amended in March 2016 and December 2016. Please review that plan for guidance on current and future planned projects in the Coastal Zone – and please analyze the Regional Plan update for consistency with that plan and for minimization of adverse environmental impacts to coastal resources.

2) Sea Level Rise. Coastal Act Section 30253 requires that new development minimize risks to life and property from hazards and to assure stability and structural integrity without the use of a shoreline protective device. Thus, understanding the potential impacts of climate change and sea level rise is of critical importance when beginning long-range planning efforts so as to ensure that land use decisions and development projects are not designed in a way that will put investments at risk from coastal hazards. Given the proximity of significant portions of the County's key regional infrastructure to the coast, it is imperative that transportation and land use plans carefully anticipate the effects of sea level rise and associated hazards. Ensuring that new coastal infrastructure is designed to adapt to the effects of sea level rise throughout the expected life of the infrastructure is a principal concern of the Coastal Commission, as clarified through the Commission's Sea Level Rise Policy Guidance (2015) and through recent Commission actions on key infrastructure projects throughout California. The 2015 Regional Plan included reference to best available science on climate change and sea level rise (e.g. the 2012 National Research Council Report, *Sea Level Rise for the Coasts of California, Oregon, and Washington*), but the 2015 Regional Plan did not make clear that sea level rise conditions must be modeled for the entirety of the expected life of new infrastructure projects, which in the case of rail and highway bridges is considered to be 100 years. Projects should be modeled to include both tidal and fluvial hydraulics across the range of projected increases in global mean sea level as applied to the local area (e.g. San Diego County open coast) and in the context of storm surge, wave run-up, erosion, and other variables.

If the Regional Plan includes infrastructure improvements that are likely to be temporarily flooded or perpetually inundated by water in the next 75 to 100 years, then the EIR for the Regional Plan update should analyze potential adaptation measures that minimize adverse impacts to coastal resources and enhance public access to the coast. The EIR should analyze whether planned infrastructure would need to be protected from coastal hazards, such as flooding and erosion, with shoreline armoring devices including seawalls and revetments, which adversely affect public access because they block access to the beach and result in the loss of public recreational areas. Additionally, the EIR should analyze alternative infrastructure projects that minimize the need for shoreline armoring and include options for relocation of infrastructure segments away from hazardous conditions.

In a comment letter dated July 15, 2015 on the EIR for the 2015 Regional Plan, Coastal Commission staff expressed similar concerns regarding consideration of sea level rise impacts for the entire expected life of new projects. The SANDAG response to comments on that EIR indicated that "Regional Plan Sections 4.1 to 4.16 incorporates the climate change effects that may exacerbate the proposed Plan's impacts, including sea level rise. Because the proposed Plan horizon year is 2050, the Draft EIR impact analysis appropriately identifies impacts of the proposed Plan out to the year 2050." In fact, the lack of analysis beyond the year 2050 was not appropriate. While the Regional Plan only includes projects anticipated to be constructed prior to 2050, the effects of those projects will be experienced for generations beyond 2050. If the Regional Plan encourages infrastructure improvements to be installed in

areas prone to flooding (or in areas subject to other coastal hazards), the flooding and other impacts will not stop in 2050. Therefore, the EIR for this Regional Plan update is an ideal time to correct that error of omission and analyze the potential environmental impacts of planned projects over their expected life.

An example of a future project that must consider the effects of sea level rise and minimize the need for shoreline armoring is the relocation of the rail corridor along the Del Mar bluffs. Replacement of the rail corridor in its current location with protection of the corridor provided with a series of seawalls and revetments is not the environmentally preferable alternative because doing so will fix the back of the beach, resulting in erosion of sandy beach area and loss of public access and recreational opportunities. The Regional Plan should analyze the expected life of the rail corridor along the Del Mar bluffs and other existing infrastructure with consideration given to sea level rise and other environmental impacts. Once the expected life of vulnerable infrastructure is identified, the Regional Plan should identify a plan for removing and relocating that infrastructure. In the case of the rail corridor along the Del Mar bluffs, the plan should include relocation to an inland location (via tunneling) so that is not exposed to coastal hazards. The environmental planning for relocation of the rail tracks will be a lengthy process, and thus the Regional Plan should identify and prioritize the commencement of environmental review for this adaptive management strategy to protect vulnerable infrastructure. Given the anticipated threats to the bluffs in this location in the short term, it is necessary to start these planning and permitting efforts now. The City of Del Mar's Draft Adaptation Plan Section 5.3.1.3 includes a railroad adaptation strategy, which should be analyzed for environmental concerns in the EIR for the Regional Plan update.

3) Public Access and Recreation. A fundamental pillar of the Coastal Act is the protection and provision of public access to, and along, the coast. Coastal Act sections 30210 and 30212 require that maximum opportunities for public access and recreation be provided in new development projects, consistent with public safety, private property rights, and natural resource protection. Additionally, Section 30252 dictates that new development should maintain and enhance public access through such actions as facilitating transit service, providing non-automobile options, and providing adequate parking.

Accordingly, the EIR should evaluate the Regional Plan update for consistency with the above-mentioned policies. In particular, there should be an analysis of how the plan would maximize access to the coast, including options for non-motorized, bicycle, and pedestrian routes and related amenities throughout the region. This analysis should incorporate evaluation of ways to facilitate access to beaches and coastal areas from the inland portions of the region, as well as options for enhancing connections to public transit, the Coastal Trail, the Coastal Rail Trail, and other visitor-serving recreational opportunities.

Importantly, the EIR should also analyze the potential negative impacts to public access that could arise from the various land use, housing, and transportation scenarios identified by the Regional Plan update. Scenarios that would lead to increased development in coastal communities, or development that would result in additional traffic along critical coastal highway connectors should be analyzed for their potential impacts to traffic congestion. At a minimum, a traffic study at peak recreational periods, as well as peak commuter periods, should be completed for the various scenarios to help understand potential impacts more fully.

4) Concentration of Development. Section 30250 of the Coastal Act generally requires that new development within the Coastal Zone be located within, contiguous with, or in close proximity to existing developed areas, and Section 30253 requires new development to be sited in a manner that will minimize energy consumption and vehicle miles travelled. In this way, the Coastal Act encourages smart growth patterns that recognize a strong urban-rural boundary to ensure protection of coastal resources. Accordingly, the EIR should analyze the extent to which various alternatives, as well as the broader goals of the Sustainable Communities Strategy would be consistent with and mutually supported by such concentration of development.

Finally, the 2015 Regional Plan's greenhouse gas emissions targets for 2035 and 2050 were not consistent with the Executive Order B-30-15 goal of reducing California's GHG emissions to 40 percent below 1990 levels by 2030 and the Executive Order S-3-05 goal of reducing California's GHG emissions to 80 percent below 1990 levels by 2050. While the 2015 Regional Plan included more investment in transit and active transportation than any previous RTP, it failed to prioritize the implementation of public transit and active transportation projects to minimize vehicle miles traveled consistent with Coastal Act Section 30253. The EIR for the 2015 Regional Plan indicated that several of the proposed alternatives with increased focus on transit priorities would reduce impacts to coastal resources while still achieving all of the plan objectives. The Notice of Preparation for the Regional Plan update indicates that the California Air Resource Board is expected to adopt new greenhouse gas reduction targets. Given that those targets are likely to require implementation of new projects and strategies to reduce single-occupant driving, the EIR for the Regional Plan update should include additional analysis of transportation alternatives which are most protective of sensitive coastal and environmental resources while at the same time achieving the plan objectives. While there may be existing constraints that make the environmentally superior alternative infeasible today, the Regional Plan is a long-range planning document and there will likely be changes in policy and funding for transit within its planning horizon – especially if SANDAG advocates for such changes. As such, SANDAG should place a greater emphasis on the prioritization of public transit and active transportation projects and include analysis of such projects in the EIR.

Thank you for the opportunity to comment on the environmental review for the Regional Plan update. We look forward to future collaboration on improvements to the transportation system within the San Diego region, and appreciate the commitments presented within the current (2015) Regional Plan to preserve and enhance coastal resources. If you have any questions or concerns, please do not hesitate to contact us at the Coastal Commission's San Diego, San Francisco, and Long Beach District offices.

Sincerely,

Kanani Brown, Shannon Fiala, and Zach Rehm
Coastal Program Analysts

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January 10, 2017

San Diego Forward: The Regional Plan
Notice of Preparation
SCH # 2010041061

Andrew Martin
San Diego Association of Governments (SANDAG)
401 B Street, Suite 800
San Diego, CA 92101

Dear Mr. Martin:

Thank you for including the California Department of Transportation (Caltrans) in the environmental review process for the San Diego Association of Governments (SANDAG) Notice of Preparation (NOP) for the San Diego Forward: The Regional Plan (Regional Plan). The mission of Caltrans is to provide a safe, sustainable, integrated and efficient transportation system to enhance California's economy and livability. The Local Development-Intergovernmental Review (LD-IGR) Program reviews land use projects and plans to ensure consistency with our mission and state planning priorities.

Caltrans recently approved in June 2016 the California Transportation Plan (CTP) 2040, the first California transportation plan published that provides a pathway for transportation to help meet the State's climate goals. The CTP 2040 is an expression of how the State will reinforce the region's efforts in Sustainable Communities Strategies and take conforming action for the interregional transportation system. Achieving the goal of the CTP 2040 through State-regional partnership efforts helps meet State-regional policy directives of livable communities, economic growth and emission reductions. It is also acknowledged that the CTP 2040 is aspirational in achieving greenhouse gas reductions, while the regional transportation plan must be revenue constrained, making it challenging to achieve desired outcomes.

The CTP 2040 is available here:
http://www.dot.ca.gov/hq/tpp/californiatransportationplan2040/2040.html

Caltrans encourages early collaborative efforts with State, regional, and other stakeholders for the development of the Regional Plan 2019; Caltrans looks forward to working with SANDAG during this process. If you have any questions, please contact Chris Schmidt at (619)220-7360 or chris.schmidt@dot.ca.gov.

Sincerely,

JACOB ARMSTRONG, Branch Chief
Development Review Branch

Circulate San Diego
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San Diego, CA 92101
Tel: 619-544-9255
Fax: 619-531-9255
www.circulatesd.org

January 13, 2017

San Diego Association of Governments
Board of Directors, Chair Ron Roberts
401 B St. Ste. 800
San Diego, CA 92101

RE: Circulate San Diego Comments for SANDAG NOP of Program EIR for the 2019 Regional Plan

Honorable Ron Roberts and SANDAG Board and Committee members:

On behalf of Circulate San Diego, whose mission is to create excellent mobility choices and vibrant, healthy neighborhoods, I am writing to submit comments in response to the Notice of Preparation for the Program Environmental Impact Report (EIR) for the 2019 Regional Plan (Regional Plan), issued by SANDAG on November 14, 2016.

Circulate San Diego is a non-profit organization devoted to transit, active transportation, and sustainable growth. As such, we support SANDAG's efforts to integrate land uses, transportation systems, infrastructure needs, and public investment strategies within a regional smart growth framework. We submit this letter with the aim of providing SANDAG with useful comments to ensure preparation of an EIR that reflects SANDAG's goal to plan for a smart growth transportation network and that it fully complies with CEQA. Thank you for this opportunity to provide valuable feedback on this essential component of the 2019 Regional Plan.

1. **The EIR must contain one or more transit-friendly reasonable alternatives that are financially constrained and do not require an amendment of the 2004 TransNet Ordinance.**

SANDAG's EIR for the 2019 Regional Plan must contain one or more transit-friendly reasonable alternative that will mitigate the environmental impacts of the preferred scenario. For the purpose of this letter, any such alternative will be referred to as a "TransNet-Constrained Transit Alternative." Such an alternative should advance as much transit and active transportation as possible, subject to the following constraints:

> Constraint 1: It must cost approximately the same as SANDAG's preferred alternative, paying for the acceleration of transit through the delay or removal of highway expenditures; and
>
> Constraint 2: It must not delay or remove so much highway expenditures as to violate the text of the 2004 TransNet Extension Ordinance.

a. Both the courts in California and SANDAG agree that SANDAG must analyze a transit-friendly reasonable alternative to its preferred scenario.

The courts in California have found that SANDAG is obligated to consider reasonable alternatives that mitigate the environmental impacts of its preferred scenario by advancing public transit.[1] SANDAG recognized this obligation in its 2015 EIR and analyzed a variety of alternatives that substantially advanced transit to mitigate the greenhouse gas impacts of its preferred scenario.[2]

b. None of the transit-friendly scenarios considered by SANDAG in 2015 were financially or politically viable, and were therefore not reasonable alternatives.

Circulate San Diego wrote a letter to SANDAG in 2015 commenting on the failure to perform a reasonable alternatives analysis for the agency's Draft 2015 Regional Plan.[3] All of SANDAG's transit-friendly alternatives in 2015 were so aggressive with their transit acceleration that they would require either an amendment to the 2004 TransNet Ordinance, or unreasonable expectations about the availability of local, state, or federal funding. While such contingencies may not be legally impossible, they are very unlikely to occur. As such, SANDAG's alternatives were not sufficient to meet SANDAG's obligation to analyze reasonable alternatives for the SANDAG Board and the public to consider.

c. Including one or more TransNet-Constrained Transit Alternative does not preclude SANDAG from analyzing even more ambitious alternatives in its EIR.

Circulate San Diego certainly supports SANDAG if it chooses to analyze alternative Regional Plan scenarios that assume ambitious federal funding, or optimistic views about the willingness of the SANDAG Board to amend TransNet to prioritize transit. Those scenarios could be useful to examine the potential outcomes if the SANDAG board changes or evolves.

However, alternative scenarios that would rely on contingences that are very unlikely to occur are not sufficient to meet SANDAG's obligation to provide a transit-friendly reasonable alternative for mitigating environmental impacts of the preferred scenario. "Unrealistic mitigation measures, similar to unrealistic project alternatives, do not contribute to a useful CEQA analysis."[4] Such alternatives are permissible to analyze, but not sufficient.

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[1] *Cleveland National Forest Foundation v. San Diego Association of Governments*, 231 Cal.App.4th 1056 (2014) (The California Supreme Court did not grant certiorari on this issue).

[2] San Diego Association of Governments, Final EIR for San Diego Forward: The Regional Plan, Chapter 6, Alternatives Analysis (October 9, 2015), available at http://www.sdforward.com/pdfs/EIR_final/Chapter%206.0%20Alternatives%20Analysis.pdf.

[3] Circulate San Diego, Policy Letter: Comments on Draft Environmental Impact Report for SANDAG's 2015 Draft Regional Plan, (July 14, 2015), available at http://www.circulatesd.org/comments_sandag_2015_regional_plan_eir.

[4] *Cleveland National Forest Foundation v. San Diego Association of Governments*, 231 Cal.App.4th 1056 (2014) (*citing Watsonville Pilots Assn. v. City of Watsonville*, 183 Cal.App.4th 1059, 1089 (2010)).

d. Any TransNet-Constrained Transit Alternative should advance only as much transit as is financially viable through the delay or removal of highway projects.

SANDAG can avoid replicating the same deficiencies in its 2015 EIR by providing in the 2019 EIR one or more TransNet-Constrained Transit Alternatives that that are both financially and politically viable. Any TransNet-Constrained Transit Alternative should cost roughly the same as SANDAG's preferred scenario. This will allow the SANDAG Board and the public to make a more apples-to-apples comparison between maintenance of SANDAG's current status quo plans, and the alternative of changing those plans to prioritize transit.

Delaying highway spending will free up near-term resources that SANDAG can dedicate to front-load transit projects. A TransNet-Constrained Transit Alternative should only accelerate as much transit as can be accomplished by freeing up funding through the delay or removal of highway expenditures.

As we stated in 2015, a viable transit-friendly alternative likely could not accelerate all of SANDAG's transit projects into the first ten years of the plan. Accelerating all such transit projects would likely make any Regional Plan financially infeasible. Instead, SANDAG should prepare at least one TransNet-Constrained Transit Alternative that accelerates as much transit as can be financially feasible, given the flexibility the agency has to delay or remove highway projects, as described below.

a. A TransNet-Constrained Transit Alternative should be consistent with the requirements of the 2004 TransNet Extension Ordinance.

When determining how much of SANDAG's highway projects to delay or remove to free up resources to accelerate transit in a TransNet-Constrained Transit Alternative, SANDAG should limit changes to highway plans to be consistent with the text of the 2004 TransNet Extension Ordinance.

In 2015, Circulate San Diego and TransForm California published *TransNet Today,*[6] which explains the substantial flexibility SANDAG has over how to implement the 2004 TransNet Extension Ordinance.

While TransNet does require SANDAG to build certain highway projects, it allows substantial flexibility as to when those projects must be built. SANDAG has itself chosen the order and phasing of TransNet projects, an ordering they can elect to rebalance at their discretion. Such a rebalancing would require only a majority vote by the SANDAG Board, and would be consistent with both the text and the intent of the 2004 TransNet Extension Ordinance approved by the voters.

As explained by *TransNet Today*, if SANDAG were to delay or remove highway projects from its Regional Plan, it could free up other near-term resources planned to be spent on highways, like the State Transportation Improvement Program funds, and instead repurpose them to transit.

Any TransNet-Constrained Transit Alternative should only delay highway projects required by TransNet in a manner that would still allow SANDAG to complete them within the 40-year time horizon required by the text of the 2004 TransNet Extension Ordinance. For highway projects that are not required by the 2004 TransNet Extension Ordinance, they could be delayed or removed entirely as needed in a TransNet-Constrained Transit Alternative, to free up resources to accelerate transit.

[6] Circulate San Diego, *TransNet Today* (2015), available at http://www.circulatesd.org/transnettoday.

While the TransNet Extension Ordinance is legally capable of amendment with a two thirds vote of the SANDAG Board, that would be politically very difficult, bordering on the impossible. Assuming such an amendment is unreasonable for the purpose of SANDAG's obligation to analyze reasonable alternatives in its EIR. One or more TransNet-Constrained Transit Alternative should be presented to the SANDAG Board that simultaneously advances transit, and preserves the text of TransNet, so that the SANDAG Board can make a real choice within the bounds of the politically possible.

b. A TransNet-Constrained Transit Alternative should present a reasonable alternative for the SANDAG Board to consider, even if it does not solve all of the region's transit challenges in one stroke.

A TransNet-Constrained Transit Alternative that is required to be financially and politically viable may not allow SANDAG to accelerate all of its planned transit projects into early periods. Such a plan may be deemed insufficient to many advocates for transit and active transportation.

However, for the SANDAG Board to reasonably consider a change of direction from the status quo, they must be presented with an option that meets Boardmembers' legal, financial, and political obligations to their constituencies.

If the SANDAG Board were to adopt a TransNet-Constrained Transit Alternative, even with the constraints outlined in this letter, it could present meaningful improvements to the region's transit future. The SANDG Board can only implement such a change if an option is presented to them in the form of a TransNet-Constrained Transit Alternative, consistent with the text of the 2004 TransNet Extension Ordinance.

Transit advocates, including Circulate San Diego, would likely desire even greater progress on transit that this limited transit-alternative could achieve. If SANDAG did adopt such an alternative in 2019, that would not preclude transit supporters from seeking still further improvements to transit through a future ballot measure, or changes to state or federal law.

2. The EIR should analyze the extent to which the Regional Plan does or does not meet the mode-share goals for local jurisdictions with Climate Action Plans.

The City of San Diego and other jurisdictions in the region have Climate Action Plans (CAPs) that adopt greenhouse gas reduction targets, as well as mode-share goals for transit, walking, and bicycling.

In 2015, Circulate San Diego and the Climate Action Campaign published a report titled *New Climate for Transportation*.[7] That report detailed how SANDAG's own data predicted that the 2015 Regional Plan would not result in the mode-share outcomes called for by the City of San Diego's CAP.

The EIR for the 2019 Regional Plan should include information and analysis showing to what extent SANDAG data projects mode-share goals in the geographic areas for which cities have mode-share goals

[7] Circulate San Diego and Climate Action Plan, *New Climate for Transportation* (2015), available at http://www.circulatesd.org/new_climate_for_transportation.

in their CAPs. This will help inform SANDAG Boardmembers and the public about whether SANDAG's efforts are sufficient to help cities meet their own climate goals.

Cities with CAPs and advocates like Circulate San Diego will likely be seeking this data in any event. So SANDAG can help a variety of stakeholders in the region by preemptively sharing this information in their Regional Plan EIR.

3. <u>Conclusion.</u>

Circulate San Diego looks forward to working with the SANDAG staff and Board as they develop the 2019 Regional Plan, so that San Diego can enjoy the robust transportation network it deserves.

Sincerely,

Jim Stone
Executive Director
Circulate San Diego

Cc: Andrew Martin, Associate Regional Planner, San Diego Association of Governments, via email to andrew.martin@sandag.org.

City of Del Mar

January 3, 2017

Mr. Andrew Martin
Senior Regional Planner
San Diego Association of Governments (SANDAG)
401 B Street, Suite 800
San Diego, CA 92101

By email: andrew.martin@sandag.org.

Re: Scoping Comments – Program Environmental Impact Report for San Diego Forward: The Regional Plan/Regional Transportation Plan

Dear Mr. Martin:

The City of Del Mar submits the following scoping comments on the proposed Program Environmental Impact Report (EIR) for the San Diego Forward/Regional Transportation Plan (RTP) update. Del Mar urges that the proposed EIR address the topic areas outlined below.

1. The alternative of removing the rail line from the Del Mar bluffs to a tunnel.
2. The environmental hazard implications of attempting to defend the rails on the Del Mar bluffs near, mid, and long-term, including accommodating the planned double tracking and the need to grade separate the Coast Boulevard rail crossing.
3. The near, mid, and long-term coastal access issues raised by leaving and defending the rail line on the bluffs in Del Mar.
4. The near, mid, and long-term safety implications of leaving and defending the rail line on the bluffs in Del Mar.
5. The near, mid, and long-term rail service impacts of the RTP's proposed double tracking of the entire corridor and doubling the number of trains. All the RTP goals for the corridor appear vulnerable to the "weak link" on the Del Mar bluffs. Can the goals of the RTP for the corridor be achieved with the rail line remaining on the bluffs, and at what service, economic, and environmental costs?
6. The near, mid, and long-term impacts to the immediate community from noise, vibration, view blockage, and other reasonably foreseeable impacts that will occur from leaving and defending the rail line on the bluffs, including but not limited to, impacts to the sensitive bluffs and beach from armoring and shoring, and the impacts from the projected increase in train service from the current 50+ trains per day to over 100 trains per day.

DISCUSSION

The 2015 SANDAG RTP contains a Del Mar tunnel option as a 2050 "phase 3" program project at an estimated cost in 2014 dollars of $1.3 billion, including final double tracking.[1] This acknowledges that the rail line needs to be removed from the bluffs. However, no tunnel location or funding source has been identified and no environmental analysis of this option has yet been undertaken by SANDAG. We understand that SANDAG's historical approach has been to focus its program EIR review on RTP updates on proposed phase 1 projects, deferring analysis of later projects. We take issue with any further deferral of analysis of the tunnel option.

It is time for SANDAG to study in earnest the two options this rail line faces. The two alternatives for addressing the Del Mar bluffs are (1) leave the rail line on the bluff in Del Mar, try to double track it and grade Separate Coast Blvd, facing the inevitable need to continuously armor and defend the line against erosion and sea level rise, with the economic, service interruption, and environmental impacts implied, or (2) accelerate the option to remove the rail line from the bluff and place it in a tunnel. The current CEQA analysis needs to evaluate these two alternatives, before regional commitments are made in a 2019 RTP.

Unless this analysis is undertaken now, options will be foreclosed, including what appears to be the feasible alternative of moving the rail line to a tunnel. Large amounts are being spent, and will be spent, on defending the bluff top rail line against erosion and sea level rise. Adverse impacts to the sensitive beach and bluff are inevitable. Hazards, including injuries and deaths, are likely to increase if the line is double tracked and the frequency of rail service is doubled as proposed. These issues and impacts are occurring now, will only accelerate, and key SANDAG decisions are being made now, that need to be addressed in the EIR now.

The "feasibility", as CEQA defines the term,[2] of double tracking the bluffs and grade separating the Coast Blvd crossing is questionable. If feasible at all, it will bring great environmental damage and be very expensive. Without studying these issues now in the EIR SANDAG and the public cannot know whether the option of keeping the rail line on the bluffs is the least environmentally damaging and most cost effective alternative, or whether removing the rail line to a tunnel is.

Reports are that at least $1 billion is projected to be spent on double tracking and other improvements to the Oceanside to San Diego rail corridor, all captive to the weak

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[1] 2015 RTP Appendix A, page 14.

[2] CEQA Guidelines Section 15364: "Feasible" means capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors.

link on the Del Mar bluffs. The entire future of the rail line is at risk due to the weak link on the Del Mar bluffs. Del Mar submits that SANDAG needs to review these issues now to completely understand viable alternatives and achieve CEQA compliance.

Under CEQA: "'Project'" *means 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,...*" Guidelines Section 15378(a).

Guidelines Section 15004(b) (1) & (2) states in part:

"(1) *With public projects, at the earliest feasible time, project sponsors shall incorporate environmental considerations into project conceptualization, design, and planning. ...*"

"(2*) To implement the above principles, public agencies shall not undertake actions concerning the proposed public project that would have a significant adverse effect or limit the choice of alternatives or mitigation measures, before completion of CEQA compliance. ...*"

Guideline Section 15168(b) addresses Program EIRs:

"...

"(b) ***Advantages***. *Use of a program EIR can provide the following advantages. The program EIR can:*

(1) *Provide an occasion for a more exhaustive consideration of effects and alternatives 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-case analysis,*
(3*) Avoid duplicative reconsideration of basic policy considerations,*
(4) *Allow the lead agency to consider broad policy alternatives and program wide mitigation measures at an early time when the agency has greater flexibility to deal with basic problems or cumulative impacts...*"

It is respectfully submitted that CEQA requires inclusion of the above-listed issues in the scope of the EIR on the 2019 RTP update.

Sincerely,

Terry Sinnott
Mayor, City of Del Mar

CITY OF SANTEE

January 12, 2017

Andrew Martin
Senior Regional Planner
SANDAG
401 'B' Street, Suite 800
San Diego, CA 92101

Electronic Delivery: andrew.martin@sandag.org

SUBJECT: Notice of Preparation of a Program Environmental Impact Report (EIR) for The Update to the San Diego Forward: The Regional Plan

Dear Mr. Martin:

The City of Santee appreciates the opportunity to submit this letter regarding the preparation of a PEIR for the San Diego Forward: Regional Plan. Among the environmental issues are "transportation" and "greenhouse gas emissions." Since the two are inextricable, scenarios that analyze/demonstrate a reduction in congestion at the convergence of freeways would be expected in the document.

The City of Santee, Caltrans and SANDAG completed a SR-52 Corridor Study in 2016. This study would provide useful information in the development of short-term scenarios that reduce congestion and therefore greenhouse gas emissions, particularly at the convergence of SR-125 and SR-52 in the City of Santee.

Respectfully,

Melanie Kush
Director of Development Services
City of Santee
mkush@cityofsanteeca.gov

c. Minjie Mei, Principal Traffic Engineer, City of Santee

County of San Diego

MARK WARDLAW
DIRECTOR

PLANNING & DEVELOPMENT SERVICES
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January 13, 2017

Andrew Martin
Senior Regional Planner
SANDAG
401 B Street, Suite 800
San Diego, CA 92101

Via email to: Andrew.martin@sandag.org

COMMENTS ON THE NOTICE OF PREPARATION OF A PROGRAM ENVIRONMENTAL IMPACT REPORT FOR SAN DIEGO FORWARD: THE REGIONAL PLAN

Dear Mr. Martin,

The County of San Diego (County) has reviewed the Notice of Preparation for the San Diego Forward Regional Plan Program Environmental Impact Report (PEIR). We appreciate the opportunity to provide input for SANDAG's consideration. The County offers the following comments.

TRAFFIC/TRANSPORTATION

The County is currently developing an Active Transportation Plan (ATP) for the unincorporated communities of the county. The ATP will integrate and update several existing plans and documents into a single plan. The ATP will serve as a master plan and policy document to guide the development and maintenance of active transportation infrastructure including sidewalks, pathways, multi-use trails, and bikeways; the ATP will include the Safe Routes to School programs for the unincorporated county. Additionally, the ATP is expected to be one of the implementation measures for the County's Climate Action Plan. Please consider identifying transit improvements and ATP and Transportation Demand Measures (TDM) in the SANDAG Regional Plan and PEIR which will assist the rural unincorporated areas in meeting the region's greenhouse gas (GHG) emission goals.

AIRPORTS

Incorporating the Regional Aviation Strategic Plan (RASP) and Airport Multimodal Accessibility Plan (AMAP) assumptions into the development of the Regional Plan is an important part of planning for the region's future transportation needs. Aviation travel is expected to grow substantially according to projections from the San Diego Regional Airport Authority and SANDAG. Please consider prioritizing the ground transportation network surrounding McClellan-Palomar and Gillespie Field airports to accommodate increased demand as San Diego International Airport nears operational capacity.

CLIMATE CHANGE AND GREENHOUSE GAS

The County is currently developing a Climate Action Plan for the unincorporated county. The largest GHG emission source in the region is the Transportation Sector. The County looks towards the Regional Plan to lead the efforts in reducing GHG emissions in the Transportation Sector. The recommendations noted are important for the local jurisdictions in meeting their share of the region's GHG emission reductions. The County and SANDAG, working collaboratively on the Regional Plan, can move towards an efficient and cleaner multi-modal transportation system. As it relates to SANDAG's Regional Plan, the County requests the following be considered:

a. Analyze alternatives that address multi-modal transportation options for the unincorporated county, particularly as it relates to transit service and alternative fuel infrastructure;

b. Analyze whether the developed/urban communities within the unincorporated county meet the Urban Area Transit Strategy;

c. Analyze an environmentally sustainable transportation system that can reduce vehicle miles traveled, gasoline consumption, and GHG emissions, while providing alternatives modes of transportation for all economic sectors of our population;

d. Clarify whether the Regional Plan GHG emission reductions will be consistent with the Air Resources Board (ARB) 2030 Target Scoping Plan; and

e. SANDAG's 2015 Regional Transportation Plan incorporated the County's 2011 General Plan Update Land Use and Mobility Elements. Since 2011, the County has adopted several general plan amendments (GPA) to the 2011 General Plan. The County requests that SANDAG staff coordinate with County staff to ensure that the adopted GPAs are incorporated in the transportation models and growth forecasts for the Regional Plan and PEIR Analysis.

MULTIPLE SPECIES CONSERVATION PLAN (MSCP)

The proposed Regional Plan covers areas that are critical to the County's Multiple Species Conservation Program (MSCP), both North and South County plans—including the assembly of a Preserve in each. The South County Subarea Plan was adopted in 1997; and the North County Plan is currently in development. As the Regional Plan encourages projects that are consistent with an SCS that achieves GHG reductions, we would anticipate that the PEIR would analyze the effects of the proposed Regional Plan on the MSCP South and North County plans, the assembly of the Preserve and full implementation of the plans. Any effect (direct or indirect) of the Regional Plan on the MSCP should be evaluated (and mitigated, if necessary). SANDAG staff should coordinate with County staff to best determine how to evaluate the MSCP South and NC Plan in the upcoming Regional Plan and PEIR.

PARKS AND RECREATION

The County's trails and pathway network provides safe, secure, healthy, affordable, and convenient travel choices between the places where people live, work, and play while reducing use of personal vehicles, thereby reducing GHG emissions. Please consider incorporating a discussion of the County's Community Trails Master Plan and encourage investment in trails and pathways that connect people with places where they live, work, and play.

VECTOR CONTROL PROGRAM

The County's Vector Control Program (VCP) is responsible for the protection of public health through the surveillance and control of mosquitoes that are vectors for human disease including West Nile virus (WNV). The VCP has completed their review and has the following comments regarding the Regional Plan.

1. The VCP requests that when implementing transportation projects or components of the environmental mitigation program, impacts from possible mosquito breeding sources are considered. Any area that is capable of accumulating and holding at least ½ inch of water for more than 96 hours can support mosquito breeding and development.

2. For your information, the County's Guidelines for Determining Significance for Vectors can be accessed at http://www.sandiegocounty.gov/content/dam/sdc/pds/docs/vector_guidelines.pdf.

3. The California Department of Public Health Best Management Practices for Mosquito Control in California is available at http://www.cdph.ca.gov/HealthInfo/discond/Documents/BMPforMosquitoControl07-12.pdf.

The County looks forward to receiving future documents and/or notices related to this project and providing additional assistance at your request. If you have any questions regarding these comments, please contact Danny Serrano, Land Use / Environmental Planner at (858) 694-3680, or via email at daniel.serrano@sdcounty.ca.gov.

Sincerely,

MARY KOPASKIE, Chief
Advance Planning Division
Planning & Development Services

Email cc: Michael De La Rosa, Policy Advisor, Board of Supervisors, District 1
Adam Wilson, Policy Advisor, Board of Supervisors, District 2
Dustin Steiner, Chief of Staff, Board of Supervisors, District 3
Adrian Granda, Policy Advisor, Board of Supervisors, District 4
Melanie Wilson, Policy Advisor, Board of Supervisors, District 5
Vincent Kattoula, CAO Staff Officer, LUEG
Nick Ortiz, Project Manager, PDS
Everett Hauser, Transportation Specialist, PDS
Bulmaro Canseco, Planner, PDS
Jeff Kashak, Planner, DPW
Richard Chin, Associate Transportation Specialist, DPW
Eric Lardy, Chief, Community Health Division, DEH

Department of Toxic Substances Control

Barbara A. Lee, Director
5796 Corporate Avenue
Cypress, California 90630

Matthew Rodriquez
Secretary for
Environmental Protection

Edmund G. Brown Jr.
Governor

December 28, 2016

Mr. Andrew Martin
Senior Regional Planner
San Diego Association of Governments (SANDAG)
401 B Street, Suite 800
San Diego, California 92101

NOTICE OF PREPARATION (NOP) FOR SAN DIEGO FORWARD: THE REGIONAL PLAN PROJECT ENVIRONMENTAL IMPACT REPORT (SCH# 2010014061)

Dear Mr. Martin:

The Department of Toxic Substances Control (DTSC) has reviewed the subject NOP. The following project description is stated in the NOP: "The San Diego Association of Governments, as the lead agency under the CEQA, will prepare an EIR for an update to San Diego Forward: The Regional Plan. The Regional Plan will consist of a RTP and a SCS that identify the San Diego region's future transportation investments and growth through 2050."

Based on the review of the NOP, DTSC has the following comments:

1. The EIR should identify and determine whether current or historic uses at the project site may have resulted in any release of hazardous wastes/substances. Historic uses of the site are not provided in the NOP. A Phase I Environmental Site Assessment may be appropriate to identify any recognized environmental conditions.

2. If there are any recognized environmental conditions in the project area, then proper investigation, sampling and remedial actions overseen by the appropriate regulatory agencies should be conducted prior to the new development or any construction.

3. If the project plans include discharging wastewater to a storm drain, you may be required to obtain an NPDES permit from the overseeing Regional Water Quality Control Board (RWQCB).

4. If during construction/demolition of the project, soil and/or groundwater contamination is suspected, construction/demolition in the area should cease and appropriate health and safety procedures should be implemented. If it is determined that contaminated soil and/or groundwater exist, the EIR should identify how any required investigation and/or remediation will be conducted, and the appropriate government agency to provide regulatory oversight.

If you have any questions regarding this letter, please contact me at (714) 484-5476 or email at Johnson.Abraham@dtsc.ca.gov.

Sincerely,

Johnson P. Abraham
Project Manager
Brownfields Restoration and School Evaluation Branch
Brownfields and Environmental Restoration Program – Cypress

kl/sh/ja

cc: See next page.

cc: Governor's Office of Planning and Research (via e-mail)
State Clearinghouse
P.O. Box 3044
Sacramento, California 95812-3044
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Mr. Guenther W. Moskat, Chief (via e-mail)
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Supervising Engineer
Brownfields Restoration and School Evaluation Branch
Brownfields and Environmental Restoration Program – Cypress
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CEQA# 2010014061

From:	Dan Silver
To:	Martin, Andrew
Subject:	Notice of Preparation of a Program Environmental Impact Report for San Diego Forward: The Regional Plan
Date:	Friday, December 02, 2016 9:43:53 AM

December 2, 2016

Andrew Martin, Senior Regional Planner
San Diego Association of Governments
401 B Street, Suite 800
San Diego, CA 92101

Dear Mr Martin:

Endangered Habitats League (EHL) appreciates the opportunity to submit comments.

The RTP/SCS DEIR should:

1) at a minimum meet and if feasible exceed the new GHG reduction targets in SB 32;

2) direct transit investments to locations in which mode split can be most cost-effectively shifted to transit, specifically urban locations rather than the more remote unincorporated area; and

3) as a land use baseline for the unincorporated area, continue to use the 2011 County General Plan rather than any unadopted proposed amendments.

Please please EHL on all notification and distribution lists for this project. It would also be appreciated if you could acknowledge recent of these comments.

Yours truly,

Dan Silver

Dan Silver, Executive Director
Endangered Habitats League
8424 Santa Monica Blvd., Suite A 592
Los Angeles, CA 90069-4267

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January 12, 2017

SANDAG
401 B Street, Suite 800
San Diego, CA 92101-4231

VIA Electronic Mail: andrew.martin@sandag.org

RE: Notice of Preparation of a Program Environmental Impact Report for San Diego Forward: The Regional Plan

Dear Association members:

The Environmental Center of San Diego appreciates the opportunity to make comments on the above referenced Plan. The Environmental Center, a nonprofit organization, is dedicated to the protection and enhancement of the natural environment throughout San Diego.

First you need to work on your regional plan. It is not a rational document for these times when greenhouse gas emissions need to drive the project, not the other way around.

The opportunity for San Diego to be successful in transportation refiguring is at its greatest, with plenty of examples to the north. But first you must engage, authentically, in extensive outreach. Not just lip service to the community but a genuine dialogue that champions new ideas and suggestions.

This requires a shift in direction for SANDAG.

- Start with a plan that does not negatively impact our most vulnerable communities.
- Build on that with projects that DO NOT worsen pollution and traffic congestion.
- Next, create a plan that links funding with projects that reduce greenhouse gas emissions to meet state targets.

Then, and only then, can we start to create a strategy with goals that effectively support substantial mass transit construction, operations and maintenance.

This is not rocket science. You just need to follow the traffic and add the appropriate modalities that lessen the pollution and give good solid alternative transportation choices to the citizens of San Diego.

Sincerely,

Pamela Heatherington
Board of Directors
contactecosd@gmail.com

San Diego FORWARD
The Regional Plan

Please share your comments below. Please note that SANDAG documents are public records and may be disclosed to the public upon request. Thank you.

NAME	ADDRESS	PHONE	EMAIL
Mike Bullock	1800 Bayberry Dr. Oceanside, CA 92054	760 754 8025	mike_bullock@earthlink.net

☑ Please email me project updates in the future (email address required above).

COMMENTS:

Please read my attached, 3-minute speech

For official use only:
Date Received: 12-8-16

SANDAG

Dec. 8, 2016 SANDAG NOP Meeting, Noon; 364 Words

Mike Bullock
1800 Bayberry Drive
Oceanside, CA 92054
760-754-8025; mike_bullock@earthlink.net

Honorable SANDAG Chair, Board, and Staff:

I'm Mike Bullock, a retired satellite systems engineer and the San Diego Sierra Club Transportation Chair. I appreciate the opportunity to speak on the ***scope*** and ***content*** necessary for your 2019 RTP's EIR and specifically on your November 14th Notice of Preparation (NOP).

Its first paragraph states that an overview of the RTP's probable environmental impacts is attached. However, Attachment 1 of the NOP does ***not*** explain the difference between climate stabilization at a livable level and ***destabilization***, where the climate system's warming feedbacks become large and the planet loses most of its current life forms.

Regarding *Attachment 1*, first, we agree with the 2nd paragraph, of its "***Background and Plan Overview***" Section, that the EIR should evaluate the RTP's significant effects ***on the environment***. Secondly, we agree with the next sentence, that it should indicate how the significant effects ***can be avoided***.

Unfortunately, there is no indication from the rest of *Attachment 1* that SANDAG has any intention of doing either of those two required things. Nearly one third of *Attachment 1* is about SB 375 and yet the connection between SB 375 and the need to stabilize the climate at a livable level is never made because, in fact, there is no significant connection. Climate-stabilizing targets are for passenger vehicles and how they could be achieved, is ***your*** responsibilities, under CEQA, because ***you*** are selecting transportation options for your RTP. SB 375 does not eliminate the requirements of CEQA.

Therefore, you must identify or create a plan as described in the California Democratic Party 2016 Platform: a [quote] "***plan*** showing how cars and light-duty trucks can hit climate-stabilizing targets, by defining enforceable measures to achieve the needed fleet efficiency and per-capita driving"[end quote]. Some measures will be state responsibilities; others, SANDAG responsibilities. However, under CEQA, you must identify or create such a plan. An obvious mitigation measure is to reallocate money for more freeway lanes to transit. Another is to install systems to improve the way we pay for the use of parking and driving. Such systems will increase economic fairness and choice. May I help? I have written a peer-reviewed Plan, as described above.

Thank you

STATE OF CALIFORNIA
NATIVE AMERICAN HERITAGE COMMISSION
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Edmund G. Brown Jr., Governor

November 21, 2016

Andrew Martin
San Diego Association of Governments (SANDAG)
401 B Street, Suite 800
San Diego, CA 92101

sent via e-mail:
andrew.martin@sandag.org

RE: SCH# 2010041061; San Diego Forward: The Regional Plan Project, Notice of Preparation for Draft Environmental Impact Report, San Diego County, California

Dear Mr. Martin:

The Native American Heritage Commission has received the Notice of Preparation (NOP) for the project referenced above. The California Environmental Quality Act (CEQA) (Pub. Resources Code § 21000 et seq.), specifically Public Resources Code section 21084.1, states that a project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment. (Pub. Resources Code § 21084.1; Cal. Code Regs., tit.14, § 15064.5 (b) (CEQA Guidelines Section 15064.5 (b)). If there is substantial evidence, in light of the whole record before a lead agency, that a project may have a significant effect on the environment, an environmental impact report (EIR) shall be prepared. (Pub. Resources Code § 21080 (d); Cal. Code Regs., tit. 14, § 15064 subd.(a)(1) (CEQA Guidelines § 15064 (a)(1)). In order to determine whether a project will cause a substantial adverse change in the significance of a historical resource, a lead agency will need to determine whether there are historical resources with the area of project effect (APE).

If your project involves the adoption of or amendment to a general plan or a specific plan, or the designation or proposed designation of open space, on or after March 1, 2005, it may be subject to Senate Bill 18 (Burton, Chapter 905, Statutes of 2004) (SB 18). **CEQA was amended significantly in 2014**. Assembly Bill 52 (Gatto, Chapter 532, Statutes of 2014) (AB 52) amended CEQA to create a **separate category of cultural resources**, "tribal cultural resources" (Pub. Resources Code § 21074) and provides that a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment (Pub. Resources Code § 21084.2). Please reference California Natural Resources Agency (2016) "Final Text for tribal cultural resources update to Appendix G: Environmental Checklist Form," http://resources.ca.gov/ceqa/docs/ab52/Clean-final-AB-52-App-G-text-Submitted.pdf. Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource. (Pub. Resources Code § 21084.3 (a)). **AB 52 applies to any project for which a notice of preparation or a notice of negative declaration or mitigated negative declaration is filed on or after July 1, 2015.**

Both SB 18 and AB 52 have tribal consultation requirements. If your project is also subject to the federal National Environmental Policy Act (42 U.S.C. § 4321 et seq.) (NEPA), the tribal consultation requirements of Section 106 of the National Historic Preservation Act of 1966 (154 U.S.C. 300101, 36 C.F.R. § 800 et seq.) may also apply.

The NAHC recommends **lead agencies consult with all California Native American tribes** that are traditionally and culturally affiliated with the geographic area of your proposed project as early as possible in order to avoid inadvertent discoveries of Native American human remains and best protect tribal cultural resources. Below is a brief summary of portions of AB 52 and SB 18 as well as the NAHC's recommendations for conducting cultural resources assessments. **Consult your legal counsel about compliance with AB 52 and SB 18 as well as compliance with any other applicable laws**.

SB 18

SB 18 applies to local governments and requires **local governments** to contact, provide notice to, refer plans to, and consult with tribes prior to the adoption or amendment of a general plan or a specific plan, or the designation of open space. (Gov. Code § 65352.3). Local governments should consult the Governor's Office of Planning and Research's "Tribal Consultation Guidelines," which can be found online at: https://www.opr.ca.gov/docs/09_14_05_Updated_Guidelines_922.pdf

Some of SB 18's provisions include:

1. Tribal Consultation: If a local government considers a proposal to adopt or amend a general plan or a specific plan, or to designate open space it is required to contact the appropriate tribes identified by the NAHC by requesting a "Tribal Consultation List." If a tribe, once contacted, requests consultation the local government must consult with the tribe on the

plan proposal. **A tribe has 90 days from the date of receipt of notification to request consultation unless a shorter timeframe has been agreed to by the tribe.** (Gov. Code § 65352.3 (a)(2)).

2. No Statutory Time Limit on SB 18 Tribal Consultation. There is no statutory time limit on SB 18 tribal consultation.
3. Confidentiality: Consistent with the guidelines developed and adopted by the Office of Planning and Research pursuant to Gov. Code section 65040.2, the city or county shall protect the confidentiality of the information concerning the specific identity, location, character, and use of places, features and objects described in Public Resources Code sections 5097.9 and 5097.993 that are within the city's or county's jurisdiction. (Gov. Code § 65352.3 (b)).
4. Conclusion of SB 18 Tribal Consultation: Consultation should be concluded at the point in which:
    a. The parties to the consultation come to a mutual agreement concerning the appropriate measures for preservation or mitigation; or
    b. Either the local government or the tribe, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached concerning the appropriate measures of preservation or mitigation. (Tribal Consultation Guidelines, Governor's Office of Planning and Research (2005) at p. 18).

Agencies should be aware that neither AB 52 nor SB 18 precludes agencies from initiating tribal consultation with tribes that are traditionally and culturally affiliated with their jurisdictions before the timeframes provided in AB 52 and SB 18. For that reason, we urge you to continue to request Native American Tribal Contact Lists and "Sacred Lands File" searches from the NAHC. The request forms can be found online at: http://nahc.ca.gov/resources/forms/

AB 52

AB 52 has added to CEQA the additional requirements listed below, along with many other requirements:

1. Fourteen Day Period to Provide Notice of Completion of an Application/Decision to Undertake a Project: Within fourteen (14) days of determining that an application for a project is complete or of a decision by a public agency to undertake a project, a **lead agency** shall provide formal notification to a designated contact of, or tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, to be accomplished by at least one written notice that includes:
    a. A brief description of the project.
    b. The lead agency contact information.
    c. Notification that the California Native American tribe has 30 days to request consultation. (Pub. Resources Code § 21080.3.1 (d)).
    d. A "California Native American tribe" is defined as a Native American tribe located in California that is on the contact list maintained by the NAHC for the purposes of Chapter 905 of Statutes of 2004 (SB 18). (Pub. Resources Code § 21073).

2. Begin Consultation Within 30 Days of Receiving a Tribe's Request for Consultation and Before Releasing a Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report: A **lead agency** shall begin the consultation process within 30 days of receiving a request for consultation from a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project. (Pub. Resources Code § 21080.3.1, subds. (d) and (e)) and prior to the release of a negative declaration, mitigated negative declaration or environmental impact report. (Pub. Resources Code § 21080.3.1(b)).
    a. For purposes of AB 52, "consultation shall have the same meaning as provided in Gov. Code § 65352.4 (SB 18). (Pub. Resources Code § 21080.3.1 (b)).

3. Mandatory Topics of Consultation If Requested by a Tribe: The following topics of consultation, if a tribe requests to discuss them, are mandatory topics of consultation:
    a. Alternatives to the project.
    b. Recommended mitigation measures.
    c. Significant effects. (Pub. Resources Code § 21080.3.2 (a)).

4. Discretionary Topics of Consultation: The following topics are discretionary topics of consultation:
    a. Type of environmental review necessary.
    b. Significance of the tribal cultural resources.
    c. Significance of the project's impacts on tribal cultural resources.
    d. If necessary, project alternatives or appropriate measures for preservation or mitigation that the tribe may recommend to the lead agency. (Pub. Resources Code § 21080.3.2 (a)).

5. Confidentiality of Information Submitted by a Tribe During the Environmental Review Process: With some exceptions, any information, including but not limited to, the location, description, and use of tribal cultural resources submitted by a California Native American tribe during the environmental review process shall not be included in the environmental document or otherwise disclosed by the lead agency or any other public agency to the public, consistent with Government

Code sections 6254 (r) and 6254.10. Any information submitted by a California Native American tribe during the consultation or environmental review process shall be published in a confidential appendix to the environmental document unless the tribe that provided the information consents, in writing, to the disclosure of some or all of the information to the public. (Pub. Resources Code § 21082.3 (c)(1)).

6. Discussion of Impacts to Tribal Cultural Resources in the Environmental Document: If a project may have a significant impact on a tribal cultural resource, the lead agency's environmental document shall discuss both of the following:
   a. Whether the proposed project has a significant impact on an identified tribal cultural resource.
   b. Whether feasible alternatives or mitigation measures, including those measures that may be agreed to pursuant to Public Resources Code section 21082.3, subdivision (a), avoid or substantially lessen the impact on the identified tribal cultural resource. (Pub. Resources Code § 21082.3 (b)).

7. Conclusion of Consultation: Consultation with a tribe shall be considered concluded when either of the following occurs:
   a. The parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource; or
   b. A party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached. (Pub. Resources Code § 21080.3.2 (b)).

8. Recommending Mitigation Measures Agreed Upon in Consultation in the Environmental Document: Any mitigation measures agreed upon in the consultation conducted pursuant to Public Resources Code section 21080.3.2 shall be recommended for inclusion in the environmental document and in an adopted mitigation monitoring and reporting program, if determined to avoid or lessen the impact pursuant to Public Resources Code section 21082.3, subdivision (b), paragraph 2, and shall be fully enforceable. (Pub. Resources Code § 21082.3 (a)).

9. Required Consideration of Feasible Mitigation: If mitigation measures recommended by the staff of the lead agency as a result of the consultation process are not included in the environmental document or if there are no agreed upon mitigation measures at the conclusion of consultation, or if consultation does not occur, and if substantial evidence demonstrates that a project will cause a significant effect to a tribal cultural resource, the lead agency shall consider feasible mitigation pursuant to Public Resources Code section 21084.3 (b). (Pub. Resources Code § 21082.3 (e)).

10. Examples of Mitigation Measures That, If Feasible, May Be Considered to Avoid or Minimize Significant Adverse Impacts to Tribal Cultural Resources:
    a. Avoidance and preservation of the resources in place, including, but not limited to:
       i. Planning and construction to avoid the resources and protect the cultural and natural context.
       ii. Planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria.
    b. Treating the resource with culturally appropriate dignity, taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following:
       i. Protecting the cultural character and integrity of the resource.
       ii. Protecting the traditional use of the resource.
       iii. Protecting the confidentiality of the resource.
    c. Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places.
    d. Protecting the resource. (Pub. Resource Code § 21084.3 (b)).
    e. Please note that a federally recognized California Native American tribe or a nonfederally recognized California Native American tribe that is on the contact list maintained by the NAHC to protect a California prehistoric, archaeological, cultural, spiritual, or ceremonial place may acquire and hold conservation easements if the conservation easement is voluntarily conveyed. (Civ. Code § 815.3 (c)).
    f. Please note that it is the policy of the state that Native American remains and associated grave artifacts shall be repatriated. (Pub. Resources Code § 5097.991).

11. Prerequisites for Certifying an Environmental Impact Report or Adopting a Mitigated Negative Declaration or Negative Declaration with a Significant Impact on an Identified Tribal Cultural Resource: An environmental impact report may not be certified, nor may a mitigated negative declaration or a negative declaration be adopted unless one of the following occurs:
    a. The consultation process between the tribes and the lead agency has occurred as provided in Public Resources Code sections 21080.3.1 and 21080.3.2 and concluded pursuant to Public Resources Code section 21080.3.2.
    b. The tribe that requested consultation failed to provide comments to the lead agency or otherwise failed to engage in the consultation process.
    c. The lead agency provided notice of the project to the tribe in compliance with Public Resources Code section 21080.3.1 (d) and the tribe failed to request consultation within 30 days. (Pub. Resources Code § 21082.3 (d)).

This process should be documented in the Cultural Resources section of your environmental document.

The NAHC's PowerPoint presentation titled, "Tribal Consultation Under AB 52: Requirements and Best Practices" may be found online at: http://nahc.ca.gov/wp-content/uploads/2015/10/AB52TribalConsultation_CalEPAPDF.pdf

NAHC Recommendations for Cultural Resources Assessments

To adequately assess the existence and significance of tribal cultural resources and plan for avoidance, preservation in place, or barring both, mitigation of project-related impacts to tribal cultural resources, the NAHC recommends the following actions:

1. Contact the appropriate regional California Historical Research Information System (CHRIS) Center (http://ohp.parks.ca.gov/?page_id=1068) for an archaeological records search. The records search will determine:
    a. If part or all of the APE has been previously surveyed for cultural resources.
    b. If any known cultural resources have been already been recorded on or adjacent to the APE.
    c. If the probability is low, moderate, or high that cultural resources are located in the APE.
    d. If a survey is required to determine whether previously unrecorded cultural resources are present.

2. If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
    a. The final report containing site forms, site significance, and mitigation measures should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum and not be made available for public disclosure.
    b. The final written report should be submitted within 3 months after work has been completed to the appropriate regional CHRIS center.

3. Contact the NAHC for:
    a. A Sacred Lands File search. Remember that tribes do not always record their sacred sites in the Sacred Lands File, nor are they required to do so. A Sacred Lands File search is not a substitute for consultation with tribes that are traditionally and culturally affiliated with the geographic area of the project's APE.
    b. A Native American Tribal Consultation List of appropriate tribes for consultation concerning the project site and to assist in planning for avoidance, preservation in place, or, failing both, mitigation measures.

4. Remember that the lack of surface evidence of archaeological resources (including tribal cultural resources) does not preclude their subsurface existence.
    a. Lead agencies should include in their mitigation and monitoring reporting program plan provisions for the identification and evaluation of inadvertently discovered archaeological resources per Cal. Code Regs., tit. 14, section 15064.5(f) (CEQA Guidelines section 15064.5(f)). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American with knowledge of cultural resources should monitor all ground-disturbing activities.
    b. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the disposition of recovered cultural items that are not burial associated in consultation with culturally affiliated Native Americans.
    c. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the treatment and disposition of inadvertently discovered Native American human remains. Health and Safety Code section 7050.5, Public Resources Code section 5097.98, and Cal. Code Regs., tit. 14, section 15064.5, subdivisions (d) and (e) (CEQA Guidelines section 15064.5, subds. (d) and (e)) address the processes to be followed in the event of an inadvertent discovery of any Native American human remains and associated grave goods in a location other than a dedicated cemetery.

Please contact me if you need any additional information at gayle.totton@nahc.ca.gov.

Sincerely,

Gayle Totton, M.A., PhD.
Associate Governmental Program Analyst

cc: State Clearinghouse

Rancho Bernardo Community Planning Board

P.O. Box 270831, San Diego, CA 92198
www.rbplanningboard.com

January 10, 2017

Andrew Martin, Senior Regional Planner
401 B Street, Suite 800
San Diego, CA 92101

SUBJECT: Notice of Preparation of a Program Environmental Impact Report for San Diego Forward: The Regional Plan

Dear Mr. Martin:

The Rancho Bernardo Community Planning Board (Planning Board) appreciates the opportunity to provide comments on the scope and content of the Environmental Impact Report (EIR) for San Diego Forward: The Regional Plan (Regional Plan). The Regional Plan will consist of a Regional Transportation Plan (RTP) and a Sustainable Communities Strategy (SCS) that identify the San Diego region's future transportation investments and growth through 2050. Per State law, the planning process must coordinate land use planning and RTPs to help California meet the State's greenhouse gas (GHG) reduction targets for passenger vehicles.

The Planning Board discussed this item on December 15, 2016 and approved providing the following list of comments to SANDAG for consideration during the preparation of the draft EIR.

1) Impacts Related to Implementing Higher Density Development
   a. The draft EIR must realistically evaluate both the short and long term effects of higher density development projects on the local and regional transportation system, air quality, GHG emissions, parking, and land use compatibility. In particular, this analysis should address the effects of developing higher density development when either adequate transit options are not yet available to accommodate future residents or the development is not sited within reasonable distance to available transit options. Higher density development does not in and of itself result in few passenger car trips, therefore the EIR must evaluate the adequacy of the SCS proposals to achieve an overall reduction in trips.

   b. Evaluate the adequacy of the SCS to address the consideration of employment destinations when identifying sites of higher density development. Available transit must have adequate routes to get residents to their job sites. Examine the effects to air quality, generation of GHG emissions, and traffic flow from failing to consider employment destinations when identifying sites for high density development.

   c. Evaluate the potential effects of implementing the proposals in the SCS to existing land use, public services, and public facilities.

2) Adequacy and Reliability of Transit Service
When evaluating impacts related to traffic, air quality, and GHG emissions, the EIR must analyze the adequacy and reliability of the current and future transit options in the region. Mitigation for current and predicted future freeway congestion should consider specific improvements to the overall transit system, including increased reliability, expanded commuter bus routes from the south bay to employment centers in the north, and additional commuter bus routes in the north county that provide access to various employment centers in the region. Finally, the adequacy of the system of feeder bus routes available to get commuters from their residences to transit stations must be evaluated. Residences are less likely to use transit if they have to drive to the transit station.

3) Adequacy of Planned Freeway Improvements
One of the alternatives considered in the EIR should include the acceleration of the construction of the I-56 west/I-5 north interchange and the expansion of the proposed improvements to I-56 to include the construction of an HOV lane.

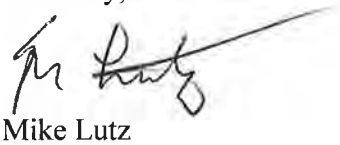
4) Availability of Electric Charging Stations
Analyze how effective the SCS will be in ensuring adequate availability of electric charging stations throughout the region.

5) Current HOV User Policies on the I-15
The draft EIR should analyze the effect that allowing single drivers to pay to use the HOV lanes is having on the overall capacity of the I-15 HOV lanes, particularly during the northbound PM commute. Address if too many cars on these lanes is discouraging carpooling and instead increase congestion and GHG emissions.

6) High-Speed Rail
The EIR should include an alternative for the RTP that stops the high speed rail in Escondido and then efficiently transports travelers to various locations in San Diego County via an effective regional transit system. Additionally, the draft EIR should acknowledge that site-specific CEQA and NEPA evaluation has not yet been completed for a high speed rail alignment and that there are alternatives to this alignment that need to be considered and evaluated as part of that process.

Thank you for the opportunity to provide these comments. The Planning Board requests that it be notified when the draft EIR is made available for public review and comment.

Sincerely,



Mike Lutz
Chair, Rancho Bernardo Community Planning Board

cc: Mayor Kevin Faulconer (SANDAG Board of Directors)
Councilmember Mark Kersey, District 5

San Diego Chapter
8304 Clairemont Mesa Blvd, Ste 101
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858-569-6005

January 13, 2017

Andrew Martin, Senior Regional Planner
San Diego Association of Governments
401 B Street, Suite 800
San Diego, CA 92101

Via E-mail at andrew.martin@sandag.org
Subject: Comments Regarding *Notice of Preparation – of a Program Environmental Impact Report for San Diego Forward: The Regional Plan*, dated November 14th, 2016 and its Attachment 1, *Plan Information and Scope of Environmental Analysis*

Dear Mr. Martin,

We appreciate the opportunity to comment on this important subject.

Attachment 1's Section Entitled "Background and Plan Overview"

The second paragraph states (with emphasis added):

> *A new EIR will be prepared for the Regional Plan to evaluate its significant effects on the **environment**, identify alternatives to the Regional Plan, and indicate the manner in which **significant effects can be mitigated or avoided**.*

We note that the "environment" is composed of various important features of the physical world, including our own species. Impacts on these features may or may not be reasonably well predicted by how the Regional Plan ("Plan") is predicted to perform, compared to California climate mandates, such as AB 32, SB 32, SB 375, and Executive orders S-3-05 and B-30-15. The EIR must show compliance or non-compliance with the state's climate mandates. However, the EIR must also show compliance or non-compliance with achieving "climate-stabilizing" targets, where "climate stabilizing" targets means targets that will, considering cumulative impacts and assuming all other entities in the industrial world will also do their part, prevent "climate destabilization". "Climate destabilization" is shorthand for having the world go through a so-called climate tipping point. Going through a tipping point herein means that the warming feedbacks become dominant and our planet's climate changes into one which will no longer support most of its current life forms, including our own species.

The June, 2008 issue of *Scientific American*[1] wrote of a "devastating collapse of the human population", due to anthropogenic global warming if there is insufficient reductions in our greenhouse gas (GHG) emissions. To avoid this, anthropogenic emissions must first be reduced enough to stop the level of atmospheric CO2_e from continuing to increase. This needs to happen as soon as possible. If it happens too late, we could still suffer a "devastating collapse of the human population", regardless of our actions after the warming feedbacks become dominant.

Your second-paragraph statement, that is shown above, with emphasis added, mentions "significant effects". However, to comply with CEQA, the EIR must identify the *most* significant effects. The extinction of humanity, which would come about if we fail to achieve climate-stabilizing targets, is perhaps the most significant effect. Identifying such effects as more fires, more heat, and some amount of sea-level rise, while useful, is insufficient.

Humanity must, as Governor Brown said to the Pope, "reverse course or face extinction." Covering up this stark reality violates CEQA law, which calls for a reasonable disclosure of likely harm, for the case of insufficient mitigation.

How will you decide which suggested mitigations (ways to reduce GHG emissions) will be ignored and which ones will be implemented? CARB's updated scoping plan says that all mitigations should be implemented if they are "technologically feasible and cost effective". Any weaker criterion will violate CEQA law. The NOP should have been clear on that point.

In order to "evaluate" (your word, as shown above, in the second-paragraph statements, with emphasis added) the Plan's impacts, you will have to make assumptions about what California will do regarding fleet efficiency and what California will do regarding adopting an improved method for having Californians pay for the use of our roads. You would be reasonable if you were to assume that the state will adopt policies to reduce vehicle-miles travelled (VMT) by cars and light-duty trucks, or "Light-duty vehicles" (LDVs), but only if you make it clear to the state exactly how much help you will need. Recognizing that LDVs and their VMT is primarily your responsibility, it becomes obvious to any thoughtful person that you must identify or write a plan showing how LDVs can achieve climate-stabilizing targets. On-road transportation causes 47% of the GHG emissions in San Diego; cars and light-duty trucks cause 41%[2]. You have no choice but to partner with the state. The state must take the lead on fleet efficiency and the "road use charge" ("RUC", as shown in the work to implement SB 1077). You must take the lead on achieving the needed per-capita driving, assuming the state's RUC, which should help to reduce VMT. Your primary controls on VMT include land use, complete streets, active-transportation facilities, transit systems, car-parking policies, and teaching adults how to safely ride a bicycle in traffic.

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[1] *Scientific American*, *The Ethics of Climate Change*, Professor John Broome, June 2008, Page 100

[2] San Diego Greenhouse Inventory, Energy Policy Initiatives Center, http://www.sandiego.edu/epic/ghginventory/

The political party that is the majority political party in both California and San Diego County takes the position that many of the above statements are true. For example, the California Democratic Party (CDP) platform (Reference 1) advocates for the following:

> *. . . a state plan showing how cars and light-duty trucks can hit climate-stabilizing targets, by defining enforceable measures to achieve the needed fleet efficiency and per-capita driving*

Reference 2 is such a state plan. SANDAG, CARB or some other entity could write such a plan, which could then be used as a reference document in an EIR. This would show how LDVs could achieve climate-stabilizing targets. It has often been said that having no plan to succeed is having a plan to fail. Given that our survival hangs in the balance, a plan is mandatory. There also is no other way to comply with CEQA, since decision makers must be shown how the worst environmental outcome could be avoided.

Since not stabilizing the climate is an unacceptably bad outcome, it is imperative that the Plan's EIR show how cars and light-duty trucks could achieve climate-stabilizing targets.

Again, the dominant political party in our state is aware of this fairly-obvious reality. Again, from Reference 1:

> *Demand Regional Transportation Plan (RTP) driving-reduction targets, shown by science to support climate stabilization*

No climate-literate, empathetic person would want anything less.

Therefore a Requirements Document, such as Reference 2, is a necessary part of the scope of the EIR.

Attachment 1's Section Entitled "Senate Bill 375"

We appreciate this section. The first sentence says that SB 375 will help meet AB 32. AB 32's explicit target is for year 2020 and to achieve the 1990 emission level in that target year. The importance of that target is less than the targets after 2020, which are as follows:

- 40% below the 1990 level by 2030, from SB 32; and from Executive Order B-30-15
- 80% below the 1990 level by 2050, from Executive Order S-3-05;
- a reasonable climate-stabilizing target, which is 80% below the 1990 level by 2030, as shown in Reference 2.

If CARB gives a 2035 target that is not climate-stabilizing, that fact would not relieve you of your responsibility to figure out how cars and light-duty trucks can achieve a reasonable climate-stabilizing target, for the reasons provided in the above section of this letter.

Attachment 1's Section Entitled "Resource Topics Addressed in the EIR"

We appreciate this section. We note its commitment that the EIR will analyze the Regional Plan's significant environmental effects for GHG emissions. This must mean that you are going to analyze what environmental effects will result from the level of GHG emissions that you are predicting, with a reasonable set of mitigation measures. That set must at least include all of the feasible mitigation measures that have been identified.

As stated in the above sections of this letter, “significant environmental effects” must include a determination as to whether or not the Plan will achieve climate-stabilizing targets, for the sector that is the primary responsibility of SANDAG, LDVs. Again, a plan similar to Reference 2 is required. Reference 2 shows a set of fleet-efficiency requirements that will achieve the most reasonable case derived. The per-capita driving reductions needed that go with that case are shown from near the bottom of Page 16 to near the bottom of Page 18 of Reference 2. They are repeated in the following section.

Enforceable and Feasible Mitigation Measures to Achieve Driving Reductions

Reallocate SANDAG Funds Earmarked for Highway Expansion to Transit and Consider Transit-Design Upgrades

It is well-known that the induced traffic demand resulting from adding highway lanes will cause traffic congestion to remain constant. This is true, even if the new lanes are HOV (High Occupancy Vehicle) lanes; HOT (High Occupancy Toll) lanes; or Managed Lanes, which give priority to moving transit vehicles. Any project that temporarily creates space on a freeway will induce enough traffic to fill that space, returning congestion to the level it was before the project. Therefore, additional lanes will not reduce congestion one iota. The money spent to add lanes is not just a waste of money. With more lanes and the same level of congestion as before, the result is always more frustrated drivers, more air pollution, and more GHG emissions.

The sales tax measure called “Trans-Net”, allocates approximately one-third for highway expansion, one-third for transit, and one-third for road maintenance. It has a provision that allows for a reallocation of funds, if supported by at least two-thirds of SANDAG Board members, including a so-called weighted vote, where governments are given a portion of 100 votes, proportional to their population. This feasible mitigation measure is to reallocate the Trans-Net amount, earmarked for all highway expansions, to transit. It is noted that perceived political risk for decision makers does not constitute infeasibility, for a suggested mitigation measure. SANDAG needs to help educate the public about the futility of adding lanes because of induced traffic demand, as well as our responsibility to have a plan showing how cars and light-duty trucks can achieve climate-stabilizing targets. This will reduce political risk.

This money could be used to fund additional transit systems; improve transit operations; and/or redesign and implement the redesign of an existing transit system. A redesign could be the electrification and automation, or even a wholesale technology upgrading of the Coaster/AMTRAK and Sprinter rail lines. These systems need to be frequent and operate 24/7.

The money could also be used to implement a fixed-guideway connection between the San Diego Airport and both the Santa Fe Train Station and the Old Town Transit Center. A trade-off study is needed to find out if this should be done with a trolley extension or an automated system, perhaps using the technology that connects the Oakland Airport to the Coliseum BART station.

A Comprehensive Road-Use Charge (RUC), Pricing-and-Payout System to Improve the Way We Pay for the Use of Roads

Comprehensive means that, for example, pricing, overall, is sufficient to cover all costs, including road maintenance and externalities such as harm to the environment and health; privacy is defined and achieved; the economic interests of low-income drivers doing necessary driving would be protected; that the incentive to drive fuel-efficient cars would be at least as large as it is under the current fuels-excise tax; and, as good technology becomes available, congestion pricing is used, if needed, to protect critical driving from congestion.

The word "*payout"* means that some of the money collected would go to people that are losing money under the current system.

Currently, user fees (gas taxes and tolls) are not enough to cover road costs. Even though general-fund money is being used to operate and maintain roads, California is not doing maintenance with enough frequency to minimize cost. It is well understood that deferred maintenance will cost more than timely maintenance. Besides this, the improved mileage of the Internal Combustion Engine vehicles (ICEs) and the large number of Zero-Emission Vehicles (ZEVs), both of which are needed to have the fleet efficiency needed to achieve climate mandates, mean that gas-tax revenues will drop precipitously over the coming years. In view of these facts, California has passed and is implementing SB 1077, which creates a pilot project road user charge (RUC). The Road User Charge Technical Advisory Committee (RUC TAC) has twice visited San Diego. The first time they met in the SANDAG Board Room. The second time they met at the CALTRANS District 4 office. SANDAG Board Members and SANDAG staff were conspicuously absent from these meetings. SANDAG staff did not inform its Board of these meetings. This is unfortunate because a RUC is the future of road funding. Unfortunately, the SANDAG Board Majority seems to think that a new sales tax can be used to expand roads. The recent defeat of Measure A suggests that this is not true.

SANDAG needs to support California in its efforts to create an effective RUC pricing-and- payout system. As the pilot project finishes, legislation is needed to get the design and implementation moving. SANDAG should lobby for a good system and then, in their EIRs, they should assume a good system. Such a system will play a useful role in reducing per-capita driving.

Improving the Way We Pay for the Use of Car-Parking Facilities

Bundled-cost parking increases the cost of everything, from rent to food; bundled-benefit parking reduces wages. These unsustainable practices are economically unfair to those that drive less or might like to drive less, if they could receive the fair, market-priced compensation for their effort, considering the high cost of providing parking. Surface parking only provides spaces at a rate of 120 cars per acre of land. Parking garage construction costs are over $20,000 per space. Underground parking costs from $60,000 to $100,000 per space. The fourth bullet of the Transportation Sub-plank of the 2016 California Democratic Party Platform (Reference 1) calls for "*shared, convenient and value-priced parking, operated with a system that provides earnings to those paying higher costs or getting a reduced wage, due to the cost of providing the parking*."

This feasible mitigation was ignored by the County in their legally-deficient Climate Action Plan (CAP) which they subsequently rescinded under court order. This is the mitigation measure that was described during oral arguments in Appellate Court, when a Justice asked the Club to describe a feasible mitigation measure that was ignored by the County.

After hearing the description, the Justice commented, "that sounds like feasible mitigation to me."

Here is a brief description of this feasible mitigation measure, which, in this description, happens to be for municipal government employee parking:

> *Demonstration Project to Eliminate the Harm of Bundled-Benefit Parking*
>
> The municipality would develop a Demonstration Project to, in effect, Unbundle the Benefit of Parking ("Demonstration Project") at a city employee location ("Proposed Location").
>
> BACKGROUND: Currently, municipal employees do not have the ability to choose between earnings and driving – employees effectively pay for parking out of their salary, whether or not they use the parking. The Demonstration Project will provide the opportunity for the employees to choose between earnings and driving. This implements the California Air Pollution Control Officers Association (CAPCOA) measure of unbundling the cost of parking.
>
> PROJECT: Parking would be charged at a given rate (for example $0.02/min – roughly $9.60/day). Funds generated from these parking charges would be distributed as earnings to all employees working at the proposed location in proportion to each employee's time spent at work, at the proposed location. Those who decide not to drive will not be charged for parking but will still make earnings based on time spent at work at the location. Implemented correctly, this free market approach will substantially reduce vehicle miles traveled (VMT) and greenhouse gas (GHG) emissions, by reducing the drive-alone mode.
>
> For employees whose parking charges are greater than parking lot earnings, an "add-in" may be included so that no employee loses money, compared to "free parking". With such "add-in" payments, there could be

an “Opt in or Opt out” choice, meaning that those that “Opt out” will see no changes on their pay check, relative to “free parking”.

This project may be helped by receiving a grant to pay the development and installation cost, as well as the “add in” payments, for some specified number of years. The municipality would need to apply for such a grant.

This feasible mitigation measure is actually a demonstration project of a full system implementation, as described in Reference 3. A more detailed description of this demonstration project can be read in Reference 4.

Based on Table 1 of Reference 3, the driving reduction could be 25%, at places of employment. Table 1 shows driving reductions resulting from introducing a price for parking, for 10 cases. Its average reduction in driving is 25% and its smallest, single-case reduction is 15%. Again, these systems can be set up so that no driver loses money. Grant possibilities include the California Air Resources Board’s *Low Carbon Transportation* program and the Strategic Growth Council’s (SGC’s) *Transformative Climate Community* program. Reference 5 has more detail on the SGC grant program.

Good Bicycle Projects and Bicycle Traffic Skills Education

The best criterion for spending money for bicycle transportation is the estimated reduction in driving per the amount spent. It is hoped that the following strategies will come close to maximizing this important parameter.

Projects to Improve Bicycle Access

All of the smart-growth neighborhoods, central business districts, and other high trip destinations or origins, both existing and planned, should be checked to see if bicycle access could be substantially improved with either a traffic calming project, a “complete streets” project, more shoulder width, or a project to overcome some natural or made-made obstacle. One example is to build a Vista Way bicycle bridge over I-5 in Oceanside, to allow those walking or biking to travel between the South Oceanside coastal neighborhood and the regional shopping center, which contains such large stores as Wal-Mart and Stator Brothers grocery store. Currently, those walking or biking from the Vista Way area West of I-5 must travel much further and travel over a steep hill. There are no large grocery stores in the Coastal region of Oceanside, west of I-5. Vista Way was connected for bike riders and pedestrians before the construction of I-5. Given that the highway has caused this problem, funding should come from highway funds, for this project.

League of American Bicyclist Certified Instruction of “Traffic Skills 101”

Most serious injuries to bike riders occur in accidents that do not involve a motor vehicle. Most car-bike accidents are caused by wrong-way riding and errors in intersections; the clear-cut-hit-from-behind accident is rare.

After attending *Traffic Skills 101,* students that pass a rigorous written test and demonstrate proficiency in riding in traffic and other challenging conditions could be paid for their time and effort.

As an example of what could be done in San Diego County, if the average class size was 3 riders per instructor and each rider passes both tests and earns $100 and if the instructor, with overhead, costs $500 dollars, for a total of $800 for each 3 students, that would mean that $160M could teach $160M/$800 = 200,000 classes of 3 students, for a total of 600,000 students. This is approximately 20% of the population of San Diego County. If a significant percentage of the graduates become every-day, utilitarian riders, this will be money well spent.

Eliminate or Greatly Increase the Maximum Height and Density Limits Close to Transit Stops that Meet Appropriate Service Standards

As sprawl is reduced, more compact, transit-oriented development (TOD) will need to be built. This strategy will incentivize a consideration of what level of transit service will be needed, how it can be achieved, and what levels of maximum height and density are appropriate. Having no limits at all is reasonable if models show that the development can function without harming the existing adjacent neighborhoods, given the level of transit service and other supporting transportation policies. One such supporting transportation policy would be the use of car-parking systems described in Reference 3, which support the full sharing of parking**,** less driving, and less car ownership.

Include Plots and Explanation of the Plots, in the EIR, That Leave No Doubt About the Validity of Anthropogenic Climate Change

Figure 1 shows the rise of the world's atmospheric CO2 over the last 50 years. Figure 2 shows both atmospheric temperature (averaged over a year and averaged over all of the earth, derived from an isotope analysis) and atmospheric CO2, over 800,000 years. It could be noted that our species is only around 200,000 years old. Figure 2 shows that when climate deniers say that climate is always changing and so therefore climate change is normal, they are correct, except for one important consideration. There is nothing normal about the outrageous run up of atmospheric CO2, to over 400 PPM, in such a short time that it appears to be an instantaneous spike, on Figure 2. There is no doubt that the spike is the result of our combustion of fossil fuels. Figure 3 covers all of the time of the development of our civilization. Everything was normal until about 150 years ago, which is the start of our industrial revolution, when we started to burn fossil fuels. By doing extensive calculations we know how much CO2 we have produced from the combustion of fossil fuels. Then, by directly measuring the atmospheric CO2 and the acidity of the oceans, we know where all of that CO2 currently resides. We also know that atmospheric CO2 traps heat. There is no doubt that we have an Anthropogenic Global Warming catastrophe in the making. Achieving climate-stabilizing targets is our only hope.

Figure 1 Atmospheric CO2, Increasing Over Recent Decades

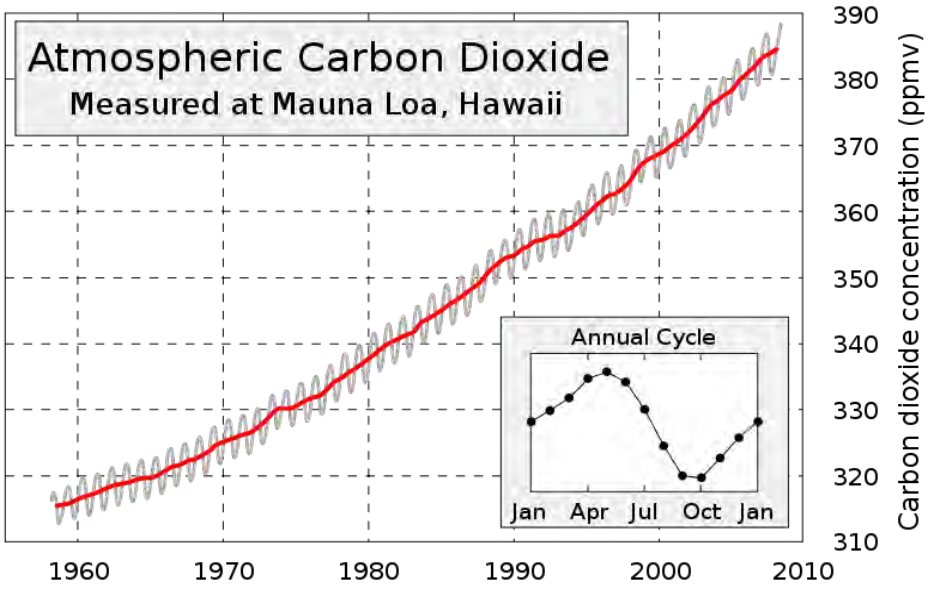


Figure 2 Atmospheric CO2 and Mean Temperature, from 800,000 Years Ago, with Current CO2 PPM Shown

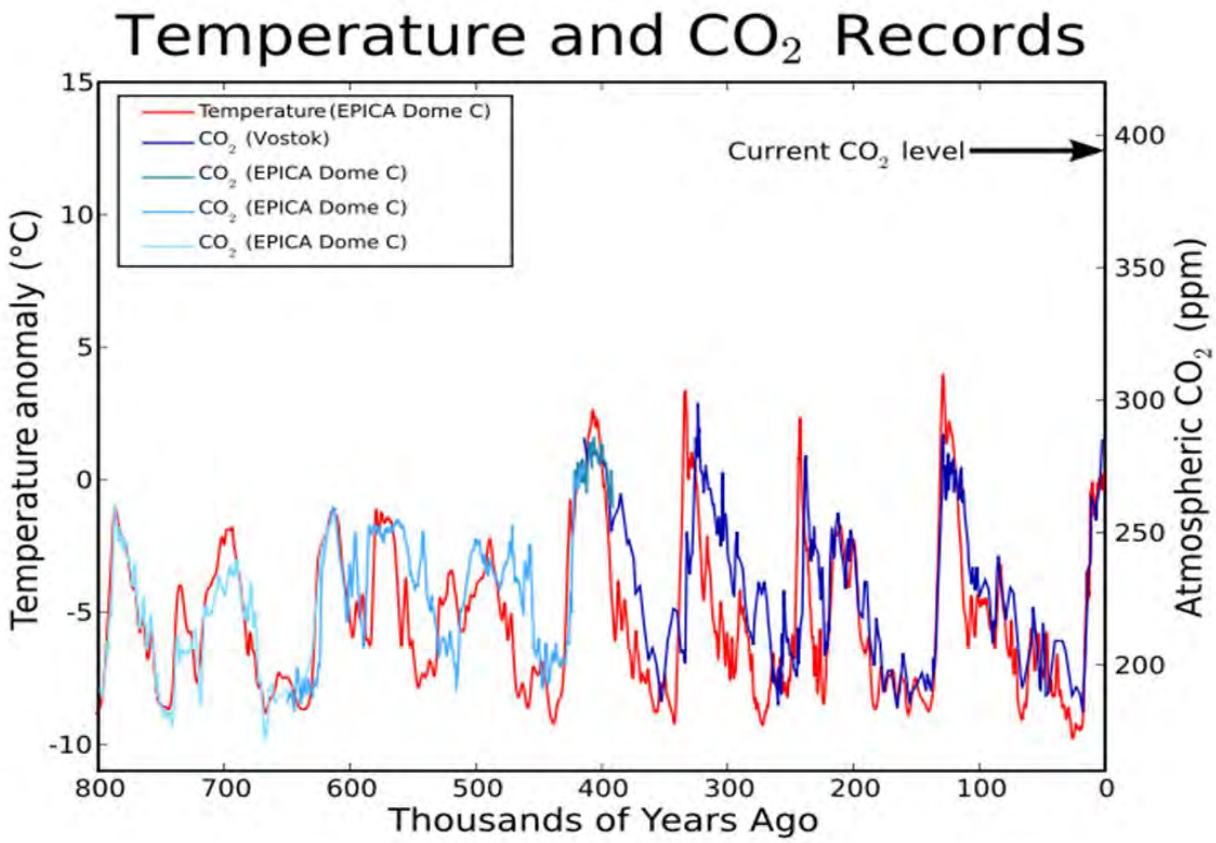
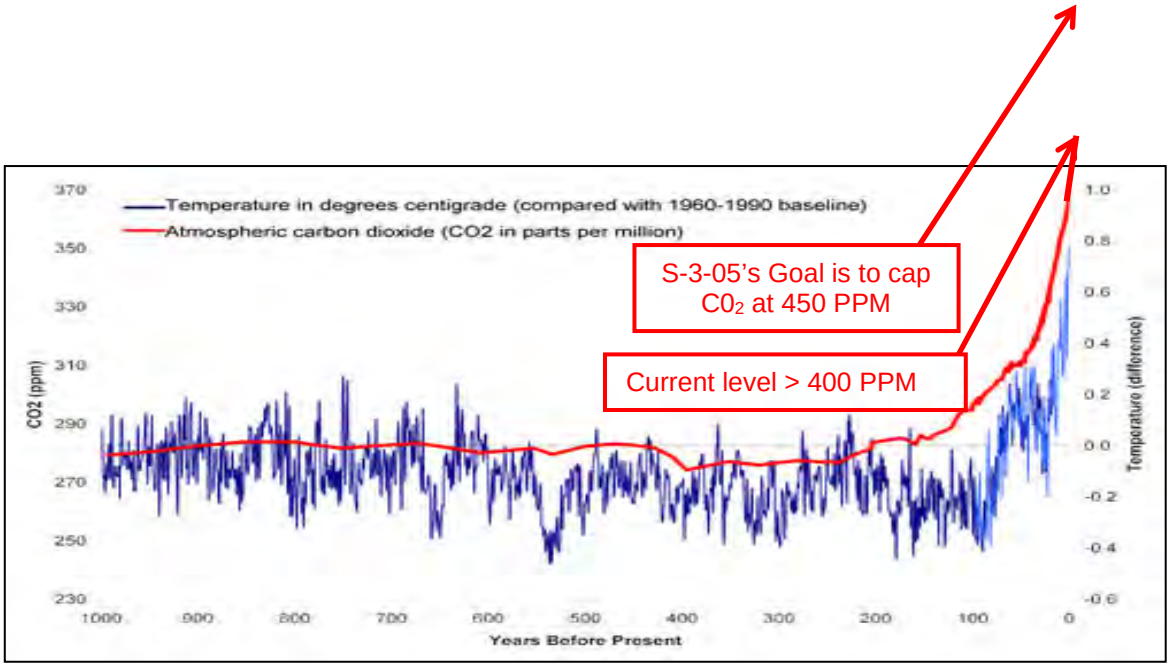


Figure 3 **Atmospheric CO2 and Mean Temperature, Over the Last 1,000 Years**



In Closing

Thank you for your leadership in performing your critical work. Thank you for reading this material and for providing the comments and response as required, in the DEIR. Please let us know if you would like to meet to discuss this letter or related topics.

Respectfully submitted,

Mike Bullock mike_bullock@earthlink.net
Chair, Transportation Subcommittee
Sierra Club San Diego

George Courser
Chair, Conservation Committee
Sierra Club San Diego

References

1.) 2016 California Democratic Party Platform, viewable at http://www.cadem.org/our-california/platform/2016-platform-energy-and-environment, excerpted file attached to email submission of letter

2.) Bullock, Mike R; *Climate-Stabilizing, California Light-Duty Vehicle Requirements, Versus Air Resource Board Goals*, Paper 881-AWMA, from the Air and Waste Management Association's 109th Annual Conference and Exhibition; New Orleans, June 16-25, 2016; Available on request from mike_bullock@earthlink.net and attached to the email submission of this letter

3.) M. Bullock & J. Stewart, *A Plan to Efficiently and Conveniently Unbundle Car Parking Costs*; Paper 2010-A-554-AWMA, from the Air and Waste Management Association's 103rd Annual Conference and Exhibition; Calgary, Canada, June 21-24, 2010; available upon request from Mike Bullock, mike_bullock@earthlink.net. attached to the email submission of this letter

4.) Bullock, Michael*; Equitable and Environmentally-Sound Car-Parking Policy at a Work Site*; Aug. 30, 2015; Available on request from mike_bullock@earthlink.net and attached to the email submission of letter

5.) *Transformative Climate Communities, Draft Scoping Guidelines*, California Strategic Growth Council, November 23, 2016, attached to the email submission of this letter

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The San Diego Chapter of the Sierra Club is San Diego's oldest and largest grassroots environmental organization, founded in 1948. Encompassing San Diego and Imperial Counties, the San Diego Chapter seeks to preserve the special nature of the San Diego and Imperial Valley area through education, activism, and advocacy. The Chapter has over 11,000 members. The National Sierra Club has over 700,000 members in 65 Chapters in all 50 states, and Puerto Rico.

SIERRA CLUB
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From : http://www.cadem.org/our-california/platform/2016-platform-energy-and-environment

From the 2016 California Democratic Party (CDP) Platform

Transportation

- Support vehicle regulations to provide healthier air for all Californians, support strong and workable low-emission and zero-emission vehicle standards that will continue to be a model for the country, support Clean Vehicle Incentive programs to include the installation of charging infrastructure, and provide assistance to small businesses to meet the low-emission standards;
- Demand Regional Transportation Plan (RTP) driving-reduction targets, shown by science to support climate stabilization;
- Work for equitable and environmentally-sound road and parking operations; Support strategies to reduce driving, such as smart growth, “complete streets”; teaching bicycling traffic skills; and improving transit, from local systems to high speed rail
- Work for shared, convenient and value-priced parking, operated with a system that provides earnings to those paying higher costs or getting a reduced wage, due to the cost of providing the parking; and,
- Demand a state plan showing how cars and light-duty trucks can hit climate-stabilizing targets, by defining enforceable measures to achieve the needed fleet efficiency and per-capita driving;
- Support policies, including tax policies and the use of Greenhouse Gas Reduction Fund (GGRF) grants, that empower business owners, especially small business owners, to make investments in transportation infrastructure to ensure that freight moves by lower-emission local, short-line freight railroads, instead of adding to highway congestion and pollution.

Climate-Stabilizing, California Light-Duty Vehicle Requirements, Versus Air Resource Board Goals

Paper 881

Mike R. Bullock
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ABSTRACT

An Introduction is provided, including the importance of light-duty vehicles (LDVs: cars and light duty trucks) and a definition of the top-level LDV requirements to limit their carbon dioxide ("CO2") emissions.

Anthropogenic climate change fundamentals are presented, including its cause, its potential for harm, California mandates, and a greenhouse gas (GHG) reduction road map to avoid disaster.

A 2030 climate-stabilizing GHG reduction target value is calculated, using statements by climate experts. The formula for GHG emissions, as a function of per-capita driving, population, fleet CO2 emissions per mile, and the applicable low-carbon fuel standard (LCFS) is given. The ratio of the 2015 value of car-emission-per-mile to the 2005 value of car-emission-per-mile is obtained.

Internal Combustion Engine (ICE) mileage values from 2000 to 2030 are identified, as either mandates or new requirements. A table is presented that estimates 2015 LDV fleet mileage.

Zero Emission Vehicle (ZEV) parameters are given. A table is shown that uses 2030 ZEV and ICE (ICE LDVs) requirements, named the "Heroic Measures" case, to compute the LDV fleet-equivalent mileage. That equivalent fleet mileage is used, with population and the required emission reduction, to compute a required per-capita driving reduction, with respect to 2005. Measures to achieve this per-capita driving reduction are described, with reductions allocated to each measure. The energy used per year for the Heroic Measures case is estimated

The "Heroic Measures" set of fractions of ZEV's purchased, as a function of year, is compared to the California Air Resources Board (CARB) goals.

INTRODUCTION

Within the context of working the anthropogenic-climate-change problem and from a systems engineering perspective, the top-level requirement is to reduce greenhouse gas (GHG) emissions enough to support stabilizing our climate at a livable level. This top-level requirement must flow down to the subsystem of LDVs, especially due to the magnitude of their emissions. (As an example, LDVs emit 41% of the GHG in San Diego County[1].)

More specifically, LDV requirements will be identified that, taken together, will result in GHG emission reductions sufficient to "support climate stabilization". "Support climate stabilization"

means that the LDV emission level will be equal to a climate-stabilizing target. Such a target is expressed as an emission level in some target year. The target is based on climate science.

From a systems engineering perspective, at the top level, the needed LDV requirements are

- LDV fleet efficiency, meaning the greenhouse gas (GHG) emissions per mile driven, applicable to the entire fleet, on the road in the year of interest and
- an upper bound on per-capita driving, given the derived fleet efficiency and the predicted population growth.

The fleet efficiency requirement will be developed as a function of lower-level requirements, such as Corporate Average Fuel Efficiency (CAFÉ) requirements, requirements on how fast Battery Electric Vehicles (BEVs) must be added into the fleet each year, and requirements to get low-efficiency vehicles off the roads. The second top-level requirement, the upper bound on per-capita driving, will spawn transportation-system requirements designed to result in less driving, such as better mass transit. This paper will derive a formulae to compute the required per-capita driving levels, based on fleet efficiency, predicted population growth, and the latest, science-based, climate-stabilizing GHG emission target.

In this work, three categories of LDV emission-reduction strategies will be considered: cleaner cars, cleaner fuels, and less driving.

BACKGROUND: OUR ANTHROPOGENIC CLIMATE CHANGE PROBLEM

Purpose of This Section

Before going to work to solve a systems-engineering problem, it is important to understand the nature of the problem. How complex is the problem? How much is at stake if the problem is not solved? Is it reasonable to take a chance and only solve the problem with a reasonably high probability or is there too much at stake to gamble? This section is an attempt to answer these questions.

Basic Cause

Anthropogenic climate change is driven by these two processes[2]: First, our combustion of fossil fuels is adding "great quantities" of CO_2 into our atmosphere. Second, that additional atmospheric CO_2 is trapping additional heat.

California's First Three Climate Mandates

California's Governor's Executive Order S-3-05[3] is similar to the Kyoto Agreement and is based on the greenhouse gas (GHG) reductions that were recommended by climate scientists for industrialized nations back in 2005. In 2005, many climate scientists believed that the reduction-targets of S-3-05 would be sufficient to support stabilizing Earth's climate at a livable level, with a reasonably high level of certainty. More specifically, this executive order aims for an average, over-the-year, atmospheric temperature rise of "only" 2 degree Celsius, above the preindustrial temperature. It attempts to do this by limiting our earth's level of atmospheric CO_2_e to 450 PPM by 2050 and then reducing emissions further, so that atmospheric levels would come down

to more tolerable levels in subsequent years. The S-3-05 emission targets are 2000 emission levels by 2010, 1990 levels by 2020, and 80% below 1990 levels by 2050.

It was thought that if the world achieved S-3-05, there might be a 50% chance that the maximum temperature rise will be less than 2 degrees Celsius, thus leaving a 50% chance that it would be larger than 2 degrees Celsius. A 2 degree increase would put over a billion people on the planet into a condition described as "water stress" and it would mean a loss of 97% of the earth's coral reefs.

There would also be a 30% chance that the temperature increase would be greater than 3 degrees Celsius. A temperature change of 3 degree Celsius is described in Reference 3 as being "exponentially worse" than a 2 degree Celsius increase.

The second California climate mandate is AB 32, the *Global Warming Solutions Act of 2006*. It includes provisions for a cap and trade program, to ensure meeting S-3-05's 2020 target of the 1990 level of emissions. It continues after 2020. AB 32 requires CARB to always implement measures that achieve the maximum *technologically feasible and cost-effective* (words taken from AB 32) greenhouse-gas-emission reductions.

In 2015 Governor Brown signed Executive Order B-30-15. This Executive Order established a mandate to achieve an emission level of 40% below 2020 emissions by 2030, as can be seen by a Google search. If Executive Order S-3-05 is interpreted as a straight line between its 2020 target and its 2050 target, then the B-30-15 target of 2030 is the same as S-3-05's implied target of 2035, because 2035 is halfway between 2020 and 2050 and 40% down is halfway to 80% down.

California is on track to achieve its S-3-05 second (2020) target. However, the world emission levels have, for most years, been increasing, contrary to the S-3-05 trajectory. In part because the world has been consistently failing to follow S-3-05's 2010-to-2020 trajectory, if California is still interested in leading the way to stabilizing the climate at a livable level, it must do far better than S-3-05, going forward, as will be shown.

Failing to Achieve these Climate Mandates

What could happen if we fail to achieve S-3-05, AB 32, and B-30-15 or if we achieve them but they turn out to be too little too late and other states and countries follow our example?

It has been written[4] that, "A recent string of reports from impeccable mainstream institutions-the International Energy Agency, the World Bank, the accounting firm of PricewaterhouseCoopers-have warned that the Earth is on a trajectory to warm by at least 4 Degrees Celsius and that this would be incompatible with continued human survival."

It has also been written[5] that, "Lags in the replacement of fossil-fuel use by clean energy use have put the world on a pace for 6 degree Celsius by the end of this century. Such a large temperature rise occurred 250 million years ago and extinguished 90 percent of the life on Earth. The current rise is of the same magnitude but is occurring faster."

Pictures That Are Worth a Thousand Words

Figure 1 shows (1) atmospheric CO_2 (in blue) and (2) averaged-over-a-year-then-averaged-over-the surface-of-the-earth world atmospheric temperature (in red). This temperature is with respect to a recent preindustrial value. The data starts 800,000 years ago. It shows that the current value of atmospheric CO_2, which is now over 400 PPM, far exceeds the values of the last 800,000 years. It also shows that we should expect the corresponding temperature to eventually be about 12 or 13 degrees above preindustrial temperatures. This would bring about a human disaster[3,4,5].

Figure 2 shows the average yearly temperature with respect to the 1960-to-1990 baseline temperature (in blue). It also shows atmospheric levels of CO_2 (in red). The S-3-05 goal of 450 PPM is literally "off the chart", in Figure 2. Figure 2 shows that, as expected, temperatures are starting to rise along with the increasing levels of CO_2. The large variations in temperature are primarily due to the random nature of the amount of solar energy being received by the earth.

FURTHER BACKGROUND: CALIFORNIA'S SB 375 AND AN IMPORTANT DATA SET

As shown in the Introduction, LDVs emit significant amounts of CO_2. The question arises: will driving need to be reduced or can cleaner cars and cleaner fuels arrive in time to avoid such behavioral change? Steve Winkelman, of the Center for Clean Air Policy (CCAP), worked on this problem.

SB 375, the *Sustainable Communities and Climate Protection Act of 2008*

Under SB 375, the California Air Resources Board (CARB) has given each Metropolitan Planning Organization (MPO) in California driving-reduction targets, for the years 2020 and 2035. "Driving" means yearly, per capita, vehicle miles travelled (VMT), by LDVs, with respect to 2005. The CARB-provided values are shown at this Wikipedia link, http://en.wikipedia.org/wiki/SB_375. It is important to note that although this link and many other sources show the targets to be "GHG" and not "VMT", SB 375 clearly states that the reductions are to be the result of the MPO's Regional Transportation Plan (RTP), or, more specifically, the Sustainable Communities Strategy (SCS) portion of the RTP. Nothing in the SCS will improve average mileage. That will be done by the state and federal government by their Corporate Average Fleet Efficiency (CAFÉ) standards. The SCS can only reduce GHG by reducing VMT. The only way an SCS can reduce GHG by 12%, for example, is to reduce VMT by 12%.

Under SB 375, every Regional Transportation Plan (RTP) must include a section called a Sustainable Communities Strategy (SCS). The SCS must include driving reduction predictions corresponding to the CARB targets. Each SCS must include only *feasible* transportation, land use, and transportation-related policy data. If the SCS driving-reduction predictions fail to meet the CARB-provided targets, the MPO must prepare an Alternative Planning Strategy (APS). An APS uses *infeasible* transportation, land use, and transportation-related policy assumptions. The total reductions, resulting from both the SCS and the APS, must at least meet the CARB-provided targets.

Critical Data: Useful Factors from Steve Winkelman's Data

Figure 3[6].shows 6 variables as a percent of its 2005 value. The year 2005 is the baseline year of SB 375. The red line is the Caltrans prediction of VMT. The purple line is California's current mandate for a Low Carbon Fuel Standard (LCFS). As shown, by 2020, fuel in California must emit 10% less per gallon than in 2005. The turquoise line is the 1990 GHG emission in California. As shown, it is 12% below the 2005 level. This is important because S-3-05 specifies that in 2020, state GHG emission levels must be at the 1990 level. The green line is the C02 emitted per mile, as specified by AB 1493, also known as "Pavley 1 and 2" named after Senator Fran Pavley. The values shown do not account for the LCFS. The yellow (or gold) line is the S-3-05 mandate, referenced to 2005 emission levels. The blue line is the product of the red, the purple, and the green line and is the percentage of GHG emissions compared to 2005. Since VMT is not being adequately controlled, the blue line is not achieving the S-3-05 line. Figure 3 shows that driving must be reduced. For this reason, Steve Winkelman can be thought of as the true father of SB 375.

Figure 1. Atmospheric CO_2 and Mean Temperature from 800,000 Years Ago

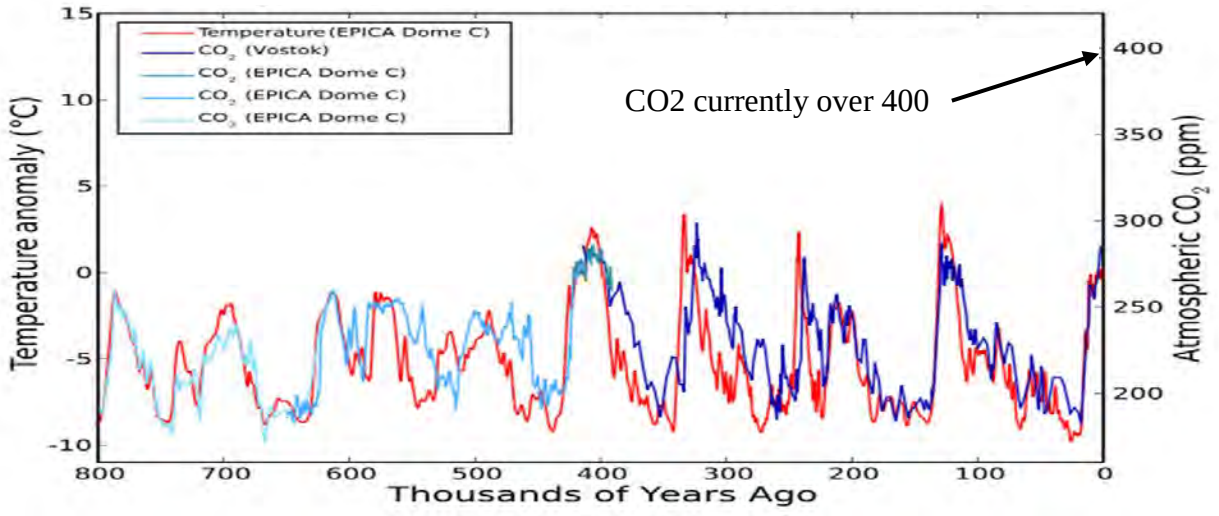
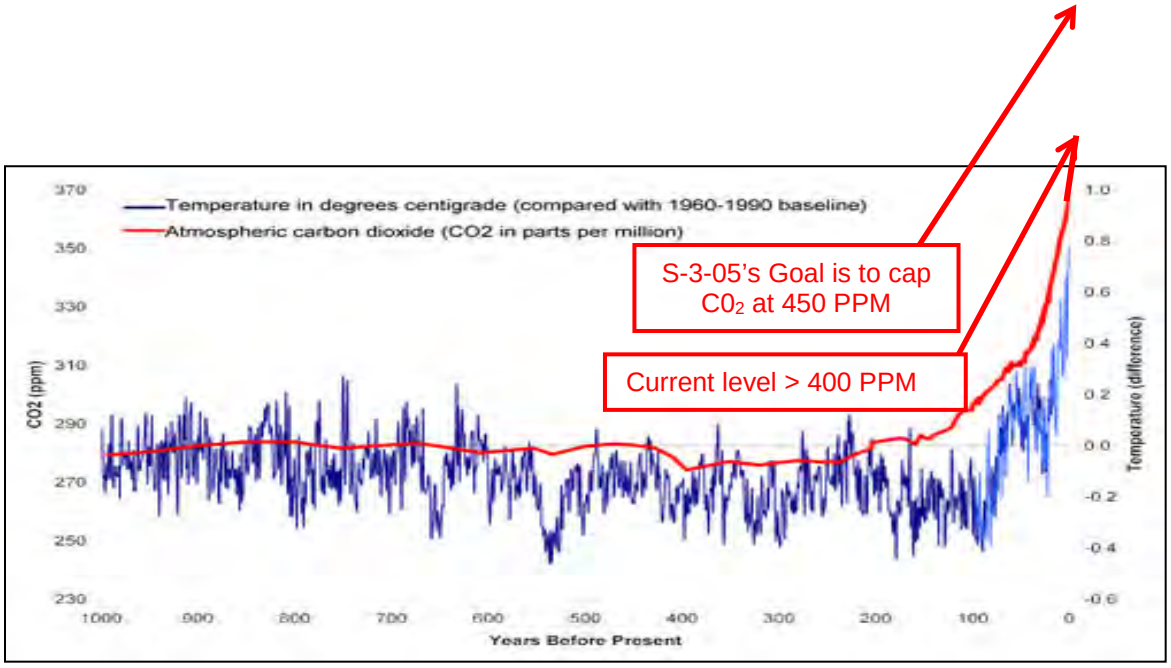
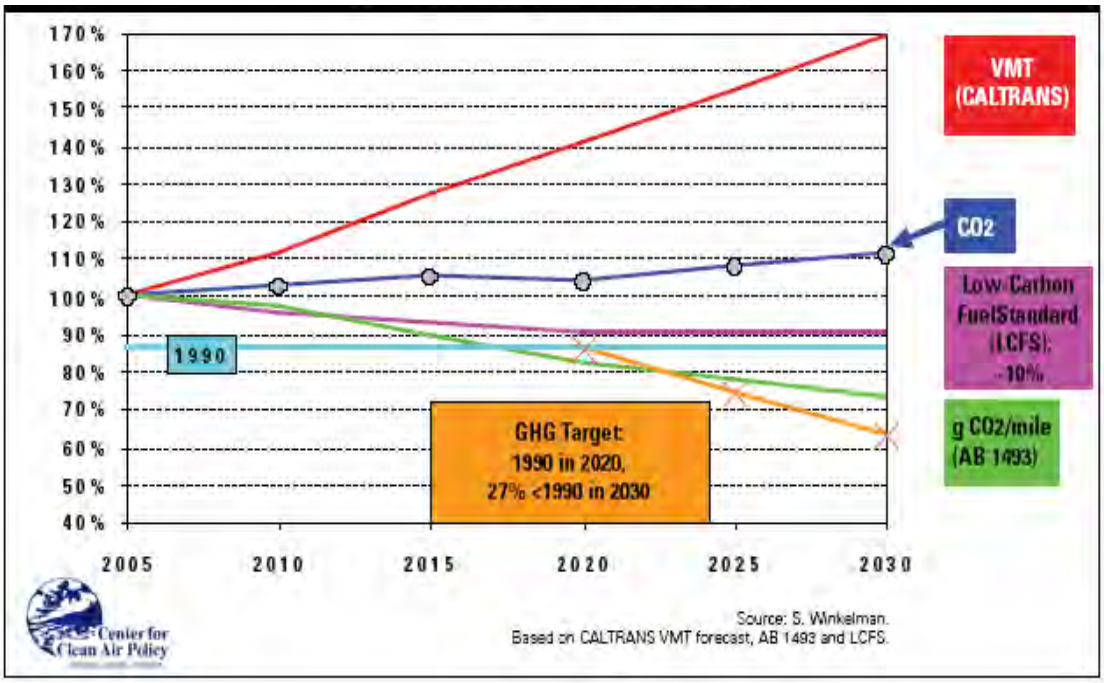


Figure 2. Atmospheric CO_2 and Mean Temperature, Over the Last 1,000 Years



This table provides inspiration for a road map to climate success for LDVs. Climate stabilization targets must be identified and achieved by a set of requirements to define fleet efficiency and per-capita driving.

<u>Figure 3</u> The S-3-05 Trajectory (the Gold Line) AND the CO_2 Emitted from Personal Driving (the Blue Line), where that CO_2 is a Function (the Product) of the California-Fleet-Average CO_2 per Mile (the Green Line), The Predicted Driving (VMT, the Red Line), and the Low-Carbon Fuel Standard (the Purple Line)



THE DEVELOPMENT OF CALIFORNIA'S TOP-LEVEL LDV REQUIREMENTS TO SUPPORT CLIMATE STABILIZATION

It is also clear that cleaner cars will be needed and can probably be achieved. As will be seen, much cleaner cars will be needed if driving reductions are going to remain within what many people would consider achievable. Mileage and equivalent mileage will need to be specified. A significant fleet-fraction of Zero-Emission Vehicles (ZEVs, either Battery-Electric LDVs or Hydrogen Fuel Cell LDVs) will be needed. Since mileage and equivalent mileage is more heuristic than emissions per mile, they will be used instead of CO2 per mile driven.

Since the SB-375 work used 2005 as the reference year, it will remain the reference year here.

GHG Target to Support Climate Stabilization

The primary problem with S-3-05 is that California's resolve and actions have been largely ignored by other states, our federal government, and many countries. Therefore, rather than achieving 2000 levels by 2010 and being on a track to achieve 1990 levels by 2020, world emission have been increasing. Reference 7 states on Page 14 that the required rate of reduction, if commenced in 2020, would be 15%. That rate means that the factor of 0.85 must be achieved, year after year. If this were done for 10 years, the factor would be $(0.85)^{10} = 0.2$. We don't know where world emissions will be in 2020. However, it is fairly safe to assume that California will be emitting at its 1990 level in 2020, in accordance with S-3-05. This situation shows that the correct target for California is to achieve emissions that are reduced to 80% below California's 1990 value by 2030. Note that if the reductions start sooner, the rate of reduction of emissions can be less than 15% and the 2030 target could be relaxed somewhat. However, it is doubtful that the world will get the reduction rate anywhere near the needed 15% by 2020. Therefore, the target, of 80% below 1990 levels by 2030 is considered to be correct for California. Reference 7 also calls into question the advisability of aiming for a 2 degree Celsius increase, given the possibilities of positive feedbacks that would increase warming. This concern for positive feedbacks is another reason that this paper will work towards identifying LDV requirement sets that will support achieving 80% below 1990 values by 2030.

Notes on Methods

The base year is 2005. An intermediate year of 2015 is used. The car efficiency factor of 2015 with respect to 2005 is taken directly from Figure 3. The car efficiency factor of 2030 with respect to 2015 is derived herein, resulting in a set of car-efficiency requirements. It is assumed that cars last 15 years.

Primary Variable Used

Table 1 defines the primary variables that are used.

Table 1 Variable Definitions

Variable Definitions

e_k	**LDV Emitted C02, in Year "*k*"**
L_k	**Low Carbon Fuel Standard (LCFS) Factor that reduces the Per-Gallon CO2 emissions, in Year "*k*"**
C_k	**LDV CO2 emitted per mile driven, average, in Year "*k*", not accounting for the Low Carbon Fuel Standard (LCFS) Factor**
c_k	**LDV CO2 emitted per mile driven, average, in Year "*k*", accounting for the Low Carbon Fuel Standard (LCFS) Factor**
p_k	**Population, in Year "*k*"**
d_k	**Per-capita LDV driving, in Year "*k*"**
D_k	**LDV Driving, in Year "*k*"**
M_k	**LDV Mileage, miles per gallon, in Year "*k*"**
m_k	**LDV Equivalent Mileage, miles per gallon, in Year "*k*" accounting for Low Carbon Fuel Standard (LCFS) Factor, so this is M_k/L_k**
N	**Number of pounds of CO2 per gallon of fuel but not accounting for the Low Carbon Fuel Standard (LCFS) Factor**

Fundamental Equations

The emissions are equal to the CO2 per mile multiplied by the per-capita driving multiplied by the population, since per-capita driving multiplied by the population is total driving. This is true for any year.

Future Year k: $$e_k = c_k * d_k * p_k$$ **(Eq. 1)**

Base Year i: $$e_i = c_i * d_i * p_i$$ **(Eq. 2)**

Dividing both sides of Equation 1 by equal values results in an equality. The terms on the right side of the equation can be associated as shown here:

$$\frac{e_k}{e_i} = \frac{c_k}{c_i} * \frac{d_k}{d_i} * \frac{p_k}{p_i}$$ **(Eq. 3)**

Since carbon dioxide emitted per gallon is just a constant (about 20 pounds per gallon), the constant cancels out of the ratio of emissions per mile, leaving the following relationship.

To work with mileage: $$\frac{m_i}{m_k} = \frac{c_k}{c_i}$$ **(Eq. 4)**

Putting Equation 4 into Equation 3 results in the following equation:

$$\frac{e_k}{e_i} = \frac{m_i}{m_k} * \frac{d_k}{d_i} * \frac{p_k}{p_i}$$ **(Eq. 5)**

Showing the base year of 2005, the future year of 2030, introducing the intermediate year of 2015 and the year of 1990 (since emissions in 2030 are with respect to the 1990 value) results in Equation 6.

$$\frac{e_{2030}}{e_{1990}} * \frac{e_{1990}}{e_{2005}} = \frac{c_{2030}}{c_{2015}} * \frac{c_{2015}}{c_{2005}} * \frac{d_{2030}}{d_{2005}} * \frac{p_{2030}}{p_{2005}} \qquad \textbf{(Eq. 6)}$$

The ratio on the far left is the climate-stabilizing target, which is the factor of the 2030 emission to the 1990 emission. It is shown to be 0.20 or 80% less. The next ratio is the emission of 1990 compared to 2005. It is the turquoise line of Figure 3, which is 0.87. The first ratio on the right side of the equation is the fleet emission per mile in 2030 compared to the value in 2015. This ratio will be derived in this report and it will result in a set of car efficiency requirements. Moving to the right, the next ratio is the car efficiency in 2015 compared to 2005. It can obtained by multiplying the purple line 2015 value times the green line 2015 value, which is 0.90 * 0.93.The next term is the independent variable. It is the driving reduction required, compared to the 2005 level of driving. The final term on the far right is the ratio of the population in 2030 to the population in 2005. Reference 8 shows that California's population in 2005 was 35,985,582. Reference 9 shows that California's population in 2030 is predicted to be 44,279,354. Therefore,

$$p_{2030}/p_{2005} = 44279354 \div 35985582 = 1.2305 \qquad \textbf{(Eq. 7)}$$

Putting in the known values results in Equation 8:

$$0.20 * 0.87 = \frac{c_{2030}}{c_{2015}} * 0.90 * 0.93 * \frac{d_{2030}}{d_{2005}} * 1.2305 \qquad \textbf{(Eq. 8)}$$

Combining the values, solving for the independent variable (the per-capita driving ratio), and changing from emission-per-mile to equivalent-miles-per-gallon results in the following:

$$\frac{d_{2030}}{d_{2005}} = 0.1689 * \frac{m_{2030}}{m_{2015}} \qquad \textbf{(Eq. 9)}$$

With the coefficient being so small, it is doubtful that we can get the equivalent mileage in 2030 to be high enough to keep the driving ratio from falling below one. The mileage of the 2005 fleet will be based on the best data we can get and by assuming cars last 15 years. The equivalent mileage in 2030 will need to be as high as possible to keep the driving-reduction factor from going too far below 1, because it is difficult to reduce driving too much. The equivalent mileage will be dependent on the fleet-efficiency requirements in the near future and going out to 2030. Those requirements are among the primary results of this report.

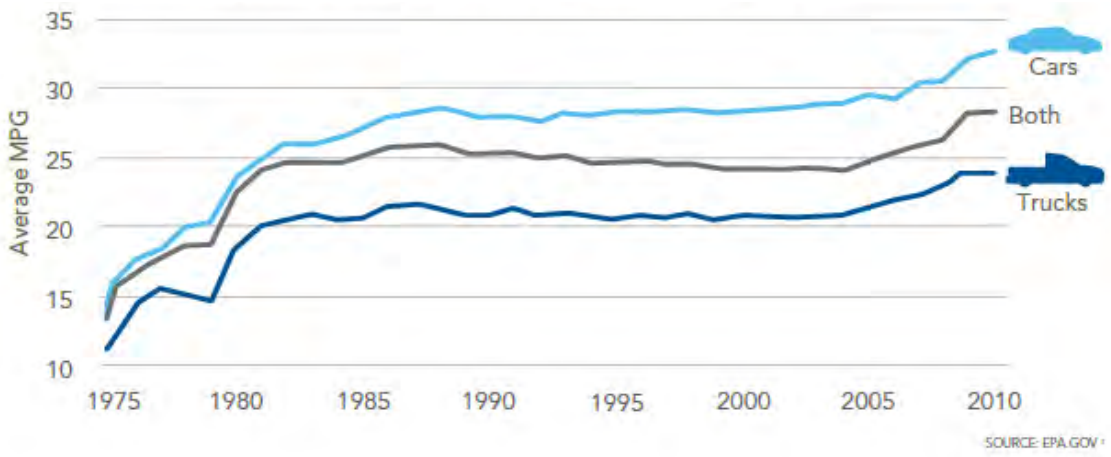
Internal Combustion Engine (ICE) Mileage, from Year 2000 to Year 2030

The years from 2000 to 2011 are taken from a plot produced by the PEW Environment Group,

http://www.pewenvironment.org/uploadedFiles/PEG/Publications/Fact_Sheet/History%20of%20Fuel%20Economy%20Clean%20Energy%20Factsheet.pdf

The plot is shown here as Figure 4. The "Both" values are used.

Figure 4 **Mileage Values From the PEW Environment Group**



The values from 2012 to 2025 are taken from the US Energy Information Agency (EIA) as shown on their website, http://www.c2es.org/federal/executive/vehicle-standards#ldv_2012_to_2025. They are the LDV Corporate Average Fleet Efficiency (CAFÉ) values enacted into law in the first term of President Obama. From 2025 to 2030, it is assumed that the yearly ICE improvement in CAFÉ will be 2.5 MPG.

Mileage of California's LDV Fleet in 2015

Table 2 uses these values of the Internal Combustion Engine (ICE) LDV mileage to compute the mileage of the LDV fleet in 2015. It assumes that the fraction of ZEVs being used over these years is small enough to be ignored. The 100 miles driven, nominally, by each set of cars, is an arbitrary value and inconsequential in the final calculation, because it will divide out. It is never-the-less used, so that it is possible to compare the gallons of fuel used for the different years. The "f" factor could be used to account for a set of cars being driven less. It was decided to not use this option by setting all of the values to 1. The Low Carbon Fuel Standard (LCFS) values are taken from Figure 3. The gallons of fuel are computed as shown in Equation 10, using the definition for L_k that is shown in Table 1.

Table 2 Calculation of the Fleet MPG for 2015

LDV Set	Years Old	Model Year	CAFE MPG	LCFS Factor L_{Year}	Factor Driven f	Gallons Used Per f*100 Miles
1	14-15	2001	24.0	1.0	1.0	4.17
2	13-14	2002	24.0	1.0	1.0	4.17

3	**12-13**	**2003**	**24.0**	**1.0**	**1.0**	**4.17**
4	**11-12**	**2004**	**24.0**	**1.0**	**1.0**	**4.17**
5	**10-11**	**2005**	**25.0**	**1.0**	**1.0**	**4.00**
6	**9-10**	**2006**	**25.7**	**.9933**	**1.0**	**3.87**
7	**8-9**	**2007**	**26.3**	**.9867**	**1.0**	**3.75**
8	**7-8**	**2008**	**27.0**	**.9800**	**1.0**	**3.63**
9	**6-7**	**2009**	**28.0**	**.9733**	**1.0**	**3.48**
10	**5-6**	**2010**	**28.0**	**.9667**	**1.0**	**3.45**
11	**4-5**	**2011**	**29.1**	**.9600**	**1.0**	**3.30**
12	**3-4**	**2012**	**29.8**	**.9533**	**1.0**	**3.20**
13	**2-3**	**2013**	**30.6**	**.9467**	**1.0**	**3.09**
14	**1-2**	**2014**	**31.4**	**.9400**	**1.0**	**2.99**
15	**0-1**	**2015**	**32.6**	**.9333**	**1.0**	**2.86**
					Sum of Gallons:	**54.29**
					Miles = 100*Sum(f's):	**1500**
					MPG = Miles/(Sum of Gallons):	**27.63**

$$\boldsymbol{Gallons\ Used\ per\ f * 100\ miles} = \frac{\boldsymbol{fx100}}{(\boldsymbol{CAFE\ MPG})/\boldsymbol{L_k}} \qquad \textbf{(Eq. 10)}$$

How ICE Mileage Values Will Be Used with ZEV Equivalent Mileage Values

As will be seen, after 2015, the net (computed using both ICEs and ZEVs) mileage values for each year are assumed to greatly improve by having a significant fraction of ZEVs. The ICE CAFÉ standards are used in this report as just the ICE contribution to fleet MPG. The ICE MPG values are inadequate by themselves and will therefore need to become less important because ZEVs will need to quickly take over the highways.

Federal requirements will need to change dramatically. Currently, federally-mandated corporate average fuel efficiency (CAFÉ) standards have been implemented, from 2000 to 2025. These standards require that each corporation produce and sell their fleet of cars and light-duty trucks in the needed proportions, so that the combined mileage of the cars they sell, at least meet the specified mileage.

The car companies want to maximize their profits while achieving the required CAFÉ standard. In California, the car companies will already be required to sell a specified number of electric vehicles, which have a particularly-high, equivalent-value of miles-per-gallon. If the laws are not changed, this will allow these companies to sell more low-mileage, high profit cars and light-duty trucks, and still achieve the federal CAFÉ standard.

It will be better to apply the CAFÉ standards to only the ICEs and then require that the fleet of LDVs sold achieve some mandated fraction of ZEVs. The ZEVs will get better and better equivalent

mileage, as our electrical grid is powered by more renewable sources of energy. Therefore, their equivalent mileage is not fixed, but will improve over the years. Requirements developed here are for 2030. Therefore a high percentage of all the electricity generated in the state, including both the "in front of the meter" (known as the "Renewable Portfolio Standard" or "RPS") portion and the "behind the meter" portion is assumed to come from sources that do not emit CO2. More specifically, he value of 80% is assumed. This therefore becomes a fleet-efficiency requirement.

ZEV Equivalent Mileage Values

To calculate the mileage of the 2030 fleet of LDVs, it is necessary to derive a formula to compute the equivalent mileage of ZEVs, as a function of the percent of electricity generated without emitting CO2, the equivalent ZEV mileage if the electricity is from 100% fossil fuel, and the equivalent ZEV mileage if the electricity is from 100% non-C02 sources. The variables defined in Table 3 are used.

The derivation of the equation for equivalent ZEV mileage is based on the notion that the ZEV can be imagined to travel "r" fraction of the time on electricity generated from renewables and "(1-r)" fraction of the time on fossil fuel. If the vehicle travels "D" miles, then, using the definitions shown in Table 3, the following equation can be written.

$$\boldsymbol{G = \frac{r \times D}{m_{zr}} + \frac{(1-r) \times D}{m_{zf}}} \qquad \textbf{(Eq. 11)}$$

$$\boldsymbol{m_z = D/G = D/\left(\frac{r \times D}{m_{zr}} + \frac{(1-r) \times D}{m_{zf}}\right)} \qquad \textbf{(Eq. 12)}$$

Dividing the numerator and the denominator by D and multiplying them both by the product of the two equivalent mileage values results in Equations 13.

$$\boldsymbol{m_z = m_{zr} \times m_{zf} / \left(r \times m_{zf} + (1-r) \times m_{zr}\right)} \qquad \textbf{(Eq. 13)}$$

Again, using the definitions in Table 3 results in the following.

$$\boldsymbol{m_z = Num/(Den)} \qquad \textbf{(Eq. 14)}$$

Table 3 Variables Used in the Calculation of ZEV Equivalent Mileage

Variable	Definition
m_z	ZEV Equivalent mileage
m_{zr}	ZEV Equivalent mileage if the electricity is from renewables
m_{zf}	ZEV Equivalent mileage if the electricity is from fossil fuels
r	fraction of electricity generated from sources not emitting CO2
G	Gallons of equivalent fuel used
D	Arbitrary distance travelled
Num	$m_{zr} \times m_{zf}$
Den	$r \times m_{zf} + (1-r) \times m_{zr}$

Table 4 shows an assignment of assumed values and the result of a calculation, using Equations 13, 14, and the definitions in Table 3, to produce a ZEV equivalent mileage.

Table 4 Variable Assignment and the Resulting ZEV Mileage

m_{zr}	m_{zf}	r	1-r	Num	Den	m_z
5000	70	0.8	0.2	350000.00	1056.00	331.44

Computing an LDV Fleet Mileage Assuming Heroic Measures (HM)

Table 5 shows the additional definitions that will be used in this calculation. Table 6 computes the 2030 LDV mileage, assuming "Heroic Measures" to reduce the miles driven in poor-mileage ICE's, in building and selling a significant fraction of ZEVs, and in getting the Low Carbon Fuel Standards to continue to improve beyond the Figure 3 minimum of 0.90.

Table 5 Additional Variables Used in the Calculation of 2030 LDV Mileage

Variable	Definition
D_i	Distance travelled by ICE vehicles
D_z	Distance travelled by ZEVs
G_i	Gallons of Equivalent fuel used by ICE vehicles
G_z	Gallons of Equivalent fuel used by ZEVs

As shown by the values for "f", government policies must be adopted, in 2030, to reduce the miles driven by the ICE's, from model years 2016 to 2023. The 2016 model ICE's are driven only 30% as much as the nominal amount. The 2017 year ICE's can be driving 10% more. This rate of change continues up to 2023, when the ICE's are doing less damage, due to the large fraction of ZEVs on the road.

Table 6 Calculation of 2030 LDV Mileage Assuming Heroic Measures

	ICE Parameters and Calculations						ZEVs			Yearly Totals		
Year	CAFÉ MPG	LCFS	Eq. MPG	f	D_i	G_i	z	D_z	G_z	Total Miles	Total Gallons	2030 MPG
2016	34.3	.9267	37.01	.3	30.0	.8105	.04	4	.012	32.8	.7901	41.51
2017	35.1	.9200	38.15	.4	40.0	1.0484	.07	7	.021	44.2	.9962	44.37
2018	36.1	.9133	39.53	.5	47.5	1.2018	.12	12	.036	56.0	1.1494	48.72
2019	37.1	.9000	40.92	.6	54.0	1.3197	.18	18	.054	67.2	1.2567	53.47
2020	38.3	.8500	42.56	.7	52.5	1.2337	.24	24	.072	77.2	1.3225	58.37
2021	40.3	.8000	47.41	.8	48.0	1.0124	.34	34	.103	86.8	1.2162	71.37
2022	42.3	.8000	52.88	.9	40.5	.7660	.48	48	.145	94.8	1.0299	92.05

2023	**44.3**	**.8000**	**55.38**	**1.0**	**30.0**	**.5418**	**.62**	**62**	**.187**	**100.0**	**.8733**	**114.51**
2024	**46.5**	**.8000**	**58.13**	**1.0**	**15.0**	**.2581**	**.76**	**76**	**.229**	**100.0**	**.6422**	**155.71**
2025	**48.7**	**.8000**	**60.88**	**1.0**	**5.0**	**.0821**	**.90**	**90**	**.272**	**100.0**	**.4358**	**229.46**
2026	**51.2**	**.8000**	**64.00**	**1.0**	**5.0**	**.0781**	**.95**	**95**	**.287**	**100.0**	**.3648**	**274.16**
2027	**53.7**	**.8000**	**67.13**	**1.0**	**5.0**	**.0745**	**.98**	**98**	**.296**	**100.0**	**.3255**	**307.24**
2028	**56.2**	**.8000**	**70.25**	**1.0**	**5.0**	**.0712**	**.99**	**99**	**.299**	**100.0**	**.3129**	**319.56**
2029	**58.7**	**.8000**	**73.38**	**1.0**	**5.0**	**.0681**	**.99**	**99**	**.299**	**100.0**	**.3123**	**320.18**
2030	**61.2**	**.8000**	**76.50**	**1.0**	**5.0**	**.0654**	**.99**	**99**	**.299**	**100.0**	**.3118**	**320.75**
Sum of Miles and then Gallons of Equivalent Fuel:										**1259.00**	**11.34**	
Equivalent MPG of LDV Fleet in 2030:										***111.03***		
Sum of ZEV Miles = **865**. Fraction of Miles Driven by ZEVs = **68.7%**												

As shown, the ZEV fraction of the fleet assumes the value of 12%, just 2 years from now (shown in the green field.) It then proceeds upward, to 18% in 2019; 24% in 2020; 34% in 2021; and so on, until it reaches 99% by 2028.

Achieving these fractions of ZEVs might be compared to what was done during World War II, when automobile productions lines were rapidly converted to produce tanks. This reduced the new cars that could be purchased. Besides this, rationing gasoline made it difficult to drive at times and, due to shortages of leather, which was being used to produce boots for soldiers, some citizens found it hard to even buy shoes. These rapid and inconvenient changes were tolerated, because most people agreed that the war needed to be won. The heroic measures assumed here may not be possible unless citizens and the political leaders they elect understand the dire consequences of climate destabilization and therefore accept, and even demand, the measures that are needed to support climate stabilization.

The equivalent miles per gallon of the LDV fleet in 2030, specifically 111.03 miles per gallon, will be considered as a potential 2030 LDV requirement.

Computing the Heroic-Measures (HM) Case Per-Capita and Net Driving Factor Requirements, Based on the Result Shown in Table 6

Plugging the

- equivalent MPG of the LDV fleet in Year 2030, taken from the bottom of Table 6, which is 111.03 MPG (m_{2030}), and
- the MPG of the LDV fleet in Year 2015, taken from the bottom of Table 2, which is 27.63 MPG (m_{2015}),

into Equation 9, gives the following result:

$$\frac{d_{2030}}{d_{2005}} = 0.1687 * \frac{m_{2030}}{m_{2015}} = 0.1687 * \frac{111.03}{27.63} = 0.68 \qquad \textbf{(Eq. 14)}$$

This means that the per-capita driving in 2030 will need to be about 32% less than in year 2005. The net driving can be computed by multiplying the per-capita driving, 0.68, by the population factor of 1.2305, computed in Equation 7, resulting in 0.84 (since 0.68 x 1.2305 = 0.84.) This means that, even with the 23% increase in California's population, the net driving will have to drop by 16%. If this LDV requirement set is selected, all of California's transportation money can be used to improve transit, improve active transportation (mainly walking and biking), and maintain, but not expand, roads. The good news is that there can be little or no congestion because highway capacity now is larger than it was in 2005. Policies will be needed to achieve the required reduction in driving.

Case 2: Computing LDV Requirements that Support Climate Stabilization but Still Allow 2005 Per-Capita Driving

The first step is to use Equation 9 and the value of the mileage in 2015 to compute the needed LDV equivalent fleet mileage for 2030 if the left side of the equation is equal to 1.0.

$$m_{2030} = 1.0 \times m_{2015} / 0.1689 = 27.63 / 0.1689 = 163.59 \text{ MPG} \qquad \text{Eq. 15)}$$

Table 7 is constructed, with the fraction of ZEVs selected to achieve the needed equivalent fleet mileage of about 163.59 MPG. Since its ZEV fractions are larger and sooner than in the "Heroic Measures" table, Table 7 is showing what has been called the "Extra-Heroic Measures" (EHM) case. The ICE "f" values are unchanged; as are the LCFS values. The EHM ZEV differences from the HM case are the highlighted "z" values.

This means that with the 23% increase in California's population, computed in Equation 7, the net driving would also increase by 23%. If this LDV requirement set were to be implemented, a lot of California's transportation money would be needed to expand the highway system, leaving less to improve transit, improve active transportation (mainly walking and biking), and maintain roads.

Table 7 Calculation of 2030 LDV Mileage Assuming Extra-Heroic Measures

	ICE Parameters and Calculations						ZEVs			Yearly Totals		
Year	CAFÉ MPG	LCFS	Eq. MPG	f	D_i	G_i	z	D_z	G_z	Total Miles	Total Gallons	2030 MPG
2016	34.3	.9267	37.01	.3	30.0	.8105	.04	0	.012	32.8	.7901	41.51
2017	35.1	.9200	38.15	.4	36.0	.9436	.10	10	.030	46.0	.9738	47.24
2018	36.1	.9133	39.53	.5	35.0	.8855	.25	25	.075	62.5	1.024	61.02
2019	37.1	.9000	40.92	.6	30.0	.7332	.40	40	.121	76.0	1.000	75.96
2020	38.3	.8500	42.56	.7	21.0	.4935	.65	65	.196	89.5	.7718	115.96
2021	40.3	.8000	47.41	.8	8.0	.1687	.90	90	.272	98.0	.4403	222.59

2022	42.3	.8000	52.88	.9	4.5	.0851	.95	95	.287	99.5	.3717	267.66
2023	44.3	.8000	55.38	1.0	5.0	.0903	.95	95	.287	100.0	.3769	265.31
2024	46.5	.8000	58.13	1.0	5.0	.0860	.98	98	.296	100.0	.3301	302.95
2025	48.7	.8000	60.88	1.0	5.0	.0821	.98	98	.296	100.0	.3285	304.38
2026	51.2	.8000	64.00	1.0	5.0	.0781	.99	99	.299	100.0	.3143	318.14
2027	53.7	.8000	67.13	1.0	5.0	.0745	.99	99	.299	100.0	.3136	318.88
2028	56.2	.8000	70.25	1.0	5.0	.0712	.99	99	.299	100.0	.3129	319.56
2029	58.7	.8000	73.38	1.0	5.0	.0681	.99	99	.299	100.0	.3123	320.18
2030	61.2	.8000	76.50	1.0	5.0	.0654	.99	99	.299	100.0	.3118	320.75
Sum of Miles and then Gallons of Equivalent Fuel:										1304.30	7.97	
Equivalent MPG of LDV Fleet in 2030:										*163.59*		

Comparing the ZEV Fraction Values of the "Heroic-Measures" (HM) Case to the "Extra-Heroic Measures" (EHM) Case

Table 8 shows the direct comparison of the ZEV fractions that are ZEV requirements for the HM Case and the EHM Case. The largest differences are highlighted. The EHM case does not appear to be achievable.

Table 8 HM Case and the EHM Case Which Supports 2005 Per-Capita Driving

Cases	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
HM	.04	.07	.12	.18	.24	.34	.48	.62	.76	.90	.95	.98	.99	.99	.99
EHM	.04	.10	.25	.40	.65	.90	.95	.95	.98	.98	.99	.99	.99	.99	.99

ACHIEVING THE REQUIRED DRIVING REDUCTION OF THE HEROIC-MEASURES (HM) CASE

As shown in Equation 14, in 2030, the per-capita driving will need to at least 32% below the 2005 value. As shown in this link, http://en.wikipedia.org/wiki/SB_375, California's Metropolitan Planning Organizations (MPOs) are adopting Region Transportation Plans (RTPs) that will achieve reductions in year 2020 and 2035. As also shown there, the targets, for year 2035, range from 0% for Shasta to 16% for Sacramento Area Council of Governments. Since this is for 2030 instead of 2035, and to be reasonably conservative, it is assumed here that the state will achieve a 10% reduction in per-capita driving, in 2030, compared to 2005. This leaves 22% to be achieved by new programs.

The title of each of the following subsections contains the estimated per-capita driving reduction each strategy will achieve, by 2030.

Reallocate Funds Earmarked for Highway Expansion to Transit and Consider Transit-Design Upgrades (3%)

San Diego County has a sales tax measure called "TransNet", which allocates one-third for highway expansion, one-third for transit, and one-third for road maintenance. It has a provision that allows for a reallocation of funds, if supported by at least two-thirds of SANDAG Board members, including a so-called weighted vote, where governments are given a portion of 100 votes, proportional to their population. It is hereby proposed to reallocate the TransNet amount, earmarked for highway expansion, to transit and to do similar reallocations throughout California.

This money could be used to fund additional transit systems; improve transit operations; and/or the redesign and implementation of the redesign of existing transit systems. The redesign could include electrification and automation or even upgrading to a different technology.

A Comprehensive Road-Use Fee Pricing and Payout System to Unbundle the Cost of Operating Roads (7.5%)

Comprehensive means that pricing would be set to cover all costs (including road maintenance and externalities such as harm to the environment and health); that privacy and the interests of low-income drivers doing necessary driving would be protected; that the incentive to drive fuel-efficient cars would be at least as large as it is under the current fuels excise tax; and, as good technology becomes available, that congestion pricing is used to protect critical driving from congestion.

The words *payout* and *unbundle* mean that some of the money collected would go to people that are losing money under the current system.

User fees (gas taxes and tolls) are not enough to cover road costs[10] and California is not properly maintaining its roads. Reference 10 shows that in California user fees amount to only 24.1% of what is spent on roads. Besides this, the improved mileage of the ICEs and the large number of ZEVs needed mean that gas tax revenues will drop precipitously.

This system could be used to help reduce the ICE LDV miles driven in 2016 to 2022, as shown in the "f" column of Tables 6 and 7. This system could probably be implemented in less than 5 years.

Unbundling the Cost of Car Parking (7.5%)

Unbundling the cost of car parking[11] throughout California is conservatively estimated to decrease driving by 7.5%, based on Table 1 of Reference 11. That table shows driving reductions resulting from introducing a price for parking, for 10 cases. Its average reduction in driving is 25% and its smallest reduction is 15%.

Good Bicycle Projects and Bicycle Traffic Skills Education (3%)

The best criterion for spending money for bicycle transportation is the estimated reduction in driving per the amount spent. The following strategies may come close to maximizing this parameter.

Projects to Improve Bicycle Access

All of the smart-growth neighborhoods, central business districts, and other high trip destinations or origins, both existing and planned, should be checked to see if bicycle access could be substantially improved with either a traffic calming project, a "complete streets" project, more shoulder width, or a project to overcome some natural or made-made obstacle.

League of American Bicyclist Certified Instruction of "Traffic Skills 101"

Most serious injuries to bike riders occur in accidents that do not involve a motor vehicle[12]. Most car-bike accidents are caused by wrong-way riding and errors in intersections; the clear-cut-hit-from-behind accident is rare[12].

After attending *Traffic Skills 101,* students that pass a rigorous written test and demonstrate proficiency in riding in traffic and other challenging conditions could be paid for their time and effort.

As an example of what could be done in San Diego County, if the average class size was 3 riders per instructor and each rider passes both tests and earns $100 and if the instructor, with overhead, costs $500 dollars, for a total of $800 for each 3 students, that would mean that $160M could teach $160M/$800 = 200,000 classes of 3 students, for a total of 600,000 students. The population of San Diego County is around 3 million.

Eliminate or Greatly Increase the Maximum Height and Density Limits Close to Transit Stops that Meet Appropriate Service Standards (2%)

As sprawl is reduced, more compact, transit-oriented development (TOD) will need to be built. This strategy will incentivize a consideration of what level of transit service will be needed, how it can be achieved, and what levels of maximum height and density are appropriate. Having no limits at all is reasonable if models show that the development can function without harming the existing adjacent neighborhoods, given the level of transit service and other supporting transportation policies (such as car parking that unbundles the cost and supports the full sharing of parking[11]) that can be assumed.

Net Driving Reduction from All Identified Strategies

By 2030, the sum of these strategies should be realized. They total 23%, resulting in a 1% margin over the needed 22% (which is added to the existing 10% to get the needed 32%.)

ADDITIONAL ELECTRICITY REQUIRED

The URL http://www.energy.ca.gov/2013_energypolicy/documents/2013-06-26_workshop/presentations/09_VMT-Bob_RAS_21Jun2013.pdf shows that Californians drove about 325 Billion miles per year, from 2002 to 2011. This value can be multiplied by the 0.84 factor reduction of driving, computed right after the calculation shown in Equation 14, and the fraction of miles driven by ZEVs, shown at the bottom of Table 6, of 0.687 (from 68.7%), to give the 2030 miles driven by ZEVs = 325 Billion x 0.84 x 0.687 = 188 Billion miles per year.

Using the Tesla information here http://en.wikipedia.org/wiki/Tesla_Roadster, it is assumed that 21.7 kW-h is used per 100 miles, or 0.217 kW-h per mile. The total energy used per year is therefore 188 Billion miles x 0.217 kW-h = 40,699 GW-h.

http://www.cpuc.ca.gov/cfaqs/howhighiscaliforniaselectricitydemandandwheredoesthepowercomefrom.htm, shows that California is using about 265,000 GW-h per year. Therefore the electricity needed to power California's HM ZEV LDF fleet in 2030 is 100% x 40,648/265,000 = 15.34% of the amount of electricity California is currently using. Table 4 shows that 80% (r = 0.80, with "r" defined in Table 3) of electricity must generated without producing CO2. This estimated 15.34% increase in demand should help the California Public Utilities Commission (CPUC) and the California Energy Commission (CEC) with their planning.

COMPARISON WITH CALIFORNIA AIR RESOURCES BOARD (CARB) PLANNING

The following quote[13] allows us to compare the CARB plan for LDVs with what would be required to stabilize the climate at a livable level, in the form of the Heroic Measures case:

> *Regulations on the books in California, set in 2012, require that 2.7 percent of new cars sold in the state this year be, in the regulatory jargon, ZEVs. These are defined as battery-only or fuel-cell cars, and plug-in hybrids. The quota rises every year starting in 2018 and reaches 22 percent in 2025. Nichols wants 100 percent of the new vehicles sold to be zero- or almost-zero-emissions by 2030*

Table 9 shows the values implied by this statement and compares them to the HM values. Table 10, which is similar to Tables 6 and 7, computes the overall mileage of the 2030 fleet, using the CARB values.

Computing the Heroic-Measures (HM) Case Per-Capita and Net Driving Factor Requirements, Based on the Result Shown in Table 10

Plugging the

- equivalent MPG of the LDV fleet in Year 2030, taken from the bottom of Table 10, which is 74.25 MPG, and
- the MPG of the LDV fleet in Year 2015, taken from the bottom of Table 2, which is 27.63 MPG,

into Equation 8, gives the following result:

$$\frac{d_{2030}}{d_{2005}} = 0.1687 * \frac{m_{2030}}{m_{2015}} = 0.1687 * \frac{74.25}{27.63} = 0.45 \qquad \textbf{(Eq. 16)}$$

Table 9 Zero Emission Vehicle (ZEV) % of Fleet, for Two Cases

Year	CARB	Heroic Measures	Year	CARB	Heroic Measures

2016	2.7%	4.0%	**2024**	19.6%	76.0%
2017	2.7%	7.0%	**2025**	22.0%	90.0%
2018	5.1%	12.0%	**2026**	37.6%	95.0%
2019	7.5%	18.0%	**2027**	53.2%	98.0%
2020	9.9%	24.0%	**2028**	68.8%	99.0%
2021	12.4%	34.0%	**2029**	84.4%	99.0%
2022	14.8%	48.0%	**2030**	100.0%	99.0%
2023	17.2%	62.0%			

This means that the per-capita driving will need to be about 55% less in 2030 than in year 2005. The net driving can be computed by multiplying the per-capita driving, 0.45, by the population factor of 1.2305, computed in Equation 7, resulting in 0.55. This means that, even with the 23% increase in California's population, the net driving will have to drop by 45%. If CARB wants the LDV sector to achieve a reasonable climate-stabilizing target, it will need to require ZEV adoption profile closer to the Heroic Measures Case. The adoption profile they have now will required a reduction in driving that will probably be very difficult to achieve.

CONCLUSION

A requirement set named "Heroic Measures" (HM) is quantified. Table 8 shows that the HM LDV efficiency requirements are much easier to achieve than those needed to allow per-capita driving to remain close to its 2005 level, which has been quantified as the "Extra Heroic Measures Case". Strategies to achieve the required HM driving reductions are also allocated and described. They are perhaps about as difficult as achieving the HM LDV fleet efficiency. It is computed that the 2030 fleet of LDV HM ZEVs would require an amount of electricity which is equal to about 15% of what California is using today. The current CARB plan for ZEV adoption is shown to require a very large reduction in driving if LDVs are to achieve a climate-stabilizing target.

Table 10 Calculation of 2030 LDV Mileage Assuming the CARB Values

	ICE Parameters and Calculations	**ZEVs**	**Yearly Totals**

Year	CAFÉ MPG	LCFS	Eq. MPG	f	D_i	G_i	z	D_z	G_z	Total Miles	Total Gallons	2030 MPG
2016	34.3	.9267	37.01	.3	30.0	.8105	.03	3	.008	31.9	.79681	40.02
2017	35.1	.9200	38.15	.4	40.0	1.0484	.03	3	.008	41.6	1.0283	40.48
2018	36.1	.9133	39.53	.5	47.5	1.2018	.05	5	.015	52.6	1.2158	43.23
2019	37.1	.9000	40.92	.6	54.0	1.3197	.08	8	.023	63.0	1.3787	45.70
2020	38.3	.8500	42.56	.7	52.5	1.2337	.10	10	.030	73.0	1.5114	48.29
2021	40.3	.8000	47.41	.8	48.0	1.0124	.12	12	.037	82.5	1.5162	54.39
2022	42.3	.8000	52.88	.9	40.5	.7660	.15	15	.045	91.5	1.4954	61.17
2023	44.3	.8000	55.38	1.0	30.0	.5418	.17	17	.052	100.0	1.5475	64.62
2024	46.5	.8000	58.13	1.0	15.0	.2581	.20	20	.059	100.0	1.4425	69.32
2025	48.7	.8000	60.88	1.0	5.0	.0821	.22	22	.066	100.0	1.3477	74.20
2026	51.2	.8000	64.00	1.0	5.0	.0781	.38	38	.113	100.0	1.0884	91.87
2027	53.7	.8000	67.13	1.0	5.0	.0745	.53	53	.161	100.0	.8577	116.59
2028	56.2	.8000	70.25	1.0	5.0	.0712	.69	69	.208	100.0	.6517	153.44
2029	58.7	.8000	73.38	1.0	5.0	.0681	.84	84	.255	100.0	.4673	214.02
2030	61.2	.8000	76.50	1.0	5.0	.0654	1.0	100	.302	100.0	.3017	331.44
Sum of Miles and then Gallons of Equivalent Fuel:										1236.00	16.65	
Equivalent MPG of LDV Fleet in 2030:										*74.25*		

ABREVIATIONS AND ACRONYMS

AB 1493 California's Assembly Bill 1493 **HM** "Heroic Measures" LDV Case

AB 32	California's Assembly Bill 32	**ICE**	Internal Combustion Engine LDV
APS	Alternative Planning Strategy	**kW-h**	Kilo Watt-hour
CAFE	Corporate Average Fuel Efficiency	**LCFS**	Low Carbon Fuel Standard
CARB	California Air Resources Board	**LDV**	Light-Duty Vehicle
CBD	Center for Biological Diversity	**MPO**	Metropolitan Planning Organization
CEC	California Energy Commission	**Pavley**	Senator Pavley's AB 1493
CEQA	California Environmental Quality Act	**PPM**	Parts per Million
CPUC	California Public Utilities Commission	**RPS**	Renewable Portfolio Standard
CCAP	Center for Clean Air Policy	**RTP**	Regional Transportation Plan
CNFF	Cleveland National Forest Foundation	**S-3-05**	Governor's Executive Order S-3-05
SB 375	California's Senate Bill 375	**SANDAG**	San Diego Association of Governments
CO_2	Carbon Dioxide		
CO_2_e	Carbon Dioxide Equivalent GHG	**SCS**	Sustainable Community Strategy
EHM	"Extra Heroic Measures" LDV Case	**TransNe**t	San Diego County sales tax
GEO	Governor's Executive Order	**URL**	Universal Resource Locator
GHG	Greenhouse gas	**VMT**	Vehicle Miles Travelled
GW-h	Giga Watt-Hours	**ZEV**	Zero Emission Vehicle LDV

ACKNOWLEGEMENTS

Darrell Clarke, Lead Volunteer for the Sierra Club's "Beyond Oil Campaign"; Dr. Dennis Martinek, Oceanside Planning Commissioner; Sandra Goldberg, formerly California Deputy Attorney General; Dr. Nilmini Silva-Send, Senior Policy Analyst of the Energy Policy Initiative Center; Diane Nygaard, Director of Preserve Calavera and founder of *Nelson Nygaard Consulting Associates*; Jack Shu, CNFF President; Joan Bullock; San Diego Sierra Club Executive Committee Chairs: Caroline Chase, John Stump, and (former Assembly Member) Lori Saldaña; Malinda Dickenson, *Law Offices of Malinda R. Dickenson*; Conservation Committee Chair Mollie Biggers; Ed Mainland and Jim Stewart, Co-Chairs, Energy-Climate Committee, Sierra Club California; Bern Grush, Chief Scientist, *Skymeter Corporation*; and SANDAG Staff: Susan Baldwin, Senior Regional Planner; Charles Stoll, Director of Land Use and Transportation Planning; and Stephan Vance, Senior Regional Planner.

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KEYWORDS

Driving, climate, mandates, S-3-05, SB 375, RTP, CEQA, Unbundled, GHG, CAFÉ, ZEVs

A Plan to Efficiently and Conveniently Unbundle Car Parking Costs

Air and Waste Management Association Paper 2010-A-554-AWMA

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ABSTRACT

The *Introduction* shows documented driving reductions due to the pricing of parking. It notes that although the benefits of priced and shared parking are known, such parking has not been widely implemented, due to various concerns. It states that a solution, called "*Intelligent Parking,"* will overcome some of these concerns, because it is easy to use and naturally transparent. It asserts that this description will support a "Request for Proposal" (RFP) process. Eight background information items are provided, including how priced parking would help California achieve greenhouse gas reduction targets. A story demonstrates some of the key features of *Intelligent Parking*. Arguments for less parking, shared parking, and priced parking are made. Barriers to progress are identified. The fair pricing of parking is described. New ways to characterize transportation demand management are presented. Seven goals of *Intelligent Parking* are listed. Eleven definitions and concepts, that together define *Intelligent Parking,* are described. This includes a method to compute a baseline price of parking and how to adjust that price instantaneously to keep the vacancy above 15% ("Congestion Pricing"). An implementation strategy is described.

INTRODUCTION:

It has been well established that appropriately priced parking will significantly reduce driving[1]. Most case studies presented in Table 1 are evaluations of the most general type of "car-parking cash-out": *a program that pays employees extra money each time they get to work without driving*. They show that a price differential between using parking and not using parking will significantly reduce driving, even when transit is described as poor. Since driving *must* be reduced[2], the pricing of parking is desirable.

Shared parking is also recognized as desirable because it can sometimes result in less parking being needed.

Although the advantages of pricing and sharing parking have been recognized for many years, these practices are still rare. This paper identifies some of the reasons for this lack of progress. The pricing and sharing method of this paper has a natural transparency and ease of use that would reduce many of the concerns. This paper also suggests that those governments that have the necessary resources can take the lead role in developing and implementing the described systems. These governments will recover their investments, over time.

This paper describes how parking facilities could be tied together and operated in an optimum system, named *Intelligent Parking*. The description of *Intelligent Parking* is sufficient to support a "Request for Proposal" process, leading to full implementation.

There are two distinct parts to *Intelligent Parking*. The first is how to set the price. The second is how to distribute the earnings. Briefly, the earnings go to the individuals in the group for whom the parking is built.

Table 1 Eleven Cases of Pricing Impact on Parking Demand

Location	Number of Workers @ Number of Firms	1995 $'s Per Mo.	Parking Use Decrease
Group A: Areas with poor public transportation			
West Los Angeles	3500 @ 100+	$81	15%
Cornell University, Ithaca, NY	9000 Faculty & Staff	$34	26%
San Fernando Valley, Los Angeles	850 @ 1	$37	30%
Costa Mesa, CA	Not Shown	$37	22%
Average for Group		**$47**	**23%**
Group B: Areas with fair public transportation			
Los Angeles Civic Center	10,000+ @ "Several"	$125	36%
Mid-Wilshire Blvd, Los Angeles	1 "Mid-Size" Firm	$89	38%
Washington DC Suburbs	5,500 @ 3	$68	26%
Downtown Los Angeles	5,000 @ 118	$126	25%
Average for Group		**$102**	**31%**
Group C: Areas with good public transportation			
U. of Washington, Seattle, WA	50,000 employees, students	$18	24%
Downtown Ottawa, Canada	3,500 government staff	$72	18%
Bellevue, WA	430 @ 1	$54	39%*
Average for Group, except Bellevue, WA Case*		**$45**	**21%**
Overall Average, Excluding Bellevue, WA Case*			**25%**

* Bellevue, WA case was not used in the averages because its walk/bike facilities also improved and those improvements could have caused part of the decrease in driving.

PERTINENT BACKGROUND INFORMATION

- Vehicle miles traveled (VMT) are a major cause of global warming and pollution[2, 3].
- California's Metropolitan Planning Organizations (MPOs) will need to adopt strategies that reduce vehicle miles traveled (VMT), in order to meet SB375 GHG reduction targets, to be issued by the California Air Resources Board in late 2010, for years 2020 and 2035[2].
- The appropriate pricing of parking is one of the least costly documented tools to reduce VMT.
- New technologies, such as sensors feeding computer-generated billing, offer the potential to efficiently bill drivers for parking and alert law enforcement of trespassers.
- Reformed parking policies can increase fairness, so that, for example, people who use transit or walk do not have to pay higher prices or suffer reduced wages, due to parking.

- Methods to unbundle parking cost are inefficient unless they support the spontaneous sharing of parking spaces. Shared parking with unbundled cost would ultimately allow cities to require significantly less parking.
- Typical systems of timed parking and metered parking are far from ideal. Parking has no automated record keeping, so it is difficult to know where there is too much or too little.
- Good policies will eventually let cities turn parking minimums into parking maximums.

A GLIMPSE INTO A POSSIBLE FUTURE

Jason is driving to work for the first time in several years. He has decided to save money by carrying home a new 3-D, big-screen computer, which he plans to purchase at a store near his office after work. He wanted to avoid paying delivery charges.

Things have been changing around his office development since they unbundled the cost of parking at the near-by train station. Many people who caught the early trains and lived close to the station stopped driving and parking in the best parking spaces; demand for housing close to the station went up; and wealthy riders, who insisted on driving, did so, confidant that they could always find parking as close to the platform as their schedules required, due to congestion pricing. Who would have guessed how much those people were willing to pay? It was shocking. Parking-lot earnings, paid to round-trip train riders, meant that the net cost to ride the train went significantly down. Ridership and neighborhood vitality both went significantly up. All Jason knew was that the price to park at his office had been going up yearly because of increased land values. His parking-lot earnings from his office had been increasing almost every month, due to the ripple effect of train riders parking off-site at cheaper parking. Some of them were using his office parking.

As he pulls out of his driveway, he tells his GPS navigation unit his work hours (it already knew his office location), the location of the store where he plans to buy the computer, and his estimated arrival and departure times at the store. He tells the GPS unit he wants to park once, park no more than 1 block from the store, walk no more than 1 mile total, and pay no more than an average of $2 per hour to park. He is not surprised to hear the GPS tell him that his request is impossible. He tells the GPS he will pay an average of $3 per hour and learns that the GPS has located parking.

It guides him into a church parking lot. He hopes the church will use his money wisely. The GPS tells him the location of a bus stop he could use to get to work and the bus's next arrival time at the stop. With automatic passenger identification and billing, the bus has become easy to use, except that it is often crowded. Jason gets out of the car and walks to work, with no action required regarding the parking.

Three weeks later, when Jason gets his monthly statement for his charges and income for automotive road use, transit use, parking charges, and parking earnings, he finds that the day's parking did indeed cost about $30 for the 10 total hours that he parked. He notes that the parking-lot earnings for his office parking averaged about $10 per day that month. He then notices the parking lot earnings from the store, where he spent about $1000 dollars. He sees that the parking-lot earnings percent for the store that month was 1.7%, giving him about $17. So for the day, Jason only spent a net of about $3 on parking. Then he realized that he should have had the computer delivered after all. If he would have bicycled that day, as he usually did, he would have still gotten the $27 earnings from the two parking facilities and he would have paid nothing

for parking. So the choice to drive cost him $30. He remembers that the delivery would have only been $25 dollars. Oh well. He enjoyed his before-work and after-work walks.

THE CASE FOR LESS PARKING

Less parking will support more compact development.[1] This makes walking and biking more enjoyable and less time consuming. There would certainly be less "dead space", which is how parking lots feel to people, whether they arrive by car or not, after they become pedestrians.

Since parking can be expensive, less parking can reduce overhead costs significantly, such as leasing expense and parking-lot maintenance cost. Less overhead means more profit and less expense for everyone. A need for less parking can create redevelopment opportunities at existing developments and reduce project cost at new developments.

At new developments, car-parking costs could prevent a project from getting built.[2]

THE CASE FOR SHARED PARKING

Shared parking for mixed uses means that less parking is needed. For example, shared parking could be used mostly by employees during the day and mostly by residents at night.

Fully shared parking means that very little parking would be off limits to anyone. In a central business district with shared parking, drivers would be more likely to park one time per visit, even when going to several locations. Pedestrian activity adds vitality to any area.

THE CASE FOR APPROPRIATELY-PRICED PARKING

To Reduce Driving Relative to Zero Pricing

Traditional Charging or Paying Cash-out Payments

As shown in the Introduction, this relationship (pricing parking reduces driving) is not new.[3]

Using results like Table 1, at least one study[4] has used an assumption of widespread pricing to show how driving reductions could help meet greenhouse gas (GHG) target reductions. Dr. Silva Send of EPIC http://www.sandiego.edu/epic/ghgpolicy/ assumes that all work locations with 100 employees or more in San Diego County will implement cash-out, to result in 12% less driving to work. Currently, almost all employees in San Diego County "park for free", unless they happen to work in a downtown core area.

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[1] This is especially true of surface parking, which only accommodates 120 cars per acre.

[2] On September 23, 2008, a panel of developers reviewed the Oceanside, Ca. "Coast Highway Vision" http://www.ci.oceanside.ca.us/pdf/chv_finalvisionstrategicplan.pdf. Parts of this plan were described as smart growth.

At the review, developer Tom Wiegel said, "Parking is the number 1 reason to do nothing," where "do nothing" meant "build no project." The other developers at the meeting agreed.

[3] For many years the Victoria Transport Policy Institute (VTPI) has been recognized as a source of reliable information on "Transportation Demand Management", or TDM.

From http://www.vtpi.org/tdm/tdm72.htm#_Price_Parking:

> Even a relatively small parking fee can cause significant travel impacts and provide significant TDM benefits.

"TDM Benefits" refers to the many public and private benefits of having fewer people choosing to drive.

Current, Best-Practice "Unbundling"

The "best-practice" use of the phrase, "unbundled parking cost", is to describe the case where either the cost of parking, for the case of a condominium, or the rent for parking, for the case of an apartment, is separated from either the purchase price and common fees or the rent of the dwelling unit.

This gives the resident families the choice of selecting the number of parking spaces they would like to rent or buy, including the choice of zero. This would tend to reduce the average number of cars owned per dwelling unit and, in this way, would also tend to reduce driving. Its major drawback is that this method does not encourage sharing.

To Increase Fairness and Protect the US Economy

It is stated above that almost all employees in San Diego County "park for free". Of course there is really no such thing as "parking for free". So-called "free parking" always reduces wages or increases costs. At a work site, it reduces everyone's wage, even those employees that never drive. At an apartment complex, so-called "free parking" increases the rent. Therefore, "free parking" at work or at apartments violates the fundamental rule of the free market, which is that people should pay for what they use and not be forced to pay for what they do not use. Parking should at least be priced to achieve fairness to non-drivers.

The US economy would also benefit. Reductions in driving would lead to reductions in oil imports, which would reduce the US trade deficit.[4]

BARRIERS TO PROGRESS

Given all this, it might seem that the widespread pricing of parking should have happened by now. However there are barriers. In 2007, a majority of the City Council of Cupertino, Ca. indicated that they wanted their City Manger to negotiate reduced parking requirements with any company that would agree to pay sufficient cash-out payments. To this date, no company, including Apple Inc., has expressed an interest. Most companies probably perceive cash-out as expensive. Even if they realize they could get a reduced parking requirement in exchange for paying sufficient cash-out amounts and even if the economics worked in support of this action (quite possible where land is expensive), they want to stay focused on their core business, instead of getting involved in new approaches to parking, real estate, and redevelopment.

On the other hand, simply charging for parking and then giving all the employees a pay raise is probably going to run into opposition from the employees, who will feel that they would be losing a useful benefit.

In addition, neighbors fear the intrusion of parked cars on their streets. Permit parking, which could offer protection, is not always embraced. City Council members know that a sizable fraction of voting citizens believe that there can actually never be too much "free parking",

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[4] From http://en.wikipedia.org/wiki/Balance_of_trade#Warren_Buffett_on_trade_deficits, Warren Buffet wrote in 2006,

> "The U.S. trade deficit is a bigger threat to the domestic economy than either the federal budget deficit or consumer debt and could lead to political turmoil. Right now, the rest of the world owns $3 trillion more of us than we own of them."

Professor Shoup's famous book[5] notwithstanding. Some Council members probably feel that way themselves.

It doesn't help that current methods of charging for downtown parking are often very inefficient.[5] For example, downtown Oceanside, California has parking meters that will only accept coins. Besides this, all their on-street, downtown parking is timed, with maximums from 10 minutes to 4 hours. These time limits are enforced by a city employee, who applies chalk from a tire to the street and then records the time. However, by watching the time and moving their car soon enough, drivers can avoid getting a ticket. Of course, they could instead drive to the mall and not have to worry about having coins or elapsed time since parking. It is not surprising that downtown merchants often object to charging for parking.

In summary, those that resist charging for parking, *based on their perceptions*, include

- Companies, *who fear the complexity and expense of paying cash-out payments*;
- Employees, *who fear of losing a current benefit*;
- City leaders, *who fear the political repercussions*;
- Downtown patrons, *who dislike the inconvenience and worry*;
- Downtown business owners, *who fear that it will drive away customers*.

THE COST, VALUE, AND FAIR PRICE OF PARKING

Estimated and Actual Capital Cost

Surface Parking

One acre of surface parking will accommodate 120 cars. Land zoned for mixed use is sometimes expensive. At $1.2 million per acre, the land for a single parking space costs $10,000. Construction cost should be added to this to get the actual, as-built cost of each parking space. Estimated cost can be determined by using appraised land value and construction estimates. For new developments, after the parking is constructed, it is important to note the actual, as-built cost.

Parking-Garage Parking

One acre of parking-garage will accommodate considerably more than 120 cars. The construction cost of the garage and the value of its land can be added together to get the total cost. Dividing that total cost by the number of parking spaces yields the total, as-built cost of each parking space. Adding levels to a parking garage may seem like a way to cut the cost of each parking space, for the case of expensive land. However, there is a limit to the usefulness of this strategy because the taller the parking garage, the more massive the supporting structural members must be on the lower levels, which increases total cost. Parking-garage parking spaces are often said to cost between $20,000 and $40,000. The actual costs should be noted.

Underground Parking

In order to compute an estimate for the cost of a parking space that is under a building, it is necessary to get an estimate of the building cost with and without the underground parking. The difference, divided by the number of parking spaces, yields the cost of each parking space. The

[5] According to Bern Grush, Chief Scientist of Skymeter Corporation http://www.skymetercorp.com/cms/index.php, often two-thirds of the money collected from parking meters is used for collection and enforcement costs.

cost or value of land plays no role in the cost of this parking. However, it does not follow that this parking is cheap. Underground parking spaces are often said to cost between $60,000 and $90,000 dollars each. Although there will be an "as built" cost of the building with the parking, there will never be an "as built" cost of the building without the parking. However, after the construction is done, the estimate for the cost of the underground parking should be reconsidered and re-estimated if that is needed. The final, best-estimate cost should be noted.

Value

Initially, value and cost are the same. For surface parking and parking-garage parking, the value would initially be the same as the as-built cost. For underground parking, the value would initially be the same as the best-estimate cost. However, over time, the value must be updated. Both construction costs and land-value costs will change. The value assigned to a parking place should always be based on the current conditions.

Fair Pricing

Parking space "values", as described above, must first be converted to a yearly price by using a reasonable conversion factor. This conversion factor could be based on either the "cost of money" or the "earnings potential of money". It is expected that this conversion factor would be 2% to 5% during times of low interest rates and slow growth; but could be over 10% during times of high-interest and high growth. For example, if the surface parking value is $12,000 and it is agreed upon to use 5% as the conversion factor, then each parking spot should generate $600 per year, just to cover capital costs. The amount needed for operations, collection, maintenance, depreciation, and any special applicable tax is then added to the amount that covers capital cost. This sum is the amount that needs to be generated in a year, by the parking space.

The yearly amount of money to cover capital cost needs to be re-calculated every year or so, since both the value and the conversion factor will, in general, change each year. The cost of operations, collection, maintenance, depreciation, and any special applicable tax will also need to be reconsidered.

Once the amount generated per year is known, the base price, per unit year, can be computed by dividing it (the amount generated per year) by the estimated fraction of time that the space will be occupied, over a year. For example, if a parking space needs to generate $900 per year but it will only be occupied 50% of the time, the time rate charge is $1800 per year. This charge rate per year can then be converted to an hourly or even a per-minute rate. The estimated fraction of time that the parking is occupied over a year will need to be reconsidered at least yearly.

NEW DEFINITIONS TO PROMOTE AN OBJECTIVE VIEW OF PRICING

- The "fair price" means the price that accounts for all costs.
- The "baseline amount of driving" means the driving that results from the application of the fair price.
- "Zero transportation demand management" ("zero TDM") is the amount of demand management that results when the fair price is used. It will result in the baseline amount of driving.
- "Negative TDM" refers to the case where the price is set below the fair price. This will cause driving to exceed the baseline amount. Since TDM is commonly thought to be an action that reduces driving, it follows that negative TDM would have the opposite effect.
- "Positive TDM" refers to the case where the price is set above the fair price. This would cause the amount of driving to fall below the baseline amount.

Clearly, so-called “free parking” is an extreme case of negative TDM. The only way to further encourage driving would be to have a system that pays a driver for the time their car is parked.

THE GOALS OF *INTELLIGENT PARKING*

- There is only one agency operating all parking. (“All parking” does not include driveways and garages in single-family homes.) *Intelligent Parking* is designed and installed by regional or state government, using low-bid contractors, with design and start-up costs covered by the overhead portion of collection fees.
- Nearly all parking is shared. Almost always, anyone can park anywhere. Those who want exclusive rights to parking will pay “24/7” (all day, every day).
- Parking is operated so that the potential users of parking will escape the expense of parking by choosing to not use the parking. This characteristic is named “unbundled” because the cost of parking is effectively unbundled from other costs.
- Parking is priced and marketed to eliminate the need to drive around looking for parking.
- Parking at any desired price is made as easy as possible to find and use.
- Records of the use of each parking space are kept, to facilitate decisions to either add or subtract parking spaces.
- The special needs of disabled drivers, the privacy of all drivers, and, if desired, the economic interests of low-income drivers are protected.

DEFINITIONS & CONCEPTS OF *INTELLIGENT PARKING*

Parking Beneficiary Groups

There are at least 7 types of beneficiary groups. Note that in all cases, members of beneficiary groups must be old enough to drive.

1.) People who have already paid for the capital cost of parking. An example of this type of beneficiary group would be the owners of condominiums, where parking has been built and the cost is included in the price of the condominium. Note that although they have technically already paid for the parking, if they borrowed money to pay for some portion of the price, the cost is built into their monthly payment. This illustrates why the value of parking and the cost of borrowing money (rate of return on money) are key input variables to use to compute the appropriate base, hourly charge for parking.

2.) People who are incurring on-going costs of parking. An example of this type of beneficiary group is a set of office workers, where the cost of ‘their” parking is contained in either the building lease or the cost of the building. Either way, the parking costs are reducing the wages that can be paid to these employees.[6]

3.) People who are purchasing or renting something where the cost of the parking is included in the price. Examples of this beneficiary group are people that rent hotel rooms, rent an apartment, buy items, or dine in establishments that have parking.

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[6] Such parking is often said to be “for the benefit of the employees”. Defining this beneficiary group will tend to make this statement true, as opposed to the common situation where the employees benefit only in proportion to their use of the parking.

4.) People who own off-street parking as a business. They could be the individual investors or could be a government or government-formed entity.

5.) People who are said to benefit from parking, even though the money for the parking has been supplied by a source that may have very little relationship to those that are said to benefit. An example of this group would be train riders that make round trips from a station which has parking that is said to be "for riders". Students at a school with parking would be another example.

6.) People who are considered by many to be the logical beneficiaries of on-street parking. Owners of single-family homes are the beneficiaries of the parking that is along the boundaries of their property. The same status is given to residents of multi-family housing.

7.) Governments. Since they build and maintain the streets, they should get a significant benefit from on-street parking.

Unbundled Cost and Spontaneous Sharing

"Unbundled cost" means those who use the parking can see exactly what it costs and those who don't use the parking will either avoid its cost entirely or will get earnings to make up for the hidden parking cost they had to pay. This conforms to the usual rule of the free market where a person only pays for what they choose to use. Unbundled cost is fair.

"Spontaneous sharing" means that anyone can park anywhere at any time and for any length of time. Proper pricing makes this feasible.

How to Unbundle

The method of unbundling can be simply stated, using the concept of "beneficiary group" as discussed above. First, the fair price for the parking is charged. The resulting earnings[7] amount is given to the members of the beneficiary group in a manner that is fair to each member. Methods are described below.

Why this Supports Sharing

Members of a beneficiary group benefit financially when "their" parking is used. They will appreciate users increasing their earnings. They are also not obligated to park in "their" parking. If there is less-expensive parking within a reasonable distance, they might park there, to save money. This is fine, because all parking is included in the *Intelligent Parking* system.

Computing the Earnings for Individuals

Intelligent Parking must be rigorous in paying out earnings[7]. For a mixed use, the total number of parking spaces must first be allocated to the various beneficiary groups. For example in an office/housing complex, 63.5% of the parking might have been sold with the office. If so, the housing portion must be paying for the other 36.5%. For this case, it would follow that the first step is to allocate 63.5% of the earnings to the workers and 36.5% to the residents.

[7] The earnings amount is the revenue collected minus the collection cost and any other costs that will have to be paid due to the implementation of *Intelligent Parking*. The costs associated with the parking, paid *before* the implementation of *Intelligent Parking*, should *not* be subtracted from the revenue because they will continue to be paid as they were before the implementation of *Intelligent Parking*. Therefore, these costs will continue to reduce wages and increase the prices of goods and services.

How the monthly earnings are divided up among the members of the beneficiary group depends on the beneficiary group type. For each member, the group's total monthly earnings amount is always multiplied by a quantity and divided by the sum (the sum is the denominator) of that quantity, for all members.

For example, for each employee, the multiplier is the number of hours that the employee worked over the month while the denominator is the total number of hours worked by all employees over the month. At a school, for each student, the numerator is the total time spent at the school, over the month, while the denominator is the sum of the same quantity, for all the students.

For a train station with parking being supplied for passengers that ride on round trips of one day or less, the numerator is the passenger's monthly hours spent on such round trips, over the month; while the denominator is the total number of hours spent by all passengers on such round trips, over the month. Radio Frequency Identification (RFID) units on passengers could support an automated calculation of monthly charges for fares, as well as monthly hours on round trips.

At a shopping center, the numerator is the sum of the money spent by the shopper, over the month, while the denominator is the total amount of money spent by all shoppers over the month.

At a condominium, the numerator is the number of parking places that were paid for (directly or indirectly) by the resident family and the denominator is the total number of parking places at the condominium project; similarly, for apartment complexes.

Where Earnings Are Low

The goal is that if someone doesn't park, they don't pay, either directly or indirectly, because the earnings that they get will balance out their losses (like reduced wages, for example). However, charging for parking that few want to use will not sufficiently compensate the people that have been forced, or are being forced, to pay for such parking. The only remedy in this case is to redevelop the parking or lease the parking in some other way, for storage, for example. The earnings from the new use should go to those that are in the beneficiary group that was associated with the low-performing parking.

Why This Method of Unbundling Will Feel Familiar to Leaders

Developers will still be required to provide parking and will still pass this cost on, as has been discussed. There will be no need to force an owner of an exiting office with parking to break his single business into two separate businesses (office and parking).

Parking beneficiaries are identified that conform to traditional ideas about who should benefit from parking.[8]

Unbundling the Cost of On-Street Parking

The revenue from on-street parking in front of businesses will be split evenly between the city and the business's parking beneficiaries. All of the earnings from on-street parking in front of apartments or single-family homes will be given to the resident families.[9]

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[8] Showing exactly where parking earnings go will reduce the political difficulties of adopting pay parking in a democracy where the high cost of parking is often hidden and rarely discussed.

[9] Although governments own the streets, often, back in history, developers paid for them and this cost became embedded in property values. Admittedly, how to allocate on-street parking earnings is somewhat arbitrary. With

Special Considerations for Condominiums

Unbundling for a condominium owner means that, although their allocated amount of parking has added to their initial cost, their allocated amount of parking also earns money for them. Unbundling for a condominium could also mean that an owner can choose to have control over a single or several parking places. Such parking spaces could be equipped with a red light and a green light. If the red light is lit, this will mean that the space is not available for parking, except for the person who is controlling the spot. If the green light is lit, it will mean that the space is available to anyone. A space that is being reserved with a red light is charged at the full price to the condominium owner that has control over the space. The owner that controls these spaces can change the state of the parking space (available or not available) by either a phone call, on line, or at any pay station system that might be in use for the system. After condominium owners experience the cost of reserving a space for themselves, they might give up on the idea of having their own, personal, unshared parking space; especially since *Intelligent Parking* will give most owners and their guests all the flexibility they need in terms of parking their cars.

Some people think that condominium parking should be gated, for security reasons. However, parking within parking garages needs to be patrolled at the same frequency level as on-street parking, which is enough to ensure that crime around either type of parking is very rare. Cameras can help make parking garages that are open to the public safe from criminal activity.

Special Considerations for Renters

Unbundling for renters means that, although their allocated amount of parking increases their rent, their allocated amount of parking also earns money for them. Therefore, their traditional rent (includes parking) is effectively reduced by the money earned by those parking spaces allocated to them. Renters will be motivated to either not own a car or to park in a cheaper location. Parking in a cheaper location is not a problem because all parking is part of the *Intelligent Parking* system. Renters will welcome anyone to park in "their" parking, because it will increase their earnings.

Special Considerations for Employers

At first, companies may want the option of offering "free parking" to their employees so as to be able to compete with traditional job sites. This means giving employees that drive every single day an "add-in" amount of pay so that the sum of the add-in and their parking-lot earnings equals their charge, for any given monthly statement. The operator of the parking, which sends out statements, can pay out the "add in" amount, in accordance with the company's instruction. The company will then be billed for these amounts. There could be no requirement for the company to provide any such "add-in" amount to the employees that don't drive every day. This would allow the company to treat its every-day drivers better than other employees and so this would be a negative TDM. However, this economic discrimination would be substantially less than the current, status-quo, economic discrimination, where drivers get "free" parking and non-drivers get nothing.

Clusters of Parking

Clusters are a contiguous set of parking spaces that are nearly equal in desirability and thus can be assigned the same price. They should probably consist of from 20 to 40 spaces. For off-street

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congestion pricing and efficient methods, governments may earn significantly more than they are under current practices.

parking, they could be on either side of the access lane to the parking spaces, so that an observer could see the 20 to 40 cars, and get a feel for the vacancy rate. At a train station, clusters will normally be organized so that their parking spaces are approximately an equal distance from the boarding area. On-street clusters would normally conform to our current understanding of what a block is, which is to say from one cross street to the next cross street. The width of the street and the length of the block should be taken into account in defining on-street clusters of parking and in deciding if the parking on either side of the street should or should not be in the same cluster of parking spaces.

Examples of Good and Bad Technology

Parking Meters or Pay Stations

Parking meters are a relic of an earlier period, before computers. Pay stations do not add enough usefulness to merit their inclusion in *Intelligent Parking*, except as a bridge technology. Once good systems are set up, pay stations should cost additional money to use because of their expense. It would be best to devise an implementation strategy that will minimize their use when the system is first put into effect and will take them out of service as soon as possible.

Radio Frequency Identification Backed Up by Video-Based "Car Present" and License Recognition

Government will eventually enter into an RFID (Radio Frequency Identification) age. Organizers of large athletic events already have. Organizers that put on large open-water swims, foot races, and bike rides have routinely used RFID for many years.[10] An RFID vendor in San Diego[11] states that passive RFID units cost less than $5, are reliable, are durable, and they could be used to identify cars as well as people. He also sees no problem in implementing most of the features of *Intelligent Parking*.[12]

Automatic Data Collection and Sending Out Statements

Note that the "back end database" of Dr. Carta's written statement[12] refers to the ability to send statements of earnings and billing to students.[13]

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[10] For example, over 20,000 people ran the 2008 Bay-to-Breakers foot race in San Francisco. Each runner had a "chip" in their shoe lace. Each runner's start time and finish time were recorded and all results were available as soon as the last runner crossed the finish line.

[11] David R. Carta, PhD, CEO Telaeris Inc., 858-449-3454

[12] Concerning a Final Environmental Impact Report-approved and funded new high school in Carlsbad, California, where the School Board has signed a *Settlement Agreement* to consider "*unbundled parking*", "*cash-out*", and "*pricing*", Dr. Carta wrote, in a January 13th, 2010 written statement to the Board,

> I wanted to send a quick note discussing the technical feasibility of tracking cars into a lot without impacting students or requiring the need for gates. Mike Bullock and I have discussed this project; it can be accomplished straightforwardly by utilizing Radio Frequency Identification and/or Video Cameras integrated with automated license recognition systems. The cars would need to register with the system at the start, but it would be fairly painless for the users after the initial installation. The back end database system can also be implemented both straightforwardly and at a reasonable price.
>
> This is not necessarily a recommendation of the proposal for unbundled parking. Rather it is strictly an unbiased view of the technical feasibility of the proposal to easily and unobtrusively track cars, both registered and unregistered, into a fixed lot.

[13] In an earlier email on this subject, Dr. Carta wrote,

Putting it Together

Certainly, government, and in particular transit agencies and parking agencies, could use RFID-based technology. For example, when a person with an RFID unit which is tied to a billable address or a credit card with an open account gets on a bus or a train, they should not have to pay at that time, visit a pay station, or "swipe a card" that has a positive balance. Utility customers that pay their bills are not required to pre-pay. The same courtesy should be extended to transit riders, people that drive on roads, people that get parking-lot earnings, and people that park cars. There should be one monthly bill or statement, for all four activities.

Global Positioning Systems GPS

An alternative model is to have GPS systems in cars that would detect the car's parking location, that location's current charge rate, and would perform all of the charging functions in the car. The only information the parking-lot-enforcement system would need is whether or not a car being parked is owned by a bill-paying owner. The car owner's responsibility would be to pay the bills indicated by the box in the car. The box would need to process a signal that a bill had been paid. It would also need to process pricing signals.

Not Picking Winners

The purpose of this report is to describe what an ideal system would do, *not* how it is done. How a proposed system works is left to the systems, software, and hardware engineers that work together to submit a proposal based on this description of what an ideal system does.

Privacy

Privacy means that no one can see where someone has parked, without a search warrant. Also, the level of the detail of information that appears on a bill is selected by the customer.[14]

Ease of Use for Drivers

For credit-worthy drivers that have followed the rules of the system, pay parking will not require any actions other than parking. Paying for all parking fees over a month is then done in response to a monthly billing statement. Parking will feel to the consumer like a service provided by a municipality, such as water, energy, or garbage. One important difference is that users belonging to a "beneficiary group" will get an earnings amount in their monthly statement. Those that earn more than what they are charged will receive a check for the difference. This ease of use will make all parking less stressful.

Base Price

Off-Street

This is not too tough - we probably would integrate with a service that already sends physical mail from an electronic submission instead of re-inventing this wheel.

[14] License plates that have no RFID tags fail to use the best technology to accomplish the primary purpose of license plates, which is to identify and help intercept cars used in a crime. Identifying cars is a legitimate government goal. Protecting privacy is also a legitimate goal. Both goals can be realized with good laws, good enforcement, and good systems engineering.

Off-street parking is priced so that even if demand does not threaten to fill the parking beyond 85%, the money generated will at least equate to an agreed-upon return on the parking value and pay all yearly costs. Equation 1 shows the calculation of the hourly rate.

$$r_{BaselineHourly} = \frac{(r_{Investment} \times v_{Parking}) + c_{YOPD}}{(n_{HoursPerYear} \times f_{TO})} \quad \textbf{(Eq. 1)}$$

where:

$r_{BaselineHourly}$	=	the computed baseline hourly rate to park
$r_{Investment}$	=	yearly return on investment, such as .06
$v_{Parking}$	=	value of a parking space, such as (parking garage) $40,000
c_{YOPD}	=	yearly operations[15] plus depreciation, per space, such as $100
$n_{HoursPerYear}$	=	number of hours per year, 24 x 365 = 8760 Hours per Year
f_{TO}	=	fraction of time occupied, such as 0.55.

For the example values given, the base hourly rate of parking, to cover the cost of the investment, operations[15], and depreciation is $0.519 per hour. This could be rounded up to $0.52 per hour. This price could also be increased to result in positive TDM, to reduce driving more than the fair-price, zero-TDM amount.

On-Street

If on-street parking is located within walking distance (one-quarter mile) of off-street parking, its base price is set equal to the closest off-street parking's base price. Otherwise, it is set to some agreed-upon value, like fifty cents per hour. However, on-street parking has a special meaning for downtown merchants and for neighborhoods, two powerful political forces in any city. Merchants that have few cars parking on their street, even though it is permitted, are probably failing in their businesses. They would like free parking to help draw visitors to their store front. Neighborhoods that are not impacted by parking would probably prefer no pricing. For these reasons, for any on-street parking cluster, no price is charged until the cluster occupancy reaches 50%. (Time of day is irrelevant.)

Congestion Pricing

The time-rate price of parking is dynamically set on each cluster of parking, to prevent the occupancy rate from exceeding 85% (to reduce the need to drive around looking for parking). An 85% occupancy rate (15% vacancy) results in just over one vacant parking space per city block[5]. If the vacancy rate is above 30%, the price is left at the baseline hourly rate. If vacancies fall below 30%, the price can be calculated in a stair-step method, such as shown in Table 2.

Equation 2 is an alternative method.

In either case, the total charge is time parked, multiplied by the time-averaged, time-rate price. The base multiplier would be adjusted to be just large enough to keep the vacancy rate from falling below a desired level, such as 15%, so it is always easy to find parking.

[15] This includes money for policing, cleaning, maintenance, any applicable parking tax, and all collection costs. Collection costs will need to include an amount to recover the development and installation costs of *Intelligent Parking*.

Table 2 Hourly Rates for 2 Base Multipliers and a Baseline Hourly Rate of $0.52

Vacancy Rate	Base Multiplier = 2			Base Multiplier = 2.5		
	Multiplication		Hourly Rate	Multiplication		Hourly Rate
	Formula	Value		Formula	Value	
Above 30%	2^0	1	$0.52	2.5^0	1	$0.52
25% to 30%	2^1	2	$1.04	2.5^1	2.5	$1.30
20% to 25%	2^2	4	$2.08	2.5^2	6.25	$3.25
15% to 20%	2^3	8	$4.16	2.5^3	15.625	$8.13
10% to 15%	2^4	16	$8.32	2.5^4	39.0625	$20.31
5% to 10%	2^5	32	$16.64	2.5^5	97.6563	$50.78
Below 5%	2^6	64	$33.28	2.5^6	244.1406	$126.95

$$r_{HourlyRate} = r_{BaselineHourly} \times \left(B^{(30-V)/5}\right), for\ V < 30;\ r_{BaslineHourly}, otherwise \quad \textbf{(Eq. 2)}$$

where:

$r_{HourlyRate}$ = the congestion-priced hourly rate to park

$r_{BaselineHourly}$ = the baseline hourly rate to park, such as $0.52 per hour (taken from from Eq. 1.

B = the base of the multiplier being computed, such as 2.50

V = the vacancy rate percent, such as 17.5, for 7 vacancies in a cluster of 40 spaces, 100*(7/40) = 17.5

For the example values given, the hourly rate of parking would be $9.88 per hour.

Pricing Predictions and Notifications

Drivers will develop strategies for their routine trips. The computer system that keeps records of parking use will also provide help for users. The *Intelligent Parking* website will direct a user to an appropriate cluster of parking if the user provides the destination location or locations, the time and date, and the hourly rate they wish to pay. If the walk is going to be long, the website could suggest using transit to get from the cheaply-priced parking to the destination. In such cases, the website may also suggest using transit for the entire trip.

Another user option is to specify the time, location, and the distance the user is willing to walk. In this case, the computer would give the cheapest cluster of parking available at the specified walk distance. The price prediction would be provided.

All price predictions would also have a probability of correctness associated with them. If a user can show that a computer has predicted a much lower price than what actually occurred, with a sufficiently high probability, it would be reasonable to charge the user the predicted price rather than the actual price.

Websites could routinely inform viewers when occupancy rates are expected to be unusually high, due to a special event (for example, a sporting event). The parking system website will always give current and predicted hourly rates for all locations. The hourly rates of parking will

also be available at a phone number and possibly at pay stations. The base-price hourly rate, for any parking cluster, would be stable and could therefore be shown on signs. Parking garage entrances could have large video screens showing both predicted and existing price. Users will also learn to look at parking and judge whether congestion pricing applies, or could apply, while their car is parked. It would not be long before these capabilities are added into GPS navigation systems.

Prepaid RFID

To be inclusive, pay stations or convenience stores will offer a pre-paid RFID that can be set on the dashboard of a car. This will support drivers with poor credit or drivers who have not obtained the necessary equipment to support the normal, trouble-free methods. This will also work for drivers that do not trust the system to protect their privacy for a certain trip (by removing or disabling the permanent RFID) or for all trips. No billing would occur.

Enforcement

The system would notify the appropriate law enforcement agency if an unauthorized car was parked. Authorized cars would need either a pre-paid RFID or equipment indicating that their owners had *Intelligent Parking* accounts and were sufficiently paid up on their bills.

IMPLEMENTATION

This description of *Intelligent Parking* will help to implement efficient parking systems. Parking at train stations, schools, and government buildings could introduce many of these concepts. This description of *Intelligent Parking* is sufficient to support a "Request for Proposal" process, which could lead to full implementation. Widespread installation should be done by a government agency, to minimize actions required on the part of the private sector. Laws would simply require the cooperation of all private-sector and government entities.

SUMMARY

A parking plan, *Intelligent Parking* has been described.

1. Technology will make it easy to use for most drivers.
2. Its parking is almost always shared, to support mixed uses.
3. It unbundles cost by charging and having earnings go to the parking beneficiaries.
4. Traditional groups, such as single-family home owners, employees, tenants, train riders, and students benefit from parking. The benefit is equal for drivers and non-drivers.
5. Baseline prices are computed primarily from the value of the parking and an agreed-upon rate of return. On-street parking is free until it is half full, at which time its base price often matches that of the closest off-street parking.
6. For all parking, price is dynamically increased to guarantee availability. Earnings are therefore only limited by what people are willing to pay.
7. Technology helps drivers find parking and decide if they want to drive or use transit.
8. Prepaid RFIDs provide service to those who have poor credit or don't want to be billed.
9. Disabled and perhaps low-income drivers will have accounts that allow them to park at reduced prices and perhaps avoid congestion pricing. Specially designated spots might also be required for disabled drivers.

10. The system will provide reports showing where additional parking would be a good investment and where it would be wise to convert existing parking to some other use.
11. Privacy will be protected. Law enforcement officials would need a search warrant to see where someone's car has been parked. The level of detail on billing would be selected by the car's owner.
12. Implementations could begin in carefully selected locations and expand.

Global warming, air pollution, trade deficits, and fairness are some of the significant reasons that governments have a responsibility to implement *Intelligent Parking*.

ACKNOWLEGEMENTS

The following people have offered encouragement, specific information, and/or special insights.

Dr. Dennis Martinek, Oceanside Planning Commissioner; Sandra Goldberg, California Deputy Attorney General; Jerry Kern, Oceanside, City Council; Amy Volzke, Principal Planner, City of Oceanside; Dr. Nilmini Silva-Send, Senior Policy Analyst of the Energy Policy Initiative Center; Diane Nygaard, Director of Preserve Calavera and founder of Nelson Nygaard, Consulting Associates; Lisa Rodman, Trustee, Carlsbad Unified School District; Dr. Michael McQuary, President, La Jolla Democratic Club; Joan Bullock; Judy Jones, San Diego County Central Committee, California Democratic Party; Patrick Siegman, Principal and Shareholder, Nelson Nygaard; Andy Hamilton, San Diego Air Pollution Control District; Renee Owens, Conservation Chair, San Diego Sierra Club; Caroline Chase, Executive Committee Chair, San Diego Sierra Club; Ed Mainland, Co-Chair, Energy-Climate Committee, Sierra Club California; Bern Grush, Chief Scientist, Skymeter Corporation; and the following San Diego Area Government (SANDAG) employees: Susan Baldwin, Senior Regional Planner; Bob Leiter, former Director of Land Use and Transportation Planning; Coleen Clementson, Principle Planner; and Stephan Vance, Senior Regional Planner.

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KEYWORDS

A&WMA, Parking, Unbundled, Shared, TDM, cash-out, pricing, beneficiary, greenhouse gas, GHG, GPS, RFID

Equitable and Environmentally-Sound Car-Parking Policy at a Work Site

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Aug. 30, 2015

Introduction

This paper describes a parking policy that distributes the benefit of parking to all employees, regardless of how often they choose to drive. It does this by

- Charging a fair price for the parking, per unit of time parked, and by
- Giving the total earnings (*total parking-lot earnings*) to the employees, such that each employee's share of the *total parking-lot earnings* is proportion to the time they spend at the work site served by the parking.

The following, additional, optional action would guarantee that no driver loses money under the policy:

- Adding a *must-drive bonus* to each driver's share of the *parking-lot earnings*, if it happened that their share of the *parking-lot earnings* is less than their parking-lot charge. This means that the employee's *must-drive bonus* would be equal to their *parking-lot charge* minus their share of the *parking-lot earnings*.

If an employer decided to pay a *must-drive bonus* to its employees, it would be possible to allow employees to effectively "opt out" of the program so they would not need to be mailed the car-parking statements. The system would feel like "free parking" to them.

Reference 1 describes a more comprehensive policy that will efficiently and conveniently unbundle the cost (or the benefit) of parking in all circumstances. It is available at the following URL: http://sierraclub.typepad.com/files/mike-bullock-parking-paper.pdf.

The system described herein is less complex because it does not include congestion pricing, price predictions, or policies that are unique to on-street parking. These features can be eliminated, because it is assumed that there will be an adequate supply of parking, so no congestion pricing is needed; that the price can be relatively stable, so no price predictions are needed; and finally, that employees can be successfully required to park only in their employee parking, so there is no need for new, on-street parking policies, designed to protect adjoining neighborhoods from the intrusion of additional parked cars. If the adjoining neighborhoods had permit parking with a 2-hour limit for cars with no permit, very few employees would ever park in those neighborhoods, in any case.

Rationale

This system of “unbundled parking cost” will allow all stakeholders to see the actual value of the parking. It will reduce single-occupancy driving to work. Less driving will reduce traffic congestion, air pollution and greenhouse gas (GHG) emissions.

Parking is expensive to provide. Therefore, if no parking had been provided, the saved money could have been invested to increase employee salaries. The method described in this paper allows employees to gain some of that lost salary back, by driving less.

Providing free or underpriced parking only benefits employees that would drive every day, even if they had a method to recover some of their lost salary.

Methods

The parking is operated on the behalf of the employees, as if it were their own business. Those that drive to work are therefore their own customers.

Charge for parking is proportional to time parked and is charged to the employee associated with the car. (A charge rate that is acceptable to all must be established.) For example, if sixty cents per hour is selected, the charging software could round off the parking duration time to the nearest minute and apply a one-cent-per-minute charge. The data-collection method could be implemented with RFID’s on cars being detected at parking-lot entrances and exits. Unauthorized cars coming into the employee parking facilitiy would be identified with license-plate detection and, if a car belonging to a felon is driven into the parking lot, a warning notice could be sent to authorities, if this is desired by the company leaders.

Earnings (net revenue, minus the cost of collection and distribution) are given to the employees; in proportion to the time they spend at the work site. This could be based on an employee’s schedule or, for more accuracy, could be based on “time-at-the-work-site” data, collected using personal radio frequency identification units (RFIDs) and detectors that are tied to a central, implementing computer. The variables used to compute the amount of money to be paid to an employee are shown in Table 1. The corresponding formula is shown in Figure 1.

Parking statements are automatically sent out monthly, showing the individual’s charges and earnings. If desired, the statements could include a *must-drive bonus*, so that no driver losses money under the system. The *must drive bonus* would probably need to come from funds available for employee compensation.

Implementation

Since this is a new system, it would be prudent for the company leaders to have the vendor take the full responsibility for operating the system, for the first 10 years. This arrangement would ensure that the vendor would debug the system and continue to look for operational efficiencies, over the 10 year period. A sliding scale of vendor-compensation could be specified in the contract, as follows: The vendor could operate the system for 10% of the revenue, for the first 5 years; 5% of the revenue, for the next 3 years; and 2% of the revenue, for the final 2 years. For example, if it is assumed that, on average, 600 cars are parked for 8 hours, for 200 days per year, at a rate of 50 cents per hour, then the yearly revenue would be $480,000 per year. The vendor would therefore collect $240,000 over the first 5 years, $72,000 over the next 3 years, and $28,800 over the last two years. Figure 2 shows contact information and excerpts of received emails, from a San Diego vendor. This vendor has stated that the design and installation of a fully-automated system would be easy to perform.

Table 1 Variables Used to Compute an Employee's Monthly Earnings

Definitions to Compute an Employee's Monthly Earnings	
$T_{Employee}$	The Employee's Monthly Time at the Work Site
$T_{AllEmployees}$	Total Monthly Time at the Work Site, All Employees
$E_{AllEmployees}$	Total Monthly Earnings from the Employee Parking

Figure 1 Formula Used to Compute an Employee's Monthly Earnings

$$E_{Employee} = T_{Employee} * (E_{AllEmployees} / T_{AllEmployees})$$

Introducing a New Price Differential, for Driving, Compared to Not Driving

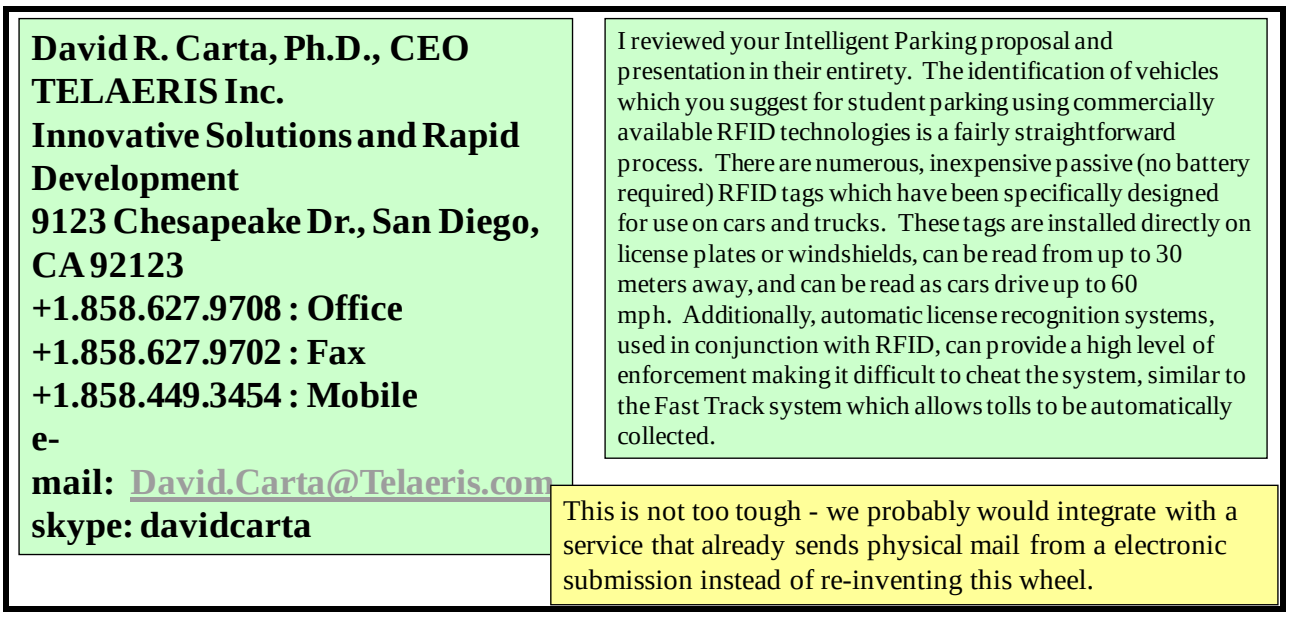
Table 2 shows that introducing a price differential into the choice of how often to drive will decrease the amount of driving.

Other Benefits

Depending on the work site's location and the size of its access roads, there could be a substantial decrease in local congestion, improving the health of all employees and those living near the congestion. This parking policy will show neighbors that the company is working to be a good citizen. This program will encourage active transportation, meaning

modes that provide exercise for the employees. It will also teach the employees the value of parking. It is recommended that the method of determining the selected rate of charge be shared with both the employees and the community at large. This program can be thought of as a demonstration project of a new approach to parking.

Figure 2 One Set of Identified-Vendor Information



Green House Gas Impacts

S-3-05 is a California Governor's Executive Order to drop the state's Year 2020 levels of greenhouse gas (GHG) emissions to the state's level of 1990 emissions and to drop the state's Year 2050 level of GHG emissions to 80% *below* the state's 1990 levels. If the world were to achieve similar reductions, the earth's level of atmospheric C02 would be capped at 450 parts per million (PPM). Figures 3, 4, and 5 show how large 450 PPM is, compared to values over the last 800 thousand years. Reference 2 shows that the goal of S-3-05 is to limit atmospheric C02 to 450 PPM and it also shows that even if this cap is achieved, the risk of a human catastrophe caused by global warming is significant. Reference 3's Figure 1 shows that a significant reduction in driving is critically needed.

Conclusion

Adopting this program would benefit the employer, the employees, and the community, in many ways. They will all gain an added understanding of economics, technology, and the power of the free-market principle that sometimes it is better to have people pay for what they use and not force people to lose money for something they don't use. All the members

of the work-place community could take pride in being part of this pioneering effort to reduce driving and greenhouse gas emissions. It would be a demonstration of the fundamental features of Reference 1. It would set an example for other employers.

Table 2 Eleven Cases of Pricing Impact on the Amount of Driving

Impact of Financial Incentives on Parking Demand			
Location	**Scope**	**1995 dollars per mo.**	**Parking Use Decrease**
Group A: Areas with little or no public transportation			
CenturyCityDistrict, West Los Angeles	3500 employees at 100+ firms	$81	15%
Cornell University, Ithaca, NY	9000 faculty & staff	$34	26%
San Fernando Valley, Los Angeles	1 employer, 850 employees	$37	30%
Costa Mesa, CA		$37	22%
Average for Group		**$47**	**23%**
Group B: Areas with fair public transportation			
Los Angeles Civic Center	10000+ employees, several firms	$125	36%
Mid-Wilshire Blvd., Los Angleles	1 mid-size firm	$89	38%
Washington DC Suburbs	5500 employees at 3 worksites	$68	26%
Downtown Los Angeles	5000 employees, 118 firms	$126	25%
Average for Group		**$102**	**31%**
Group C: Areas with good public transportation			
University of Washington, Seattle Wa.	50,000 faculty, staff & students	$18	24%
Downtown Ottowa, Canada	3500+ government staff	$72	18%
Bellevue, WA	1 firm with 430 employees	$54	39%[2]
Average for Group, but not Bellevue Washington		**$45**	**21%**
Over All Average, Excluding Bellevue Washington			**25%**

[1] **Parking vacancy would be higher!** [2] **Not used, since transit & walk/bike facilities also improved.**

Figure 3 Atmospheric CO2, Increasing Over Recent Decades

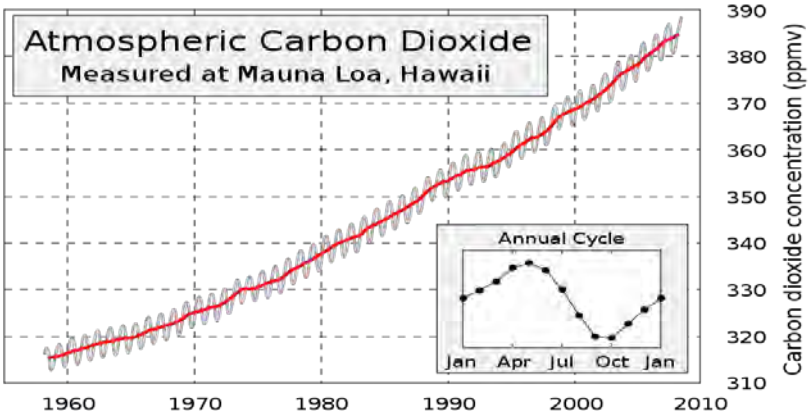


Figure 4 **Atmospheric CO2 and Mean Temperature, 800,000 Years Ago, with 450 PPM C02 Shown**

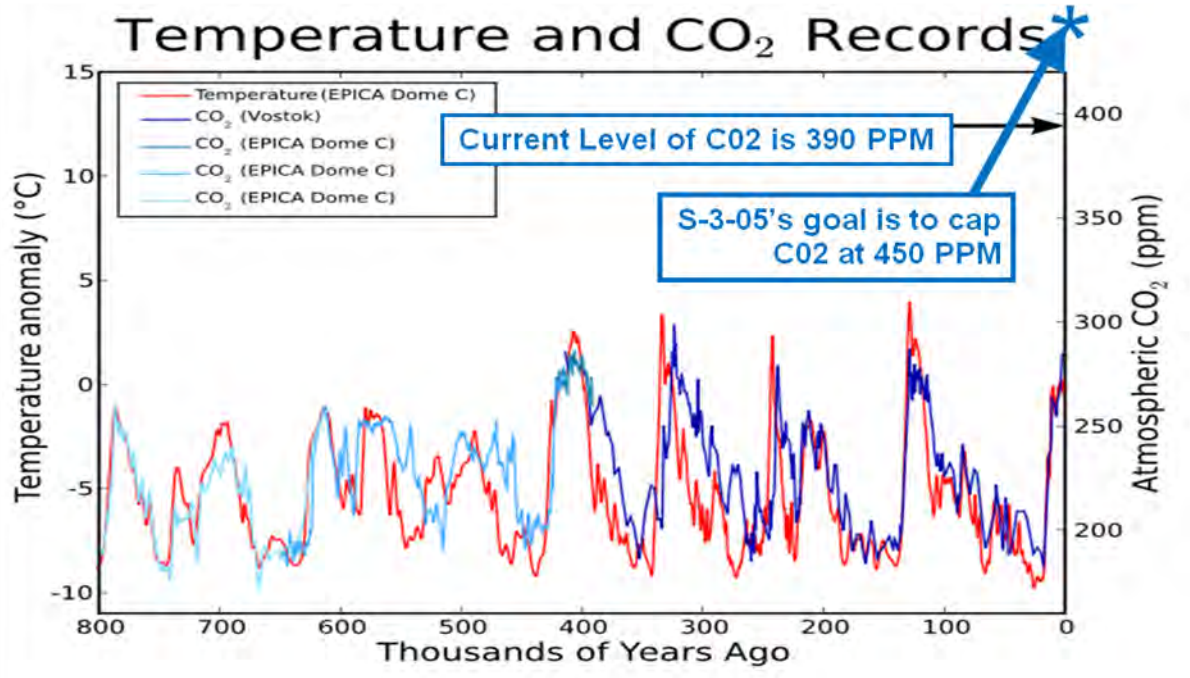
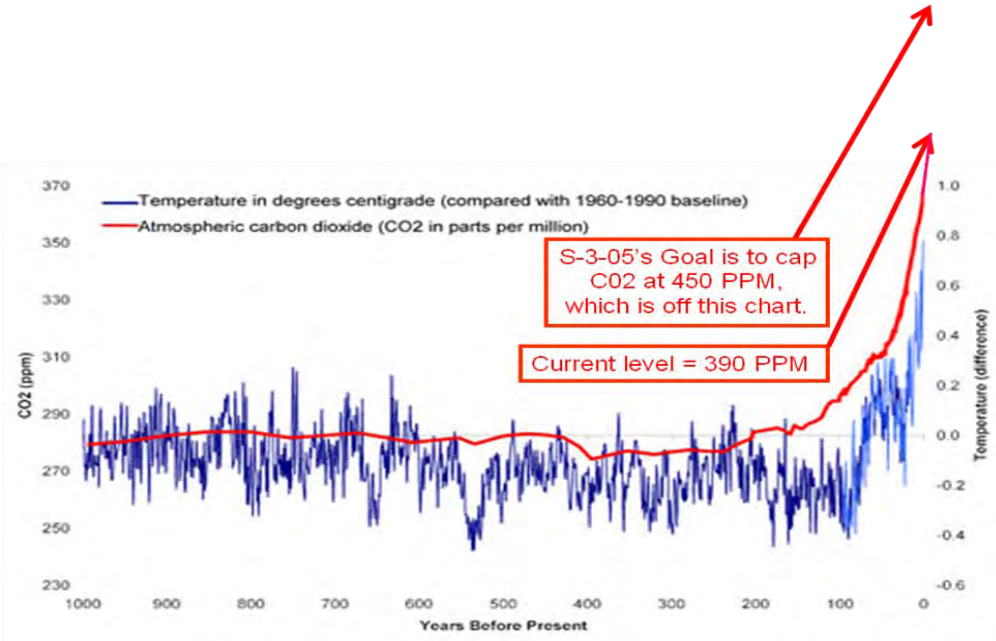


Figure 5 **Atmospheric CO2 and Mean Temperature, Over the Last 1,000 Years**



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Transformative Climate Communities Program

DRAFT SCOPING GUIDELINES

California Strategic Growth Council

California Climate Investments

NOVEMBER 2016

Draft Scoping Guidelines: Transformative Climate Communities Program

These Draft Scoping Guidelines for the Transformative Climate Communities Program are being made available for public comment. This scoping document does not represent the full Draft Guidelines for the program, but is intended to provide an initial framework. The Strategic Growth Council (SGC) recognizes that many areas presented in the document require additional work and discussion, and we look forward to public input to help inform development of the Draft Guidelines.

Comments are due to SGC by 5:00pm on January 9, 2016.

Please submit comments to:

tccpubliccomments@sgc.ca.gov

or:

Strategic Growth Council
ATTN: Mackenzie Wieser
1400 Tenth Street
Sacramento, CA 95814

SGC plans to release the Draft Guidelines for the Program in late January or early February of 2017. Release of the Draft Guidelines will be accompanied by multiple public workshops throughout the state as well as additional public comment periods to inform development of the Program.

TABLE OF CONTENTS

I. INTRODUCTION

A. BACKGROUND

Assembly Bill 2722 established the Transformative Climate Communities Program, administered by the SGC, to "…fund the development and implementation of neighborhood-level transformative climate community plans that include multiple, coordinated greenhouse gas emissions reduction projects that provide local economic, environmental, and health benefits to disadvantaged communities as described in Section 39711 of the Health and Safety Code." (Pub. Resources Code § 75240.)

The Transformative Climate Communities Program (Program) will accelerate greenhouse gas reduction and advance local climate action in disadvantaged communities through an integrated, community-based approach. The Program is an opportunity to realize the State's vision of Vibrant Communities and Landscapes, demonstrating how community engagement coupled with strategic investments in transportation, housing, energy, natural resources, and waste can reduce greenhouse gas emissions and other pollution, while also addressing growing equity issues and enhancing economic opportunity and community resilience.

Strong local engagement and cross-sector partnerships are critical to realizing this vision. In addition to reducing greenhouse gas emissions, the Program will serve as a model for catalyzing local, multi-sector partnerships that leverage private and public funds to sustain community revitalization and equitable development, while meeting the State's climate goals.

B. WHAT IS A TRANSFORMATIVE CLIMATE COMMUNITY?

Transformative climate communities integrate building and infrastructure projects with community-driven, multi-sector partnerships that reduce greenhouse gas emissions, increase climate resiliency, expand economic opportunities, and reduce health, environmental and social inequities to create beautiful places with equitable access.

The SGC anticipates making substantial, concentrated investments in communities, but recognizes this is but one piece of a truly transformative effort. In partnership with the SGC, awarded applicants will use the state investment in concert with multiple related efforts driven by community engagement, which may include additional financing, philanthropic funding, parallel and connected capital investments, business and workforce development projects, public health programs, K-12 and higher education programs, career and technical training, entrepreneurship support, volunteer programs, civil society projects, and other efforts associated with community-wide transformation.

Applicants must develop an integrated plan with measurable goals, and demonstrate the community leadership, human and social capital, and internal and external accountability needed to monitor a set of criteria that become core and ongoing components of transformation.

B. PROGRAM SUMMARY

The Program will award competitive funding totaling approximately $140 million in Implementation Grants for the implementation of transformative, neighborhood-level plans in three communities. Through a complimentary program, the SGC will also award approximately $1.5 million in Planning

Grants in up to ten communities, intended to facilitate community readiness for future implementation funding through State and/or other sources.[1]

On September 23, 2016, the SGC released a Notice of Proposed Rulemaking to allocate a minimum of half of the Implementation Grant funds in the City of Fresno, a minimum of one-fourth in the City of Los Angeles, and the remaining Implementation Grant funds in a third location to be determined.

The SGC may award grants over multiple years and prioritize investment in the State's most disadvantaged communities.

The SGC intends to seek long term funding for the program. With this initial appropriation, the SGC hopes to provide diverse models of neighborhood-level transformation that can be studied, replicated and adapted based on measured outcomes that include not only deep greenhouse gas reduction, but also the maximization of climate, public health, environmental, workforce and economic benefits.

II. Program Requirements

The Program seeks well-organized communities that demonstrate multi-sector partnerships capable of governing and implementing a transformative vision for a designated area, including integrated projects that will achieve **all** of the Primary Objectives and Performance Criteria listed below.

A. Eligibility

1. Eligible applicants may include but are not limited to: nonprofit organizations, community-based organizations, faith-based organizations, coalitions or associations of nonprofit organizations, community development finance institutions, community development corporations, local governments, joint powers authorities, and/or tribal governments.
2. Joint applications including multiple entities are strongly encouraged, and must include the identification of a lead applicant and co-applicants.
3. Applicants must demonstrate capacity and readiness to implement coordinated projects, including:
    i. Ability to govern and implement large infrastructure projects, including evidence of past performance, letters of support from local and/or regional governments, and the ability to work with multiple levels of government as needed for project implementation.
    ii. Evidence of diverse community support, such as from elected officials, key stakeholders, community foundations, state, regional and local government agencies, local health departments, community groups, and private partners.
    iii. Partnerships that provide the ability to attract and leverage additional public, private, and philanthropic funding.
    iv. Partnerships that ensure the ability to collect data and analyze outcomes over time; support from universities and community colleges for data collection and analysis are encouraged.
4. Applicants must demonstrate alignment with one or more up-to-date, adopted community or neighborhood plan for the targeted area of investment that reflect best practices in sustainable development and community revitalization, and reflect comprehensive and documented

[1] Planning grants will be funded through SGC's Sustainable Communities Planning Grants and Incentives Program.

community engagement. Priority will be given to proposals that prioritize focused implementation of:

a. Specific plans for multi-modal hubs that prioritize district-scale and regional transit and active transportation connectivity to employment and service centers.
b. Well-integrated plans that coordinate housing, multi-modal transportation connectivity, renewable energy generation, water efficiency, storm water management and other urban greening improvements;
c. Physical and programmatic connectivity to low-income and disadvantaged residents to improve access to jobs; workforce development and economic opportunity for low-income and disadvantaged residents; and integration of affordability and equitable access to infrastructure and supportive services for low-income and disadvantaged residents.

5. Applicants from cities within the High Speed Rail Initial Operating Segment must demonstrate that their proposals support implementation of an integrated Station Area Plan.

B. Primary Objectives

1. **Maximize greenhouse gas emissions reduction.** Develop and deploy integrated projects that accelerate greenhouse gas emissions reduction.
2. **Build, strengthen and sustain local leadership and grassroots engagement in civic and community development.** Forge enduring, multi-sector commitment to local partnerships and community engagement while implementing adopted community, specific, or other local plans.
3. **Implement Sustainable Communities Strategies**. Implement projects that are prioritized in adopted regional Sustainable Communities Strategies, focus on infill development and yield the highest reductions in greenhouse gases.
4. **Improve environmental, social and health equity.** Promote equitable distribution of the benefits and burdens of investment and development, and improve the public health and well-being of residents.
5. **Expand economic opportunity.** Provide access to quality local job opportunities and workforce training through projects, and direct community benefit through economic development and investment opportunities.
6. **Increase resilience.** Invest in projects that increase the resilience of communities, economies, and infrastructure in the face of a changing climate and other pressures.
7. **Leverage funding.** Secure a minimum of 100% match of awarded grant amount through other funding sources.
8. **Quantify and evaluate impacts.** Commitment to monitor performance criteria tied to specific goals, and share data with the State and across community partners.

C. Performance Criteria

The Performance Criteria support the Primary Objectives, and applicants must implement projects that meet all criteria. For each criterion, applicants must identify a specific goal as well as metrics that can measure performance and ongoing progress toward the goal. Example metrics are included with some of the criteria.

1. *Greenhouse Gas Reduction.* Meet or exceed a path toward long-term emissions reduction that aligns with State goals, including implementation of SB 375. Potential metrics: Baseline and ongoing greenhouse gas emissions inventories consistent with the State's inventory, GGRF quantification methodologies, or other ARB-developed approaches.

2. *Equitable Development.* Promote equity and opportunity, and ensure equitable distribution of the benefits and burdens of investment and development, including strategies that result in mixed-income neighborhoods where families choose to live and businesses choose to invest. Potential metrics: Percentage of mixed-income housing in the community relative to current poverty rates and concentration of existing subsidized housing; community income diversity; number of jobs that can be accessed by disadvantaged community residents; measured engagement in the community from past and current planning processes.
3. *Community Engagement and Leadership Development.* Demonstrate engagement of community organizations and local stakeholders throughout development and implementation of projects, and provide opportunities for community leadership and input throughout activities and decision-making. Potential metrics: Number and location of community meetings held regarding projects; diversity of perspectives from engaged partners and local residents; contracted partnerships with community-based organizations; establishment of community benefits agreement; other metrics associated with comprehensive, community-driven planning processes that result in environmental clearance and formal adoption of community or specific plans.
4. *Educational and Economic Opportunities.* Develop local "green" jobs for low-income residents, support expansion of local businesses, encourage businesses to locate in the community, attract private investment, promote use of local goods and services, increase availability of and participation in high-performing educational and job training opportunities. Potential metrics: number of jobs created, hours performed by disadvantaged community residents, number of contracts with local businesses, participation in education, apprenticeship and workforce training programs, high school graduation rates, economic output.
5. *Access and Mobility.* Prioritize active transportation facilities and public transit. Accelerate compact development, zero and near-zero emission transportation, as well as non-auto oriented transportation options through first/last mile, safe and accessible biking and walking routes, and safe and reliable transit options. Potential metrics: percentage change of walking, biking and other non-motorized trips, reduction in vehicle miles traveled, implementation of transit-oriented development, pedestrian and cyclist injuries/fatalities.
6. *Anti-Displacement Strategies.* Avoid physical and economic displacement of low-income disadvantaged community residents and businesses. Potential metrics: displacement, metrics associated with implementing pre-emptive policies and commitments by local governments to protect existing residents and businesses.
7. *Criteria Air Pollutant Reduction.* Reduce criteria air pollutants, particularly pollutants that do not comply with current standards or that pose a particular pollution burden to the community, as defined by the Office of Environmental Health Hazard Assessment. Potential metrics: Localized air quality monitoring at the beginning, throughout and after project implementation.
8. *Land Preservation and Restoration.* Promote land conservation that protects habitats, connects migration corridors, provides ecosystem services, and protects agricultural lands, especially those at risk for near-term urban development. Potential metrics: percentage of land preserved, number of species/habitats protected, economic assessment of ecosystem services, percentage of development in greenfield versus urbanized area.
9. *Decarbonized Energy and Energy Efficiency.* Accelerate the State's zero net energy objectives; minimize the need for new energy infrastructure costs such as transmission and distribution upgrades; implement significant deployment of building retrofits; deploy smart-grid technologies, and support grid reliability and resiliency by incorporating energy storage.

Potential metrics: change in energy use for low-income and disadvantaged communities; emissions of energy sector.

10. *Urban Greening and Green Infrastructure.* Enhancement and expansion of neighborhood parks and community space; greening of public lands and structures, including incorporation of riparian habitat for water capture and provision of other public and wildlife benefits; green streets and alleyways; non-motorized urban trails that provide safe routes for travel between residences, workplaces, commercial centers, and schools; and urban heat island mitigation. Potential metrics: number of trees planted, green infrastructure elements incorporated into project.
11. *Efficient Water Usage.* Implement greywater and recycling systems; drought-resistant landscaping and permeable surfaces; limit urban growth boundaries based on water availability. Potential metrics: Measured reduction in water use, amount of water-efficient fixtures and appliances.
12. *Materials Management.* Implement projects that reduce waste, including food waste recycling and composting, reduced single-use products, waste-to-energy projects. Potential metrics: Materials recycled, measured reduction in landfill tonnage.
13. *Health and Well-Being.* Improve human health and community well-being; increase access to primary care; provide access to parks, trails, and natural areas as well as access to healthy, local and affordable food, and other opportunities to support socially and economically diverse populations. Potential metrics: birth weight, life expectancy, access to healthy food, other physical and mental health outcomes for low-income and disadvantaged communities.
14. *Climate Resiliency.* Develop projects while considering climate change scenarios and impacts, including more extreme heat days, sea level rise, and more variable water systems. Potential metrics: infrastructure preparedness for climate change impacts, including buildings designed for extreme heat days, tree canopy, impervious surfaces; as well as human vulnerability and resilience to climate change, including share of population in high risk locations, social cohesion, asthma emergency department visits, violent crime rate, and heat-related illnesses.

III. Application Process

A. Implementation Grants

Implementation Grants will be awarded through a two-phase competitive process.

1. Concept Proposal
    i. Applicants must provide a concept proposal describing a vision and plan for district-scale transformation that contains specific goals and metrics, and meets all Primary Objectives and Performance Criteria.
    ii. Applications must present coordinated and collaborative proposals that encompass multiple, mutually-reinforcing projects and initiatives concentrated within a discrete and focused geographical area.
    iii. Applicants must identify goals and metrics tied to specific Project Components within a single Project Area.
        a. *Goals*: goals must be identified for each Performance Criterion, and should be accompanied by a description of how each goal supports the Primary Objectives of the Program.
        b. *Metrics*: at least one metric must be identified for each Performance Criterion for the purpose of measuring progress toward each criterion and goal. Metrics must be tied to all Project Components.

c. *Project Components*: Project Components must be identified that result in quantifiable greenhouse gas reductions that provide local economic, environmental and health benefits. Projects should be implementing adopted local land use plans with CEQA clearance to ensure implementation in a timely period. Project Components that are quantifiable through existing GGRF programs are eligible for funding (e.g., an affordable housing and transportation Project Component funded through the Affordable Housing and Sustainable Communities Program). Those that do not have a quantification methodology must be part of a project with a quantifiable component or identify non-GGRF funding.

d. *Project Area*: a Project Area must be defined by the applicant and should be a focused, concentrated geography ideally encompassing no more than two square miles. A Project Area must include only census tracts that are within the top 5% of disadvantaged communities, per CalEnviroScreen 2.0, or the Project Area's boundaries must align with an existing jurisdictionally recognized neighborhood boundary in which at least 51% of the census tracts are within the top 5%. Priority will be given to project areas that encompass significant public infrastructure investment commitments, including major passenger and freight transportation infrastructure hubs. For cities served by the High Speed Rail Initial Operating Segment, priority will be given to projects that concentrate investment within a one-mile radius of the station.

iv. Applicants must demonstrate proof of a community engagement process, form the necessary partnerships for integrated projects, identify opportunities for collaboration, and ensure that the proposal implements up-to-date, adopted specific plans for the Project Area that have been developed through a documented collaborative, community visioning process with participation by a local government. Examples include specific plans, community plans, station area plans, and neighborhood plans.

v. Recently adopted community and/or specific plans may serve as the basis for Concept Proposals.

vi. Budget: applicants must provide a proposed budget containing estimated total project costs, including a breakdown of costs and proposed sources of funding (in addition to Program funding) for each Project Component.

a. Project Components funded through GGRF must meet all GGRF criteria. Funding Guidelines for GGRF programs are available at http://www.arb.ca.gov/cc/capandtrade/auctionproceeds/fundingguidelines.htm. Additional guidance may be developed by ARB.

b. Applicants must demonstrate the extent to which non-GGRF funding sources are leveraged to meet proposed project costs.

vii. Application scoring and selection:

a. Concept Proposals and required supporting documents will be reviewed to assess eligibility and readiness to determine whether an applicant will be invited to submit to the next phase (Full Application). The Concept Proposal is part of the competitive process and as such, all information should be well thought-out and edited for accuracy.

b. Applicants will be notified whether or not they are invited to participate in the Full Application Phase. An invitation to apply does not guarantee the project will compete successfully for funding.

2. Full Application
    i. Those invited to submit Full Applications will further develop their Concept Proposals, including but not limited to:
        a. Creation of detailed infrastructure and development budgets, and an implementation strategy for all plan components.
        b. Additional analysis and project development that may be needed to secure project financing.
        c. Additional detail on how the proposed Project Components address Program Performance Criteria and meet Primary Objectives.
    ii. Invited applicants will work with SGC staff to determine additional establishment, alignment and/or coordination of project governance structures, including local, State and Federal partnerships.
    iii. Project Components funded in whole or part by GGRF funds must demonstrate greenhouse gas emission reductions and other co-benefits. Applicants must submit estimated greenhouse gas emission reductions for all GGRF-funded project components, using ARB-approved quantification methodologies.
    iv. Full Applications are subject to further review and approval by the SGC. An invitation to apply does not guarantee the applicant will compete successfully for funding.
    v. Final Implementation Grant awards shall be determined on a competitive basis based on readiness and a fully developed application.
    vi. Granting of funds is contingent upon the implementation of projects that reduce greenhouse gas emissions.

3. Award Implementation
    i. Applicants must begin project-level implementation within one year of having received an Implementation Grant, and funds may be disbursed over multiple years.
    ii. GGRF funding must be expended within five years of award notification.

4. Outcomes
    i. *Primary Objectives and Performance Criteria.* For each Performance Criterion, applicants must identify goals and metrics to assess those goals towards the achievement of Primary Objectives. Each metric must include a timeline for monitoring and reporting throughout the project for a minimum of 5 years, in addition to any other reporting requirements (e.g., as required by the GGRF Funding Guidelines).
    ii. *Reporting.* Applicants are responsible for fulfilling reporting requirements, which include financial, disadvantaged community benefits, and greenhouse gas reduction reporting annually. Reporting includes estimates at project application and development and measured outcomes as project components are implemented.

B. Planning Grants

1. Planning Grants are intended to provide funding for those communities needing assistance in developing local plans, policies, partnerships or other efforts aligned with the Program.
2. Eligible applicants include Cities, Counties, Metropolitan Planning Organizations, Joint Powers Authorities, Regional Transportation Planning Agencies, Councils of Governments, or combinations thereof.

3. The SGC welcomes proposals focused on undertaking a local planning effort aligned with the Primary Objectives and/or Performance Criteria of the Program, as well as the following:
    i. Be consistent with the State's Planning Priorities, in summary below, and identified in Section 65041.1 of the Government Code. These priorities are intended to promote equity, strengthen the economy, protect the environment, and promote public health and safety in the state, including urban, suburban, and rural communities.
        a. Promote infill development and equity by rehabilitating, maintaining and improving existing infrastructure.
        b. Protect, preserve and enhance environmental and agricultural lands and natural and recreational resources.
        c. Encourage location- and resource-efficient new development.
    ii. Reduce greenhouse gas emissions, on as permanent a basis as is feasible, consistent with The California Global Warming Solutions Act of 2006 (Division 25.5, section 38500 et. seq. of the Health and Safety Code) and any applicable Regional Plan.
    iii. Connect state policies or programs, regional planning efforts, and local plans through coordination and collaboration.
    iv. Promote environmental, social and health equity.
    v. Apply State of California best practices for climate change vulnerability assessment, resilience planning, and adaptation to the effects of climate change on the proposed project.
4. Applicants must submit a proposed budget and timeline.
5. The SGC may prioritize proposals located within the most disadvantaged communities, as described in Section 39711 of the Health and Safety Code.
6. The SGC may prioritize proposals from designees of Federal place-based initiatives, including the Promise Zone Initiative and the Strong Cities Strong Communities Initiative.
7. The highest scoring applicants will be awarded Planning Grants.
8. Planning Grant recipients may be prioritized for future Program funding, should funding be available, including funding from other GGRF programs.

IV. Technical Assistance & Support

The SGC recognizes that the State's most disadvantaged communities often lack the capacity and institutional resources to seek competitive grants, and may not be prepared to apply to the Program or to develop and implement transformative plans.

We are committed to supporting applicants by offering ongoing outreach, support and technical assistance throughout all phases of the application process to achieve Program outcomes, including before and after the granting of funds.

In addition to statewide outreach conducted by the SGC and partner organizations, grant recipients will be eligible for:

- **Technical Assistance:** The SGC and the California Environmental Protection Agency will partner with third party entities to offer assistance in assessing and integrating planning and implementation efforts, strengthening organizational capacity and developing project priorities.
- **Streamlined Application:** SGC will provide a streamlined set of requirements to facilitate project integration and implementation.

- **Financing:** The SGC will partner with other State agencies to coordinate access to financing vehicle(s) (e.g., loan loss reserve, infrastructure financing mechanisms) to attract and leverage additional capital to the extent possible.

STATE OF CALIFORNIA

GOVERNOR'S OFFICE *of* PLANNING AND RESEARCH

STATE CLEARINGHOUSE AND PLANNING UNIT

EDMUND G. BROWN JR.
GOVERNOR

KEN ALEX
DIRECTOR

Notice of Preparation

November 15, 2016

To: Reviewing Agencies

Re: San Diego Forward: The Regional Plan
SCH# 2010041061

Attached for your review and comment is the Notice of Preparation (NOP) for the San Diego Forward: The Regional Plan draft Environmental Impact Report (EIR).

Responsible agencies must transmit their comments on the scope and content of the NOP, focusing on specific information related to their own statutory responsibility, within 30 days of receipt of the NOP from the Lead Agency. This is a courtesy notice provided by the State Clearinghouse with a reminder for you to comment in a timely manner. We encourage other agencies to also respond to this notice and express their concerns early in the environmental review process.

Please direct your comments to:

Andrew Martin
San Diego Association of Governments (SANDAG)
401 B Street, Suite 800
San Diego, CA 92101

with a copy to the State Clearinghouse in the Office of Planning and Research. Please refer to the SCH number noted above in all correspondence concerning this project.

If you have any questions about the environmental document review process, please call the State Clearinghouse at (916) 445-0613.

Sincerely,

Scott Morgan
Director, State Clearinghouse

Attachments
cc: Lead Agency

Document Details Report
State Clearinghouse Data Base

SCH# 2010041061
Project Title San Diego Forward: The Regional Plan
Lead Agency San Diego Association of Governments

Type NOP Notice of Preparation

Description Note: Review Per Lead

The San Diego Association of Governments, as the lead agency under the CEQA, will prepare an EIR for an update to San Diego Forward: The Regional Plan. The Regional Plan will consist of a RTP and a SCS that identify the San Diego region's future transportation investments and growth through 2050.

Lead Agency Contact

Name Andrew Martin
Agency San Diego Association of Governments (SANDAG)
Phone 619-595-5375 **Fax**
email
Address 401 B Street, Suite 800
City San Diego **State** CA **Zip** 92101

Project Location

County San Diego
City
Region
Cross Streets
Lat / Long
Parcel No.
Township **Range** **Section** **Base**

Proximity to:

Highways
Airports
Railways
Waterways
Schools
Land Use n/a

Project Issues Archaeologic-Historic; Biological Resources; Drainage/Absorption; Economics/Jobs; Flood Plain/Flooding; Forest Land/Fire Hazard; Geologic/Seismic; Minerals; Noise; Population/Housing Balance; Public Services; Recreation/Parks; Schools/Universities; Soil Erosion/Compaction/Grading; Toxic/Hazardous; Traffic/Circulation; Vegetation; Water Quality; Water Supply; Wetland/Riparian; Growth Inducing; Landuse; Cumulative Effects; Other Issues; Aesthetic/Visual; Agricultural Land; Air Quality; Coastal Zone; Fiscal Impacts; Septic System; Sewer Capacity; Solid Waste

Reviewing Agencies Resources Agency; California Coastal Commission; Department of Parks and Recreation; Department of Fish and Wildlife, Region 5; Office of Emergency Services, California; Native American Heritage Commission; Public Utilities Commission; Caltrans, Division of Aeronautics; Caltrans, Division of Transportation Planning; California Highway Patrol; Air Resources Board; Air Resources Board, Transportation Projects; Caltrans, District 11; Department of Toxic Substances Control; Regional Water Quality Control Board, Region 7; Regional Water Quality Control Board, Region 9

Date Received 11/15/2016 **Start of Review** 11/15/2016 **End of Review** 01/13/2017

Note: Blanks in data fields result from insufficient information provided by lead agency.

Print Form

Appendix C

Notice of Completion & Environmental Document Transmittal

2010041061

SCH #

Mail to: State Clearinghouse, P.O. Box 3044, Sacramento, CA 95812-3044 (916) 445-0613
For Hand Delivery/Street Address: 1400 Tenth Street, Sacramento, CA 95814

Project Title: Program Environmental Impact Report for San Diego Forward: The Regional Plan

Lead Agency: San Diego Association of Governments (SANDAG) Contact Person: Andrew Martin

Mailing Address: 401 B Street, Suite 800 Phone: 619-595-5375

City: San Diego Zip: 92101 County: San Diego

Project Location: County: San Diego City/Nearest Community: All 18 cities and unincorporated areas

Cross Streets: Zip Code:

Longitude/Latitude (degrees, minutes and seconds): ____° ____ ′ ____ ″ N / ____° ____ ′ ____ ″ W Total Acres: ~2.7 million acres

Assessor's Parcel No.: Section: Twp.: Range: Base:

Within 2 Miles: State Hwy #: Waterways:

Airports: Railways: Schools:

Document Type:

Governor's Office of Planning & Research
NOV 15 2016
STATE CLEARINGHOUSE

CEQA: ☒ NOP ☐ Draft EIR
☐ Early Cons ☐ Supplement/Subsequent EIR
☐ Neg Dec (Prior SCH No.)
☐ Mit Neg Dec Other:

NEPA: ☐ NOI Other: ☐ Joint Document
☐ EA ☐ Final Document
☐ Draft EIS ☐ Other:
☐ FONSI

Local Action Type:

☐ General Plan Update ☐ Specific Plan ☐ Rezone ☐ Annexation
☐ General Plan Amendment ☐ Master Plan ☐ Prezone ☐ Redevelopment
☐ General Plan Element ☐ Planned Unit Development ☐ Use Permit ☐ Coastal Permit
☐ Community Plan ☐ Site Plan ☐ Land Division (Subdivision, etc.) ☒ Other: RTP/SCS

Development Type:

☐ Residential: Units Acres
☐ Office: Sq.ft. Acres Employees
☐ Commercial: Sq.ft. Acres Employees
☐ Industrial: Sq.ft. Acres Employees
☐ Educational:
☐ Recreational:
☐ Water Facilities: Type MGD

☐ Transportation: Type
☐ Mining: Mineral
☐ Power: Type MW
☐ Waste Treatment: Type MGD
☐ Hazardous Waste: Type
☐ Other:

Project Issues Discussed in Document:

☒ Aesthetic/Visual ☒ Fiscal ☒ Recreation/Parks ☒ Vegetation
☒ Agricultural Land ☒ Flood Plain/Flooding ☒ Schools/Universities ☒ Water Quality
☒ Air Quality ☒ Forest Land/Fire Hazard ☒ Septic Systems ☒ Water Supply/Groundwater
☒ Archeological/Historical ☒ Geologic/Seismic ☒ Sewer Capacity ☒ Wetland/Riparian
☒ Biological Resources ☒ Minerals ☒ Soil Erosion/Compaction/Grading ☒ Growth Inducement
☒ Coastal Zone ☒ Noise ☒ Solid Waste ☒ Land Use
☒ Drainage/Absorption ☒ Population/Housing Balance ☒ Toxic/Hazardous ☒ Cumulative Effects
☒ Economic/Jobs ☒ Public Services/Facilities ☒ Traffic/Circulation ☒ Other: GHG Emissions

Present Land Use/Zoning/General Plan Designation:

N/A. The project area includes all of San Diego County.

Project Description: *(please use a separate page if necessary)*

The San Diego Association of Governments (SANDAG), as the Lead Agency under the California Environmental Quality Act (CEQA), will prepare a Program Environmental Impact Report (EIR) for an update to San Diego Forward: The Regional Plan (Regional Plan). The Regional Plan will consist of a Regional Transportation Plan (RTP) and a Sustainable Communities Strategy (SCS) that identify the San Diego region's future transportation investments and growth through 2050. Please also see Attachment 1 to the NOP.

Note: The State Clearinghouse will assign identification numbers for all new projects. If a SCH number already exists for a project (e.g. Notice of Preparation or previous draft document) please fill in.

NOP Distribution List

County: San Diego **SCH#** 2010041061

Resources Agency

- [x] **Resources Agency**
  Nadell Gayou
- [ ] **Dept. of Boating & Waterways**
  Denise Peterson
- [x] **California Coastal Commission**
  Elizabeth A. Fuchs
- [ ] **Colorado River Board**
  Lisa Johansen
- [ ] **Dept. of Conservation**
  Elizabeth Carpenter
- [ ] **California Energy Commission**
  Eric Knight
- [ ] **Cal Fire**
  Dan Foster
- [ ] **Central Valley Flood Protection Board**
  James Herota
- [ ] **Office of Historic Preservation**
  Ron Parsons
- [x] **Dept of Parks & Recreation**
  Environmental Stewardship Section
- [ ] **California Department of Resources, Recycling & Recovery**
  Sue O'Leary
- [ ] **S.F. Bay Conservation & Dev't. Comm.**
  Steve Goldbeck
- [ ] **Dept. of Water Resources**
  Resources Agency
  Nadell Gayou

Fish and Game

- [ ] **Depart. of Fish & Wildlife**
  Scott Flint
  Environmental Services Division
- [ ] **Fish & Wildlife Region 1**
  Curt Babcock
- [ ] **Fish & Wildlife Region 1E**
  Laurie Harnsberger
- [ ] **Fish & Wildlife Region 2**
  Jeff Drongesen
- [ ] **Fish & Wildlife Region 3**
  Craig Weightman
- [ ] **Fish & Wildlife Region 4**
  Julie Vance
- [x] **Fish & Wildlife Region 5**
  Leslie Newton-Reed
  Habitat Conservation Program
- [ ] **Fish & Wildlife Region 6**
  Tiffany Ellis
  Habitat Conservation Program
- [ ] **Fish & Wildlife Region 6 I/M**
  Heidi Calvert
  Inyo/Mono, Habitat Conservation Program
- [ ] **Dept. of Fish & Wildlife M**
  William Paznokas
  Marine Region

Other Departments

- [ ] **Food & Agriculture**
  Sandra Schubert
  Dept. of Food and Agriculture
- [ ] **Depart. of General Services**
  Public School Construction
- [ ] **Dept. of General Services**
  Cathy Buck/George Caroflo
  Environmental Services Section
- [ ] **Delta Stewardship Council**
  Kevan Samsam
- [ ] **Housing & Comm. Dev.**
  CEQA Coordinator
  Housing Policy Division

Independent Commissions,Boards

- [ ] **Delta Protection Commission**
  Erik Vink
- [x] **OES (Office of Emergency Services)**
  Monique Wilber
- [x] **Native American Heritage Comm.**
  Debbie Treadway
- [x] **Public Utilities Commission**
  Supervisor
- [ ] **Santa Monica Bay Restoration**
  Guangyu Wang
- [ ] **State Lands Commission**
  Jennifer Deleong
- [ ] **Tahoe Regional Planning Agency (TRPA)**
  Cherry Jacques

Cal State Transportation Agency CalSTA

- [x] **Caltrans - Division of Aeronautics**
  Philip Crimmins
- [x] **Caltrans – Planning**
  HQ LD-IGR
  Terri Pencovic
- [x] **California Highway Patrol**
  Suzann Ikeuchi
  Office of Special Projects

Dept. of Transportation

- [ ] **Caltrans, District 1**
  Rex Jackman
- [ ] **Caltrans, District 2**
  Marcelino Gonzalez
- [ ] **Caltrans, District 3**
  Eric Federicks – South
  Susan Zanchi - North
- [ ] **Caltrans, District 4**
  Patricia Maurice
- [ ] **Caltrans, District 5**
  Larry Newland
- [ ] **Caltrans, District 6**
  Michael Navarro
- [ ] **Caltrans, District 7**
  Dianna Watson
- [ ] **Caltrans, District 8**
  Mark Roberts
- [ ] **Caltrans, District 9**
  Gayle Rosander
- [ ] **Caltrans, District 10**
  Tom Dumas
- [x] **Caltrans, District 11**
  Jacob Armstrong
- [ ] **Caltrans, District 12**
  Maureen El Harake

Cal EPA

Air Resources Board

- [x] Airport & Freight
  Cathi Slaminski
  - [x] Transportation Projects
    Nesamani Kalandiyur
  - [ ] Industrial/Energy Projects
    Mike Tollstrup
- [ ] **State Water Resources Control Board**
  Regional Programs Unit
  Division of Financial Assistance
- [ ] **State Water Resources Control Board**
  Cindy Forbes – Asst Deputy
  Division of Drinking Water
- [ ] **State Water Resources Control Board**
  Div. Drinking Water #_____
- [ ] **State Water Resources Control Board**
  Student Intern, 401 Water Quality Certification Unit
  Division of Water Quality
- [ ] **State Water Resouces Control Board**
  Phil Crader
  Division of Water Rights
- [x] **Dept. of Toxic Substances Control**
  CEQA Tracking Center
- [ ] **Department of Pesticide Regulation**
  CEQA Coordinator

Regional Water Quality Control Board (RWQCB)

- [ ] **RWQCB 1**
  Cathleen Hudson
  North Coast Region (1)
- [ ] **RWQCB 2**
  Environmental Document Coordinator
  San Francisco Bay Region (2)
- [ ] **RWQCB 3**
  Central Coast Region (3)
- [ ] **RWQCB 4**
  Teresa Rodgers
  Los Angeles Region (4)
- [ ] **RWQCB 5S**
  Central Valley Region (5)
  - [ ] **RWQCB 5F**
    Central Valley Region (5)
    Fresno Branch Office
  - [ ] **RWQCB 5R**
    Central Valley Region (5)
    Redding Branch Office
- [ ] **RWQCB 6**
  Lahontan Region (6)
  - [ ] **RWQCB 6V**
    Lahontan Region (6)
    Victorville Branch Office
- [x] **RWQCB 7**
  Colorado River Basin Region (7)
- [ ] **RWQCB 8**
  Santa Ana Region (8)
- [x] **RWQCB 9**
  San Diego Region (9)

- [ ] **Other** _____
- [ ] _____
  Conservancy

Last Updated 7/19/2016

From:	Sue Prelozni
To:	Martin, Andrew
Cc:	Sue Prelozni
Subject:	Information for Sustainable Communities Strategy
Date:	Monday, January 16, 2017 3:17:03 PM

Hello Andrew,
I received information and a request for feedback to SANDAG regarding the planning for Sustainable Communities Strategy. I apologize to be a day late.
I am not sure the proper protocol but would like to submit that the work of our organization, Sustainable Surplus Exchange, Inc., be included in the planning. We are a 501(c)(3) nonprofit that takes corporate excess and turns it into community assets.
We have repurposed more than $2.5 million of still usable assets from 300 corporations, and we have redistributed it to more than 400 local schools, nonprofits and start-up companies. As a result, we have diverted about 500,000 pounds of solid waste from the landfill.

Please let me know what information you need to help further this excellent opportunity for San Diego communities. Thank you!

Celebrate a New Year!!
Sue

Sue A Prelozni, MA
Founder, CEO
888.780.4416 - ext 4

Turning Corporate Excess into Community Assets

www.SustainableSurplus.org | Watch our video

January 9, 2017

SANDAG
401 B Street, Suite 800
San Diego, CA 92101
Attention: Andrew Martin, Senior Regional Planner (andrew.martin@sandag.org)

Re: SANDAG NOP for Preparation of a Program EIR for San Diego Forward: The Regional Transportation Plan/Sustainable Communities Strategy

Dear Mr. Martin:

The Southwest Wetlands Interpretive Association (SWIA) is a non-profit organization dedicated to the education in and acquisition, preservation and restoration of wetlands throughout southern California and particularly in the Tijuana River watershed. SWIA was founded in 1979 and worked to establish the Tijuana Slough National Wildlife Refuge in 1980, the Tijuana River National Estuarine Research Reserve in 1982, the San Diego Bay National Wildlife Refuge in 1999, designation of the Tijuana Estuary as a Wetland of International Importance under the Ramsar Convention in 2005 and a State Marine Conservation Area under the State Marine Life Protection Act in 2010. Historical losses of wetlands (particularly vegetated and shallow-subtidal types) have occurred from development, but climate change and sea level rise represent a significant additional threat. The SWIA staff does research on and supports planning that will substantially reduce climate change forces (especially GHG emissions) and land uses that allow for wetlands to be maintained or expanded.

We provide the following comments on the NOP issued by SANDAG on November 14, 2016. The project is described as an update to the current 2050 RTP/SCS, a plan that is primarily intended to implement the requirements of SB 375 whereby regional planning agencies identify implementable measures to reduce greenhouse gas (GHG) emissions - primarily through reducing passenger vehicle miles traveled and improving land uses. Because the current RTP/SCS was also prepared to update and incorporate the Regional Comprehensive Plan (RCP), the NOP should have described – and SANDAG must declare - whether this project also includes an update of the RCP component.

This RTP is a required update to the previous (2015) RTP/SCS. SWIA and many other commenters considered that to be an inadequate plan to improve the region's transportation system network or to help guide land use changes that would significantly reduce the region's GHG emissions. Our comments are based on our participation in SANDAGs previous SB 375 efforts, state-level and other regional-level SB 375 planning, and local climate action planning (CAP) efforts over the past decade.

Southwest Wetlands Interpretive Association ▪ P.O. Box 575 ▪ Imperial Beach, CA 91933
tel. (619) 575-0550 ▪ fax (619) 424-6420 ▪ www.swia4earth.org

As noted in the NOP, SB 375, and thus the RTP, has three primary goals:

1. Using the regional transportation planning process to reduce greenhouse gas (GHG) emissions from passenger vehicles;
2. Offering incentives under CEQA to encourage projects that are consistent with a SCS that achieves the GHG emission reductions; and
3. Coordinating the Regional Housing Need Allocation process with the Regional Transportation Planning process while maintaining local authority over land use decisions.

Preparing an RTP/SCS that achieves these goals is critical to the San Diego Region's continued quality of life and would contribute significantly to larger state, national and global GHG emission objectives. However, to do so the RTP must acknowledge and successfully overcome several misconceptions and fundamental flaws in the previous RTP/SCS (source information is provided at the end of this letter):

1. SANDAG does not seem to acknowledge that building more general purpose freeway lanes is responsible for induced travel (particularly single-passenger vehicle) demand. One of the key reasons that many criticize SANDAG's current approach to transportation system network planning is its retention of general purpose lanes. Induced travel demand is not an "academic fallacy" as some have improperly asserted: building more roads just causes more drivers to use them. This knowledge is addressed in numerous studies and real-world assessments, including a widely cited 2015 UC Davis study that Caltrans has agreed was valid: more freeways do not solve traffic congestion and they lead to an increase in air pollution. Also, the next RTP/SCS needs to effectively integrate HOV lanes and "automated vehicles" (particularly freight trucks, which are expected to be implemented fairly soon and will need transfer stations to local delivery) into the peripheral (e.g., the cities') transportation networks/smart growth-TOD land uses. Failure to do so will translate into more traffic delays and air pollution. What we don't need is for SANDAG to continue to promote more freeways that haven't, and won't, solve our transportation problems.
2. The next RTP/SCS could greatly improve the region's transit networks, while addressing needed local road/infrastructure repairs and improvements. San Diego's transit systems' (rail, bus, bike, walking) performance has substantial room for improvement. Increased funding for regional and local bikeways, safe (walking) routes are essential, but rail and rapid bus services can be greatly increased and improved. Recent studies have demonstrated that the San Diego metropolitan area's transit ridership is ranked 33rd of the top 75 largest metropolitan areas and our transit stations have among the worst rating in the state. Why is transit lagging? In large part, it seems that SANDAG has not given sufficient consideration – and funding - to leading-edge transit system improvements (one example is the Quickway approach that has been presented to SANDAG). Also, SANDAG could work more effectively with the local jurisdictions to coordinate the housing-jobs-transit mix. Transit works well in other US metropolitan areas; we need the next RTP/SCS to provide real leadership and utilization of new opportunities, and not to essentially rely on the historical approach to "improving" transit.
3. The next RTP/SCS must better understand and plan for our population growth and demographics. For example, millennials, who are expected to dominate housing demand, are not as fixated on single family homes and vehicles as previous generations. A 2015 study by Freddie Mac found that millennials tend to favor rentals and denser housing. A study in the Journal of the American Planning Association (2015) found that millennials are driving less and tending to live in urban areas, lowering their need for cars. Southern California demographics show a trend favoring multi-family housing and higher-density housing that is close to transit and generally more affordable than single family homes. And, San Diego

is projected to locate about 80% of new residential growth within the existing developed urban areas, which is where transit works best.

Regarding housing – and commercial/industrial – development, the RTP/SCS should identify policies, initiatives and incentives that will promote smart growth and seamless integrated transportation networks. The RTP/SCS should encourage/incentivize new developments that achieve net zero GHG emissions. For example, the recently announced Five Point Net Zero Newhall (Ranch) plan outlines how this 21,500-unit development will meet net zero emissions. The RTP/SCS approach should prioritize San Diego and California-based GHG reduction options (rather than outside CA options) where onsite measures are not fully-sufficient.

SANDAG's update of its current RTP must recognize and address several significant changes in policies, plans and environmental conditions since that version was prepared. Among the most significant changes:

1. The State of California passed and enacted SB 32, which establishes a requirement that the statewide GHG reduction be 40% below the 1990 baseline by 2030 (codifying Executive Order B-30-15). The RTP should demonstrate how the projects that SANDAG is specifically responsible for implementing will meet – or preferably exceed - that reduction level.
2. The City of San Diego has a new, certified Climate Action Plan (CAP) that adopts the same GHG reduction target for 2030 as the State, and establishes a goal of an 80% reduction from the 1990 baseline by 2050. Other cities' CAPs and the County of San Diego's CAP also have or call for similar GHG reduction targets/timelines. A key means to meet these targets will be for the region to adopt Community Choice Energy (CCE) and to prioritize local, distributed photovoltaic (PV) supply opportunities, not to promote and rely on mega PV facilities (e.g., desert solar).
3. The City of San Diego is preparing its Community Planning Updates that will specify land uses and densities that must be addressed in the RTP (and EIR). Other cities will, through their CAPs and General Plan Updates, specify land uses/densities that must be addressed in the RTP. Similarly, the County's CAP, which is currently in preparation and will be completed before the RTP, may identify opportunities and needs to changes to the RTP to allow the County to achieve its GHG reductions.
4. The State of California's climate policies and legislation establish clear guidance for regional planning agencies, counties and local governments that would complement the intent of international treaties and national policies to reduce GHG emissions. The RTP must, at the very least, fully contribute its "fair share" toward meeting those GHG emission targets/requirements.To that end, SANDAG must have a clear accounting of current GHG emissions – from each sector/major emission component – and be able to monitor/account for any claimed reductions by the project and its mitigation measures.

The RTP/SCS must clearly specify and identify how it will ensure:

1. Timelines/milestones for the project elements and mitigation measures and how these will become binding and legally enforceable.
2. Because the RTP/SCS involves or assumes many actions that are outside of SANDAG's authority (e.g., local land use decisions, economic development, etc.), it must clearly delineate how SANDAG and the local entities will ensure that the RTP/SCS goals, objectives, projects, and mitigation will be implemented.
3. A number of news articles have documented that SANDAGs TransNet program has not generated the (sales tax) revenues that it projected – and are needed to fund RTP projects. SANDAG must provide a more realistic assessment of its proposed revenues and project costs. This is particularly important when identifying the priorities for RTP projects and mitigation.

4. SANDAG has resources/programs, including its Dashboard, for providing summaries of its projects/results. The RTP/SCS must establish monitoring methods for tracking each of its project actions as well as their GHG emission reductions. It must work with the cities and county to integrate GHG emission monitoring so that meaningful, consistentimplementation and enforcement mechanisms are established. The public should be able to access data and results of the RTP/SCS and not have to rely on annual or more infrequent formal reporting on the RTP/SCS by SANDAG.

Resource Topics, Alternatives and Cumulative/Growth-Inducing Issues. The NOP does not state what will comprise the "range of reasonable alternatives" to the project nor what the "update" to the current RTP/SCS will encompass, and it is not possible to provide specific comments on potential alternatives and project impacts. The NOP presents a reasonable list of resource topics that will be analyzed in the EIR; many of these had significant, unavoidable impacts in the previous RTP/SCS (Aesthetics/Visual; Agriculture and Forestry; Air Quality; Biological Resources; Cultural and Paleontological Resources; Energy; Mineral Resources; GHGs (consistency with state goals); Hydrology and Water Quality; Land Use; Noise and Vibration; Population and Housing; Public Services and Utilities; Transportation; and Water Supply). Based on the previous RTP/SCS process and EIR, the updated RTP/SCS could result in many of the same significant, unavoidable (and not fully mitigated) impacts.

Given that many cities and the County will have adopted rigorous CAPs (e.g., committing to state targets), the updated RTP/SCS will have to develop new alternatives that are consistent with those plans and presumed changed land uses, transportation and housing needs. For example, the previous RTP projected very little increase (about 3.5%) in total transit from 2012-2050, but as cities and the county become more dependent on density and transit to achieve GHG reductions, SANDAG must develop alternatives to its approaches and project list to better serve and provide incentives to local governments that will improve the jobs-housing-transportation balance. SANDAG must also substantially improve its assessment of and plan for utilization of reasonable technological improvements/innovations in transportation and transit. The likely introduction of self-driving freight trucks and cars, computer-assisted routing, and related advances must be part of the RTP.

San Diego cannot effectively employ, house and transport an additional projected 1.3 million residents by 2050 unless our thinking, planning and funding are based on the "real" facts and best available forecasts of our housing and driving trends. We need a new approach that prioritizes and funds our regional and local transit systems, not one that continues the past failed approach that relies on more freeways.

Please include these comments into the administrative record for the RTP/SCS project and keep me informed of the process to update the RTP/SCS and prepare the EIR.

Sincerely,

Michael A. McCoy

Michael A. McCoy

President, SWIA

Bill Tippets

Bill Tippets

Board Member, SWIA

Sources:

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January 12, 2017

San Diego Association of Governments
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Re: San Diego Unified Port District Comments on the Notice of Preparation of a Program Environmental Impact Report for San Diego Forward: The Regional Plan

Dear Mr. Martin,

Thank you for the opportunity to comment on the preparation of the Program Environmental Impact Report (PEIR) for San Diego Forward: The Regional Plan (Regional Plan) dated November 14, 2016. The mission of the San Diego Unified Port District (District) is to protect the Tidelands Trust resources by providing economic vitality and community benefit through a balanced approach to maritime industry, tourism, water, and land recreation, environmental stewardship and public safety. The District was created with the San Diego Unified Port District Act (hereafter "Port Act") adopted by the California State Legislature in 1962 and as amended. The Port Act recognizes the Public Trust Doctrine, and states that tidelands and submerged lands are only to be used for statewide purposes. To this end, the District is charged with management of tidelands and diverse waterfront uses along San Diego Bay that promotes commerce, navigation, fisheries, and recreation on granted lands. When issuing discretionary permits and/or project approvals for projects and activities located within tidelands, the District often times serves as the lead agency under CEQA.

District staff members have reviewed the Notice of Preparation (NOP) and we are providing the following comments on the Regional Plan and associated PEIR:

Comments on San Diego Forward: The Regional Plan

Consistency with the updated Port Master Plan

The District is currently involved in a multi-year "Integrated Planning" process leading to an update of its Port Master Plan. This process includes updates to land and water use designations and new Baywide and Planning District goals and policies for land and water use, mobility, natural resources, resiliency, coastal access, and economic development.

Due to the nature and geography of the District's jurisdictional boundaries with our member cities of San Diego, National City, Chula Vista, Imperial Beach and Coronado, it is important for SANDAG staff and District staff to continue and work collaboratively together. Through coordination and collaboration our agencies can ensure our planning policies are utilizing the most accurate and up-to-date land and water use designations, transportation routes, maritime operations (i.e., cruise ship and cargo terminal), and recreational resource information on

District tidelands. District staff is ready to work closely with SANDAG staff to provide any adiditional information for the preparation of the PEIR.

Regional Plan as a Catalyst for Future Partnerships

We envision the Regional Plan as a catalyst for future partnerships pertaining to planning and implementation of land use and mobility programs or projects. Through a coordinated and collaborative process, there may be opportunities for partner agencies to utilize the Regional Plan for streamlining projects or optimizing environmental mitigation strategies. We encourage SANDAG to explore opportunities for future partnerships that maximize the potential benefits of the Regional Plan.

Comments on the PEIR

Shared Infrastructure Improvements
The District and adjacent jurisdictions have an extensive multi-modal transportation system that accommodates passenger vehicles and trucks, pedestrian and cyclist movements, as well as a public transit system in place. The PEIR should consider the impact of shared infrastructure improvements that enhance the connection to the waterfront, optimize existing and future infrastructure connections from upland neighborhoods, and maximize public access to the waterfront.

Transportation System Investments for Commuters and Visitor
The District sees many opportunities to work with SANDAG to improve access to existing and future public transit facilities. Specifically, the District is interested in the concept of "mobility hubs" at key locations and near major District employment centers, such as the Tenth Avenue Marine Terminal and the National City Marine Terminal (i.e., Working Waterfront), as well as activity centers and waterfront destinations for which the District is responsible for land use planning.

Additionally, traffic congestion has increased substantially for air travelers and employees to and from Lindbergh Field. The congestion reduces the level of service on arterial roads connecting the freeway to the airport. The adopted Regional Plan states: "The high-speed trains will arrive at the future Intermodal Transportation Center (ITC) to be located adjacent to the San Diego International Airport." (p55) The District supports and encourages the accelerated evaluation of an ITC adjacent to the airport serving air travelers, employees, *and* visitors to District tidelands. As part of the transportation impact analyses for the PEIR, the District encourages SANDAG to evaluate the impacts of mobility hubs on reducing vehicle miles traveled, level of service, and greenhouse gas emissions on or near District tidelands.

As noted during the August 2014 Economic Competitiveness Working Groups at a session during SANDAG's Regional Plan public outreach, the provision of adequate parking near the waterfront remains a challenge. The PEIR should consider evaluating alternative solutions that utilize shared parking sites to accommodate the parking needs of the District and adjacent jurisdictions' stakeholders. The PEIR should also consider review of regional parking

management strategies as a mechanism to encourage and sustain activity and growth while optimizing land uses.

Goods and People Movement in the Working Waterfront
Goods movement and maritime-dependent manufacturing are of primary importance to the District. Growth for maritime facilities is partially constrained by freight rail lines and arterial roads that serve to move goods and personnel in, out, and around the District tidelands. This includes the movement of goods to and from the cargo terminals, through the District's Working Waterfront, and onto major area freeways. As these primary transportation arteries are facing capacity limitations, the PEIR should consider evaluating the Regional Plan's "Goods Movement Strategy" that is intended to improve freight and personnel mobility.

The District's Integrated Planning Vision includes the potential development of a multi-modal corridor for freight and service vehicles intended to separate large trucks, buses, and cargo from personal vehicle, pedestrian, and bicycle traffic. This multi-modal corridor could improve the efficiency of maritime commerce and mitigate some community concerns, particularly by reducing truck traffic and emissions in adjacent residential neighborhoods. SANDAG staff should coordinate closely with District staff in regards to future planning of this multi-modal corridor.

In addition, while there is already a high use of transit (i.e., light rail) by employees in the Working Waterfront, additional use is constrained, in part, by transit system capacity limitations in this corridor. Future improvements to transit service in this corridor and potentially shuttle services from transit stations to work sites, could help reduce the reliance on passenger cars for workers and relieve parking pressure. The transportation impact analyses should consider impacts to local and regional arterials and roads from implementation of expanded transit services.

The District appreciates the opportunity to work cooperatively with the San Diego Association of Governments (SANDAG) during this process and looks forward to continued collaboration.

If you have any questions regarding these comments, please contact me at (619) 686-6473 or via email at jgiffen@portofsandiego.org.

Respectfully,

Jason H. Giffen
Assistant Vice President, Planning & Green Port

JG/te

SDUPD Doc No. 1140786