Transportation Solutions Defense and Education Fund

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January 19, 2018
By E-Mail to:
sm101DEIR_
EA_comments
@dot.ca.gov

Yolanda Rivas
Office of Environmental Analysis
Department of Transportation, District 4
P.O. Box 23660 MS 8B
Oakland, CA 94623-0660

Re: U.S. Highway 101 Managed Lanes Project DEIR

Dear Ms. Rivas:

The Transportation Solutions Defense and Education Fund, TRANSDEF, is an environmental organization focused on reducing the climate impacts of transportation. We offer the following comments explaining why the U.S. Highway 101 Managed Lanes Project DEIR ("DEIR") is grossly inadequate under CEQA. Page citations are to the DEIR unless otherwise noted.

This DEIR marks a new low in Caltrans' compliance with CEQA. The DEIR employs a novel format that omits any discussion of the significance of the identified impacts, or disclosure of the thresholds of significance. The Alternatives Analysis eliminated all the alternatives from the study. And to top it all off, the DEIR outright refuses to characterize the significance of the project's impact on GHG emissions. Clearly, someone at Caltrans has directed the agency to aggressively minimize its compliance with CEQA. We believe they've underestimated the public's unwillingness to have the State's premier environmental law flouted.

The DEIR--and the agency that prepared it--stubbornly refuse to acknowledge the climate emergency. People are now dead in Montecito due to the extreme precipitation directly caused by climate change. In this DEIR, Caltrans rejects all responsibility to comply with State policies adopted in response to climate change. The Caltrans staff working on this DEIR, and the senior management directing them to ignore climate change, are morally--if not criminally--responsible for those deaths. History will look back on Caltrans' intransigence as one of the major stumbling blocks preventing California from achieving its climate goals.

It is clear from CalSTA's SSTI report[1] that Caltrans' historic role as highway builder needs to come to an end. This DEIR thumbs its nose at the very thought that Caltrans will ever change.

Scoping Comments

TRANSDEF submitted a detailed NOP comment letter on November 18, 2016 (attached). However, there is no mention of our letter in the matrix of scoping comments in Section 4.1 of the DEIR, nor is there any indication that any of our comments influenced the analysis.

Project Purpose

The various purposes cited for the project suffer from internal conflict and/or impossibility:

> ... to reduce congestion in the corridor, encourage carpooling and transit use, provide managed lanes for travel time reliability, minimize operational degradation of the general purpose lanes, increase person throughput (the number of people moved), and apply technology and/or design features to help manage traffic. (page i.)

The environmentally benign purposes (encouraging carpooling and transit use) are consistent with increasing person throughput. An uncongested HOV lane presents the ultimate motivation for solo drivers stuck in traffic to find someone to carpool with, thereby reducing Single-Occupant Vehicle ("SOV") travel demand. Allowing SOVs to buy into the excess capacity of a managed lane eliminates all motivation to tackle the discomfort and unfamiliarity of shifting modes. Managed lanes therefore stand in direct conflict with the environmental purposes already cited.

In addition, raising the occupancy standard from 2+ to 3+ makes carpooling exponentially more difficult, also standing in direct conflict with the environmental purposes. We assert that the Managed Lanes proposal is a cynical move to operate a toll lane, while preserving carpooling in name alone. We note the inherent conflict between the financial rewards of tolling SOVs and the promotion of carpooling. Why would an agency spend money to reduce their revenues? The incentives are backwards for achieving the reduction in VMT called for by State law and public policy.

The following statement claims that the proposed project continues to facilitate transit and ridesharing:

> Traffic Systems Management (TSM) strategies increase the efficiency of existing facilities by accommodating a greater number of vehicle trips on a facility without increasing the number of through lanes. TSM encourages transit use and ridesharing, which the proposed project would continue to facilitate. The project would increase the efficiency of US

> 101 by allowing more vehicles to travel within this corridor while minimizing expansion of the freeway. (page 1-22, emphasis added.)

There is no tangible evidence that Caltrans does anything now to facilitate transit and ridesharing. The argument immediately above explains how the proposed project will discourage transit or ridesharing. It's also clear that by allowing SOVs into the new lane, the proposed project is suboptimal in terms of increasing the efficiency of the highway. The project purpose is to increase person throughput: to have more people in fewer cars to reduce congestion, not more cars with slightly more people in them.

> The Build Alternative would support transit service by allowing buses to use a lane that has reduced delays in comparison to the general purpose lanes. (page 3-25.)

Caltrans has made no efforts to-date to operate HOV lanes in a manner "that has reduced delays in comparison to the general purpose lanes." It neither makes HOV lane hours of operation cover all periods in which the general purpose lanes are congested, nor pays to have CHP enforcement of occupancy standards. Current HOV lanes in the Bay Area have been cited by FHWA as non-compliant with federal standards for HOV lane average speeds. It is clear that allowing buses into lanes that are managed for the benefit of SOVs is about the weakest form of support for transit service imaginable. See the SB 743 section below for examples of what real support looks like. Please delete the quoted statement, as it is untruthful.

Reducing congestion in an unpriced corridor is a fantasy. It's widely recognized that congestion is a fact of life for a transport system as heavily dependent on the personal automobile as the Peninsula is. See Road Pricing section, below.

"Apply[ing] technology and/or design features to help manage traffic" is not a project purpose. It is a means to achieve a purpose. As discussed below, the only thing this technology does is meter the number of SOVs allowed to enter the Express Lane. The purpose of the technology is to provide a consistent travel time advantage, not to use the technology itself.

Traffic Model Outputs

As we stated in our scoping comments, the model employed in the preparation of the DEIR has flaws that constrain its validity.

Table 3.2-2 (p. 3-27) shows that even with a 21.8% increase in VMT over an already heavily congested highway, average 2040 vehicle speeds barely budge from current ones. This is physically impossible. It is clear the model is producing erroneous outputs. Part of the problem is the failure to specify average speeds during peak periods. Average daily speeds, which include off-peak periods, are meaningless. Since the annual emissions are a function of speed, the data presented by this table are worthless in answering the question of whether the project causes an increase in GHG emissions.

Because a state-of-the-art model was not used, the traffic projections and claimed future benefits are highly dubious. In particular, the question of "How long will those benefits continue?" has not been answered. Highway widening projects typically become recongested within five years,[2] begging a question the DEIR chose not to ask: "What's the long-term solution?" It is obvious to observers outside Caltrans that the answer is to shift public investment over to transit modes, and start putting a price on road travel, when adequate transit alternatives are available.

A related unanswered question is whether the project benefits will ever offset the congestion delays. Many projects, scandalously, never provide a net benefit.

Impact Analyses

Unlike all other EIRs that TRANSDEF has studied, the DEIR fails to provide a CEQA significance discussion within each impact analysis section of Section 2 of the DEIR. Instead, a CEQA Checklist is presented in Section 3.1. Because the CEQA Checklist is the work product of an Initial Study, it logically cannot be the disclosure document of significant impacts found in an EIR. (See CEQA Guidelines §15126.2, Consideration and Discussion of Significant Environmental Impacts.) The State regulatory setting is missing from most analyses. Thresholds of significance need to be discussed for each impact analysis section.

Table 2.1.2-1 (page 2-8) is incorrect in claiming consistency with local plans that call for HOV lanes. As discussed above, the purpose of HOV lanes is to encourage carpooling. Managed Lanes have the overall effect of discouraging carpooling. It is fallacious to claim that HOT lanes are interchangeable with HOV lanes.

It is grossly untrue that "The Build Alternative would not remove obstacles to development." (page 2-14.) The Peninsula is currently choking on traffic. That certainly is an obstacle to development. We frequently hear of locally grown businesses choosing to expand in locations outside the Bay Area. The business lobby routinely pronounces dire warnings that the economy will be harmed, and growth will cease if the public doesn't pay to "fix" the traffic situation.

The CEQA Checklist asserts that the project has a less than significant impact on Transportation/Traffic. The "Less Than Significant Impact" assessment of the following item is incorrect:

> a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit? (page 3-15, emphasis added.)

The proposed project is utterly inconsistent with internal Caltrans policy:

> Going forward, efforts to fulfill our LD-IGR obligation should consider multimodal solutions from existing plans like regional transportation plans, general plans, transit plans, bicycle plans, and pedestrian plans. Multimodal solutions to not only improve access to destinations for all system users (motorists, transit riders, bicyclists, pedestrians), but also encourage efficient land use that helps achieve the multitude of goals sought, including quality of life, economic prosperity, the development of multimodal networks, and GHG emissions reduction.[3]
>
> By year 2020, the SMP [Caltrans Strategic Management Plan] calls for several specific targets related to the LD-IGR program:
>
> · a doubling of walking and transit, and tripling of bicycle trips as a percentage of overall trips
> · a reduction of per capita vehicle miles traveled (VMT) by 15%
> · a reduction of the number of fatalities in each travel mode by 10% a year[4]

The projected VMT increase of 21.8% (derived from Table 3.2-2, page 3-27) is clearly inconsistent with the SMP targets. The DEIR improperly makes no finding of policy inconsistency.

GHG Impact Analysis

The DEIR refuses to answer the Initial Study checklist questions pertaining to greenhouse gas emissions ("GHGs"), and provides instead meaningless platitudes. No one is fooled by this response:

> Caltrans has used the best available information based to the extent possible on scientific and factual information, to describe, calculate, or estimate the amount of greenhouse gas emissions that may occur related to this project. The analysis included in the climate change section of this document provides the public and decision-makers as much information about the project as possible. It is Caltrans' determination that in the absence of statewide-adopted thresholds or GHG emissions limits, it is too speculative to make a significance determination regarding an individual project's direct and indirect impacts with respect to global climate change. Caltrans remains committed to implementing measures to reduce the potential effects of the

> project. These measures are outlined in the climate change section that follows the CEQA checklist and related discussions. (page 3-8, emphasis added.)

In fact, Caltrans cannot point to any Project-Level GHG Reduction Strategies (page 3-30) that reduce the GHG emissions from the vehicles using the proposed project in any meaningful amount. (The support given to ridesharing is minimal, and has been reduced in recent years. The program is so tiny that it has an insignificant effect on mode shift.)

The current Initial Study Checklist (Form G)[5] is definitive in requiring significance determinations to specific questions:

> VII. GREENHOUSE GAS EMISSIONS -- Would the project:
> a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?
>
> b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

The DEIR for MTC's 2017 Regional Transportation Plan, Plan Bay Area, analyzed the following impacts for significance:

> Impact 2.5-2: Implementation of the proposed Plan could result in a net increase in direct and indirect GHG emissions in 2040 when compared to existing conditions.
>
> Impact 2.5-3: Implementation of the proposed Plan could substantially conflict with the goal of SB 32 to reduce statewide GHG emissions to 40 percent below 1990 levels by 2030.[6]

The DEIR failed to offer any explanation as to why Caltrans is exempt from providing the same analysis as MTC. The DEIR failed to evaluate the consistency of the project with SB 32:

> Senate Bill 32, (SB 32) Chapter 249, 2016, codifies the GHG reduction targets established in EO B-30-15 to achieve a mid-range goal of 40 percent below 1990 levels by 2030. (page 3-22.)

The DEIR analysis totally misses the point: The merely slight decrease in 2040 GHG emissions compared to the present (Table 3.2-2, page 3-27) impedes the State's SB 32 emissions reduction goal of 40 percent. The DEIR must make a finding of a significant and unavoidable impact. The large increase in VMT impedes the attainment of that state goal and represents a failure of transportation planning.

In *SANDAG v. Cleveland National Forest Foundation*, a case of nondisclosure of CEQA impacts that parallels the shortcomings of this DEIR, the Supreme Court stated:

> Nevertheless, we do not hold that the analysis of greenhouse gas impacts employed by SANDAG in this case will necessarily be sufficient going forward. CEQA requires public agencies like SANDAG to ensure that such analysis stay in step with evolving scientific knowledge and state regulatory schemes.[7]

The DEIR presents no substantial evidence for its claim that "it is too speculative to make a significance determination..." The very fact that other agencies do make CEQA significance determinations is conclusive that the claim is invalid.

An accurate assessment of construction emissions must include the lifecycle emissions of construction materials, including cement, steel, asphalt, etc. The DEIR did not provide enough information to verify that this was done.

Alternatives Analysis

The Alternatives Analysis has long been recognized by the courts as one of the most important elements of environmental review. The DEIR turns the CEQA process on its head by essentially eliminating the alternatives analysis. Rather than fully informing the public as to the costs and benefits of a set of alternatives, the DEIR discards them all without identifying any as infeasible, leaving only its preferred Build alternative.

The primary purpose of CEQA is full public disclosure. This enables the public to check the math, review the analysis and evaluate he assumptions of the project sponsor, so that the project documentation is fully informed by public scrutiny. Caltrans made impermissible decisions outside the DEIR proper:

> Several alternatives were considered during the early stages of project development but were eliminated because they would not meet the project's purpose and need and would on balance have greater environmental effects compared to other alternatives. (page 1-24.)

The tradeoff determination is precisely the kind of analysis that CEQA mandates be made publicly in the analysis presented in an EIR. It is not to be performed prior to the EIR. Numerous CEQA precedents require a project sponsor to consider alternatives that fulfill most, but not all, of the project's purpose and need, when considered in the context of reduced environmental impacts. Nothing in CEQA supports the pre-EIR elimination of feasible alternatives. At a minimum, the statements in Section 1.4.5.2 HOV 2+ – Add a Lane Option (Alternative 2) and Section 1.4.5.3 HOT 3+ – Convert a Lane Option (Alternative 3) need to be the conclusions reached after having carried these as full alternatives, so that all the work that led to these conclusions is presented to the public.

The assertion that HOV lanes "limit the ability to apply traffic demand management measures in the future" (page 1-26) is not only misleading, it is flat-out incorrect. HOV lanes regulate the number of toll-paying SOVs to zero. The only management of traffic detailed in the Project Description is the following:

> The express lane operator will utilize management measures including dynamic toll pricing to regulate the number of toll-paying SOVs using the express lanes in order to manage performance of the lanes. (page 1-21.)

Road Pricing

Extensive research and analysis on road pricing has shown that:

> Pricing is a particularly promising policy tool to reduce VMT and associated GHG emissions, for two reasons. First, the effect size from pricing interventions to VMT is larger than the effect size for other policy or planning tools. Second, pricing can be applied to a broad base, and state action can be particularly effective here. In other words, pricing can achieve a broad strategy extent quickly. Recall that the effect of a policy is the effect size (e.g. the amount that a driver's VMT would be reduced if the policy were applied to that driver) multiplied by the number of drivers exposed to the policy.[8]

As is discussed in the SB 743 section below, highway widening tends to increase VMT and its associated GHG emissions, thereby reducing or eliminating the short-term congestion benefits. If Caltrans truly wishes to reduce congestion, the only tried and true method of accomplishing that for the long term is to toll the highway. While that may require a formal waiver by FHWA or Congress, the new Administration in Washington is said to be open to the idea of road tolls on interstate highways.

A Pricing Alternative should be studied in the revised DEIR. It would achieve a significant reduction in congestion without any environmental impacts. The revenues generated would fund non-SOV alternatives, and have an equity component to mitigate impacts on lower-income residents. With the continuing increases in VMT[9] despite SB 375,[10] it is now fairly clear that tolling will be required if California is to achieve its climate targets.

TRANSDEF Alternative

To surmount the problems identified in the analyses that resulted in these alternatives being rejected, TRANSDEF has created its own alternative that we request be studied in the Revised DEIR: HOV 2+ Convert a Lane Plus Add a Lane. To fully utilize the new facilities, this Alternative includes two operational elements: a well-funded express buses deployment and a strong promotional campaign encouraging smartphone-based ridematching.

The two HOV lanes will provide adequate capacity for the carpoolers identified by the travel model, as well as offer capacity for those motivated by the campaign, by the free-flow of traffic, and by its accompanying travel time advantage, to shift modes. When VTA sees the outcome of the study in the revised DEIR, it may well decide to modify its HOT lanes project to be compatible with it.

Because the travel model cannot evaluate the effectiveness of a proposed public campaign, this alternative will need an off-model adjustment which assumes that the campaign adds 5 percentage points to the carpool mode share. A sensitivity test should also calculate the impacts of a 10-percentage point addition to the mode share, to indicate what success looks like. This alternative conveys a strong message to the public that "To Not Be Stuck in Congestion, Sharing is Necessary." It's a form of "Eat your broccoli--you may not like it at first, but it's good for you."

SB 743

Caltrans was highly aware of the significance of SB 743 before developing this DEIR, as demonstrated in a 2016 Caltrans internal guidance citing a review of Caltrans practices commissioned by the California State Transportation Agency (CalSTA):

> Their January 2014 report stated that *"SB 743 could do more to advance state planning goals than anything else Caltrans has done", and "would put California and Caltrans back at the leading edge of modern transportation practice ..... It would begin to make Caltrans a real contributor to the success of modern policy in the state, and it would provide a model for how the staff could help implement a challenging new charge."* (emphasis in original)[11]

Despite this apparent buy-in by management, the DEIR completely ignored SB 743, even though OPR announced VMT would be the likely replacement transportation major metric long before this project's NOP. Not only did it not evaluate the CEQA significance of the increase in VMT, the DEIR failed to evaluate the increase in VMT as an impact at all. To be consistent with Caltrans' internal policy, the DEIR should have started evaluating VMT when OPR first issued its draft Guidance.

TRANSDEF asserts that the proposed project and its DEIR obstruct the implementation of state policy:

> Under current practices, the VMT-inducing potential of these [state highway widening] projects is not generally accounted for in the decision-making process. Such analyses could very well show that state investments in highway capacity are at odds with state goals for reducing GHG emissions.[12]

It is disturbingly hypocritical and a failure to maintain consistent policy that Caltrans does not apply the same criteria to its own proposed project that it applies in reviewing local development projects:

> TAG-TISG focuses transportation analysis on VMT impacts, assessing impacts from growth plans and development projects on the multimodal transportation network, and quantifying VMT and GHG reductions achieved through smart mobility principles and Transportation Demand Management (TDM) strategies.[13]
>
> Rather than providing recommendations that primarily accommodate motor vehicle travel, provide recommendations that strive to reduce VMT generation; improve pedestrian, bike, and transit service and infrastructure; and which don't induce additional VMT. (emphasis in original.)[14]

There was no table identifying mode shares for the various alternatives and various time horizons. The trending pattern of mode share is a key indicator of public policy effectiveness. An SOV mode share that hasn't decreased sharply at the plan horizon is determinative of a policy failure.

Disclosure of Impacts

The DEIR fails to adequate disclose, in terms understandable by the average citizen, the magnitude of the disruption to everyday life that is projected for both the Build and No Build Alternatives.

Travel time will more than double. (Table 3.2-1, page 3-26.) While TRANSDEF finds it difficult to believe that traffic will be able to move at all in 2040, the public needs to be informed how painful commuting by car will be in the future. The slowing down of travel (which is not consistent with the average speeds in Table 3.2-2 on page 3-27) is highly significant to the public, but is left buried in technical reporting. Neither the Build nor the No Build Alternative will lead to an acceptable future. That finding should have resulted in the search for significantly different alternatives.

It is only by informing the public of the consequences of continuing the current pattern of solo commuting that public support for an entirely different approach to mobility can develop. The DEIR is a grossly inadequate tool for disclosure of information critical to responsible planning for the future.

Recirculation

The many CEQA flaws identified herein require that the DEIR be revised and recirculated to allow the public to comment on a legally adequate document.

Sincerely,

/s/ DAVID SCHONBRUNN

David Schonbrunn,
President

Attachment
TRANSDEF's SM 101 Managed Lanes Project Scoping comments letter, November 18, 2016

Copies
Steve Heminger, MTC
Bijan Sartipi, District 4
San Mateo Board of Supervisors
Board of Directors, C/CAG
Board of Directors, Samtrans
Senator Jerry Hill
Assemblymember Kevin Mullin
Assemblymember Marc Berman

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[1] SSTI Assessment and Recommendations, January 2014, Available at: http://calsta.ca.gov/ res/docs/pdfs/2013/SSTI_Independent%20Caltrans%20Review%201.28.14.pdf
[2] Susan Handy, Impact of Highway Capacity and Induced Travel on Passenger Vehicle Use and Greenhouse Gas Emissions, 2014, available at: http://www.arb.ca.gov/ cc/sb375/policies/hwycapacity/highway_capacity_brief.pdf
[3] Local Development – Intergovernmental Review Program Interim Guidance ("Local Development"), Caltrans, Revised – November 9, 2016, page 2.
[4] *Id*.
[5] Available at http://www.cpuc.ca.gov/ceqa/
[6] page ES-22.
[7] *SANDAG v. Cleveland National Forest Foundation,* S223603, Slip Opinion at 3.
[8] A Framework for Projecting the Potential Statewide Vehicle Miles Traveled (VMT) Reduction from State-Level Strategies in California ("A Framework"), M. Boarnet & S. Handy, 2017, page 4, available at: https://ncst.ucdavis.edu/wp-content/uploads/ 2017/03/State-Level-VMT-Strategies-White-Paper_FINAL-03.2017.pdf
[9] California Green Innovation Index, Next 10, 2017, pages 10 & 23, Available at: http://next10.org/sites/next10.org/files/2017-CA-Green-Innovation-Index-2.pdf
[10] When Do Local Governments Regulate Land Use to Serve Regional Goals?, G. Sciara & S. Strand, 2017, page 23, Available at: https://ncst.ucdavis.edu/wp-content /uploads/2015/10/NCST-TO-025-Sciara-Tracking-Land-Use-Changes_FINAL-August-2017-1.pdf
[11] Local Development, page 4.
[12] A Framework, page 33
[13] Local Development, page 5.
[14] Local Development, page 6.

Transportation Solutions Defense and Education Fund

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November 18, 2016
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Re: SM 101 Managed Lanes Project Scoping comments

Dear Ms. Rivas:

The Transportation Solutions Defense and Education Fund, TRANSDEF, is an environmental organization focused on reducing the climate impacts of transportation. Because of that focus, it is our duty to inform you that the proposed SM 101 Managed Lanes Project ("Project") is inconsistent with the State of California's climate policies to reduce greenhouse gas emissions.

With motor vehicles contributing about half of the state's emissions (when fuel production, vehicle manufacture and tailpipe emissions are all counted), the California Transportation Plan 2040 recognized the need to move away from this type of project, precisely because they do not offer long-term solutions. (See the attached Excerpts of CTP 2040.)

> Data tell us that we must look at solving congestion in a more holistic way. Simply adding more lanes and roads will not be enough. It must be coupled with new approaches that look less at specific projects and more at improving corridors; that look less at analyzing how many cars we can squeeze through a segment of highway and instead look at how we can reliably move people to their destinations. Highway and road investment alone will neither solve our congestion problems nor provide the mobility options Californians want. (CTP, page 8.)

The Fundamental Problem

The genesis of this project, and all others like it, is the universality of the expectation that it should be possible to drive alone during commute periods. When looked at from the standpoint of transportation around the world, this is nothing short of a mass fantasy. It will never be possible to provide enough capacity to accommodate user

demand for single-occupant vehicle (SOV) peak period travel. The cost and environmental impacts would be overwhelming. A supply-side approach to highway capacity is thus bound to fail. "You can't build your way out of congestion." There is no point to even trying to meet demand. The only viable option is a demand-side approach.

While the Project Meeting Notice is correct that "finding a solution to the growing congestion and associated delay has become a high priority," there is no long-term solution to be found amongst projects like the Managed Lanes Project. Los Angeles has already thoroughly tested the supply-side approach and found only endless congestion. **It is thus certain that the proposed Project will fail to meet the project goal to "Reduce congestion in the corridor."** Los Angeles, sharing that same goal, has shifted the focus of its infrastructure investments to rail.

There are already far too many solo drivers clogging the roadways. **The root cause of congestion is too many solo drivers. The Project would thus make the problem worse, because Managed Lanes encourage drivers to continue to drive solo** (because the principal outcome of Managed Lanes is increased capacity for solo driving). The Project signals social support for continued solo driving, at the very time when a change in societal expectations is desperately needed.

It is time to acknowledge that drive-alone cannot continue to be the primary mode of commuting in large metropolitan regions. The only realistic way to meet the needs of large numbers of people that seek to travel at the same time is with mass transit.

The only long-term "solution" for the 101 Corridor would be a doubling or tripling of the capacity of Caltrain. Unfortunately, Caltrain's management has not recognized the need to do so, and is distracted by an extremely expensive electrification project that will do little to increase capacity. The electrification EIR shows Caltrain completely out of capacity by 2040. TRANSDEF joined a challenge of that EIR for that reason.

Induced Demand

Research done for the California Air Resources Board provides a basis for estimating of the impacts of road expansion projects on future VMT and GHG. Susan Handy and Marlon Boarnet reviewed the literature on induced travel and concluded: "Thus, the best estimate for the long-run effect of highway capacity on VMT is an elasticity close to 1.0, implying that in congested metropolitan areas, adding new capacity to the existing system of limited-access highways is unlikely to reduce congestion or associated GHG in the long-run."
http://www.arb.ca.gov/cc/sb375/policies/hwycapacity/highway_capacity_brief.pdf

By building new Express Lanes on US 101 between Whipple Road and the I-380 interchange, the Project will definitely increase VMT and GHG emissions. This is contrary to Executive Order B-30-15, which commands Caltrans, as a state agency, to give "Priority [] to actions that both build climate preparedness and reduce GHG emissions." Along these same lines, CTP 2040 said:

> Today's environmental objectives, in the era of climate change, are more challenging than they have been in the past. While the transportation system must continue to meet demand for reliable travel, it must do so while achieving quantifiable reductions in greenhouse gas (GHG) emissions.

The EIR/EIS should evaluate consistency with CTP 2040, and whether the Project will impede the attainment of the state's emissions reduction goals of reducing GHGs by 40% by 2030 and 80% by 2050. Evaluate whether proceeding with a highway-oriented solution will encourage future auto-oriented development vs. the alternatives suggested below, and whether the latter encourage transit-oriented development.

Norman Marshall of Smart Mobility Inc. studied the latest travel demand models for ARB and concluded that:

> Demonstration that the Travel Demand Model properly accounts for induced demand is of the utmost importance in proper accounting of roadway performance metrics and GHG. This requirement is more critical than many of the other [Regional Transportation Plan Guidelines] recommendations including the recommendation for Activity-Based Models (ABMs).
>
> In my detailed review of the California ABMs done for the Air Resources Board, I found that the current ABMs fail to account for induced travel any better than the older trip-based models. ...
>
> The large increases in population forecast throughout California cause the future static assignment models to forecast impossibly high traffic volumes, especially on freeways. This problem makes all future estimates of VMT, VHT and GHG invalid. Added freeway capacity always shows benefits in static assignment models even though research has shown that there likely are no benefits. Replacing static assignment with dynamic traffic assignment (DTA) or microsimulation is recommended.
>
> The long-term goal of modelers has been to marry ABM with microsimulation. Microsimulation likely is still impractical (at least in the larger regions), and the travel demand models are still relying on a 50-year old algorithm implemented when computers were much less powerful. DTA offers a practical middle ground for much more realistic estimation of induced travel and roadway metrics that can be implemented today.

Caltrans is now on notice of serious shortcomings in its travel model. Past generations of models produced outputs that convinced the state to expend hundreds of billions of dollars on highway expansion projects like the proposed Project. After short respites from congestion, each of these roadways soon filled up again, clearly indicating serious flaws in the traffic projections.

These flawed traffic model projections led to massive roadway investments that provided no long-term benefits. Now that the academic research can explain the source of the modeling failure, it is incumbent on Caltrans to change its modeling to be consistent with current research. Unless induced demand is accurately captured, modeling will provide the same wrong answers, wasted investments, and a public that continues to think that driving alone is how transportation is supposed to work.

Clean Air Act

As a region in nonattainment of the federal ozone standard, discuss the legal constraints imposed by the Clean Air Act, and subsequent amendments, on allowing single-occupant vehicles into an HOV lane, and on building new mixed flow lanes. (A so-called Managed Lane is legally a mixed flow lane.)

Caltrain Alternative

Model an alternative with three times the number of seats per peak hour as are currently being provided. Assume the shifting of the proposed Project's funding into Caltrain operations funding. To have the proper "color of money," swap the funds with a sales tax agency engaged in federally eligible projects. Please focus the EIR/EIS analysis on the air quality, climate change and transportation impacts. Do not expend effort on designing the infrastructure needed to deliver that level of service.

TDM/HOV Alternative

TRANSDEF is unaware of any serious effort ever having been made by Caltrans to operate its HOV lanes to encourage carpooling. As part of the EIR/EIS Existing Conditions analysis, include a discussion of the DOT evaluation of Highway 101 compliance with HOV lane minimum speed requirements.

TRANSDEF proposes that the EIR/EIS study a Transportation Demand Management/ HOV (TDM/HOV) Alternative that would encourage carpooling. This Alternative would include the following elements: rigorous and ongoing enforcement of HOV occupancy rules; HOV operational hours that cover all routinely congested time periods; and heavy promotion of smartphone apps that connect potential carpool partners in real time.

In place of the proposed newly constructed lanes, model the conversion of a mixed flow lane to create a continuous HOV lane throughout San Mateo, San Francisco and Santa Clara Counties. In addition, include the conversion of a mixed flow lane into HOV-2 for the entire length of I-280 in the three counties. This alternative will test the potential for a very large mode shift to carpooling and transit.

For purposes of studying this alternative, assume that the laws and regulations governing such conversions have been amended to permit it. It is only after the potential

benefits of conversions have been demonstrated that it will be possible to change the laws. (This project prerequisite would be identified in the Statement of Overriding Considerations as the responsibility of another agency, the Legislature.)

Conclusion

TRANSDEF recognizes the difficulties faced by Caltrans in entering an era that requires low-carbon lifestyles. We appreciate this opportunity to comment on the scope of environmental review for this project, and on its policy context. We would be pleased to assist in the preparation of the suggested alternatives.

Sincerely,

/s/ DAVID SCHONBRUNN

David Schonbrunn,
President
David@Schonbrunn.org

Attachments:
Excerpts from CTP 2040

CC:
Bijan Sartipi, Caltrans
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Excerpts from CTP 2040

The following key quotes from the CTP capture the essential points of the systemic change it seeks to catalyze. TRANSDEF is strongly supportive of this direction.

Page 8: Today's environmental objectives, in the era of climate change, are more challenging than they have been in the past. While the transportation system must continue to meet demand for reliable travel, it must do so while achieving quantifiable reductions in greenhouse gas (GHG) emissions. ...

While local, state and federal governments have poured billions of dollars into improving our roads and freeways to accommodate growth, congestion remains as vexing a problem in California today as it was decades ago. It is time to pursue new strategies to combat this problem.

Data tell us that we must look at solving congestion in a more holistic way. Simply adding more lanes and roads will not be enough. It must be coupled with new approaches that look less at specific projects and more at improving corridors; that look less at analyzing how many cars we can squeeze through a segment of highway and instead look at how we can reliably move people to their destinations. Highway and road investment alone will neither solve our congestion problems nor provide the mobility options Californians want.

Page 9: [AB 32 and SB 375] represent a shift in long-term planning away from simply a list of transportation projects and toward a strategy for sustainable growth.

Page 11: The CTP recommendations provide a framework and guiding principles for transportation decision makers at all levels of government and the private sector.

Page 25: Sustainable practices will help achieve the ambitious goal of stabilizing climate as well as meeting the requirements of the Federal Clean Air Act, but will require a fundamental, holistic transformation of the transportation system. ...

- Increase a shift to more sustainable transportation modes (mode shift) to reduce per capita vehicle miles traveled (VMT) ...
- Reduce the number of petroleum powered vehicles from California roads, and replace with zero- to near-zero equipment and modes of travel throughout the State

Page 27: ...and utilize a variety of adaptation strategies [to sea level rise], including managed retreat and other nature-based approaches ... To achieve adaptation strategies, SLR impacts must be addressed at all project planning stages, not just at final project delivery.

Page 28: ... CTP 2040, a guide to transportation decision-making in this era of climate change.

Page 39: This history lingers with us today, even as we seek to transition to a more sustainable, efficient and healthy transportation system. VMT remain high, SOV commuters remain too numerous, and the state's shift to using public transit has been too sluggish.

Page 42: ... congestion pricing and other intelligent transportation systems (ITS) technologies that can greatly increase existing highway capacity without adding lanes to California's SHS. ... We simply must be smarter in how we invest in roadway expansion.

Page 91: It is imperative that SOV trips are reduced or minimized to help achieve the GHG emissions reduction goals set forth by the State and federal government, as well as reducing congestion and limiting attrition of our existing infrastructure.

Page 100: We must collectively get more sophisticated at setting performance targets, assessing current condition and performance, identifying the most cost-effective investments, and developing LRPs for all types of infrastructures.

Page 114: Implement pricing strategies that better reflect the total cost for each mode, including health and environmental costs, while not economically over-burdening low-income system users. Support regional and local government planning for efficient land use that improve jobs-housing proximity.