

Transportation Solutions Defense and Education Fund

P.O. Box 151439 San Rafael, CA 94915 415-331-1982

March 28, 2016
By E-Mail to:
ctp2040@dot.ca.gov

Chris Ratekin, Chief, Office of State Planning
Division of Transportation Planning, MS-32
Department of Transportation
P.O. Box 942874
Sacramento, CA 94274

Re: Comments on the California Transportation Plan 2040 Final Review Draft

Dear Ms. Ratekin:

The Transportation Solutions Defense and Education Fund (TRANSDEF) is an environmental non-profit focused on reducing the impacts of transportation on climate change. Nearly a year ago, we submitted extensive comments (attached) on the draft *California Transportation Plan 2040*. This letter reflects our views on the Final Review Draft of the *California Transportation Plan 2040* (the CTP).

The CTP is a singular accomplishment

This CTP represents a profound shift in policy by the Department. TRANSDEF congratulates the leaders of the successful internal process that led to agency-wide buy-in for this shift. Achieving acceptance of this degree of change is an exceptional accomplishment.

TRANSDEF strongly agrees with the change in direction towards sustainability taken by the CTP. In appreciation, the appendix to this letter contains what we believe to be the most significant quotes from the CTP.

Chapter 4 needs to be a Call to Action

While the CTP succeeds in laying out the conceptual framework of a sustainable approach to transportation, it stops short of recommending the specific steps needed to achieve an 80% reduction in GHGs. The CTP lacks clear guidance from Caltrans on when highway expansion is still appropriate. Instead, there are at least a half-dozen repetitions of the disclaimer that the scenarios are not CTP recommendations. Perhaps this was all the consensus that could be achieved in the publication timeframe.

While that may have to be good enough for now, we strongly believe an effective response to the threat of climate change would require the Governor to issue a Call to

Action, tied to the CTP. We would have preferred for the recommendations in Chapter 4 to present a detailed set of programs to implement Scenario 3. We think the CTP needs to be the marching orders for how to proceed with the vast cultural change required. Here is an example of what TRANSDEF would like to see:

There are references to road pricing throughout the text, including in the recommendations: "Secure permanent, stable and sufficient transportation revenue from transportation users..." (p. 114.) This seems to be a coded call for a road user charge, a policy TRANSDEF strongly supports as central both to transportation funding and to fighting congestion. However, without specific recommendations on how to begin the implementation of pricing, this recommendation is too vague to serve as a call to action.

TRANSDEF proposes the addition of an Implementation chapter to the Plan, to deal proactively with the inevitable backlash. Detailed planning is needed for explaining this massive shift in state policy to the public and to transportation stakeholders.

Incompatible Policies

Equally serious is the existence of policies in the CTP that are incompatible with its new policy direction of sustainability. These policies are foxes in the hen house. These auto-oriented strategies, holdovers from the era of the drive alone lifestyle, include HOT lanes and autonomous vehicles.

HOT Lanes (Pages 16, 92, 93, 95, 111 & 114)

The sole purpose of HOT lanes, whether they are called HOT lanes or repackaged as managed lanes or Express Lanes, is to improve mobility for the drive-alone mode by adding capacity. This is precisely counterproductive to the CTP's sustainable approach:

It is imperative that SOV trips are reduced or minimized to help achieve the GHG emissions reduction goals ... as well as reducing congestion... (Page 83.)

Potential Game Changes to Achieve Success: Reducing Single Occupancy Vehicle Trips. (Page 87.)

HOT lanes--if they work--will obviously increase VMT/capita and GHG emissions, while reducing the incentive to carpool. (Note the so-called GHG reduction strategy in Table 13 making it more difficult to carpool, by increasing 2+ HOV occupancy to 3+).

The claim that HOT lanes can be used as demand management is sheer obfuscation. HOT lanes are to demand management as loosening one's belt is to dieting: they are a technique to increase capacity, not reduce demand. Please eliminate from the final text the references that call for HOT lanes as demand management tools to reduce per capita VMT and GHG emissions (Pages 93 & 111).

HOT lanes have an opportunity cost: they use funding that would otherwise implement change in the direction of sustainability. Caltrans needs a critical examination of its support for HOT lanes in light of its commitment to sustainability. The two cannot coexist.

Autonomous Vehicles (Pages 16, 24, 59, 90, 93, 95 & 114)

Page 24: The attached article "Self-Driving Cars: A Coming Congestion Disaster?" suggests that autonomous vehicles may well result in increased VMT, GHG emissions and congestion. The technology is a very expensive attempt to preserve the viability of the SOV lifestyle. These vehicles are regressive, rather than sustainable, transportation.

Page 59: The CTP accepts uncritically the assertion about autonomous vehicles that "Such technologies increase throughput on the existing transportation system." While that sentiment may appeal to planners struggling with congestion issues, upon closer examination, it is unlikely to be valid. Increased throughput would require very high levels of consumer adoption before autonomous operations could be enabled. Until that point, there will be no effect on throughput.

It is hard to imagine the transitional period, when say 10% of the vehicles are fully equipped. At what point would Caltrans make the investment in technology for a mixed flow lane on the highway, and how high would the penetration need to be before a lane is set aside for autonomous operation? These issues need careful study, but they appear to us to be insurmountable. Finally, there is a question of whether investment in technological support for SOVs is really consistent with the sustainable direction set by the CTP. TRANSDEF asserts they are inconsistent.

TRANSDEF believes the enthusiastic reception the transportation profession gives to innovative vehicle technologies is an escape from the depressingly obvious trends of ever-increasing VMT and congestion. We believe these technologies are an unhealthy distraction from the difficult cultural shift away from reliance on SOVs.

Brief Policy Comments

Page 16: Add distribution centers to the major freight facilities, including ports and hubs, that need multimodal last-mile connections.

Page 24: Add efficient land use, including TOD and SCS, to the list of GHG emissions reduction strategies in the first paragraph.

Page 32: TRANSDEF challenged ARB's approval of the first update to the Scoping Plan, after providing a scientific study demonstrating that HSR will increase GHGs on a net basis, rather than reduce them. The claim that the project "now has sufficient funds" in the second bullet on page 90 may not be true for long.

Page 52: In the statement "... capital costs for transit facilities in California have increased by an average of \$20 million per year...", the phrase "transit facilities" is so vague as to make the sentence meaningless.

Pages 56-57: To avoid confusion in this statement "... bus-only lanes are created specifically for this high-capacity transit system in order to bypass traffic congestion," please clarify that this refers to arterials, and not freeways.

Page 57: Please note that the very notion of "reducing congestion" is essentially a fantasy in conventional transportation policy, as explained by Anthony Downs' Triple

Convergence. Reducing congestion is only feasible with serious demand management, especially road pricing.

Page 70: There is great untapped potential available in demand management. For example, carpooling could be a significant factor, if Caltrans operated its HOV lanes to provide a consistent travel time advantage for carpools. That would require much broader hours of operation, heavy enforcement, and serious media promotion of ride-matching apps like Carma.

Page 81: "Improved land values" seems to be referring to making communities more attractive places to live, but it also refers to the economic value of land. When increasing land values, it is important that the public capture a significant portion of the increased value, to pay for the improvements that led to the increased value.

Page 83: Replace "Although the executive order refers to overall emissions as not specifically the transportation sector" with "Although the executive order refers to overall emissions and not specifically the transportation sector"

Page 87: Game changers that could be listed include road pricing and ride-matching apps for real-time carpooling.

Conclusion

TRANSDEF is very pleased with the Revised Final Draft Plan. It will be essential in steering transportation policy into a direction that is coherent with adopted State GHG emissions reduction goals. We thank Caltrans for its excellent work.

Sincerely,

/s/ DAVID SCHONBRUNN

David Schonbrunn,
President
David@Schonbrunn.org

Attachments

TRANSDEF's favorite quotes from the CTP

Self-Driving Cars: A Coming Congestion Disaster? (Human Transit)

TRANSDEF's comments on the Draft CTP

The Heart of the CTP

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 5: 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. Isn't it time for another way to combat this problem?

Pages 5-6: Highway and road investment alone will neither solve our congestion problems nor provide the mobility options Californians want.

Page 6: Their plans represent a shift in long-term planning away from simply a list of transportation projects and toward a strategy for sustainable growth.

Page 8: The CTP recommendations provide a framework and guiding principles for transportation decision makers at all levels of government and the private sector.

Page 20 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 23: ...and utilize a variety of adaptation strategies [to sea level rise], including managed retreat...

Page 23: To achieve adaptation strategies, SLR impacts must be addressed at all project planning stages, not just at final project delivery.

Page 24: CTP 2040, a guide to transportation decision-making in this era of climate change.

Page 34: 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 38: "congestion pricing" and "utilize pricing "

Page 39: We simply must be smarter in how we invest in roadway expansion.

Page 83: It is imperative that SOV trips are reduced or minimized to help achieve the GHG emissions reduction goals ... as well as reducing congestion...

Page 89: 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 asset types.

Page 103: 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.

Page 103: Support regional and local government planning for efficient land use that improve jobs-housing proximity.



Human Transit

The professional blog of public transit consultant Jarrett Walker.

Self-Driving Cars: A Coming Congestion Disaster?

Posted on November 25, 2015 in [General](#)

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We're starting to see professional reports echoing long-standing concerns about how driverless cars will affect our cities. [This new one from KPMG](#), in particular, is getting a [lot of press](#). It's actually a focus group study about the transport desires of different generations, but it confirms the thought experiments that [many of us have already been laying out](#) for a while.

Much depends on whether these cars are owned or spontaneously hired like taxis, Uber, and Lyft. A taxi model is definitely better in its congestion impacts, but that doesn't mean it will happen. The ownership model is closer to the status quo, and the status quo always has enormous power. Driverless taxis will not always be available on demand, especially in suburban and rural areas, so a legitimate fear of being stranded will make people in those areas prefer the security of having a car just for them. And of course, that's just the effect of *rational* concerns about relying on taxis. Less rational desires for car ownership, as an expression of identity or symbol of liberty, will also not vanish overnight.

This leads to a nightmare scenario that [University of Washington's Mark Hollenbeck](#) laid out in our recent [Seattle Times panel](#). Paraphrasing Mark: A suburban father rides his driverless car to work, maybe dropping his daughter off at school. But rather than park the car downtown, he simply tells it to drive back home to his house in the suburbs. During the day, it runs some other errands for his family. At 3 pm, it goes to the school to bring his daughter home or chauffeur her to after-school activities. Then it's time for it to drive back into the city to pick up Dad from work. But then, on a lark, Dad decides to go shopping at a downtown department store after work, so he tells his car to *just circle the block for an hour* while he shops, before finally hailing it to go home.

This is really easy and obvious behavior for a driverless car owner. It reduces the number of cars someone needs to own, and reduces pressure on inner city parking, but would cause an explosive growth in vehicle trips, and thus in congestion (not to mention emissions and other impacts). Just the commute behavior doubles car volumes, because the car now makes a two-way trip for each direction of the commute, instead of just one. And if everyone shopping downtown has a car circling the block waiting for them, well, that level of congestion will far exceed what's generated by cars circling for parking today. It could pretty well shut down the city.

This is the good old problem of *induced demand*, which is what happens when you make a resource available at an artificially low price – as we do with most urban roads today. *If you don't pay the true cost of something in money, you will pay it in time*, and that's what congestion is. (It's also why in the old Soviet Union, people spent hours waiting to buy bread: Soviet price controls made the price too low to compensate the suppliers, so there wasn't enough bread, so everyone waited in line. Congestion — waiting in line to use an underpriced road — works the same way.)

Pricing of some kind will be the solution, but we tend to do this only when things get really bad. Notice how bad congestion has to be *today* before solutions like toll lanes and transit lanes are finally accepted as necessary.

As always, the very worst scenario won't happen, but some really bad ones still can. If the economic functioning of downtown is too badly impaired by driverless cars circling the block waiting for their owners, the government *will* intervene to save the economy, as it always does, probably with some kind of downtown street pricing on the London or Singapore model. But this only happens when congestion threatens the *economy*. That's a very high bar. Long before that point, congestion will be bad enough to be ruining people's lives, wrecking the urban environment, strangling public transit, worsening climate change, and so on.

As always, the scary thing about congestion is how bad people (and therefore governments) allow it to get before they start making different choices to avoid it. *The level of congestion we (justifiably) complain about is much lower than the level that we choose to tolerate*, and this is the real reason for pessimism about how bad congestion could potentially get, if driverless car ownership — like cars today — are so massively underpriced even in the context of high urban demand.

Related Posts

Christchurch: A New Transit Hub

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Christchurch: A New Transit Hub >

36 Responses to *Self-Driving Cars: A Coming Congestion Disaster?*



AvgeekJoe November 25, 2015 at 2:46 pm #

REPLY ↩

I'm happy Jarrett you're stepping into this debate. Driverless cars powered by cheap energy are just going to compound congestion problems. Originally as a

Transportation Solutions Defense and Education Fund

P.O. Box 151439 San Rafael, CA 94915 415-331-1982

April 6, 2015
By E-Mail to:
ctp2040@dot.ca.gov

Gabriel Corley, Project Manager
Division of Planning, MS-32
Department of Transportation
P.O. Box 942874
Sacramento, CA 94274

Re: Overview Comments on the California Transportation Plan 2040

Dear Mr. Corley:

The Transportation Solutions Defense and Education Fund (TRANSDEF) is an environmental non-profit focused on reducing the impacts of transportation on climate change. Our two decades of advocacy for the regional planning of transportation, land use and air quality, along with our work on Caltrans' *Smart Mobility* and the AB 32 and SB 375 updates of the CTC's *Regional Transportation Plan Guidelines*, have prepared us well to comment on the draft *California Transportation Plan 2040* (the Plan). This letter is intended to convey our general comments on the Plan, with more detailed comments coming later.

TRANSDEF commends the Plan as the much-needed first step in transforming Caltrans into a 21st Century agency. The *SSTI Assessment and Recommendations Report* (2014) observed that "... Caltrans today is significantly out of step with best practice in the transportation field and with the state of California's policy expectations." The Plan is the first Caltrans policy document we are aware of since the SSTI report to correct that mismatch. The Plan is perfectly aligned with Caltrans' new goal #3:

Make long-lasting smart mobility decisions that improve the environment, support a vibrant economy, and build communities, not sprawl.

It is an exceptionally comprehensive work, taking more factors into consideration than is typically seen in such products. It even seriously considers the long-term implications of the millennial generation's significantly different travel habits. Best of all, it lays out an actual path towards achieving the 80% reduction in GHG emissions called for in SB 391 (2009).

Culture Change in the Transportation Field

TRANSDEF is exceedingly pleased with the Plan's focus on VMT/GHG reduction strategies. We have long believed that transportation planning in the Age of Climate Change must be directed towards producing mode shift away from drive-alone, using the tools of pricing and convenient transportation alternatives. [We urge Caltrans to update the CTP 2040 Fact Sheet to highlight VMT reduction and mode shift as key.]

The Plan's most striking component is its recognition that achievement of the mandated 80% reduction in GHG emissions by 2050 will require ending Caltrans' historic role as highway builder: "Road capacity enhancing strategies were rejected due to concerns these would ultimately increase VMT." (p. 90)

This change in focus--away from the ever-increasing highway capacity of past plans--is an extraordinarily profound transformation. Transportation planning in California has always assumed drive-alone to be the default mode choice. Highways were designed to provide enough capacity for most users to drive alone. Climate change and congestion have finally forced a reconsideration of this conventional wisdom, as transportation networks cannot be expanded further in urban areas to adequately support the drive-alone mode during peak periods. Instead of the individual vehicle, the building blocks of the networks of the future will be clusters of people.

This Plan changes the paradigm to one where the State is instead funding system expansion of travel in groups, whether via carpool, transit or active modes. Despite the individualism that has long dominated the culture, the Plan gently hints that we are all in this together. California's urban areas will become more like Europe and Japan, with their prominent transit and active modes.

Ending highway widening will be a major shock to the contractor/local government/CMA/MPO/CTC/Legislature ecosystem. While Caltrans will still have the considerable responsibility of maintaining its aging facilities, the political attention that accompanies new highway projects will necessarily shift to transit projects. The State's capacity expansion program will maintain transportation construction spending levels, but will build transit instead. This may require new skill sets and possibly new vocabularies. This change to the status quo will inevitably encounter resistance and backlash.

TRANSDEF proposes the addition of an Implementation chapter to the Plan, to deal proactively with that backlash. Detailed planning is needed for explaining this massive shift in state policy to the public and to transportation stakeholders.

It's often been said in the advocacy community that climate change requires a mobilization on the scale of the response to the attack on Pearl Harbor. During World War II, all production was shifted to the war effort. Rationing and other wartime requirements resulted in significant shifts in how people lived. Californians have not yet been asked to mobilize to support a reduction in GHGs. They need leaders that can explain why our lives need to shift now, and what that will entail. The political will for climate-oriented policies will require a learning process and motivation-building.

In the optimal roll-out scenario, Governor Brown would take the lead in promoting the Plan, as it offers the specifics on how to accomplish the goals he set in his Executive Order B-16-12.

The degree of upset and controversy that will come to transportation culture requires individuals that are personally committed to leading on climate change. It is critical that Legislators personally endorse the Plan by passing a bill that approves the direction set in the Plan as fulfilling the requirements of SB 391 (2009). It will be necessary to enact structural changes--perhaps including a Constitutional Amendment--to allow highway funding to be used for transit construction and operations.

Change is likely to be especially difficult at the CMAs and at the CTC. These bodies have very conservative practices, by which projects remain on their lists for decades. Now that state policy is changing to no longer support road capacity expansion, project lists will need to be reviewed and reoriented. The CTC's *Statewide Transportation Systems Needs Assessment* (2011) included approximately \$103 billion for highway and local road system expansion, which is roughly 39% of the total infrastructure need. That is a very large sum to reprogram, especially since transportation project selection typically involves interest-trading. Breaking long-standing promises is likely to result in bitter fights. However, because the no-capacity-expansion policy is to be applied across-the-board, no one individual project can raise the "Why single me out?" defense.

Transportation leaders will need to shift their focus to improving mobility without increasing VMT. (Recent countywide transportation plans in the Bay Area show a 35% increase in VMT between now and 2040. These trends must be reversed.) Leaders of general-purpose governments will need to shift their focus to planning for development that does not increase VMT. This policy shift will greatly expand the need for planning funds, and for planners with appropriate recent multimodal training (or retraining).

HOT Lanes

TRANSDEF has only one policy disagreement with the Plan. We have consistently opposed HOT lanes, whether they are called HOT lanes or repackaged as managed lanes or Express Lanes. The sole purpose for such lanes is to facilitate the drive-alone mode). Over-dependence on the drive-alone mode is at the heart of the congestion crisis faced in California's metropolitan areas. HOT lanes were obviously invented to forestall the equally obvious need to change driver behavior--in a shortsighted attempt to push the discomfort of culture change further down the road.

To provide a seemingly legitimate policy rationale, HOT lanes have been promoted as a baby-step towards road pricing. However, climate change required policy implementation a decade ago: there is no longer any time to wait to "ease" drivers into mileage charges. If the State is to be serious about GHG emissions reductions, road pricing is needed now. TRANSDEF is partial to the revenue-neutral form of road pricing, where gas taxes or sales taxes are reduced as road pricing is implemented. The added benefit is that road pricing is the single most effective method of reducing congestion. To

ensure that drivers in urban areas have a reasonable choice, pricing must be phased in, when new convenient transit alternatives become available.

The Plan calls for the State to be doing everything possible to encourage mode shift. We believe that HOT lanes send a conflicting message to the public that "CMAs and MPOs are helping you continue to drive alone." Caltrans should oppose the authorization and funding of HOT lanes.

Conclusion

TRANSDEF is extremely pleased with the draft Plan. It will be essential in steering transportation policy into a direction that is coherent with adopted State GHG emissions reduction goals. We thank Caltrans for its excellent work. We will later be issuing a second letter, with detailed comments on the Plan.

Sincerely,

/s/ DAVID SCHONBRUNN

David Schonbrunn,
President
David@Schonbrunn.org

Transportation Solutions Defense and Education Fund

P.O. Box 151439 San Rafael, CA 94915 415-331-1982

April 17, 2015
By E-Mail to:
ctp2040@dot.ca.gov

Gabriel Corley, Project Manager
Division of Planning, MS-32
Department of Transportation
P.O. Box 942874
Sacramento, CA 94274

Re: Detailed Comments on the California Transportation Plan 2040

Dear Mr. Corley:

The Transportation Solutions Defense and Education Fund (TRANSDEF) is an environmental non-profit focused on reducing the impacts of transportation on climate change. Having already submitted overview comments on the draft *California Transportation Plan 2040* (the Plan), this letter is intended to convey our detailed comments.

We especially appreciate the inclusion of the following critically important yet typically ignored themes:

p. 23: Millennials' travel habits

p. 58: accessibility

p. 58: a cooperative, continuing and comprehensive planning process

p. 69: locally owned businesses recirculate money within the community

p. 74: Livable and Healthy Communities and Promote Social Equity

p. 77: Integrate health and social equity in transportation planning and decision-making.

p. 77: Design and implement public participation strategies to include those traditionally underrepresented and underserved.

High-Speed Rail

Because the CHSRA has strong support from the Governor, we have no expectation of influencing the text of the CTP. However, the team should be aware that TRANSDEF is litigating ARB's inclusion of the current HSR project in the Scoping Plan as a GHG emissions reduction measure, as well as the Legislature's subsequent appropriation of GHG auction proceeds for HSR.

We intend to show that, based on the record before the ARB, the project will be a net GHG generator for at least the next 20-30 years, a critical period under AB 32 to

achieve GHG emissions reductions. The CO₂ emissions resulting from the production of the cement required for constructing the project's massive civil works were totally ignored in the ARB analysis. These emissions will overwhelm any potential GHG reductions due to passengers shifting from auto mode to HSR for at least the first 20-30 years of operations. [see *High-speed rail with emerging automobiles and aircraft can reduce environmental impacts in California's future*, attached.]

TRANSDEF has been involved in commenting on and litigating against the HSR project since 2004. We litigate to stop it because we believe that, in its current configuration, the inevitable massive failure of this project will destroy public support for passenger rail for generations to come. [see http://transdef.org/HSR/Private_Capital.html]

HOV Lanes

It is an open secret that HOV lanes were Caltrans' strategy to build more highway lanes when the Clean Air Act prohibited new mixed-flow lanes. They covertly expand highway capacity for drive-alones by draining off HOVs from mixed-flow lanes. Once built, however, they have been subject to benign neglect--Caltrans has shown no interest in optimizing the carpooling mode share. This is clear because of the following:

- HOV lanes are not consistently operational during all congested periods, thus failing to provide the incentive of a consistent travel-time advantage to carpools.
- HOV lanes are not enforced, allowing them to become overly congested with drive-alone violators.
- Carpooling is not aggressively promoted.

TRANSDEF urges Caltrans to commit to increasing average vehicle occupancy by maximizing HOV use. HOV facilities are a critical part of a Smart Mobility future. Real-time ride-matching services like Carma could make carpooling convenient for large numbers of people. The mode shift would be significant if adequate incentives were offered, the most important being a significant travel-time advantage resulting from free-flowing HOV lanes on congested highways.

The first step should be fixing the operational issues identified above: 1). Make the HOV lanes operational whenever a highway is routinely congested; 2). Put significant resources into publicizing and enforcing the HOV occupancy restrictions; 3) Develop technical means to monitor occupancy, including infrared video cameras mounted on structures and poles; 4). Enforce the prohibition on overly dark tinted windows (which make enforcement difficult); and 5). Aggressively promote carpooling and real-time ride-matching services like Carma.

We suggest the sponsoring of federal and state legislation to authorize take-a-lane HOV conversions that becomes operative when mode shift in a corridor is successful enough to congest the existing HOV lane (with standards for on-going enforcement of violators).

Operations Focus

It is critical for its political well-being that Caltrans be seen by the general public as involved in and caring about everyday traffic conditions. We suggest the creation of corridor-based websites that provide the real-time data that is already being received by Caltrans' operations centers, along with a listing of the recurring congestion sites. Each listed congested area should have brief analysis of the cause of the problem and proposed solutions, especially ones that are commonsensical and low-cost (signage and re-striping, for example). CMAs should be active partners in creating and maintaining these sites.

This would indicate to members of the public that Caltrans is aware of the problems they experience each day. Right now, it appears that it is no one's job at Caltrans to be aware of current non-incident-based conditions. Caltrans needs to expand its presence beyond building and maintaining highways. It needs to actively operate them.

Modeling

The modeling is based on the five modal plans and the SCSs. (p. 86.) Please provide a table of the model inputs, listing both the aggregate increases in absolute numbers and in percentages, relative to existing conditions, for Alternatives 1 and 2:

- lane-miles for each roadway type (The 2013 ITSP (p. 11) shows 2131 lane-miles of Focus Route improvements either completed, planned or under construction.)
- seat-miles for aviation
- train-miles for intercity rail
- revenue-hours of transit service

If another metric is more readily available, please substitute that. These inputs are needed to evaluate the reasonableness of model outputs. The absence of this information in the draft Plan makes it impossible to verify that any of the alternatives modeled are consistent with the policy framework set by the Plan. The draft Plan appears to have internal conflict between its policies and the direction of SCSs and modal plans. This would obviously make attaining the Plan goals far more difficult.

If, for example, the model input table we request indicates a substantial increase in highway lane-miles, we request a model alternative be constructed that includes no new lane-miles. It is critical that the model inputs of at least one alternative be fully consistent with the policies of the Plan. It is important that Californians be able to make informed choices about the State's response to the challenge of climate change.

Please provide a fuller description of how the VISION model deals with new and unproven technologies. What degree of confidence can be given to the feasibility of alternatives which are based on mere assumptions of future performance?

Policy Suggestions (keyed to Plan page number)

p. 37: The study by Todd Litman (attached) establishes the cost-disadvantages of sprawl.

p. 45: Because local sources make up such a high percentage of overall transportation funding, achievement of Plan goals will require an enforceable mechanism to align local expenditure plans to State goals and policies. Counties are currently going forward with sales tax proposals based on plans that show 35% increases in VMT. This must stop if the Plan is to succeed.

pp. 55, 94 & 121: It is unclear how the CTP can call for road user charges and still support HOT lanes. In a scenario in which all vehicles are paying road charges, it would be poor public policy to continue to give special treatment to solo drivers--they are the cause of congestion. Helping them get out of congestion while they continue to drive alone is a distraction from the task of increasing average vehicle occupancies. HOT lanes will become a mere transitional step once the implementation of the Plan's call for the pricing of entire roadways is underway. For long-term planning purposes, they are a duplicative distraction. The Plan should be emphasizing the need for pricing, and for the cancellation of HOT projects.

p. 59: While transportation professionals would like to use performance measures to identify high-performance cost-effective investments, the public interest is rarely the priority in project selection, design and execution. The CTP needs an element calling out the problems with transportation projects. G3 might be the right place. See the following attachments:

- *Why is it so expensive to build a bridge in America?*
- *American transit activists need to speak up about exorbitant construction costs*
- *Reforms Key to Controlling Costs on Public Works Megaprojects, Say Experts*
- *What You Should Know About Megaprojects and Why: An Overview*

p. 61: It is far too late for CSMP-recommended improvements and strategies to preserve the viability of the drive-alone mode. The time has come to formally abandon support for peak-period drive-alone, and throw all the resources of the State into alternatives.

p. 64: Add "unbundled parking and parking cashout for all employees receiving free parking, regional impact mitigation fees, and transit passes that are included in rent or homeowners' association dues" to P1-S3. The latter can be mitigations for lowered parking ratios, and serve as sunk costs of transportation, thus easing entry to transit.

p. 66: Sea level rise is a far more important issue for transportation than just public access. Critical facilities will be permanently underwater unless action is taken. [See *Challenges and Opportunities for Integrating Climate Adaptation Efforts across State, Regional, and Local Transportation Agencies*, attached.]

p. 67: Another policy is needed: "Develop funding methods adequate to the financial challenges."

p. 69: The politicization of transportation project selection diverts resources away from more socially beneficial projects. TRANSDEF observes that the current HSR project has an adverse effect on the State's financial ability to improve its infrastructure, while having only a small, distantly beneficial effect on statewide travel.

p. 77: Stress that parking reform is the hidden core of smart growth in P2-S5. Stress reduced vehicle trip generation. Mention TDM as mitigation for reduced parking ratios.

p. 78: Add VMT/capita and mode split as PMs. They should be captured both as projections during the project approval phase, and as measured performance.

p. 78: To be able to gain credibility on environmental issues, some kind of acknowledgement of the past is needed. After "The CTP 2040 is anchored with the 3 E's of sustainable planning, including "environment."" insert: "It announces a sharp break from a long history of insensitivity to the environment."

p. 86: Are the modal plans fully funded? What is the total cost of the CTP?

p. 90: Both pricing and transportation alternatives are also strategies for mode shift, so mode shift itself cannot be a category at the same hierarchical level as the other two. A better approach would be to place all the strategies that had been under Mode Shift into the Transportation Alternatives group. See also p. 146. [This note is duplicated in the Editorial letter.]

p. 93: When discussing percentages, it is critical to always be clear as to whether one is expressing a change in percentages, or percentage points. The "net five percent increase in carsharing..." failed to be clear. A five percent increase would be unimpressive in 2040, while a five-point increase in mode share would be meaningful.

p. 93: Given the huge effort and expense involved in implementing the transit service improvements, the resulting 6% drop in statewide VMT is disappointing. As disclosed on p. 162, the modeling has not been adequately validated. We wonder if the model is able to meaningfully address a scenario with doubled transit service levels and speeds, as this is so far outside the range of existing data. In short, we have low confidence in that model output.

p. 93: Please confirm that the doubling of transit speeds is of average speeds and not top speeds. If a doubling of speeds is feasible, it will require heavy enforcement of transit preferences over autos in urban areas.

p. 94: A doubling of bike and ped mode shares is unimpressive over a 35-year timeframe, as the bases were so low. The resulting shares are an order of magnitude smaller than Europe's non-motorized mode shares.

pp. 94 & 124: TRANSDEF opposes increasing the occupancy requirements for HOVs. The benefits are modest. Please see our suggestions in the HOV Lanes section, above.

We suspect that if these suggestions were implemented, a significant increase in person-throughput would result. We strongly support converting mixed-flow lanes into HOV lanes, when existing HOV lanes are congested. Please note that this will require both federal and state legislation.

p. 96: The results in Table 18 are counter-intuitive, making them suspect. Even though they reflect far-distant 2040, the results should still be reasonable. The low-income group is surprisingly price insensitive. The high-income group had higher HOV mode shares than the low-income group. The HOV mode shares were much higher than would be expected for that group. We doubt the reasonableness of the modeling.

p. 97: Table 19 is impossible to verify, as the calculations aren't explained. These numbers seem to be for a percentage change, rather than an arithmetic shift in percentage points.

p. 101: The Alternative 1 increase VHT by 2040 is so large that it raises questions about the validity of the model. Because congestion is already very high in the State, that large an increase in VHT should have produced a much larger impact on % Congested. Small increases in traffic where the V/C is in the 90+ percent create big increases in VHD. Yet that didn't happen here. These results are anomalous.

p. 105: Because the Plan's transportation strategies will affect land use patterns, resulting in substantial economic effects, it is troubling that "Broader impacts such as land use, ... are not reflected in this analysis." Please make it explicit that TREDIS is not an urban model with land use linked to transportation improvements. Please provide an indication of how the model outputs would have been different, had the transportation improvements been fed back to the land use model to reflect the advantages future development made of transit investments rather than highway investments.

p. 108: "The CTP 2040 is consistent with the policies and strategies from the Caltrans five modal plans ..." The 2013 ITSP contains a long list of highway/expressway widenings. Caltrans has arrived at a moment of policy incongruence: these projects are not consistent with the policy direction of CTP 2040--even though the ITSP referred on p. 45 to the legislative mandate of SB 391. If the 2015 ITSP Update is adopted consistent with the sample project list, neither the CTP's goals nor the legislative mandates can be achieved. How will Caltrans undertake the profound changes called for by the Plan?

p. 109: PTC is now being installed, with a statutory deadline of December 2015. Is the desired improvement the installation of PTC, or are there features needed that are not currently being provided? If so, identify them.

p. 112: The current Caltrain electrification project is a perfect example of what not to do in implementing the "Support electrification" bullet. The project will do little to increase ridership while obstructing the funding of the Downtown Extension, which would substantially increase ridership. TRANSDEF is convinced that increasing ridership is far more important for GHG reduction than electrification of motive power. Worse yet, the

deal Caltrain made with HSR for funding will prevent Caltrain from increasing its number of trains. TRANSDEF is currently challenging the electrification EIR.

p. 112: Please note the HSR section above. We contend that HSR harms the environment by diverting cap and trade funds away from projects that would decrease GHGs to one that increases GHGs.

p. 113: While planners call for "Prioritiz[ing] funding toward alternatives that enhance efficient and affordable mobility" the real world operates exactly opposite to that. In Sacramento, the passenger platforms were moved far away from Amtrak station, due to the political clout of an arena proposal. Efficiency and mobility for Amtrak passengers were grievously harmed by this very expensive project, funded by the public. The San Francisco Mayor's political deal with a power broker resulted in the approval of the Central Subway, Muni's most expensive capital project, which will disconnect a major light rail line from the Muni Metro Market Street tunnel while providing minimal travel-time benefits to its supposed beneficiaries. Please also see comments above re: p. 59.

p. 113: Is "Create a transportation State sales tax component" meant to indicate something besides the already existing TDA?

p. 113: Transit operators need to receive operating funds from tax increment and other financing districts. As station areas densify, they need funding to support the increased travel demand.

p. 114: Include the CEQA Guidelines among the documents that need to incorporate climate change resiliency.

p. 114: It will require tools from the State, including a possible Constitutional Amendment limiting the applicability of takings law, if jurisdictions are to be able to successfully deny permits to develop land that is subject to eventual inundation.

p. 120: Relieving traffic congestion before it occurs will remain a fantasy until the privileged access to funding to support the drive-alone mode is formally ended.

p. 124: "Create legislation to implement an aggressive mix of VMT reduction strategies ..." should be a Short-Range recommendation, as it is needed immediately, rather than Mid-Range.

p. 125: TRANSDEF opposes major State investment in hydrogen infrastructure. We believe that the availability of an existing electrical distribution network makes it unreasonable to fund a parallel distribution system for hydrogen. With recent improvements in batteries, EVs are becoming less expensive and more convenient. The electrical grid should be the recipient of any State distribution infrastructure funding.

p. 147: The proposed 50% fare discount would convert HSR into a state-funded transit system. HSR was sold to the public as a self-supporting business. While we certainly

support lowering transit fares to increase ridership and social equity, doing this for HSR does not appear to be feasible. Litigation currently in progress asks the court to determine that the current CHSRA project will not be able to operate without a subsidy, and therefore cannot receive Prop. 1A funds.

p. 162: While it is helpful to note that the transportation sector may need to achieve greater than an 80% reduction to accomplish an 80% statewide reduction, it would be appropriate to add that scientific analyses since 2005 suggest that an 80% reduction will be insufficient, and reductions are needed much sooner.

Conclusion

TRANSDEF is pleased with the draft Plan. It will be essential in steering transportation policy into a direction that is coherent with adopted State GHG emissions reduction goals. We thank Caltrans for its excellent work and offer our assistance in making the policy shift called for by the Plan a reality.

Sincerely,

/s/ DAVID SCHONBRUNN

David Schonbrunn,
President
David@Schonbrunn.org

Attachments

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