

COMMENTS ON A STRATEGIC INVESTMENT IN TRANSPORTATION FOR THE OREGON TRANSPORTATION
COMMISSION

This document is a short summary of my personal concerns about the current iteration of the Oregon Transportation Strategic Investment Package and my resulting suggestions for consideration.

Reduce traffic, decrease travel time

Expanding driving infrastructure:

Adding capacity is expensive and does nothing to reduce traffic number or congestion due to the induced demand effect.¹ California DOT has openly admitted that they experienced the same traffic level after significantly expanding their highway system. Adding 10% more road capacity lead to 3-6% more vehicle miles in the near term and 6-10% more over long term.² Expanding infrastructure that will support personal vehicles will result in an increase of drivers, pollution, congestion, and road delays. Growing population does not necessarily mean more traffic,³ wider roads, however, do.^{4,5} Building wider roads to address too many drivers is like buying bigger pants to solve an obesity problem. Addressing our growing population and traffic congestion by expanding roads will cause the very problem ODOT would be attempting to resolve. There will be more vehicles on the road creating more pollution with the same density of traffic, if not more, thanks to this infrastructure package.

Expanding public transportation infrastructure

Increasing infrastructure investment in competing modes of transportation is the most salient investment option and supports diverse traveling options for users. Any improvement in driving conditions will attract drivers from other times, other routes, and other modes of travel. Fixing one problem of a congested system through private driving focused infrastructure expansion simply moves the problem to the next segment. If you build it, they will come also works in reverse. If you take away personal vehicle driving lanes for public transportation, HOV, and bicycles, less people will drive. This reduces congestion, while increasing transportation density, efficiency, and resulting in an overall reduction in emissions.

Effective means of reducing traffic:

- Congestion pricing is a potential option that has been shown to reduce peak traffic
 - This option can be politically difficult
- Raising the cost of owning a vehicle through increased sales tax and gas tax has been shown to reduce vehicle use as has significantly increasing the cost of parking
 - This approach has been criticized as affecting the poorest the most

As we incentivize cars through private driving infrastructure packages, such as this one, we further increase the demand for parking. Parking is an enormous waste of space for the city. If parking lots and street parking were replaced by apartments and raised bike lanes, we would increase the usable space

¹ http://www.dot.ca.gov/newtech/researchreports/reports/2015/10-12-2015-NCST_Brief_InducedTravel_CS6_v3.pdf

² <https://www.citylab.com/transportation/2015/11/californias-dot-admits-that-more-roads-mean-more-traffic/415245/>

³ <http://www.wweek.com/news/state/2017/05/14/oregons-proposed-8-2-billion-transportation-package-includes-some-shaky-assumptions-about-traffic-jams/>

⁴ <http://www.npr.org/2011/07/09/137708751/more-roads-may-pave-way-to-more-traffic>

⁵ <https://www.wired.com/2014/06/wuwt-traffic-induced-demand/>

COMMENTS ON A STRATEGIC INVESTMENT IN TRANSPORTATION FOR THE OREGON TRANSPORTATION
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of downtown, while increasing housing and transportation density. Living near work and downtown further reduces the need for transport.

- Staggering work hours to spread out travel times reduces peak congestion
- Ease HOV transportation to make it faster and more desirable than personal vehicles
 - Synchronize lights to public transport, pedestrians, and bicyclists
 - Bus only, and HOV lanes across bridges

Repair aging infrastructure

- Seismic preparedness - our infrastructure, especially bridges and raised highways, are in significant need of hardening against our inevitable earthquake⁶
- Crumbling supports and our pot-holed streets need repair
- Build a city vertically, instead of sprawling out, reducing need for vehicles, transport, and the resources consumed per capita

Modernize transportation

- Mobile application for public transportation that rivals Copenhagen's
- Update aging buses, create small buses for lower use routes

Reduce transportation injuries and deaths by reducing vehicles

- Reducing personal vehicle use will reduce injuries and deaths of Oregon citizens
 - Supporting Vision 0 by reducing our averaged 33 traffic deaths per year⁷
- Motor vehicle crashes are leading cause of death for US teens (20%)⁸
- Largest vehicle death rate in a decade occurred last year (6% increase)⁹
- Increase public health through increased walking and biking
- Speed reduction in downtown areas makes roads safer for pedestrians, bicyclists, and further incentivizes public transportation
- Synchronize red-lights with walkers and cyclers in mind, not cars, to reduce accidents

Enable economic growth

- Population and economy expanded dramatically in Oregon as we drove fewer miles Economic expansion is not hindered by traffic congestion¹⁰

⁶ http://www.oregonlive.com/environment/index.ssf/2012/08/major_earthquake_in_oregon_cou.html

⁷ <https://www.portlandoregon.gov/transportation/71730>

⁸ Centers for Disease Control and Prevention. Web-based Injury Statistics Query and Reporting System (WISQARS) [Online]. (2015). National Center for Injury Prevention and Control, Centers for Disease Control and Prevention (producer). [Cited 2017 Apr 11].

⁹ <http://www.nsc.org/NewsDocuments/2017/12-month-estimates.pdf>

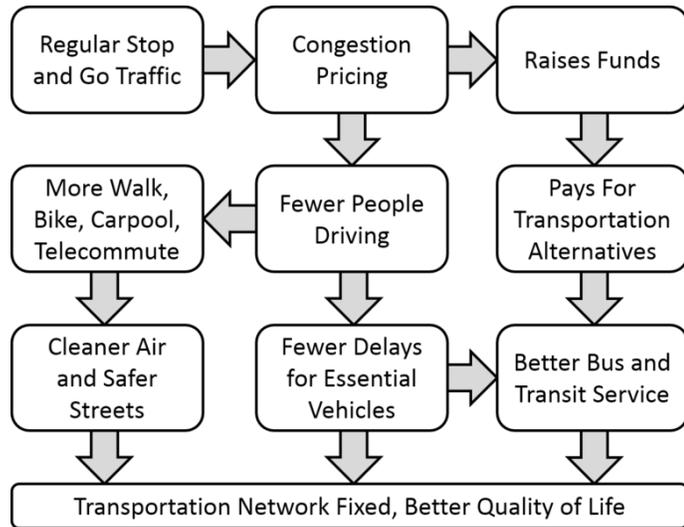
¹⁰ <http://www.wweek.com/news/state/2017/05/14/oregons-proposed-8-2-billion-transportation-package-includes-some-shaky-assumptions-about-traffic-jams/>

COMMENTS ON A STRATEGIC INVESTMENT IN TRANSPORTATION FOR THE OREGON TRANSPORTATION
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- Biking and walking areas increase business^{11,12}

A few short examples of successful infrastructure packages to reduce traffic:

Stockholm is an example of successful road pricing. They charged motorists for entering the central city on weekdays between 0630 and 1830 with exemptions for buses, taxis, eco cars, and emergency vehicles. Peak traffic fell by 25% during the first two years, removing 1 million vehicles from the road per day. Daily toll revenues reached 300,000/day. There are still 20% fewer cars, six years later.



Copenhagen integrated public transport by bringing together transport operators creating an integrated ticketing system through smart phone with all transport options represented. A bus priority light signal system through GPS and radio enables short public transport travel time. They have seen an 83% drop in CO2 emissions with 63% of work journeys made by bicycle thanks in part due to the integrated cycling facilities.

Having large, protected bike lanes has increased traffic flow in NYC by creating space for left turn pockets for vehicles and reducing overall traffic through encouraging bicycles.

Other inspiring ideas may be found in Jim Howell's proposal to ODOT¹³.

Thank you for reading my concerns and suggestions.

Have an excellent day!

-Aaron R. Ponder, Electrical Engineer

¹¹ <https://www.citylab.com/transportation/2012/12/cyclists-and-pedestrians-can-end-spending-more-each-month-drivers/4066/>

¹² https://wiki.cecs.pdx.edu/pub/ItsWeb/TrbConferences/Clifton_TRB2013_ConsumerBehaviorAndTravelChoices_submitted.pdf

¹³ <http://www.wweek.com/news/2017/05/24/portlands-fantasy-transit-map-what-if-we-spent-billions-to-fix-the-morning-commute-with-something-other-than-cars/>