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I'm sure you have heard the expression, "if you build it they will come." Just a fantasy from an old Hollywood film, right? Well in the case of roads, bridges and highways – it's all too true. The argument that new roads will relieve congestion has been refuted time and time again. New road capacity induces more traffic and congestion stays pretty much the same. The attached Policy Brief from the National Center for Sustainable Transportation at the University of California-Davis that was posted on the California Department of Transportation website reviews research that confirms this.

I coordinate 350 Salem OR, the local chapter of climate change action organization 350.org. Transportation is the largest source of climate change emissions in Oregon. So a project that will increase motor vehicle traffic is disturbing and foolhardy. At every level of human society – from the local to the global - we hear the call to reduce greenhouse gas emissions. Yet here in Salem you're looking at a proposal to waste hundreds of millions of dollars on a bridge that will generate more traffic, more emissions, and more disruptive climate change without solving the problem you set out to solve. Relieving congestion is a matter of well designed traffic patterns and reducing traffic is a matter of urban planning that reduces the need to use a car for the activities of everyday life. The Salem River Crossing will only enable more sprawling subdivisions out on the urban fringe, more strip malls, and more places that no one can reach without a car.

Do you all care about reducing greenhouse gas emissions? Do you care about the looming threat of climate change or even believe it's a reality? If you do you'll stop wasting time, money and human resources on planning for this bridge.

**Attached**

***Increasing Highway Capacity Unlikely to Relieve Traffic* Congestion** October 2015 Policy Brief prepared by National Center for Sustainable Transportation at University of California-Davis posted on the California Department of Transportation website:
http://www.dot.ca.gov/newtech/researchreports/reports/2015/10-12-2015-NCST_Brief_InducedTravel_CS6_v3.pdf

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Some other studies:

***Generated Traffic and Induced Travel Implications for Transport Planning***
11 May 2016 Todd Litman Victoria Transport Policy Institute
http://www.vtpi.org/gentraf.pdf

**Abstract** Traffic congestion tends to maintain equilibrium. Congestion reaches a point at which it constrains further growth in peak-period trips. If road capacity increases, the number of peak-period trips also increases until congestion again limits further traffic growth. The additional travel is called "generated traffic." Generated traffic consists of diverted traffic (trips shifted in time, route and destination), and induced vehicle travel (shifts from other modes, longer trips and new vehicle trips). Research indicates that generated traffic often fills a significant portion of capacity added to congested urban road. Generated traffic has three implications for transport planning. First, it reduces the congestion reduction benefits of road capacity expansion. Second, it increases many external costs. Third, it provides relatively small user benefits because it consists of vehicle travel that consumers are most willing to forego when their costs increase. It is important to account for these factors in analysis.

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***STUDY: MORE ROADS = MORE TRAFFIC***
Seattle-based Sightline Institute by Clark Williams-Derry December 14, 2011
http://www.sightline.org/2011/12/14/study-more-roads-more-traffic/
Reporting on a 2009 University of Toronto Working Paper by Gilles Duranton and Matthew A. Turner: ***The Fundamental Law of Road Congestion: Evidence from US cities***
Sightline's Williams-Derry sums up the paper's conclusion: **"...**the authors find that building new urban highways simply increases traffic volumes." Williams-Derry finds two elements of the paper particularly noteworthy: 1) "...the welfare gains for drivers of building more highways are well below the costs of building these highways" and 2) new capacity induces "...an increase in driving by current residents; an increase in transportation intensive production activity; and an inflow of new residents.

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**Oregon Greenhouse Gas In-Boundary Inventory Data**
Oregon Department of Environmental Quality
Transportation Oregon's largest source of greenhouse gas emissions.
http://www.oregon.gov/DEQ/AQ/Pages/Greenhouse-Gas-Inventory-Report.aspx

National Center for Sustainable Transportation

# Increasing Highway Capacity Unlikely to Relieve Traffic Congestion

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POLICY BRIEF

## Issue

Reducing traffic congestion is often proposed as a solution for improving fuel efficiency and reducing greenhouse gas (GHG) emissions. Traffic congestion has traditionally been addressed by adding additional roadway capacity via constructing entirely new roadways, adding additional lanes to existing roadways, or upgrading existing highways to controlled-access freeways. Numerous studies have examined the effectiveness of this approach and consistently show that adding capacity to roadways fails to alleviate congestion for long because it actually increases vehicle miles traveled (VMT).

An increase in VMT attributable to increases in roadway capacity where congestion is present is called "induced travel". The basic economic principles of supply and demand explain this phenomenon: adding capacity decreases travel time, in effect lowering the "price" of driving; and when prices go down, the quantity of driving goes up.[1] Induced travel counteracts the effectiveness of capacity expansion as a strategy for alleviating traffic congestion and offsets in part or in whole reductions in GHG emissions that would result from reduced congestion.

## Key Research Findings

**The quality of the evidence linking highway capacity expansion to increased VMT is high.** All studies reviewed used time-series data and sophisticated econometric techniques to estimate the effect of increased capacity on congestion and VMT. All studies also controlled for other factors that might also affect VMT, including population growth, increases in income, other demographic factors, and changes in transit service.[2]

**Increased roadway capacity induces additional VMT in the short-run and even more VMT in the long-run.** A capacity expansion of 10% is likely to increase VMT by 3% to 6% in the short-run and 6% to 10% in the long-run. Increased capacity can lead to increased VMT in the short-run in several ways: if people shift from other modes to driving, if drivers make longer trips (by choosing longer routes and/or more distant destinations), or if drivers make more frequent trips.[3,4,5] Longer-term effects may also occur if households and businesses move to more distant locations or if development patterns become more dispersed in response to the capacity increase. One study concludes that the full impact of capacity expansion on VMT materializes within five years[6] and another concludes that the full effect takes as long as 10 years.[7]

**Capacity expansion leads to a net increase in VMT, not simply a shifting of VMT from one road to another.** Some argue that increased capacity does not generate new VMT but rather that drivers simply shift from slower and more congested roads to the new or newly expanded roadway. Evidence does not support this argument. One study found "no conclusive evidence that increases in state highway lane-miles have affected traffic on other roads"[8] while a more recent study concluded that "increasing lane kilometers for one type of road diverts little traffic from other types of roads".[9]

**Increases in GHG emissions attributable to capacity expansion are substantial.** One study predicted that the growth in VMT attributable to increased lane miles would produce an additional 43 million metric tons of $CO_2$ emissions in 2012 nationwide.[10]

**Capacity expansion does not increase employment or other economic activity.** Economic development and job creation are often cited as compelling reasons for expanding the capacity of roadways. However, most studies of the impact of capacity expansion on development in a metropolitan region find no net increase in employment or other economic activity, though investments do influence where within a region development occurs.[11, 12]

**Conversely, reductions in roadway capacity tend to produce social and economic benefits without worsening traffic congestion.** The removal of elevated freeway segments in San Francisco coupled with improvements to the at-grade Embarcadero and Octavia Boulevards has sparked an on-going revitalization of the surrounding areas while producing a significant drop in traffic.[13] Many cities in Europe have adopted the strategy of closing streets in the central business district to vehicle traffic as an approach to economic revitalization,[14] and this strategy is increasingly being adopted in cities the U.S., from New York City to San Francisco.

## Further Reading

This policy brief is drawn from the "Impact of Highway Capacity and Induced Travel on Passenger Vehicle Use and Greenhouse Gas Emissions" policy brief and technical background memo prepared for the California Air Resources Board (CARB) by Susan Handy (University of California, Davis) and Marlon Boarnet (University of Southern California), which can be found on CARB's website along with briefs and memos on 22 other land use and transportation strategies that impact vehicle use and GHG emissions. Website link: http://arb.ca.gov/cc/sb375/policies/policies.htm


[1] Noland, R.B. and L.L. Lem. (2002). A review of the evidence for induced travel and changes in transportation and environmental policy in the US and the UK. *Transportation Research* D, 7, 1-26. http://bit.ly/1jZbl1E

[2] Noland, R.B. and L.L. Lem. (2002).

[3] Noland, R.B. and L.L. Lem. (2002).

[4] Gorham, R. (2009). Demystifying Induced Travel Demand. Sustainable Urban Transport Document #1. Transport Policy Advisory Services on behalf of the Federal Ministry of Economic Cooperation and Development, Bonn, Germany. http://bit.ly/1MszHfq

[5] Litman, T. (2010). Generated Traffic and Induced Travel: Implications for Transport Planning. Victoria Transport Policy Institute. http://bit.ly/1WXC258

[6] Hansen, M. and Y. Huang. (1997). Road Supply and Traffic in California Urban Areas. Transportation Research A, 31(3), 205-218. http://bit.ly/1ZvLO0k

[7] Duranton, G. and M.A. Turner. (2011). The Fundamental Law of Road Congestion: Evidence from US Cities. American Economic Review, 101, 2616-2652. http://bit.ly/1MszTeD

[8] Hansen and Huang. (1997).

[9] Duranton and Turner. (2011).

[10] Handy, S. (2005). Smart Growth and the Transportation-Land Use Connection: What Does the Research Tell us? International Regional Science Review, 28(2): 1-22. http://bit.ly/1NCeeSP

[11] Handy, S. (2005).

[12] Funderberg, R., H. Nixon, M. Boarnet, and G. Ferguson. (2010). New Highways and Land Use Change: Results From a Quasi-Experimental Research Design. Transportation Research A, 44(2): 76-98. http://bit.ly/1LqYhfD

[13] Cervero, R., J. Kang, and K. Shively. (2009). From Elevated Freeways to Surface Boulevards: Neighborhood and Housing Price Impacts in San Francisco. *Journal of Urbanism*, 2(1), 31-50. http://bit.ly/1LF8eSq

[14] Hajdu, J.C. (1988). Pedestrian Malls in West Germany: Perceptions of their Role and Stages in their Development. *Journal of the American Planning Association*, 54(3). 325-335. http://bit.ly/1LqYnUy



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