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# Can Cities Build Out of Congestion
# Policy Brief

The idea that no amount of infrastructure building can relieve congestion has become a common theme among many planners, policy makers and politicians. Many claiming that increasing road capacity by improving current roads or by building new ones actually increase congestion due to induced demand. Many of these same people would advocate that the only true way to relieve congestion is to reduce demand of the auto system through increased transit use, bicycle traffic, and pedestrian travel. The point of this policy brief is not to determine if reducing demand would work to relieve congestion, but to look into the converse approach of increasing supply, or in other words, building more roads.

The concept is simple, if there is not enough space on the roads to allow for free flowing traffic, increase the space on the roads. By increasing road capacity, more cars and trucks will be able to move through congested areas quicker. A number of suggestions have been made to accomplish this goal in areas where road ways cannot be easily widen, including separate lanes for buses and trucks, tunnels, and double-decking freeways. All, of course, come with a price. The U.S. Department of Transportation has suggested travel time could be cut by 1 percent a year with additional $94 billion in annual surface transportation spending[1].

**Background of Road Construction**

So why has traffic congestion gotten so bad? Congestion has increased for one primary reason. There has been large growth in the total vehicle miles traveled (VMT) along with an increase in total drivers, that has not been accompanied by an equivalent growth in road space. Simple economics tell us that if increasing demands are not meet with increased supply, cost, or in this case congestion, will rise.

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[1] Atkinson, Rob. *Getting Unstuck.* Progressive Policy Institute. Dec, 2002.

In the 1990s many factors came together to increase demand on our road system. Over half the increase in vehicle miles traveled came from a 15 percent increase in employment[2]. Additionally, driving became more affordable to more people resulting in over 90 percent of households owning a car for the first time in U.S. history[3]. Combine this with a decline in carpooling and transit use at its lowest levels in history, and it adds up to a 28% increase in VMT in the 1990s[4].

Unfortunately, at the same time road demand was increasing, less money was being used to increase supply. Highway spending by all levels of government has fallen from 8.7 cents in the early 1960s to 3.9 cents in 1997 per share miles traveled[5]. In addition to this decrease in spending is the fact that most of the money for road construction is going to places outside major metro areas, with only 29 percent of federal funds going to these congested areas[6]. Additionally, the money spent by federal funds has increasingly been used for repair and maintenance, with new construction dropping from 34 percent in 1987 to 27 percent in 1997 of federal road expenditures[7]. Putting this all together, there has been only a nine percent increase in lane miles on freeways and principal arterials in urban areas from 1987 to 1998, while at the same time there was a 42 percent increase in VMT[8].

**Studies**

So who cares that governments have stopped building roads? New roads only create more congestion because induced demand, right? While the concept of induced demand has been widely demonstrated in many studies, the question that planners and policy makers should be concerned with is, does the level of induced demand negate the gains of increased road capacity.

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[2] Atkinson, Rob. *Getting Unstuck.* Progressive Policy Institute. Dec, 2002.
[3] Pisarski, Alan E. "A review of the Journey to Work data findings from the 2000 Census Supplementary Survey"
http://www.richmondregional.org/Census/A_review_of_the_Journey_to_Work.pdf
[4] Atkinson, Rob. *Getting Unstuck.* Progressive Policy Institute. Dec, 2002.
[5] Atkinson, Rob. *Getting Unstuck.* Progressive Policy Institute. Dec, 2002.
[6] Atkinson, Rob. *Getting Unstuck.* Progressive Policy Institute. Dec, 2002.
[7] Atkinson, Rob. *Getting Unstuck.* Progressive Policy Institute. Dec, 2002.
[8] Atkinson, Rob. *Getting Unstuck.* Progressive Policy Institute. Dec, 2002.

There have been many studies on the concept of induced demand. Researchers have found that the level of induced demand can range from nine percent increase in VMT for every ten percent increase in road capacity to as little as one or two percent increase in VMT for every ten percent increase in road capacity[9]. A study at the University of California at Berkley found that two types of induced demand phenomenon are occurring. First, like most other studies of induced demand, new roads do attract growth. Secondly, natural urban population growth is inducing governments to build roads to respond to demand[10]. Therefore, a question remains, is the increase in traffic on new or improved roads induced, or is it a side effect of natural growth.

The next part of this policy brief will examine the possibility of building out of congestion as the policy affects efficiency, equity, environment and experience.

**Efficiency**

The question of efficiency hinges on whether time has a greater value distance. By creating more roads with higher travel speeds, most likely total vehicle miles will continue to rise[11]. However, the goal of this policy is not to reduce travel miles or time, but to reduce time traveling in congested conditions. If cars are able to move faster in less congestion people will have the option of quicker commutes and greater destination selections without congestion. Building more roads is more efficient to relieve congestion than trying to lure drivers to transit given transit history of working best only were road congestion is the worst.

**Equity**

The cost of improving road systems is tremendous. The U.S. Department of Transportation estimates a need for a 16% increase in funding just to maintain

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[9] Cox, Wendell. *Induced Traffic: Setting the Record Straight.* Heartland Institute. June, 2001
[10] Cervero, Robert. Hansen, Mark. *Road Supply-Demand Relationships: Sorting Out Causal Linkages.* University of California, Berkeley. Oct, 2002.
[11] Cox, Wendell. *Induced Traffic: Setting the Record Straight.* Heartland Institute. June, 2001

the current conditions of existing highways and bridges[12]. Americans spend billions of dollars on transit systems that serve only 4.7 percent and falling, of the population. In 1997, all levels of government spent $26 billion on transit compared to $106.5 billion on highway and bridges[13]. That calculates to 5 percent of the population using 20 percent of the travel funding. Is it fair to have the vast majority of people pay for the travel of a smaller and smaller percentage of the population?

**Environment**

The environmental effects of building more roads to relieve congestion are minimal. A 1995 Transportation Research Board study concluded that changes in air emissions from major road improvements may increase or decrease, but in either case, "the effect seems likely to be small"[14]. Car emissions are lowest when they are traveling at constant speeds between 35 and 55 miles per hour[15]. Removing "stop and go" congestion will allow autos to run in cleanest way possible.

The cost of having cleaner operating cars is additional land consumption. Quicker traffic will make longer distance commutes possible, and may lead to greater sprawl and energy consumption. The U.S. Department of Transportation estimates that if funding were increased to level that would lower congestion, VMT in urban areas would increase to 2.06 percent per year, compared to the current 1.68 percent[16].

**Experience**

Personal experience of driving without congestion should be uneventful. Today people plan to deal with congestion ever morning and night for there commutes. This is evidence in traffic reports flooding the airwaves during the

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[12] Atkinson, Rob. *Getting Unstuck*. Progressive Policy Institute. Dec, 2002.
[13] *1999 Conditions and Performance Report*. U.S. Department of Transportation. http://www.fhwa.dot.gov/policy/1999cpr/ch_06/cpm06_2.htm
[14] Samuel, Peter. *How to "Build Our Way Out of Congestion"*. Reason Public Policy Institute. Jan. 1999.
[15] Cox, Wendell. *Induced Traffic: Setting the Record Straight.* Heartland Institute. June, 2001
[16] Atkinson, Rob. *Getting Unstuck*. Progressive Policy Institute. Dec, 2002.

rush hours. Removing congestion will likely improve many experiences in daily lives. The question is will Americans enjoy the experience of paying for this congestion relief with increased taxes, tolls, or road pricing.

**Conclusion**

The question before us is can you build to relieve congestion? The answer is yes, but at what cost. There is not an infinite demand for roads[17]. If there were, there would be congestion all the time on all roads. Currently freeways have a capacity between 2,200 and 2,600 vehicles per lane per mile[18]. Once vehicles increase beyond this range, congestion occurs. To remove congestion capacity of freeways must exceed demand. The cost of building such a system is great, both financially and environmentally in terms of greater sprawl. Unfortunately, there is no better or easier way to reduce congestion. On a scale of one to four with four being the low, building our way out of congestion receives a two in meeting the efficiency, equity, environmental, and experience criteria.

Note:
This paper was to be counter with a less pro-road analysis, but due to unforeseen circumstances, that paper will not be produced. I then challenge the class to produce solid arguments against this papers reasoning.

[17] Samuel, Peter. *How to "Build Our Way Out of Congestion".* Reason Public Policy Institute. Jan. 1999.
[18] Samuel, Peter. *How to "Build Our Way Out of Congestion".* Reason Public Policy Institute. Jan. 1999.

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