

HOW MUCH MORE TRANSPORTATION CAPACITY WOULD BE NEEDED?

This is a difficult question to answer for at least two reasons.

- Most urban areas implement a wide variety of projects and programs to deal with traffic congestion. Each of these projects or programs can add to the overall mobility level for the area. Thus, isolating the effects of roadway construction is difficult because these other programs and projects are making a contribution at the same time.
- The relevancy of the analysis is questionable. Many areas focus on managing the growth of congestion, particularly in rapid growth areas. The analysis presented here is not intended to suggest that road construction is the best or only method to address congestion, but some readers will interpret it that way.

Conclusions

This analysis shows that it would be almost impossible to attempt to maintain a constant congestion level with road construction only. Over the past 2 decades, less than 50 percent of the needed mileage was actually added. This means that it would require at least twice the level of current-day road expansion funding to attempt this road construction strategy. An even larger problem would be to find suitable roads that can be widened, or areas where roads can be added, year after year. Most urban areas are pursuing a range of congestion management strategies, with road widening or construction being only one of them.

How Much Roadway has been Added?

Before we discuss the road growth issue, a word about our data. One answer to the question “How much roadway has been added?” is “not as much as our statistics indicate.” The roadway growth in the Urban Mobility Report database includes the roads that were added because the urban boundary grew to include areas that previously were classified as rural. These existing, but newly urbanized, roads appear as additions to the urban databases, but do not have the same effect as new roadway. Even including these redesignated roads, however, the amount of added roadway is considerably less than that needed to match travel volume growth.

Estimating the Needed Road Growth

This analysis uses the premise that enough road construction should take place so that the areawide congestion level is kept constant. For every percent increase in vehicle-miles of travel, it is assumed that there should be a similar percent increase in the lane-miles of roadway. For example, if a region’s vehicle-miles of travel were to increase by five percent per year, roadway lane-miles would need to increase by five percent each year to maintain the initial congestion level. Based on these assumptions, the percentage of the “Needed” roadway that has been “Added” can be calculated (Exhibit B-17). The 1982 to 2007 statistics show:

- Over the 26-year period, less than half of the roadway that was needed to maintain a constant congestion level was added. These percentages are actually higher than the amount that was “constructed” since they also include roadway mileage that was added through shifting urban boundaries and not just new construction.
- Exhibit B-18 also shows that the larger urban areas have done a little better, on average, at maintaining pace with the growth of travel.

Exhibit B-17. Vehicle Travel and Roadway Additions

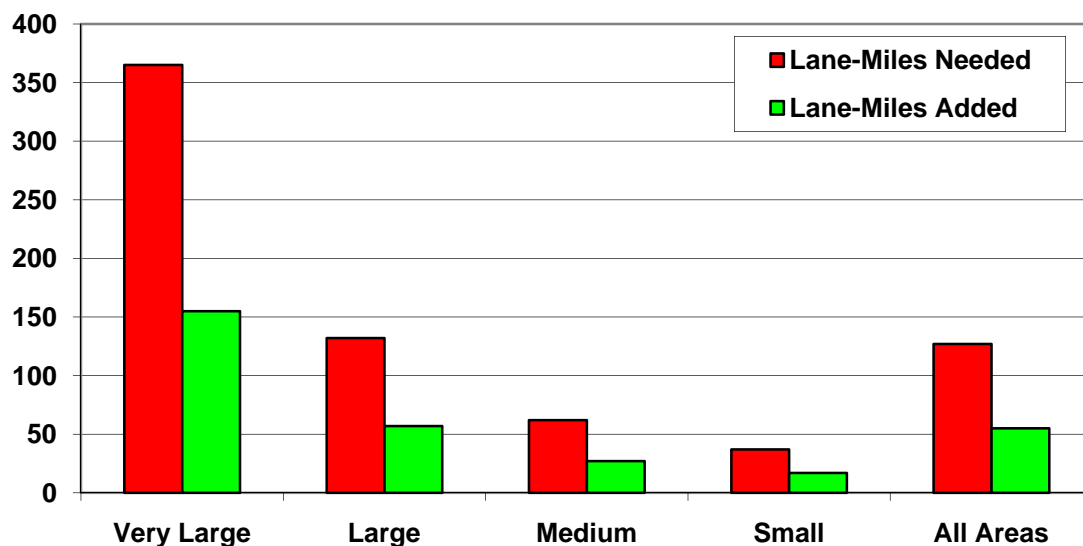
2007 Population Group Average	Avg. Annual Growth in Vehicle-Miles of Travel (1982 to 2007)	Percentage of Needed Roadway Added ¹
Very Large areas	2.9	43
Large areas	3.5	43
Medium areas	3.3	43
Small areas	3.8	47
90 area average	3.2	43

¹ Lane-miles added divided by lane-miles needed. “Lane-miles needed” are based on matching the VMT growth rate.

Note: Assumes that all added lane-miles are roadway system expansion. The database does not include data concerning the number of lane-miles added because of changing urban boundaries.

Exhibit B-18. Comparison of Roadway Added to Needed

Average Annual Lane-Miles of Roadway Added (1982 to 2007)



- Over the 26-year period, less than half (43 percent) of the roadway that was needed to maintain a constant congestion level was actually added.
- There is very little difference between the roadway added percentage values for any of the population groups. Areas of all sizes are approximately equal in ability to add lane-miles.