But Where Will the Traffic Go?

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Any proposal for road modifications that threatens to reduce capacity or speed--such as converting some Nashville interstates to boulevards--immediately raises the challenge, often belligerently posed, "But where will the traffic go?" The presumptive answers are always disastrous: gridlock, 8-mile backups, economic ruin, and losing out to rivals Memphis and Chattanooga. To many, reducing road capacity, and thereby inviting more congestion, is like falling short in sewer or electrical capacity. Sewer deficiencies create a public health menace; voltage drop causes the physical failure of electrical appliances.

With traffic, however, we simply move to a different point on the "supply and demand" curve when the supply changes. As travel becomes more expensive (in terms of travel time, the only "cost" immediately felt by the driver), we simply consume less of it. And the accommodations that drivers make, when free-flowing road capacity is less available, are not at all like the apocalyptic gridlock that transportation planners are fond of predicting. Drivers are smarter than this.

One of the immediate adjustments that drivers make to congestion is simply to reschedule their travel away from the peak work trip times, by far the most congested periods, and often the only congested periods. Information industry employees, now a majority of Nashville's workers, are more than ever able to vary their office hours. Voice mail, e-mail, pagers, cell phones, personal digital assistants and laptops favor flexible working hours, even when the worker must daily visit a home office. A vehicle trip shifted from the peak period is better than adding the same amount of new capacity, since the existing road is being more efficiently used, at no additional cost.

When capacity or service is reduced, drivers are also quick to reroute themselves. Rather than simply dumping themselves onto the nearest available alternative, as the "doomsday" view of traffic congestion warns, drivers actually reroute themselves in an elaborate cascade of route changes. While drivers shifting from their primary route may simply divert to the nearest available alternative route, the rerouting does not stop at this simple stage. Drivers already on the alternate route do not simply ignore the new traffic and meekly sit in increased congestion. Rather, some of these drivers at the margin of choice between routes move instead to yet another alternate, and so on, through an elaborate chain of reroutings.

Urban boulevard in Kansas City, Missouri. Note how interstate at upper left metamorphoses into tree-lined boulevard, the Paseo, with walking paths, gardens and public gathering spaces. Photograph, 2003: Alex MacLean / Landslides

The "trip assignment" in travel forecast models can reflect millions of daily decisions that drivers make in the Nashville area, and thereby project the traffic. In other words, a conventional transportation planning tool gives us a livable answer, unexpectedly.

Paradoxically, the same traffic models that seem to be always telling us that we need more road capacity to keep traffic flowing, also tell us, on the other hand, that if we remove capacity, the system will continue to function quite nicely, with drivers making, in the aggregate, sophisticated decisions to keep the system operating.

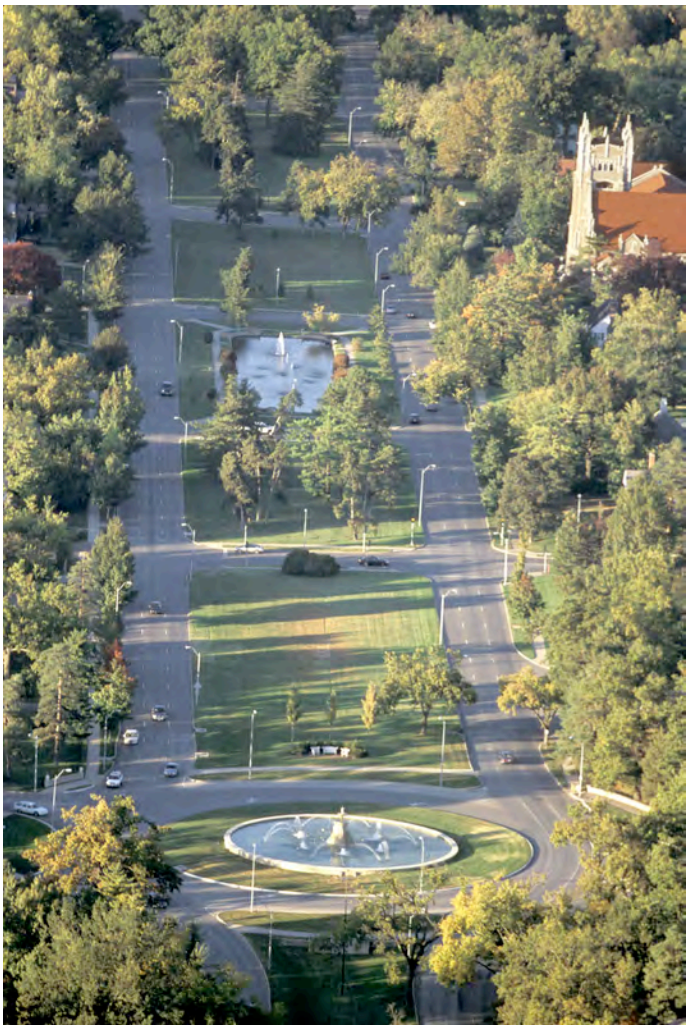
By far, the most interesting response to congestion is change in the pattern of origins and destinations. The choice of home location is one of the most volatile in this respect. When major new road capacity was added--to the interstates around Nashville, for example--many homeowners living in older parts of Nashville and reinvesting in their neighborhoods chose to move their households to a new suburban tract home inevitably spawned by the road addition. Conversely, if congestion had not been removed, the same households would have remained in place, continuing to reinvest in an existing neighborhood.

Who then is victimized by road congestion that causes residents to stay in place? It is difficult to find any victim. Certainly not the city of Nashville, where the homeowner lives now. The city has a deep interest in its homeowners staying in place and reinvesting. Nor is the school district the victim, since it is not interested in adding capacity in one place while abandoning corresponding amounts of capacity elsewhere. Perhaps the suburban tract-home developer might be a stakeholder who loses when road capacity lags. But, on the other hand, doesn't this homebuilder, with a shift in product and location, have every opportunity to develop and redevelop in the existing settled areas, where values are increasing due to location?

Trip destinations also react to congestion. Free-flowing, high-speed traffic is a promise to the retail industry that large catchment areas of population can be delivered to a single location, within the acceptable travel time (typically 15 to 20 minutes) needed for big box retailing. The result: even larger big boxes, with a corresponding ever-increasing amount of travel required for the same amount of purchase. Endlessly expanding the scale of big box retailing is contrary to every planning objective in the Nashville region. Yet, at the same time, a policy of maintaining free-flowing traffic at all times presents an irresistible incentive to further concentrate retailing in very large boxes.

What happens to retailing when the promise of free-flowing traffic is withdrawn, through an action as visible as reducing capacity or speed? Does the retail industry abandon the area? Of course not. The industry is smarter than that.

Grocery stores will choose to run neighborhood-sized stores of 40,000-50,000 square feet at more locations, rather than fewer big-box stores of three or four times the size. Franchise retailers will reduce their threshold requirements, yielding more locations with smaller market areas and less travel time. Some retailers, accustomed to operating only in single-owner, closed-environment malls, will make the leap into multi-owner open environments such as main streets, downtowns and neighborhood centers.



Urban Boulevard in Kansas City, Missouri. Median of Ward Parkway at Meyer Circle has been programmed with lawns, large fountains and gardens. Photograph, 2002: Alex S. MacLean / Landslides

Information technology favors a pattern of more, smaller commercial destinations rather than fewer large ones. Automated warehousing, self-replenishing inventory systems, self-service check out and electronic theft prevention systems let retailers operate at more numerous smaller locations efficiently.

Again, it is difficult to find any "victim" of these reactions by retailers to increased traffic congestion. The customers, with more and closer shopping destinations, are certainly not victimized. Nor is the development industry, which is building more units and more floor area. Nor are local communities, many of which are seeing long-neglected main streets or neighborhood centers reoccupied by retail businesses. Nor are the retailers themselves, who are mastering, even if reluctantly, more sustainable ways to retail.

Traffic engineering, it is now clear, is full of unintended consequences, in both directions. The intended consequence of high capacity, to reduce costs and to reduce delay, soon gives way to the unintended consequences of drivers going farther, not faster, soon followed by the moving around of households, businesses and all of the daily destinations. None of the ultimate results--more travel, more congestion, abandonment of older communities, sprawl across the countryside--were intended.

The unintended consequences of traffic congestion, we are now learning, can run in a positive direction. The presumed dire consequences of reducing capacity--more travel time and cost--prompt a chain of events that, in reality, is anything but dire. Homeowners reinvest in communities. Businesses find new ways to better serve their customers. Unintended consequences of the negative sort are well understood, although they always seem to fly in the face of conventional wisdom. It should not be surprising that the reverse is true; that deliberately tolerating congestion may have unintentional consequences in a positive direction.

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