



Past Performance vs. Future Hopes: Will Urban Rail Improve Mobility in North Carolina?

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If policymakers want stakeholders to approve of their plans, they must first gain the public's trust. When arguing in favor of a particular transportation project, policymakers may point to projections and project goals; they may also note that many other places have taken similar routes. However, perhaps a more effective way to gain the public trust is to point to specific successes that other places have enjoyed and explain how it is likely that local demographic features will yield similar success. Stakeholders may ask themselves: "Based on the experience of other places, what is the best-case scenario?" And since the best-case scenario is, by definition, atypical, stakeholders may ask a second question: "Based on our area's specific characteristics, what can we realistically expect?"

Unfortunately, urban rail has provided little evidence that it can achieve the goals many policymakers adopt it for: improve mobility, air quality, local economies or the prospects of the transit-dependent poor. And even the greatest successes are rather modest. For example, Portland, Oregon leads the nation with a light rail system that accounts for 0.76 percent of travel. And since the demographic and geographic features and travel patterns of Charlotte, the Triangle and the Triad—three North Carolina areas currently considering urban rail—are particularly unfriendly to rail, these areas are particularly unlikely to enjoy significant rail-related benefits.

While North Carolinians still enjoy rather efficient mobility, future growth, and more importantly future policy deci-

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sions, could jeopardize the preservation and improvement of mobility levels. Local stakeholders can match their area's transportation needs to the most effective policies by:

1. Paring down the list of potential goals;
2. Focusing on a clear core mission; and
3. Taking a realistic approach to the benefits and limitations of each policy option.

PARE DOWN THE LIST OF GOALS

Today's transportation planners are expected to please many different interests, and accomplish much more than their predecessors. With so many competing demands, the political process encourages planners to be ambitious and take on many goals. It is no longer enough to tend to transportation needs—planners must also restrain sprawl, improve air quality, spur economic development and so on. However, as transportation policy assumes more goals, each individual goal receives less attention.

Moreover, measuring success gets muddled. With more goals it becomes increasingly difficult to define and monitor success. The vagueness of certain goals adds to the difficulty of measuring success or failure. Some goals are worthy, but better achieved through different means. Transportation policy may simply be the wrong tool to accomplish certain worthy goals, and using the wrong tool is likely to waste time and money. Using the wrong tool also means passing up other tools that could offer better results. Unfortunately, the North Carolina urban rail proposals continue the trend of pursuing many goals.

Sprawl: North Carolina policymakers are clearly very concerned with sprawl, and this concern is deeply embedded in the various urban rail proposals. However, policymakers will find it more productive to work with demographic trends instead of against them. Even if it were desirable to use public policy to battle certain sprawl-related trends, such battles may be hugely expensive and, perhaps, impossible to win. There may be instances—such as improving air quality—where a common goal could be better achieved through means not suggested in the reports that analyze the three proposals. In other instances, sprawl-related trends may have more positive effects than conventional wisdom suggests. For example, compared to high-density areas, sprawl is associated with better mobility and less air pollution. Often policymakers eager to increase densities are less eager to carefully investigate the consequences of higher densities. Once the true relationship between density and mobility is understood, people may wonder why policymakers pursued higher densities so vigorously in the first place.

Air Quality: In each of the North Carolina proposals, policymakers expressed great desire to implement transportation policy that would help spur environmental improvement, particularly with regard to air quality. But is urban rail the right tool to achieve this worthy goal?

The various rail proposals would not take enough cars off the road to make any real contribution to air quality improvement. For example, the Charlotte proposal expects to reduce regional auto travel by only one-tenth of 1 percent. More fundamentally, since a small percentage of autos produce the majority of air pollution, the heartiest environmental gains will be realized not through increased rail ridership, but through policies that target gross polluters. Targeting gross polluters offers at least 200 times the pollution reduction impact of rail.

The dirtiest cars on the road are likely to be driven by transit's traditional customers, the poor. Public officials are often keen on luring wealthier motorists out of their cars, and it is generally assumed that these motorists are more likely to ride rail than bus. However, luring wealthy motorists will do little to improve air quality because these people are likely to be driving the newest, and therefore cleanest, cars. When it comes to air pollution, all cars are not created equal. And public policy that fails to distinguish between dirty and clean cars is like a diet plan that does not distin-



guish between Twinkies and celery sticks.

Economic Development: Like air quality improvement, economic development is a worthy goal that is better achieved through different means. Even with rail-friendly demographics and aggressive public subsidies, the experience of other areas reveals the difficulty for transit-oriented development to take root. After more than 30 years in operation, even the famous BART system has done little to spur economic activity in the Bay Area. Even though BART enjoys enormous advantages over the North Carolina proposals (e.g. system size, the ability to avoid surface traffic), population and jobs have grown most rapidly in areas not served by BART.

So while we know rail transit will operate at a loss, rail's ability to spur economic activity remains highly unlikely. North Carolina's particularly low population density and particularly high rates of auto use make rail's ability to generate economic gains all the more unlikely. Those who would revitalize a community—homeowners and business leaders—prefer more straightforward approaches to greater economic development. By, for example, improving schools and keeping business taxes at a reasonable level, policymakers can provide a better product and lure homeowners and business leaders. In a recent survey, North Carolina business leaders were asked to rate the impediments to economic growth. Respondents cited high state and local taxes as the most important impediment to growth, while a shortage of urban rail lines was among the least important. Moreover, a comparative analysis of business climates reveals that there is much room for improvement. The Triangle ranked among the top 10 worst areas to do business, while Charlotte and the Triad fared only slightly better.

FOCUS ON THE CORE MISSION

The important process of paring down possible goals makes it easier to choose a worthy core mission. And after the paring down process we are left with a goal not explicitly called for in the North Carolina urban rail proposals: cost-effective mobility improvement. This concept returns to the first principle of transportation policy—mobility improvement. The pursuit of this mobility will be constrained primarily by one ever-present and formidable factor—funding.

Policymakers should adopt only those transportation options that offer the best mix of mobility improvement and cost-effectiveness. Since so much is won or lost in how terms are defined, pursued and measured, it is necessary to note the key features of cost-effective mobility improvement.

System-wide Perspective: Achieving cost-effective mobility improvement does not necessarily mean increasing ridership in a particular mode of transit, nor does it mean increasing public transit ridership per se. It means using all sensible, cost-effective means available—public and private—to improve overall mobility. Unfortunately, “success” is too often defined in terms of rail's success. In an attempt to boost rail ridership, policymakers may neglect other transit modes or private modes of transportation. Policymakers may judge their success based on the small geographic area served by rail and neglect the transportation needs of the larger community.

Ends, not Means: Commuters care more about getting to work or to an appointment quickly and conveniently, and less about how this goal is achieved. In other words, commuters value end results. If a transportation system is to truly emphasize results, it must be measured by objective performance standards. Prior to embarking on a new proposal, the transportation system must have a mechanism in place that allows for success or failure to be judged clearly and objectively. With a cluster of ill-defined goals, measuring success becomes a difficult task. Without an objective barometer of performance, those who might have opposed the proposal initially will likely always be able to claim it was a failure, while those who supported it from the beginning will always be able to claim success. Policymakers and stakeholders should all have the same, clear answer to the question: “How will we know if we are successful?”

Cost-effectiveness: Hefty cost overruns have plagued urban rail for decades, and, unfortunately, the North Carolina proposals have continued this trend. Both the Charlotte and Triangle proposals have exceeded initial cost projections. In Charlotte, a proposal that once cost just over \$200 million now approaches \$400 million, while in the Triangle, a proposal that was long thought to cost \$250 million now stands at well over \$800 million. Since the Triad proposal is in an earlier stage of development, it is too soon to determine if it will experience similar cost escalation.

Mobility Improvement: Although dozens of cities have turned to urban rail, they have yet to realize substantial mobility improvement. No comparable urban rail system in the nation carries even 1 percent of travel. And after the adoption of rail, transit's share of work trips tends to actually decrease. Once again, the North Carolina proposals will likely follow the experience of their predecessors. Its own proponents note that the Charlotte proposal would reduce regional congestion by about one-tenth of 1 percent. Even though the Triangle rail proposal would cost nine times more than the next most expensive alternative, it would decrease congestion by less than 1 percent. Moreover the annual cost per new rail passenger would be rather striking—\$6,747 for Charlotte and \$10,358 for the Triangle. If the Triad were to adopt rail for each corridor, the total capital cost would be \$2.1 billion and provide 16,730 daily passenger trips. If the bus rapid transit (BRT) alternative were adopted for each corridor, the total capital cost would be \$657 million, and it would provide 15,858 daily passenger trips. In other words, under the all-rail plan, The Triad would spend over three times as much to purchase 872 more daily passenger trips.

BE REALISTIC

If investing heavily in urban rail is unlikely to bring cost effective mobility improvement, what will?

Forging a Realistic Framework: First, policymakers must adopt a realistic approach to transportation policy, one that analyzes society with sober eyes, and recognizes the world as it is and as it is likely to be in the future.

Flexibility: Unlike buses and other types of transit, rail is inflexible—it cannot rerouted to meet changing demographic needs within a community. Policymakers often turn to rail's rigid design to help forge a specific vision of the



future—one reorganized around transit and high-density, pedestrian-friendly neighborhoods. Transit officials often speak of the need to mix transportation policy with land use planning. Of course, allowing policymakers to mix transportation with land use invites local governments to focus more on buying, selling and shaping property and less on improving mobility within the society that already exists.

Since rail project costs are typically high and since funds are focused on a very specific geographic area, rail advocates risk a “too many eggs in one basket” problem. Devoting so much money to one mode of transportation in one area means putting enormous faith into policymakers’ ability to either predict the future or forge one that will conform to their plans. Only a flexible transportation system recognizes that predicting the future is tricky business, and that shaping policy around a fixed vision of the future risks squandering tax money on a gamble. Flexibility leaves policy best prepared for an unknowable future.

Working with Demographic Trends: Growth in population and wealth has spurred demographic shifts that have transformed American society from what it was a century ago. As people once left their farms in hopes of finding better lives in the city, they now move to the suburbs in search of better lives. People head for the suburbs for reasons important to them—including better schools, more space, safer neighborhoods and a larger home to raise children. North Carolina’s history and demographics make rail-supportive, high-density development particularly unlikely. Even the state’s more developed regions are better described as “rurban,” rather than urban. And even



when the density of a certain neighborhood rises above an urban area's average density, it drops off quickly. It takes only about six miles for all three areas to drop below the 750 persons per square mile mark. Local policymakers take great care to place rail lines in relatively dense areas, but, particularly in North Carolina, even these areas don't lend themselves to transit. For example, Charlotte's South Corridor lacks the density to make rail pedestrian-friendly—projections expect only 9.8 percent of passengers to access rail by foot.

Likewise, as our nation has grown wealthier, auto use has increased. Today, nearly 88 percent of Americans take an automobile to work. Meanwhile, transit use continues to shrink. Transit now accounts for less than 5 percent of work trips. The trend toward auto use and away from transit is even stronger in North Carolina. The local areas considering rail have auto work trip shares well over 90 percent and transit shares at less than half the national average. Since it is common for poor people to purchase automobiles as soon as they're able, and since incomes will likely continue to rise, we can expect a continuation of high auto use and low transit use. Recognizing that the future will likely bring more cars is a matter of being realistic—it has little to do with whether someone considers this outcome desirable.

Urban rail could only succeed if increasing suburbanization and auto use reversed, but the strength of these trends suggests that embarking on a battle against them would be unrealistic, hugely expensive and probably futile. These trends are particularly strong in North Carolina, making any campaign against them in this state especially futile.

Serve the Poor First: Policymakers must be realis-

tic about what transit can and cannot accomplish. Sadly, transit agencies often shift resources to woo middle-class motorists to rail and neglect those with the fewest transportation options.

However, it is far more cost-effective to serve those of modest means than to try to attract “choice” riders to public transit. For example, attracting a new rider to Houston's Main Street line costs nearly 10 times as much as attracting a new rider to bus. Instead of focusing on those who already have many transportation options, policymakers should serve those most in need of mobility improvement—the transit-dependent poor and those with other mobility limitations.

Transit patrons are rarely concerned with the ambitious goals often used to justify urban rail projects—they simply want more routes, and faster, more frequent, more reliable service. However, when transit agencies tilt resources to boost rail ridership, bus service often deteriorates. During the past decades, civil rights organizations have filed many complaints and lawsuits against transit systems whose fare and service policies were regarded as discriminating against minority patrons. Bus riders in Los Angeles are especially familiar with the tradeoff between urban rail and bus service. Beginning in 1986, the local transit policymakers began to divert funds from a successful bus ridership program toward rail construction. Four years later, bus ridership fell by over 96 million passenger boardings per year (19.3 percent). By 1995, lost bus ridership was 10 times that gained by the new rail line. The issue drew intense political scrutiny, culminating in a legal victory for the Bus Riders Union, a grassroots organization that represents the MTA's largest client group. A U.S. District Judge signed a consent decree designed to mitigate the negative impact the MTA's rail plan had on bus service.

FROM FRAMEWORK TO CONCRETE SOLUTIONS

Finally, a realistic approach to cost-effective mobility improvement needs more than a clear framework—it requires concrete policy tools. Ever-worsening traffic is not inevitable. Across the nation and across the world, cities are peppered with transportation policies that really do improve mobility, and do so at comparably low costs. Since

it is rare to find a city that makes use of more than a couple of the following policies at any one time, those areas that choose to incorporate more of them into their transportation systems can realize even greater mobility improvement.

- **Competitive Contracting for Transit:** Competitive contracting can help those transit systems that struggle with high costs, poor service and low ridership. Nationwide, about 40 percent of transit systems contract for at least some service. In the United States and Europe, major transit systems have used competitive contracting and realized reductions in operating costs ranging from 20 to 51 percent.
- **Bus Rapid Transit:** There is nothing inherently lowly about the bus. Bus service already enjoys the kind of flexibility that cannot be replicated with rail. Add to that the proper attention to service and aesthetic improvements, and the bus can enjoy increased ridership. Bus Rapid Transit (which exists in small scale in Charlotte) is an innovation well suited to helping the bus with its image problems.
- **Added Capacity:** The saying “We can’t build our way out of congestion” is popular among urban planners, but it’s not entirely accurate. Certainly, no city should pursue adding capacity as its only defense against mounting congestion. Still, adding capacity does help improve mobility. The Texas Transportation Institute found that areas in which added capacity kept closest pace with traffic increases did the best job of keeping congestion in check. Many approaches—such as improving traffic light signaling—add capacity without adding lanes.
- **HOT Lanes:** High Occupancy Toll (HOT) lanes are limited-access lanes reserved for buses and other high-occupancy vehicles, but open to single occupant vehicles upon payment of a toll. A variable toll that rises during peak hours and drops during off-peak times keeps traffic moving briskly even during rush hour, by limiting demand to the number of vehicles consistent with high throughput. Since it eliminates the need for tollbooths, electronic toll collection allows for payment at full speed. California’s two HOT lanes (SR-91 and I-15) offer convincing proof that electronic toll collection and variable pricing can indeed maintain congestion-free conditions even during peak hours. Surveys have revealed widespread public acceptance of the HOT lane concept. People from all income levels use the HOT



lanes when they can’t afford to be held up in traffic. Moreover, additional income from HOT lanes can provide an entirely new, non-tax revenue source for faster expansion of roadway capacity.

- **HOT Networks:** Combining HOT lanes with BRT offers something for everyone. With an entire network of uncongested, premium-service lanes, bus patrons avoid general-purpose traffic, private motorists can purchase a way out of congestion, and the transportation system gets a much-needed new source of revenue. Even motorists who don’t use the HOT lanes benefit because more cars on the HOT Networks means fewer cars in the regular lanes.
- **Telecommuting:** Telecommuting offers a cost-effective way to decrease the number of cars on the road simply by allowing workers to stay home. If current trends continue, soon more Americans will be telecommuters than transit commuters. Since North Carolina’s transit work trip share is typically less than half the national average, telecommuting’s comparative advantage could be even greater. Indeed, in Charlotte, Greensboro and Raleigh, telecommuters outnumber transit commuters by more than 2 to 1. By dismantling barriers to telecommuting, policymakers could allow technology to ease congestion.

Unfortunately, transportation debates can grow contentious, and are often cast in terms of emotional support for one mode versus another. Like football fans backing their teams, fans of cars root for cars and fans of rail root for rail. A realistic transportation policy eschews such a dichotomy, and, instead maintains modal neutrality.

All stakeholders must recognize that when it comes to end goals there is much common ground. It is likely that if



a survey were taken of residents in Charlotte, the Triangle and the Triad, the vast majority would favor quicker travel times over slower ones, cleaner air over dirtier air, and economic growth over stagnation. Decisions should not be made on the basis of a fondness for one particular mode, but on choosing best tool for the job. ■

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