



Loudoun County Transportation Plan

Technical Basis Falls Short -- Changes to Near Term Priorities and Mid-Term Fixes Needed to the Plan

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We appreciate the extensive work by the Planning Commission and staff. The plan breaks new ground in talking about the importance of transit, pedestrian/bicycle transportation, environmental protection, and linking land use and transportation. Yet, when one looks at the meat of the plan -- the main focus of projects and spending -- the focus is on massive and unaffordable road capacity expansion, inadequate investment in transit, and no implementation of land use and urban design changes. A core problem underlying the report is flawed traffic modeling overwhelmingly based on assumptions of never-ending increases in vehicle travel and capacity expansion, and done without an integrated analysis of land use and transportation alternatives.

Given the flaws in the underlying analysis, the Campaign for Loudoun's Future elected last fall to offer a way to prioritize projects out of the extensive and largely unaffordable list of projects generated by the capacity-driven modeling. The Coalition for Smarter Growth agrees and believes it is important for the Board to:

- Take the time to understand the flaws in the transportation analysis;
- Consider the exorbitant cost of many of the road expansions and interchanges, given long-term reductions in state and national infrastructure funding capacity;
- Focus on west-east commuting with an emphasis on additional commuter transit services;
- Delete north-south roads to Prince William and in the transition area -- that cannot be justified by traffic needs and will fuel more scattered development;
- Focus on very local transportation fixes that may involve adding retail within walking distance of underserved communities and making local street and bike/pedestrian connections;
- Require supplemental analysis and reevaluation of the plan to be conducted over the next year.

Due to the very short time between the Planning Commission's vote and the Board hearing on the matter, we also ask that the Board hold open the public record for an addition 2-3 weeks to allow for additional public input.

The Plan is Unaffordable and Demand Management Approaches are Essential

Although the Planning Commission has removed some projects from the proposed CTP over the past year, the total estimated road cost is \$1.64 billion. This total does not include a number of potentially very expensive projects for which the staff has not yet provided estimates. These include expansion of the Greenway expansion, Crosstrail Blvd, Battlefield Parkway, Route 7 Bypass, Waxpool Road, Route 659, Route 9, and Route 606 interchanges -- potentially hundreds of millions of dollars more. (We are also unsure if the near, mid-term and long-term priority lists capture all of the projects in the CTP)

At \$1.64 billion for the CTP, this is the equivalent of \$82.1 million per year and could range to \$100 million per year with the additional projects. This figure does not include operations and maintenance of roads and does not include the transit investments. For comparison, the 2006 Loudoun County transportation bond totaled just \$51.3 million and the entire VDOT Six-Year Program for all of Northern Virginia in FY2010 is \$221.6 million.

Given the fast growing national debt and ongoing pressures on the state and federal government, funding will likely fall far short of what would be needed for the CTP as proposed. Therefore, it is important to develop a plan which focuses not just on capacity expansion, but on the creative use of:

- land use and urban design
- local street networks and pedestrian/bicycle facilities
- transit, and transportation demand management

These approaches would work together to reduce:

- vehicle miles traveled
- vehicle trips
- energy use
- emissions
- state and county costs and household transportation costs

While improving quality of life and help to protect the rural and natural resources so important to the residents and to the competitive position of the county.

Issues of Concern:

We have identified the following issues of concern:

- 1) The transportation and traffic analysis appears to follow the old paradigm of projecting growth in driving without letup and providing more and more road capacity to accommodate that projection, generating induced travel demand and additional capacity expansion. It does not appear to have modeled alternative land use and transportation scenarios including a comprehensive scenario with more interconnected local street networks, transit, and mixed-use which would reduce driving demand and capacity needs.
- 2) As a result the draft plan places too much emphasis on large, expensive arterial roadways and interchanges;
- 3) It conflicts with the comprehensive plan goals for the rural area, the transition area and the suburban communities;
- 4) There is too much focus on North South roads versus East-West roads, which are the critical need based on the dominant travel pattern.

- 5) The draft plan fails to address rising energy costs and environmental sustainability goals including climate change;
- 6) It doesn't address the long-term maintenance cost of these facilities;
- 7) It doesn't link transit to land uses and urban design that would maximize transit ridership and transit efficiency. It also underfunds transit, spending just \$6.4 million per year in Phase I, \$8.1 million per year in Phase II, and \$8 million per year in Phase III for Metrorail operating costs while not identifying how the remaining bus transit will be funded during Phase III -- this compares to \$82 million to \$100 million per year on road capital costs alone;
- 8) The \$1.6 billion to \$2 billion road plan would cost too much and be ineffective in addressing future congestion and transportation needs.

Traffic Modeling is Flawed:

The core of problem with the draft plan appears to begin with the traffic modeling. A key conclusion found in the technical report is:

“The CTP makes some clear improvements over the CLRP, but the congestion situation is still worse than the existing conditions. Although the LOS levels seem to indicate that the CTP is significantly better than the CLRP, Figure 4-2 shows that **based on vehicles hours traveled (VHT) and delay standards, the CTP makes minimal improvements over the CLRP** [emphasis added], while both are significantly worse than existing conditions.”

Therefore, combining both the projects in the regional Constrained Long Range Plan and the County Transportation Plan, totaling billions of dollars, traffic becomes significantly worse and the additional CTP projects made minimal improvement.

The technical report also states that: “In summary, the anticipated growth in population and employment is projected to produce an even greater increase in travel.” The report notes that: “As regions expand, travel tends to increase at a greater rate than population and employment growth due to longer average trip lengths and/or more trips per household.”

Similarly, a companion report on “Traffic Abatement” for the CTP by the Renaissance Planning Group (<http://www.loudouncpt.com/documents/Traffic%20Abatement%20White%20Paper%20June%2007.pdf>) notes that: “Long travel distances increase the number of lane-miles needed in this system, and these roads tend to fill with traffic quickly as new development concentrates traffic onto just a few major facilities. Even when the amount of development is held constant, a dispersed land use pattern may generate trip lengths up to twice as long as in a more compact land use pattern, requiring a commensurately greater number of lane-miles to achieve the same level of congestion reduction.” Land use, urban design, transit, and interconnected local street networks offer opportunities to reduce the length and number of auto trips, and are an essential alternative to the approach proposed in the CTP.

Induced traffic (the “if you build it, they will come” phenomenon) appears to be a real problem in the capacity expansion approach proposed in the draft CTP. One of the clearest examples is found in the testing of increased Route 15 capacity on a new parallel route. Both the 4 lane and 6 lane proposals appeared to generate additional long-distance trips through the area, leading to failing levels of service on this proposed new roadway.

According to Professor Robert Cervero of the University of California, who analyzed all of the research on induced travel, "...the preponderance of research suggests that induced-demand effects are significant, with an appreciable share of added capacity being absorbed by increases in traffic." The average elasticities reported by Cervero imply that a 10 percent increase in capacity will result in a 6 percent or 7 percent increase in traffic in the "long term" (five-plus years out). This means that 60-70% of new capacity will be absorbed in as little as five years. This factor may be why the CTP makes so little difference in existing congestion.

It does not appear that the modeling accounted for induced traffic, and despite the observations in the modeling technical report and the traffic abatement report, the draft CTP still tries to address the transportation problems, created by dispersed patterns of development, through arterial road expansion. The effort fails as documented by the modeling results and the high cost of such an approach.

It does not appear that the traffic abatement strategies in the Renaissance Planning Group paper, including alternative land use, community design, local street network and transit scenarios were modeled to determine if these strategies for reducing vehicle miles traveled and vehicle trips would offer opportunities for reduced highway and arterial roadway capacity expansion. It is also unclear if the proposals in the separate Transit Plan were modeled as part of an alternative scenario. The questions raised by Planning Commissioner Keeney also appear not to have been addressed, including the need to apply higher energy prices to the modeling – prices which will have the effect of reducing driving demand, cause people to live closer to work, and increase the use of alternative modes of transportation.

Focus should be on Loudoun Residents and West-East Movement:

Other observations on the modeling results show that just 3% of 2005 trips originate in Prince William County, yet there are two to three new north-south connections being proposed to Prince William, including the Tri-County Parkway, Route 659 Relocated, and Northstar Boulevard. It appears that most commuter traffic is seeking to move West to East in the AM peak and East to West in the PM peak, indicating a greater need for transportation solutions along these West-East corridors than the North-South corridors. Yet, an overwhelming and unnecessary amount of North-South capacity is proposed in the draft CTP, for Route 28, 606, Loudoun County Parkway, 659, 659 Relocated, Northstar Boulevard, and Evergreen Mills Road. Some of this is in the Transition Zone and would fuel more speculative development.

At the same time, just 3% of the 2005 traffic originates in West Virginia, but the plan includes proposals for major widening of Route 9. While some transportation measures are appropriate to address some of the current traffic (roundabouts are one tool for intersection congestion without 4-laning rural roads), major capacity expansion would induce yet more rural development. The more cost effective long-term solution is to continue to reduce the development potential in rural western Loudoun and not to accommodate unconstrained traffic growth from West Virginia. The Renaissance Planning Group noted the significant need for affordable workforce housing in Loudoun County and that providing more of this housing would further reduce long-distance commuting.

Major Arterials should not become Community Barriers, but Should Meet All Community Needs:

Proposals to turn Route 7, Route 50 into limited access highways will require enormous investments and will divide communities on either side. The inclusion of parallel roadway capacity is a good idea provided these are designed as part of a local street network at a scale and design speed safe for pedestrians and bicyclists. The Places29 solution being proposed for Charlottesville and Albemarle County offers an approach which should be applied to Loudoun's commercial highway corridors. This mixed-use design approach establishes a pedestrian-friendly network of local streets and boulevards, and uses urban interchanges (not cloverleaves or suburban diamonds) to ensure that the through-roadway does not divide the community.

Traffic reduction through mixed-use development tied to transit, also depends significantly on increasing pedestrian and bicycle trips. But those trips cannot be realized if all major arterials become barriers due to highway-oriented limited access designs and overly large cross-sections. The goals of the pedestrian/bicycle plan and traffic reduction would be more likely to be realized if illustrative road sections were designed and incorporated into the CTP – sections that showed lane widths, side of street parking, medians, bike lanes, and sidewalks.

Recommendations:

In summary, we recommend that the county take the time to develop a better approach to the county's transportation challenges by taking these steps and more:

Near term:

- 1) Identify a shorter list of priorities with a focus on fixing critical West-East congestion, particularly through new commuter bus investments, including use of dedicated lanes during rush hour.
- 2) Remove the north-south highway corridors to Prince William County in favor of targeted local road fixes, including roundabouts. Reduce the number, scale and design of the north-south roadways between Route 50 and Route 7. Specifically delete Northstar Boulevard, the Loudoun County Parkway south of Route 50, Evergreen Mills, and Route 659 expansion south of Route 50.
- 3) Ensure neighborhood retail, recreation and other services are within walking and bicycling distances of communities to reduce longer distance non-work trips.
- 4) Modify all road cross-section diagrams to show pedestrian and bicycle facilities, rather than burying the proposed ped/bike facilities in the Appendix.
- 5) Adopt the plan in a contingent manner, and establish a one-year period of supplemental review with new modeling and alternatives analysis (see below).

One-Year:

- 1) Reevaluate the plan over the next year by first seeking peer review of the current modeling and hire a consulting firm specializing in alternative scenarios for reducing driving demand.

- 2) Develop and run alternative land use and transportation scenarios focused on reducing future driving demand. These include a comprehensive approach incorporating mixed-use, transit, walking/biking, local street networks, and affordable workforce housing.
- 3) Incorporate the rising costs of energy in calculating driving demand and jobs/housing locations.
- 4) Consider and adopt the Charlottesville/Albemarle Places29 approach for major commercial corridors.
- 5) Adopt the county-wide recommendations in the Renaissance Planning Group's Traffic Abatement strategies paper.
- 6) Tie transit to mixed-use, walkable/bikeable communities, as the best way to maximize transit ridership and reduce transit operating costs per passenger.
- 7) Shift more funding to transit, pedestrian and bicycle needs.

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