

Date of Meeting: November 16, 2011

**BOARD OF SUPERVISORS
TRANSPORTATION AND LAND USE COMMITTEE
ACTION ITEM**

2

SUBJECT: Ashburn-Sterling Traffic Funnel Analysis and Potential Solutions

FORMER ELECTION DISTRICT: Potomac/Dulles/Broad Run/Sterling

NEW ELECTION DISTRICT: Broad Run/Algonkian/Sterling/Dulles

CRITICAL ACTION DATE: At the pleasure of the Board

**STAFF CONTACTS: Andrew Beacher, Director, Office of Transportation Services
Arkopal Goswami, Office of Transportation Services**

RECOMMENDATION:

Staff: Staff recommends that the Transportation and Land Use Committee (TLUC) recommend that the Board of Supervisors approve staff to execute the proposed traffic funnel analysis, including necessary updates to the County model to account for the latest regional land use projections and traffic analysis zone structure, as well as additional network links as adopted by the Board of Supervisors as part of the Route 28 CPAM. Staff further recommends that the Transportation and Land Use Committee recommend to the Board of Supervisors that staff process BA-121349 to approve the transfer of \$750,000 from The Woods Road project for the purposes of funding the proposed study.

BACKGROUND:

At its June 21 2011 business meeting, the Board of Supervisors voted 6-0-3 (Miller, Waters and York absent for the vote) to forward the subject Board member-initiated (Supervisor McGimsey) item to the Transportation and Land Use Committee (TLUC) for further review and action. The item directed that staff report to the Committee on issues related to the conducting of a traffic analysis of the Ashburn-Sterling “traffic funnel,” to include the Greenway, Route 606, Waxpool Road/Church Road, Gloucester Parkway/Nokes Boulevard, and Route 7, between Belmont Ridge Road and Atlantic Boulevard (see Attachment 1). Staff was further directed to provide estimated costs and funding options associated with updating the County’s modeling system and conducting the traffic analysis, and to present a work plan to complete the study. The study, if ultimately approved, would be expected to include recommendations for both transportation improvements and potential funding sources to implement those improvements. This item presents staff findings in response to Board direction.

Near-Term Issues

Attachment 1 shows the existing road network within the “funnel.” Many of the traffic congestion issues experienced today within the funnel are largely due to the fact that the

County's road network is not built out, as prescribed in the *2010 Countywide Transportation Plan (2010 CTP)*. The *2010 CTP* is the planning document which defines the County's long-range vision for transportation, based on a horizon year of 2030. The planned road network is shown at Attachment 2. The poor level of service exhibited today within the Waxpool Road corridor is a prime example of the results of an incomplete network. In this instance, much of the congestion on Waxpool Road can be directly attributed to the fact that planned alternatives to this corridor are not yet in place, often referred to as "missing links." Most significant of these missing links is the segment of Gloucester Parkway, between Loudoun County Parkway and Pacific Boulevard. Pacific Boulevard, between Nokes Boulevard and Russell Branch Parkway, would also serve to relieve the Waxpool Road corridor, although arguably to a lesser extent. These two segments would provide immediate relief to the Waxpool Road corridor by providing alternative east-west connections to Route 28.

In order to address existing poor level of service conditions, the County should continue to seek out ways to fully implement the planned road network as called for in the *2010 CTP*. In recent years, this has been increasingly challenging, as the Commonwealth, the entity responsible for the operation, maintenance and construction of the road network, has drastically reduced its funding allocations for secondary road improvements. For example, the current Six-Year Improvement Plan for secondary roads within Loudoun County allocates \$0 in new funding for construction. While the Commonwealth recently identified some temporary measures to provide an infusion of funds (a result of the recent audit of the Virginia Department of Transportation (VDOT)), and the County will benefit from these funds, namely with the construction of the interchange at the intersection of Routes 7 and 659, as well as the overpass at the intersection of the Leesburg Bypass and Sycolin Road, these measures are short-term in nature, only address some of the County's current needs, and do not address the issue of a long-term, sustainable funding source for transportation improvements. Given the actions at the State level, the County has been forced to identify alternative funding options. Among these are proffers (commitments from developers to fund certain improvements in association with land development opportunities), local bond referenda, Federal funds and Public-Private Transportation Act (PPTA) projects.

Despite the challenges, within the funnel area, the County has utilized a number of the aforementioned funding mechanisms to address the near-term needs of the transportation network, and has been fairly successful. The missing links of Gloucester Parkway and Pacific Boulevard, as identified above, are proffered improvements of the Kincora development. Furthermore, the developer of Kincora is currently exploring the potential to accelerate the construction of Gloucester Parkway, using the Commonwealth's newly created Virginia Transportation Infrastructure Bank (VTIB). The VTIB has been set up to offer low-interest loans to public and private entities in order to facilitate construction of needed improvements. In addition, there are a number of ongoing and programmed projects that will further improve the functionality of the road network within and around the area defined as the traffic funnel, as described below, and identified in Attachment 3.

- Loudoun County Parkway Widening (in vicinity of Redskins Park) – PPTA project to widen existing two-lane section to four lanes.

- Waxpool Road Widening (from Unbridled Way to Faulkner Parkway) – County project to widen existing two-lane section to four lanes.
- Waxpool Road Widening (from Faulkner Parkway to Ashburn Road) – proffered improvement to widen existing two-lane section to four lanes.
- Ashburn Village Boulevard (north of Waxpool Road) – proffered improvement to widen existing two-lane section to four lanes.
- Interchange at Routes 7 and 659 – County project to convert existing signalized intersection to a grade-separated interchange using local, State and Federal funds.
- Interchange at Route 7 and Ashburn Village Boulevard – proffered improvement to convert existing signalized intersection to a grade-separated interchange.
- Lexington Drive/Riverside Parkway (from Ashburn Village Boulevard to Lexington Drive) – proffered improvement to construct a four-lane roadway.
- Russell Branch Parkway (from Ashburn Road to Ashburn Village Boulevard) – County project to construct a four-lane roadway.
- Belmont Ridge Road Widening (from Gloucester Parkway to Portsmouth Boulevard) – the County has applied for a Federal grant to fund widening of the existing two-lane section to four lanes.
- Belmont Ridge Road Widening (from Broadlands Boulevard to Truro Parish Drive) – proffered improvement to widen existing two-lane section to four lanes.
- Claiborne Parkway (from Croson Lane to Ryan Road) – County project to construct a four-lane roadway.
- Atlantic Boulevard (from Magnolia Road to Church Road) – VDOT project to construct a four-lane roadway.

Finally, the Route 28 Tax District Commission is examining implementation of spot widening within the Route 28 corridor, the execution of which should improve congestion concerns within the corridor, particularly in the area proximate to the Dulles Toll Road/Dulles Greenway interchanges. The net result of the implementation of all of these projects will be a much-improved road network, one that should function at a significantly higher level of service.

Long-Term Issues

As the County continues to grow over the next twenty years, analysis indicates that the road network within the “funnel,” as planned in the *2010 CTP*, will largely support trips generated by the build-out of planned land uses. However, there are some areas of the network that are projected to experience significant congestion. These include Route 28, south of the Waxpool Road/Church Road interchange, as well as the Waxpool Road corridor itself (see Attachment 4). Note that these projections are not to be confused with existing congested conditions at the same locations. As discussed under near-term issues, these existing congested conditions are anticipated to be remedied in the near-term with the build-out of the road network.

Although not included in the CTP analysis, some consideration and analysis has already been given to these problem areas. As part of the Inter-jurisdictional Group (the multi-jurisdictional group of elected officials and staff from Loudoun County, Fairfax County and Herndon, brought together to examine transportation concerns within the area bounded by Route 28, Route 606, the

Dulles Toll Road and the Herndon Town line), several additional network links were studied and recommended to be added to the road network, and were ultimately adopted by the Board of Supervisors as part of the Route 28 Comprehensive Plan Amendment (CPAM). Key among these additional network links are the following (see also Attachment 5):

- The extension of Sterling Boulevard west from Pacific Boulevard to Moran Road – this planned improvement would likely provide additional relief to the Waxpool Road corridor from the south.
- The extension of Davis Drive south of Route 606 across the Dulles Toll Road – this planned improvement would likely relieve Route 28 in the vicinity of the Dulles Toll Road.
- The extension of Pacific Boulevard south of Route 606 and connecting to the west side of the Innovation Avenue interchange with Route 28 – this planned improvement would also likely relieve Route 28 in the vicinity of the Dulles Toll Road.

While the network links recommended by the Inter-jurisdictional Group are anticipated to address some of the long-term concerns raised in the CTP analysis, additional comprehensive analysis would be required to fully understand whether the needs of the greater traffic funnel will be served. For instance, the limited analysis undertaken for the Inter-jurisdictional Group was focused largely on the southern end of the Route 28 corridor, and of note, did not fully explore impacts to the Waxpool Road corridor, nor did it examine the impacts to the rest of the CTP network. The optimum tool for completion of such a comprehensive analysis is the County's traffic model.

Additionally, since the completion of the CTP analysis, as well as the Inter-jurisdictional Group analysis, regional land use forecasts have been updated (to "Round 8.0"), and the Metropolitan Washington Council of Governments' (MWCOG) traffic analysis zone (TAZ) structure, used in the regional traffic model (upon which the County's model is based), has been refined. The County's traffic model currently reflects land use projections as of Round 7.0, as well as the region's earlier TAZ structure (although it had been subdivided into more detailed sub-zones, specifically for Loudoun County).

Proposed Analysis

In light of the above, in order to understand the long-term needs of the traffic funnel area, it is recommended that a thorough, comprehensive analysis be conducted, one that updates the County model to reflect the most recent adopted land use forecasts for the region, the updated MWCOG TAZ structure, and includes the additional network links adopted by the Board of Supervisors as part of the Route 28 CPAM. Once a new baseline understanding of the operation of the network has been established, options can be explored to improve any remaining problem areas. These options may include additional road network improvements, considered within the context of the corridor in which they are proposed, as well as additional multi-modal recommendations where appropriate. The level of expertise required to conduct such an analysis exceeds that of the County's in-house staff. As with previous updates to, and analyses using the County model, it would be necessary to hire a consultant to complete the proposed analysis, with County staff providing oversight and input. Staff estimates that the total cost to conduct the proposed analysis would be approximately \$600,000. The cost estimate was developed based on

the cost of similar work performed as part of the CTP update and consultations with VDOT staff and the consultant community.

Proposed Work Plan

With the Board of Supervisors' approval, Office of Transportation Services staff would work with the Office of Procurement to solicit proposals for the required analysis. Upon the award of a contract to complete the work, a Senior Transportation Planner would serve as project manager for the effort, with oversight provided by the Office of Transportation Services' Assistant Director. Staff estimates that the total time to complete the project would be approximately 12 months, in order to allow for sufficient time to update the County's traffic model, conduct model runs, identify and test suggested improvements, make recommendations, and allow for review by the Transportation and Land Use Committee and Board of Supervisors. Staff also recommends including a public input component to allow for public comment on the proposed recommendations.

FISCAL IMPACT:

This effort will require the hiring of a consultant to perform the technical analyses associated with the work scope. Staff estimates the cost of this effort to be approximately \$600,000. Staff has identified local funds in the Capital Improvement Project account for The Woods Road project (\$750,000), which could be transferred to this project and fully fund the analysis. VDOT took over the Woods Road project from the County, freeing up local funds on the project to be used for the study. As these funds are no longer necessary for The Woods Road project, staff recommends that a budget adjustment (BA) be processed to approve transfer of the funds into a new account, designated for the traffic funnel analysis. While staff estimates the cost of the study to be approximately \$600,000, staff recommends the full \$750,000 be set aside for the study in the event that actual costs exceed the current estimate.

DRAFT MOTIONS:

1. I move that the Transportation and Land Use Committee recommend to the Board of Supervisors that they approve staff to execute the proposed traffic funnel analysis, including necessary updates to the County model to account for the latest land use projections and traffic analysis zone structure as well as additional network links as adopted by the Board of Supervisors as part of the Route 28 CPAM. I further move that the Transportation and Land Use Committee recommend to the Board of Supervisors that staff process BA-121349 to approve the transfer of \$750,000 from The Woods Road project for the purposes of funding the proposed study.

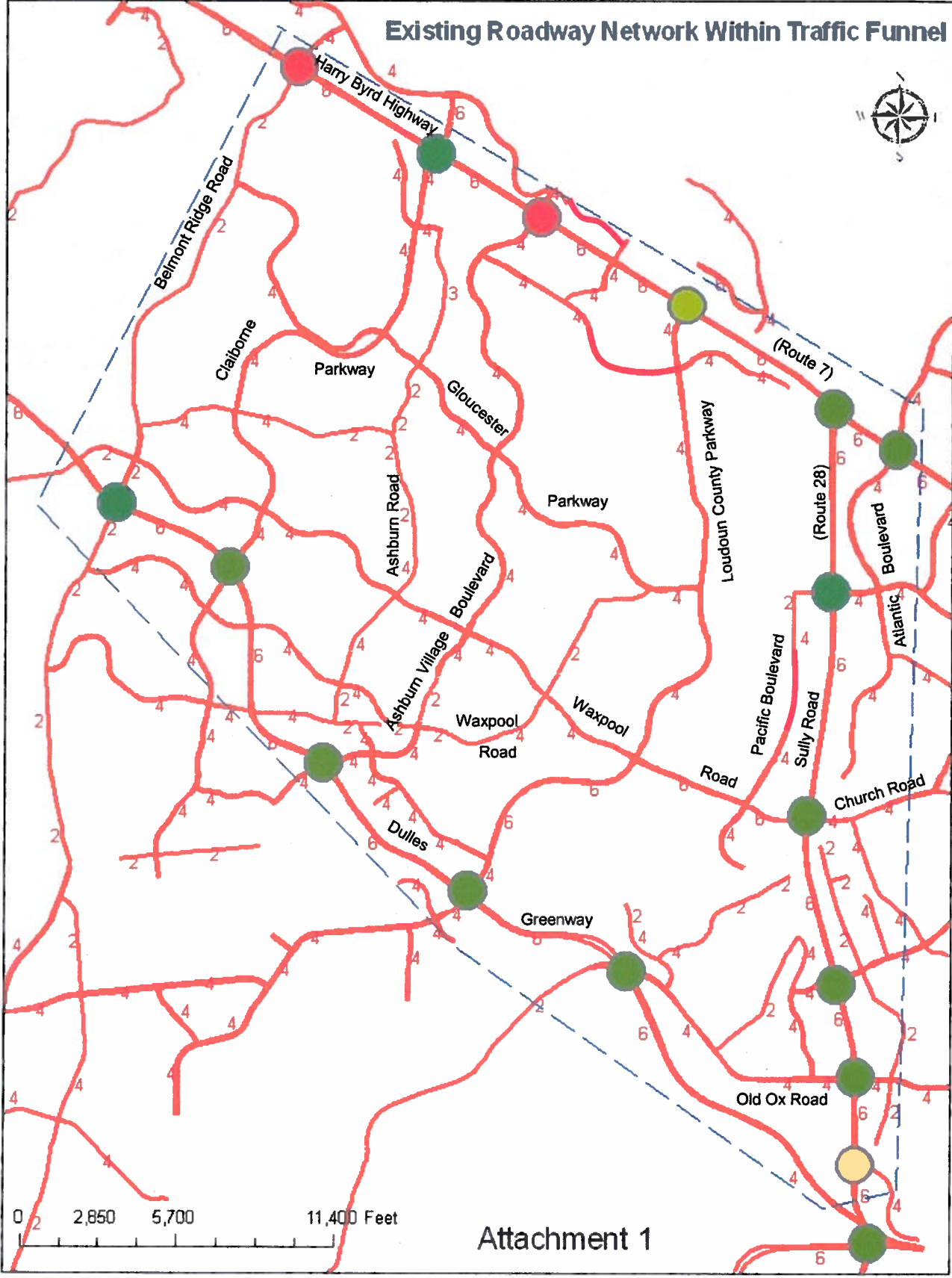
-OR-

2. I move an alternative motion.

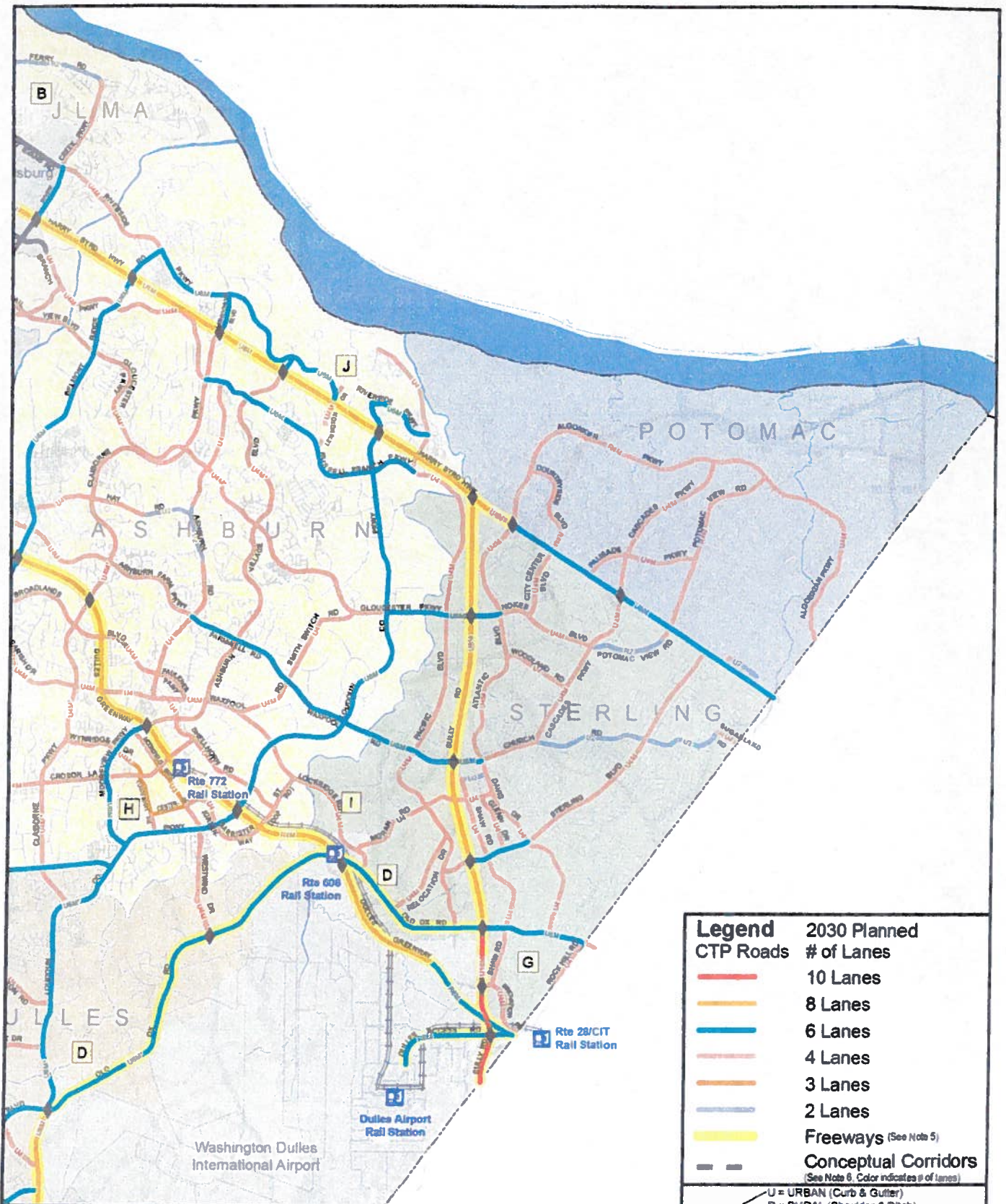
ATTACHMENTS:

1. Existing Road Network within Traffic Funnel
2. 2010 CTP Planned Road Network within Traffic Funnel
3. Ongoing and Programmed Projects within Traffic Funnel
4. 2010 CTP Level of Service Projections within Traffic Funnel
5. Inter-jurisdictional Group Recommended Improvements

Existing Roadway Network Within Traffic Funnel



Attachment 1



**Loudoun County
Countywide Transportation
Plan Update**

**Figure 2-1b
Revised Countywide
Transportation Plan
Eastern Loudoun Area**

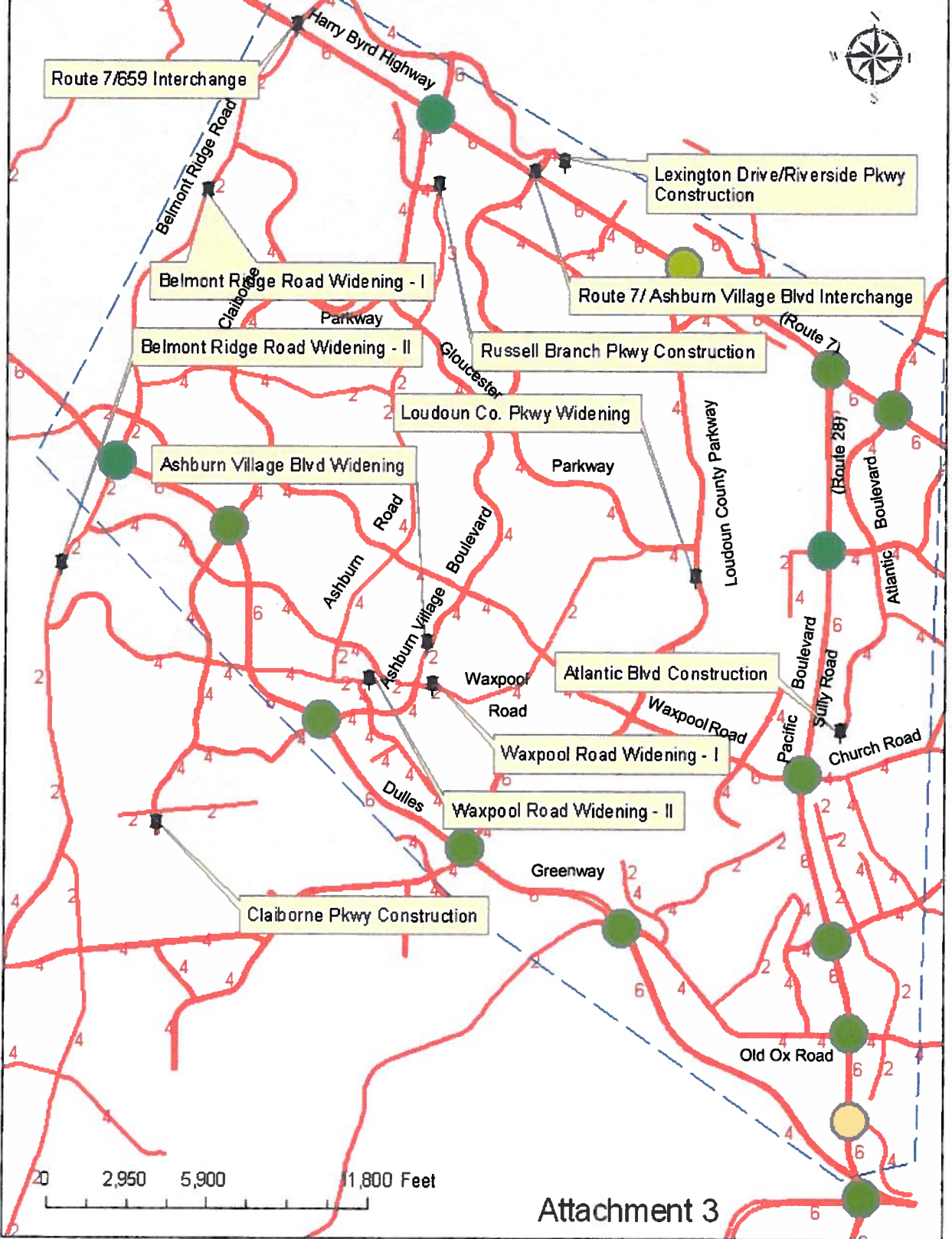


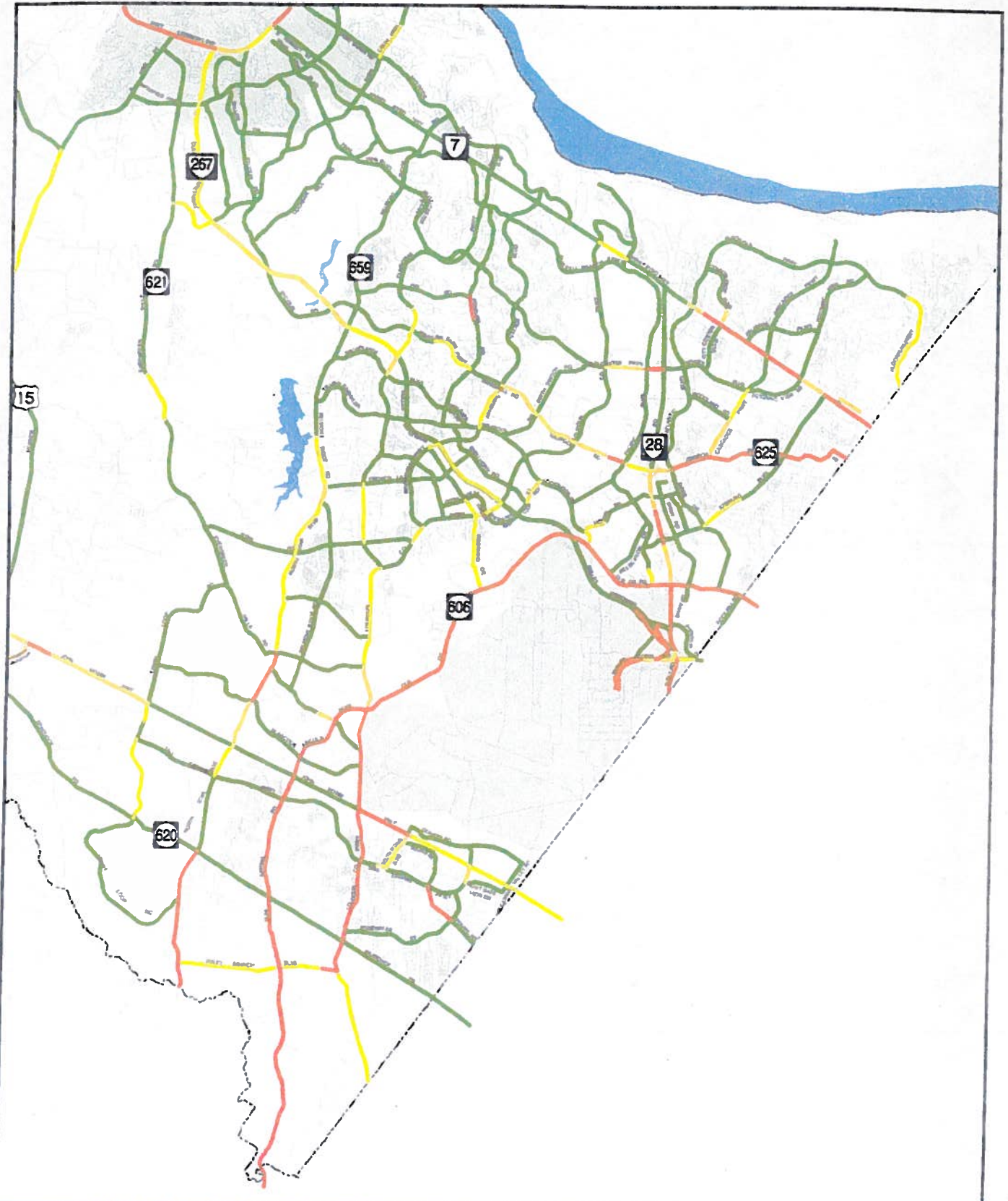
Legend	2030 Planned CTP Roads	# of Lanes
		10 Lanes
		8 Lanes
		6 Lanes
		4 Lanes
		3 Lanes
		2 Lanes
		Freeways (See Note 5)
		Conceptual Corridors (See Note 6. Color indicates # of lanes)

U4M	Description
U	URBAN (Curb & Gutter)
R	RURAL (Shoulder & Ditch)
4	4 LANES IN 120' RIGHT OF WAY OR
6	6 LANES IN 200' RIGHT OF WAY
M	MEDIAN DIVIDED
2 3 4 6 8 10	TOTAL # OF LANES

	Existing/Planned Interchange
	Existing/Planned Roundabout
	Planned Metrorail Station
	MetroRail

Ongoing and Programmed Projects within Traffic Funnel





**Loudoun County
Countywide Transportation
Plan Update**

**Figure A2-4a
2030 Level of Service
Revised CTP Network
East**



Level of Service



Route 28/Toll Road Area Regional Transportation Concepts

Inter-jurisdictional Staff Working Group

