County of Fairfax, Virginia

MEMORANDUM

DATE: April 15, 2010

TO: Members, Fairfax County Planning Commission

FROM: Daniel B. Rathbone, Chief
Transportation Planning Division
Fairfax County Department of Transportation

SUBJECT: Required Additional Road Improvements to Accommodate 60 Million sq. ft. of Development (2013 - 2020), Table 8 of the Tysons Corner Urban Center Draft Plan Amendment (Markup Version, March 24, 2010)

At the March 24 meeting of the Planning Commission's Tysons Committee, the Committee requested FCDOT staff to provide reasons for the proposed road projects listed in Section II of Table 8. The methodology applied and the resulting reasons for these recommended improvements are provided below.

Methodology

The proposed road improvements listed in table 8 (for 60 million sq. ft. of development – see table below) in the Draft Plan Amendment resulted from the following steps:

Step 1 – Land Use Scenario Testing

Transportation modeling analysis of land use scenarios prior to the detailed (Phase III) 2030 analysis provided the following results:

- Entrances to Tysons are limited and therefore have capacity problems, and;
- More internal streets (a grid where possible) effectively distributes traffic within Tysons.

The Phase III 2030 transportation modeling analysis tested a network that contained a grid of streets, additional entrances to and from Tysons and additional grade separations on Virginia Route 123 and Virginia Route 7 within Tysons. This analysis provided the following results:

- Additional entrances assisted in accommodating traffic to and from Tysons.
- Internal streets (a grid where possible) continued to effectively distribute traffic within Tysons.
- Grade separations on Virginia Route 123 and Virginia Route 7 resulted in limited improvement in traffic flow and increased through traffic. As a result the recommended 2030 Comprehensive Plan Network excludes three interchanges contained in the existing Comprehensive Plan Network: an interchange at Virginia Route 123 and International Drive; an interchange at Virginia Route 7 and International Drive, and an interchange at Virginia Route 7 and Westpark Dr/Gosnell Rd.
- A very high estimated traffic volume on Route 7 between Route 123 and I-495.

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Step 2 – Prioritization of Road Improvements (Phasing Analysis)
To maintain a balance between land use and transportation over time, a phasing analysis was performed to determine when specific improvements are required. In general terms, the estimated 2020 intensity of land use for Tysons was applied to the base (2005 updated to 2009) network. Improvements were identified and added to the base network then the proposed 2030 Comprehensive Plan Land Use was applied to the modified base network to determine further improvements. The objective of this exercise was to determine the impact of network elements on the system as a whole. The determination of the importance and corresponding impact of these network elements on the systematic traffic flow in the study was done by focusing on 16 benchmark intersections that provide an overview of the study area as a whole and formed the basis for the key performance measure applied to determine the network phasing needs.

Reasons for Recommended Improvements
The recommended projects to accommodate 60 million sq. ft. of development can be divided up into three categories:

1. Initial elements of the grid of streets
2. Additional connections to the Dulles Toll Road
3. Widening of Route 7 from Route 123 to I-495

Initial Elements of the Grid of Streets
An existing conditions analysis indicated that arterials within Tysons experience significant congestion. For example, Route 123 and International Drive, Route 123 and Gosnell Rd., Route 7 and Tyco Rd, Route 7 and Gallows Rd., International Drive and Jones Branch Drive. The grid of streets create alternative routes for vehicles and in so doing reduce the amount of congestion within Tysons. The grid of streets provide other important enhancements such as a pedestrian and bicycle friendly environment, smaller block sizes than the existing superblocks, and an attractive streetscape.

Additional Connections to the Dulles Toll Road
Existing conditions analyses indicate that the Tysons interchanges on the Dulles Toll Road experience congestion particularly during the p.m. peak period. Existing delay will increase 100% by 2030 with no improvements. Additional connections to and from the Dulles Toll Road will divert traffic away from the existing interchanges.

Widening of Route 7 from Route 123 to I-495
This section of Route 7 experiences significant congestion particularly during peak periods. Even with the grid of streets in place, this section of Route 7 needs to accommodate a high volume of traffic in 2030 that cannot be accommodated with the existing configuration.

Final Considerations

- The recommended improvements are based on the assumption of a particular land use distribution. If this distribution differs significantly from what was assumed, the prioritized order of improvements might change.
- The pace of development can influence the need for improvements by a particular year in future. The pace of development assumed in the transportation analysis was provided by a GMU market analysis.
- The connections, and the ability to merge with traffic on the Dulles Toll Road was not considered part of the scope of analysis completed for the existing Comprehensive Plan for Tysons. If this type of analysis was done at that time, all indications are that improvements similar to what we are proposing in the new draft Comprehansive Plan would have been proposed.
- The recommend road improvement to accommodate the 60 million sq. ft. of development therefore consist of initial elements of the grid of streets which is an important part of the vision for Tysons, improvements to connections between the Dulles Toll Road and Tysons which would have formed part of the existing Comprehensive Plan if it was analyzed, and improvements to Route 7 between Route 123 and I-495 which is already included in the existing Comprehensive Plan.

Recommended Road Projects to Accommodate 60 Million sq. ft. of Development

Type of Transportation Program or Infrastructure Project	Description of Transportation Program or Infrastructure Project	Area Served by Improvement
Tysons-wide road improvements		
Roads – Arterial Widening	Widen Rt. 7 from Rt. 123 to I-495	Tysons-wide
Roads – Arterial Extension	Extend Boone Boulevard from Boone Boulevard to Northern Neck Drive	Tysons-wide
Roads – Arterial Extension	Extend Greensboro Drive from Spring Hill Road to Tyco Road	District
Roads – Freeway Ramp	Ramp connecting Greensboro Drive extension to westbound Dulles Toll Road	Tysons-wide
Roads – Freeway Ramps	Ramps connecting Boone Blvd. extension to westbound Dulles Toll Road and eastbound Dulles Toll Road to Boone Blvd. extension.	Tysons-wide
Roads – Freeway Widening	Collector – distributor roads along the Dulles Toll Road from Greensboro Drive extension to Hunter Mill Rd.	Tysons-wide
Roads – Connecting Ramp	Ramp connecting Jones Branch Drive to Scotts Crossing Road	Tysons-wide
Grid of Streets		
Roads – Grid of Streets	Grid west of Westpark Drive	District
Roads – Grid of Streets	Grid bounded by Gosnell Rd., Rt. 7, and Rt. 123	District
Roads – Grid of Streets	Grid connections to Greensboro Drive	District
Roads – Grid of Streets	Grid of streets east of I-495	District