

# Update on FCDOT Tysons Corner Studies

May 16, 2012

## FCDOT Tysons Area Studies

1. Tysons Corner Consolidated Transportation Impact Analyses (CTIA)
2. Jones Branch Connector
3. Operational Analysis of Dulles Toll Road Ramps to Tysons
4. Tysons Corner Interim Parking
5. Tysons Metrorail Station Access Management Study (TMSAMS)
6. Tysons Corner Circulator Study: Preliminary Results Summary

## Tysons Corner Consolidated Transportation Impact Analyses (CTIAs)

## Purpose of CTIAs

- Analyze impact of pipeline developments. Individual impact studies (TIAs) do not consider pipeline developments
- Analyze 2030 and 2050 levels of development for the analysis area and determine associated mitigation measures
- Finalize grid of streets including
  - Functional classification
  - Number of lanes between and at intersections
  - Accommodation of transit, bikes, and pedestrians
  - Right-of-way needs
- Create a Tysons-wide simulation model

**Macroscopic Models – Regional Transportation Model**  
Public policy, regionally significant projects

**Mesoscopic Models – Sub Area Extractions**  
Link regional trip purpose to details of micro-simulation models

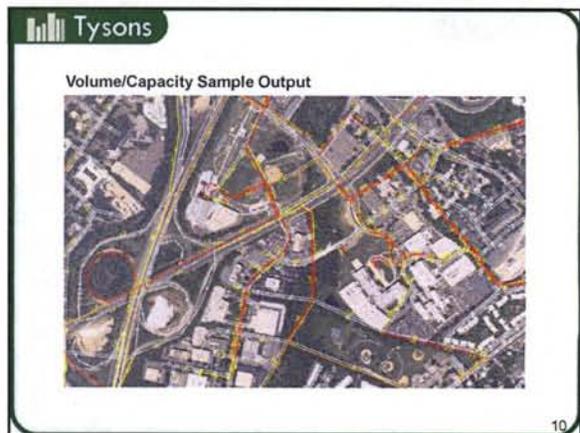
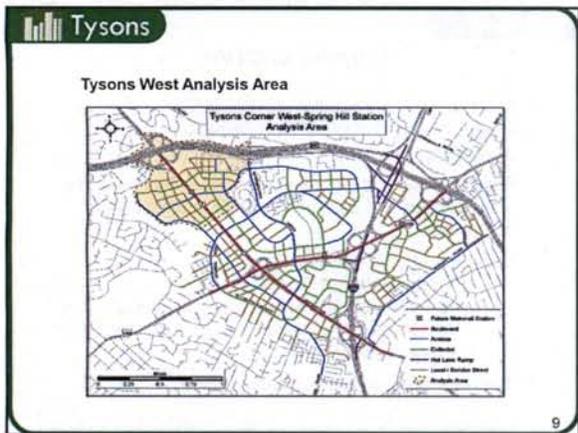
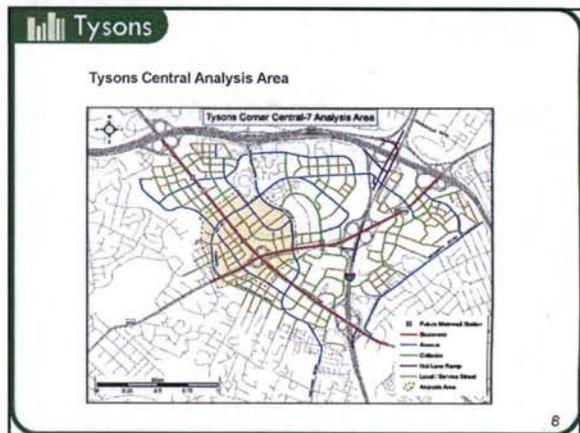
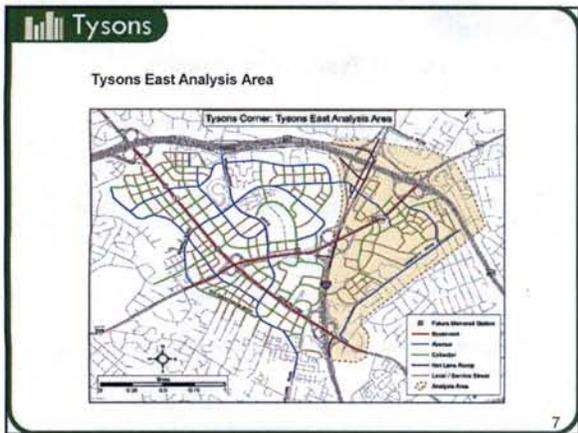
**Microscopic Models – Street Traffic analysis**  
"Visualization" of solutions, detailed intersection operations analysis



Tysons East is used as an example

MWCOG Regional Model





- Tysons**
- Measures of Effectiveness (MOE)**
- Level of Service and Delay at Intersections
  - Vehicles Mile Travel
  - Hours of Delay
  - Average Speed
  - Travel Time
  - Queue Length
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- Tysons**
- CTIA Process with Stakeholders**
- Weekly meetings
  - Inclusive, collaborative process
  - Full access to information
  - Analyze suggestions from stakeholders
  - Many iterations (40) of testing alternative mitigation measures – what transportation measures are required to accommodate proposed land use intensity levels?
  - Focus is cost-effectiveness
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**CTIA Analysis Process – Tiered Approach**

1. No right of way impact (traffic reassignment, signal modification, lane restriping)
2. Some right of way impact (turn lanes, additional through lane, additional grid link)
3. Additional mitigation

**TIER 2 – ROW Impacts**



**TIER 2 – ROW Impacts**



**TIER 3 – Additional Mitigation**



**Conclusions (Tysons East)**

- Traffic impacts were mitigated
- Identified right-of-way needs
- Finalized grid of streets

**Next Steps**

- Submit analysis to VDOT to meet VA traffic impact study requirements
- Plan amendment

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## Jones Branch Connector

Summary of Preliminary Design Efforts

- Goals
  - Develop preliminary design for the Jones Branch Connector which will provide connection between Dolley Madison Blvd (Route 123) and Jones Branch Drive
  - Develop cross sections which are in accordance with urban design elements for Tysons and which will support multi-modal forms of transportation including transit, pedestrians, bicycles and vehicles

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## Jones Branch Connector

Summary of Preliminary Design Efforts

- Project Update
  - Conceptual layout developed
  - Preliminary design (30% level), environmental and traffic analyses efforts underway
  - Estimated completion of preliminary level design, environmental and traffic analyses efforts anticipated during Fall 2012

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## Jones Branch Connector

- Draft Plan Development (Work in progress)



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## Operational Analysis of Dulles Toll Road Ramps to Tysons



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## Preferred Options

- Developed nine scenarios including providing upgrades to existing Route 7 and Spring Hill Road Interchanges
- Improvements to existing Route 7 and Spring Hill Road Interchanges were not cost effective based on the minimal capacity added
- Compared three preferred alternatives against the "No Build" Alternative
- Measured the Network Performance of each preferred option and compared traffic operations



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## Preferred Options

Preferred Option 1 – Boone Boulevard, Greensboro Drive




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## Preferred Options

Preferred Option 2 – Urban Frontage Road




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## Preferred Options

Preferred Option 3 – Boone Boulevard, Greensboro Drive, Jones Branch




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## Next Steps

- Tysons Partnership Briefing            May 23, 2012
- Public Information Meeting            May 31, 2012
- Evaluate Impacts                        Summer 2012
- Second Public Information Meeting    Fall 2012
- Study Completion                        Winter 2012

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## Tysons Corner Interim Parking

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## Background

- The Comprehensive Plan amendment identified the need for interim parking at the rail stations until there is a critical mass of new development around the stations.
- County staff reviewed requirements for commercial parking and ways in which this parking could be provided.
- County staff identified 25-30 potential sites within ¼ mile of the new stations
- Owners of the more promising sites contacted to determine their level of interest.
- Limited interest expressed so far.
- County is now preparing a formal Request for Interest to gauge potential interest.

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## Interim Parking RFI

- Pursues Interim Commuter Parking Agreements with interested property owners.
- Proposed sites should be located within ¼ mile of a Metrorail station in Tysons Corner.
- Proposals should utilize existing surface parking lots/garages or new surface parking lots in Tysons Corner.
- The Interim Parking RFI process is anticipated to begin approximately 12 months prior to the opening of the Metrorail stations in Tysons Corner.

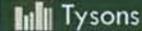
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## Tysons Metrorail Station Assess Study (TMSAMS)

- Study Goals Include:
  - Educate the public on alternative mode transportation improvement recommendations that have been made to improve access to the four Metrorail Stations in Tysons.
  - Identify how the public would like these improvement recommendations to be prioritized.
  - Identify areas or topics, pertaining to improving bus, bicycle and pedestrian access to the rail stations in Tysons, that need additional analysis or study.

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## Tysons Metrorail Station Assess Study (TMSAMS)

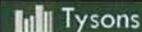
- Significant public input received through the TMSAMS public outreach process.
- TMSAMS Final Report was complete in October 2011.
- Report submitted to Board in December 2011.
- Staff recommendation being considered by the Board in May 2012.
- Funding identified to begin implementation of recommended projects.

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## Tysons Corner Circulator Study: Preliminary Results Summary

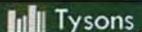
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## Study Purpose

- LONG RANGE Planning study to support Tysons Corner redevelopment and rezoning process
  - Design circulator system to support goal of maximizing transit trips/minimizing auto trips
- Identify needed transit preferential treatments
  - Support a reliable and effective circulator system
  - Identify required expansion of right of way – may require additional adjacent land

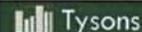
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## Planning Process

- Peer analysis of circulator systems in other cities
- Project goals and objectives
- Network development process
- Long range ridership forecasts
- Transit preferential treatments
- Mode options
- Operating and capital costs
- Finalize recommendations

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## Network Development Process

- Five preliminary networks developed initially
  - Long range design based on 2050 forecasted conditions
  - Individual routes developed – combined into networks
- Evaluation of five preliminary route networks
- Network #1 and Network #2 selected for more detailed evaluation

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### Detailed Network Evaluation

- Evaluation criteria
  - Daily ridership
  - Boardings per revenue hour
  - Operating cost per rider
  - Capital cost per rider
  - Circulator travel time between select origins/destinations
  - Change in transit mode share
  - Run time variability – congestion

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### Transit Preferential Treatments

- Types
  - Dedicated transit lanes
  - Queue jumps
  - Transit signal priority
- Factors considered
  - Level of congestion (speed)
  - Queue length at intersections
  - Transit vehicle volumes
  - Person carrying capacity

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### Identified Areas for Exclusivity

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### Next Steps

- Select final network
- Finalize transit preferential treatment recommendations
- Recommend modes – bus, streetcar/light rail/other
- Calculate costs
- Refine ridership forecasts – final network
- Complete final report in Spring 2012

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