



Transportation Design Standards for Tysons Corner Urban Center

Fairfax County
Transportation Advisory Committee
June 21, 2011



Purpose

- The purpose for creating the design standards was to develop a platform by which the Tysons Corner Urban Center Comprehensive Plan could be implemented.
- VDOT's current design standards are primarily based on high speed rural and suburban design parameters.
- The new standards are based on context sensitive design parameters, that accommodate low speed urban roadway, pedestrian, bicycle, and transit design.
- The new standards create a flexible platform to allow for construction of a grid of public streets in Tysons Corner.



Process

- Draft standards were developed by Fairfax County DOT and other county agencies, in partnership with VDOT. VDOT's flexibility and support in development of the standards was instrumental.
- Multiple outside private parties have been involved with the review. Discussions with the Tysons Partnership are ongoing.
- Draft standards are being reviewed by VDOT NOVA office and VDOT Central Office in Richmond.
- Draft Memorandum of Agreement (MOA) with VDOT is being prepared for the purpose of implementing the design standards, and establishing a framework for allowing private maintenance of enhanced infrastructure and snow removal in Tysons Corner.



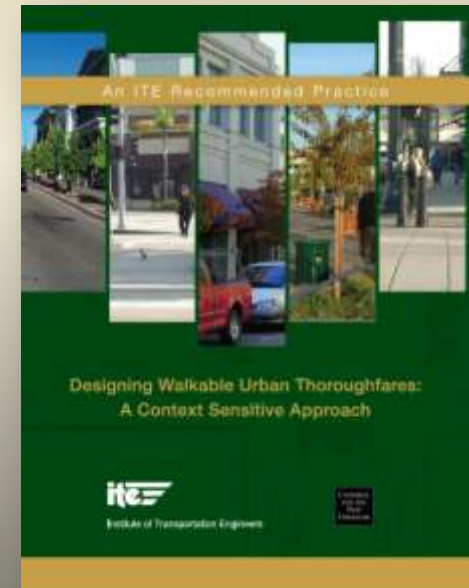
Agencies and Parties Involved

- VDOT
- Fairfax County DOT
- Public Works and Environmental Services
- Planning and Zoning
- Community Redevelopment and Reinvestment
- Code Analysis
- Fire Prevention
- Urban Forestry
- County Attorney's Office
- The Tysons Partnership
- Numerous private land owners, brokers, and real estate agents
- Private consulting firms involved with redevelopment of Tysons Corner
- Neighborhood Associations



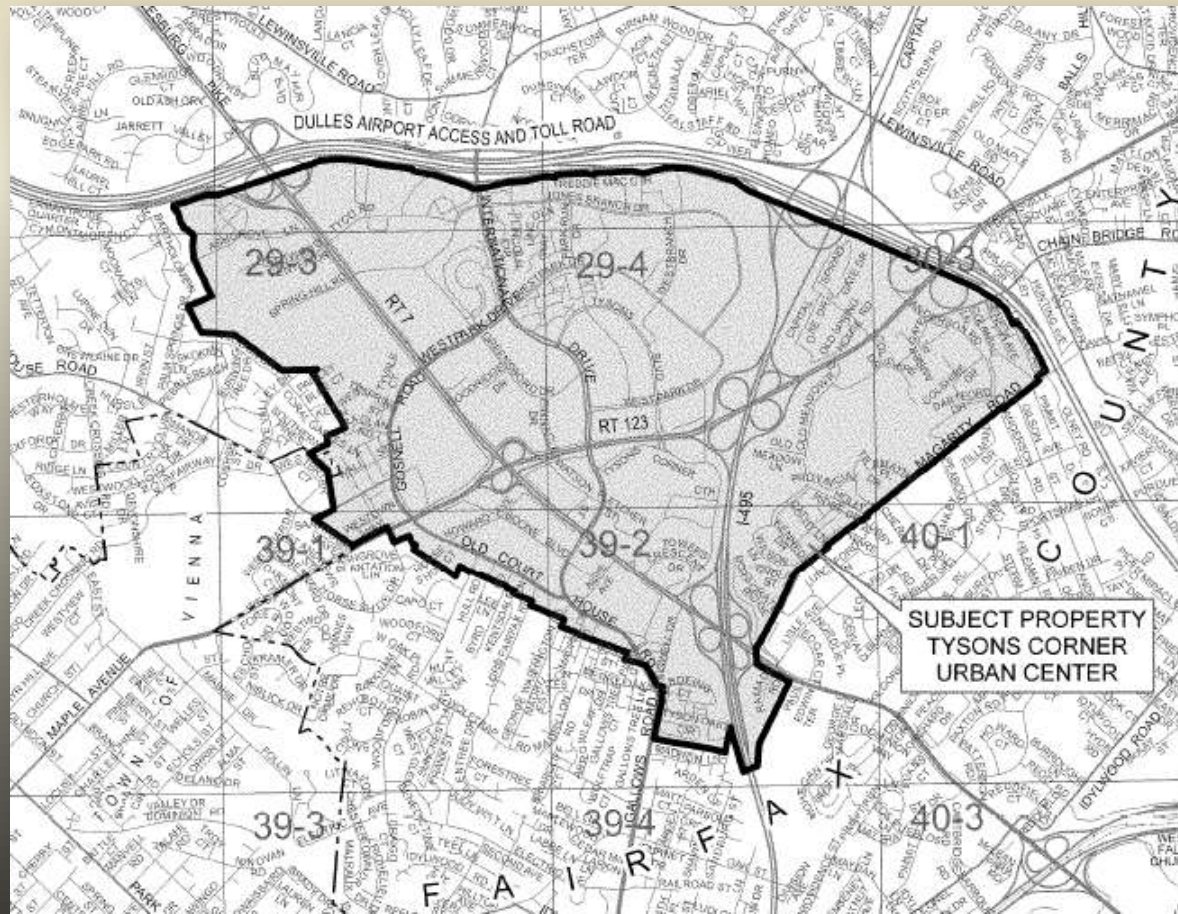
Primary Reference Sources

- Tysons Corner Urban Center Comprehensive Plan.
- Institute of Transportation Engineers (ITE) recommended practice: Designing Walkable Urban Thoroughfares: A Context Sensitive Approach, 2010.
- American Association of State Highway and Transportation Officials (AASHTO), A Policy on Geometric Design of Highways and Streets, 2004; low speed urban street design.
- VDOT Access Management Design Standards for Entrances and Intersections.





Tysons Corner Urban Center Boundary





Context Land Use Zones

- A wide variety of factors create context in the urban environment:
 - Land use and zoning
 - Block length
 - Parking type and orientation
 - Building orientation and setback
 - Building height and thoroughfare enclosure
 - Building width
 - Building scale and variety
 - Building entries

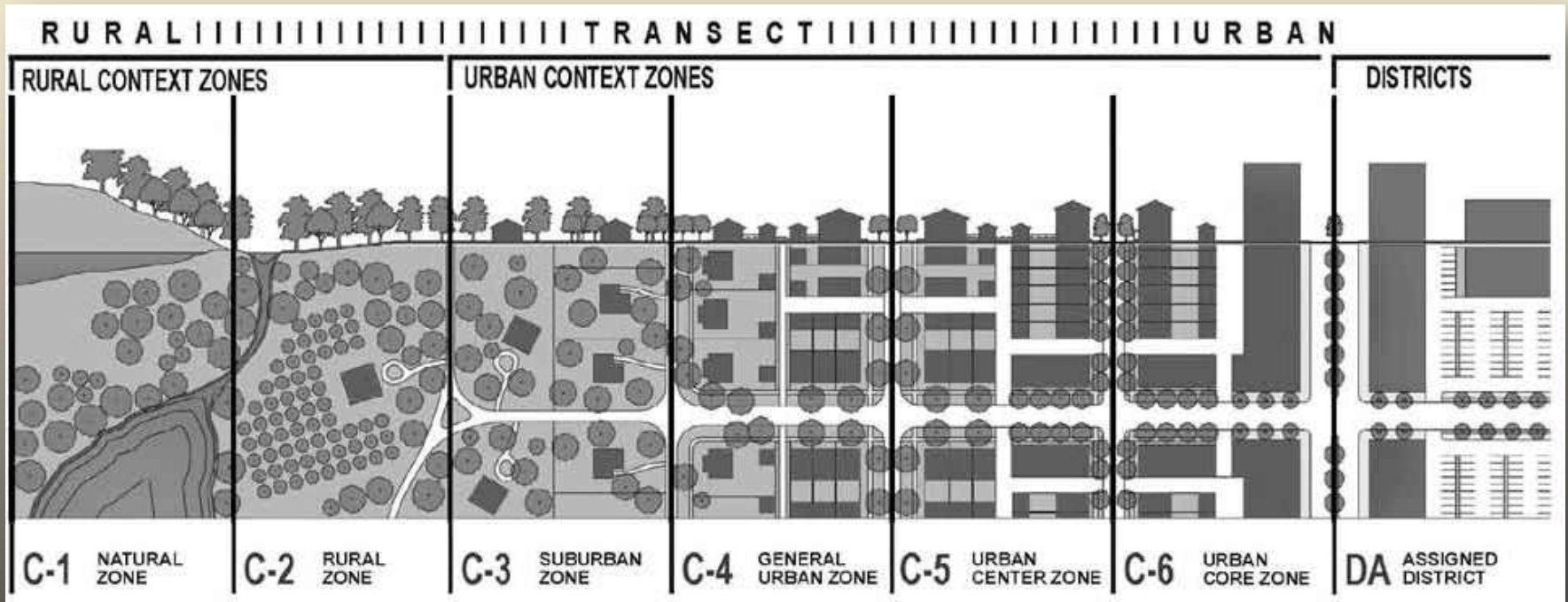


ITE Context Zone Characteristics

Natural Zone C-1	Rural C-2	Suburban C-3	General Urban C-4	Urban Center C-5	Urban Core C-6 (recommended)
Natural Landscape.	Agricultural with scattered Development.	Primarily single family residential.	Mix of housing types including attached units, with a range of commercial and civic activity.	Attached housing types, such as townhouses and apartments mixed with retail, workplace, and civic activities.	Highest-intensity areas, with high-density residential and workplace uses, entertainment, civic, and cultural uses.



ITE Context Zone Characteristics





Functional Classifications

- “Functional classification is the process by which streets and highways are grouped into classes, or systems, according to the character of service they are intended to provide.” (FHWA)
- For this set of standards, it was necessary to balance and blend three separate classification systems into one useable system:
 - Federal Classification system used by VDOT, including primary National Highway System (NHS) routes, and secondary routes;
 - Tysons Corner Urban Center Comprehensive Plan; and
 - ITE classifications based on context zone characteristics, and context sensitive solutions for designing urban thoroughfares



ELEMENTS OF THE DESIGN STANDARDS

Note:

The following slides are based on the current version of the Draft Design Standards for the Tysons Corner Urban Center, and are subject to change as further comments are received and discussions continue.

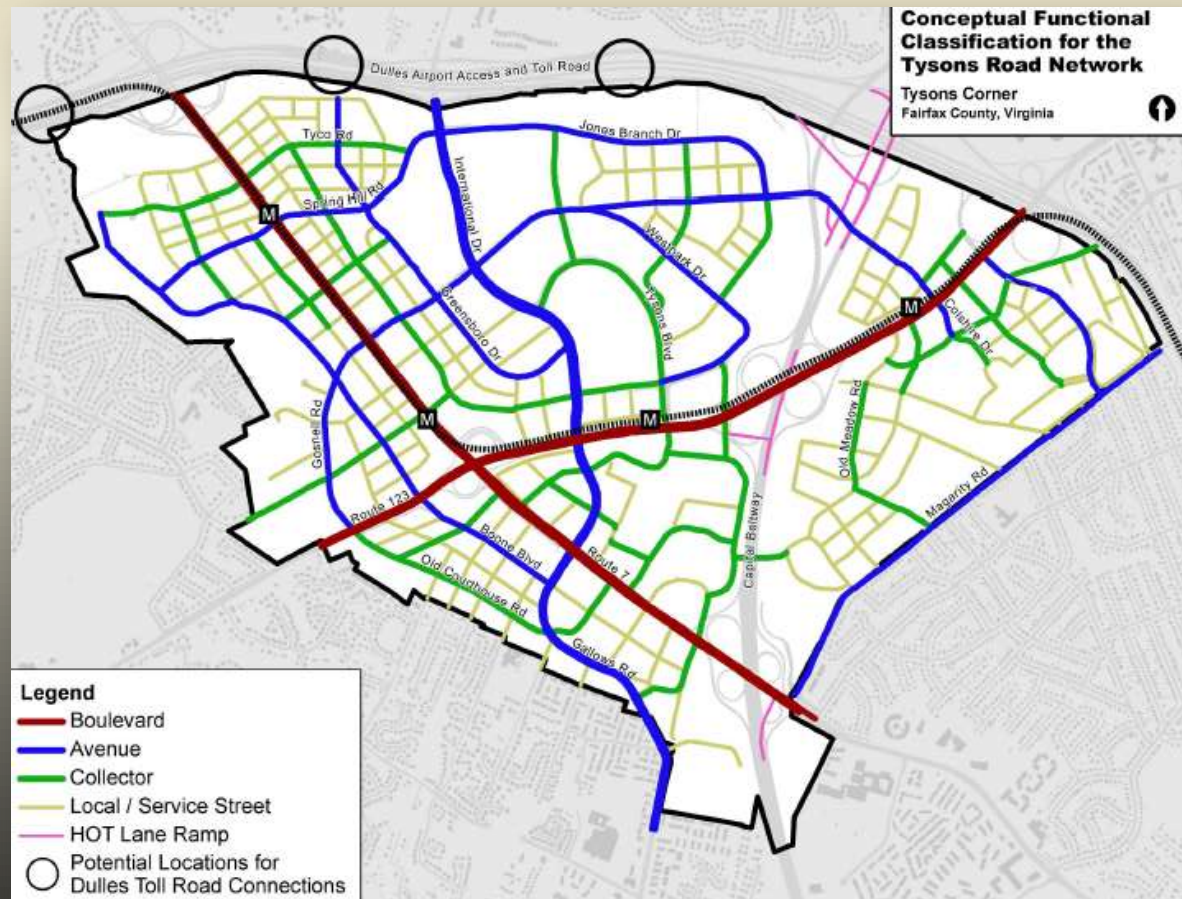


Recommended Functional Classifications

Recommended Functional Classification	Tysons Corner Comprehensive Plan Functional Classification	ITE Functional Classification	Federal Highway Function Classification
Low Speed Boulevard	Boulevard	Low Speed Boulevard	Principal Arterial
Avenue	Avenue	Avenue	Minor Arterial or Collector
Collector	Collector	N/A	Collector or Local
Local Street	Local Street	Local	Local
Service Street	Service Street	Alley/Rear Lane	N/A

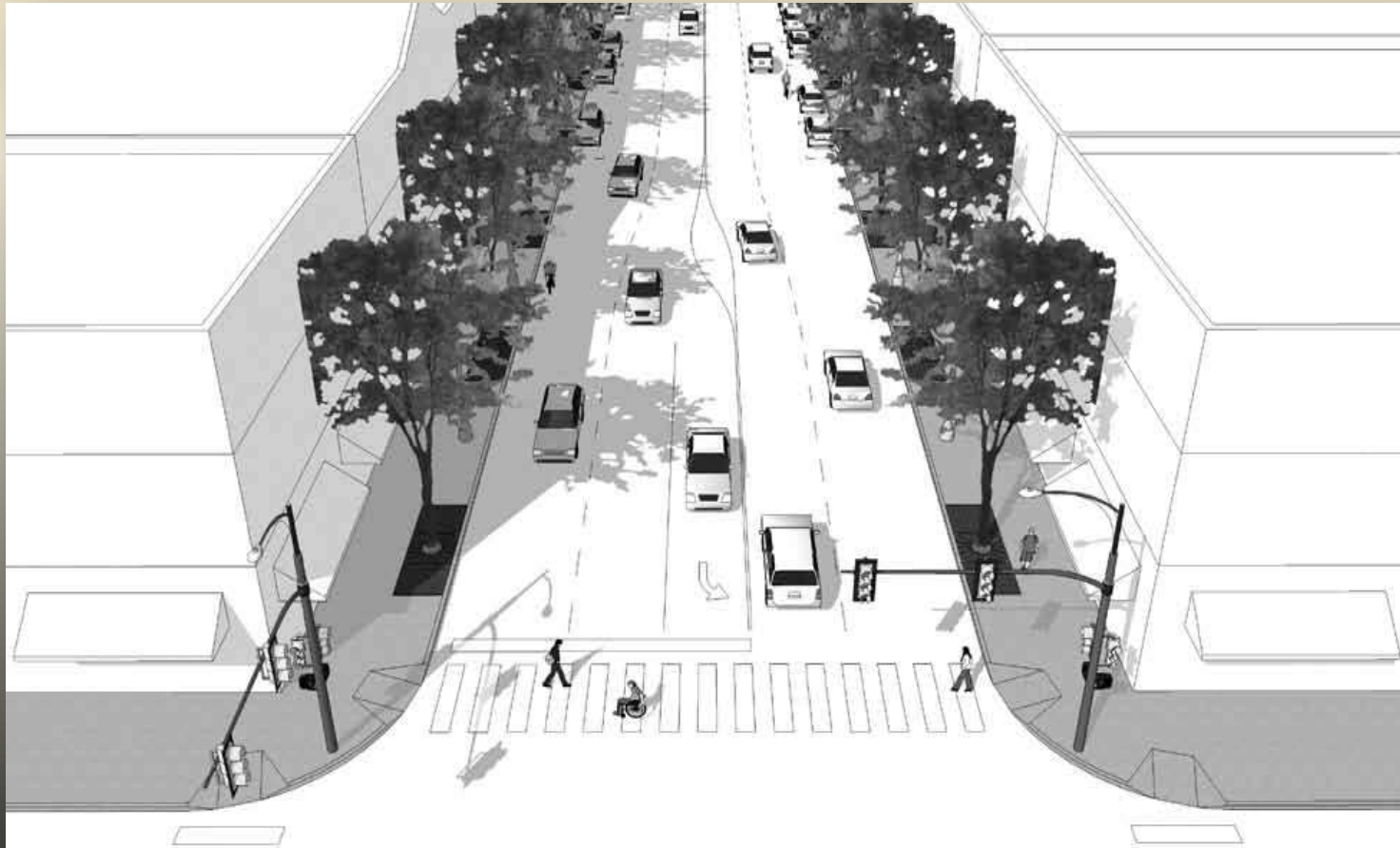


Comp Plan Functional Classification Map



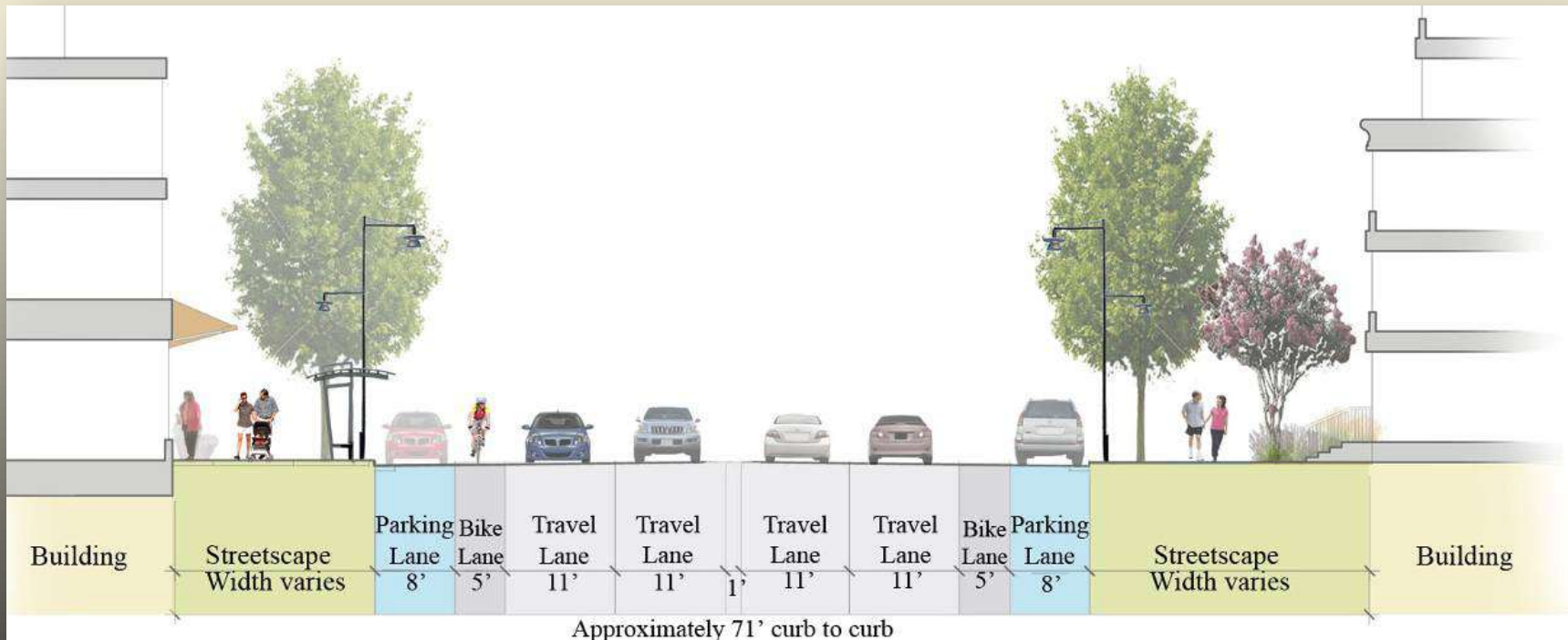


Example of Urban Avenue or Collector



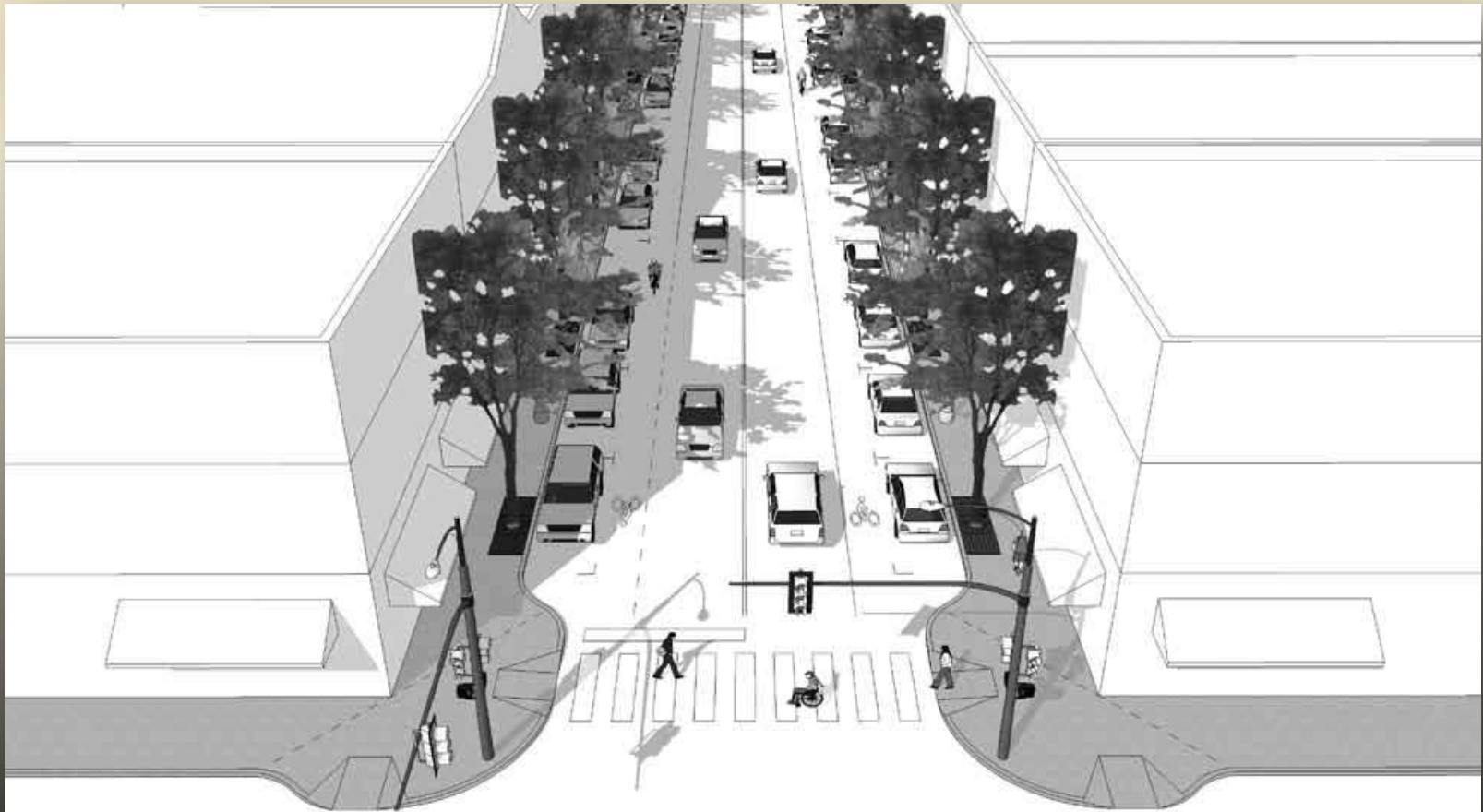


Example of Urban Avenue or Collector



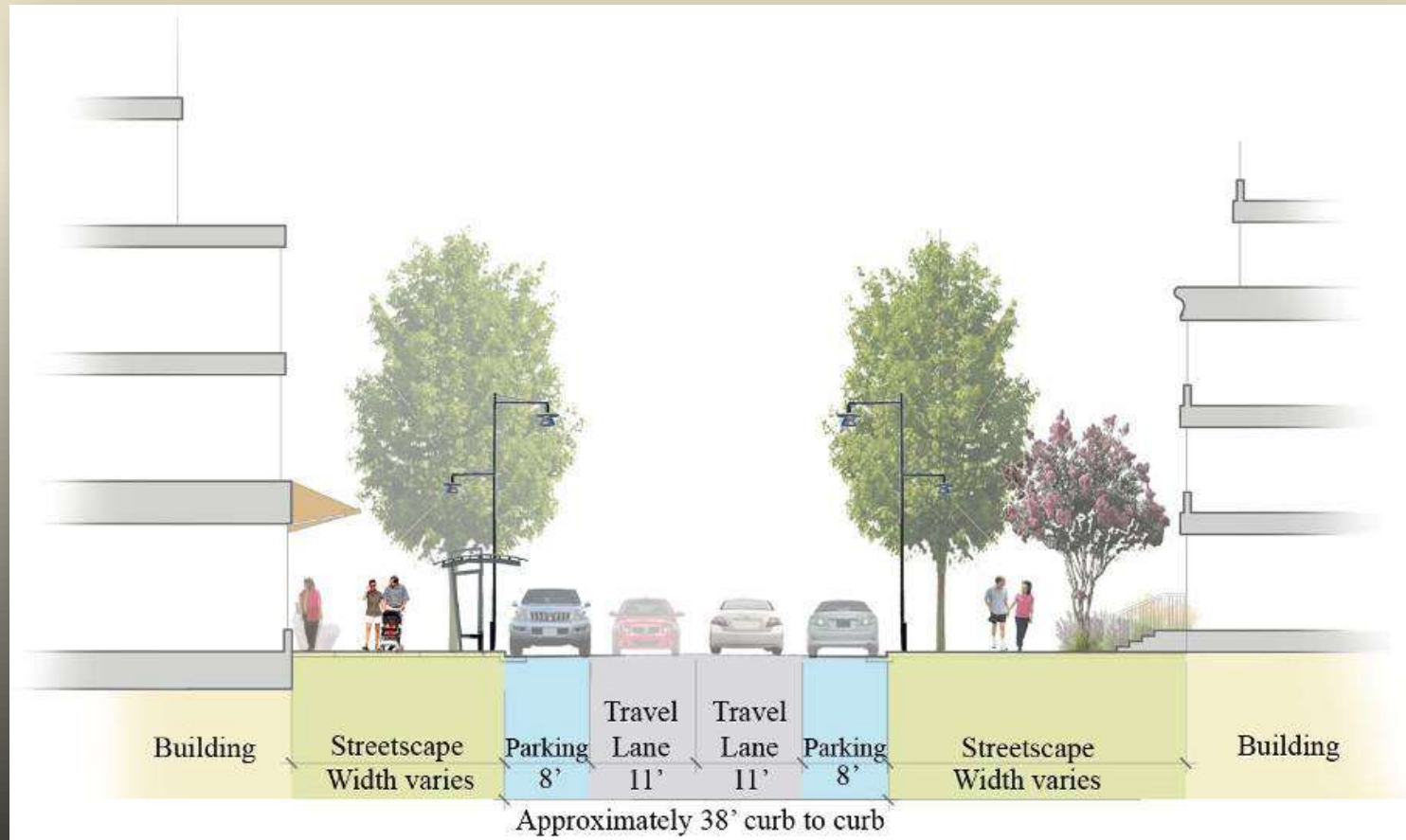


Example of Urban Local Street





Example of Urban Local Street





Roadway Level of Service

- The Tysons Corner Urban Center Comprehensive Plan establishes a recommended overall Level of Service “E” (LOS).
- This level is defined as “near capacity,” and is intended to provide a recommended minimum and maximum vehicle saturation flow rate, thereby maintaining a balance between vehicle progression and pedestrian walkability.
- The FHWA requires that a LOS “D” be maintained to the maximum extent possible on NHS routes (Low Speed Boulevards – Route 7 and Route 123).



Tiered Approach to Level of Service

- Determine whether capacity can be increased without decreasing walkability and pedestrian safety. New grid links are preferable to adding lanes to streets.
- If capacity cannot be increased, decrease traffic generation by modifying the proposed land use or applying additional TDM measures.
- If previous approaches do not improve LOS, phase development to completion of Tysons-wide transportation improvements.



Roadway Design and Operating Speed

Recommended Functional Classification	Target LOS (average)	Number of Through Lanes	Design Speed (mph)	Operating Speed (mph)
Low Speed Boulevard	D/E	4-8	40	35
Avenue	E	4-6	30-35	25-30
Collector	E	2-4	30-35	25-30
Local Street	E	2	25	25
Service Street	N/A	2	≤ 25	≤ 25



Access Management

- “Access management means the systematic control of the location, spacing, design, and operation of entrances, median openings, traffic signals, and interchanges for the purpose of providing vehicular access to land development in a manner that preserves the safety and efficiency of the transportation system.” (VDOT)
- VDOT’s current access management standards are more suitable for high speed rural and suburban design.
- The proposed standards are more suitable for low speed urban design, allow for closer spacing of street intersections, and thereby permitting the development of a more walkable “grid of streets” within Tysons Corner.



Access Management

Recommended Functional Classification	Access Management	Operational Analysis	Signalized Intersection Spacing	Unsignalized Intersection Spacing (full access)	Unsignalized Intersection Spacing (partial access)	Driveway Spacing
Low Speed Boulevard	Moderate	Required	Operational Analysis	Operational Analysis	325'-660'	Restricted Access
Avenue	Low	Discretionary	525'-660'	425'-660'	200'-660'	200'
Collector	Low	Discretionary	425'-660'	425'-660'	155'-660'	155'
Local Street	Very Low	N/A	325'-660'	100'-660'	N/A	50'
Service Street	Very Low	N/A	N/A	100'-325'	N/A	50'

Note: Information on this table is preliminary and is subject to change.



Roadway Design Criteria

- Reduced 10 and 11 foot lanes are incorporated into the standards to create more narrow, pedestrian scale streets, and slower vehicle speeds that are more conducive to pedestrian activity.
- On-street parking is required on most streets to create a more useable street frontage that serves street-level commercial retail, and to create side friction that reduces vehicles speeds, thereby maintaining a more pedestrian friendly street.
- Raised median islands and continuous center turn-lanes are discouraged in order to create more narrow, pedestrian scale streets.



Lane Widths and On-Street Parking

Recommended Functional Classification	Lane Width	On-Street Parking	On-Street Parking Width
Low Speed Boulevard	11'	Restricted	N/A
Avenue	10'-11'	Required	8'
Collector	10'-11'	Required	8'
Local Street	10'	Required	8'
Service Street	10'	Restricted	N/A



Median Islands and Turn Lanes

Recommended Functional Classification	Raised/Landscaped Median	Median Width (with circulator)	Continuous Center Turn Lane	Continuous Center Turn-Lane Width
Low Speed Boulevard	Required	16'-20'	N/A	N/A
Avenue	Optional	16'-20' (24'-36')	Optional	11'
Collector	Optional	4'-8' (24'-36')	Optional	11'
Local Street	N/A	N/A	N/A	N/A
Service Street	N/A	N/A	N/A	N/A



Multi-Modal Characteristics

Recommended Functional Classification	Circulator Route	Transit Service	Freight Movement
Low Speed Boulevard	N/A	Express and Local	Regional and Local Truck Routes
Avenue	Yes (select routes)	Local	Local Deliveries
Collector	Yes (select routes)	Local	Local Deliveries
Local Street	N/A	Local	Local Deliveries
Service Street	N/A	N/A	Local Deliveries

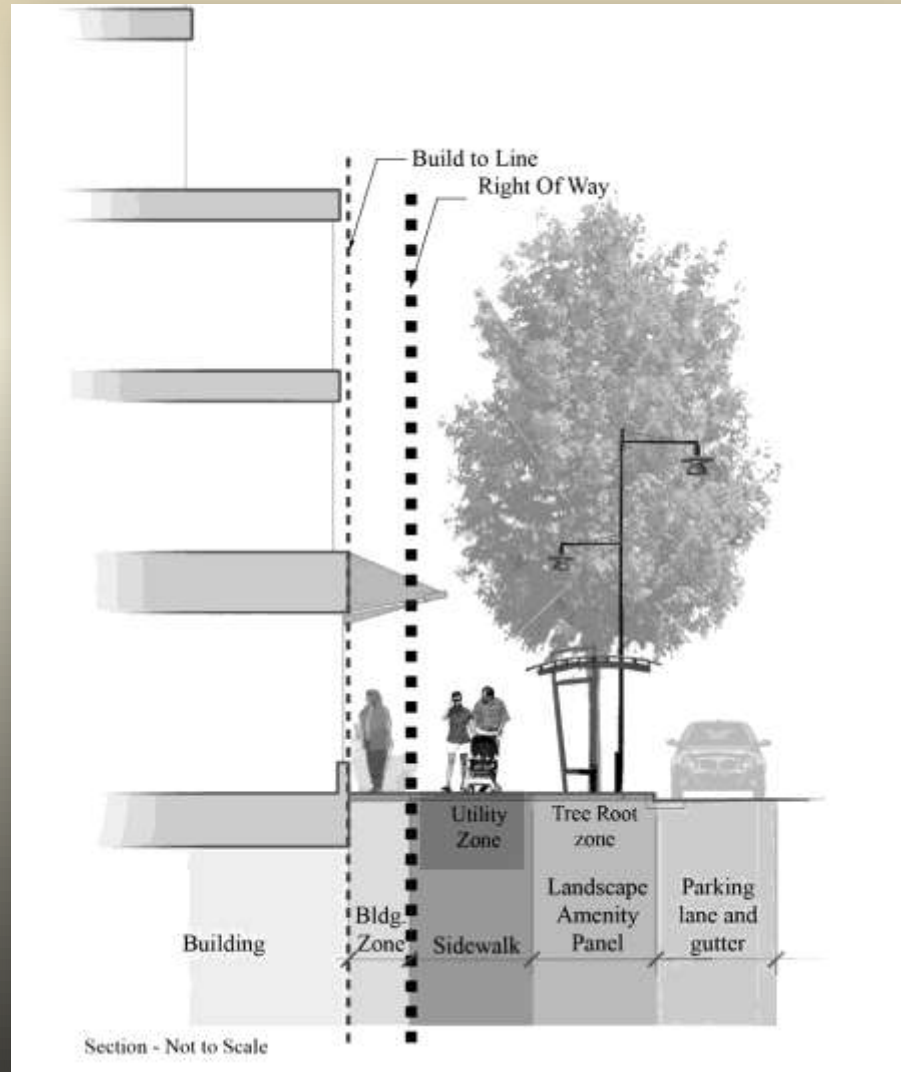


Pedestrian Facilities

Recommended Functional Classification	Streetscape Zone Width	Min/Max Building Zone Width	Minimum Sidewalk Width	Minimum Landscape Amenity Panel Width
Low Speed Boulevard	33'	15'	10'	8'
Avenue	20'-28'	4' – 12'	8'	8'
Collector	20'-28'	4' – 12'	8'	8'
Local Street	16'-24'	4' – 12'	6'	6'
Service Street	Varies	N/A	5'	N/A



Streetscape Zone Diagram





Bicycle Facilities

Recommended Functional Classification	Bicycle Facilities	Bike Lane Width Adjacent to Curb	Bike Lane Width Adjacent to Right-Turn Lane	Bike Lane Width Adjacent to Parking Isle
Low Speed Boulevard	N/A	N/A	N/A	N/A
Avenue	On-Street Bike Lane	4'	5'	6'
Collector	On-Street Bike Lane	4'	5'	6'
Local Street	N/A	N/A	N/A	N/A
Service Street	N/A	N/A	N/A	N/A



Status

- Draft standards have been reviewed by VDOT NOVA office and VDOT Central Office in Richmond.
- Comments are being reviewed, and discussions with the Tysons Partnership are ongoing.
- Draft Memorandum of Agreement (MOA) is being reviewed by VDOT and Fairfax County legal counsels, and Risk Management.
- County staff has a goal of bringing the standards and the MOA before the Board of Supervisors for consideration in August or September, 2011.
- Adoption of the standards and the MOA are critical for zoning applications to move forward.



Questions?