



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.
- Draft standards are being reviewed by NOVA office and VDOT headquarters in Richmond.
- Draft Memorandum of Agreement (MOA) with VDOT has been prepared which will implement the design standards, and will establish a template for allowing private maintenance of enhanced infrastructure and snow removal in Tysons Corner.



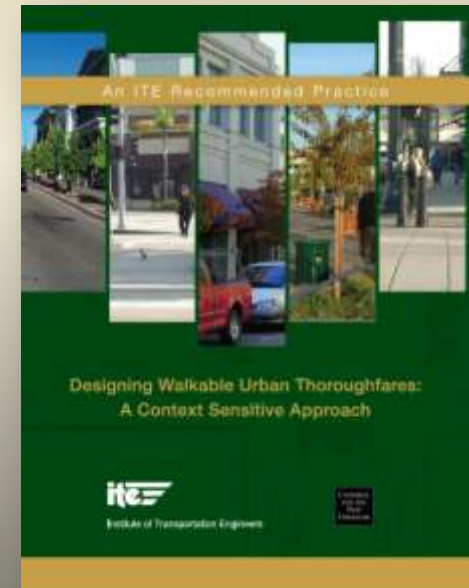
Agencies and Parties Involved

- 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
- Tysons Partnership
- Georgelas Group
- City Line Partners
- Private consulting firms involved with redevelopment of Tysons Corner
- Neighborhood Associations



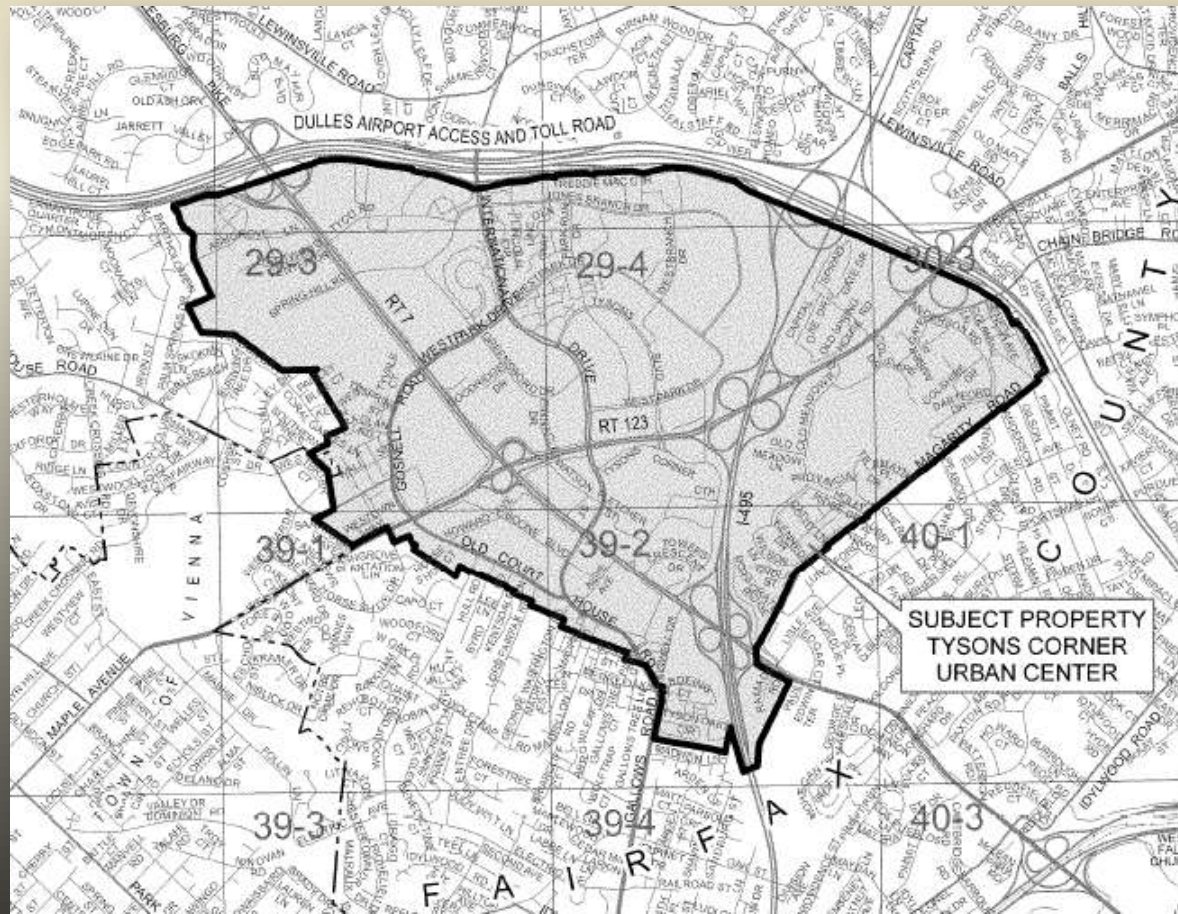
Primary Reference Sources

- 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

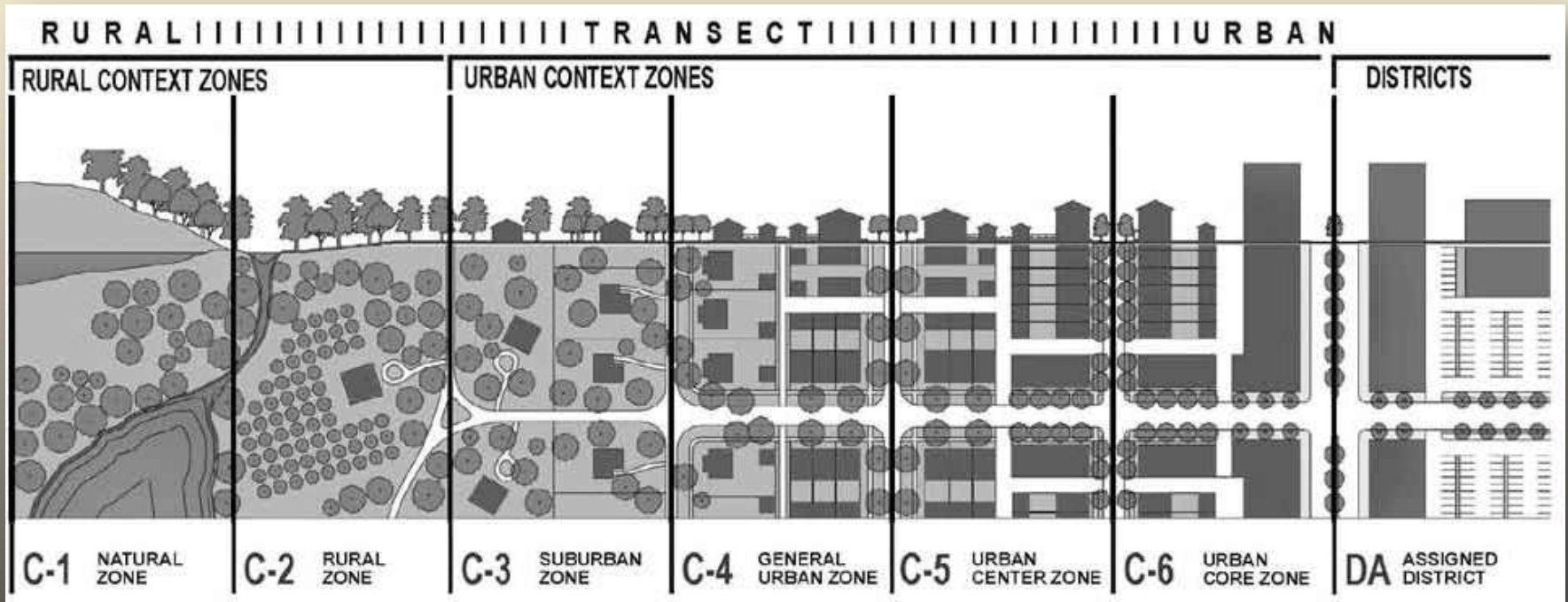


ITE Context Zone Characteristics

| 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

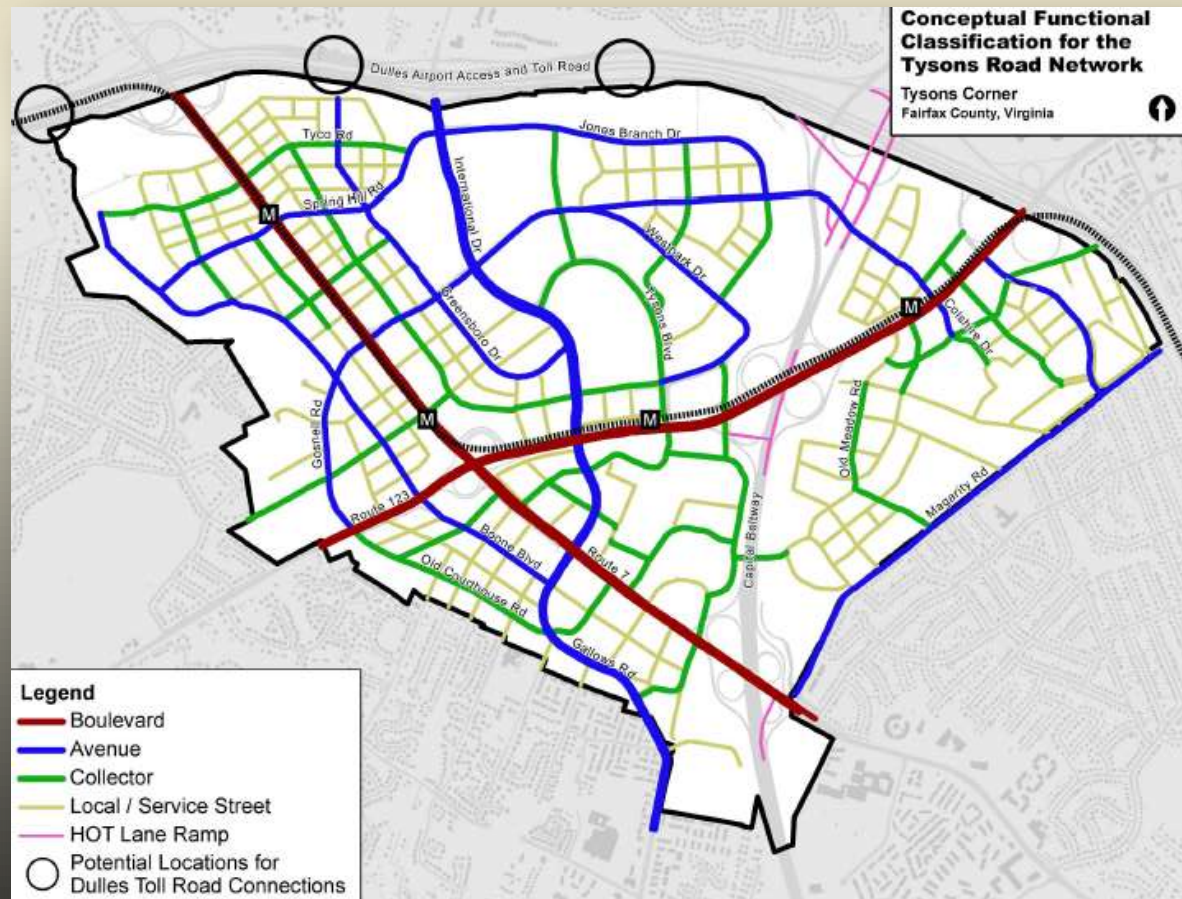


Recommended Functional Classifications

| 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 |

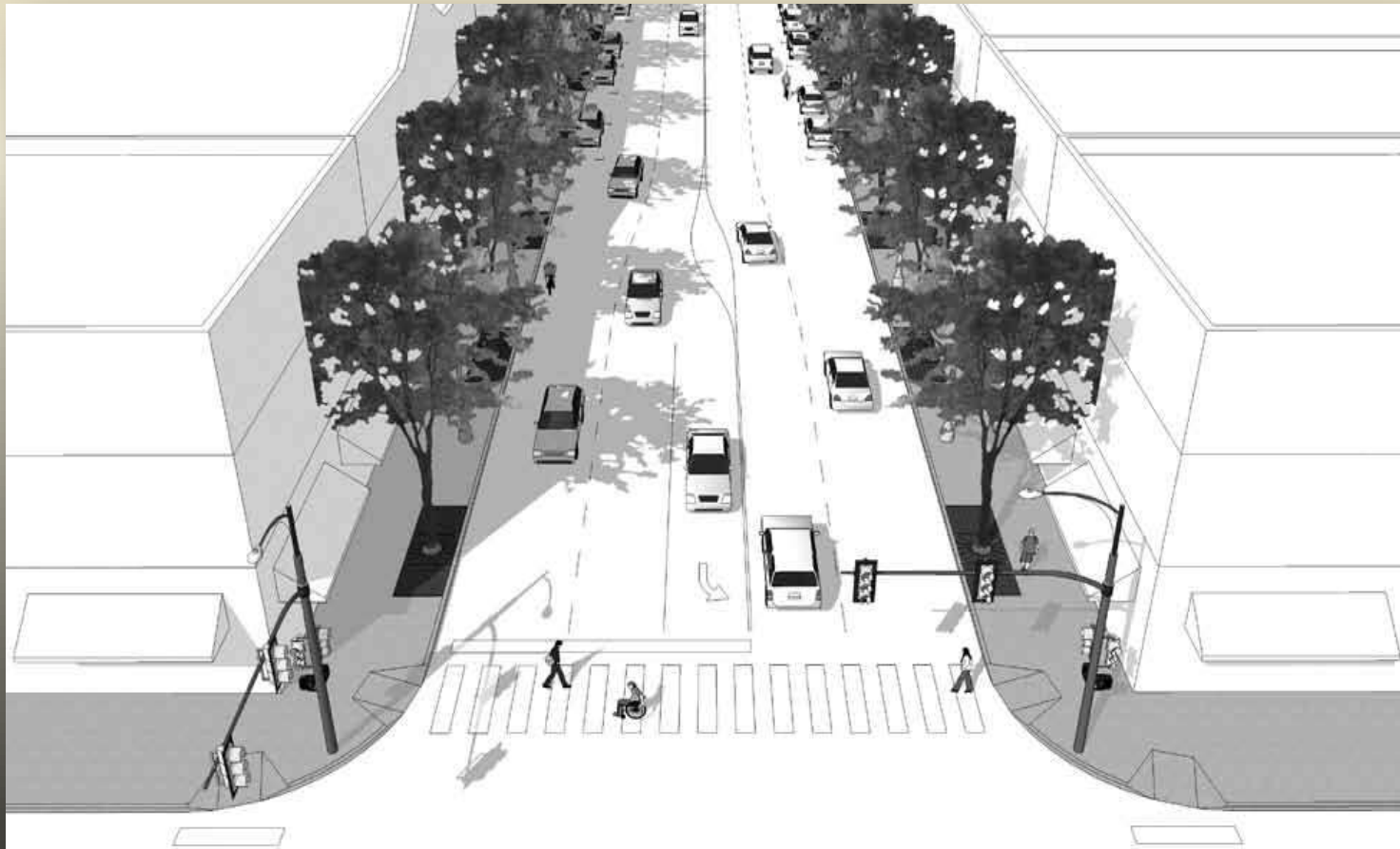


Comp Plan Functional Classification Map



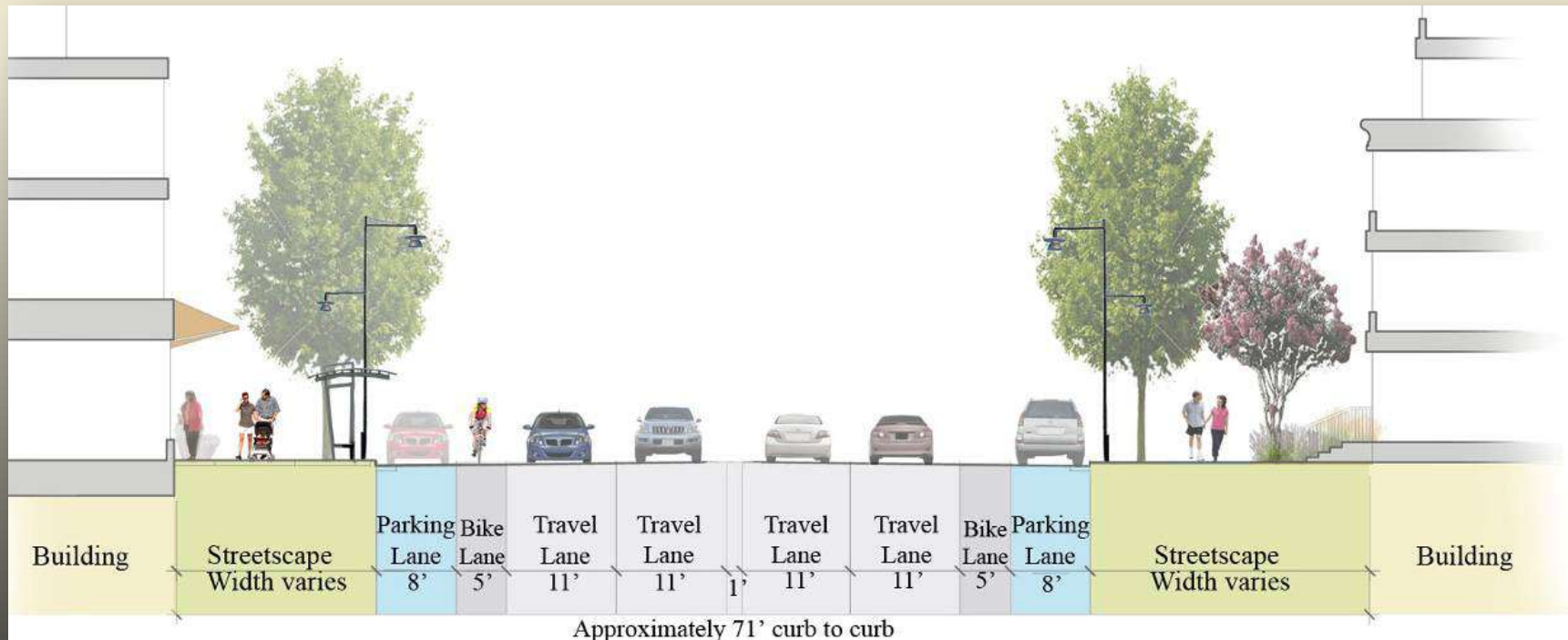


Example of Urban Avenue or Collector



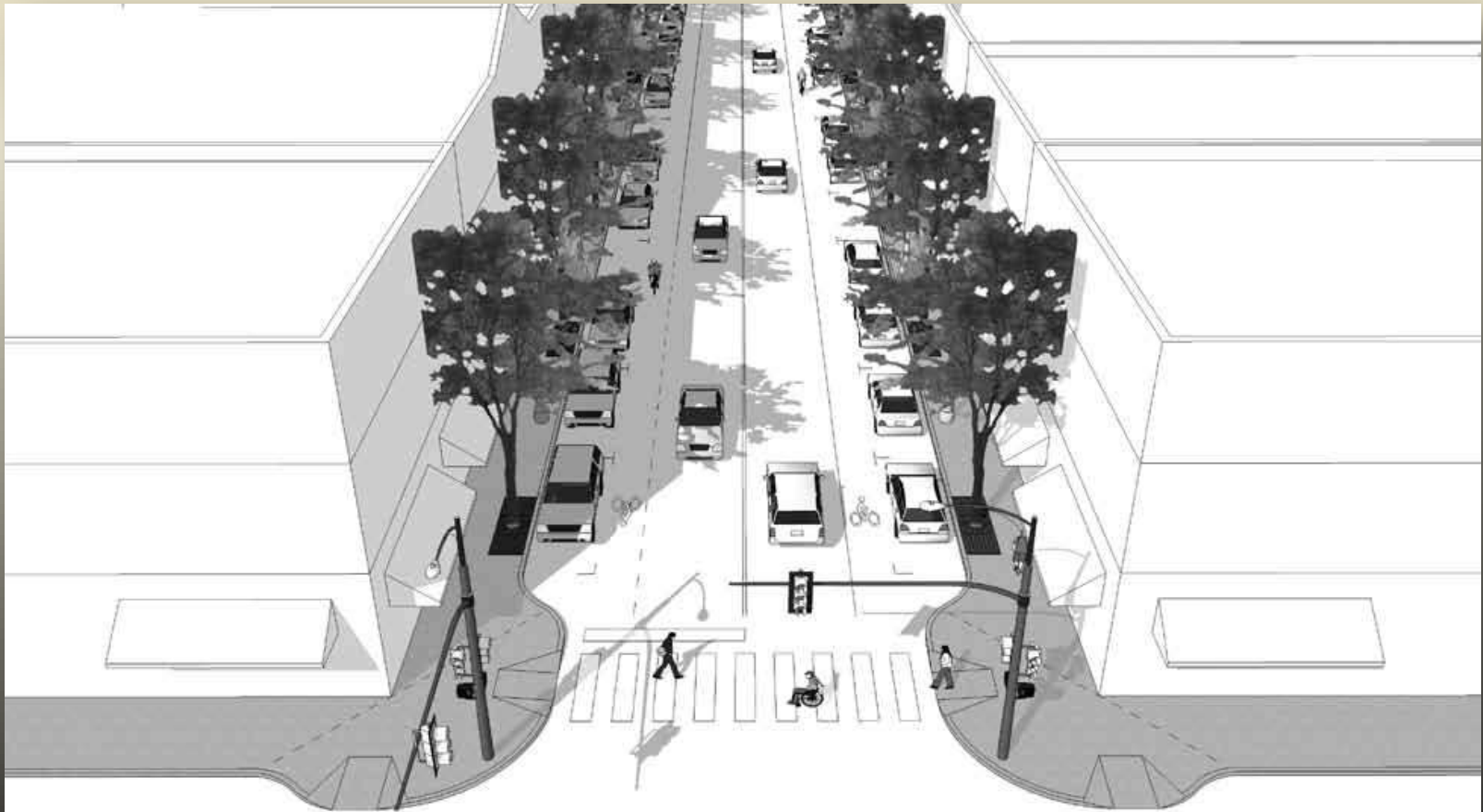


Example of Urban Avenue or Collector



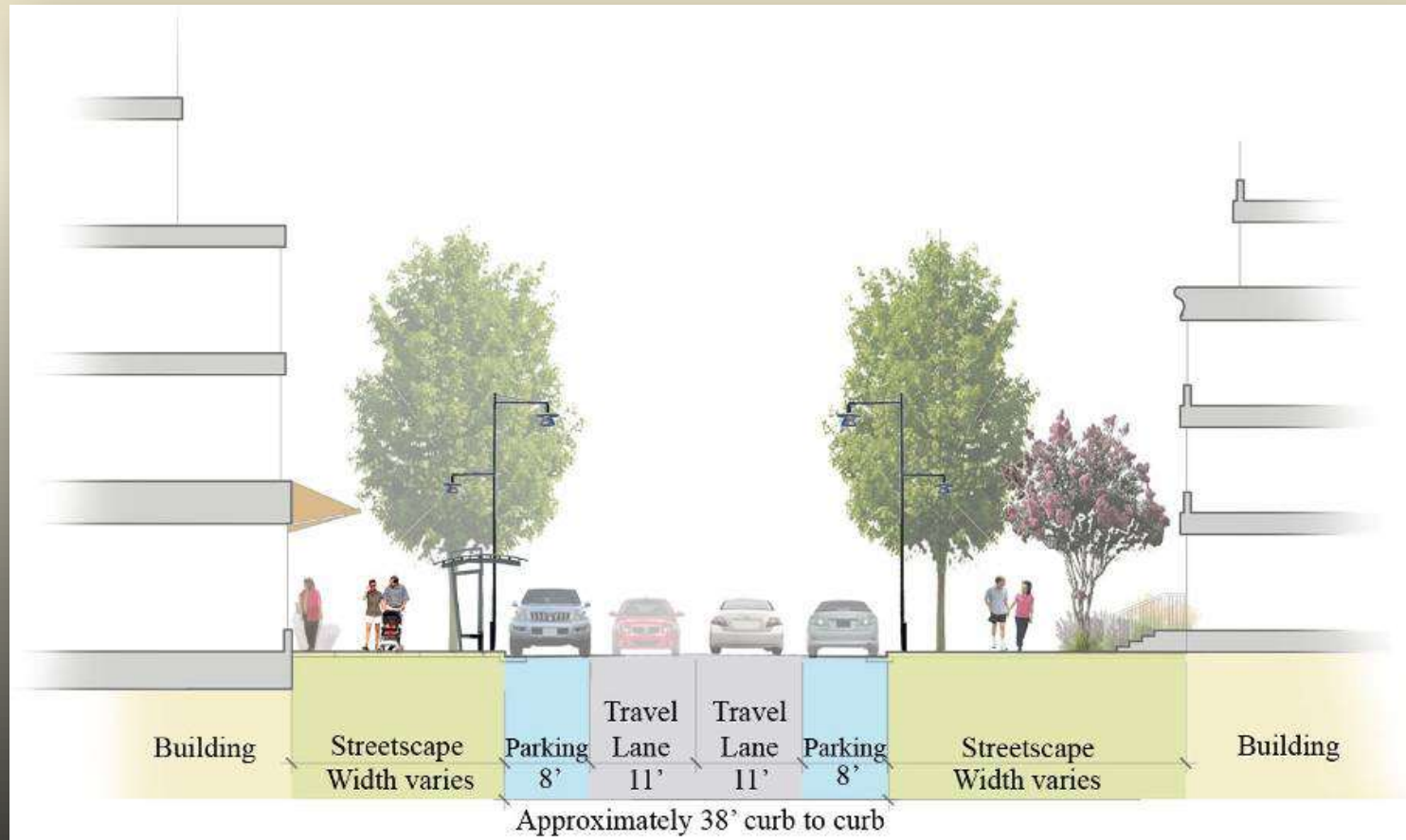


Example of Urban Local Street





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' |



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 |

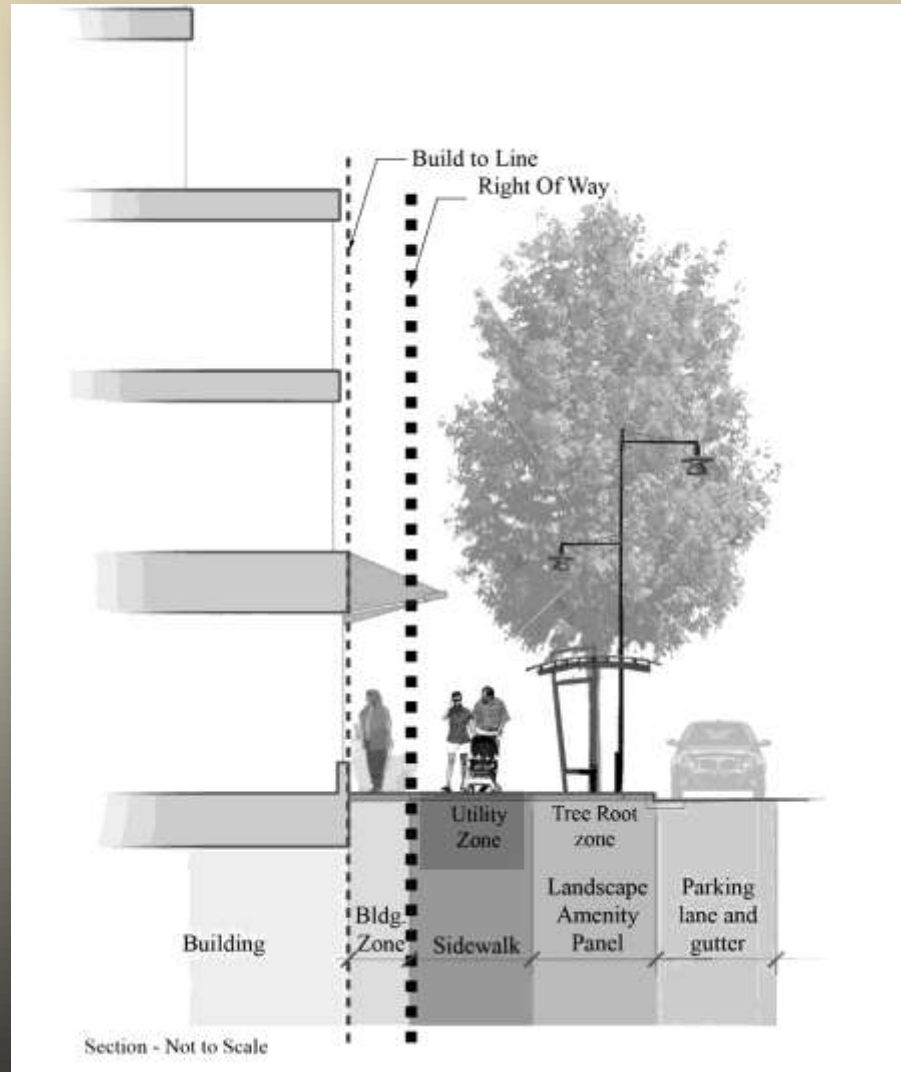


Pedestrian Facilities

| 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.
- Draft standards are near acceptance by VDOT.
- Draft Memorandum of Agreement (MOA) is being reviewed by VDOT and Fairfax County legal counsels.
- County staff has set a goal of bringing the standards and the MOA before the Board of Supervisors for consideration in June or early July, 2011.
- Adoption of the standards and the MOA are critical for zoning applications to move forward.



Questions?