

APPENDIX A: Descriptions of Multimodal Corridors

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Multimodal Through Corridors and Placemaking Corridors

Corridors have different functions in a region. Some corridors are used to get smoothly and rapidly through a region or to get quickly to major destinations in the region. For the purpose of these Guidelines, these kinds of corridors are called Multimodal Through Corridors. Other corridors are more slow speed and used to access local businesses, residences and activities within a destination. Usually these types of corridors are found in Multimodal Districts and Multimodal Centers, and they are called Placemaking Corridors in these Guidelines.

This fundamental distinction – between Multimodal Through Corridors and Placemaking Corridors is a key concept in these Guidelines. All Multimodal Corridors within a Multimodal Center, and often many of the corridors in a Multimodal District are considered to be Placemaking Corridors; these corridors facilitate movement to destinations within a Multimodal Center or District. The higher speed Multimodal Corridors that travel between and connect Multimodal Centers within a Multimodal District, or connect between Districts, are considered to be Multimodal Through Corridors. Multimodal Through Corridors and Placemaking Corridors work together in a region by getting people quickly from one Multimodal District or Multimodal Center to another and ultimately to activities within a Multimodal District or Multimodal Center. Multimodal Through Corridors will typically

transition to Placemaking Corridors as they enter a Multimodal Center. Ideally, though, they are located at the edge of Multimodal Centers, remaining as higher-speed facilities to which Placemaking Corridors provide access from the core of the Multimodal Center.

Placemaking Corridors are usually located within Multimodal Centers, but can extend outward beyond the Multimodal Center boundaries into a Multimodal District. Any street that communities desire to make into a lively, pedestrian-oriented street may be designated as a Placemaking Corridor, regardless of location. Because of the concentration and diversity of land uses within Multimodal Centers, the streets within Multimodal Centers should be designated as Placemaking Corridors.

Multimodal Through Corridors are located exclusively outside of Multimodal Centers, but may traverse Multimodal Districts. If possible, Multimodal Centers should be located such that Multimodal Through Corridors skirt the edges of a Multimodal Center. Alternatively, Multimodal Through Corridors should transition to Placemaking Corridors if they go through a Multimodal Center. Once they have passed through the Multimodal Center, they may transition back to Multimodal Through Corridors.

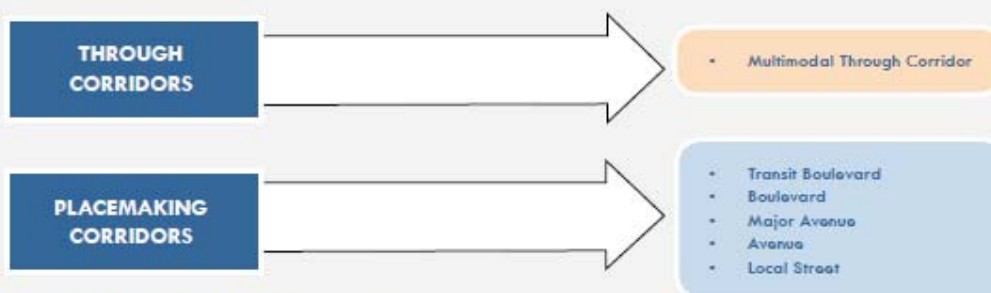


Figure 43 - List of Multimodal Corridor Types.

The basic relationship between Multimodal Through and Placemaking Corridors is described in Figure 44.

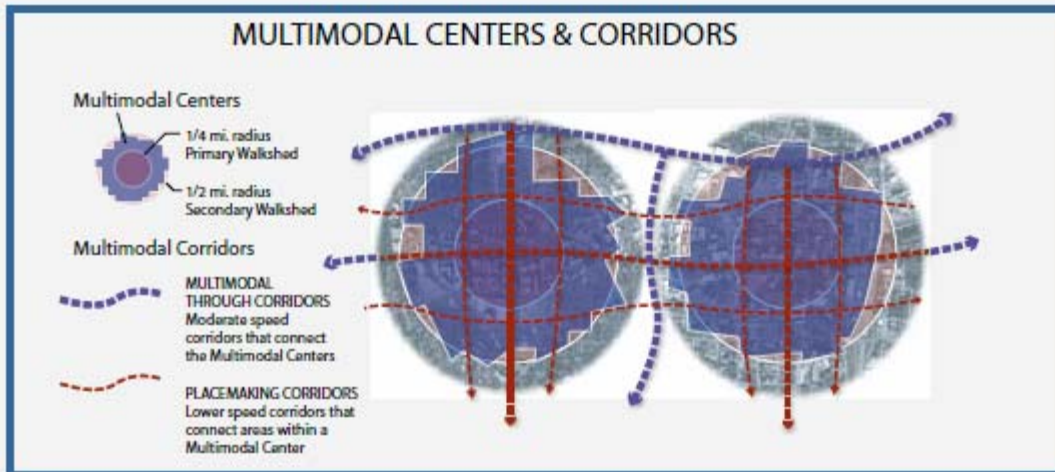


Figure 44 - Multimodal Through and Placemaking Corridors. The diagram distinguishes Placemaking Corridors from Multimodal Through Corridors – the two general categories of Multimodal Corridors that together comprise a true multimodal transportation system in a region.

Through Corridors

Multimodal Through Corridor

The Multimodal Through Corridor is a higher speed corridor that connects multiple activity centers. It is intended for longer distance, higher speed automobile, bus, or rail travel and ideally has limited at-grade intersections with other roadway types. Multimodal Through Corridors are good candidates for high speed commuter transit having few impediments to traffic flow. High speeds limit pedestrian and bicycle modes and hence the corridor design should provide separated facilities for these modes if they are needed. The design of the adjacent buildings should be oriented away from Multimodal Through Corridors and towards Placemaking Corridors on the other side of the buildings, providing more desirable pedestrian facilities and pedestrian-oriented land uses on the Placemaking Corridors, while still accommodating pedestrian travel along the Multimodal Through



Figure 45 - Fairfax County Parkway. An example of a Multimodal Through Corridor.

Corridors. Design speeds for Multimodal Through Corridors range from 35 to 55 mph.

70Placemaking Corridors

Within Multimodal Centers, the street network consists of different types of corridors with different functions relative to access, mobility, and multimodal features. Placemaking corridors are thus further divided into five types, each of which has a unique function and interface with the surrounding land uses. The following five Placemaking Corridor types were derived from the basic typology of Boulevard, Avenue and Street used in the ITE/CNU Guidebook, but with two additional Multimodal Corridor types added (Transit Boulevards and Major Avenues) for additional flexibility in designing Multimodal Corridors and Multimodal Centers. Thus the five Placemaking Corridor types used in these Guidelines are described in the following sections:

Transit Boulevard

The Transit Boulevard is the highest capacity and most transit supportive Multimodal Corridor in the typology. It would typically only be found in dense urban centers that have sufficient density and market for premium transit. A Transit Boulevard is a multi-lane and multimodal boulevard with a dedicated lane or right-of-way for transit. Transit technologies could be bus service with a bus only lane (BRT or express bus), light rail, or other transit technologies with a separate right-of-way. Other transit types that share lanes with general traffic, such as streetcar or local bus service, could be accommodated on a Boulevard, Major Avenue, or Avenue, but the dedicated transit-only right-of-way defines the Transit Boulevard corridor type. Design speeds for Transit Boulevards range from 30 to 35 mph.



Figure 46 – Plume Street in Norfolk. An example of a Transit Boulevard.

Boulevard

A Boulevard is the corridor type of highest multimodal capacity that accommodates multiple motorized and non-motorized modes. Boulevards allow for higher traffic volumes and greater efficiency of vehicular movements than Major Avenues, Avenues, and Local Streets, and typically have four to six lanes of traffic but may grow to eight in particularly dense centers such as Tysons Corner. Boulevards provide safe and convenient pedestrian and bicycle access to adjacent land uses. Boulevards feature a median, landscaped amenity elements, street trees, and wider sidewalks.



Figure 47 - Glebe Road in Arlington County. An example of a Boulevard.

wider sidewalks. Design speeds for Boulevards range from 30 to 35 mph.

Major Avenue

Major Avenues contain the highest density of destinations, intensity of activity, and mix of modes. Because of the close proximity of destinations, pedestrians and street activity are common on Major Avenues. Major Avenues have wide sidewalks to accommodate high numbers of pedestrians and a variety of outdoor activities, including sidewalk cafes, kiosks, vendors, and other street activities. Major Avenues can be areas of high transit ridership for local bus routes. Traffic is low speed and localized. Due to the intensity of destinations, longer regional



Figure 48 - Crawford Street in Portsmouth. An example of a Major Avenue.

trips do not use Major Avenues; rather they would typically be on Boulevards or Multimodal Through Corridors. Autos and buses on Major Avenues travel at slow speeds because pedestrian crossings and on-road bicyclists are frequent. Major Avenues typically have four or fewer lanes for motor vehicle travel while providing adequate facilities for bicycling and typically providing roadway space dedicated to on-street parking. Design speeds for Major Avenues range from 30 to 35 mph.

72**Avenue**

Avenues provide a balance between access to the businesses and residences that front upon them and the collection of vehicular and pedestrian traffic. While having fewer destinations than Major Avenues, pedestrian and bicycle activity is very common, as Avenues serve as critical links in the non-motorized network. Avenues are low speed roadways that facilitate shorter trips, but still contain a fair amount of destinations. Avenues typically have three travel lanes or fewer, and do not exceed four lanes. Avenues may have roadway space dedicated for on-street parking and provide adequate bicycle facilities. Avenues have a 25-30 mph design speed.



Figure 49 - Henley Avenue in Winchester. An example of an Avenue.

Local Street

Local Streets see the lowest amount of activity and have the slowest speeds and the highest access. Bicyclists typically can share the road with autos, because speeds are slow and auto traffic is sparse, although they have separate sidewalks and trails for pedestrian accommodation. Local Streets are primarily in more residential areas and are intended to serve only trips that originate or end along them. They connect to Avenues, Boulevards or Major Avenues, funneling longer trips to these higher capacity corridor types. Local Streets are characterized by slow design speeds, wider setbacks; they may not have lane striping, and they emphasize on-street parking. Local Streets have a 25 mph design speed.



Figure 50 - Page Street in Charlottesville. An example of a Local Street.

Transitions Between Through Corridors and Placemaking Corridors

When Multimodal Through Corridors enter a Multimodal Center, the surrounding context signals a change in corridor character and function, and they transition to Placemaking Corridors. This transition is marked by slower traffic speeds, more frequent pedestrian crossings, and pedestrian-oriented buildings. Multimodal Through Corridors that transition to Placemaking Corridors can maintain vehicular throughput by access management (consolidating driveways and unsignalized intersections to minimize the number of entrances onto a road) and traffic signal coordination and optimization. These techniques are particularly relevant for Corridors of Statewide Significance, National Highway System (NHS) Routes, and emergency evacuation routes.

Relationship to Functional Class

The Multimodal Corridor typology within these Guidelines is related, but not identical, to the functional classification of roads. Functional classification is a concept within roadway design and engineering circles that recognizes that roads have different functions for motorized vehicles. Streets that provide direct access to destinations for cars via driveways, curb cuts, and frequent intersections often cannot retain high speeds and serve high volumes of traffic. Conversely, high capacity roads with heavy volumes and higher speeds have less frequent access points to keep traffic moving.

Roads are designated into functional classes mainly for federal and state funding purposes. The Federal Highway Administration (FHWA) provides guidelines on how to classify roads, and these are based on having a certain percentage of total road

miles for each classification. For example, urban principal arterials should only account for 5 to 10 percent of an area’s total road centerline miles, but should carry 40 to 65 percent of the area’s total vehicle-miles traveled (VMT).

Functional classification is also a relevant concept for Multimodal Corridor design, but must be broadened to include other travel modes. The five types of Placemaking Corridors are different in nomenclature from the functional classification systems used by VDOT and the FHWA. However, the concept of functional classification is similar. The Corridor Matrix Annotation Document in Appendix B has a more detailed discussion on VDOT functional classification. Table 9 shows the general translation of Multimodal Corridor types to the functional classes of roadways:

		VDOT Functional Classification (Design Speed)				
		Interstate, Freeway, or Expressway (30 – 70 mph)	Urban Other Principal Arterial (30 – 60 mph)	Urban Minor Arterial (30 – 60 mph)	Urban Collector (30 – 50 mph)	Local Street (20 – 30 mph)
Multimodal Corridor Types (Design Speed)	Multimodal Through Corridor (35-55 mph)					
			Transit Boulevard (30-35 mph)			
			Boulevard (30-35 mph)			
				Major Avenue (30-35 mph)		
				Avenue (25-30 mph)		
						Local Street (25 mph)

Table 9 – Comparison of VDOT Functional Classes to Multimodal Corridor Types.