tool kit

Thoroughfare Design for Transit

The Regional Transportation Network (RTN) serves transit as well as individual vehicles, trucks, and bicycle and pedestrian traffic. Many RTN facilities accommodate local and regional bus transit services offered by MARTA, GRTA, or another of the region's public transit agencies. The design guidelines for streets on the RTN served by local or regional buses reflect the need for safe and efficient public transportation service. In addition, new premium transit service lines warrant consideration in areas where they may interact with the RTN.

Thoroughfares and Existing Local Transit

Roadway Design

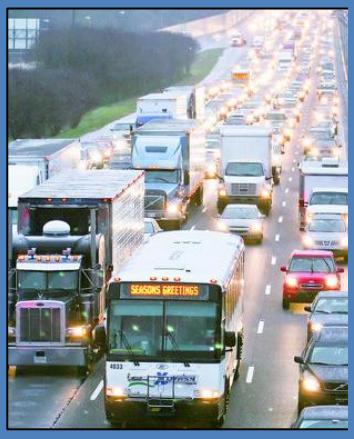
Lane widths and turning radii should be increased on routes with regular bus transit. Lanes, where possible, should be 11-12 feet wide, depending on whether they are in an urban, suburban, or rural area. The turning radius on a standard bus is wider even than that of a heavy truck or tractor-trailer. The minimum inside turning radius for a bus is 21 to 26 feet and the minimum outer radius is 44 to 48 feet. Where a bicycle lane is included in the roadway typical section, it will add to the turning radius.

Station Spacing and Stop and Station Locations

Bus stops are typically located at the far side of an intersection because intersections provide the best accessibility for pedestrians and intersecting bus routes. Bus stops may be located at mid-block locations with a bus pullout either if the block is very long, or if a major trip attractor has a mid-block entrance. It can be difficult for busses to re-enter traffic from a mid-block pull out, however, and this style of bus stop is discouraged.

Where there is on-street parking on the thoroughfare, bus stops may be sited at curb extensions or "bulbouts" at the intersection, which provide a connection between the sidewalk behind the parked cars and the travel lane in which the bus stops. When this is used, it is important that the curb be extended as far as the bus boarding and alighting areas: for a 40-foot bus length, this typically means at least 30 feet back from where the front of the bus will likely stop.

MARTA bus service, shown above on North Druid Hills Road, provides feeder service to the MARTA heavy rail system on many regional thoroughfares.
Photo: Kimberly Smith



GRTA Xpress buses, like the one shown above on I-75, provide commuter service from suburban areas to activity centers in central Atlanta.
Photo: Marietta Daily Journal

Reference:

Institute of Transportation Engineers, *Context Sensitive Solutions in Designing Major Urban Thoroughfares for Walkable Communities: Fact Sheet 5 – Designing Boulevards and avenues in Highly Urban Mixed Use Areas.*
www.ite.org/css/FactSheet5.pdf

Fact Sheet 8 - Designing Mobility Priority Thoroughfares
www.ite.org/css/FactSheet8.pdf

On thoroughfares in urban areas, bus stops should not be located in areas with on-street parking, or parking should be prohibited near the bus stop. Parking enforcement should be used to ensure that the bus stop is not blocked even temporarily by a parked car.

Queue Jumpers

In some cases, bus travel can be given priority over owner-occupied vehicles through the use of signal priority and preemption. In these situations, queue jump lanes may be installed at intersections. As an example, MARTA utilizes queue jumpers in their Q service on Memorial Drive.

Thoroughfares and Potential Transit Services

In 2008, the Transit Planning Board (TPB) approved the recommendations of an extensive study of alternative long-range transit services needed by the Atlanta Region. The result, Concept 3, anticipates seven different forms of transit services for the Atlanta Region:

- MARTA heavy rail extensions
- Light Rail Transit (LRT) and /or streetcar lines
- Commuter rail lines
- High capacity (freeway) Bus Rapid Transit (BRT) lines
- Arterial rapid transit service
- Express and intercity regional service
- Expanded local and activity center service

To accommodate these transit improvements when they are constructed, the following should be a part of the design and redesign of Level III thoroughfares, in addition to the design standards for Level II thoroughfares:

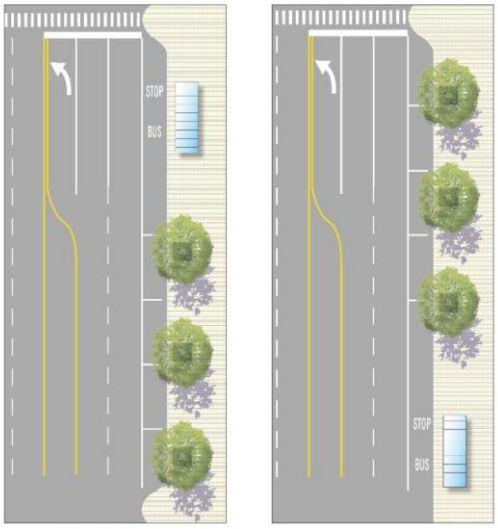
Right of way should be preserved within a roadway for bus-only lanes, or for streetcar service. Right of way should also be preserved for transit such as heavy rail, which will run adjacent to, but not within, the roadway.

Street grades should not exceed 6%, in order to accommodate Light Rail vehicles. Where necessary, grade can approach 12%.

Street car stations can be located in roadway medians. Where this is the case, station locations need to be coordinated with vehicle left-turn lanes.

Where stations/stops are located on the right-hand side of the road, they should be coordinated with **on-street parking** lanes.

Bus stops can be located mid block or at intersections but should be separated from areas with on-street parking.



Sidewalks, bicycle lanes and safe bicycle parking, ideally as part of a Complete Streets approach, should be included in roadway design to create a **pedestrian and bicycle network** that will support the stations associated with proposed light rail or BRT service.

Roadways must provide **adequate horizontal and vertical clearance for** the outdoor lighting, signal systems and street trees associated with premium transit on-street stops.

For proposed BRT, roadway design should consider the **signal priority and preemption needs** for transit vehicles, and the possibility of queue jump lanes at intersections.