



5. RUNNINGWAY GUIDELINES

These guidelines should be considered collectively when making runningway decisions.

A runningway is the linear component of the transit system that forms the right-of-way reserved for the horizontal and vertical clearance requirements of transitway vehicles and ancillary structures or equipment required to operate the transit vehicles; it is sometimes called the guideway. While the runningway incorporates the space needed to operate transit, it should be differentiated from right-of-way, which incorporates the potentially larger area needed to implement the project. For example, right-of-way would include additional property that may be needed for sidewalks, driveways, light poles, landscaping, and stations. Station and Support Facilities are discussed in Chapter 4. Station and Support Facility Design Guidelines. Since the design of runningways is directed by specific design practices, standards, and/or regulations, more detail is provided in the Runningway Guidelines User Guide.

5.1. LIGHT RAIL TRANSIT RUNNINGWAYS

Light Rail Transit runningways should serve LRT only. They will generally be at-grade and double track with crossovers and storage tracks provided as needed to support efficient operations.

Ballasted track is lower cost and preferred, with embedded track used where tracks are within urban streets including at vehicle and/or pedestrian crossing locations. Direct fixation track is preferred in tunnels and on bridges.

Lane striping, pavement color, pavement texture, and/or barriers (including intertrack or side fencing, for example) may be appropriate to guide, discourage, or prevent access to runningways in areas not designated as a legal crossing and should be used where needed.

“Severe” and certain “Moderate” noise impacts identified through the National Environmental Policy Act (NEPA) process should be considered for mitigation if they meet the criteria for reasonableness, feasibility and cost effectiveness.

LRT runningways are the linear components of the transit right-of-way containing rail trackage designed for LRT vehicles as well as ancillary facilities such as traction power substations and signal bungalows. Elements of LRT runningway operations and maintenance to be addressed during planning and design include but are not limited to, safety, security, communications and central control, system compatibility, contingency planning, periodic repairs and replacement, and snow removal.

General guidelines for considering noise impacts mitigation include:

- Reasonableness: noise mitigation provides at least a 5 dB reduction in project noise.
- Feasibility: noise mitigation is practical from engineering, operations and safety standpoints and may also take other factors into account such as community input and visual impacts.
- Cost effectiveness: the standard cost per benefited receptor is approximately what it would cost to build a 10' high noise wall.



5.2. COMMUTER RAIL RUNNINGWAYS

Commuter Rail runningways will generally be at-grade and double track, with single track used only where adequate sidings are provided and its use supports the service-operating plan.

Ballasted track is lower cost and preferred, with embedded or direct fixation track used at vehicle and/or pedestrian crossing locations.

Intertrack or side fencing should be used where needed. Grade-separated crossings may be considered where benefits to the broader transportation system, including freight movements, are shown to be significant.

Commuter Rail runningways are the linear component of the transit right-of-way containing rail trackage designed for Commuter Rail vehicles and ancillary facilities such as train signal systems. Commuter Rail runningways will often make use of existing freight and inter-city passenger rail runningways, which will direct Commuter Rail planning and design. Consistent with Guideline 10.2. Coordination of Agencies and Stakeholders, the transitway lead organization is responsible for coordinating with all project stakeholders, including railroads.

For any grade separations, designers should exhaust practical options for changes to a crossing roadway/trail's grade before exploring changes to the railroad. Cost sharing for additional grade separations benefitting the broader transportation system should be negotiated among benefitting organizations, including any transit authority.

Elements of Commuter Rail runningway operations and maintenance to be addressed during planning and design include but are not limited to, integrated freight-commuter rail operations, safety, security, communications and central control, system compatibility, contingency planning, and periodic repairs and replacement.



5.3. HIGHWAY BRT RUNNINGWAYS

Highway BRT runningways include bus-shoulder lanes and managed lanes. These lanes are dedicated or partially dedicated to public transit, accommodate public transit under all roadway conditions, and provide transit with a travel-time advantage under congested roadway conditions.

Highway BRT runningways should be full-sized lanes designed to support traffic traveling at posted speeds of 45 miles per hour or greater. Sizing Guidelines for these lanes should be as follows:

- **Full-sized Highway BRT managed lanes should be 12 feet plus buffers**
- **Full-sized Highway BRT bus-shoulder lanes should be 10 to 12 feet, with 10 feet being minimum, 11.5 feet being minimum on structures, and 12 feet being desirable in areas of new construction or reconstruction**

Highway BRT runningways generally should provide one lane in each direction positioned as median, curb, or “dynamic” shoulder lanes.

Highway BRT runningways may be barrier separated or indicated by surface striping, markings, color, and/or signage.

Highway BRT runningway pavement should be designed and maintained to deliver the desired ride quality.

Highway BRT runningways are lanes within freeways or other multi-lane highways designed to support traffic traveling at speeds of 45 miles per hour or greater. Highway BRT runningways include bus-shoulder lanes like those on Cedar Avenue (Dakota CSAH 23) and managed lanes like those on I-35W South. Full-sized lanes widths do not include the width of gutters where a curbed section is used. Consistent with Chapter 10. Project Development, Leadership, and Oversight Guidelines, the transitway lead organization is responsible for coordinating with all project stakeholders, including road authorities.

Lane dedication for Highway BRT runningways may be permanent (e.g., bus-only lanes or HOV lanes), partial (e.g., priced lanes or lanes shared with turning vehicles and/or incident management), or limited to certain hours of the day (e.g., priced dynamic shoulder lanes). Elements of Highway BRT runningway operations and maintenance to be considered during planning and design include but are not limited to, enforcement strategy, support infrastructure, snow removal, and periodic repairs and replacement.

Roadway shoulders where buses operate under congested conditions only (i.e., bus-only shoulders) are not a type of Highway BRT runningway; this approach is an operating strategy for situations where provision of, or operations in, a runningway is not feasible.



5.4. ARTERIAL BRT RUNNINGWAYS

Arterial BRT generally operates in mixed traffic, but can include dedicated lanes. Arterial BRT runningways provide transit with travel-time advantages under congested roadway conditions.

Arterial BRT runningways should be full-sized lanes (10-12 feet) designed to support traffic traveling at posted speeds of less than 45 miles per hour.

Features that provide transit with a travel-time advantage include station configurations, traffic control measures, and dedicated lanes.

Where feasible, dedicated transit lanes on Arterial BRT routes typically include one lane in each direction positioned as median or curb lanes; these lanes are typically not barrier separated from general traffic lanes.

Whenever possible, Arterial BRT runningway pavement should be designed and maintained to deliver the desired ride quality.

Arterial BRT runningways are roadways designed to support traffic traveling at posted speeds of less than 45 miles per hour. Arterial BRT runningways may include any full-sized lane(s) provided to regularly accommodate public transit buses under all roadway conditions. Full-sized lanes widths do not include the width of gutters where a curbed section is used. Arterial BRT typically operates in mixed traffic but preferential features on the runningway that provide transit with a travel-time advantage should be pursued. These may include, but are not limited to:

- Station configurations including use of curb extensions and/or stations located at the far-side of intersections
- Traffic control measures including traffic signal priority and/or special traffic signal phases
- Dedicated lanes including queue jump lanes at intersections and bus lanes running with or opposite to the general traffic direction. Lane dedication may be permanent (e.g., Minneapolis Marquette and 2nd Avenues), partial (e.g., shared with turning vehicles) or limited to certain hours of the day (e.g., peak hours). Within one-way streets, BRT operates best opposite the flow of general traffic. Dedicated lanes may be designated using pavement treatments such as striping, markings, color, and/or signage.

Where Arterial BRT runningways are adjacent to a bicycle lane or recreational trail, separation should be accomplished following the guidelines of local jurisdictions, such as the Minneapolis Bike Master Plan and the St. Paul Central Corridor Bicycle and Pedestrian Plan.

Consistent with Guideline 10.3. Lead Agency Candidates and Responsibilities, the transitway lead organization is responsible for coordinating with all project stakeholders, including road authorities.

Elements of Arterial BRT runningway operations and maintenance to be considered during planning and design include but are not limited to, enforcement strategy, support infrastructure, snow removal, and periodic repairs and replacement.



5.5. BICYCLE/PEDESTRIAN ACCESS

Transitway intersections should be designed to provide safe, efficient transitway crossings for all rail and roadway transportation modes. Special attention should be given to providing convenient and safe at-grade accommodations for pedestrians or bicyclists crossing transitway runningways. Grade-separated bicycle/pedestrian crossings may be considered where there is no technically feasible at-grade crossing option, where benefits to the broader transportation system are shown to be significant, or where required by the runningway's owning entity (e.g., railroad).

Where there is no technically feasible at-grade bicycle/pedestrian crossing option, evaluation criteria that should be considered when assessing the need for grade-separated crossings include:

- High pedestrian volumes
- High number of pedestrian or bicycle crashes
- Long pedestrian crossing distances
- Presence of poor sight distance to see crossing transit patrons
- Roadway average daily traffic volumes of more than 35,000 and 80th percentile speeds documented at more than 40 miles per hour
- Distance of greater than 600-feet to the nearest alternative "safe" crossing (i.e., controlled intersection or existing under-/over-pass)
- Potential to coordinate with adjacent facilities such as a bike trail or sidewalk system

The provision of high quality, safe and convenient pedestrian and bicycle facilities at transitway stations and connection stations to surrounding land uses is a critical element of best practices of transit station design and transit-oriented development. These facilities should be given a high priority during the planning and design of transit stations and surrounding land uses. Safe and convenient pedestrian and bicycle access also should be given a high priority when planning and designing all roadways in the vicinity of a transit station. All pedestrian facilities should be ADA compliant.

In general, bicycle and pedestrian crossings should be located at signalized street intersections whenever possible. Mid-block crossings between stations and street intersections should be avoided. At-grade bicycle and pedestrian crossing features may include, but are not limited to:

- Improved bicycle and pedestrian facilities such as more visible crossings using pavement treatments, colors, markings, and/or warning signals/signage; pedestrian refuge medians; roadway curb extensions; intersection countdown timers, or crosswalks with passive crossing control (e.g., "z-type" crossings proposed on University Avenue, Figure 5-1)
- Roadway modifications such as adjusted intersection traffic signal timings, additional traffic signals, elimination of conflicting turn movements – especially free-right turn movements, and other intersection modifications that improve convenience and safety for pedestrians and bicyclists.



Regional Transitway Guidelines

If an at-grade crossing is feasible, provision of a grade-separated bicycle/pedestrian crossing may be a local betterment.

Figure 5-1 "Z-type" Pedestrian Crossing at Unsignalized Intersection



Source: CCLRT Project Office