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SECTION 5 – BICYCLE FACILITIES

5.1.0 GENERAL

This Design Criteria establishes the minimum standards to be used in the design of RTD bus transit facilities. This section is intended to direct the Design Engineer in the design of bicycle facilities at all RTD bus transit facilities.

All bike lanes, including those in public roads, should be designed in compliance with AASHTO and MUTCD requirements.

5.2.0 BICYCLE PARKING

Bicycle parking shall be provided based upon the guidelines presented below for initial construction, but consideration should be given to potential future expansions or reductions of the bike facilities in case demand warrants.

5.2.1 Bike Racks

Bicycle racks shall be placed near bus loading areas. The preferred type of bicycle racks to be used is “inverted-U” or “hoop” racks, as shown in RTD Standard Drawings. These racks are efficient for RTD use because they can be installed individually or in rows, as appropriate for different sites.

Bike racks shall be located as close to passenger loading areas as possible without interfering with passenger or vehicle movement. Bike parking is less likely to be used if it is not conveniently located. Additionally, racks that are not situated in a visible location are more prone to theft. When bike racks are not located in close proximity to passenger loading areas, they should be placed in a well lit location.

5.2.2 Bike Lockers

Bike lockers shall be placed off the main plaza and bus loading area, while still being conveniently located. Like bike racks, bike lockers should be located close enough to passenger loading areas to facilitate use. Ideally this location would be no further than the closest non-ADA parking space, as well as be a well lit location, near moderate to high patron activity zones in order to increase the perception of a safe locker area and increase the sense of security of the user and their equipment. However the location of bike lockers (and other publicly accessible receptacles) shall meet the security requirements in subsection 12.15 of this Manual, which require they shall not be placed within 250 feet of a station, station area or patron gathering area for outside locations. Bike lockers may be placed within 250 feet of a station, station area or patron gathering area with written approval from RTD.

The preferred type of bike lockers for RTD facilities is a fiber-reinforced polymer (FRP) composite enclosure with an open base. The preferred

configuration for the lockers is a single rectangular unit that contains two triangular bays, each accessed from one end of the rectangular box. See RTD Standard Drawings for sample bike locker installation.

A minimum of 6 feet around the perimeter of bike lockers shall be maintained for user access and for snow removal equipment. If the locker cannot be secured to a concrete pad, a fiberglass composite locker floor shall be specified.

5.2.3 Bike Corrals and Bikestations

At sites with high bike traffic, with direction from RTD, a bike corral or bikestation shall be provided to accommodate the large number of bikes in a more attractive manner than expansive groups of racks and lockers.

5.2.3.1 Bike Corrals

Bike Corrals are sheltered and secured enclosures that can accommodate a large number of bikes efficiently. Riders can secure their bikes with individual locks, for added security, within the corral, which is designed to include a self-controlled access equipped with a smart-card or card-key locking mechanism. Bike corrals can be built to any specification, but generally take the form of an unused storage room or a fenced enclosure.

The size, location and design of any proposed bike corral will be site specific and shall be determined in conjunction with the RTD Planning and Development Department.

5.2.3.2 Bikestations

Bikestations are bike corrals that are staffed by parking attendants and offer other services and amenities. For example, a bikestation could provide transit passengers access to bike parking as well as bike repairs, bike rentals, bike accessories, transit pass sales, restrooms, changing stalls and a snack bar or café.

The size, location and design of any proposed bikestation will be site specific and shall be determined in conjunction with the RTD Planning and Development Department.

5.2.4 Selecting Type and Quantity of Bike Parking

There is no commonly accepted equation or model to establish the quantity or type of bike parking demand at bus transit facilities. Some factors that contribute to the demand are the level of transit service, surrounding land use, population demographics and proximity to bikeway facilities. General trends indicate that higher density areas have increased bicycle use. Similarly, younger populations (especially student populations) and lower

income populations have a higher bike parking demand. Bus transit facilities in urbanized areas typically have higher bike parking demand than in suburban or rural areas. Communities that contain established bikeways often have increased bike parking demand. Facilities that serve multiple routes or routes with higher frequencies tend to have higher bike parking needs.

Table 5A provides general guidelines for bike parking based upon the size of the facility. These guidelines will be adjusted for a proposed site per the above-stated factors based upon the site and surrounding area.

TABLE 5A – BIKE PARKING GUIDELINES BY TYPE OF FACILITY

Type of Facility	U Racks	Bike Lockers (# doors)	Bike Corral/ Bikestation
Bus stop served by frequent bus service	1 – 2	n/a	n/a
Satellite bus park-n-ride ≤ 25 auto spaces	1 – 2	n/a	n/a
Satellite bus park-n-ride > 25 ≤ 50 auto spaces	2	2	n/a
Standard bus park-n-ride ≤ 100 auto spaces	4	4	n/a
Urban bus park-n-ride > 100 ≤ 300 auto spaces	5	6	n/a
Standard bus park-n-ride > 300 auto spaces	6 – 10	10 – 20	Potential Bike Corral
Major Transfer Facility/New Transit Center Concept	10 – 15	24 – 40	Potential Bike Corral or Bikestation

5.3.0 BIKEWAYS

5.3.1 Bikeway Connections

Local communities may have a variety of off-street paths or on-street bike lanes that will factor into determining the demand for bike parking facilities. When developing site layouts for a bus transit facility, the Design Engineer shall investigate and consider such bicycle connections.

RTD encourages joint collaborations with local jurisdictions and agencies to provide better bicycle access to transit facilities where regional bike routes intersect or come within near proximity to RTD bus transit facilities.

When designing bikeways on RTD sites, where bike routes come onto RTD property, jurisdictional standards for size and surface material shall be met or exceeded (budget permitting). For example, if the current standard for a municipality is to surface regional bike trails with crusher fines, that would also be the minimum allowable surface within RTD's site. If the project budget can accommodate upgrading the bike path to asphalt or concrete, it would be recommended to do so.

Geometric standards for bikeway design shall be based upon local jurisdictional requirements or the AASHTO "Guide for the Development of Bicycle Facilities" manual if the local jurisdiction has no standards that address bikeways.

5.3.2 Bicycle/Pedestrian Bridges

Bridges may be necessary at some public bus facilities if major barriers to site access exist (i.e.: highways, RR, rivers). Refer to Section 6 of this Manual for further information on the design of such structures.

RTD will determine the practicality for bicycle/pedestrian bridges on a case-by-case basis, depending upon the projected pedestrian traffic, the geography of the site and the anticipated project cost.

5.3.3 Bikeway Signage

Where regional paths are not directly adjacent to RTD property, there should be clear signage directing bike traffic to and from the transit facility. Coordination with the local jurisdiction will be necessary to place signs along the bike path that direct riders along the most convenient route to reach the bus facility. The signs shall meet local standards, RTD's signage requirements as stated in Section 8 of this Manual and be in conformance with the MUTCD.