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massDOT
Massachusetts Department of Transportation

DESIGN DIRECTIVE

To: Distribution

From: Erik J. Stoothoff, P.E.   *EJS*
            Chief Engineer

Date: 8/19/2021

RE: Bicycle Parking

This design directive is intended to consolidate, reiterate, supplement, and clarify the MBTA's bicycle parking design approach, preferences, and requirements.

In the event that conditions warrant deviation from this directive, a design waiver signed by The Chief Engineer and department owning the scope of work will be required of the project.

Design Consultants shall design to standards as prescribed by Code. MBTA Standards shall apply only where Code does not address a topic or the MBTA requires a standard above and beyond Code. The more stringent shall always apply.

OBJECTIVE

Design for Bicycle Parking for all new construction, repair or replacement projects shall follow standards that are consistent with MBTA's priorities to the safety and accessibility of our passengers and staff. As such, design shall prioritize safety, functionality and ease of maintenance over time.

CODES, STANDARDS AND POLICIES

- 780 CMR – Massachusetts State Building Code
- 521 CMR – Massachusetts Architectural Access Board
- US DOT ADA Regulations & Standards

DESIGN PRINCIPLES

Bicycle Parking shall be considered for all MBTA Stations and Facilities. Bike Parking shall be provided in the form of bike cages, bike racks, bike lockers, bike stations, bike mobility hubs, or a combination thereof. Types and quantities shall be considered on a station by station basis. When planning for bike parking at stations, city and town regulations shall always be considered.

Bicycle Parking Facilities shall be placed in areas that are easily accessible and easily visible to customers arriving at the station from the roadway, and should be located within a convenient walking distance of station entrances. Designated bike parking areas shall be well-lit, highly visible areas to enhance overall safety and security.

Where possible, on-street bike lanes should be considered for street connections to/from MBTA facilities. Adequate signage shall be provided directing cyclists to designated bicycle routes and parking facilities.

When designing for bicycle parking facilities, the surrounding environment should be evaluated to determine the quantity and types parking. Higher connectivity between the roadway and bicycle facility, as well as neighborhood density, may indicate the need for higher amounts of bicycle parking.

The evaluation for placement, type and quantity of bicycle parking shall be coordinated effort with the MBTA Project Manager and include input from Customer Strategies, System Wide Accessibility, Office of the Chief Engineer, Safety and Operations.

All Bike Parking shall be designed to have some level of canopy over the parking area.
The MBTA's standard preference is to install bike cages as a first choice option for all bike parking. Where enclosed bike cages are determined to be infeasible due to space restrictions, or not necessary due to ridership levels, bike shelters shall be used instead.

Standards for bike racks shall be as follows:
- For Bike Cages
    - Double Tier
    - U-Shaped
- For Bike Shelters
    - U-Shaped
    - Post-and-Loop
- Bike Cages shall have the following features:
    - At least two designated areas of no less than 5-0" clear shall be provided for oversize bikes, cargo trailers, or other low-speed vehicles and accessories too large for a standard bike rack.
    - At minimum, 10% of bottom tier racks shall be prioritized, in the form of signage, for use by persons who may not be able to access the upper level racks. Signage shall direct riders to leave specific spots open for anyone requiring access lower level bike racks.
    - Clearance around interior and exterior of bike cage doors shall comply with guidance set forth in 521 CMR.
    - Doors to bike cages shall be accessible, equipped with automatic openers and be provided with a solid, smooth and durable surface for the lower portion of the door, up to a height of 48 inches above finish floor.

- All forms of bike parking shall be provided with video surveillance.
- An accessible route shall be provided to, from and around all forms of bicycle parking facilities.
- Bicycle parking facilities shall not impede the accessible path of travel.
- U-shaped and Post-and-Loop style bike racks shall be installed at 3'-0" O.C. and shall be placed a minimum of 4'-0" clear from any wall or barrier.
- All bike racks shall be formed from 2-3/8" O.D. schedule 40 steel pipe, fully welded, hot dip galvanized and assembled at factory. Bike racks shall be left unfinished, unless otherwise directed by the MBTA.
- Bike racks shall be designed with a 5" surface mounting flange and be surface mounted on 4" deep concrete slab or approved equal surface, installed using galvanized bolts, washers and/or lock bolts, and shall be isolated from the concrete structure and flooring materials with HDPE or Mylar shims to prevent degradation due to de-icers.
- Recycled material content to be 50% or greater, unless otherwise approved by MBTA.
- Bike racks cannot be placed in front of system maps or way-finding guides or on station platforms.

The inclusion and placement of MBTA operated bicycle parking facilities shall always take priority over a bike share station. The inclusion of bike share stations shall be coordinated independently of MBTA bike parking facilities and shall only be incorporated in scenarios where bike parking is not feasible for the MBTA, or adequate bike parking has already been included in the design.

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ADDITIONAL DESIGN GUIDANCE

Submittal of complete manufacturer's product data to MBTA for approval is required. This shall consist of complete product description and specifications, catalog cuts, and other descriptive data required for complete product use and information.

Provide samples of all materials to be exposed.