

PD-11: Bicycle Facilities

1-3 points

Goal: Provide safe, comfortable, convenient, and connected bicycling facilities within the project footprint.

Sustainability Linkage

Planning and designing for increased bicycling supports all of the triple bottom line sustainability principles by improving the safety for all users, enhancing livability and quality of life in communities, improving access to economic and educational opportunities and essential services, supporting local businesses and economic development, promoting physical activity and public health, and reducing vehicle emissions.



Background and Scoring Requirements

Background

To receive credit for this criterion, the project must enhance existing bicycle facilities or provide new high quality bicycle facilities that meet the needs of people of all ages and abilities, and are context-sensitive and appropriate (not just adding facilities where they are not warranted). Reconstruction of bicycle facilities in kind when widening roadways and/or bridges does not meet the requirements of this criterion, although this is still encouraged.

Applicable Bicycle Guidelines

Per the FHWA Memorandum: [Bicycle and Pedestrian Facility Design Flexibility](#)¹ and the [Questions & Answers about Design Flexibility for Pedestrian and Bicycle Facilities](#)², FHWA recommends a flexible approach to bicycle facility design. The AASHTO [Guide for the Development of Bicycle Facilities](#)³ is the primary national resources for planning, designing, and operating bicycle facilities. The National Association of City Transportation Officials' (NACTO) [Urban Bikeway Design Guide](#)⁴, NACTO [Urban Street Design Guide](#)⁵, and the Institute of Transportation Engineers (ITE) [Designing Urban Walkable Thoroughfares: A Context Sensitive Approach](#)⁶ guide builds upon the flexibilities provided in the AASHTO guide and can be used when designing safe and convenient bicycle facilities. The NACTO guides do not supersede compliance with 2010 Americans with Disabilities Act (ADA) [Standards for Accessible Design](#)⁷, the [Public Rights-Of-Way Accessibility Guidelines](#)⁸ (PROWAG), and [The Manual on Uniform Traffic Control Devices for Streets and Highways](#)⁹ (MUTCD). Additional FHWA resources include FHWA's [Small Town and Rural Multimodal Networks](#)¹⁰, [Achieving Multimodal Networks: Applying Design Flexibility and Reducing Conflicts](#)¹¹, and [the Separated Bike Lane Planning and Design Guide](#)¹².

Qualifying Features

For bicycle facilities to meet scoring requirements, improvements must be context sensitive and appropriate, go beyond minimum requirements, meet the needs of users of all ages and abilities, and include features that are safe, comfortable, convenient, and connected, such as those listed below.

- Examples of **Safe and Comfortable** features include:
 - Bicycle-friendly stormwater drains (grates)

- Resurfaced bike lanes
- Traffic calming features
- Buffered Bike Lanes/ Contra-Flow Bike Lanes/ Left-Side Bike Lanes
- Separated Bike Lanes (also known as Cycle Tracks and Protected Bike Lanes)
- Intersection treatments such as Bike Boxes, Median Refuge Islands, and Through Bike Lanes
- Separation between high-speed/high-volume traffic and bicyclists, such as
 - Buffered and/or separated bike lanes
 - Parallel bike routes (bike boulevards or bikeways)
 - Shared-Use paths
 - Dedicated bicycle bridges and tunnels
- Bicycle signals, signing, and pavement marking, such as
 - Flashing beacons
 - Signal detection and actuation
 - Colored pavement
 - Bike route wayfinding
- Landscaping specifically intended to enhance bicycle facilities
- Lighting
- Examples of **Convenient and Connected** features include:
 - Parking and bikeshare docks (except bicycle amenities at park-and-ride lots, bicycle parking is included in PD-12: Transit and HOV Facilities)
 - End-of-trip facilities as appropriate to promote the use of the bicycle facilities
 - Facilities that connect homes to places of employment, schools, shopping, and essential services such as health care, transit, and recreation areas
 - New facilities that connect to existing bike facilities as part of the project (for example by linking to a regional trail system)

Scoring Requirements

Requirement PD-11.1

1 point. Fill Gaps in Bicycle Network

Review bicycle master plans and other relevant local, regional, and state documents to determine if the project presents an opportunity to incorporate missing bicycle connections AND fill gaps in the bicycle network as part of the project. High traffic volumes and speeds should not be used as justification for not accommodating bicyclists because destinations may be located along these routes and many of these roadways are the only linkages that connect different parts of communities.

Requirement PD-11.2

1-2 points. Install Safe, Comfortable, Convenient, and Connected Bicycle Features

One of the following requirements may apply:

- **Requirement 11.2a**

1 point. Enhance Existing Bicycle Facilities

Implement new features or enhance existing bicycle facilities to include both safe and comfortable features and convenient and connected features. Current facilities do not qualify for this criterion without additional upgrades, improvements, or construction of new bicycle-focused features. The attempt to enhance bicycle

transportation should be deliberate and a direct result of the project. One way that an existing bicycle facility can be enhanced is to design and implement improvements at intersections, driveways, and other potential conflict points. Providing greater separation between bicyclists and high speed traffic also enhances an existing facility.

OR

- **Requirement PD-11.2b**

2 points. Develop New Bicycle Facilities

Design and construct new bicycle facilities that include both safe and comfortable features and convenient and connected features. New facilities include physical or constructed changes to the roadway structure, dimensions, or form that provide bicycle access within the right-of-way (ROW) or roadway corridor. To earn points, the bicycle facilities must be Class I (separated) or Class II (bike lanes). Lanes shared with motorized vehicles and shoulders do not meet this requirement. Reconstruction of facilities with the same features does not meet this requirement (e.g. widening road and replacing bike lane, or constructing a new bridge with the same bicycle facilities as a prior bridge, etc.) Transportation agencies are encouraged to go beyond minimum standards to provide safe and convenient bicycling facilities.

Resources

Above-Referenced Resources

The following resources are referenced in this criterion and consolidated here:

1. FHWA, *Bicycle and Pedestrian Facility Design Flexibility* (2013), https://www.fhwa.dot.gov/environment/bicycle_pedestrian/guidance/design_flexibility.cfm
2. FHWA, *Questions & Answers about Design Flexibility for Pedestrian and Bicycle Facilities* (2014), https://www.fhwa.dot.gov/environment/bicycle_pedestrian/guidance/design_flexibility_qa.cfm
3. AASHTO, *Guide for the Development of Bicycle Facilities*, 4th Edition (2012), https://bookstore.transportation.org/item_details.aspx?ID=1943
4. NACTO, *Urban Bikeway Design Guide, Second Edition* (2014), <https://nacto.org/publication/urban-bikeway-design-guide/>
5. NACTO, *Urban Street Design Guide* (2013), <https://nacto.org/publication/urban-street-design-guide/>
6. ITE, *Designing Walkable Urban Thoroughfares: A Context Sensitive Approach* (2010), <http://library.ite.org/pub/e1cff43c-2354-d714-51d9-d82b39d4dbad>
7. United States Department of Justice, *Americans with Disabilities Act (ADA) Standards for Accessible Design* (2010), https://www.ada.gov/regs2010/2010ADASTandards/2010ADASTandards_prt.pdf
8. United States Access Board, *Public Rights-of-Way Accessibility Guidelines (PROWAG)* (2011), <https://www.access-board.gov/guidelines-and-standards/streets-sidewalks/public-rights-of-way/proposed-rights-of-way-guidelines>
9. FHWA, *Manual on Uniform Traffic Control Devices for Streets and Highways* (2009 with Revisions 1 and 2, May 2012), <https://mutcd.fhwa.dot.gov/>
10. FHWA, *Small Town and Rural Multimodal Networks* (2016), https://www.fhwa.dot.gov/environment/bicycle_pedestrian/publications/small_towns/fhwahep17024_lg.pdf
11. FHWA, *Achieving Multimodal Networks: Applying Design Flexibility and Reducing Conflicts* (2016), https://www.fhwa.dot.gov/environment/bicycle_pedestrian/publications/multimodal_networks/fhwahep16055.pdf

12. FHWA, Separated Bike Lane Planning and Design Guide (2015),
https://www.fhwa.dot.gov/environment/bicycle_pedestrian/publications/separated_bikelane_pdg/separatedbikelane_pdg.pdf

Additional Resources

The following resources provide information on this criterion topic in addition to the sources directly referenced:

13. FHWA, Separated Bike Lane Planning and Design Guide (2015),
http://www.fhwa.dot.gov/environment/bicycle_pedestrian/publications/separated_bikelane_pdg/page00.cfm
14. FHWA, Bicycle & Pedestrian Design Guidance website (2015),
https://www.fhwa.dot.gov/environment/bicycle_pedestrian/guidance/index.cfm
15. United States Access Board, *Shared Use Paths* Guidelines and Standards (2011),
<https://www.access-board.gov/guidelines-and-standards/streets-sidewalks/shared-use-paths>
16. FHWA, BIKESAFE Bicycle Safety and Countermeasure Selection System,
<http://www.pedbikesafe.org/bikesafe/>

Scoring Sources

The project is considered to have met this criterion if the requirements above can be reasonably substantiated through the existence of one or more of the following documentation sources (or equal where not available):

1. Purpose and Need addressing bicycle access within the roadway project, including how it fits with existing land uses and/or existing General and Transportation Plans, project analysis, or a Bicycle Master planning process.
2. Results of public input on proposed bicycle facilities, if any.
3. Copy of the contract specification and plans for proposed bicycle facilities.
4. Total cost associated with new or improved bicycle facilities.