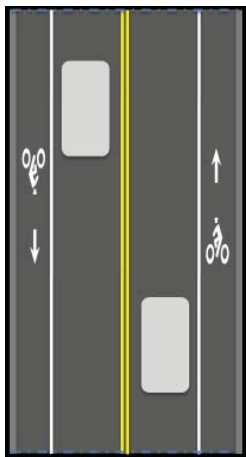


Bicycle Facility and Accommodation Toolbox

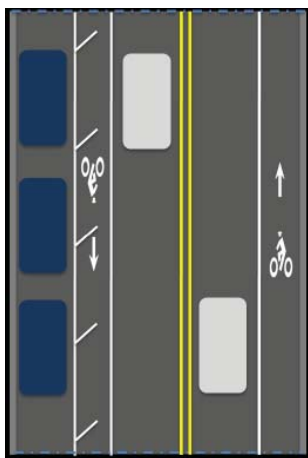
Bike Lane



A bike lane is a pavement marking that designates a portion of a roadway for the preferential or exclusive use of bicycles. Bike lane markings are dashed where vehicles are allowed to cross the bike lane, such as for right turns or at bus stops. Bike lanes are recommended on two-way arterial and collector streets where there is enough width to accommodate a bike lane in both directions, and on one-way streets where there is enough width for a single bike lane.

Sample Locations: Jones Branch Drive, Spring Hill Road, Old Courthouse Road

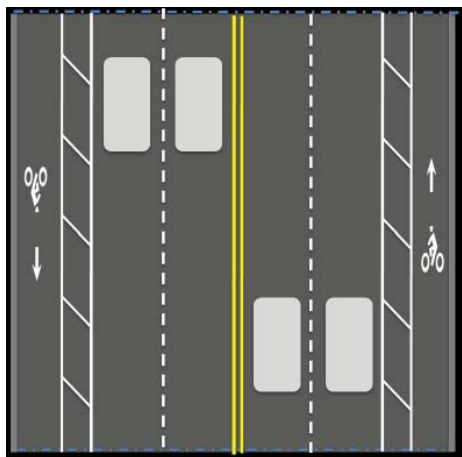
Bike Lane with Door Zone Markings



Diagonal lines within the bicycle lane may be utilized to guide bicyclists away from the space where the doors of parked vehicles may open, which is also known as the “door zone.” In dense urban areas with narrow streets, the potential of being “doored” is one of the cyclist’s greatest concerns. This treatment may be important to use on the avenue and collector streets with on-street parking.

Sample Locations: Boone Boulevard, new streets in the downtown grid

Buffered Bike Lane



Buffered bike lanes are created by striping a buffer zone between a bike lane and the adjacent travel lane. Buffered bicycle lanes should be considered at locations where there is excess pavement width or where adjacent traffic speeds are above 35 mph.

Sample Locations: Dolly Madison Boulevard, Great Falls Street

Bicycle Facility and Accommodation Toolbox

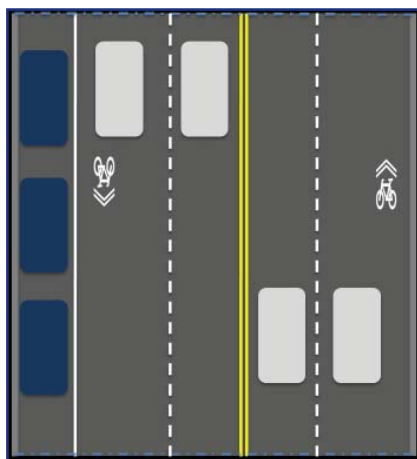
Shared Lane Markings- 4 Lane Street



Shared lane markings (sharrows) are used on roadways where bicyclists and motor vehicles must share the same travel lane. The sharrow helps position bicyclists in the most appropriate location to ride. It also provides a visual cue to motorists that bicyclists have a right to use the street. On a four lane street, sharrows should be placed in the outside lane. If the outside travel lane is too narrow for a motorist to comfortably pass a cyclists while staying within the travel lane (generally less than 13 feet) the sharrow marking may be centered in the lane. This encourages cyclists to “take the lane,” and encourages motorists to use the left lane to pass. In a 12-14 foot lane, the marking may be offset from the curb by 4 feet. For 10-12 foot lanes, the BIKES MAY USE FULL LANE SIGN is recommended in Tyson’s, because drivers are not used to sharing the road with cyclists and may not provide comfortable clearance when passing. Sharrows are not appropriate on streets with speed limits greater than 35 mph.

Sample Location: Tyco Road

Shared Lane Markings- Wide Outside Lane



Wide outside travel lanes are typically designed to be 13-15 feet wide. This width allows most motor vehicles to pass cyclists within the travel lane. Shared lane markings (sharrows) should be provided within the wide outside lane, offset 11 feet from the curb when parking is present, and 4 feet from the curb when parking is not present. Sharrows in wide outside lanes can be used to connect gaps between other bicycle facilities, such as a narrow section of roadway between road segments with bicycle lanes.

Sample Locations: Gallows Road, Idylwood Road Bridge

Shared Lane Markings- Residential

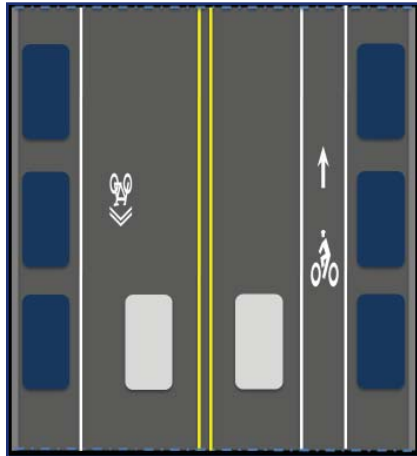


Shared lane markings (sharrows) may also be used on residential streets to designate bicycle facilities where there is not sufficient width for bike lanes. Studies have shown that sharrows direct bicyclists away from the “door zone” of parked cars, alert motorists of appropriate bicyclist positioning and encourage safe passing of bicyclists by motorists.

Sample Locations: Lisle Avenue, Oak Street

Bicycle Facility and Accommodation Toolbox

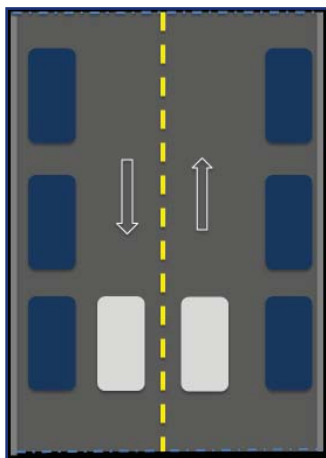
Climbing Lane



A climbing lane is a bikeway design for a two-way street that has a steep slope and insufficient width to permit bike lanes in both directions. A bike lane (climbing lane) is provided in the uphill direction to accommodate slow moving bicyclists and a shared lane marking is provided in the downhill direction, where bicyclists can typically travel at speeds close to motor vehicles.

Sample Locations: Greensboro Drive, Creek Crossing Road, Westpark Drive

Shared Roadway



A shared roadway consists of a low volume, low speed street that is compatible with bicycling without any striping, marking or geometric change to the roadway. Bicycle route signs are often used on shared roadways especially where a through route may be hard to find due to the configuration of neighborhood streets. Shared roadways are typically residential streets but can also be in commercial or institutional areas. Park roads can also often operate as shared roadways.

Sample Locations: Davis Court, Percussion Way, Rupert Street, Madrillon Road

Sidepath

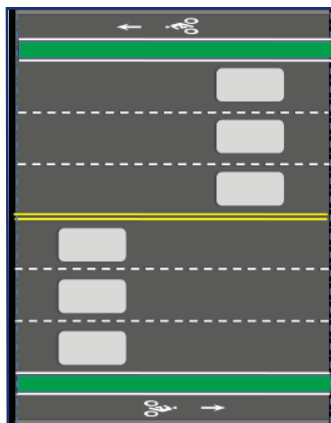


A sidepath is a shared-use path located adjacent to roadway. It is designed for use by bicyclists and pedestrians and each may travel in either direction. Sidepaths are sometimes created by designating a wide sidewalk for shared use; or they may be a segment of a longer trail or network of trails. Sidepaths are sometimes provided to facilitate connections to on- and off-street bicycle facilities. A sidepath is not generally a substitute for on-road bicycle facilities, but may be considered in constrained conditions, or in addition to on-road facilities. Sidepaths may not be appropriate in areas of high pedestrian activity unless there is space to successfully manage conflicts.

Sample Locations: Route 123, Route 7 NW of Tysons Corner

Bicycle Facility and Accommodation Toolbox

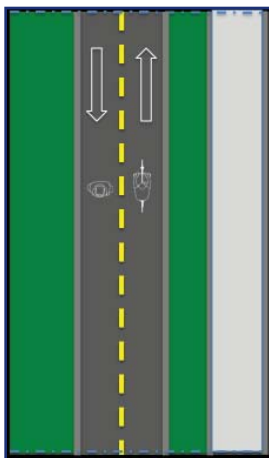
Cycletrack



A cycletrack is a bicycle facility that is physically separated from both the roadway and the sidewalk. A cycletrack may be constructed at the roadway level using roadway space, or at the sidewalk level using space adjacent to the road. Cycletracks separate bicyclists from motor vehicle traffic using a variety of methods, including curbs, raised concrete medians, bollards, on-street parking, large planting pots/boxes, landscaped buffers (trees and lawn) or other methods. Cycletracks designed to be level with the sidewalk should provide a vertical separation between bicyclists and pedestrians, as well as a different surface treatment to delineate the bicycle from the pedestrian space. Cycletracks can be one way for bicycles on each side of a two-way road, or two-way, and installed on one or both sides of the road. Cycletracks provide cyclists with a higher level of comfort relative to motor vehicle traffic, and are typically used on large multi-lane arterials where higher vehicle speeds exist. They may also be appropriate on high-volume but low-speed streets such as in a commercial downtown.

Sample Locations: Route 7, International Boulevard

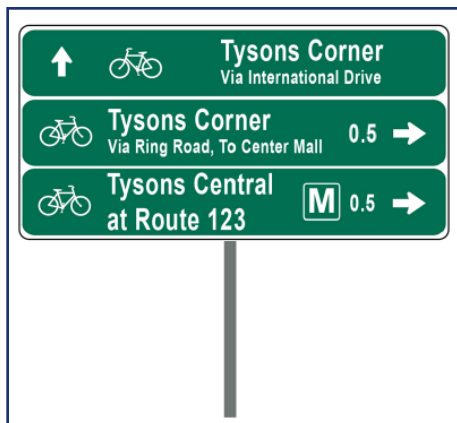
Trail or Shared Use Path



A trail or shared-use path is an off-street bicycle and pedestrian facility that is physically separated from motor vehicle traffic. Typically trails are located in an independent right-of-way such as in a park, stream valley greenway, along a utility corridor, or an abandoned railroad corridor. Shared-use paths are used by other non-motorized users including pedestrians, skaters, wheelchair users, joggers, and sometimes equestrians.

Sample Location: WO&D Trail

Signed Bike Route

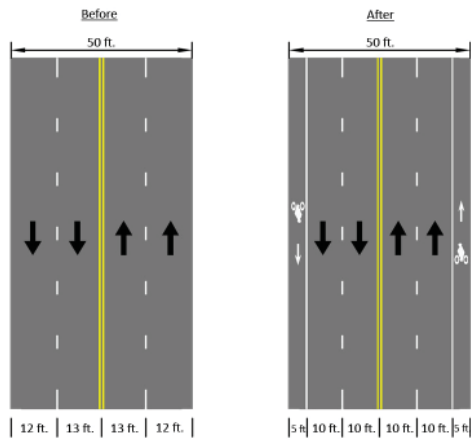


Signed bike routes provide distance and directional information as a wayfinding aid for bicyclists. Signed routes may be established on streets, trails or any combination of facility types that offer a continuous bicycling environment. Signs offer cyclists information about alternative routes and accessible destinations from their current location. They also can be used to suggest the types of conditions cyclists can expect on a route by referencing trails or roadways by name. Signed routes provide new cyclists greater confidence when they are exploring utilitarian cycling for the first time or when they are in unfamiliar territory. Signed routes can also prevent cyclists from getting lost in residential areas with curvilinear street layouts and few through streets.

Sample Location: Northbound on Gallows Road at Kidwell Drive

Bicycle Facility and Accommodation Toolbox

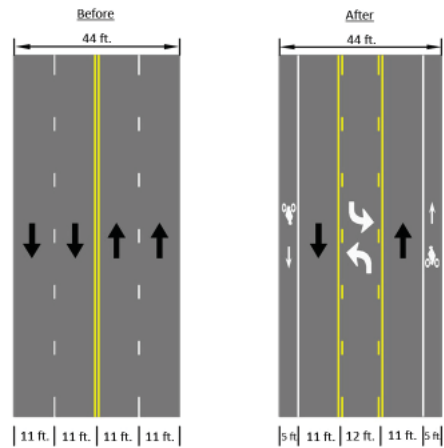
Lane Diet



A lane diet narrows the width of existing motor vehicle travel lane(s) and redistributes that space for bike lanes or other bikeway improvements. In some situations, a lane diet may be recommended for installation of shared lane markings. For example, a four lane road with 12 foot travel lanes can be restriped with 10 foot interior lanes and 14 foot wide outside lanes where the shared lane marking can be placed.

Sample Locations: Jones Branch Drive, Tysons Blvd

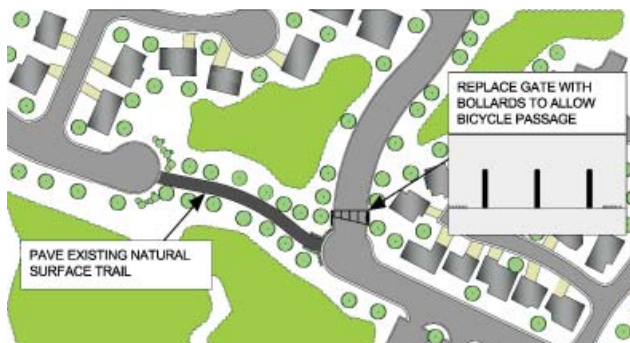
Road Diet



A road diet eliminates one or two travel lanes in order to provide a bicycle lane, or a buffered bicycle lane, within the existing width of the road. Typically, a center turn lane is provided for left-turn movements. In many situations, the resulting three-lane cross section functions more efficiently for motor vehicle traffic (and with fewer crashes) as well as allowing for bicycle lanes.

Sample Location: Old Meadow Road

Spot Access Improvement

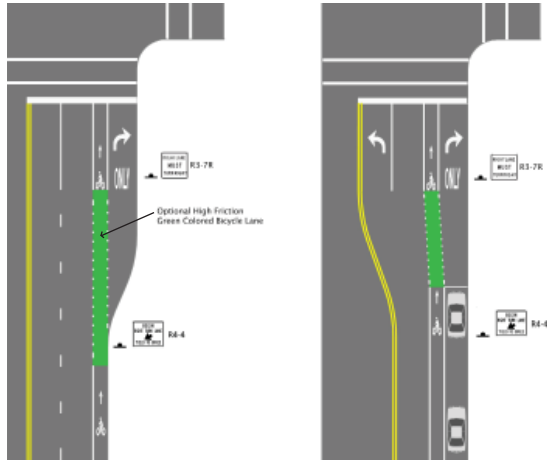


A spot bicycle access improvement is a relatively simple and low-cost solution for a location where bicycle access is blocked by a gate, fence, stream or lack of a paved path. The solution may require one or more of a variety of actions to create access, such as replacing a gate with bollards, installing a curb ramp, building a small bridge, or paving an unpaved path.

Sample Locations: Davis Court Cul de Sac Link, Madron Lane Passage, Kidwell Drive Trail Link

Bicycle Facility and Accommodation Toolbox

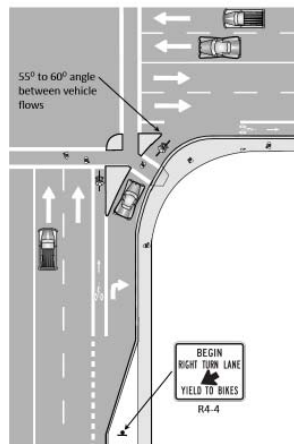
Right Turn Only Lane - Urban Intersection



At all urban intersections with a right turn only lane, the bicycle lane should always be to the left of the turn lane. Typical treatments for right turn only lanes include: dashed bicycle lane lines for the transition from right to left of the vehicular turn lane, high-friction green paint in the transition area, and BEGIN RIGHT TURN LANE YIELD TO BIKES (R3-7R), and RIGHT TURN ONLY (R4-4) MUTCD signs installed according to MUTCD standards. Note that engineering judgment and context-sensitive design approaches are required since every intersection is different.

Sample Location: Westmoreland Street at Chain Bridge Road

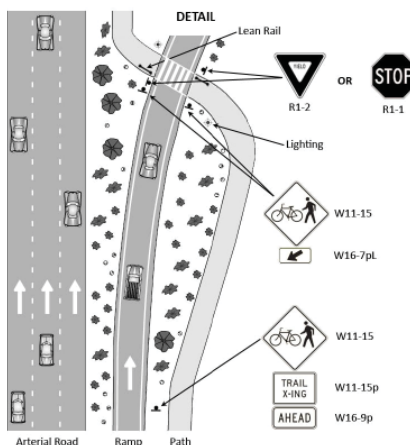
Right Turn Only Lane - With Crossing Islands



Many intersections in Tysons Corner have a channelized right turn lane on approaches. This design can be made both bicycle- and pedestrian-friendly by using the following key design features: provide a maximum right turn lane width of 16 feet, 14 feet recommended; stripe a lane between the curbs at 11 or 12 feet-in-width; provide a 55-60 degree angle between vehicle flows, rather than the typical 35-45 degree; and do not provide a dedicated receiving lane.

Sample Locations: Tysons Blvd and Galleria Drive, Leesburg Pike and Gallows Rd/International Drive

Shared-Use Path Crossing of Expressway On-Ramp

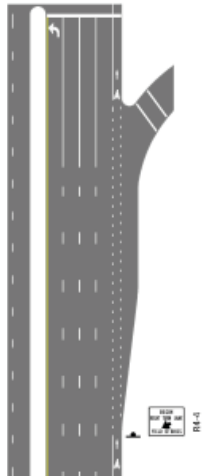


Shared-use path crossings at on-ramps present a greater number of potential conflicts (4) than a bike lane crossing (1) because of bi-directional travel on the path which serves both pedestrians and bicyclists. A stop condition is appropriate for trail users, however for a cyclist, stopping always means starting again; identifying a sufficient gap in 60 mph traffic while at the same time preparing to start from a stop is unsettling because there is little margin for error. A railing should be provided on both path approaches to allow the cyclist to come to a stop while keeping both feet on the pedals and thus prepared for a quicker start.

Sample Locations: Leesburg Pike and Capital Beltway, Leesburg Pike and Dulles Toll Road

Bicycle Facility and Accommodation Toolbox

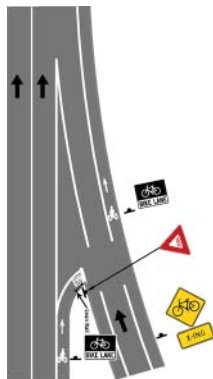
Bike Lane Crossing of Expressway On-Ramp



Bicycle lanes can be striped through an arterial exit to an expressway on-ramp. Important design considerations include the following: develop a right-turn lane prior to the point where the ramp diverges from the arterial road; always place the bicycle lane to the left of the right-turn lane; place the R4-4 BEGIN RIGHT TURN LANE YIELD TO BIKES at the beginning of the diverge area. In places where motor vehicle speeds are high and sidewalks are present, bicyclists should be given the option to exit onto the sidewalk and to proceed through the interchange along the pedestrian route.

Sample Locations: Dolley Madison Boulevard and Dulles Toll Road, Spring Hill Road and Dulles Toll Road

Bike Lane Crossing of Expressway Off-Ramp



Bicycle lanes can be designed to align the cyclist to cross an exit ramp at a right angle in order to improve sight distance and encourage slower speeds. A yield or stop condition is provided for the cyclist, who must identify a sufficient gap in motor vehicle traffic to safely cross the ramp. Advance warning signs of a bicycle lane crossing should be provided for exiting motorists who are likely to be traveling at high speeds. A railing can be provided to allow the cyclist to come to a stop while keeping both feet on the pedals and thus be prepared for a quicker start.

Sample Location: Dolley Madison Blvd and Dulles Toll Road

Expressway Overpass



Overpasses of major highways eliminate bicycle interaction with motor vehicle traffic and offer grade-separated crossings. Overpasses often provide a preferred alternative to crossing through an expressway interchange where there may be up to four or more locations (on each side of the arterial) where bicyclists will need to cross free-flowing entrance and exit traffic. This task is daunting for most people, and even well-designed at-grade ramp crossings are a deterrent to bicycle use in such cases.

Sample Locations: Capital Beltway Crossing near Marshall High School, Dulles Toll Road Overpass from Leesburg Pike to Greensboro Drive