

Emigration Canyon Report 6/12/2015

Dan Fazzini Jr., LCI

Emigration Canyon Shoulder Usage

- City Section
 - AASHTO Compliant bike lanes
 - Ordinance and Signed No Parking.
- County Section
 - **Legal Definitions**
 - Only Shoulders are present, some wide some narrow, some striped edge lines only.
 - Some shoulders very narrow and not suitable for bicycle travel (from Sun & Moon to 1st switch back); this section has both no shoulders (edge stripe only) and narrow lane.
 - After Pinecrest, the shoulder is wide enough to accommodate two abreast riding in the shoulder.
 - The SLCBAC discussed both at meetings and with ECC when the shoulder was widened to as to have the shoulder designated as a bike lane as it was being called. The SLCBAC elected not to pursue Bike Lane Status for a variety of reasons including allowing parking on the side of the road as it was/is minimal.
 - The “bikes shall ride single file” are very poorly placed and likely not placed in accordance with state law (since at least 2 of them are in locations with single file isn’t required due to the roadway/shoulder width) and are not in the MUTCD.
 - **Downhill Conditions**
 - WB/Downhill between Pinecrest and Sun & Moon: cyclists generally are travelling near the speed limit around 35mph (the old speed limit a few years ago incidentally) and it is generally un-safe at this speed to stay near the shoulder. Many cyclists do “release” traffic when it is prudent.
 - There are numerous places downhill that there is often rock fall and/or very poor visibility if riding close to the edge of the roadway or in the shoulder. Around right hand bends and with rock fall the prudent and safe lane position is actually in the left wheel track to better avoid debris and provided more distance to be notice by motorists since a straddle pass would still be illegal in these situations due to sight distance with oncoming traffic.
 - The bike lanes (only bike lanes in County section) near Ruth’s is often blocked by illegally parked cars, also much of it is in the 5 foot “door zone.” Cyclists even with the bike lane are not required to ride that close to parked cars as it is not “practicable” or safe.
 - **Passing**
 - Passing cyclists is legal (not required) in no passing zones when adequate sight distance traffic conditions exist. Many places in the canyon the no passing zones exceed the minimums required per standards and are placed more for traffic calming purposes.
 - Passing cyclists travelling at 10mph (or less) takes much less time than passing a motorist travelling near the speed limit, the lateral distance is generally less, even if passing 2 abreast cyclists as they rarely are riding 2 abreast beyond the center of the lane.

- Most cyclists do attempt to share the roadway with other users (motorists, runners, wildlife, etc.). Delays are usually minimal if a pair needs to single up to allow safe passing. If there is no shoulder, it is not safe to pass anywhere in the canyon within the lane without at least doing a straddle pass.
- **2 Abreast, General Traffic Principals**
- Two abreast riding is legal, until it is impeding the normal and reasonable movement of traffic. This does not mean that a faster moving vehicle will never have to slow down briefly. Although this behavior should not be “blocking” traffic, if it is un-safe to pass even with an edge riding cyclist, then it really doesn’t matter if it is one cyclist in the middle of the lane or two.
- However, that does not mean that they must always give out the right of way of travel anytime a motorist is near them. A bicycle is considered a legal vehicle and the operator has equal use/right to use the roadway as any other vehicle operator. The general traffic principal is first come first served.

Lane/Shoulder Types and Usage:

General Traffic Principals

- Slower vehicles use the right-most lane serving their destination
- Bicycle is a vehicle
- Highway refers to the entire right of way
- Roadway refers to the section of the highway normally used for vehicular traffic and does not include the shoulder (marked or un-marked)
- Cyclists under Utah Statute are to ride in the right most lane serving their destination or as far right as practicable on the roadway when moving at less than the speed of surrounding traffic.
- Cyclists when travelling at the speed of traffic (ie. The speed limit), they have no duty nor is it generally safe to ride in the margins.
- Cyclists under Statue are never required to share a “narrow lane” which by definition is any lane less than 14’ wide (from the white stripe on the right to the next lane marking on the left), very few lanes meet this wide lane definition.
- Agencies are prohibited from barring bicycle vehicle traffic from roadways when being used for travel (regardless of purpose) without providing a reasonable alternative.
- Motorists must pass a moving cyclist with at least three feet of clearance; in most cases the proper thing to do is to change lanes.
- Motorists are permitted (not required) to cross the solid yellow stripe or use a two way turn lane to pass a slower moving cyclist.
- Often there are obstacles in the shoulder or even bike lane requiring a cyclist to leave or stay out of that area of the roadway including trash, rocks, parked cars, garbage cans etc., it is less safe to constantly weave in and out of the shoulder.
- Cyclists need more than the 6” of the wheel to safely operate, generally at least 3’ of space. They also need 5’ from their shoulder to a parked car to clear the door zone. It is nearly impossible to see people in a car while travelling on a bike that might be ready to open their door.

- Most bicycle lanes do not allow parking in them and should be 5-6' wide, a standard shoulder is generally 7-10' wide which accommodates parked/broken down vehicles, but not enough room to share with a passing bicycle. A narrow shoulder or edge/fog line is generally not considered enough room to safely operate a bicycle, in most cases the adjoining travel lane is 10' and the total is still less than the 14' minimum to safely share space, without a curb often the shy space to the right also increases.
- Cyclists when safe and practicable should use a shoulder to ride, but are not legally required to.
- When travelling around right-hand corners with obstructions in the corner (hillside, rock fall), the best position for a cyclists is actually on the left side of the lane for both debris avoidance and for sight distance to the vehicles behind and to discourage un-safe passing.
- Riding more than two-abreast is generally illegal.
- Riding two-abreast when not "impeding then normal and reasonable movement of traffic" it legal but common curtesy dictates that cyclists single up to release traffic to pass. On roadways with more than one line in the direction of travel, rarely are cyclists impeding the reasonable movement of traffic.
- Likewise, if a cyclist is riding in a legal lane position given the lane width, then it should not matter if two-abreast or not.
- Actually riding two-abreast with four or more riders makes it easier to safely and legally pass as it shortens the passing distance. On narrow lanes a passing motorist should at least already be doing a straddle pass if not changing lanes completely. Four riders riding single file will double the passing distance needed.
- The Utah Statute actually states that when impeding traffic to ride in a single lane; likewise written prior to most roads striped, but none the less that is what it states, it does not state that you must ride single file, only to contain riding to a single lane.

Standard Travel Lane

- Legal/Common Definition
 - Defined by default in Statute, generally a general purpose travel lane of 9-14' wide.
- Usage
 - Most city streets fall into this category. The standard minimum is 10' with 11' minimum for bus routes and other more heavily used corridors. 12' is common on major arterials.
- Restrictions
 - None, all vehicles are allowed to use the lane, slower traffic generally uses the right-most through lane.
 - Cyclists are not required to share the lane by definition.

Wide Travel Lane

- Legal/Common Definition
 - None in Utah Statutes, some states and signage standards consider anything less than 14' a "sub-standard lane".
 - Likewise if you add the distance needed to share, it also comes to 14': 8' mirror to mirror for a motor vehicle, 3' for the bicycle, 3' for passing clearance.
- Usage
 - Can be generally safely shared with a motorist and cyclist.

- Restrictions
 - Motorists must still pass with 3' or change lanes.

Turn Lane

- Legal/Common Definition
 - A specific lane with markings controlling the direction of traffic at an intersection or driveway.
- Usage
 - Used to cue a left or right turn. Provides slowing room to lessen the impact of other traffic.
- Restrictions
 - Usually illegal to use for through traffic (including bicycles)

Acceleration Lane

- Legal/Common Definition
 - Short lane at the beginning of an intersection to accommodate merging in with traffic.
- Usage
 - Provides room to accelerate to merge into existing traffic
- Restrictions
 - Is not considered a "right most lane" for traffic positioning for through traffic.

Multi-Lane Highway

- Legal/Common Definition
 - A roadway with more than one lane of travel in a given direction for through traffic.
- Usage
 - Used in higher traffic areas
- Restrictions
 - Only under rare circumstances would a slower moving vehicle be impeding traffic. Actually the further back faster traffic recognized that they will have to change lanes, the easier it is just by signaling and merging into traffic.
 - It is legal in many cases to "park or stop" unless otherwise signed.

Marked Shoulder

- Legal/Common Definition
 - The area to the right of a solid 4" white stripe
- Usage
 - Parking, emergency breakdown, placing garbage cans, pedestrian. Also bicycles "may" use them, but not required.
- Restrictions
 - Motor vehicle travel is generally prohibited except while preparing for a right turn (or left turn on a one way).
 - Motorist cannot use them to pass a left turning vehicle. (they'd be leaving the "roadway").

- Cyclists can use the shoulder to pass as long it is “done with safety.”

Un-Marked Shoulder

- Legal/Common Definition
 - The area of the roadway not generally used for vehicular travel.
- Usage
 - Same as marked shoulder
- Restrictions
 - Same as marked shoulder, however passing on the right in an un-marked shoulder is not as clear in the statute.

Bike Route (Class III)

- Legal/Common Definition
 - A marked bicycle route using existing roadway facilities.
- Usage
 - Used when a bike lane or other bicycle specific facility is no practicable for some reason but a route through a section of the city is preferred.
- Restrictions
 - None. Bicycles may ride on the bike route or one of their choosing.

Bike Lane (Class II)

- Legal/Common Definition
 - A lane of travel for the preferential use by bicycles. No state wide definition in Utah.
 - This includes a buffered lane with only painted gore area separating the travel lane with a bike lane.
- Usage
 - Used primarily for bicycle travel in the direction of adjacent traffic unless otherwise signed.
 - Is considered part of the roadway if immediately adjacent to a general travel lane.
- Restrictions
 - Motorists are usually prohibited from parking in the bike lane
 - Motorists should use the lane (last 50-200') to initiate a turn into a driveway or side street.
 - Cyclists are still not required to use the lane if there are obstructions or it is not safe (such as a door zone).
 - When passing a cyclist using a bike lane (or shoulder), passing motorist must still give a safe passing distance of three feet.

Bike/Multi Use Path (Class I)

- Legal/Common Definition
 - A “side-path”, trail etc. separated from the roadway for the exclusive use of cyclists or shared with other non-motorized uses.

- This also may include a cycle-track or barrier separated protected bike lane with bollards, curb, trees, parked cars or other street furniture separating the bike lane from the general travel lane.
- Usage
 - Used primarily for bicycle travel in the direction of adjacent traffic unless otherwise signed.
 - Is not generally considered part of the roadway under current Utah Statues since it is to the right of the curb, shoulder or parked cars.
 - Still needs to be “usable” for “required” use (free of parked cars, debris, garbage cans, moving vans etc.)
 - Some treatments are putting the cycle-track in the middle of a boulevard.
- Restrictions
 - Generally for bicycle use only, pedestrians should have an adjacent sidewalk.

Signage

- Bikes may Use Full Lane
- Share the Road
- Bike Lane
- Bike Route
- Wayfinding
- Shared Lane (Sharrow)
- Right turn Yield to Bikes

Center Turn Lane

- Legal/Common Definition
- Usage
- Restrictions

No Passing Zones

- Legal/Common Definition
- Usage
- Restrictions

Shoulder Use, Lane Definitions:

State Law

41-6a-102 Definitions

(22) "Highway" means the entire width between property lines of every way or place of any nature when any part of it is open to the use of the public as a matter of right for vehicular travel.

(52) (a) "Roadway" means that portion of highway improved, designed, or ordinarily used for vehicular travel.

(b) "Roadway" does not include the sidewalk, berm, or shoulder, even though any of them are used by persons riding bicycles or other human-powered vehicles.

(c) "Roadway" refers to any roadway separately but not to all roadways collectively, if a highway includes two or more separate roadways.

(56) "Shoulder area" means:

- (a) that area of the hard-surfaced highway separated from the roadway by a pavement edge line as established in the current approved "Manual on Uniform Traffic Control Devices"; or
- (b) that portion of the road contiguous to the roadway for accommodation of stopped vehicles, for emergency use, and for lateral support.

(57) "Sidewalk" means that portion of a street between the curb lines, or the lateral lines of a roadway, and the adjacent property lines intended for the use of pedestrians.

41-6a-301. Standards and specifications for uniform system of traffic-control devices and school crossing guards.

- (1) In accordance with [Title 63G, Chapter 3, Utah Administrative Rulemaking Act](#), the Department of Transportation shall make rules consistent with this chapter adopting standards and establishing specifications for a uniform system of traffic-control devices used on a highway.
- (2) The standards and specifications adopted under Subsection (1) shall:
 - (a) include provisions for school crossing zones and use of school crossing guards; and
 - (b) correlate with, and where possible conform to, the system set forth in the most recent edition of the "Manual on Uniform Traffic Control Devices for Streets and Highways" and other standards issued or endorsed by the federal highway administrator.

Effective 5/12/2015

41-6a-705. Passing upon right -- When permissible.

- (1) The operator of a vehicle may overtake and pass on the right of another vehicle only:
 - (a) when the vehicle overtaken is making or preparing to make a left turn; or
 - (b) on a roadway with unobstructed pavement of sufficient width for two or more lines of vehicles moving lawfully in the direction being traveled by the overtaking vehicle.
- (2) The operator of a vehicle may overtake and pass another vehicle on the right only under conditions permitting the movement with safety.
- (3) Except for a person operating a bicycle, the operator of a vehicle may not overtake and pass another vehicle if the movement is made by driving off the roadway.
- (4) A violation of this section is an infraction.

Effective 5/12/2015

41-6a-907. Vehicles emerging from alleys, buildings, private roads, or driveways must stop prior to sidewalk area or street.

- (1) The operator of a vehicle emerging from an alley, building, private road or driveway within a business or

residence district shall stop:

- (a) the vehicle immediately prior to driving onto a sidewalk or onto the sidewalk area extending across the alley, building, private road, or driveway; or
- (b) if there is no sidewalk area, at the point nearest the street to be entered where the operator has a view of approaching traffic.

(2) A violation of Subsection (1) is an infraction.

41-6a-1002. Pedestrians' right-of-way -- Duty of pedestrian.

- (1) (a) Except as provided under Subsection (2), when traffic-control signals are not in place or not in operation, the operator of a vehicle shall yield the right-of-way by slowing down or stopping if necessary:
 - (i) to a pedestrian crossing the roadway within a crosswalk when the pedestrian is on the half of the roadway upon which the vehicle is traveling; or
 - (ii) when the pedestrian is approaching so closely from the opposite half of the roadway as to be in danger.

(b) Subsection (1)(a) does not apply under conditions of Subsection 41-6a-1003(2).

(c) A pedestrian may not suddenly leave a curb or other place of safety and walk or run into the path of a vehicle which is so close as to constitute an immediate hazard.

(2) The operator of a vehicle approaching a school crosswalk shall come to a complete stop at the school crosswalk if:

- (a) a school speed limit sign has the warning lights operating; and
- (b) the crosswalk is occupied by a person.

(3) If a vehicle is stopped at a marked crosswalk or at any unmarked crosswalk at an intersection to permit a pedestrian to cross the roadway, the operator of any other vehicle approaching from the rear may not overtake and pass the stopped vehicle.

41-6a-1006. Vehicles to exercise due care to avoid pedestrians -- Audible signals and caution.

- (1) The operator of a vehicle shall:
 - (a) exercise care to avoid colliding with a pedestrian;
 - (b) give an audible signal when necessary; and
 - (c) exercise appropriate precaution if the operator of the vehicle observes a child or an obviously confused, incapacitated, or intoxicated person.

(2) This section supersedes any conflicting provision of:

- (a) this chapter; or
- (b) a local ordinance in accordance with Section 41-6a-208.

Effective 5/12/2015

41-6a-1009. Use of roadway by pedestrians -- Prohibited activities.

- (1) Where there is a sidewalk provided and its use is practicable, a pedestrian may not walk along or on an adjacent roadway.
- (2) Where a sidewalk is not provided, a pedestrian walking along or on a highway shall walk only on the shoulder, as far as practicable from the edge of the roadway.
- (3) Where a sidewalk or a shoulder is not available, a pedestrian walking along or on a highway shall:
 - (a) walk as near as practicable to the outside edge of the roadway; and
 - (b) if on a two-way roadway, walk only on the left side of the roadway facing traffic.
- (6) Except as otherwise provided in this chapter, a pedestrian on a roadway shall yield the right-of-way to all vehicles on the roadway.
- (9) A violation of this section is an infraction.

41-6a-1106. Bicycles and human powered vehicle or device to yield right-of-way to pedestrians on sidewalks, paths, or trails -- Uses prohibited -- Negligent collision prohibited -- Speed restrictions -- Rights and duties same as pedestrians.

- (1) A person operating a bicycle or a vehicle or device propelled by human power shall:
 - (a) yield the right-of-way to any pedestrian; and
 - (b) give an audible signal before overtaking and passing a pedestrian.
- (2) A person may not operate a bicycle or a vehicle or device propelled by human power on a sidewalk, path, or trail, or across a roadway in a crosswalk, where prohibited by a traffic-control device or ordinance.
- (3) A person may not operate a bicycle or a vehicle or device propelled by human power in a negligent manner so as to collide with a:
 - (a) pedestrian; or
 - (b) person operating a:
 - (i) bicycle; or
 - (ii) vehicle or device propelled by human power.
- (4) A person operating a bicycle or a vehicle or device propelled by human power on a sidewalk, path, or trail, or across a driveway, or across a roadway on a crosswalk may not operate at a speed greater than is reasonable and prudent under the existing conditions, giving regard to the actual and potential hazards then existing.
- (5) Except as provided under Subsections (1) and (4), a person operating a bicycle or a vehicle or device propelled by human power on a sidewalk, path, or trail, or across a roadway on a crosswalk, has all the rights and duties applicable to a pedestrian under the same circumstances.

41-6a-1105. Operation of bicycle or moped on and use of roadway -- Duties, prohibitions.

- (1) A person operating a bicycle or a moped on a roadway at less than the normal speed of traffic at the time and place and under the conditions then existing shall ride as near as practicable to the right-hand edge of the roadway except when:
 - (a) overtaking and passing another bicycle or vehicle proceeding in the same direction;
 - (b) preparing to make a left turn at an intersection or into a private road or driveway;

- (c) traveling straight through an intersection that has a right-turn only lane that is in conflict with the straight through movement; or
- (d) reasonably necessary to avoid conditions that make it unsafe to continue along the right-hand edge of the roadway including:
 - (i) fixed or moving objects;
 - (ii) parked or moving vehicles;
 - (iii) bicycles;
 - (iv) pedestrians;
 - (v) animals;
 - (vi) surface hazards; or
 - (vii) a lane that is too narrow for a bicycle and a vehicle to travel safely side by side within the lane.

(2) A person operating a bicycle or moped on a highway shall operate in the designated direction of traffic.

(3) (a) A person riding a bicycle or moped on a roadway may not ride more than two abreast with another person except on paths or parts of roadways set aside for the exclusive use of bicycles.

(b) If allowed under Subsection (3)(a), a person riding two abreast with another person may not impede the normal and reasonable movement of traffic and shall ride within a single lane.

(4) If a usable path for bicycles has been provided adjacent to a roadway, a bicycle rider may be directed by a traffic-control device to use the path and not the roadway.

County Ordinance

14.04.150 - Sidewalk.

"Sidewalk" means that area between the curblineline and the fenceline on either side of a highway.

11.08.080 - Entering highway from alley or private roadway.

It is unlawful to drive a vehicle from any alley, private driveway, or private road onto a public thoroughfare without first bringing such vehicle to a complete stop within fifteen feet of the highway, giving an audible signal, and yielding the right-of-way to all approaching vehicles and pedestrians.

11.08.120 - Recreational activities on county roads.

There shall be no sleigh riding or other recreational activities conducted upon any roads or highways of the county unless the sheriff's department allows such activity in restricted areas by designating same with appropriate signs and other controls.

11.08.200 - Driving on sidewalks or safety zones prohibited.

No driver of a vehicle shall drive within any sidewalk area except at a permanent or temporary driveway nor into or upon any portion of a roadway marked as a safety zone.

1.08.230 - Obstruction of view prohibited.

A.

It is unlawful for persons owning or occupying property adjacent to any road or highway in the county to permit any tree, plant, shrub, sign, vehicle, fence or other obstacle of any kind located on said property to block the view of traffic signs to the vision of oncoming motorists or to obscure the vision of oncoming traffic so as to constitute a traffic hazard.

B.

When the department of public works determines upon the basis of an engineering and traffic investigation that a traffic hazard exists, it shall notify the owner or occupant and order that the hazard be removed within ten days.

C.

The failure of the owner or occupant to remove the traffic hazard within ten days is a Class C misdemeanor.

11.16.020 - Minimum speed regulations.

No person shall drive a motor vehicle at such a slow speed as to impede or block the normal and reasonable movement of traffic, except when reduced speed is necessary for safe operation or because upon a grade or in compliance with law. The transportation engineer may determine on the basis of an engineering and traffic investigation that slow speeds on any part of a road or highway of the county impede the normal and reasonable movement of traffic and constitute a traffic hazard requiring the declaration of a minimum speed limit below which no person shall drive except when necessary for safe operation or in compliance with law. All such minimum speed limits shall be properly posted.

11.20.050 - Parking prohibited in specified areas.

No person shall stop, stand or park a vehicle, except when necessary to avoid conflict with other traffic or in compliance with law or the directions of a law enforcement officer or traffic control device, in any one of the following places:

A.

On a sidewalk area;

B.

In front of or within five feet of a private driveway;

C.

Within an intersection;

D.

Within fifteen feet of a fire hydrant, whether on public or private property or within a fire lane as designated and marked in accordance with the provisions of subsection J of Section 2.28.030 of this code, whether on public or private property;

E.

On a crosswalk;

F.

Within twenty feet of a crosswalk at an intersection;

G.

Within thirty feet of any flashing beacon or traffic control device located at the side of a roadway;

H.

In front of or within twenty feet on either side of the entrance or exit of any theater, fire station or place of public assemblage;

I.

Within fifty feet of the nearest rail of a railroad crossing;

J.

Alongside or opposite any street excavation or obstruction when stopping, standing or parking would obstruct or be hazardous to traffic;

K.

Within any alley, except for the necessary and expeditious loading and unloading of merchandise; provided, that in no event shall the driveway or entrance to any abutting property be blocked or free movement of traffic through the alley be interfered with;

L.

Upon any bridge or other elevated structure on a street or within a street tunnel or underpass;

M.

Upon that side of any street contiguous to any school property during school hours;

N.

At any place where official signs or traffic controls placed by the traffic engineer prohibit stopping, standing or parking.

- **11.20.120 - Obstructing traffic prohibited.**

No person shall park any vehicle upon a street in such a manner or under such conditions as to leave available less than ten feet of the width of the roadway for free movement of vehicular traffic.

(Prior code § 21-4-13)

- **11.20.130 - Parking prohibited when.**

No person shall park a vehicle on any county street when it is snowing or snow is on the street during the months of November, December, January, February, March and April.

(Ord. 1286 §§ 1, 2, 1994: Ord. 1099 § 3, 1990: prior code § 21-4-9)

- **11.20.135 - Long-term parking prohibited.**

No person owning, possessing, controlling or having custody of a vehicle shall permit it to remain standing upon any county street or alley for a consecutive period of more than twenty-four hours.

11.32.100 - Prohibited acts.

It is unlawful for operators of bicycles to do the following:

A.

To fail to yield the right-of-way to pedestrians and to sound a warning device before overtaking or passing any pedestrian when riding upon a sidewalk; [poorly worded]

B.

To ride more than two abreast upon any street;

C.

To proceed other than single file upon any sidewalk;

D.

To carry extra passengers or carry any packages, bundles or articles that would require the removal of the hand or hands from the handlebars of the bicycle;

E.

To permit the bicycle to be towed by another vehicle or bicycle;

F.

To carry more persons at one time than the number that the bicycle is designed to carry on seats firmly attached thereto.

11.36.060 - Walking on or along roadways.

A.

Where sidewalks, walkways or paths are provided, it is unlawful for any pedestrian to walk along and upon any adjacent roadway.

B.

Where sidewalks are not provided, any pedestrian walking along and upon a highway shall, when practicable, walk only on the left side of the roadway or its shoulder facing traffic that may approach from the opposite direction. In no event shall more than two persons walk abreast alongside any county roadway.

"Bicycle" means every device propelled by human power upon which any person may ride, having two tandem wheels, either of which is over twenty inches in diameter, and including any device generally recognized as a bicycle, though equipped with more than one front or rear wheel.

"Motor-driven cycle" means every motorcycle, including every motor scooter, with a motor that produces more than five horsepower, **and every bicycle with a motor attached.**

"Street or highway" means the **entire width between the boundary lines** of every way publicly maintained when any part thereof is open to the use of the public for purposes of vehicular travel.

"Vehicle" means every device in, upon or by which a person or property is or may be transported or drawn upon a highway, **except devices moved by human power** or used exclusively upon stationary rails or tracks.

MUTCD

Section 9A.01 Requirements for Bicyclist Traffic Control Devices

Support:

01 General information and definitions concerning traffic control devices are found in [Part 1](#).

Section 9A.02 Scope

Support:

01 [Part 9](#) covers signs, pavement markings, and highway traffic signals specifically related to bicycle operation on both roadways and shared-use paths.

Guidance:

02 [Parts 1](#), [2](#), [3](#), and [4](#) should be reviewed for general provisions, signs, pavement markings, and signals.

Standard:

03 **The absence of a marked bicycle lane or any of the other traffic control devices discussed in this Chapter on a particular roadway shall not be construed to mean that bicyclists are not permitted to travel on that roadway.**

Section 9B.04 Bike Lane Signs and Plaques (R3-17, R3-17aP, R3-17bP)

Standard:

01 **The Bike Lane (R3-17) sign and the R3-17aP and R3-17bP plaques (see [Figure 9B-2](#)) shall be used only in conjunction with marked bicycle lanes as described in [Section 9C.04](#).**

Guidance:

02 *If used, Bike Lane signs and plaques should be used in advance of the upstream end of the bicycle lane, at the downstream end of the bicycle lane, and at periodic intervals along the bicycle lane as determined by engineering judgment based on prevailing speed of bicycle and other traffic, block length, distances from adjacent intersections, and other considerations.*

Section 9C.04 Markings For Bicycle Lanes

Support:

01 Pavement markings designate that portion of the roadway for preferential use by bicyclists. Markings inform all road users of the restricted nature of the bicycle lane.

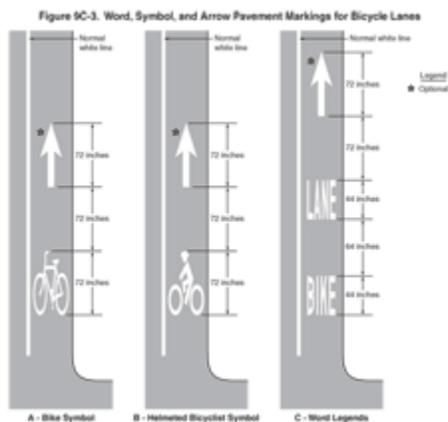
Standard:

02 **Longitudinal pavement markings shall be used to define bicycle lanes.**

Guidance:

03 *If used, bicycle lane word, symbol, and/or arrow markings (see [Figure 9C-3](#)) should be placed at the beginning of a bicycle lane and at periodic intervals along the bicycle lane based on engineering judgment.*

Figure 9C-3 Word, Symbol, and Arrow Pavement Markings for Bicycle Lanes



Standard:

04 **If the bicycle lane symbol marking is used in conjunction with word or arrow messages, it shall precede them.**

Option:

05 If the word, symbol, and/or arrow pavement markings shown in [Figure 9C-3](#) are used, Bike Lane signs (see [Section 9B.04](#)) may also be used, but to avoid overuse of the signs not necessarily adjacent to every set of pavement markings.

Standard:

06 **A through bicycle lane shall not be positioned to the right of a right turn only lane or to the left of a left turn only lane.**

Support:

07 A bicyclist continuing straight through an intersection from the right of a right-turn lane or from the left of a left-turn lane would be inconsistent with normal traffic behavior and would violate the expectations of right- or left-turning motorists.

Guidance:

08 *When the right through lane is dropped to become a right turn only lane, the bicycle lane markings should stop at least 100 feet before the beginning of the right-turn lane. Through bicycle lane markings should resume to the left of the right turn only lane.*

09 An optional through-right turn lane next to a right turn only lane should not be used where there is a through bicycle lane. If a capacity analysis indicates the need for an optional through-right turn lane, the bicycle lane should be discontinued at the intersection approach.

10 Posts or raised pavement markers should not be used to separate bicycle lanes from adjacent travel lanes.

Support:

11 Using raised devices creates a collision potential for bicyclists by placing fixed objects immediately adjacent to the travel path of the bicyclist. In addition, raised devices can prevent vehicles turning right from merging with the bicycle lane, which is the preferred method for making the right turn. Raised devices used to define a bicycle lane can also cause problems in cleaning and maintaining the bicycle lane.

Standard:

12 **Bicycle lanes shall not be provided on the circular roadway of a roundabout.**

Guidance:

13 Bicycle lane markings should stop at least 100 feet before the crosswalk, or if no crosswalk is provided, at least 100 feet before the yield line, or if no yield line is provided, then at least 100 feet before the edge of the circulatory roadway.

Support:

14 Examples of bicycle lane markings at right-turn lanes are shown in [Figures 9C-1, 9C-4, and 9C-5](#). Examples of pavement markings for bicycle lanes on a two-way street are shown in [Figure 9C-6](#). Pavement word message, symbol, and arrow markings for bicycle lanes are shown in [Figure 9C-3](#).

Figure 9C-4 Example of Bicycle Lane Treatment at a Right Turn Only Lane

Figure 9C-4. Example of Bicycle Lane Treatment at a Right Turn Only Lane

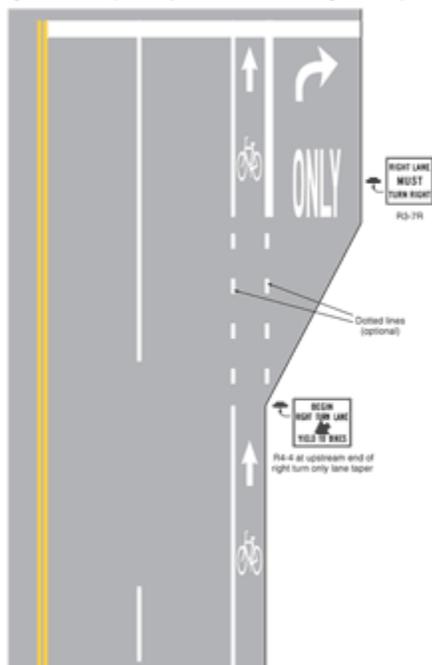


Figure 9C-5 Example of Bicycle Lane Treatment at Parking Lane into a Right Turn Only Lane

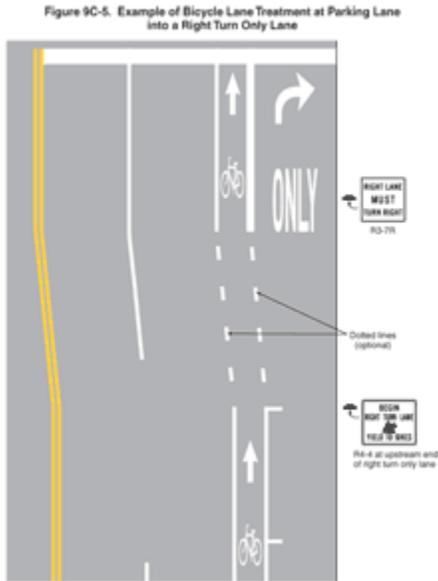
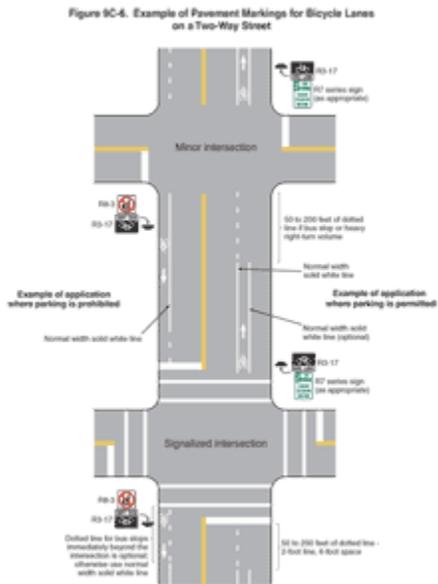


Figure 9C-6 Example of Pavement Markings for Bicycle Lanes on a Two-Way Street



Section 9C.05 Bicycle Detector Symbol

Option:

01 A symbol (see [Figure 9C-7](#)) may be placed on the pavement indicating the optimum position for a bicyclist to actuate the signal.

[Figure 9C-7](#) Bicycle Detector Pavement Marking

Figure 9C-7. Bicycle Detector Pavement Marking



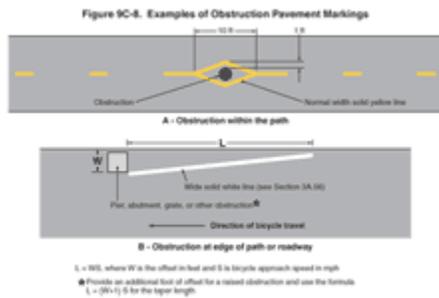
02 An R10-22 sign (see [Section 9B.13](#) and [Figure 9B-2](#)) may be installed to supplement the pavement marking.

Section 9C.06 Pavement Markings for Obstructions

Guidance:

01 In roadway situations where it is not practical to eliminate a drain grate or other roadway obstruction that is inappropriate for bicycle travel, white markings applied as shown in [Figure 9C-8](#) should be used to guide bicyclists around the condition.

Figure 9C-8 Examples of Obstruction Pavement Marking



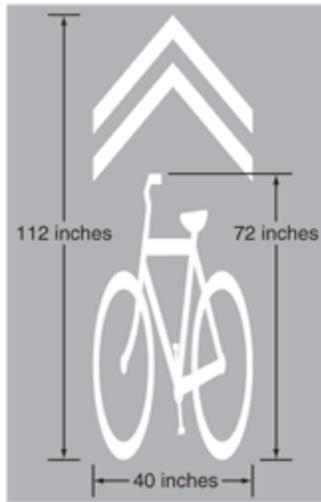
Section 9C.07 Shared Lane Marking

Option:

01 The Shared Lane Marking shown in [Figure 9C-9](#) may be used to:

Figure 9C-9 Shared Lane Marking

Figure 9C-9. Shared Lane Marking



- A. Assist bicyclists with lateral positioning in a shared lane with on-street parallel parking in order to reduce the chance of a bicyclist's impacting the open door of a parked vehicle,
- B. Assist bicyclists with lateral positioning in lanes that are too narrow for a motor vehicle and a bicycle to travel side by side within the same traffic lane,
- C. Alert road users of the lateral location bicyclists are likely to occupy within the traveled way,
- D. Encourage safe passing of bicyclists by motorists, and
- E. Reduce the incidence of wrong-way bicycling.

Guidance:

02 *The Shared Lane Marking should not be placed on roadways that have a speed limit above 35 mph.*

Standard:

03 **Shared Lane Markings shall not be used on shoulders or in designated bicycle lanes.**

Guidance:

04 *If used in a shared lane with on-street parallel parking, Shared Lane Markings should be placed so that the centers of the markings are at least 11 feet from the face of the curb, or from the edge of the pavement where there is no curb.*

05 *If used on a street without on-street parking that has an outside travel lane that is less than 14 feet wide, the centers of the Shared Lane Markings should be at least 4 feet from the face of the curb, or from the edge of the pavement where there is no curb.*

06 *If used, the Shared Lane Marking should be placed immediately after an intersection and spaced at intervals not greater than 250 feet thereafter.*

Option:

07 [Section 9B.06](#) describes a Bicycles May Use Full Lane sign that may be used in addition to or instead of the Shared Lane Marking to inform road users that bicyclists might occupy the travel lane.

Section 9B.10 No Parking Bike Lane Signs (R7-9, R7-9a)

Standard:

01 **If the installation of signs is necessary to restrict parking, standing, or stopping in a bicycle lane, appropriate signs as described in [Sections 2B.46 through 2B.48](#), or the No Parking Bike Lane (R7-9 or R7-9a) signs (see [Figure 9B-2](#)) shall be installed.**

AASHTO

4.5 PAVED SHOULDERS

Adding or improving paved shoulders can greatly improve bicyclist accommodation on roadways with higher speeds or traffic volumes, as well as benefit motorists (as described in AASHTO's *A Policy on Geometric Design of Highways and Streets* (1)). As described in Chapter 2, paved shoulders are most often used on rural roadways. Paved shoulders extend the service life of the road by reducing edge deterioration, and provide space for temporary storage of disabled vehicles.

It is important to understand the differences between paved shoulders and bike lanes, particularly when a decision needs to be made as to which facility is more appropriate for a given roadway. Bike lanes are travel lanes, whereas in many jurisdictions, paved shoulders are not (and can therefore be used for parking). Paved shoulders, if provided on intersection approaches, typically stay to the right of right-turn lanes at intersections, whereas bike lanes are placed on the left side of right-turn lanes because they are intended to serve through movements by bicyclists; through bicyclists should normally be to the left of right-turning motor vehicles. To avoid *conRicts* on roadways with paved shoulders that approach right-turn lanes, some jurisdictions introduce a bike lane only at the intersections, and then transition back to a paved shoulder. Such treatments are addressed in Section 4.8.

For any given roadway, the determination of the appropriate shoulder width should be based on the roadway's context and conditions in adjacent lanes. On uncurbed cross sections with no vertical obstructions immediately adjacent to the roadway, paved shoulders should be at least 4 ft (1.2 m) wide to accommodate bicycle travel. Shoulder width of at least 5 ft (1.5 m) is recommended from the face of a guardrail, curb, or other roadside barrier to provide additional operating width, as bicyclists generally shy away from a vertical face. It is desirable to increase the width of shoulders where higher bicycle usage is expected. Additional shoulder width is also desirable if motor vehicle speeds exceed 50 mph (80 km/h); if use by heavy trucks, buses, or recreational vehicles is considerable; or if static obstructions exist at the right side of the roadway. The Bicycle LOS model may be used to determine the appropriate shoulder width (see Chapter 2 on "Bicycle Planning").

It is preferable to provide paved shoulders on both sides of two-way roads. In constrained locations where pavement width is limited, it may be preferable to provide a wider shoulder on only one side of the roadway, rather than to provide a narrow shoulder on both sides. This may be beneficial in the following situations:

:> On uphill roadway sections, a shoulder may be provided to give slow-moving bicyclists additional maneuvering space, thereby reducing *conRicts with* faster moving motor vehicle traffic.

:> On roadway sections with vertical or horizontal curves that limit sight distance, it can be helpful to provide shoulders over the crest and on the downgrade of a vertical curve, and on the inside of a horizontal curve.

For information on retrofitting paved shoulders onto existing roadways, see Section 4.9. Where an unpaved driveway meets a roadway or pathway, it is advisable to pave some portion of the driveway approach to prevent loose gravel from spilling onto the travel way or shoulder. Paving at least 10 ft (3 m) on (low-volume) driveway connections, and 30 ft (9 m) or to the right-of-way line, whichever is less, on unpaved public road connections, can mitigate the worst effects of loose gravel. Where practical, the paved section of the approach to the highway should be sloped downward away from the highway to reduce the amount of loose material tracked into the shoulder.

Raised pavement markers (also known as pavement reflectors) can have a detrimental effect on bicycling when placed along a shoulder or bike lane line, as they can deflect a bicycle wheel, causing a loss of control. If pavement markers are used, consideration should be given to installing the markers on the travel lane side of the edge line, and the marker should have beveled or non-abrupt edges.

4.6 BICYCLE LANES

4.6.1 General Considerations

Bicycle lanes are a portion of the roadway designated for preferential use by bicyclists. They are one-way facilities that typically carry bicycle traffic in the same direction as adjacent motor vehicle traffic. Bike lanes are the appropriate and preferred bicycle facility for thoroughfares in both urban and suburban areas. Where desired, or where there is a high potential for bicycle use, bike lanes may be provided on rural roadways near urban areas. Paved shoulders may be designated as bike lanes by installing bike lane symbol markings (see Figure 4-10); however, a shoulder marked as a bike lane will still need to meet the criteria listed elsewhere in this chapter.

Bike lanes are used to delineate available road space for preferential use by bicyclists.

Bike lanes enable bicyclists to ride at their preferred speed, even when adjacent traffic speeds up or slows down. Bike lanes also encourage bicyclists to ride on the roadway in a position where they are more likely to be seen by motorists entering or exiting the roadway than they would be if riding on sidewalks. Properly designed bike lanes encourage bicyclists to operate in a manner consistent with the Legal/Common and effective operation of all vehicles. Bike lanes should

follow travel paths that lawfully operating bicyclists would take to travel in their intended direction within the roadway cross section. Bike lanes are not intended to accommodate all bicycle use on a roadway; bicyclists may leave a bike lane to pass other bicyclists, make left turns or right turns, avoid debris or other objects, or to pass buses or other vehicles momentarily stopped in the bike lane. Raised pavement markings, raised curbs, and other raised devices can cause steering difficulties for bicyclists and should not be used to separate bike lanes from adjacent travel lanes.

Bike lanes should have a smooth riding surface. Utility covers should be adjusted flush with the surface of the lane. Bike lanes should be provided with adequate drainage (bicycle-compatible drain grates) to prevent ponding of water, washouts, debris accumulation, and other potential concerns for bicyclists. In addition, other roadway features should be compatible for bicycling. See Section 4.12 for more information on this topic.

State laws and local ordinances should be considered when implementing bike lanes, as they may have an impact on bike lane design, such as the placement of dashed lane lines. Motorists are prohibited from using bike lanes for driving, but many state vehicle codes allow or direct drivers to use bike lanes while turning or merging, maneuvering into or out of parking spaces, and for emergency avoidance maneuvers or breakdowns. Some state codes also allow buses, garbage collectors, and other public vehicles to use bike lanes temporarily and do not prohibit parking in bike lanes unless a local agency prohibits parking and erects signs accordingly. For information on retrofitting bike lanes onto existing streets, see Section 4.9.

4.6.4 Bicycle Lane Widths

Bicycle lane widths should be determined by context and anticipated use. The speed, volume, and type of vehicles in adjacent lanes significantly affect bicyclists' comfort and desire for lateral separation from other vehicles. Bike lane widths should be measured from the center of the bike lane line. The appropriate width should take into account design features at the right edge of the bicycle lane, such as the curb, gutter, on-street parking lane, or guardrail. Figure 4-13 shows two typical locations for bicycle lanes in relation to the rest of the roadway, and the widths associated with these facilities.

As discussed in the previous chapter, a bicyclist's preferred operating width is 5 ft (1.5 m). Therefore, under most circumstances the recommended width for bike lanes is 5 ft (1.5 m). Wider bicycle lanes may be desirable under the following conditions:

~ Adjacent to a narrow parking lane (7 ft [2.1 m]) with high turnover (such as those servicing restaurants, shops, or entertainment venues), a wider bicycle lane (6-7 ft or 1.8-2.1 m) provides more operating space for bicyclists to ride out of the area of opening vehicle doors.

~ In areas with high bicycle use and without on-street parking, a bicycle lane width of 6 to 8 ft (1.8-2.4 m) makes it possible for bicyclists to ride side-by-side or pass each other without leaving the lane.

:> On high-speed (greater than 45 mph [70 km/h]) and high-volume roadways, or where there is a substantial volume of heavy vehicles, a wide bicycle lane provides additional lateral separation between motor vehicles and bicycles to minimize wind blast and other effects.

Parking Prohibited

Notes:

An optional normal (4-6-in./100-150-mm) solid white line may be helpful even when no parking stalls are marked (because parking is light),

to make the presence of a bicycle lane more evident. Parking stall markings may also be used.

Bike lanes up to 7 ft (2.1 m) in width may be considered adjacent to narrow parking lanes with high turnover.

On extremely constrained, low-speed roadways (45 mph [70 km/h] or less) with curbs but no gutter, where the preferred bike lane width cannot

be achieved despite narrowing all other travel lanes to their minimum widths, a 4-ft (1.2-m) wide bike lane can be used.

Figure 4-13. Typical Bike Lane (cross Sections)

Where bicycle lanes are provided, appropriate marking or signing should be used so the lanes are not mistaken for motor-vehicle travel lanes or parking areas. For roadways with no curb and gutter and no on-street parking, the minimum width of a bicycle lane is 4 ft (1.2 m). For roadways where the bike lane is immediately adjacent to a curb, guardrails, or other vertical surface, the minimum bike lane width is 5 ft (1.5 m), measured from the face of a curb or vertical surface to the center of the bike lane line. There are two exceptions to this:

:> In locations with higher motor-vehicle speeds where a 2-ft (0.6 m) wide gutter is used, the preferred bike lane width is 6 ft (1.8 m), inclusive of the gutter.

:> On extremely constrained, low-speed roadways with curbs but no gutter, where the preferred bike lane width cannot be achieved despite narrowing all other travel lanes to their minimum widths, a 4-ft (1.2 m) wide bike lane can be used.

Along sections of roadway with curb and gutter, a usable width of 4 ft (1.2 m) measured from the longitudinal joint to the center of the bike lane line is recommended. Drainage inlets and utility covers are sometimes built so they extend past the longitudinal gutter joint. Drain inlets and utility covers that extend into the bike lane may cause bicyclists to swerve, and have the effect of reducing the usable width of the lane. This is a particular concern if the minimum operating width of the lane falls below 4 ft (1.2 m). Therefore, the width of the bike lane should be adjusted accordingly, or else the structures should be removed. Also, bicycle-compatible grates should be used (see Section 4.12.8).

4.6.5 Bicycle Lanes and On-Street Parking

Where on-street parking is permitted, the bike lane should be placed between the parking lane and the travel lane (see Figure 4-14). The recommended bike lane width in these locations is 6 ft (1.8 m) and the minimum bike lane width is 5 ft (1.5 m). Care should be taken when providing wider bike lanes in areas where parking is scarce or otherwise in demand, as wider bike lanes may result in more double parking. As noted in Section 4.6.4, a bike lane width of 6 to 7 ft (1.8 to 2.1 m) may be desirable adjacent to a narrow parking lane with high parking turnover.

Figure 4-14. Example of Bike Lane Adjacent to Parallel Parking

(Photo courtesy of Jennifer Toole of Toole Design Group.)

Bike lanes should not be placed between the parking lane and the curb. Such placement reduces visibility at driveways and intersections, increases conflicts with opening car doors, complicates maintenance, and prevents bike lane users from making convenient left turns.

Parallel Parking

Where bike lanes are installed adjacent to parallel parking, the recommended width of a marked parking lane is 8 ft (2.4 m),

and the minimum width is 7 ft (2.1 m).

Where parallel parking is permitted but a parking lane line or stall markings are not utilized, the recommended width of the shared bicycle and parking lane is 13 ft (4 m). A minimum width of 12 ft (3.7 m) may be satisfactory if parking usage is low and turnover is infrequent.

In general, it is the Legal/Common responsibility of motorists to check for oncoming traffic before opening a car door into the traveled way. However, motorists do not always fulfill their Legal/Common responsibility in this respect. In some urban areas, bicyclists have been seriously injured in crashes with car doors that are suddenly swung open by inattentive drivers and passengers. This type of crash is more prevalent in locations with high parking turnover, such as main streets, commercial streets with restaurants and retail businesses, or similar areas. Bicyclists can avoid this type of crash by riding on the left side of a bike lane, outside the range into which opened door[~] of parked vehicles could extend. Several communities employ markings to encourage bicyclists to ride further from parked cars, such as providing a wider parking lane, a wider bike lane, or a striped buffer between the parking lane and the bike lane. Parking "Ts" extending into the bike lane and bike lane symbols placed on the

4.7 BICYCLE LANE MARKINGS AND SIGNS

Bike lanes are designated for preferential use by bicyclists with a solid white line (4 to 6-in. or 100 to 150-mm wide) and one of the (two) standard bike lane symbol markings (see Figure 4-17 later in this chapter), which may be supplemented with the directional arrow marking. Optional bike lane signs may be used to supplement the pavement markings. Standards and guidance for applying these elements can be found in the MUTeD (3). Supplemental guidance is provided in Section 4.7.1.'

4.7.1 Bicycle Lane Lines

A bike lane should be delineated from the adjacent travel lanes with a solid white line. Bike lane lines can be dotted at locations where motor vehicles are permitted to enter the bike lane and drive in it to prepare for a right-turn maneuver. Details about using dotted lines at intersections are provided in Section 4.8. Bike lanes can also be dotted at bus stops or bus pullouts. Bike lane lines should remain solid and not dotted at minor unsignalized driveways and alleys (see Figure 4-16). At major driveways, the bike lane lines should be discontinued or dotted lines are optional. Raised pavement markers, curbs, posts, or barriers should not be used to separate bike lanes from adjacent travel lanes. Raised devices are difficult for bicyclists to traverse because they are fixed to the pavement surface immediately adjacent to the travel path of the bicyclist. In addition, raised devices may discourage or prevent right-turning motorists from merging into the bike lane before turning. Raised devices can also make it more difficult to maintain the bike lane. A solid white line can be used to indicate the outside edge of the bike lane in locations with no curbs or where the edge of the roadway is poorly defined.

Where a bike lane is adjacent to a parking lane, the parking area should be defined by parking space "T" markings or a solid white line. Such markings encourage parking closer to the curb and can help make clear, during times of low parking usage, that the parking lane and bike lane are not lanes intended for motor-vehicle travel. More information on bike lanes adjacent to on-street parking can be found in Section 4.6.5.

Striped buffers may be used to provide increased separation between a bike lane and another adjacent lane that may present conflicts, such as a parking lane with high turnover or a high-speed travel lane. The benefits of additional lateral separation should be weighed against the disadvantages; a buffer between the bike lane and the adjacent lanes places bicyclists further from the normal sight lines of motorists, who are primarily looking for vehicles in the lanes intended for motor-vehicle travel, and buffers between the bike lane and an adjacent travel lane reduce the natural "sweeping" effect of passing motor vehicles, potentially requiring more frequent maintenance.

4.7.2 Bicycle Lane Markings

As detailed in the MUTeD (3), a bike lane should be marked with standard bike lane markings (see Figure 4-17) to inform bicyclists and motorists of the restricted nature of the bike lane.

Markings should be placed after each intersection or signalized driveway. Additional standard bike lane markings may also be placed in a visible location in a bike lane on the intersection approach (prior to the crosswalk). In general, due to the complexity of urban streets, flexibility is needed in placing bike lane markings.

Additional markings may be placed at periodic intervals on bike lanes, to remind motorists of the potential presence of bicyclists, especially in areas where motorists are expected to cross bike lanes. In suburban areas with long distances between intersections and little roadside activity, bike lane symbols can be as far apart as 1000 ft (305 m) or more. In urban areas where motorists make parking maneuvers across bike lanes or where there is significant driveway density, it may be appropriate to space the symbols as often as every 100 ft (30 m).

The MUTCD (3) allows one of the two standard bike lane symbol markings (or the words "BIKE LANE") and a directional arrow as shown in Figure 4-17. All bike lane markings should be white and retroreflective. Care should be taken to avoid placing symbols in areas where turning motor vehicles would damage or obliterate the markings, e.g., at driveways and the area immediately adjacent to an intersection (Figure 4-18).

Based upon Interim Approval issued by FHWA in April 2011, contrasting green color pavement may be used in marked bike lanes, and in extensions of bike lanes through intersections and other traffic conflict areas, such as merge areas where turning vehicles must cross a through bike lane. Use of this treatment requires written approval from FHWA in accordance with Section 1A.10 of the MUTCD. Approval can be granted for a specific location, or for an entire jurisdictional area. Colored pavement may be used to denote the presence and preferred position of bicyclists and an appropriate travel path within the traveled way. Green colored pavement can be installed for the entire length of the bike lane, for only a portion or portions of the bike lane, or as a rectangular background behind standard MUTCD symbol and word markings. If used in conjunction with dotted lines, such as when extending a bike lane across an intersection, the colored marking can match the dotted line pattern, filling in the area connecting the opposing dotted line segments. Colored pavement should not replace or be used in lieu of the white dotted lines defined in the MUTCD. Green colored pavement may be retroreflective, but there is no requirement or recommendation that it be retroreflective.

4.7.3 Bicycle Lane Signs

Due to the cluttered nature of the roadside in most urban areas, which reduces the effectiveness of signs, bike lane markings are typically the primary indication to motorists and bicyclists of the restricted nature of bike lanes. Signs may be used to supplement bike lane lines and markings; however they are less effective on streets with on-street parking.

The standard "BIKE LANE (R3-17)" sign (see Figure 4-19) with the "AHEAD (R3-17aP)" plaque may be placed in advance of the start (upstream end) of a bike lane. The "BIKE LANE" sign with the "ENDS (R3-17bP)" plaque should be placed at a sufficient distance to give warning to the bicyclist that the lane is ending. The "BIKE LANE ENDS" sign should not be used where a bike lane changes to an unmarked shoulder, for example at the urban or suburban fringe, or at temporary interruptions in a bike lane.

"BIKE LANE" signs may also be placed as needed at periodic intervals along a bike lane. Spacing of the sign should be determined by engineering judgment based on prevailing speed of bicycle and other traffic, block length, distances from adjacent intersections, and other considerations. Bike lane markings are typically used more frequently than "BIKE LANE" signs. Where the "BIKE LANE" sign is used, it should generally be placed adjacent to a bike lane pavement marking but not necessarily adjacent to every set of pavement markings to avoid overuse of the signs. If the installation of signs is needed to reduce the instances of parking, standing, or stopping in a bike lane, the "NO PARKING BIKE LANE" signs (R7-9 or R7-9a) or other signs restricting parking or stopping should be installed.

AASHTO continues on with intersections and bike lanes.

NACTO

Bike Lanes

A Bike Lane is defined as a portion of the roadway that has been designated by striping, signage, and pavement markings for the preferential or exclusive use of bicyclists. Bike lanes enable bicyclists to ride at their preferred speed without interference from prevailing traffic conditions and facilitate predictable behavior and movements between bicyclists and motorists. A bike lane is distinguished from a cycle track in that it has no physical barrier (bollards, medians, raised curbs, etc.) that restricts the encroachment of motorized traffic. Conventional bike lanes run curbside when no parking is present, adjacent to parked cars on the right-hand side of the street or on the left-hand side of the street in specific situations. Bike lanes typically run in the same direction of traffic, though they may be configured in the contra-flow direction on low-traffic corridors necessary for the connectivity of a particular bicycle route.

The configuration of a bike lane requires a thorough consideration of existing traffic levels and behaviors, adequate safety buffers to protect bicyclists from parked and moving vehicles, and enforcement to prohibit motorized vehicle encroachment and double-parking. Bike Lanes may be distinguished using color, lane markings, signage, and intersection treatments

Description

Bike lanes designate an exclusive space for bicyclists through the use of pavement markings and signage. The bike lane is located adjacent to motor vehicle travel lanes and flows in the same direction as motor vehicle traffic. Bike lanes are typically on the right side of the street, between the adjacent travel lane and curb, road edge, or parking lane. This facility type may be located on the [left side](#) when installed on one-way streets, or may be [buffered](#) if space permits. See [contra-flow bike lanes](#) for a discussion of alternate direction flow.

Bike lanes enable bicyclists to ride at their preferred speed without interference from prevailing traffic conditions. Bike lanes also facilitate predictable behavior and movements between bicyclists and motorists. Bicyclists may leave the bike lane to pass other bicyclists, make left turns, avoid obstacles or debris, and avoid other conflicts with other users of the street.

Riding 2 Abreast

State Law

Passing Distance

State Law

41-6a-704. Overtaking and passing vehicles proceeding in same direction.

- (1) (a) On any highway:
 - (i) the operator of a vehicle overtaking another vehicle proceeding in the same direction shall:
 - (A) except as provided under Section 41-6a-705, promptly pass the overtaken vehicle on the left at a safe distance; and
 - (B) enter a right-hand lane or the right side of the roadway only when safely clear of the overtaken vehicle;
 - (ii) the operator of an overtaken vehicle:
 - (A) shall give way to the right in favor of the overtaking vehicle; and
 - (B) may not increase the speed of the vehicle until completely passed by the overtaking vehicle.
- (b) The exemption from the minimum speed regulations for a vehicle operating on a grade under Section 41-6a-605 does not exempt the vehicle from promptly passing a vehicle as required under Subsection (1)(a)(i)(A).

Effective 5/12/2015

41-6a-706.5. Definitions -- Operation of motor vehicle near a vulnerable user of a highway prohibited -- Endangering a vulnerable user of a highway prohibited.

- (1) As used in this section, "vulnerable user of a highway" means:
 - (a) a pedestrian, including a person engaged in work upon a highway or upon utilities facilities along a highway or providing emergency services within the right-of-way of a highway;
 - (b) a person riding an animal; or
 - (c) a person operating any of the following on a highway:
 - (i) a farm tractor or implement of husbandry, without an enclosed shell;
 - (ii) a skateboard;
 - (iii) roller skates;
 - (iv) in-line skates;
 - (v) a bicycle;
 - (vi) an electric-assisted bicycle;

- (vii) an electric personal assistive mobility device;
 - (viii) a moped;
 - (ix) a motor-driven cycle;
 - (x) a motorized scooter;
 - (xi) a motorcycle; or
 - (xii) a manual wheelchair.
- (2) An operator of a motor vehicle may not knowingly, intentionally, or recklessly:
- (a) operate a motor vehicle within three feet of a vulnerable user of a highway;
 - (b) distract or attempt to distract a vulnerable user of a highway for the purpose of causing violence or injury to the vulnerable user of a highway; or
 - (c) force or attempt to force a vulnerable user of a highway off of the roadway for a purpose unrelated to public safety.
- (3) (a) Except as provided in Subsection (3)(b), a violation of Subsection (2) is an infraction.
- (b) A violation of Subsection (2) that results in bodily injury to the vulnerable user of a highway is a class C misdemeanor.

Effective 5/12/2015

41-6a-701. Duty to operate vehicle on right side of roadway -- Exceptions.

- (1) On all roadways of sufficient width, a person operating a vehicle shall operate the vehicle on the right half of the roadway, except:
- (a) when overtaking and passing another vehicle proceeding in the same direction under the rules governing that movement;
 - (b) when an obstruction requires operating the vehicle to the left of the center of the roadway subject to the provisions of Subsection (2);
 - (c) when overtaking and passing a bicycle or moped proceeding in the same direction at a speed less than the reasonable speed of traffic that is present requires operating the vehicle to the left of the center of the roadway subject to the provisions of Subsection (2);
 - (d) on a roadway divided into three marked lanes for traffic under the applicable rules; or
 - (e) on a roadway designed and signposted for one-way traffic.
- (2) (a) A person operating a vehicle as described under Subsection (1) shall yield the right-of-way to a vehicle:
- (i) traveling in the proper direction on a roadway; and
 - (ii) that is within a distance constituting an immediate hazard.
- (b) When overtaking and passing a bicycle or moped under Subsection (1)(c), a person operating a vehicle shall not pass a bicycle or moped proceeding in the same direction if the pass cannot be made safely, including under any of the following conditions:

- (i) when approaching or upon the crest of a grade or upon a curve in the highway where the operator's view is in any way obstructed;
 - (ii) when approaching within 100 feet of, or traversing, any intersection or railroad grade crossing unless otherwise indicated by an official traffic control device;
 - (iii) when the view is obstructed upon approaching within 100 feet of any bridge, viaduct, or tunnel; or
 - (iv) when the pass cannot be made in accordance with Section [41-6a-706.5](#).
- (3) A person operating a vehicle on a roadway at less than the normal speed of traffic shall operate the vehicle in the right-hand lane then available for traffic, or as close as practicable to the right-hand curb or edge of the roadway, except when:
- (a) overtaking and passing another vehicle proceeding in the same direction;
 - (b) preparing to turn left; or
 - (c) taking a different highway or an exit on the left.

41-6a-708. Signs and markings on roadway -- No-passing zones -- Exceptions.

- (1) (a) A highway authority may designate no-passing zones on any portion of a highway under its jurisdiction if the highway authority determines passing is especially hazardous.
- (b) A highway authority shall designate a no-passing zone under Subsection (1)(a) by placing appropriate traffic-control devices on the highway.
- (2) A person operating a vehicle may not drive on the left side of:
- (a) the roadway within the no-passing zone; or
 - (b) any pavement striping designed to mark the no-passing zone.
- (3) Subsection (2) does not apply:
- (a) under the conditions described under Subsections [41-6a-701\(1\)\(b\)](#) and [\(c\)](#); or
 - (b) to a person operating a vehicle turning left onto or from an alley, private road, or driveway.
- (4) A violation of Subsection (2) is an infraction.

Misc:

Effective 5/12/2015

41-6a-804. Turning or changing lanes -- Safety -- Signals -- Stopping or sudden decrease in speed -- Signal flashing -- Where prohibited.

- (1) (a) A person may not turn a vehicle or move right or left on a roadway or change lanes until:
- (i) the movement can be made with reasonable safety; and
 - (ii) an appropriate signal has been given as provided under this section.

- (b) A signal of intention to turn right or left or to change lanes shall be given continuously for at least the last two seconds preceding the beginning of the movement.
- (2) A person may not stop or suddenly decrease the speed of a vehicle without first giving an appropriate signal to the operator of any vehicle immediately to the rear when there is opportunity to give a signal.
- (3) (a) A stop or turn signal when required shall be given either by the hand and arm or by signal lamps.
 - (b) If hand and arm signals are used, a person operating a vehicle shall give the required hand and arm signals from the left side of the vehicle as follows:
 - (i) left turn: hand and arm extended horizontally;
 - (ii) right turn: hand and arm extended upward; and
 - (iii) stop or decrease speed: hand and arm extended downward.
 - (c) (i) A person operating a bicycle or device propelled by human power may give the required hand and arm signals for a right turn by extending the right hand and arm horizontally to the right.
 - (ii) This Subsection (3)(c) is an exception to the provision of Subsection (3)(b)(ii).
- (4) A person required to make a signal under this section may not flash a signal:
 - (a) on one side only on a disabled vehicle;
 - (b) as a courtesy or "do pass" to operators of other vehicles approaching from the rear; or
 - (c) on one side only of a parked vehicle.
- (5) A violation of this section is an infraction.