

Sharing the Road with Bicyclists



City Employee Briefing

Why learn about driving among bicyclists?

- Reduce stress when encountering bicyclists
- Prevent collisions
- Promote good community relations

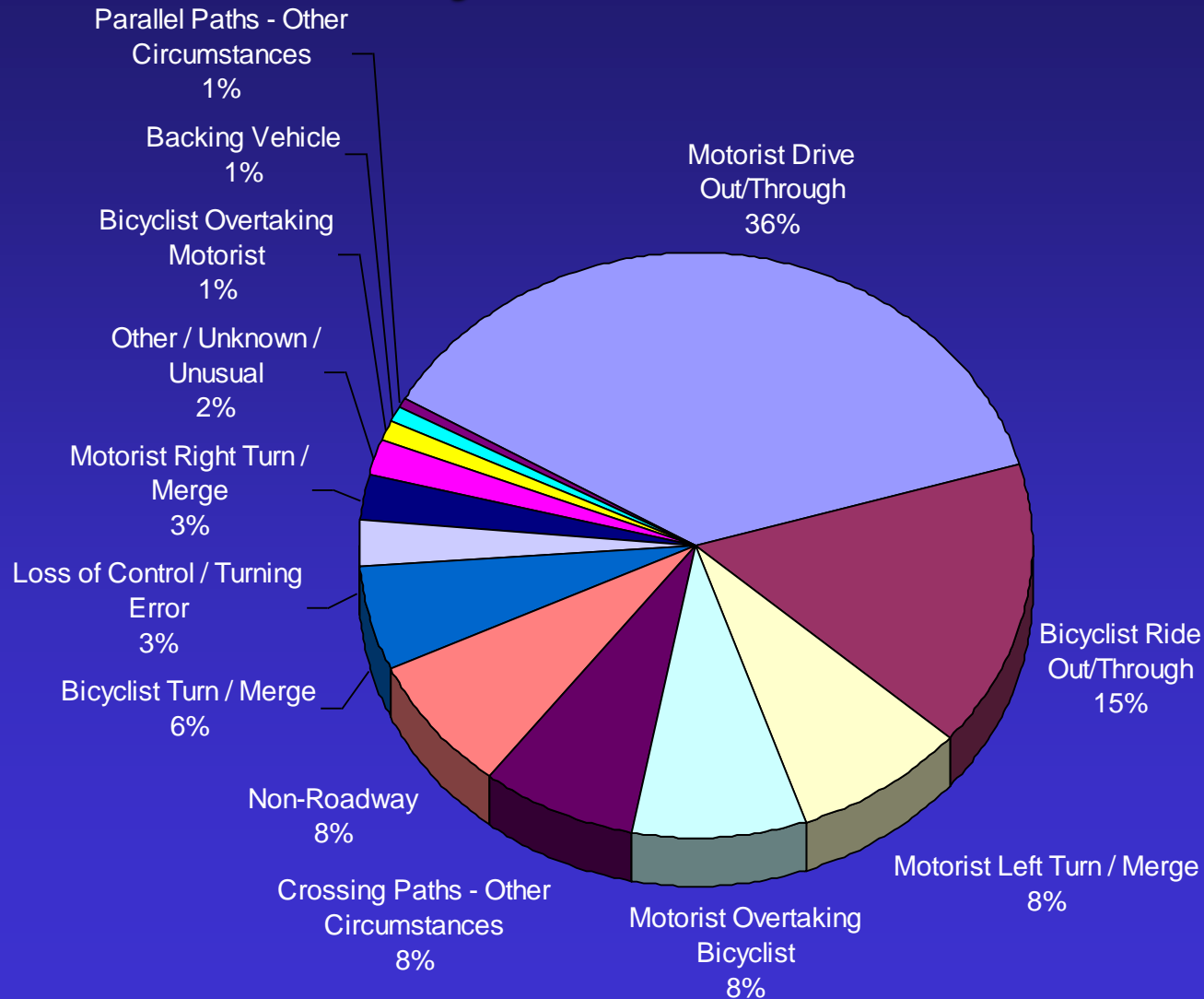


What we'll talk about

- Common collision types
- Applicable traffic laws
- Recommended practices

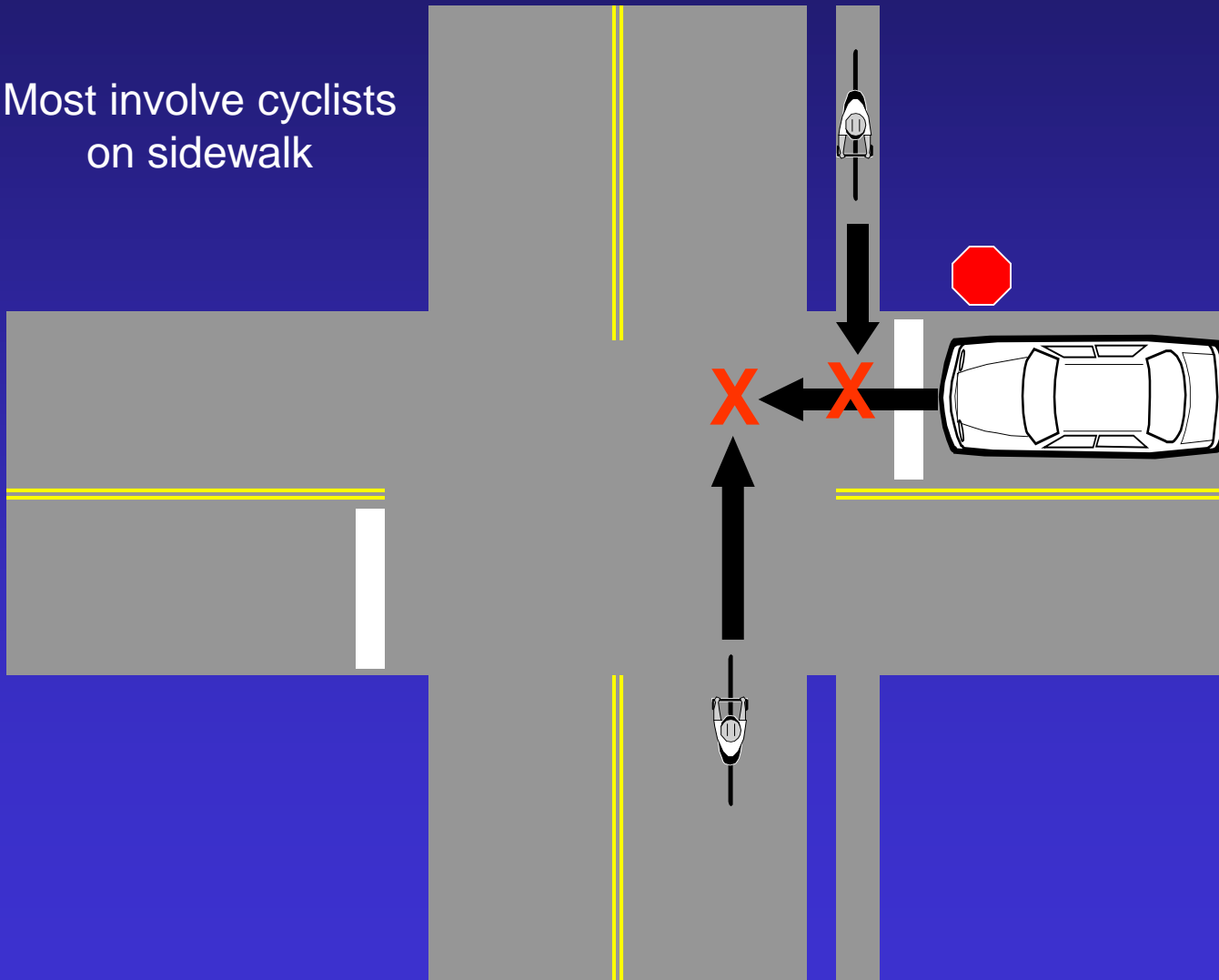


Common Types of Bicycle Collisions in Cary/Morrisville Area



Most common car-bike crash type: “Motorist Drive-Out/Through”

Most involve cyclists
on sidewalk



How to avoid drive-out crashes as a motor vehicle driver

- Come to a full stop before the crosswalk as required by law
- Look **both ways** up the sidewalk and roadway before proceeding
- Don't encourage sidewalk bicycling
- Respect lawful roadway bicycling



Bicyclists are Drivers of Vehicles

- § 20-4.01(49) *Vehicle.* – ...for the purposes of this Chapter **bicycles shall be deemed vehicles** and every rider of a bicycle upon a highway shall be subject to the provisions of this Chapter applicable to the **driver of a vehicle** except those which by their nature can have no application.

Vehicles and Motor Vehicles

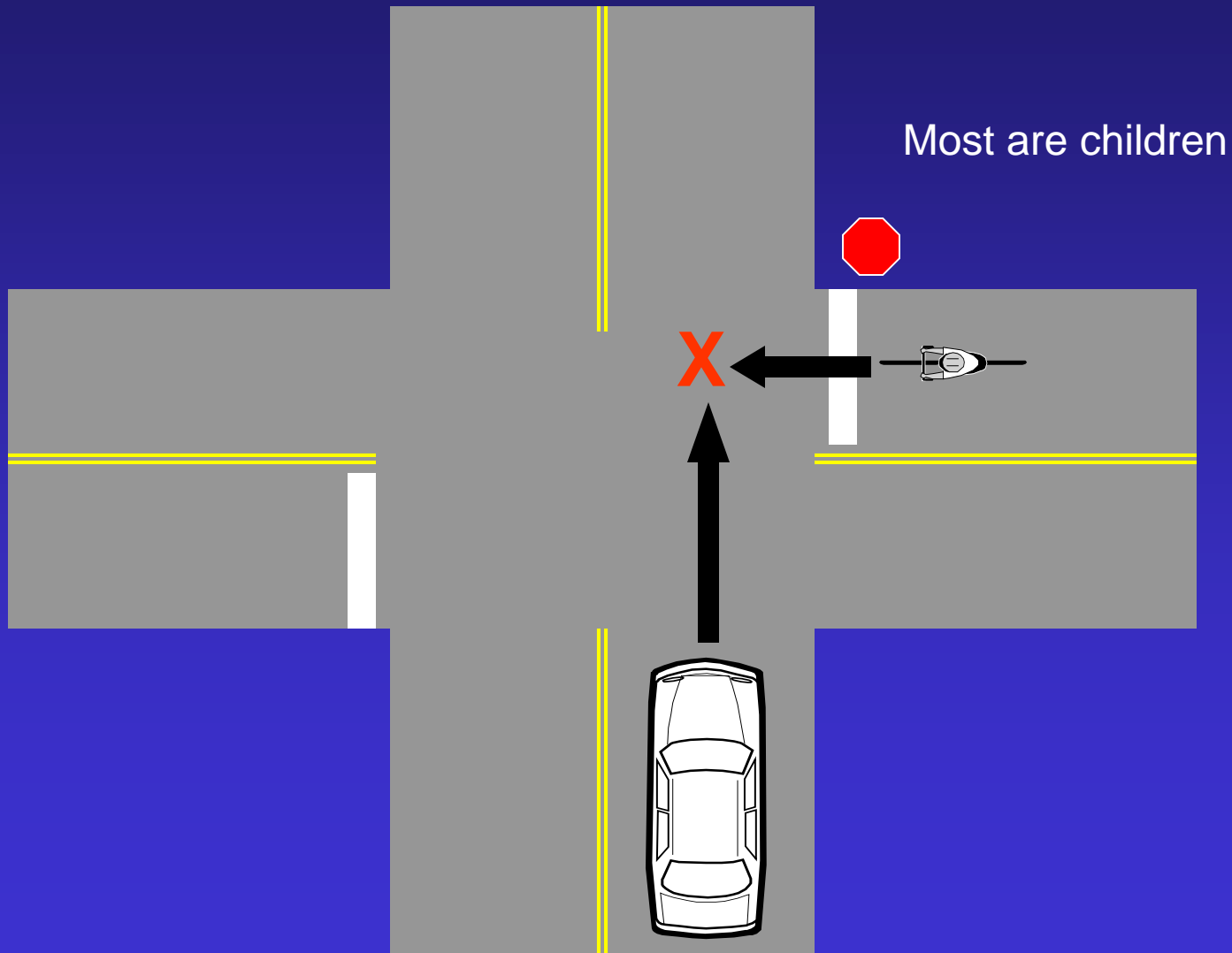
- § 20-4.01(23) **Motor Vehicle**. – *Every vehicle which is **self-propelled***
- Most rules of the road apply to drivers of **all** vehicles. Some special restrictions apply only to **motor** vehicles.
- Bicycling on sidewalks is not prohibited our town, but
- Roadway bicycling is considerably safer

Why not bike on left facing traffic?

- Where is right-turning motorist looking?



2nd most common crash type: “Bicyclist Ride-Out/Through”

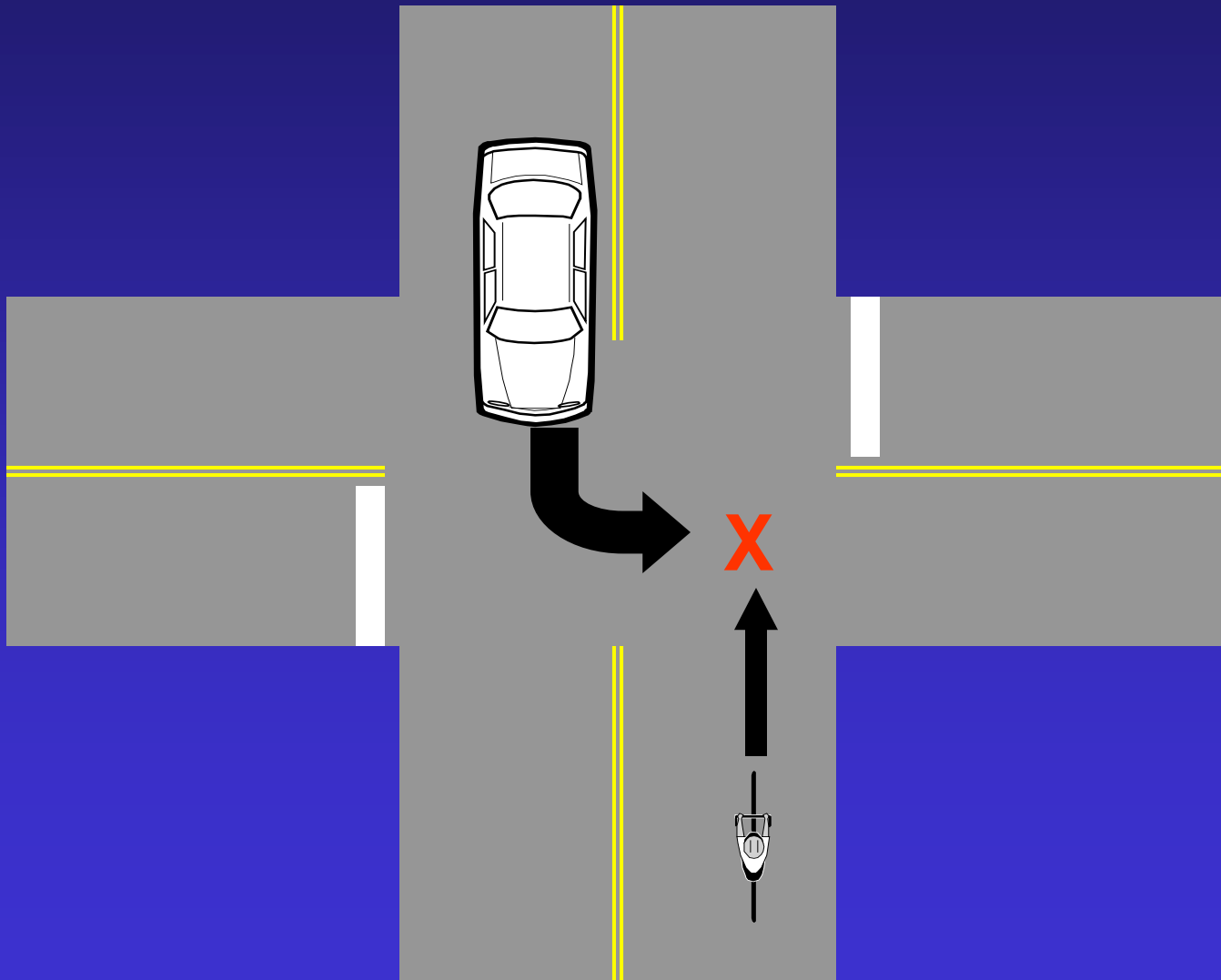


How to avoid ride-out crashes as a motor vehicle driver

- Be cautious on residential streets and near parked cars
- Be prepared to stop for children as well as adults making errors at intersections
- Set a good example by obeying stop signs and red lights

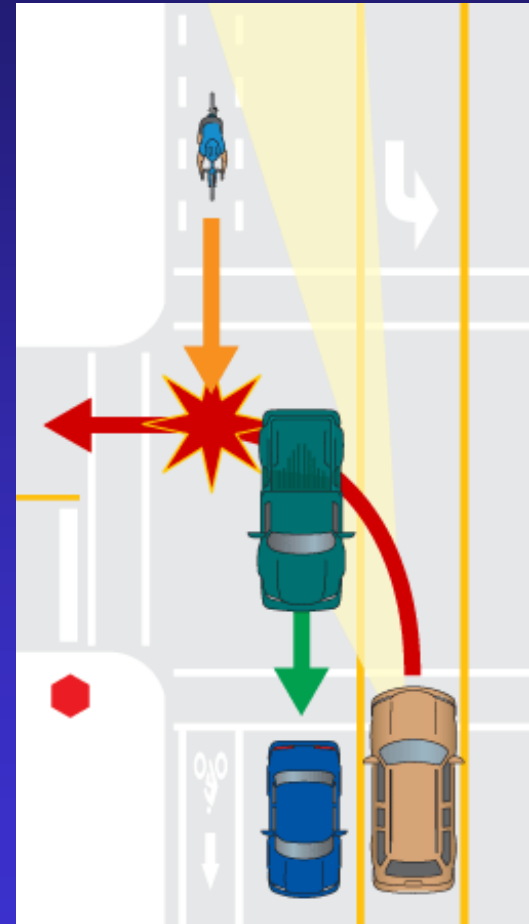


Motorist Left Turn

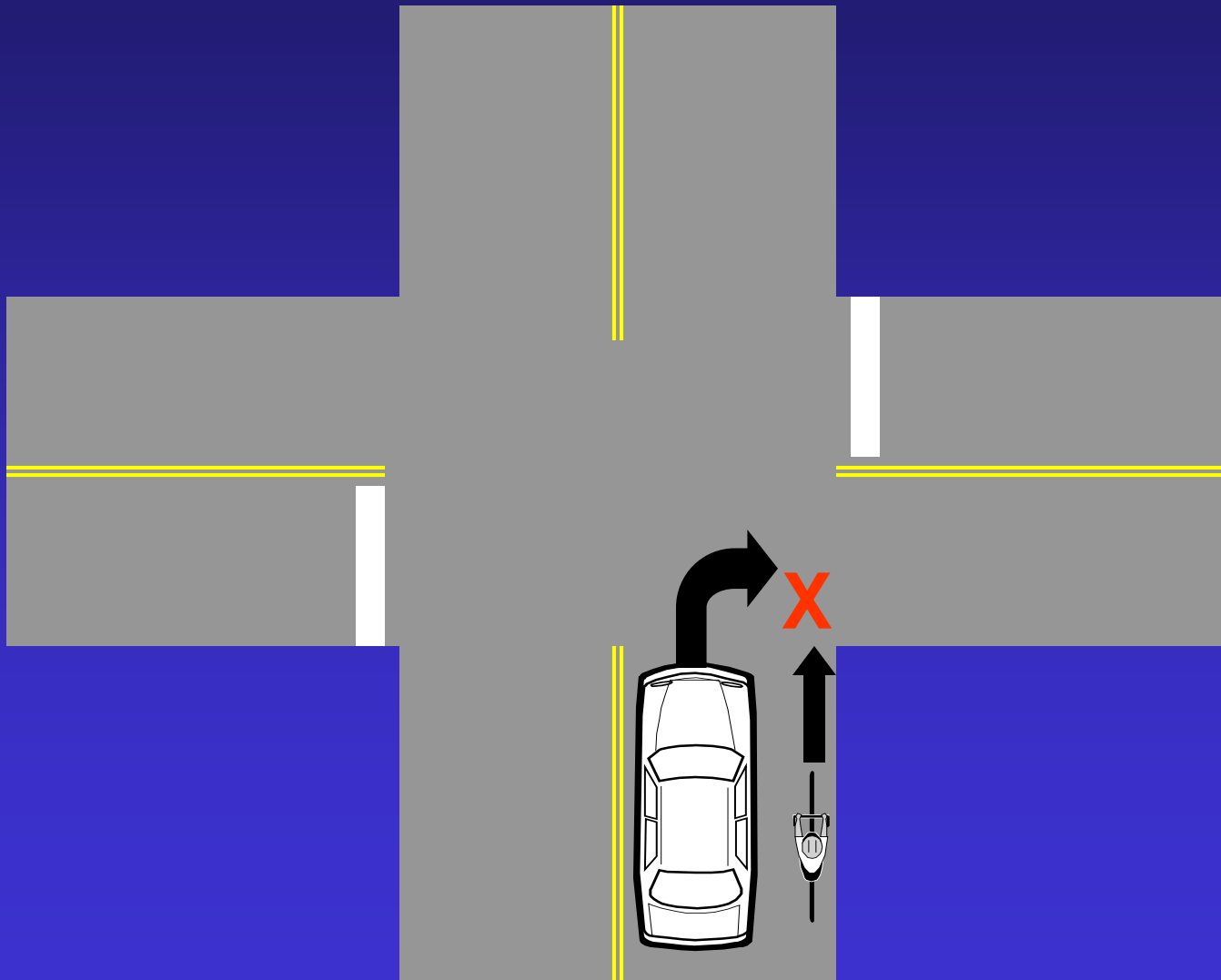


How to avoid left turn crashes as a motor vehicle driver

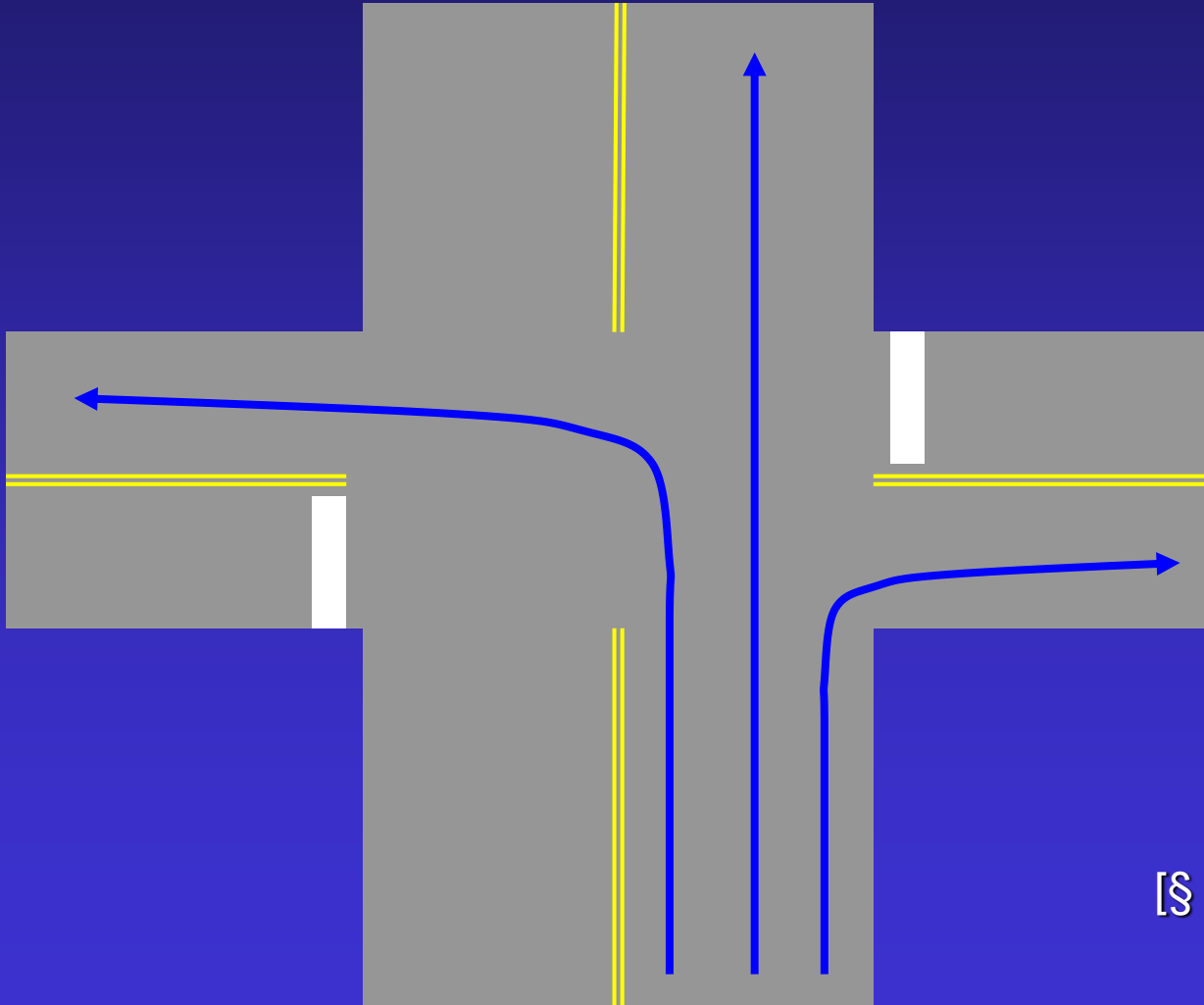
- Look twice for oncoming traffic before turning
- Scan roadway, shoulder and/or crosswalk
- Look out for bicyclists screened by other oncoming vehicles
- Be aware that bicycles may be traveling faster than you expect



Motorist Right Turn aka “Right Hook”

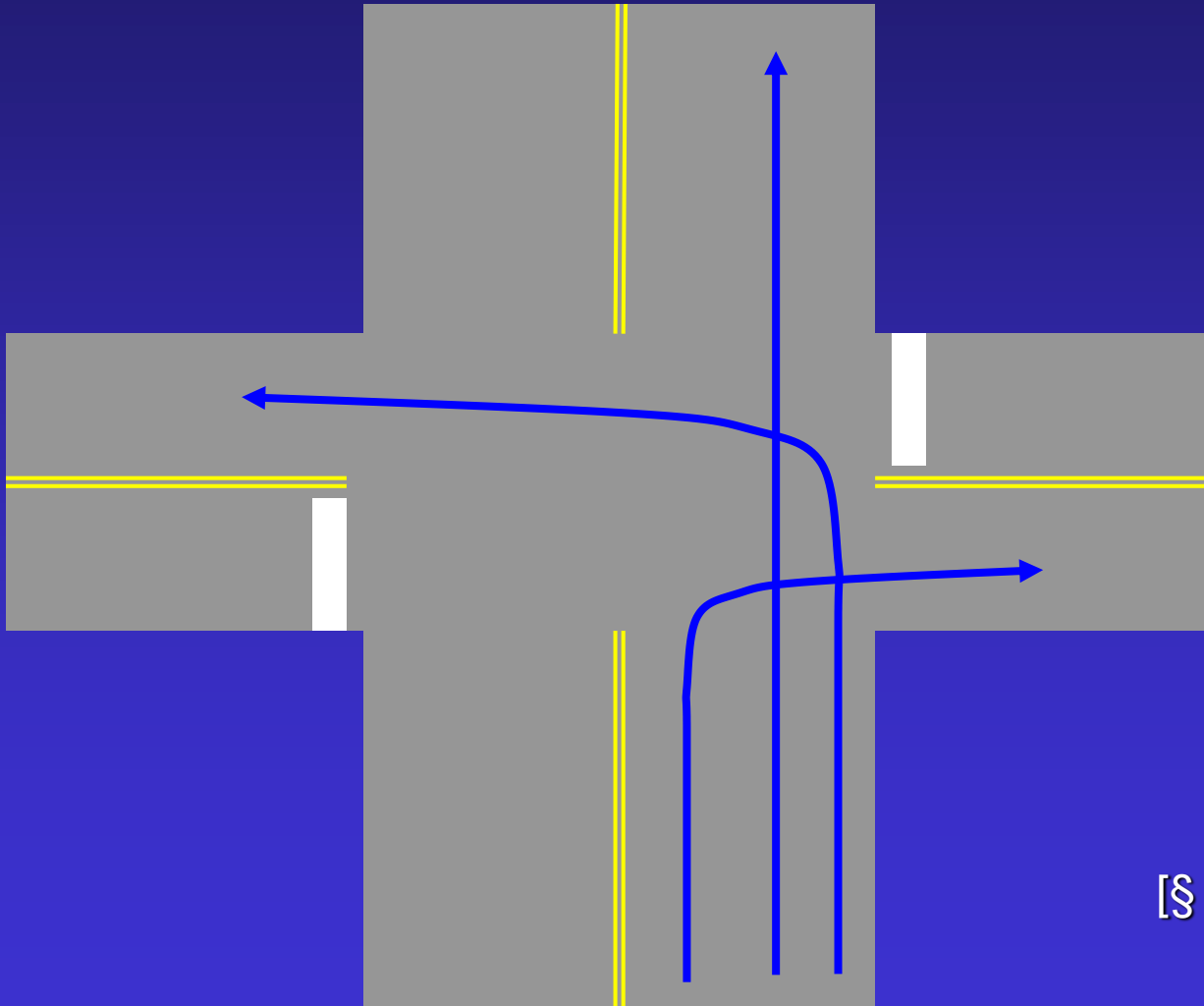


Correct Destination Positioning at Intersections



[§ 20-153]

Wrong!



[§ 20-153]

Bicyclists Passing on Right

- Some bicyclists pass on right, surprising right-turning drivers
- This violates state law
- Cyclists shall not pass on right unless separate lane [§ 20-150.1]
- Thru cyclists who get in line with traffic help deter right hook collisions



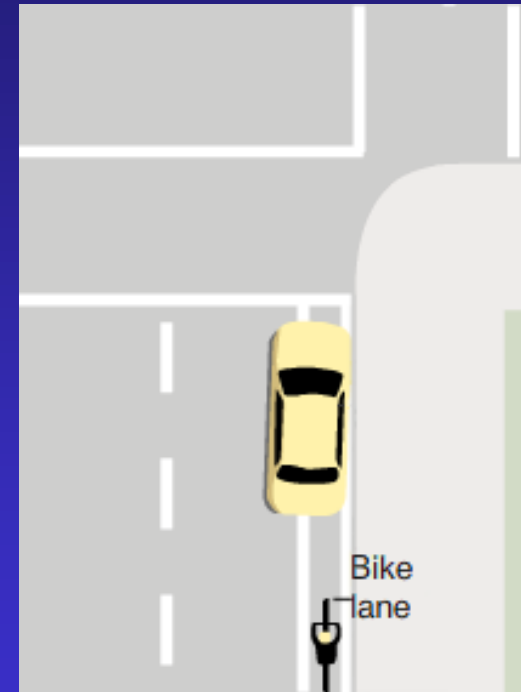
Right Hook Crashes Continued

- Curbside bike lanes at intersections discourage proper destination positioning by motorists and bicyclists
- Bicyclists are more likely to pass on right in a bike lane

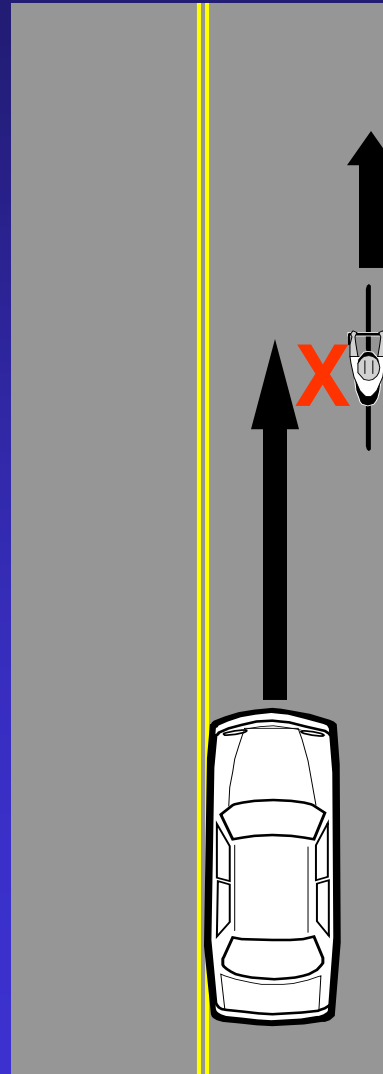


How to avoid right hook crashes as a motor vehicle driver

- **Signal** well in advance of turn
- Don't try to pass bicyclists just before an upcoming turn
- **Merge** as far right as practicable when approaching turn (and merge into bike lane if present)



Motorist Overtaking ($<10\%$ of crashes)



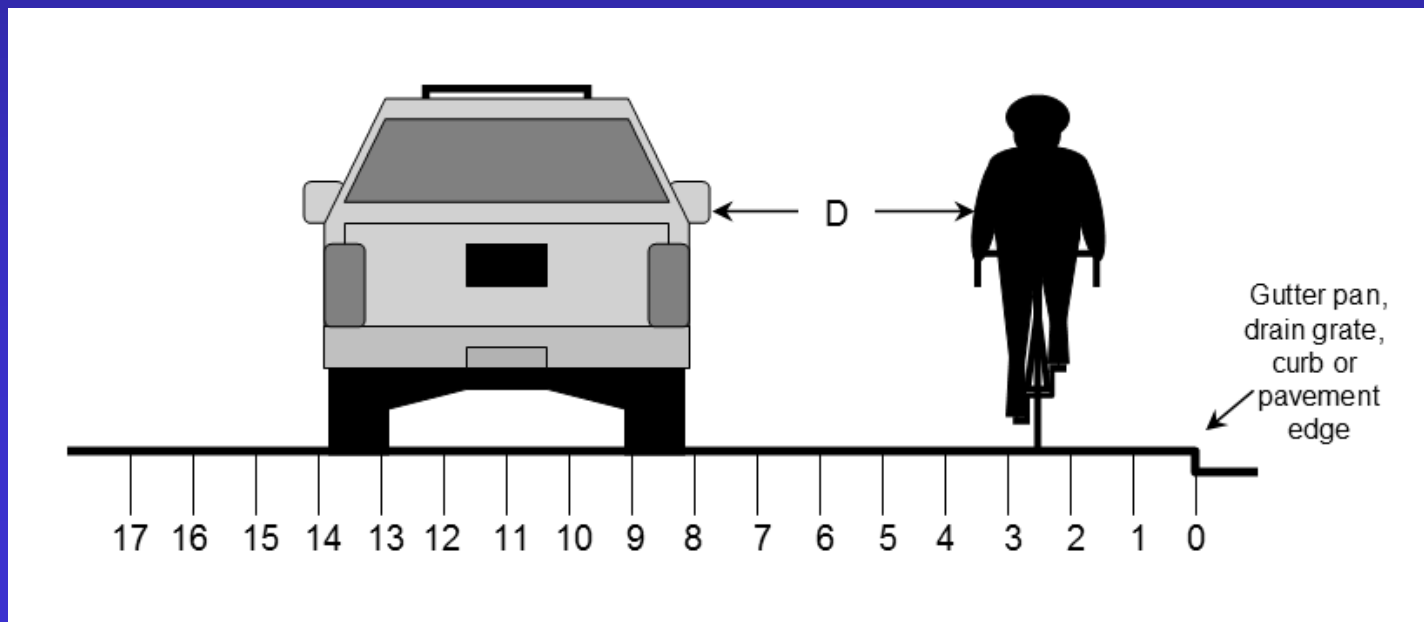
Most are overtaking too closely

Most involve a bicyclist on the right edge of a narrow lane

Many involve wide vehicles

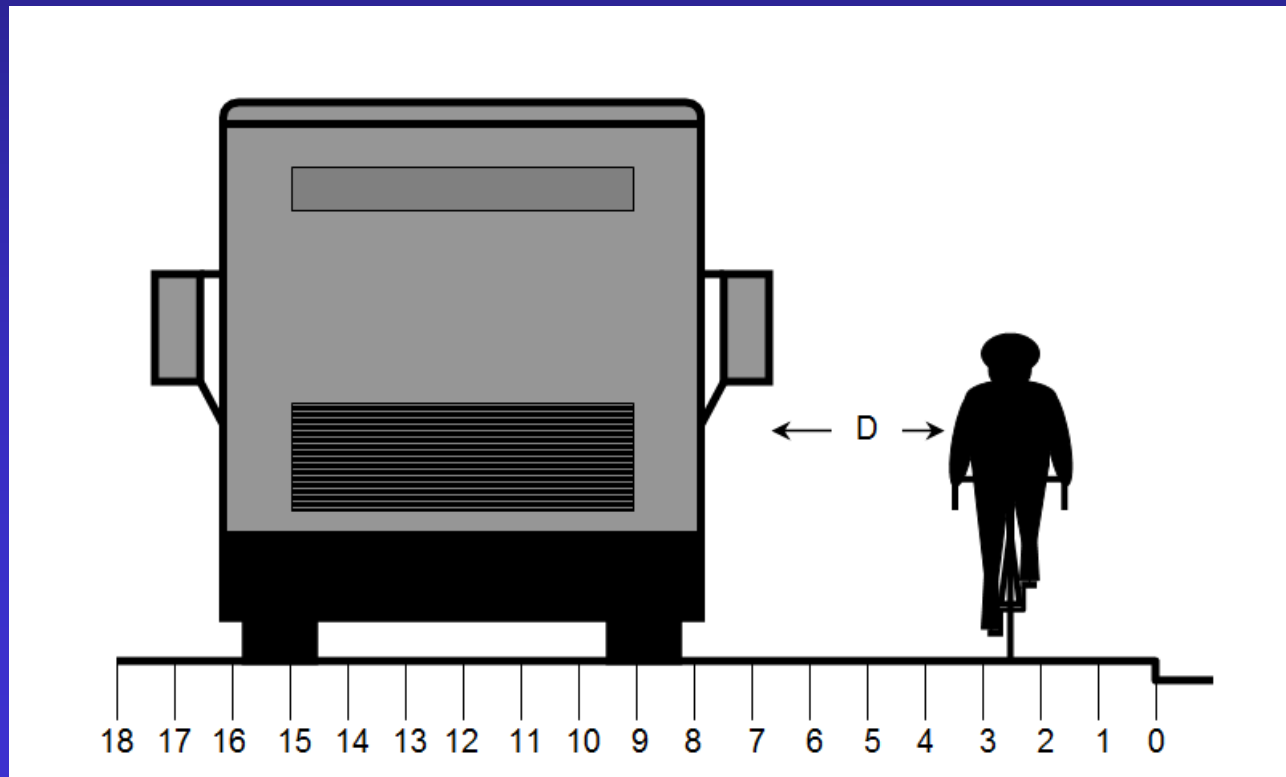
Space Required for Safe Passing

- Bicycle and motorcycle drivers need maneuvering space for balance and to avoid pavement hazards
- Safe passing at $>3'$ requires at least 14' pavement
- Motorists usually must move into next lane



Space Required for Safe Passing

- Bus and truck drivers should not pass within the same lane as a bicyclist



How to Pass a Bicyclist

1. Slow Down
2. Look and Wait for Other Traffic
3. Change Lanes to Pass

1. Slow Down

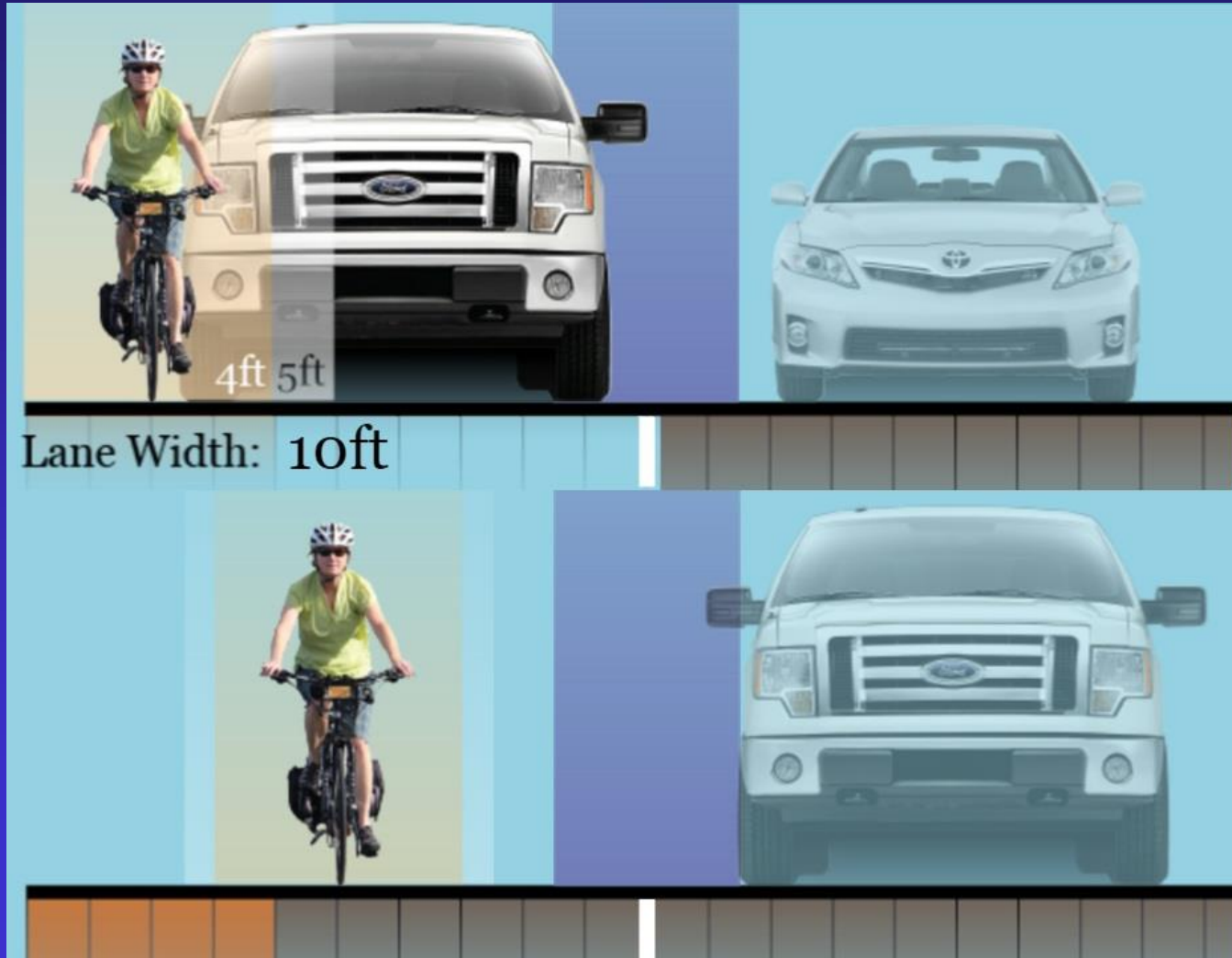


2. Look and Wait for Other Traffic



Wait for safe sight distance

3. Change Lanes to Pass



Lane Control = Defensive Cycling

- Motorists often misjudge space when:
 - Lane is narrow and
 - Cyclist is at right edge of lane
- Bicyclists who ride near center of narrow lanes reduce unsafe passing, sideswipes



Bicyclists May Use Full Lane

“Bicyclists usually ride on the right side of the lane, but are **entitled to use the full lane**.... Drivers wishing to pass a bicyclist may do so only when there is **abundant clearance** and no oncoming traffic is in the opposing lane. When passing a bicyclist, always remember **the bicyclist is entitled to use of the full lane.**”

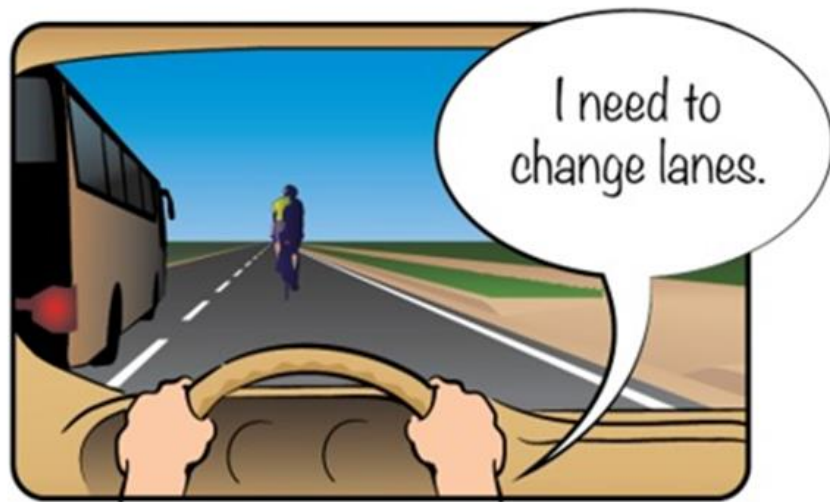
- North Carolina Driver's Handbook, p.95.

<http://www.ncdot.gov/dmv/driver/>

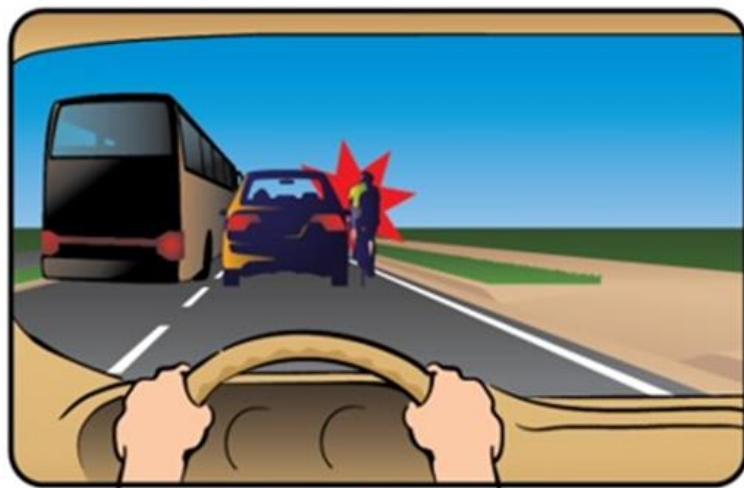




How wide he thinks his car is



Where Savvy Cyclists ride
to discourage that mistake.



How wide it really is



Most lanes are too narrow for a car to pass a bicyclist safely within the lane.

Savvy Cyclists make that clear by leaving less space to their left. This is defensive driving. And it is legal in all 50 states.

Regardless of where a bicyclist is, please don't risk a mistake.

Change lanes to pass.

i am traffic.org  /iamtrafficorg

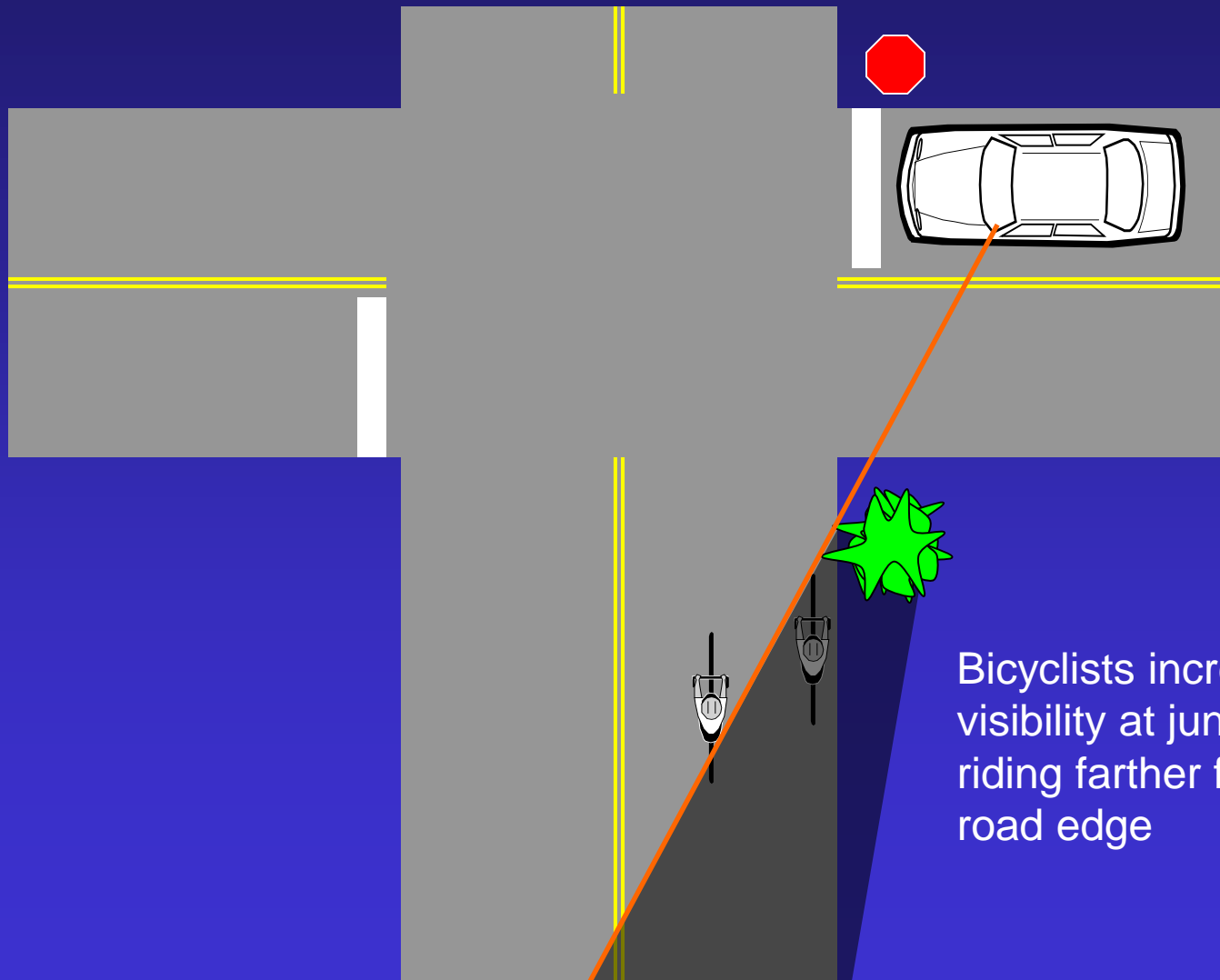
What about Solid Centerlines?

- Most motorists will cross a solid centerline when safe (good sight distance & no oncoming traffic) to pass a bicyclist safely.
- However, crossing a solid centerline to pass a bicyclist is not explicitly legal under current NC law (March 2016).
- Several states have explicitly legalized it for passing bicyclists when safe. NCDOT has endorsed changing the law in this way.

What about Solid Centerlines?

- N.C. Highway Patrol 1st Sgt. Brian Gilreath:
“As long as you don’t affect the movement of oncoming traffic — that’s where common sense comes in — you’re allowed to go left of center to avoid hazards and obstructions in the roadways [...] An officer would have a hard time convincing a judge that you’re supposed to ride behind a bicyclist for 10-15 miles....” [Citizen Times, 8/19/2014]

Road Position and Sight Lines



Bicyclists increase their visibility at junctions by riding farther from the road edge

Riding Side-by-Side

- Bicyclists may legally ride two abreast
- This improves conspicuity/visibility and reduces unsafe passing



Bicyclists Cannot Be Cited for Impeding Traffic

- § 20-141. (h) No person shall operate a **motor** vehicle on the highway at such a slow speed as to impede the normal and reasonable movement of traffic except when reduced speed is necessary for safe operation or in compliance with law; provided, this provision shall not apply to farm tractors and other motor vehicles operating at reasonable speeds for the type and nature of such vehicles.



How to avoid overtaking crashes as a motor vehicle driver

- Be prepared to **slow down**
- Yield to traffic in next lane and **change lanes** to pass
- Don't pass if oncoming traffic, limited sight distance, crest of a hill, or intersection
- Do not pass within same lane unless width allows at least 3' passing (unusually wide lane)





Bicycle Facility Markings & Signs



All roads are bicycle facilities

- All roads except freeways (I-40, 540, etc.) are allowed for roadway bicycling
- Bicycle-specific markings are used as enhancements on some routes favored by bicyclists

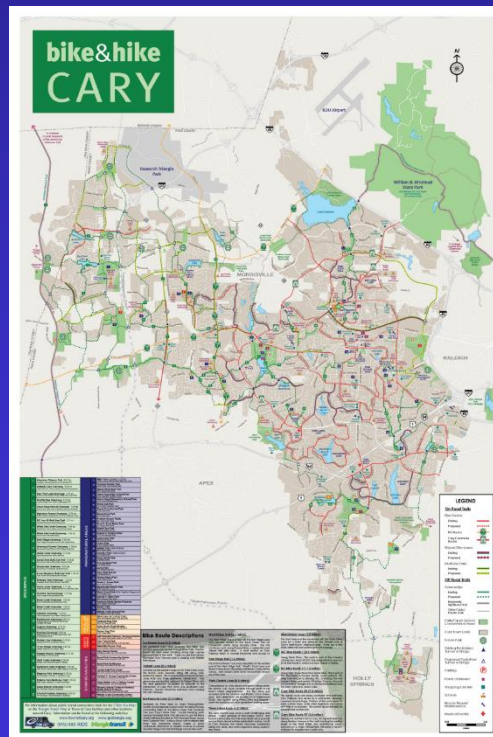
Shared Lane Markings (Sharrows)

- Remind motorists to expect cyclists in the travel lanes
- Have no legal meaning



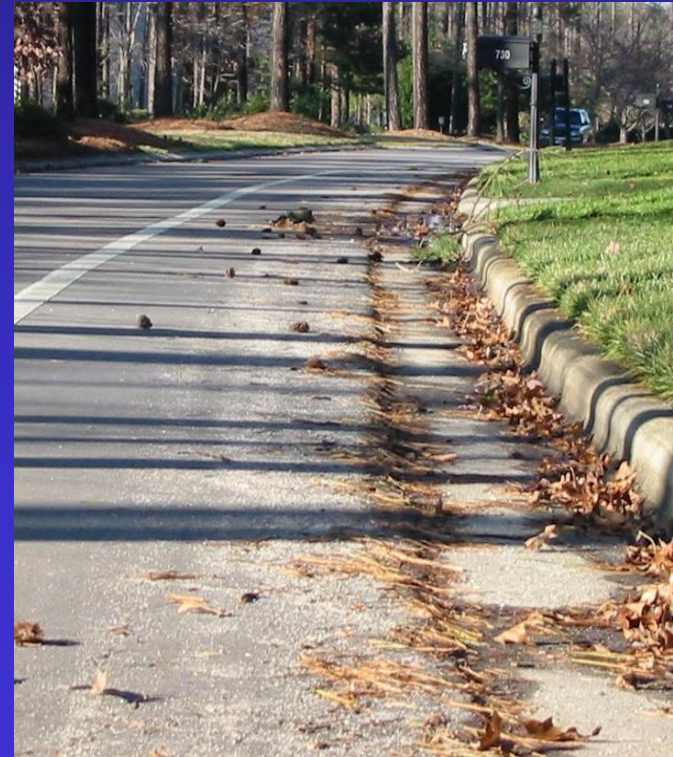
Signed Bike Routes

- Identify pleasant routes for cycling
- Have no legal meaning



Paved Shoulders

- Legally optional for bicyclists to use
- May feature safety hazards including
 - Poor surface conditions
 - Obstructions
 - Inadequate usable width
 - Inadequate sight lines
 - Increased junction conflicts



Striped Bike Lanes



- Legally optional for cyclists
- Similar safety hazards as paved shoulders
- Some feature dooring hazards
- Motorists may merge into them (and stop in them) when preparing to turn right



Conclusion: Defensive Driving

- Lawful driving avoids creating dangers for other lawful road users
- Defensive driving mitigates dangers posed by others' mistakes



Thank You

- The practices we've discussed apply to safer road sharing with all road users, not just bicyclists
- Thank you for driving safely and courteously

