



*Increasing safety through traffic enforcement*

# Program Goals

- Discuss the rules of the road.
- Provide data showing the importance of enforcement to reduce injuries and deaths.





# Program Notes

- Not an all-encompassing course about all bicycle/motorist traffic laws.
- Focuses on the most important rules: those relating to vehicle operation and safety
- Emphasizes the need for equitable bicyclist and motorist enforcement

# Relationship to US Gov't National Strategies



“help law enforcement officers enforce bicycle-safety traffic laws aimed at bicyclists and motorists.”



“A nation of travelers with new opportunities to walk or ride a bicycle as part of their everyday life.”



# Comprehensive Bicycle Planning

- **Engineering** of roads and paths
- **Education** of bicyclists and motorists
- **Encouragement** of bicyclists' rights and responsibilities, and of safe and lawful bicycling
- and **Enforcement**

## Section Two:

# Crash Data and Statistics

84 million bicyclists in the country

- 37% under age 16
- Many infrequent riders
- Most ride for recreation or fitness
- Also - commuters, touring, utilitarian, package delivery



Statistics Source: G. B. Rogers,  
Bicycle and Bicycle Helmet Use  
Patterns in the United States in 1998.  
*Journal of Safety Research*, 31:3,  
2000.

## Section Three: Traffic Laws

Bicyclists Follow the Same  
Traffic Laws as Other  
Vehicles



**SAME ROADS**  
**SAME RULES**  
**SAME RIGHTS**



## Section Four: Laws in Action

### Do Motorists Respect Bicyclists?

- Do motorists understand cyclists' rights and respect them?
- Are traffic laws regularly enforced when it comes to bicycle safety?





# Section Four: Laws in Action

## Do Bicyclists Act Like Drivers of Vehicles?

- Do bicyclists know how to drive on the road and respect other road users?
- Are traffic laws regularly enforced for bicyclists?



## Section Five: Enforcement

### Why be Aware of Bicyclists?

### Why Enforce the Traffic Laws?

- All road users should be respectful of others' rights.
- Many people are unaware of the law.
- Most bicycle crashes are caused by unlawful behavior.



# Section Six: Crash Investigation

11

- Determine the cause of the crash
- Help prevent future crashes





# Remember These Points!

## Key Violations: Cyclists

- Operating against the flow of traffic
- Failure to yield when entering roadway or at a stop or yield sign
- Failure to obey traffic signals
- Failure to yield when moving across the road or turning left
- Riding at night without required equipment
- Riding on sidewalk unsafely or where prohibited



# Remember These Points!

## Key Violations: Motorists

- Failure to yield
  - when entering roadway
  - at a stop or yield sign
  - when turning left
- Unsafe passing
- Improper right turn (immediately in front of a cyclist)
- Driving too fast for conditions
- Opening a car door into traffic



# Be Aware of Bicyclists

- Observe how cyclists and motorists behave
- Are both bicyclists and motorists respecting all road users, including pedestrians?







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# The Bicyclist Injury Problem in the U.S.

- 500,000 emergency room visits,  
10% involve motor vehicles
- 25,000 hospitalizations,  
30% involve motor vehicles
- 700 fatalities,

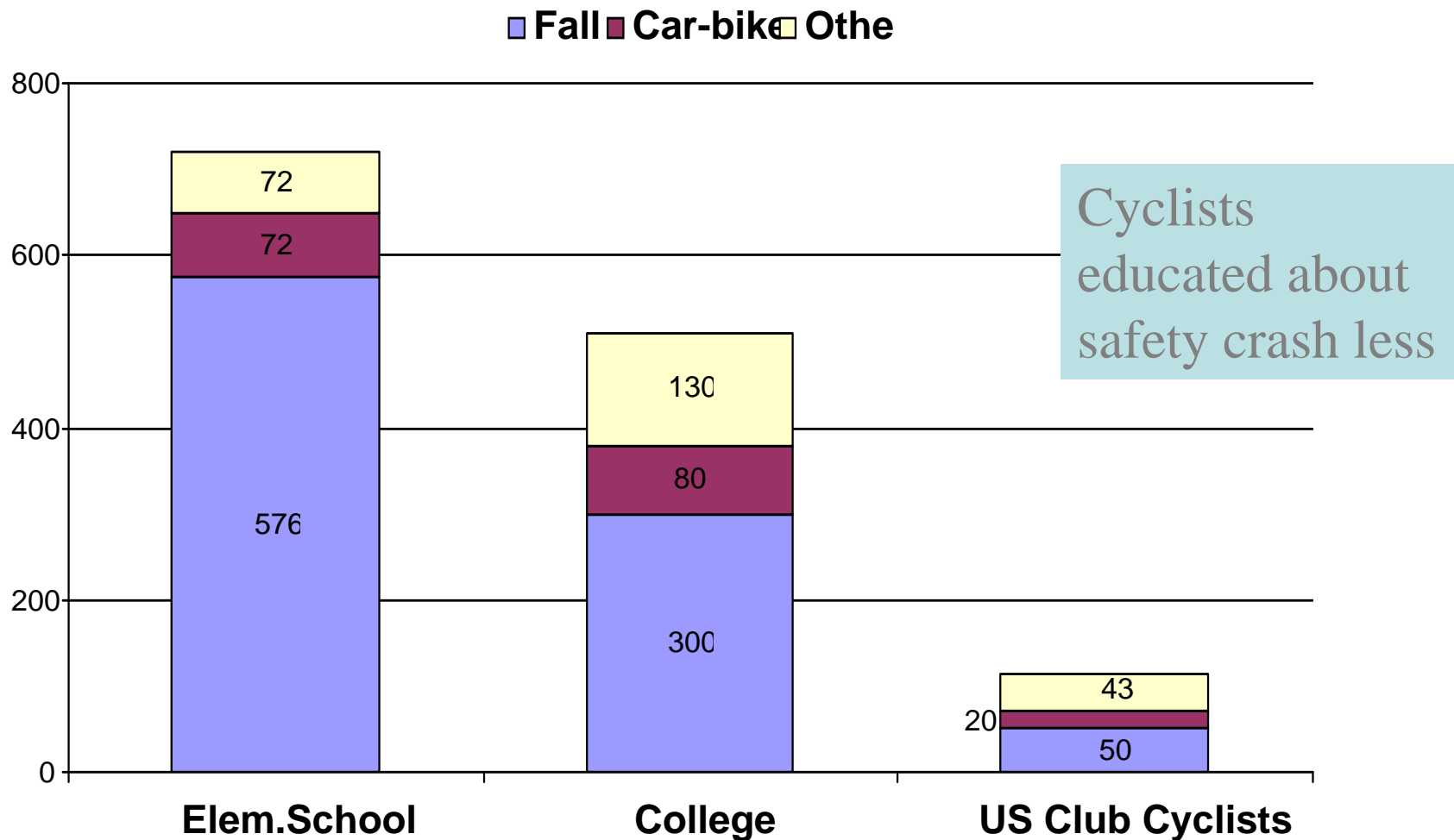
80% involve  
motor vehicles



Emergency Dept Data Source: CDC,  
WISQARS,

Fatalities Data Source: *Traffic Safety Facts*  
2002. NHTSA, U.S. DOT.

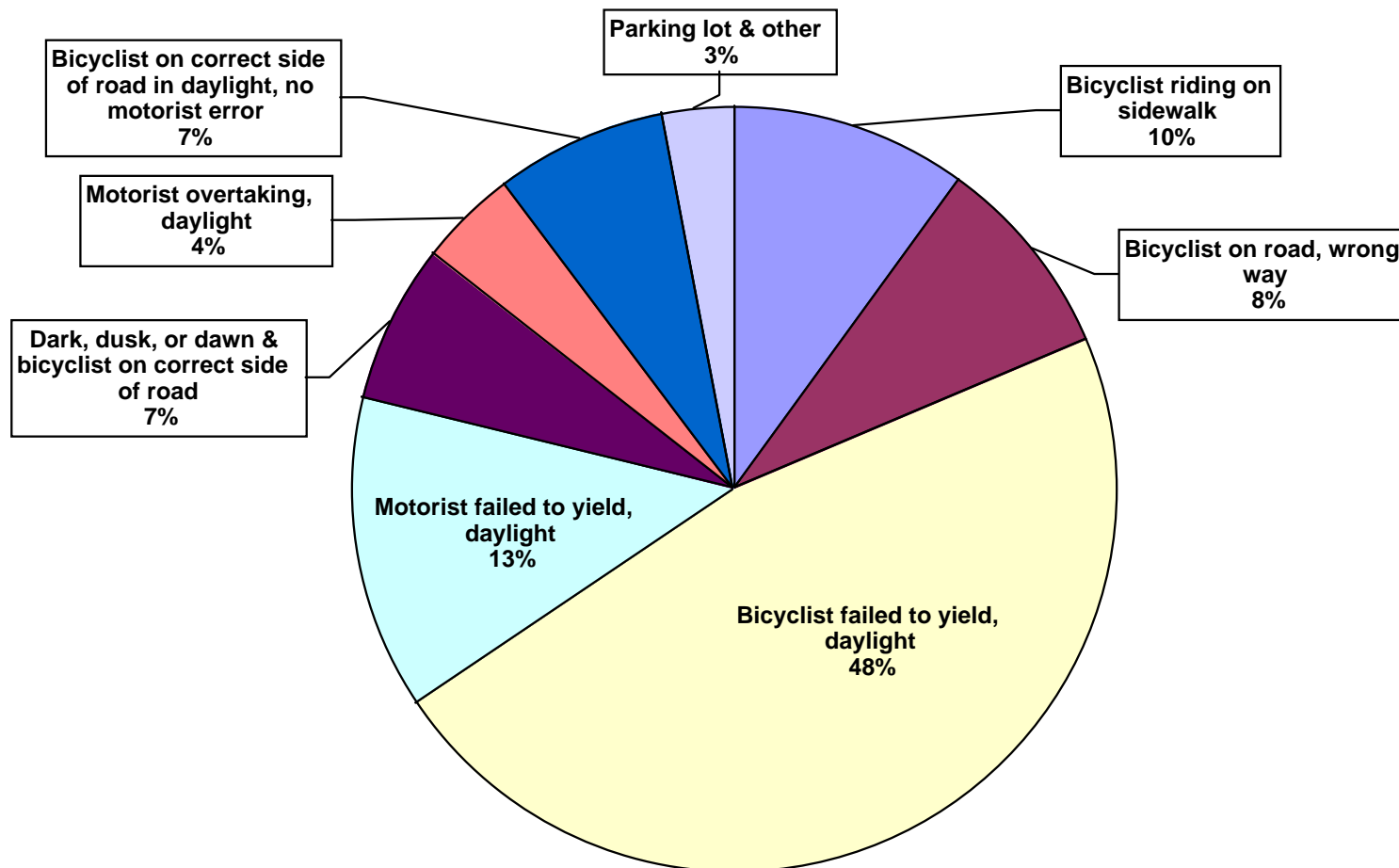
# Crashes per Million Miles



Sources: Chlapecka et al 1974 (Elem. School.); Schupack and Driessen 1976 (College) Kaplan 1971 (US Club Cyclists); S.M. Watkins, CTC study (1984) in Forester, Bicycle Transportation, 3rd edition, MIT Press (1993)

# Motor Vehicle-Bike Collision, Bicyclist Under 16

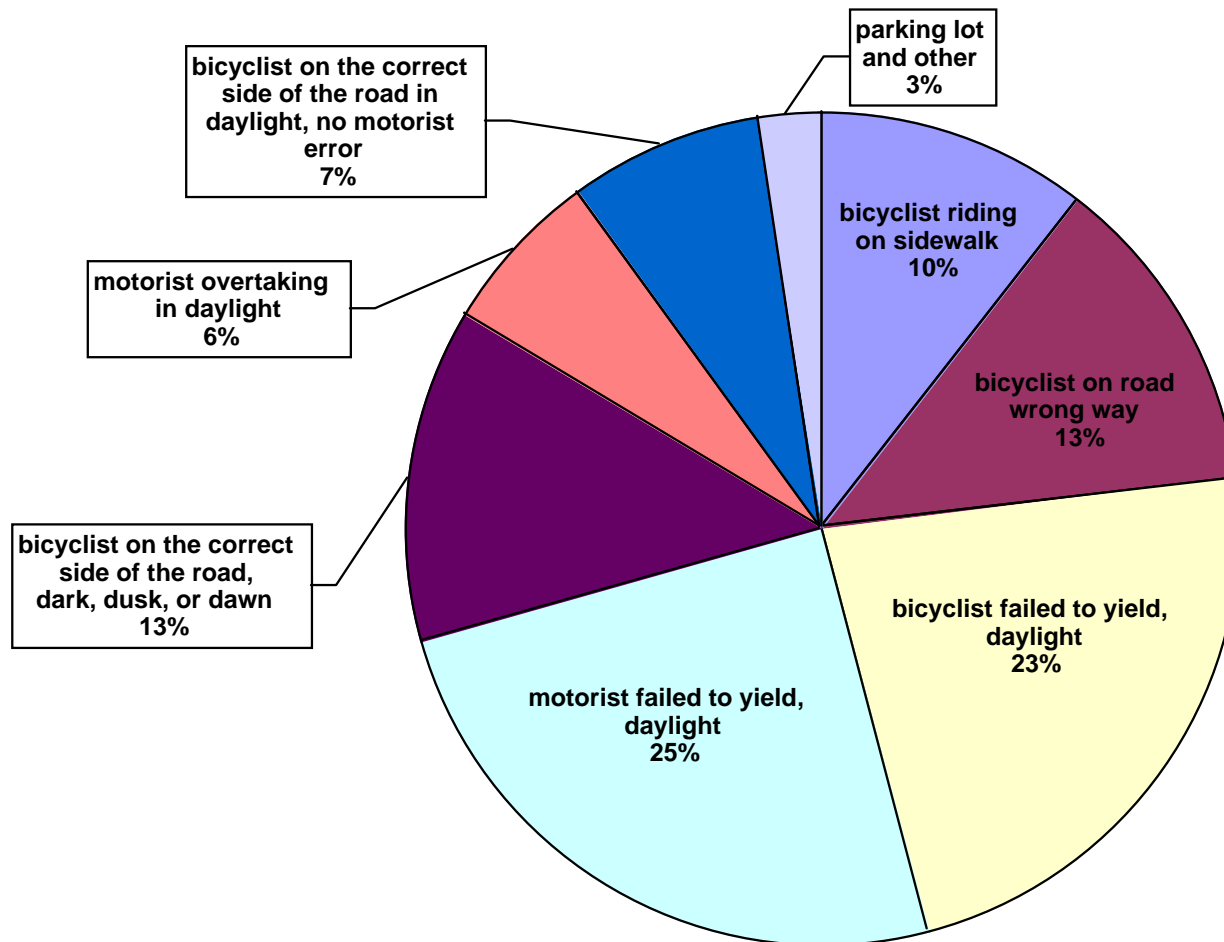
Car-Bike Collisions by Type, Bicyclist 15 or younger, 1998-2002 average



Source: Tabulations by Paul Schimek from NHTSA's 1998-2002 General Estimates System survey of police-reported crashes.

# Motor Vehicle-Bike Collision, Bicyclist 16 or Older

Car-Bike Collisions by Type, Bicyclist 16 or older, 1998-2002 average



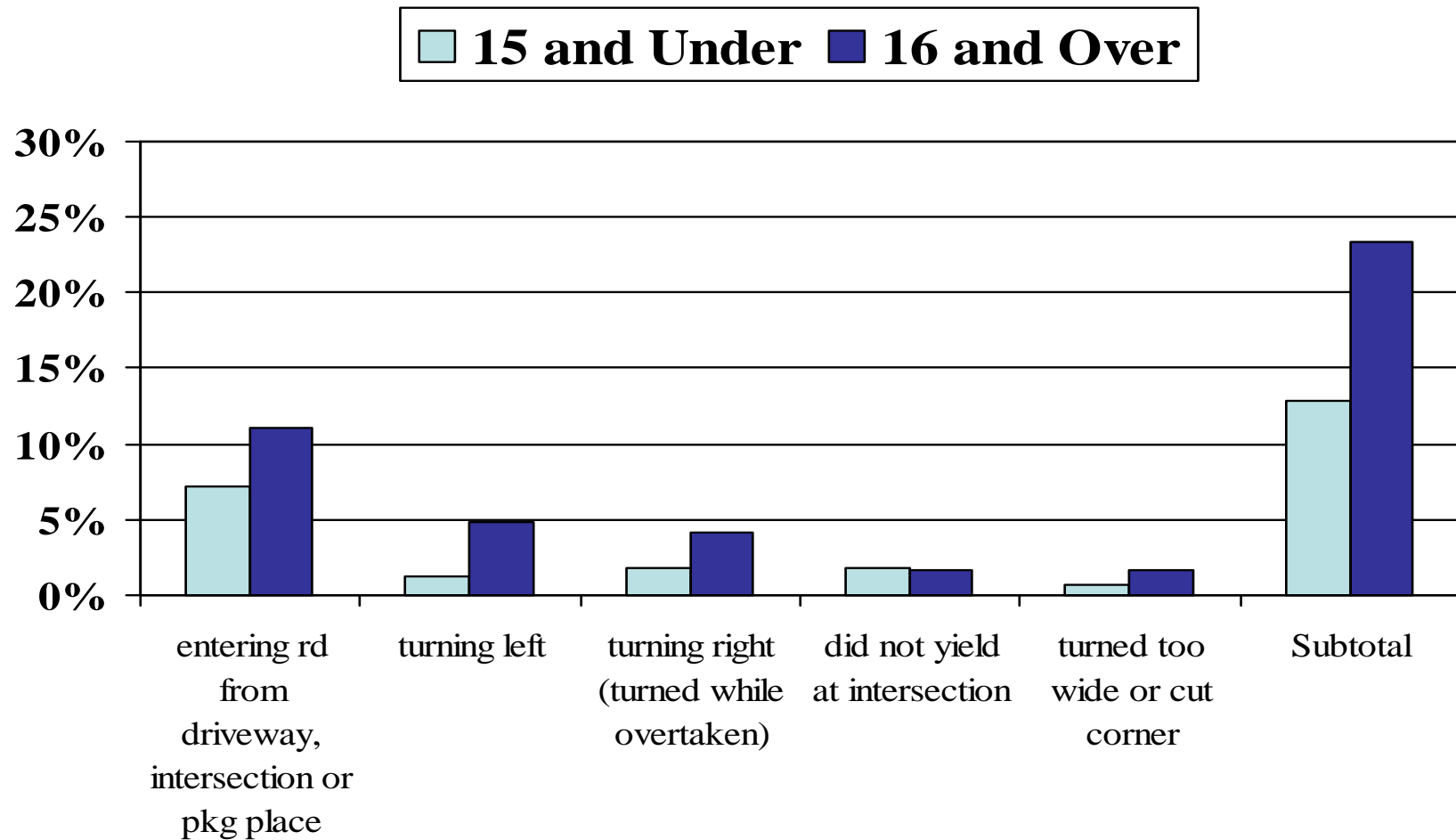
Source: Tabulations by Paul Schimek from NHTSA's 1998-2002 General Estimates System survey of police-reported crashes.

# Most Frequent Fatal Crashes

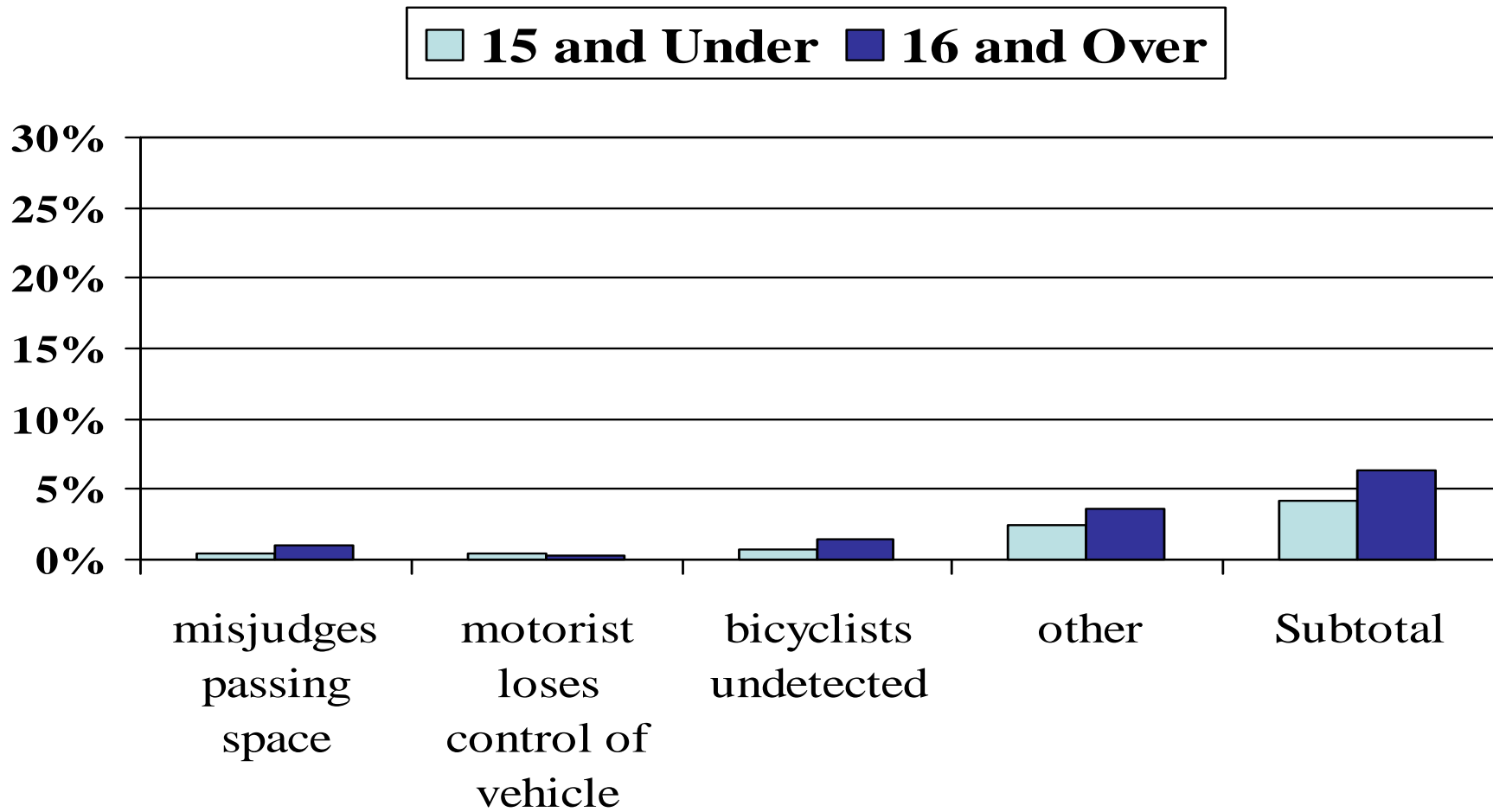
- Intersections
  - Motorist or Cyclist failure to yield
- Intoxication
- Cyclist driving the wrong way
- Cycling driving at night without proper lights and reflectors



# Motorist Failed to Yield to Cyclist, Daylight



# Motorist Overtaking, Daylight

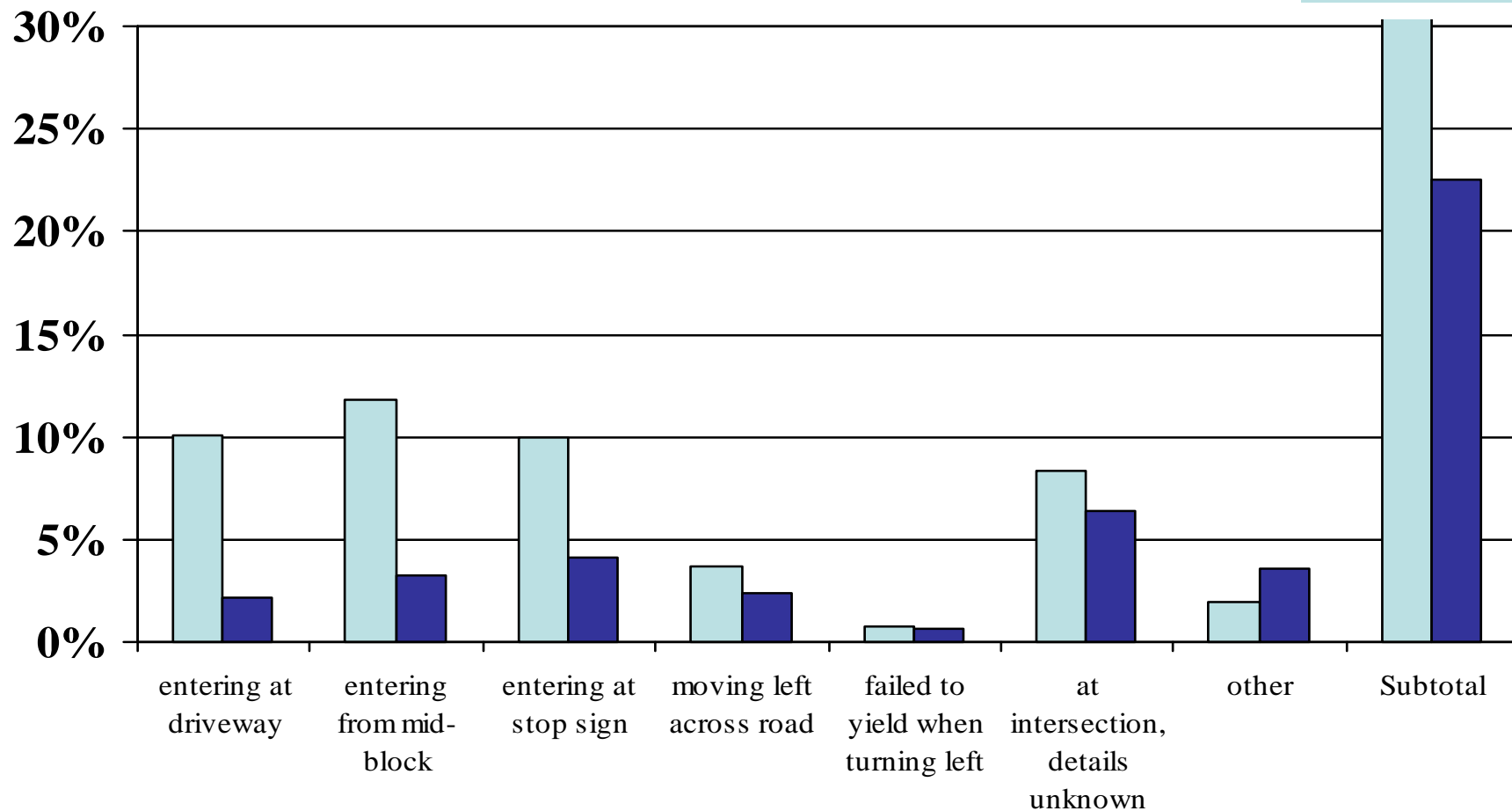




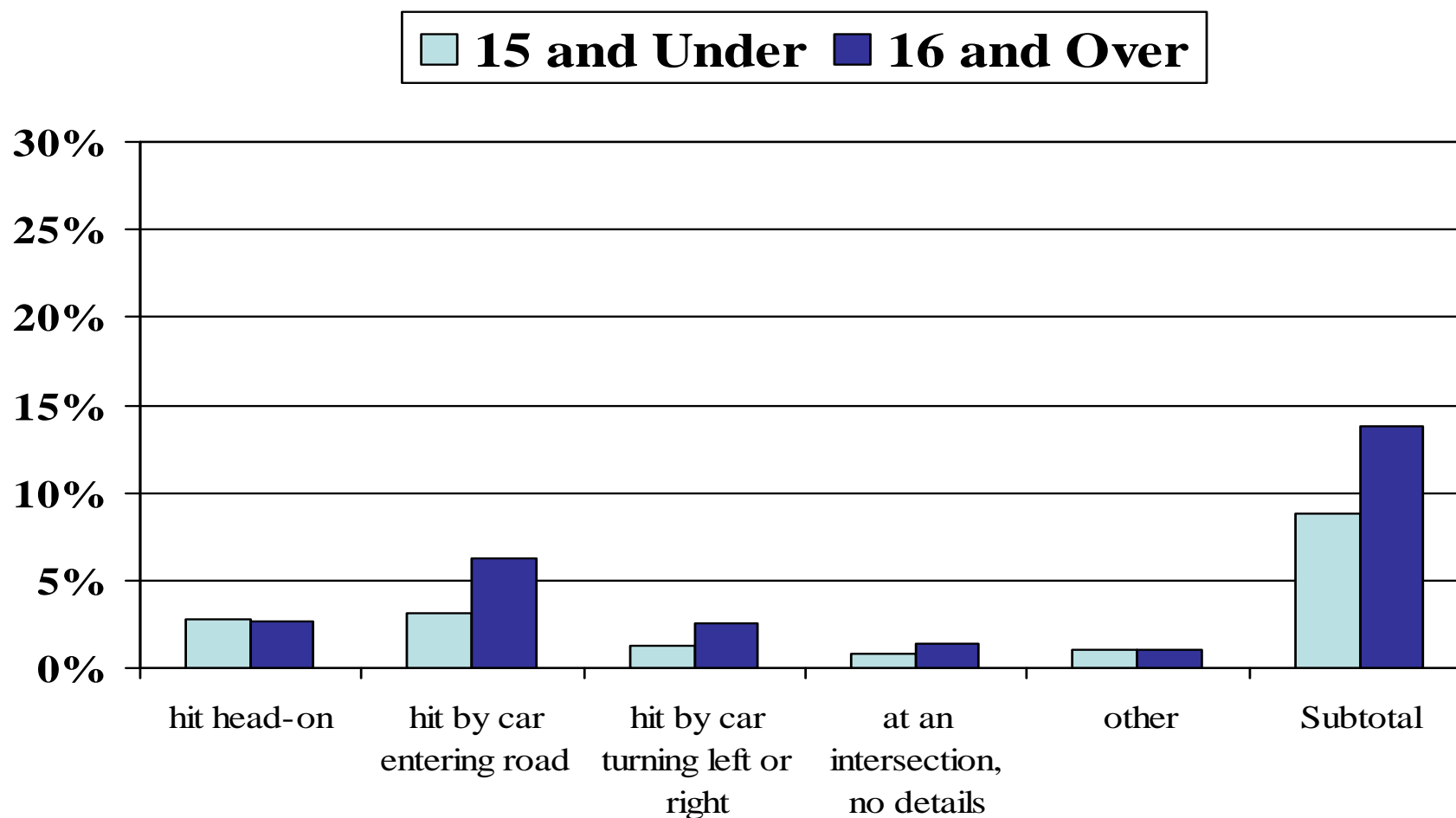
# Cyclist entering roadway or riding with traffic and did not yield

15 and Under 16 and Over

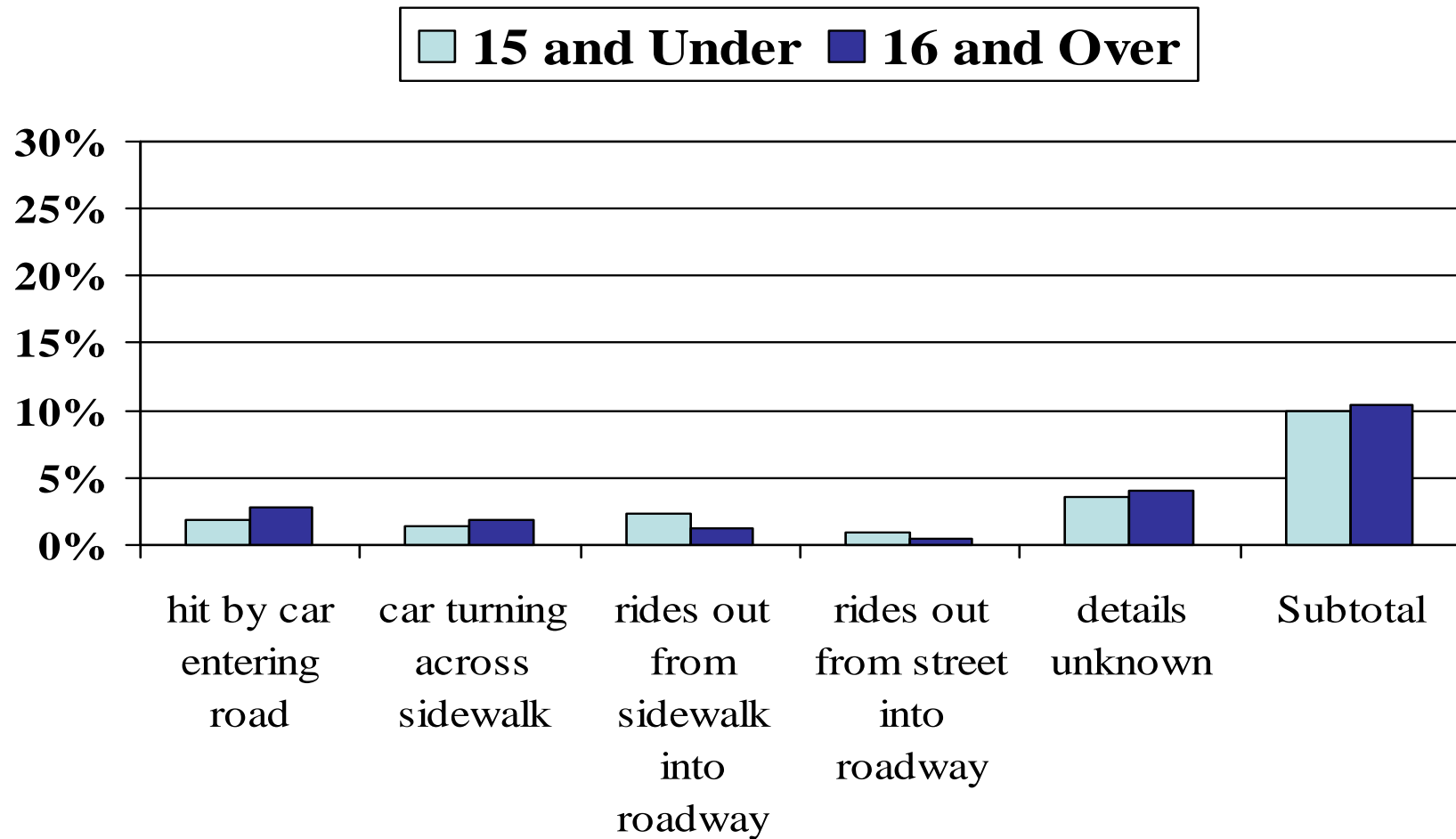
15 and Under  
Subtotal is 46%



# Cyclist was in the roadway riding against traffic



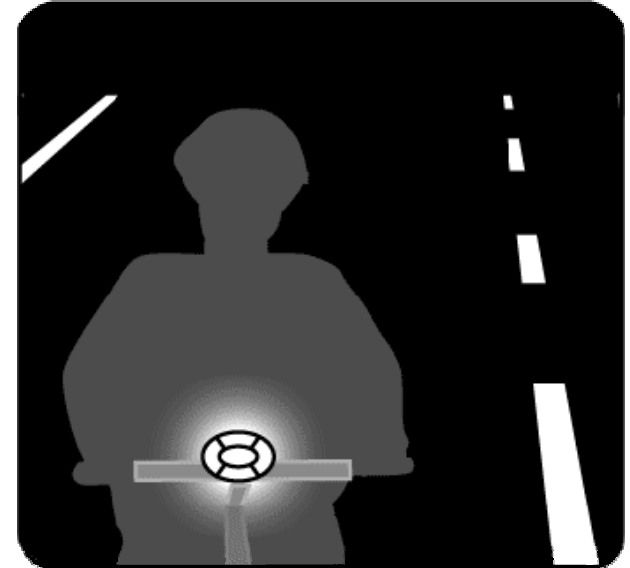
# Cyclist was riding on a crosswalk or sidewalk





# Night Time

- 43% of all bicycle fatalities are in non-daylight hours.
- 17% of all car-bike collisions happen at night.





# The Need for Improved Data

- All the tables in the above slides add up to 89% of all motor vehicle-bicycle crashes
- The circumstances of 11% of all motor vehicle-bicycle collisions remain unknown.
- Improved crash reporting and investigation can counteract this trend.



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# Bicyclists are Drivers



- The same set of traffic rules applies to all drivers of vehicles — bicyclists and motorists.
- When we say “driver” we mean bicyclist or motorist; when we say “vehicle” we mean bicycle or motor vehicle.



# You Already Know Most Traffic Laws that Concern Bicyclists!

All drivers of vehicles must:

- Drive on the right side of the roadway
- Pass other traffic slowly and safely
- Yield to traffic with the right of way
- Observe traffic signs and signals
- Obey speed limits
- Et cetera!



# 1. Bicycle Law

- What is the legal definition of “bicycle?”
- What section of the law covers bicycle-specific traffic laws?

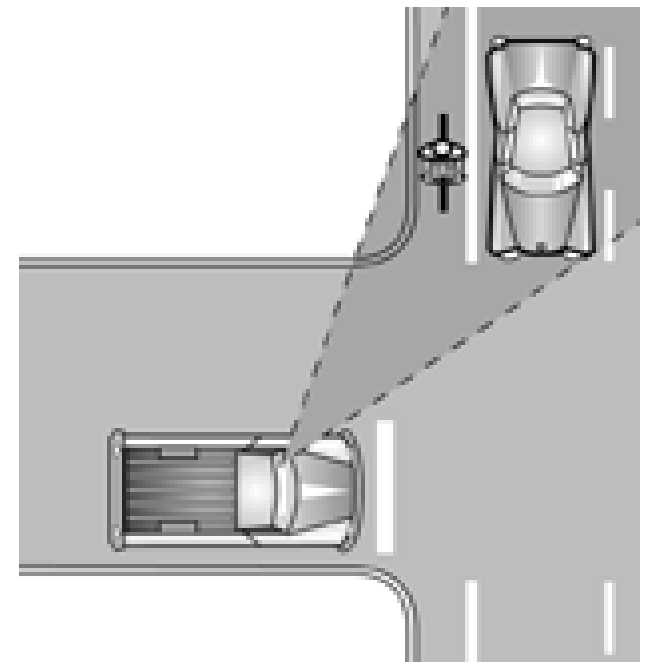


## 2. Same Roads

- On which roads can bicycles be legally excluded?

### 3. Direction, Lane Positioning and Merging

- Where should a bicyclist be positioned for normal travel?
- What is the law for staying to the right side of the right lane?
- What are the legal reasons that a bicyclist should be expected to leave the right side of the right lane?



*Graphics compliments of Oregon DOT  
Bicyclist's Manual*



## 4. Turning

- Where should a bicyclist be positioned for:
  - **Right turns**
  - **Left turns**
  - **Continuing straight ahead?**



## 5. Signaling

- Bicycles have no automatic turn signals; cyclists use hand signals.
- Right hand, right turn signal is best understood.
- Continuous signaling is not safe. Both hands are often needed to control the vehicle.



## 6. Safe Passing on the Left

- What are the rules for motorists passing other vehicles, including bicycles?





## 7. Safe Passing on the Right

- Under what circumstances are bicyclists permitted to pass on the right?



## 8. Sidewalk Bicycling

- Are bicyclists permitted to drive on the sidewalk?
- What are the rules for bicycles driving on sidewalks, paths, and trails

38

10% of bicycle-motor vehicle crashes happen to bicyclists driving on sidewalks, paths, or in crosswalks



## 9. Lights at Night and Equipment

- What are the requirements for nighttime equipment for bicyclists?
- What are the braking and other equipment requirements?

39

43% of **fatal bicycle-motor vehicle** crashes occur at night, most of them probably involve bicyclists without proper lighting equipment.

## 10. Helmets

- Are children required to wear helmets while on a bicycle?

0% of crashes are caused by lack of a helmet. 40

About 75% of permanent disabilities and 50% of fatalities may have been avoided with proper helmet use.



[www.pedbikeimages.org/](http://www.pedbikeimages.org/)  
Dan Burden



# 11. DUI

- Motor vehicle operators are prohibited from operating their vehicles while intoxicated.
- Are bicyclists also prohibited from operating their vehicles while intoxicated?

41

31% of **fatal**  
bicycle-motor  
vehicle crashes  
involve  
intoxication.



## 12. Aggressive Driving & Assault

- What are the laws regarding the use of a motor vehicle as a weapon, either intentionally or unintentionally?
- Are there special Aggressive Driving laws?



## Other Bicycle Safety Laws: Local Ordinances

- In most states, local governments may:
  - establish bicycle registration
  - regulate sidewalk bicycling
- Generally, local ordinances may not contradict or supersede state law.
- Bicycle messenger registration



## Other Bicycle Safety Laws: Manner of Riding

- No more riders than the bicycle is designed to carry.
- At least one hand on the handlebar.
- Carry articles safely
- Laws vary by state.
- Enforcing them might help prevent falls - the most frequent type of crash.



# Other Bicycle Safety Laws

## Equipment & Racing Permits

- Bells
- Bike racing





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# Same Roads: Bike Path / Road Intersections



# Same Roads: Mandatory Sidepath Rule

*“Whenever a path for bicycles has been provided adjacent to a roadway, bicycle riders shall use such path and not the roadway.”*

- The sidepath rule should be discouraged

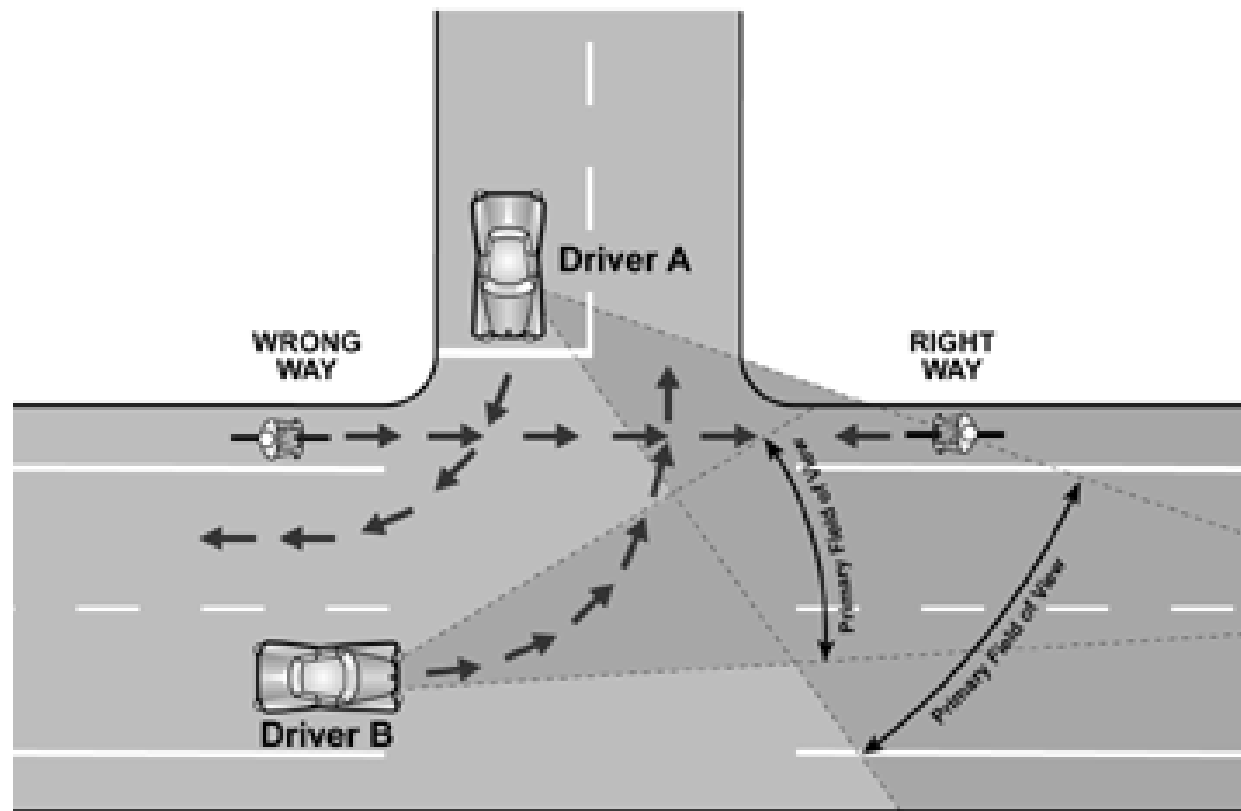


# Same Roads: Bicycle Lanes

- *bicycle lane* - a portion of the *roadway* indicated by pavement markings
- A bicycle lane does not prevent bicyclists from:
  - avoiding hazards
  - overtaking
  - left turns



# Drive with Traffic: Wrong Way Riders



*Graphics compliments of Oregon DOT  
Bicyclist's Manual*



# Lane Positioning: Far Right Rule

- *“Every person operating a bicycle upon a roadway shall ride as near to the right side of the roadway as practicable exercising due care when passing a standing vehicle or one proceeding in the same direction.”*
- Unnecessary because of slow vehicles keep to right rule.
- Added to Uniform Vehicle Code in 1944 and since adopted by 41 states. But UVC now lists many exceptions, as do most states.
- Does not supersede rules on intersection positioning and passing, and permits bicyclists to be a safe distance from hazards at the right edge, including car doors.

# Lane Positioning: The Door Zone



**Enough  
Room**



**Too  
Close**



# Lane Positioning: Narrow Lanes





# Lane Positioning: Impeding Traffic

- Impeding traffic rule: may apply to **motor** vehicles only.
- Does not prohibit use of roadway at bicycle speeds.
- Mountain roads: use turnout where there is a line of vehicles.



# Lane Positioning: Bicycling Side by Side

- “Move right when being overtaken” means bicyclists must single up if they are side-by-side.
- Single-file bicycling.
- Side-by-side bicycling facilitates communication: for directions, training, etc.

# Lane Positioning: Group Riding

Side-by-side  
bicyclists are  
compact and  
easier to pass



[www.pedbikeimages.org](http://www.pedbikeimages.org) / Dan Burden

Single-file  
bicyclists take  
up more space  
over a longer  
distance



[www.pedbikeimages.org](http://www.pedbikeimages.org) / Dan Burden


# Intersections: Failed to Yield When Turning





# Intersections: Entering the Roadway



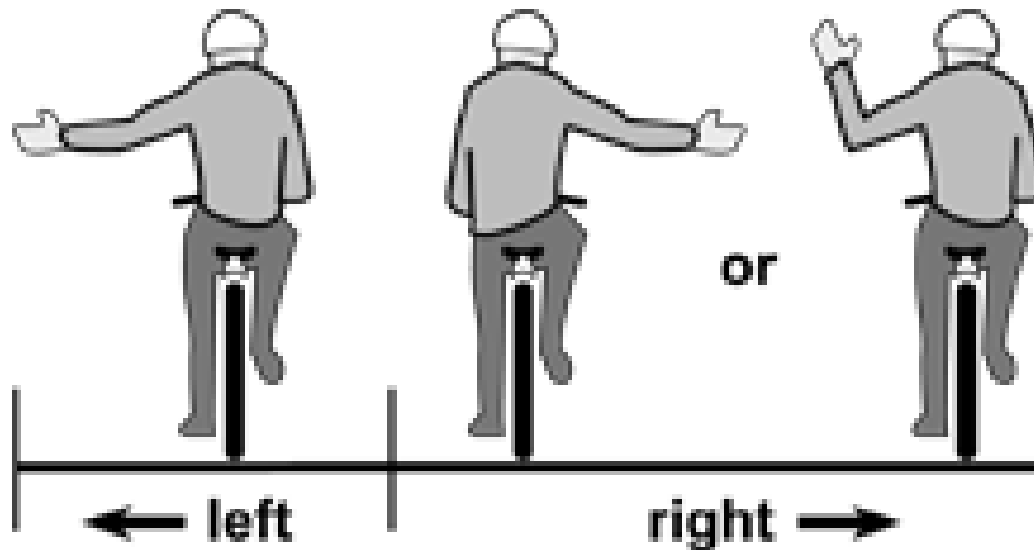


# Merging, Turning, and Signaling

Moving across the road:

- Yield, even when moving less than a full lane.
- Yield requires looking back.
- Yielding without signaling can be safe; signaling without yielding never is.

# Merging, Turning, and Signaling

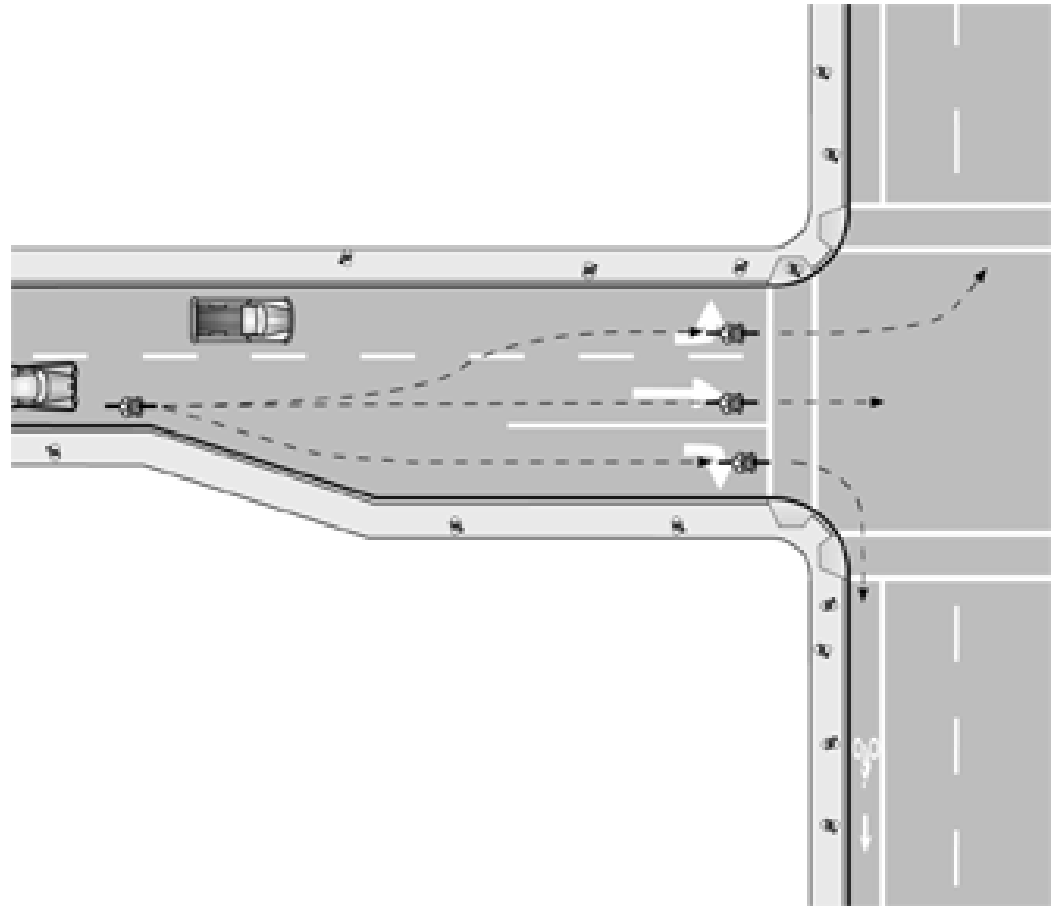


*Graphics compliments of Oregon DOT  
Bicyclist's Manual*



# Turn Only Lanes

- Turn lanes may only be used for the the directions indicated
- Bicyclists may need to merge left to avoid a right turn only lane



*Graphics compliments of Oregon DOT Bicyclist's Manual*



# Passing:

## On the Left and Right

- Pass on the left *at a safe distance*
- Do not use the left side of the road to pass if you can't see far enough ahead
- Move right when being passed, if it is safe to do so
- Pass on the right
  - when driver ahead is intending to turn left
  - when there is enough room and it is safe

# Passing on the Right



# Passing: Lane changes

66



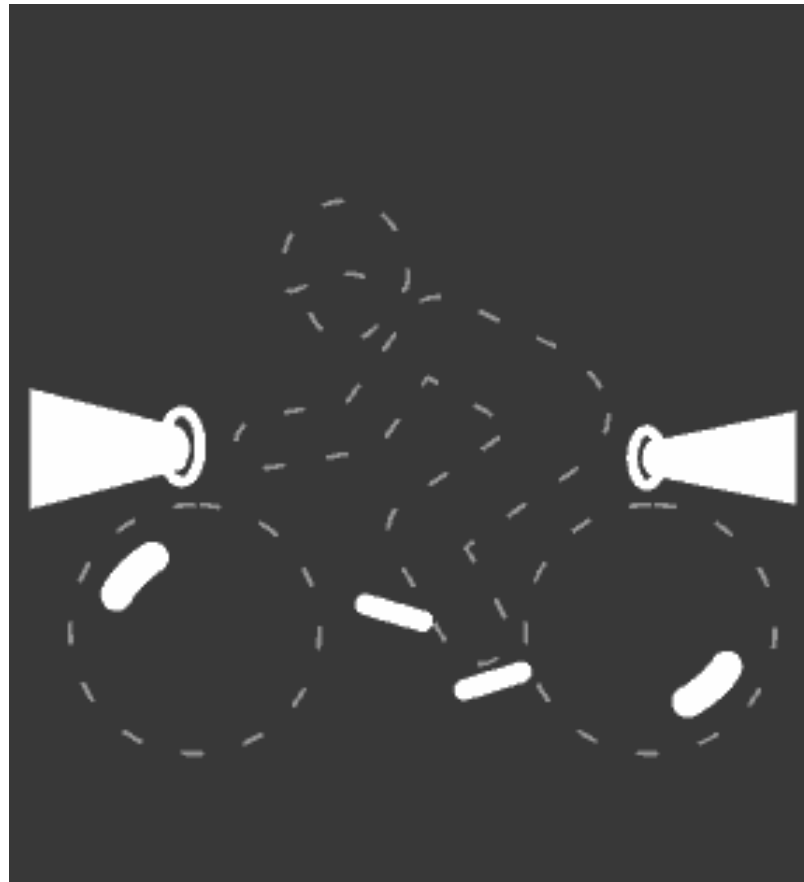
# Unsafe passing



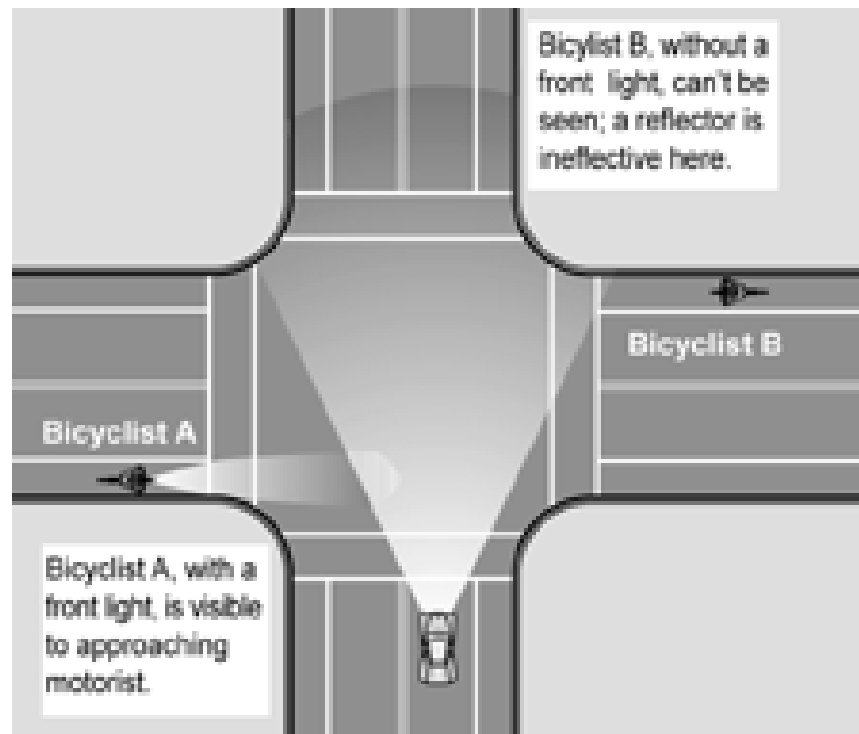
# Sidewalk Bicycling



# Lights at Night: Reflectors and Rear Lights



# Lights at Night: Headlight v. Front Reflectors



*Graphics compliments of Oregon DOT Bicyclist's Manual*



# Aggressive Driving and Harassment

- Verbal
- Assault
  - With vehicle
  - Thrown object





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# Why Enforce the Traffic Law?

- Prevent Crashes
- Help traffic flow better
- Educate drivers who may be confused



# Excuses for not enforcing bicycle/motor vehicle infractions

- "There are more important things to do."
- "Bicyclists should not be punished with a fine, especially children."
- "It is impossible to change road users' behavior."
- "Bicyclists are only endangering themselves when they violate traffic laws."
- "The courts will throw the tickets out."



# Replies

- Injury and death prevention is very important work.
- How is this less important than enforcing expired tabs or issuing a parking ticket?
- If officers don't enforce the law, who will?
- Warnings can be sufficient, especially for children.
- Without enforcement, dangerous drivers will only get worse.



## More Replies

- Would you rather report a traffic ticket or a death?
- Unlawful bicyclists are a danger to other bicyclists, pedestrians, themselves, and even motorists.
- The courts and the public can be convinced of the need for enforcement if the community understands the danger.



# Key Violations: Cyclists

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# Bicycle “Crash” Defined

“An event in which a bicyclist hits another object or falls off the bicycle.”

Note: a collision usually leads to a fall also.





# Crashes are not accidents

Accident implies heavy doses of chance, unknown causes, and the implication that “nothing could be done to prevent them.” Crashes are unintentional, but avoidable.



# The Crash Report: General Information

- Give equal credence to the statements of cyclists, motorists, and witnesses
- Injuries and damage
- Any suspected traffic violations
- Driver impairments?
- Location of collision and/or final resting places of all objects and individuals



# Roadway and Environmental Conditions

- Lighting: sun, glare, nighttime
- Weather conditions (wind direction and strength)
- Pavement condition
- Any physical or visual obstructions?
- Road and lane widths
- Type of facility adjacent to road (e.g. sand, paved sidewalk, car parking area, etc.)
- Roadway markings
- Traffic signs and signals (and condition)
- Any skid marks on pavement?



# The Bicycle and Cyclist

- Same as other vehicle reporting
- What was the cyclist doing with respect to the traffic law
  - On the sidewalk or road?
  - With or against traffic?
  - Yielding at an intersection?
  - Entering the roadway?



# The Bicycle and Cyclist

- Advise cyclists to save all clothing and equipment involved in the crash, and to document injuries.
- Note type of bicycle (Mountain, road, commuter, loaded touring, recumbent, kids, etc.)
- Note type and condition of brakes and tires, chain, wheels, and gear selection.



# The Bicycle and Cyclist

- Safety equipment — usage and condition: lights, helmet, sunglasses, reflectors, etc.
- Cycle computer information (may include recent speeds)
- Consult a bicycle mechanic for expert analysis
- Cyclists are required to report crashes involving personal injury or property damage





# The Motorist and Automobile

Just like any other crash. For the sake of review:

- Condition/usage of safety equipment: lights, brakes, tires, mirrors, windows, windshield wipers
- What was the motorist doing with respect to the traffic law?
- Is the motorist aware of traffic rules?



# The Motorist and Automobile

- Analyze a motorist's claim not to have seen the cyclist (was cyclist in full view?)
- If belligerent or otherwise impaired, do not allow to continue driving vehicle
- Motorists are required to report crashes involving personal injury or property damage



# Injury/Damage Without Collision

If a bicyclist avoids collision, but falls as a result:

- Record same information as with a collision
- Note suspected traffic violations by any individuals involved
- Collision is not necessary for issuing citations or being found at fault



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The End!

