

# Bicycle Traffic Law Reform and Safety Issues

## Including ORC\* changes from HB 389

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\* Note: ORC means Ohio Revised Code

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### Cycling uses & benefits.

This program was developed to show to local gov't officials to help them understand need to reform bicycle traffic law and to educate citizens.

The program is similar to a "Bicycle Driving Seminar" by the author with some shift in emphasis to traffic law issues.

Parts specifically reference the Ohio Revised Code (ORC) but much of the presentation is applicable to other states.

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The Guiding Principle:

*Cyclists fare best when they act and are treated as drivers of vehicles*

**SAME ROADS, SAME RULES, SAME RIGHTS and following best practices**

**Operating by pedestrian methods and in unexpected places is often dangerous**



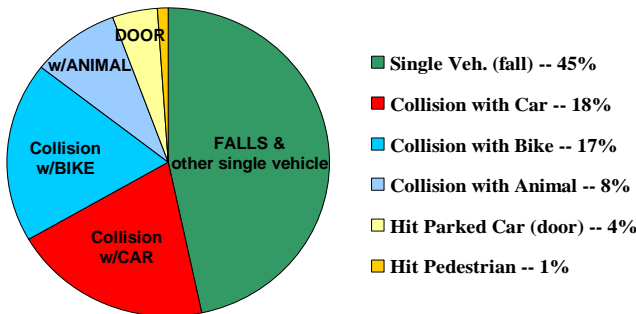
Photo above from Chicago's Bike Lane Design Manual Fred Oswald Feb 2003

### Comparing principles

"Vehicular" or Integrated Cycling includes the best practices of experienced cyclists. Pedestrian methods are (somewhat) safe only at very slow speeds. If you need to go faster, these methods are very dangerous.

Right photo shows dangerous door-zone bike lane.

### Urban Bicycle Crashes



**Most bike crashes do not involve cars!**

Source: Kaplan, "Characteristics of the Regular Adult Bicycle User" Fred Oswald, Apr 2000

### Urban Crashes

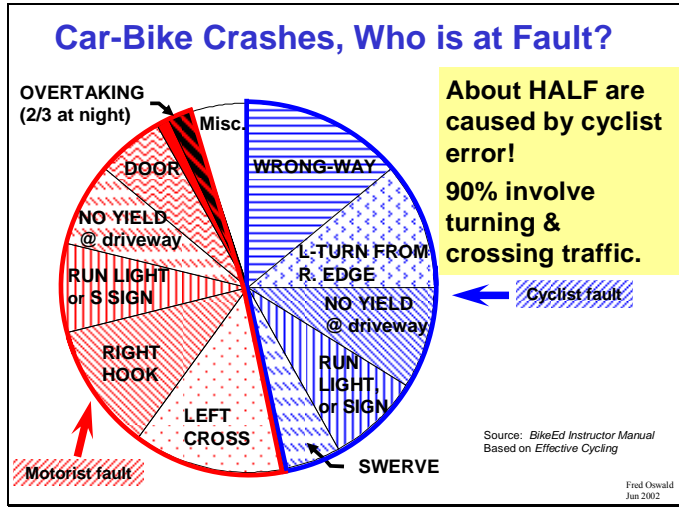
To learn safe cycling, you must understand crashes & how to prevent them

Most people think car collision is #1 but it is actually distant 2nd.

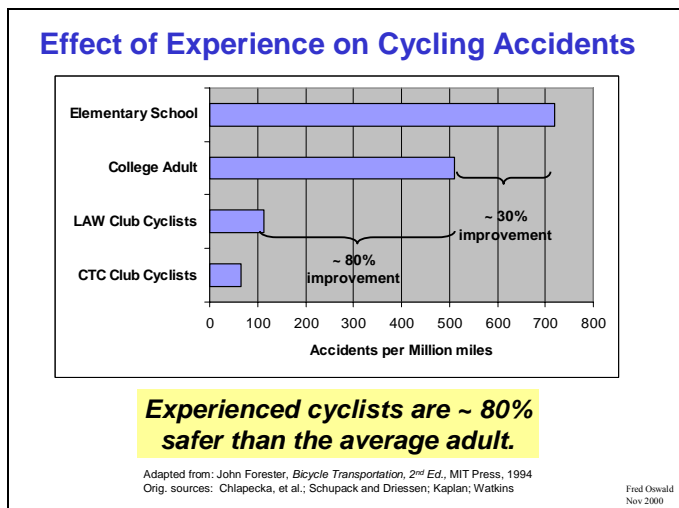
Most crashes are falls or other "single vehicle" crashes.

Bike-bike collision is almost tied for #2.

Even dogs cause many crashes



**Crashes, who at fault.**  
 Most people think hit from behind (overtaking) is #1 but it is smallest slice and most of those occur at night. About 90% are result of turning & crossing traffic. About half of adult crashes are fault of cyclist (blue outline), wrong-way is #1. Making L turn from curb (often taught in "bike safety") causes many crashes. More child crashes fault of cyclist, especially "driveway rideout" under age 8. Note, many "motorist fault" crashes occur on sidewalk or bike lane crossing (preventable).



**Experience vs. Crashes**  
 Elementary school crashes ~700/million mi. College only 30% better. Club cyclists are 5 times better than college, 7x than elementary (LAW is US club cyclists, CTC is British club cyclists). Experienced cyclists have something to teach us about bike safety.



**Wrong Way & Sidewalk Hazards**  
 This is just one of many scenarios showing wisdom of following same rules of road as other drivers. Driver is most likely to look in traffic lane to left. Less likely to look at sidewalk. Very unlikely to look right on sidewalk. Some people are taught to ride on the wrong side of the road to "see traffic coming". The accident rate for wrong-way cyclists is about 3½ times as high as for cycling properly. Pedestrians walk facing traffic so they can sidestep off the road if necessary. You cannot sidestep on a bike.

## Sidewalk and Sidepath Hazards

Riding on sidewalk/sidepath compared to riding on road increases collision risk by a factor of:

- 1.8 (California; Wachtel and Lewiston 1994)
- 2.7 (Eugene, OR, 1979)
- 4.7 (California, 1974)
- 3.4 (Sweden; Linderholm 1984)
- 2.4-8.6 (Finland, Sweden, & Norway; Leden 1988)
- 3.9 (Denmark; Jensen, Andersen, Nielsen 1997)
- 1.7 to 5 (Germany; Schnull, Alrutz et al 1993)



Riding against traffic on sidewalk or sidepath is significantly more dangerous.

Paul Schimek, 2001  
D. Gutierrez & B. P. DeSousa, 2003

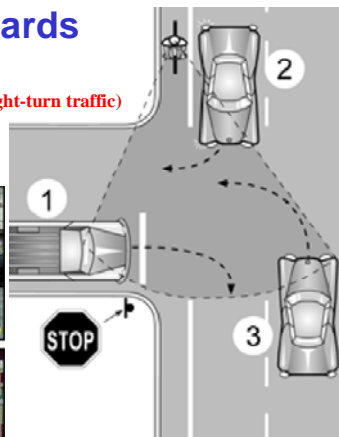
## Sidewalk Accident Studies

Sidewalk about 2-9 times as dangerous as road (depends on speed, driveway & intersection density, etc.)

## Bike Lane Hazards

**Bike lanes encourage errors:**

- Pass on right & filter fwd. (right of right-turn traffic)
- "Drive-out" at stop sign
- "Right hook"
- "Left cross"



Paul Schimek, 2002  
D. Gutierrez & B. P. DeSousa, 2003

## BL Hazards

BL encourages cyclists to pass on right even where car may turn right. Also contributes to motorist mistakes. Bike lane makes "left cross" & "right hook" more likely (accident pie chart shows these are important hazards).

## Vehicular Cycling "Layers of Safety"

1. Don't CAUSE collision (follow rules of road)
2. Deter motorist mistakes
3. Drive defensively to escape hazards
4. Use safety equipment to reduce injury



Fred Oswald,  
Jul 2004

## Layers of safety

Seems obvious but ~ half of car-bike collisions are fault of cyclist

Proper lane position and taking charge (illustrated above) often prevent mistakes from happening

Anticipate motorist mistakes and plan an escape route

Helmet, gloves and first aid kit are the last line of defense

## Proper Lane Positioning

*An essential skill for cyclists*

**Narrow Lane Road or Downhill – Use Full Lane**

Cyclists have legal right and safety obligation to use the full lane when too narrow to share with motor vehicles



Photo by R. Woodward, Jan 2000



Photo by Wayne Pein

Fred Oswald  
Aug 2003

## Lane Position --

This is the “secret” of experienced cyclists. Note how red car is completely changing lanes to pass.

Beginners hug the curb, then wonder why cars pass so close.

Note: we do not suggest that a young child ride on a street like this or on the sidewalk.

## Principles of Traffic Law

1. First Come, First Served
2. Drive on the Right
3. Obey Traffic Control Devices
4. Observe Speed Positioning
5. Follow Intersection Positioning

**Vehicular Cycling teaches:**

***Cyclists fare best when they act and are treated as drivers of vehicles***

**2 wheels or 4, the rules of the road are the same**

Source: Effective Cycling & BikeEd Instructor Manuals  
Fred Oswald, Jun 2002

## Principles of Traffic Law

Rules of the road make the roadway an orderly place. This is a huge advantage for cyclists.

#1 First Come -- you have right to space you occupy plus safe dist. ahead (right of way). At intersections, yield to right. Yield to superior road.

#2 Drive on right, not left or sidewalk

#3 Traffic control devices supercede right of way rules

#4 Speed positioning means stopped veh. at extreme right, slow veh. next, fast to left.

#5 Intersection positioning means use correct lane for destination.

## Why traffic law matters

*Traffic laws help shape ---*

- ✓ How cyclists are taught to ride.
- ✓ How the police treat cyclists.
- ✓ What the motoring public expects from cyclists.
- ✓ What happens in court if a cyclist has a collision.

*Uniform traffic laws promote safe, fair & efficient travel for all.*

**Cyclists deserve equal protection under the law**

Paul Schimek &  
Fred Oswald, Mar 2003

## Traffic Law

Cyclists can be denied rights because of bad laws.

## Characteristics of the Ideal Law:

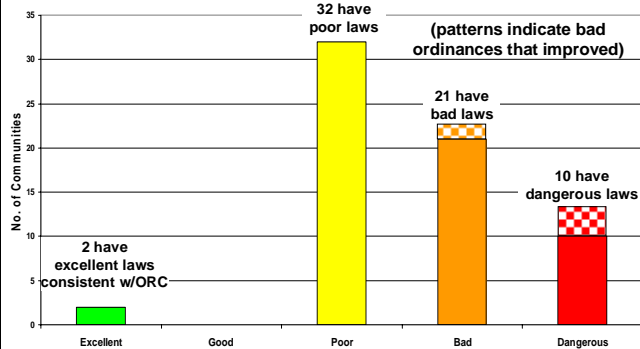
- ✓ *Simply stated. Has a clear meaning.*
- ✓ *Completely effective in solving problem addressed.*
- ✓ *Interacts synergistically with all other laws.*
- ✓ *Consumes minimal resources in enforcement.*
- ✓ *Produces no adverse side-effects on human rights, living standards or quality of life.*

Cyclists deserve equal protection under the law

From the book The Moon, Resources, Future Development and Colonization,  
David G. Schunk, et. al., New York: Wiley, 1999.

Fred Oswald,  
Feb 2005

### Survey of Bicycle Traffic Laws in 65 NE Ohio Communities



Fred Oswald, Jul 2002  
Revised Aug 2007

### NE Ohio Local Laws Chart

Some cities are improving laws (5 so far)! Deadly (score F) have sidewalk laws for everyone. Dangerous (D) have children's sidewalk law or sidepath law (these affect fewer cyclists). Poor (C) is generally consistent with pre-2006 state law (but still not good) Brook Park in 2003 adopted Model Laws, improved from F to A-! State of Ohio rates a D, mainly because it allows local "regulation" plus "far right rule"

See [www.bikelaws.org](http://www.bikelaws.org) for details and suggested model laws. We need similar surveys for other areas

## Changes to ORC from HB 389 - 1

### § 4511.07 (A)(7-8) – (Local traffic regulations)

- May not be "fundamentally inconsistent with the uniform rules of the road"
- May not "prohibit the use of bicycles on any public street or highway" (except freeways)
- May require license "for residents of the local authority"

(B) "No ordinance or regulation enacted ... shall be effective until signs giving notice ... are posted ..."

### § 4511.22(C) – (Unreasonably Slow Speed)

- The "trier of fact, ... shall consider the capabilities of the vehicle and its operator."

Fred Oswald, Sep 2007

Changes to § 4511.07 clarified local regulation. Many cities violated uniform rules (as reqd. by § 4511.06) because they think of bicycles as toys, rather than vehicles.

## Changes to ORC from HB 389 - 2

### § 4511.25(B)(1-2) – (Lanes of travel upon roadways)

- Slow vehicle drive in right-hand lane and *“far enough to the right to allow passing by faster vehicles if such passing is safe and reasonable, except ...”*
  - *overtaking and passing* (unchanged)
  - *preparing for a left turn* (unchanged)
  - *When the driver must ... drive in ... other ... lane...*
- Added clarifying language including: *“Nothing ... requires a driver of a slower vehicle to compromise the driver's safety to allow overtaking by a faster vehicle.”*

Fred Oswald, Sep 2007

## Changes to ORC from HB 389 - 3

### § 4511.31 – (Hazardous zones)

Allows passing if ---

- Slower vehicle < ½ speed limit
- Faster vehicle can pass w/o exceeding speed limit
- Sufficient clear distance.

### § 4511.39(A) – (Turn and stop signals)

- On a bicycle *“the signal shall be made not less than one time but is not required to be continuous. ... not required to make a signal if the bicycle is in a designated turn lane, and a signal shall not be given when the operator's hands are needed for the safe operation of the bicycle.”*

Fred Oswald, Sep 2007

Changes to § 4511.31 are based on the principle that “no passing” zones are designated based on the assumption that the vehicle being passed is going nearly the speed limit. Thus passing takes much room. For slow vehicles, this assumption is not true.

## Changes to ORC from HB 389 - 4

### § 4511.52 (B), (C) – (Bicycles)

- Bicycle violator *“shall not have any points assessed against the person's driver's license”* (except driving under influence)
- Court *“may require the bicycle operator or motor vehicle operator to take and successfully complete a bicycling skills course ...”*

### § 4511.53 (B), (C) – (Rules for bicycles, motorcycles and snowmobiles)

- *“... shall not ride other than upon or astride the permanent and regular seat.”* (Does not prohibit standing to pedal)
- *“Nothing in this section shall be construed as prohibiting the carrying of a child in a seat or trailer that is designed for carrying children and is firmly attached to the bicycle.”*

Fred Oswald, Sep 2007

## Background for § 4511.55

### § 4511.55 – (Bicycle to be ridden near right side of roadway)

*(A) Every person operating a bicycle upon a roadway shall ride as near to the right side of the roadway as practicable obeying all traffic rules applicable to vehicles and exercising due care when passing a standing vehicle or one proceeding in the same direction.*

This has three parts:

1. The “Far Right Rule”, a discriminatory rule that encourages bad practices
2. “Obey traffic rules” (A good idea that should stand by itself)
3. Instruction to “exercise due care” – needed because (1.) encourages bad practice of passing on the right.

Fred Oswald, Sep 2007

Note: § 4511.55 is an unnecessary and discriminatory rule. § 4511.25 (“slow vehicle rule”) already covers this situation.

## Changes to ORC from HB 389 - 5

### § 4511.55 (C), (new section)

*“... does not require a person operating a bicycle to ride at the edge of the roadway when it is unreasonable or unsafe to do so.”*

*“Conditions ... include when necessary to avoid*

- *fixed or moving objects,*
- *parked or moving vehicles,*
- *surface hazards, or*
- *... otherwise is unsafe or impracticable ... , including if the lane is too narrow ...”*

Fred Oswald, Sep 2007

The new section to § 4511.55 helps prevent the common misinterpretation that the law requires being right as far as possible. But the law is still unnecessary and discriminatory.

## Changes to ORC from HB 389 - 6

### § 4511.56 – (Signal devices on bicycle)

(A) requires ...

- White lamp on front of bicycle or operator visible 500' to front, 300' to sides. *“A generator-powered lamp ... may be used ...”*
- Red reflector visible 100-600' to rear.
- Red lamp (flashing or steady) visible 500' to rear
- Front & wheel reflectors no longer req'd

(B) Allows add'l lights & reflectors (except no red in front or white in rear.)

(C) Allows but does not require bell or horn

(D) Requires “adequate” brake (no change)

Fred Oswald, Sep 2007

Avoid specifying brakes that “skid the wheel”. Besides violating uniformity, this is impossible to meet for the front brake and it suggests childish, unsafe practices.

A better metric is given by the Uniform Vehicle Code § 12-706

“... stop the bicycle within 15 feet from a speed of 10 miles per hour on dry, level, clean pavement.”

## Changes to ORC from HB 389 - 7

### § 4511.711 (A) – (Driving on sidewalk or sidewalk area)

Local authorities may regulate operation of bicycles except ---

- May not "require that bicycles be operated on sidewalks."
- May limit or prohibit bicycles on sidewalk

Fred Oswald, Sep 2007

Local communities may restrict or ban sidewalk cycling, which is often a dangerous practice. However, they may not require this.

## Summary (selected changes)

- Bicycle laws must be uniform & consistent.
- May not ban bicycles from roads (except freeways)
- May not require operation on sidewalk
- "Far Right Rule" does not require far right as possible.
- Allows passing bicycle in "no passing zone", if safe
- Turn signal req'd only when safe, not req'd in turn lane
- No 'points' for bicycle violation
- Clarifies seat requirements
- Clarifies safety equip. requirements

Fred Oswald, Sep 2007

## Summary

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