

## Bicycle Traffic Law Reform and Safety Issues

Including ORC\* changes from HB 389

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[www.cycle-safetv.com](http://www.cycle-safetv.com) [www.bikelaws.org](http://www.bikelaws.org)



\* Note: ORC means Ohio Revised Code

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### Cycling uses & benefits.

This program for local gov't officials to help them understand need to reform traffic law. 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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Revised 5 Jan 2010

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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**

Trying to be separate from traffic means being in unexpected places, which is often dangerous



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

### Vehicular Cycling -- best practices

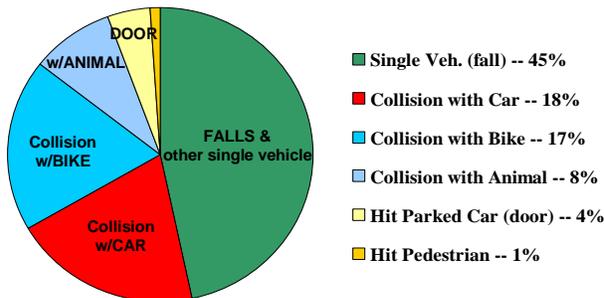
Left photo shows cyclist controlling her lane  
**Pedestrian methods** can be (somewhat) safe only at very slow speeds. If you need to go faster, ped. methods are very dangerous.

#### Can you find the errors in right photo?

1. Riding in dangerous door-zone bike lane.
2. Helmet too far back on his head (strap too loose)
3. Seat is too low (hard on the knees)
4. Feet are too far forward on the pedals
5. No gloves (skin hands in a fall).
6. Old coaster brake bike with no front brake. Does not allow a quick stop.

Why is the stop sign facing wrong way?

### Urban Bicycle Crashes



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

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

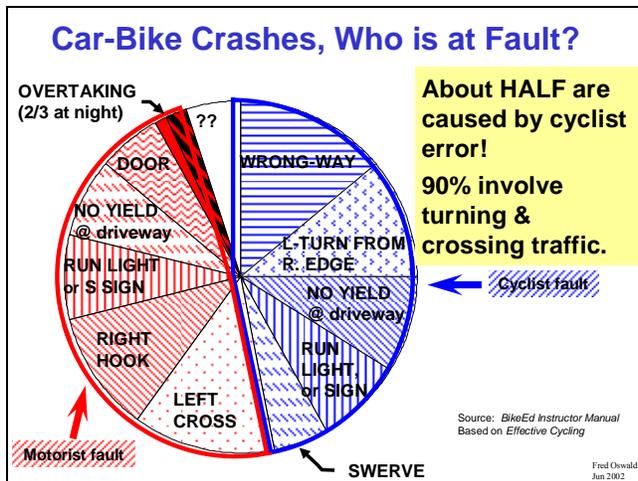
### Urban Crashes

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 riders is #1 cause. 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).



### 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 collision 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. But 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 Schreck, 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”



cyclist and motorist paths converge

cyclist and motorist paths diverge!

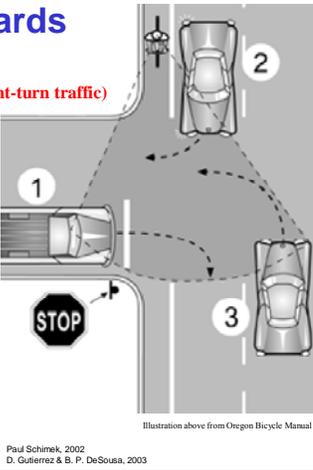


Illustration above from Oregon Bicycle Manual

Paul Schimek, 2002  
D. Guierrez & 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 (not too far right) and taking charge (illustrated above) often prevent mistakes from happening

Anticipate motorist mistakes and plan an escape route plus leave safety zone to right.

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**

Assertive lane position helps prevent motorist mistakes.



Photo by R. Woodward, Jan 2000

Photo by Wayne Penn

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 either).

## 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.

## 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 Quality of Laws Institute.

Fred Oswald,  
Feb 2005

Quote from Quality of Laws Institute,  
[www.scienceoflaws.com/engineering/the-ideal-law.aspx](http://www.scienceoflaws.com/engineering/the-ideal-law.aspx)

## 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 or with insurance adjuster if a cyclist has a collision.

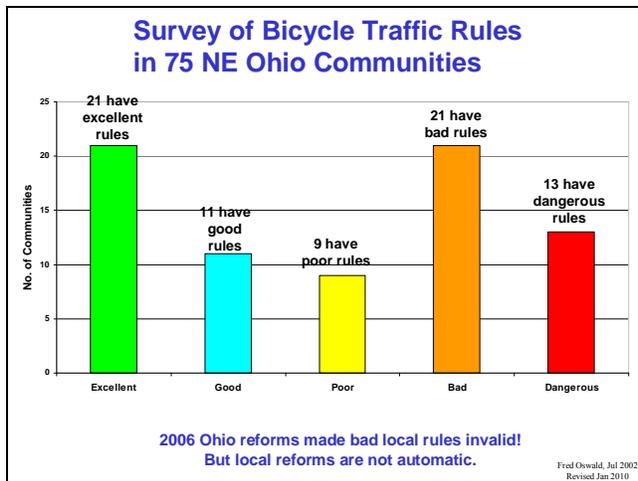
*Uniform traffic laws promote safe, fair & efficient travel for all.*

**Cyclists deserve equal protection under the law**

Paul Schimek &  
Fred Oswald, Mar 2003

## Traffic Law

Cyclists can be denied rights because of bad laws.



### NE Ohio Local Laws Chart

Some cities are improving laws (32 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 state law (but still not good) Brook Park in 2003 adopted Model Laws, improved from F to A-minus!

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*"
- Signs req'd for local ordinances

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

#### § 4511.22(C) – (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 of sufficient width)

- 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

3<sup>rd</sup> bullet refers to destination positioning: drive in correct lane for your destination.

## Changes to ORC from HB 389 - 3

### § 4511.31 – (Establishing 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 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 - issuance of ticket - points not assessed)

- 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) – (Operation of 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 – (Operating bicycles and motorcycles on 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 practice (curb hugging)
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

§ 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 – (Bicycle signal devices)

(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 dangerous, impossible to meet for the front brake and it suggests childish 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.”

But best if Ohio enacts this first.

## Changes to ORC from HB 389 - 7

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

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.

However, they may not require this dangerous practice.

## 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 in “no passing zone”, if safe
- Turn signal req'd only when safe, not req'd in turn lane
- No ‘points’ for bicycle violation (except dwi)
- Clarifies seat requirements
- Clarifies safety equip. requirements

Fred Oswald, Sep 2007

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## Ratings for local bicycle ordinances-1

### A rating

NASA Glenn

### A-minus rating

Aurora

Brook Park

Brunswick

Cleveland Metroparks

Eastlake

Glenwillow

Highland Hills

Lorain

Macedonia

Medina

Mentor

North Royalton

Oakwood

Oberlin

Richmond Hts

Seven Hills

Twinsburg

Walton Hills

Wickliffe

Willowick

Fred Oswald, Jan 2010

Ratings for 75 NE Ohio communities as of Jan 2010

## Ratings for local bicycle ordinances-2

### B-Plus rating

Amherst

Ashtabula

Bratenahl

Lakewood

Warrensville Hts

Willoughby

Woodmere

### B rating

Cleveland Hts

Independence

Moreland Hills

### B-Minus rating

Berea

### C-Plus rating

Avon Lake

Elyria

Solon

### C rating

Cleveland

Middleburg Hts

North Randall\*

Parma

Parma Hts\*

### C-Minus rating

South Euclid

\* Data not current

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### Ratings for local bicycle ordinances-3

#### D-Plus rating

Beachwood

#### D rating

Bedford

Brecksville\*

Brooklyn

Chagrin Falls

Highland Hts

Lyndhurst

North Olmsted

Rocky River

Westlake

#### D-Minus rating

Bay Village

Bedford Hts

Euclid

Fairview Park

Hunting Vly

Maple Hts

Mayfield Hts

Mayfield Vlg

Strongsville

Shaker Hts.

University Hts

\* Data not current

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### Ratings for local bicycle ordinances-4

#### F-Minus rating

Avon

Bentleyville\*

Broadview Hts

Cuyahoga Hts

Gates Mills

Kirtland

Mentor-on-the-Lake

North Ridgeville

Olmsted Falls

Orange

Painesville

Pepper Pike

Valley View

See [www.bikelaws.org](http://www.bikelaws.org)  
for updates.  
Please send any new  
information to  
[FredOswald@gmail.com](mailto:FredOswald@gmail.com)

\* Data not current

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