GroundWork

Active Transportation News

Issue 46

The State of Walking & Biking Safety in Ohio

As part of developing the Walk.Bike.Ohio plan, ODOT has released two safety analysis reports that examine crash data for pedestrians and bicyclists to understand safety trends for the state. Data from Ohio's statewide crash database was analyzed for all crashes that caused a fatality or serious injury (FSI) for a pedestrian or bicyclist between 2009 and 2018. The two reports reveal what user types are at highest risk for crashes, and what behaviors and facility types contribute to serious and fatal crashes.

Read on for some of the reports' top observations and how local transportation practitioners can use this information to help save Ohioans' lives. The full reports are on the *Walk.Bike.Ohio website*.

The data reveals some worrisome trends over the past decade. Bicyclist and pedestrian fatalities made up **14%** of all roadway fatalities. Both have increased dramatically, even as overall roadway fatalities have decreased. Fatalities and serious injuries for bicyclists and pedestrians combined increased by **7%**. Pedestrian fatalities rose by an astounding 64%; and bicyclist fatalities by **17%**. This meant that in 2018 alone,**821 people lost their lives or suffered serious, life-changing injuries**.

CRASH YEAR	PEDESTRIANS		BICYCLISTS		COMBINED
	Fatalities	Serious Injuries	Fatalities	Serious Injuries	FSI Total
2009	81	457	18	210	766
2010	91	472	11	226	800
2011	99	494	16	200	809
2012	117	537	18	225	897
2013	88	530	19	217	854
2014	93	493	12	185	783
2015	118	521	25	173	837
2016	140	555	18	167	880
2017	145	546	19	170	880
2018	133	544	21	123	821
TOTAL	1105	5149	177	1896	8327
TREND	↑ INCREASING	↑ INCREASING	↑ INCREASING	↓ DECREASING	↑ INCREASING

Blue shaded cells indicate highest value per metric.
FSI = Fatalities and Serious Injuries

Walking and biking are not inherently deadly. Rather, these fatalities are indicative of our transportation system's safety and priorities. In many cases, roadways prioritize ease and comfort for motor vehicle drivers. When we create roads that are safe and forgiving for our most vulnerable road users, we are creating a transportation system that is safe for everyone.

Crash Trends

There are some common threads among the pedestrian and bicyclist crash trends, and also some important differences that can help direct infrastructure design decisions. There may be similar local trends, but there also will be unique conditions contributing to injuries and fatalities. Agencies can use ODOT's *GIS Crash Analysis Tool* to explore local crash trends.

Common Trends

- **Arterial roadways** present a major risk. These roadways make up only **8%** of roadway mileage in the state, but 55% of FSI pedestrian crashes and **46%** of FSI bicyclist crashes occurred on them. *Active transportation interventions on arterial roads, such as building sidewalks or adding separated bicycle infrastructure, are likely to have a big impact on preventing future crashes.*

- Crashes are occurring disproportionately in **areas of highest demand and highest need**. For example, **16%** of Ohio's population lives in a block group identified as the highest tier of need; yet **33%** of all FSI pedestrian

crashes and **28%** of FSI bicyclist crashes occurred in one of those tracts. *To ensure equity in our transportation system while also reducing crashes, active transportation investments should be directed to those areas with the greatest demonstrated demand and demonstrated need.*

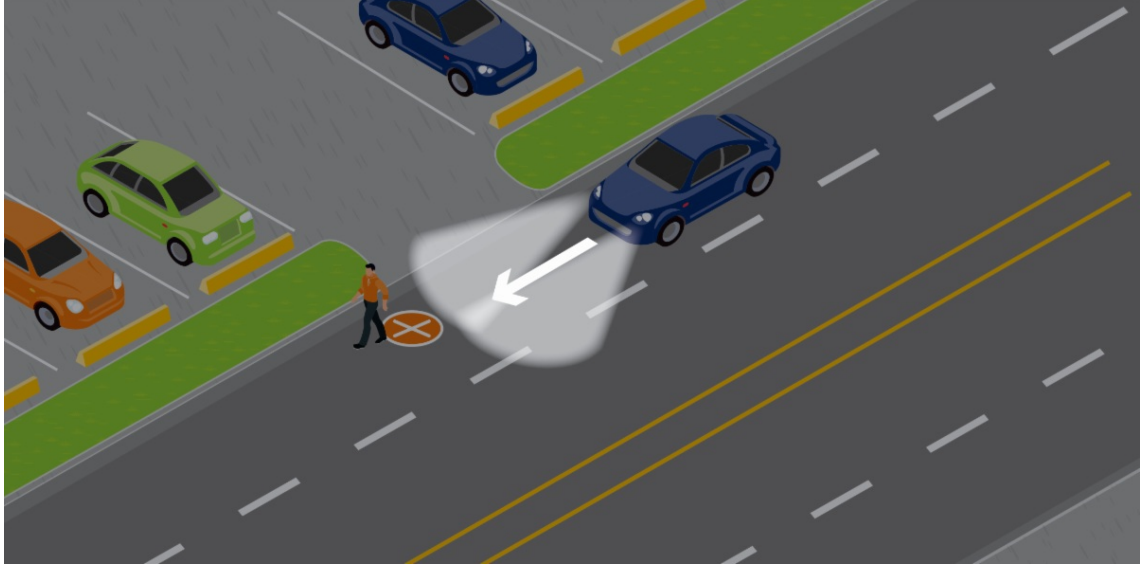
Pedestrian Trends

- Pedestrian fatalities and injuries were most common in **urban areas**, during **fall and winter** (September to December), and **at night**. Most (69%) pedestrian fatalities occurred during dark hours. There is a notable increase in crashes during dusk and dark hours in the winter months, when daylight hours decrease. *In addition to constructing separated facilities, pedestrian-scale lighting in urban areas could make a big impact on pedestrian safety by increasing visibility*.

- **61%** of FSI pedestrian crashes occurred at a **non-intersection** location, while 39% occurred at an intersection. The top two crash types for pedestrians, occurring with nearly the same frequency, were **midblock crossings (24%)** and **walking along the roadway (22%)**. *Increasing the frequency and safety of pedestrian crossings and adding more walkways could go far in reducing pedestrian crashes.*

Midblock Crossing Crash

Walking Along Roadway Crash



- For pedestrians, the most common contributing circumstance in an FSI pedestrian crash was an **improper crossing**. For motorists, the most common contributing circumstance was **failure to yield**. *Design interventions that encourage yielding, such as prohibiting right turns on red and installing high visibility crosswalks or Rectangular Rapid Flashing Beacons could help minimize these contributing circumstances.*

Bicyclist Trends

- **The highest crash *rates per population* are occurring in rural counties.** Although 80% of all crashes occur in urban areas, rural counties had higher rates compared to their total population. *Improving bicycle infrastructure in urban areas is important, however solutions for rural communities are also important to help reduce this disparity.*

- Bicyclist crashes occurred more commonly during **summer months** and during **daylight hours**. This is likely because more people tend to ride and there are more hours of daylight in the summer. *Driver awareness campaigns that remind road users to watch out for bicyclists could be especially effective at these times when cycling activity is highest.*

- **55%** of bicyclist FSI crashes occurred at an intersection; and **45%** at a non-intersection location. However, fatal crashes occurred more often at non-intersections **(64%)**. The most common fatal bicyclist crash type occurred when bicyclists were **traveling along the roadway** and were struck from the front or behind by a vehicle (**34%** of fatal crashes). *Increasing separation at intersections and along roadways could help reduce injuries and fatalities for bicyclists. This includes creating protected intersections in urban areas and wide paved shoulders in rural areas.*

Bicycling Along Roadway Crash

- For bicyclists, the most common contributing circumstance in an FSI bicyclist crash was an **improper crossing**. For non-bicyclists, the most common contributing circumstance was **failure to yield**. *Intersection designs that are more intuitive and provide clear right-of-way for all users could help reduce crashes.*

Designing for Safety

Walking and biking in Ohio should not mean being exposed to increased risk of injury or death. Fatality rates have increased faster than vehicle miles traveled. That means that the increased risk of death is not just because there are more cars on the road, driving more miles. We must examine the types of infrastructure, vehicles and behaviors that are increasing the risk.

For many years, transportation engineering has built the concept of "forgiveness" into roadway designs for motorists. Now, we must work to ensure this forgiveness is extended to the most vulnerable roadways users. The Federal Highway Administration (FHWA) and others have studied countermeasures that are proven to increase safety for bicyclists and pedestrians.

Learn More

Here are just a few resources available to help design for pedestrian and bicyclist safety:

- *Issue 35 of Groundwork* summarized pedestrian safety countermeasures.
- *FHWA's Proven Safety Countermeasures* include walkways, pedestrian hybrid beacons, median crossing islands and more.
- NTSB's *Bicyclist Safety on US Roadways: Crash Risks and Countermeasures (2019)*

- NCHRP's *Pedestrian Safety Relative to Traffic-Speed Management*

Announcements

Here are some new resources from the Rails to Trails Conservancy on safe walking and biking during the COVID-19 pandemic:

- Thursday's webinar, *Closing Streets to Create Space for Walking and Biking During COVID-19*
- Check out their other *Thursday Webinars,* which are scheduled for every Thursday during the crisis. These are mostly for trail managers.
- Learn more at *RTC's COVID-19 page*

And, here's an Interesting fact from RTC: Trail use is up *200-600% nationally* since the beginning of the pandemic.

Additional Announcements

- Watch the recording of the *Active Transportation Network Call* from Tuesday, March 24 for updates on Walk.Bike.Ohio including a report out on the *final Vision & Goals* of the plan, the *Pedestrian and Bicycle Safety Memos* and *Public Survey results*, as well as on *Ohio's Strategic Highway Safety Plan (SHSP)*.
- Are you interested in helping to update *SHSP's Active Transportation Emphasis Area Plan*? Email Caitlin.Harley@dot.ohio.gov.
- The new eLearning course *Advocating for Active Transportation* is now available through the Ohio LTAP eLearning system. Stay tuned for more eLearning opportunities through the Active Transportation Academy this spring.
- Check out ODOT's TIMS *Active Transportation Map Viewer* for bicycle- and pedestrian-related roadway information, crash data and more.

Questions? Feedback?

Drop us a line, *bikeohio@dot.ohio.gov*

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OHIO DEPARTMENT OF TRANSPORTATION