



MINNESOTA TOWARD **ZERO** DEATHS

Pedestrian Safety 101

What is Minnesota Doing for People Walking

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Pedestrian Crash Data

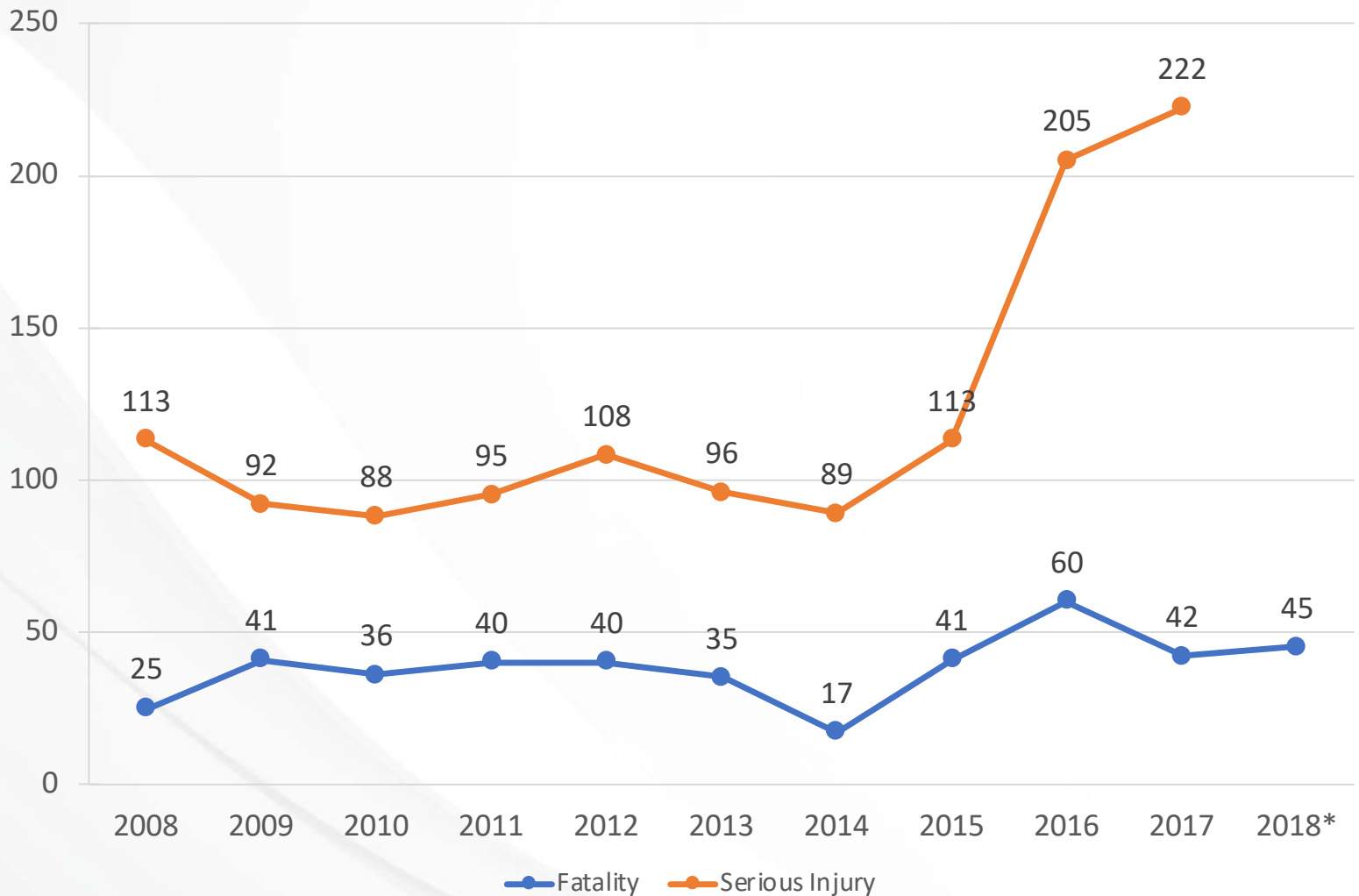
Chelsea Palmateer

Department of Public Safety

Office of Traffic Safety



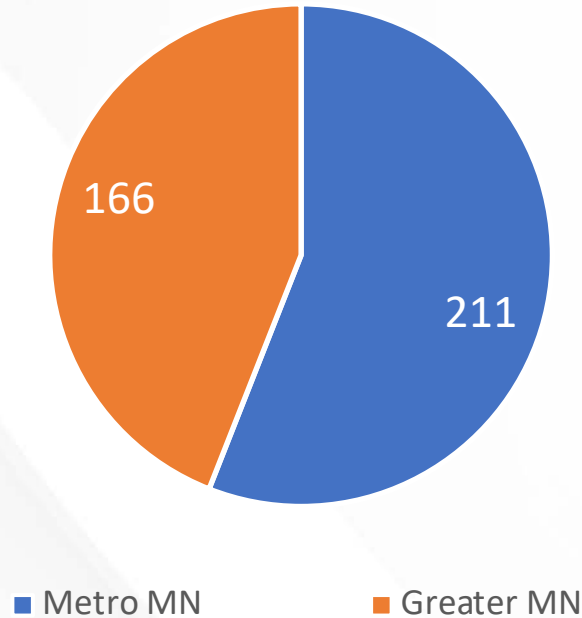
Statewide Ped Fatalities & Serious Injuries



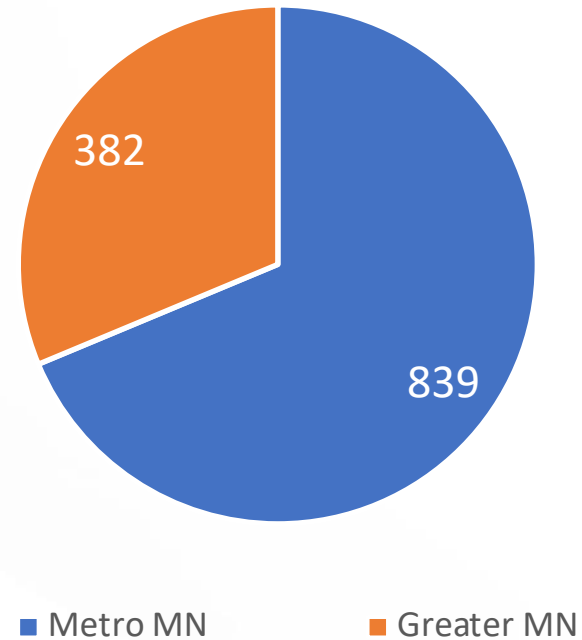
*2018 data are preliminary

Metro Region vs Greater MN

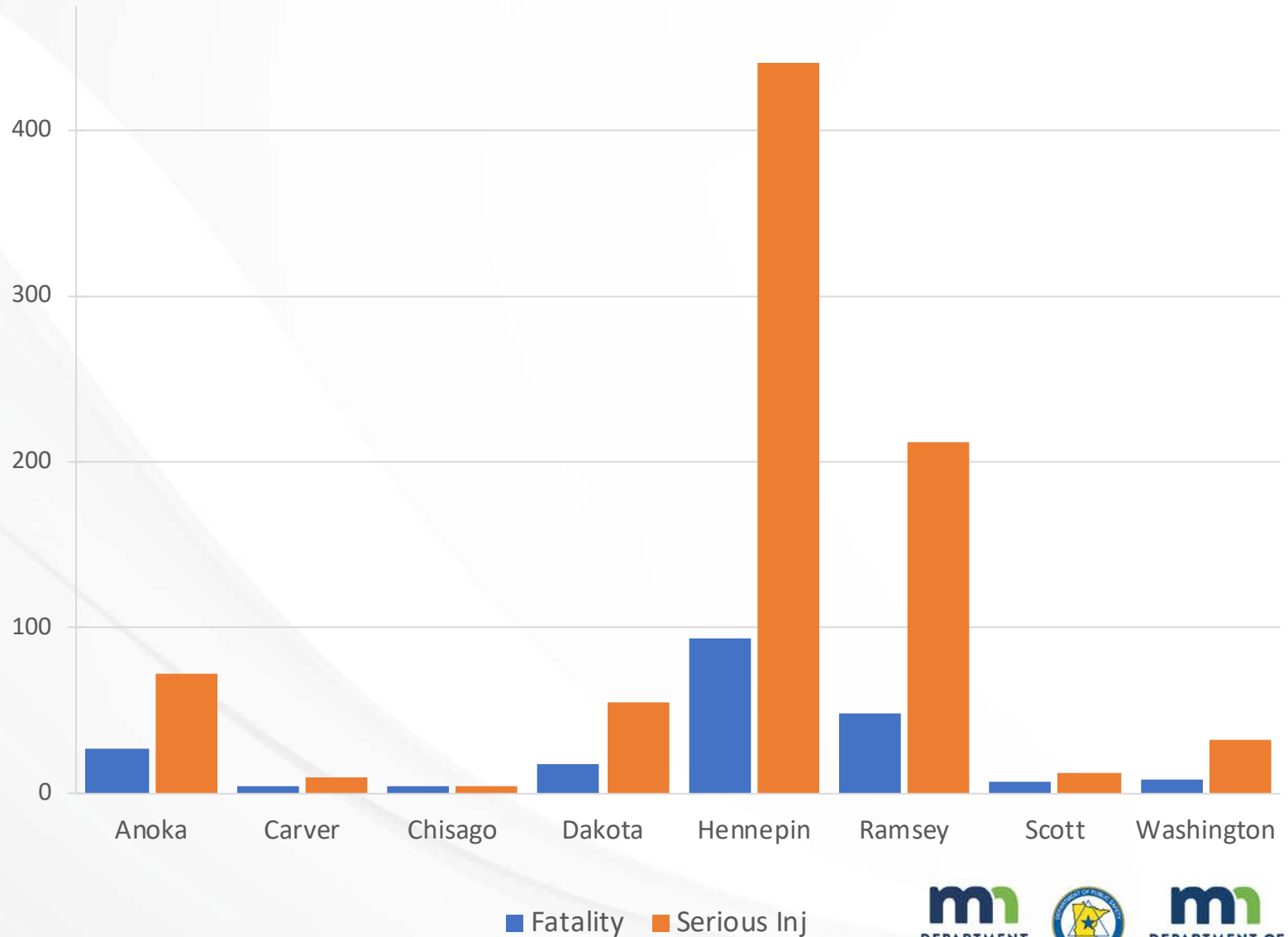
Pedestrian Fatalities



Pedestrian Serious Injuries



Metro Ped Fatalities and Serious Injuries



Pedestrian Gender and Age



58%



42%

00-14 years	12%
15-24 years	19%
25-34 years	13%
35-44 years	13%
45-54 years	14%
55-64 years	13%
65+ years	15%

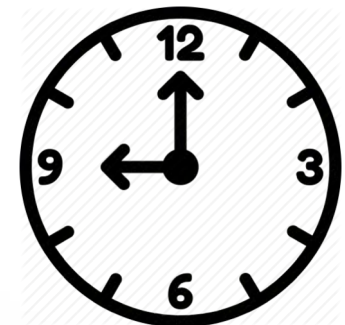
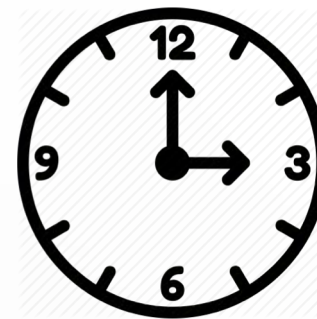
When do crashes occur?

33%
Autumn



35%
Weekend

42%
Afternoon
/evening



Where do crashes occur?

Roadway Type

Local/Municipal Road	45%
County Road	34%
MN State Highway	14%
Interstate	4%
Other	3%

Intersection-related?

YES: 53%

NO: 47%

Non-Motorist Action

Crossing the street 59%	Standing or playing in road 9%
Walking against traffic 2%	Walking with Traffic 6%
Working in road 1%	Other/unknown non-motorist action 23%

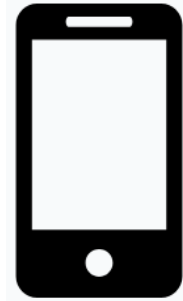
Alcohol, Speed, and Distraction



21%
Alcohol-
related



4%
Speed-
related



14%
Distraction-
related

Who was drinking?



56%
Pedestrian



44%
Driver

Other Common Contributing Factors

FOR PEDESTRIANS	FOR DRIVERS
Darting/dashing	Failure to yield right of way
Disregard traffic signs or road markings	Careless/negligent/erratic driving
Inattention/distraction	Inattention/distraction
Failure to yield right of way	Vision obscured
Not visible	Disregard traffic signs or road markings

Preliminary 2019 Year-to-Date Fatalities

- 17 fatalities—13 in the Metro
- 5 women, 8 men

• Age:	15-24 years	3
	35-44 years	3
	45-60 years	7

- 6 occurred in reduced daylight hours, between 5-8 PM in January and February
- Alcohol-related: 4
- Distraction-related: 2

Additional Resources

- Minnesota Motor Vehicle Crash Facts:
<https://dps.mn.gov/divisions/ots/reports-statistics/Pages/crash-facts.aspx>
- NHTSA Pedestrian Safety:
<https://www.nhtsa.gov/road-safety/pedestrian-safety>
- Contact info:
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651-201-7076



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BY THE NUMBERS

From 2008 to 2017:



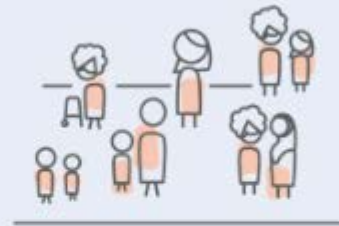
Pedestrian deaths
increased by

↑ **35.4%**



Vehicle miles traveled
increased by

↑ **8.1%**



Walking as a share of all trips
increased by

↑ **less than 1%***

*from 2009 to 2017



Traffic deaths among motor vehicle occupants
decreased by

↓ **6.1%**



SHARE
THE
ROAD

Challenges:

- Share the Road
- New graphics
- 25-year high

2017

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DEATHS**


DEPARTMENT
OF HEALTH




DEPARTMENT
OF TRANSPORTATION

Challenges:

- Confusion about the state's crosswalk law
- Limited data collection, reporting, and analysis
- Lack of clear, consistent, and effective messaging
- Fast vehicle speeds
- Difficulties understanding collective responsibility

Priorities:

- Create a new pedestrian safety education campaign
- Identify opportunities to lower vehicle speeds
- Review and update Minnesota statutes related to the crosswalk law
- Build upon existing driver education curriculum

Pedestrian campaign

- Promote safe driving and walking behaviors and reduce pedestrian crashes on Minnesota roads
- Work to change Minnesota's traffic safety culture through reinforcing positive behaviors and modifying attitudes
- Positive social norming that alleviates the need to assign blame

Vehicle speeds

- Increased risk and severe injury
- SUVs

Crosswalk law

- Minnesota statute 169.21
- Open to interpretation
- Clarification needed

Driver education

- New information
- People Friendly Driver Program
- Tools and resources

Additional efforts:

- Safe Routes to School
- Statewide Pedestrian System Plan
- Rural pedestrian travel behavior research
- Pedestrian safety improvements at signalized intersections
- Project scoping field walks

We are all pedestrians.



What is MnDOT doing to serve all users of the state transportation system?

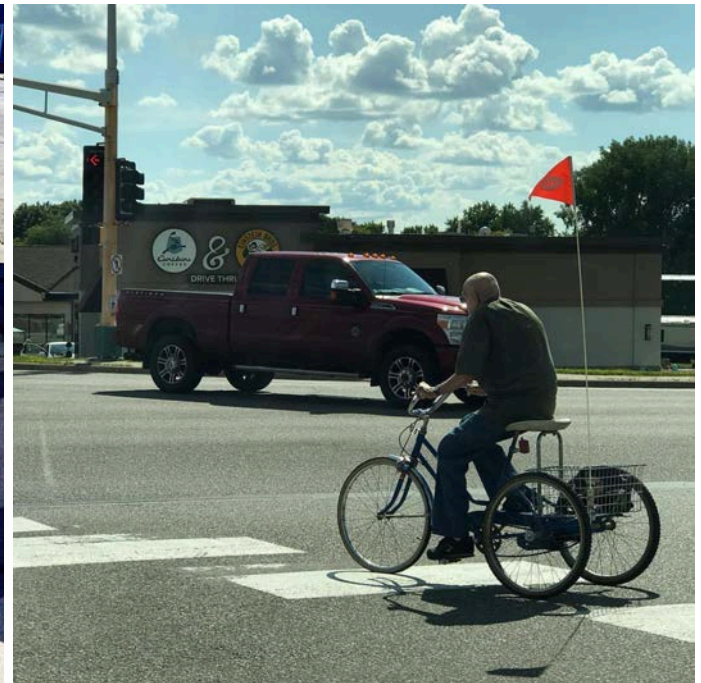
Planning & Designing for Pedestrian Use

- Complete Streets
- Project Scoping
 - Systemic Risk Analysis
 - Crossing Facilitation
 - Design Strategies
- FHWA STEP Initiative



The Basics: Complete Streets

Safe access for users of all ages and abilities.



The Basics: Complete Streets

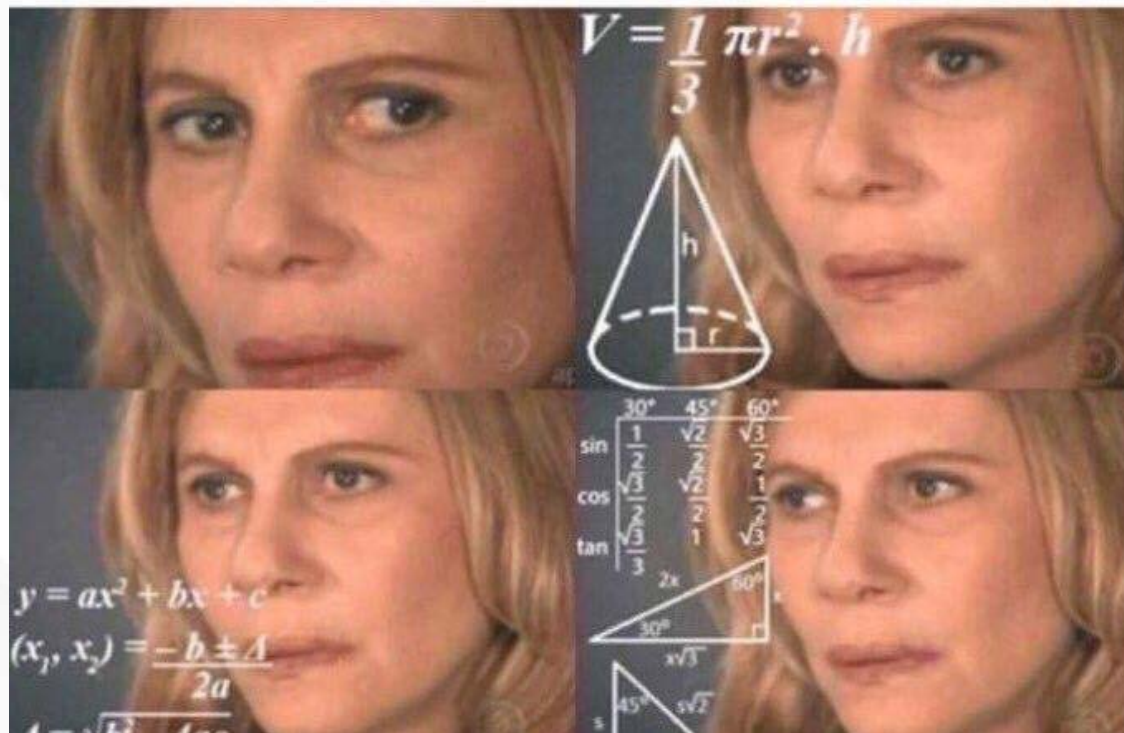
Complete Street Policy in Minnesota State Statute:

*“...the planning, scoping, design, implementation, operation, and maintenance of roads in order to **reasonably address the safety and accessibility needs of users of all ages and abilities**. Complete streets considers the needs of motorists, pedestrians, transit users and vehicles, bicyclists, and commercial and emergency vehicles **moving along and across roads, intersections, and crossings in a manner that is sensitive to the local context and recognizes that the needs vary in urban, suburban, and rural settings.**”*

Scoping?



Pedestrian Needs?

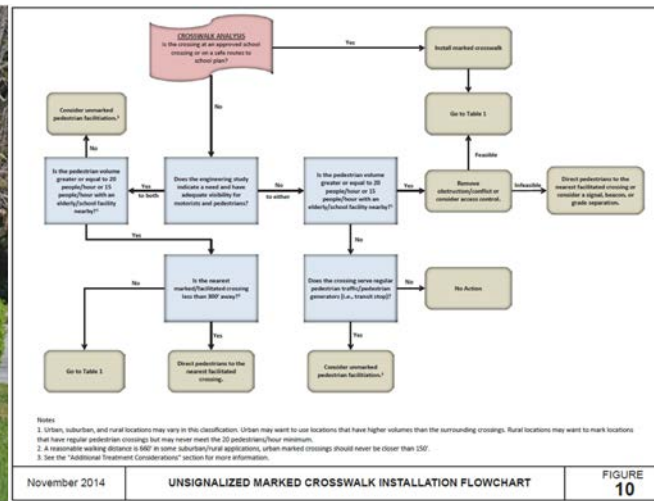


Scoping: Risk Analysis

Can we determine what characteristics make a roadway higher risk for pedestrians based on existing crash data?

Signalized Risk Factors	Unsignalized Risk Factors
Transit Bus Stop	No on Street Parking
Major Median	Location Type
Major Speed Limit (35-50 mph)	Speed Limit (30 or Less mph)
Near School	Major Through Lanes (4)
Major Left Turn Signal (Protected)	Major Median
Approach Volume (25,001- 35,000)	Near School

Scoping: Crossing Facilitation



Roadway Configuration ^{1,3}	Vehicle ADT ≤ 9000				Vehicle ADT > 9000 - 12,000				Vehicle ADT > 12,000 - 15,000				Vehicle ADT > 15,000			
	≤ 30 mph	35 mph	40 mph	≥ 45 mph	≤ 30 mph	35 mph	40 mph	≥ 45 mph	≤ 30 mph	35 mph	40 mph	≥ 45 mph	≤ 30 mph	35 mph	40 mph	≥ 45 mph
2 lanes (with or without a raised median)	A	A	B	D	A	A	B	D	A	A	C	D	A	B	C	D
3 lanes with raised median	A	A	C	D	A	B	C	D	A	C	C	D	B	C	C	D
3 lanes without raised median	A	B	C	D	A	B	C	D	B	B	C	D	B	C	C	D
Multilane (4 or more lanes) with raised median ²	A	A	C	D	A	B	C	D	A	B	C	D	C	C	C	D
Multilane (4 or more lanes) without raised median ²	A	C	C	D	B	C	C	D	C	C	C	D	C	C	C	D

Treatment Descriptions:

- A. Consider marked crosswalk and signs**
Guidance: Consider installing marked crosswalk with advance warning signs (W11-2); use S1-1 signs for school crossings. Consider in-roadway (R1-6) or overhead (R1-9b) signs.
- B. Consider marked crosswalk with enhanced signs (R1-6 or R1-9b) and/or geometric improvements**
Guidance: Consider installing treatment options from Type A treatments. Add curb extensions or median refuge islands.
- C. Consider marked crosswalk with signs, geometric improvements, and pedestrian activated warning devices⁴**
Guidance: Consider installing a raised median refuge island if one is not present. Consider installing marked crosswalk and appropriate crossing signs along with a pedestrian activated
- D. Do not install marked crosswalk.³**
Guidance: Consider pedestrian hybrid beacon, pedestrian traffic signal, or grade separated crossing.

Pedestrian Safety Countermeasures

Safe Transportation for Every Pedestrian (STEP)

“Systemic application of cost-effective countermeasures with known safety benefits to help reduce pedestrian fatalities at both uncontrolled and signalized crossing locations.”

- FHWA

Safe Transportation for Every Pedestrian (STEP)

FHWA Proven Countermeasures:

Rectangular rapid flashing beacons (RRFBs) are active (user-actuated) or passive (automated detection) amber LEDs that use an irregular flash pattern at mid-block or uncontrolled crossing locations. They significantly increase driver yielding behavior.

Leading pedestrian intervals (LPIs) at signalized intersections allow pedestrians to walk, usually 3 to 4 seconds, before vehicles get a green signal to turn left or right. The LPI increases visibility, reduces conflicts, and improves yielding.

Crosswalk visibility enhancements, such as crosswalk lighting and enhanced signage and markings, help drivers detect pedestrians—particularly at night.

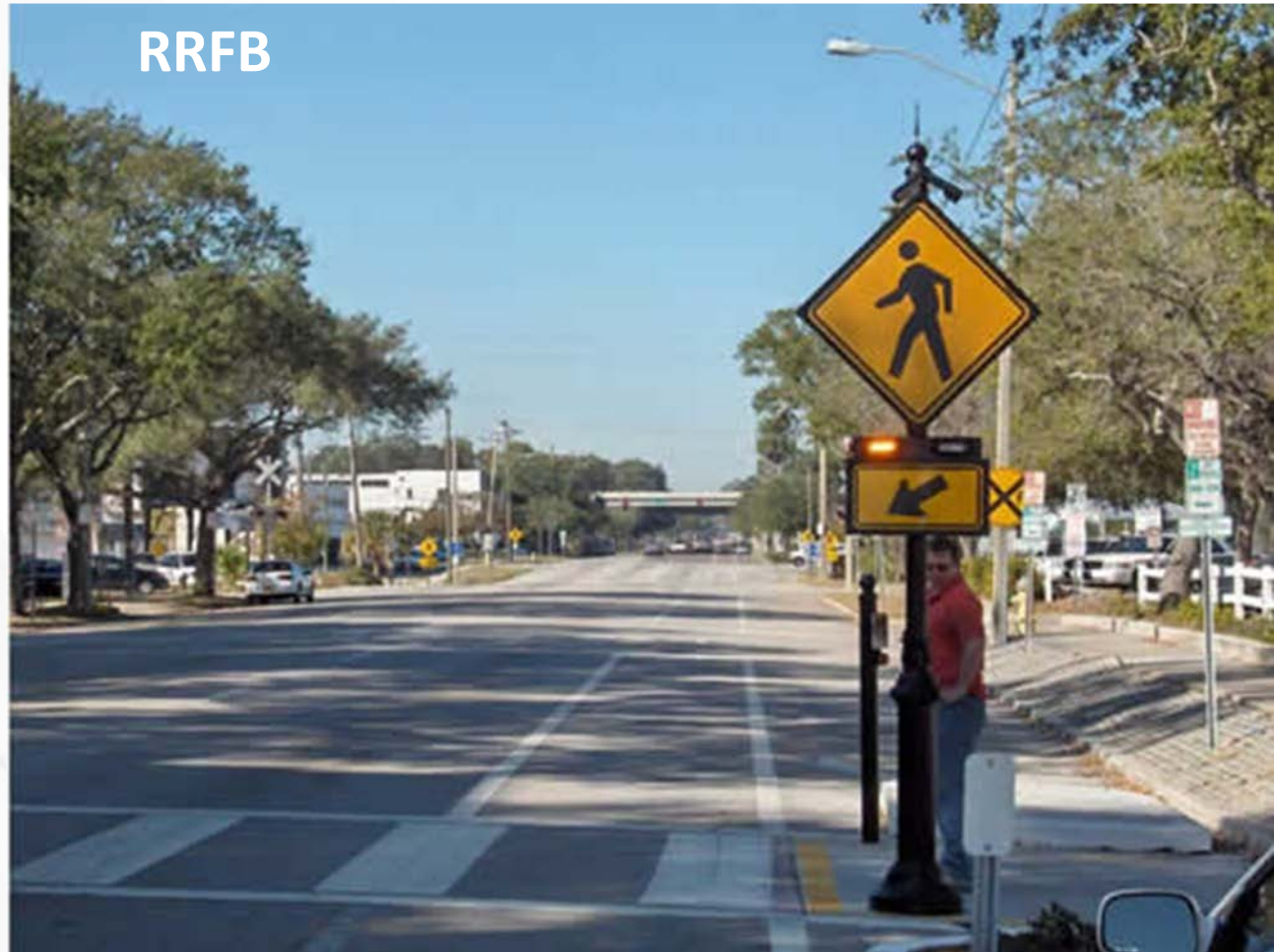
Raised crosswalks can serve as a traffic calming measure and reduce vehicle speeds.

Pedestrian crossing/refuge islands allow pedestrians a safer place to stop at the midpoint of the roadway before crossing the remaining distance. This is particularly helpful for pedestrians with limited mobility.

Pedestrian hybrid beacons (PHBs) provide positive stop control for higher-speed, multilane roadways with high vehicular volumes. The PHB is an intermediate option between a flashing beacon and a full pedestrian signal.

Road Diets can reduce vehicle speeds and the number of lanes pedestrians cross, and they can create space to add new pedestrian facilities such as pedestrian crossing/refuge islands.

STEP Proven Countermeasures



STEP Proven Countermeasures

Crosswalk Visibility Enhancements



Medians and Crossing Islands



Medians and Pedestrian Crossing Islands in Urban and Suburban Areas



Median and pedestrian crossing islands near a roundabout.

Source: www.pedbikeimages.org / Dan Burden

SAFETY BENEFITS:

Raised Median

46%

Reduction in pedestrian crashes

Pedestrian Crossing Island

56%

Reduction in pedestrian crashes

Source: *Desktop Reference for Crash Reduction Factors, FHWA-SA-08-011, September 2008, Table 11.*

STEP Proven Countermeasures

Roadway Reconfiguration



Road Diets (Roadway Reconfiguration)

A "Road Diet," or roadway reconfiguration, can improve safety, calm traffic, provide better mobility and access for all road users, and enhance overall quality of life.

SAFETY BENEFIT:

4-Lane → 3-Lane

Road Diet Conversions

19-47%

Reduction in total crashes

Source: *Evaluation of Lane Reduction "Road Diet" Measures on Crashes*, FHWA-HRT-10-053.

Shannon Grabow

Department of Public Safety

Office of Traffic Safety



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TRANSPORTATION

Pedestrian Crash Data

The Facts:

- According to 2013-2017 crash facts, pedestrian deaths made up 10 percent of the overall fatalities.
- The contributing factors are matched at approximately 50 percent being attributed to the motorist and 50 percent being attributed to the pedestrian.
- In addition, 19 percent of killed pedestrians were not crossing properly and 35 percent had consumed alcohol.



Pedestrian Enforcement

For FFY 2020, the top eight counties with the highest number of pedestrian fatalities and severe injuries are eligible to apply for high-visibility enforcement focusing on pedestrian and motorist behavior.



Anoka

Ramsey

Dakota

Stearns

Hennepin

St. Louis

Olmsted

Washington

Worst Ranked Counties for Pedestrian Fatalities and Serious Injuries: 2013-2017

Rank	County	Fatalities	Serious Injuries	Total
1	Hennepin	55	277	332
2	Ramsey	23	124	147
3	Anoka	10	39	49
4	Dakota	9	39	48
5	St. Louis	9	24	33
6	Washington	4	22	26
7	Olmsted	7	15	22
8	Stearns	4	18	22
9	Wright	4	13	17
10	Sherburne	2	11	13
11	Blue Earth	1	11	12
12	Scott	5	7	12
13	Becker	2	9	11
14	Benton	6	5	11
15	Carver	2	8	10



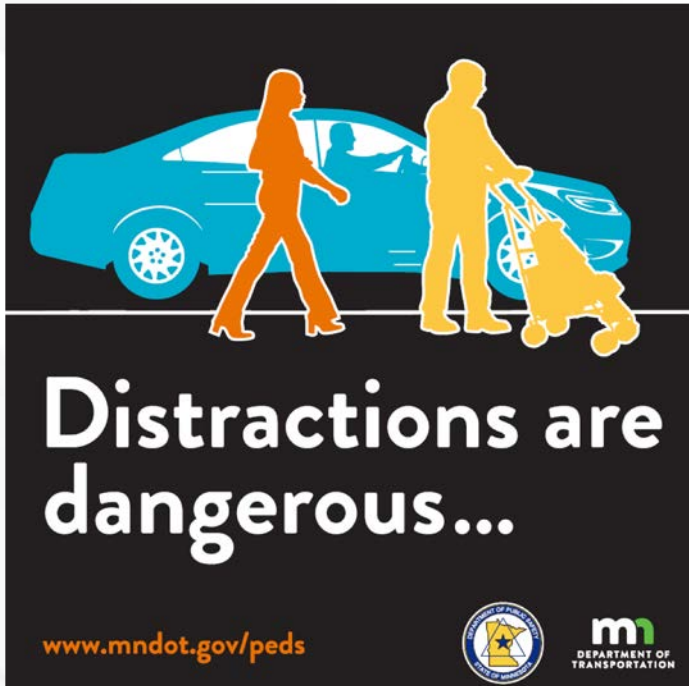
Pedestrian Collateral Materials

Coming soon to a
Website near you!



- Window Clings
- Posters

Pedestrian Collateral Materials



- Window Clings
- Posters



Where to find it?

Home Divisions Media Center Contact DPS Translate

Minnesota Department of Public Safety

Office of Traffic Safety
A Division of the Minnesota Department of Public Safety

Search this site...

SPEAK UP

Tell the Driver: TEXTING WHILE DRIVING IS ILLEGAL

OTS Home About Topics Hands-Free Laws Reports / Statistics Audio / Visual Library **Educational Materials** Grants Links Contact

Order Materials

WHAT'S NEW?

Hands-Free: Now the Law in Minnesota

Governor Tim Walz signed a new hands-free cell phone bill into law to help further reduce distractions behind the wheel.

Starting Aug. 1, drivers will no longer be able to hold their cell phones in their hands. They will be able to use their phones to make calls, text, listen to music or podcasts and get directions, but only by voice commands or single touch activation without holding the phone.

Remember, hands-free is not necessarily distraction-free. We want Minnesotans to stay safe, stay alive and stay out of trouble under the new law.

Visit the [HandsFreeMN website](#) for more information.

Expand All Collapse All

Minnesota Traffic Deaths To Date

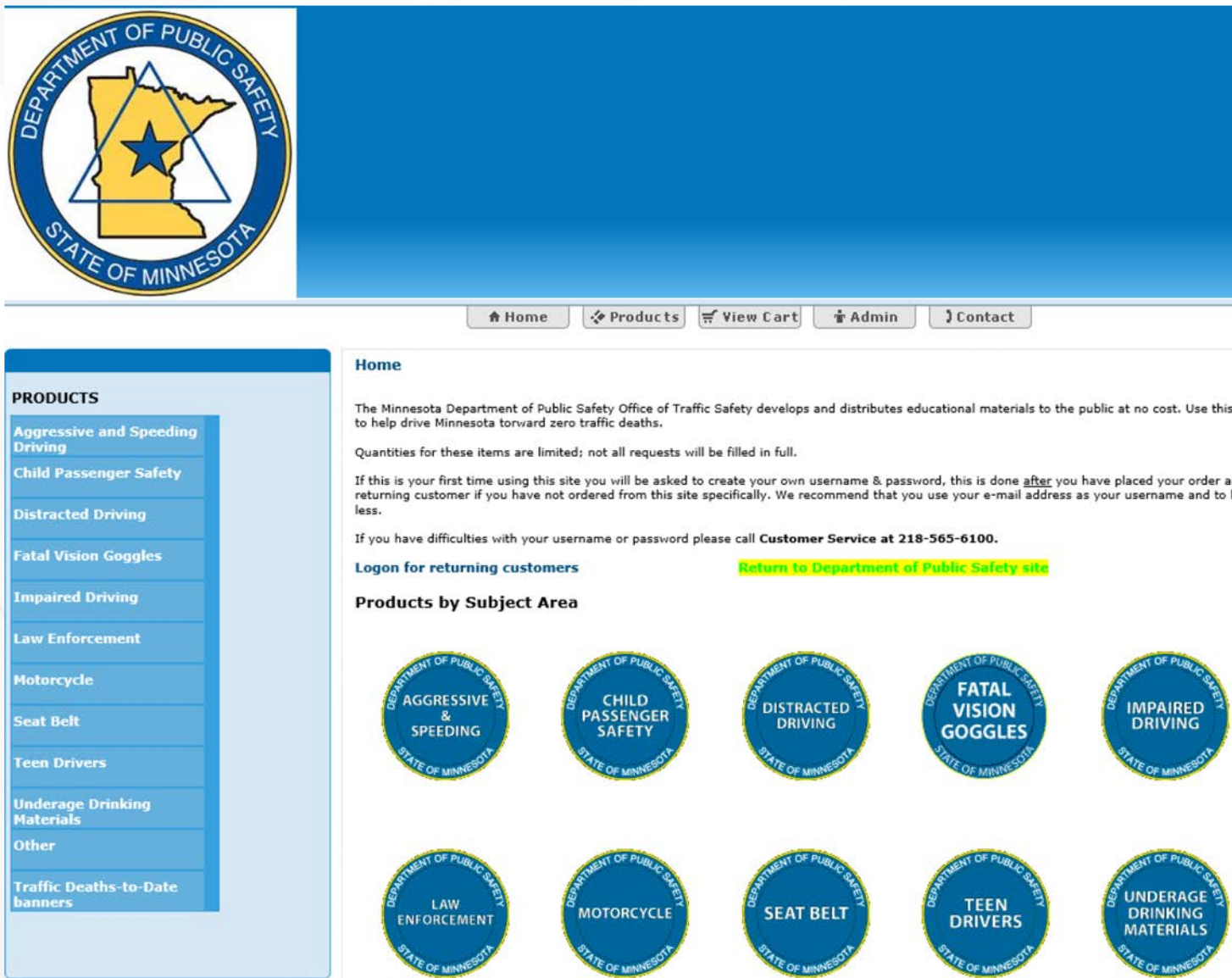
2019	102	2018	105
Preliminary Year-End			
2018	381		

MONTHLY PRELIMINARY FATAL CRASH NUMBERS

LEARN MORE >>

TOWARD ZERO DEATHS

The DPS Ordering Site



The screenshot shows the website interface for the Minnesota Department of Public Safety's ordering site. At the top left is the department's logo, which features a yellow map of Minnesota with a blue star, surrounded by a blue circular border with the text "DEPARTMENT OF PUBLIC SAFETY" and "STATE OF MINNESOTA". To the right of the logo is a blue navigation bar with buttons for "Home", "Products", "View Cart", "Admin", and "Contact". Below the navigation bar is a "PRODUCTS" sidebar with a list of categories: Aggressive and Speeding Driving, Child Passenger Safety, Distracted Driving, Fatal Vision Goggles, Impaired Driving, Law Enforcement, Motorcycle, Seat Belt, Teen Drivers, Underage Drinking Materials, Other, and Traffic Deaths-to-Date banners. The main content area is titled "Home" and contains the following text: "The Minnesota Department of Public Safety Office of Traffic Safety develops and distributes educational materials to the public at no cost. Use this site to help drive Minnesota toward zero traffic deaths." "Quantities for these items are limited; not all requests will be filled in full." "If this is your first time using this site you will be asked to create your own username & password, this is done after you have placed your order and returning customer if you have not ordered from this site specifically. We recommend that you use your e-mail address as your username and to be as less." "If you have difficulties with your username or password please call **Customer Service at 218-565-6100.**" Below this text are two links: "Logon for returning customers" and "Return to Department of Public Safety site". At the bottom of the main content area is a section titled "Products by Subject Area" which displays ten circular icons, each representing a product category: Aggressive & Speeding, Child Passenger Safety, Distracted Driving, Fatal Vision Goggles, Impaired Driving, Law Enforcement, Motorcycle, Seat Belt, Teen Drivers, and Underage Drinking Materials. Each icon contains the text "DEPARTMENT OF PUBLIC SAFETY" at the top, the category name in the center, and "STATE OF MINNESOTA" at the bottom.

More
education is
needed



Marked
crosswalk

Questions?

