

To: Transportation Committee
From: Jillian Massey, Senior Transportation Planner
Date: April 13, 2018
Subject: Safety Update

As a part of the Connecticut Strategic Highway Safety Plan implementation process, the CTDOT is developing topical reports to share with stakeholders. Each report has a different focus area relating to driver behavior, roadway safety and proven safety countermeasures. They contain useful statistics and background information that outline what can be implemented to mitigate crashes. The treatments outlined in some of the attached reports will be important to consider when working to achieve the targets we have set for safety performance measures.

We are sharing the following topical reports for your use and distribution as appropriate:

- Centerline Rumble Strips
- High Friction Surface Treatments
- HAWK Pedestrian Signals
- Improving Safety for All Road Users Roundabouts
- New Distractions for Drivers – A Growing Concern
- Designing for Older Road Users

For more information on the Strategic Highway Safety Plan, safety newsletters and publications, please visit: <https://www.t2center.uconn.edu/shsp.php>

Reducing Head-on Crashes Centerline Rumble Strips



Nationwide, 75 percent of opposite direction fatal crashes occur on undivided two-lane roads. In Connecticut, approximately 30 deaths and 1,000 injuries occur each year from drivers inadvertently crossing the centerline of a roadway, resulting in potentially devastating head-on and sideswipe crashes.

WHAT ARE CENTERLINE RUMBLE STRIPS?

Centerline rumble strips (CLRS) are grooves embedded into the centerline of the roadway, which are then painted over with standard yellow centerline markings. When the tires of a vehicle come into contact with the grooves, they produce noise and vibration.

HOW DO CLRS MAKE CONNECTICUT'S ROADS SAFER?

The noise and vibration generated when a vehicle drives over a CLRS alert drivers that they are in danger of crossing into the opposing lane of traffic. In addition, because of the shape of the groove, the reflective yellow centerline markings can be more visible during dark and wet weather conditions. This helps clarify to drivers where the center of the roadway is when visibility is limited.

A proven safety countermeasure, CLRS are being installed across Connecticut as part of the state's plan for significantly reducing fatalities and serious injuries by 2021.



By the numbers...



HEAD-ON & OPPOSITE-DIRECTION SWIDESWIPE CRASHES



Studies show installing centerline rumble strips on two-land roads reduces crashes by up to:



Source: D. J. Torbic, J. M. Hutton, et al., *NCHRP Report 641: Guidance for the Design and Application of Shoulder and Centerline Rumble Strips*, (Washington, DC: Transportation Research Board, 2009).

CENTERLINE RUMBLE STRIPS IN CONNECTICUT

Where will Connecticut consider applying CLRS?

TRAFFIC VOLUME

On roadways where average daily traffic is at least 2,000 vehicles per day.

PAVEMENT

On roadways where the pavement has been overlaid in the last three years and is in good condition.

ROADWAY WIDTH

On roadways with a minimum of 14 feet of width from the centerline to the edge of pavement.

SPEED

On roadways where the speed limit is 35 mph or greater.

LENGTH

On roadways where the length of the proposed centerline rumble strips segment is approximately one mile.

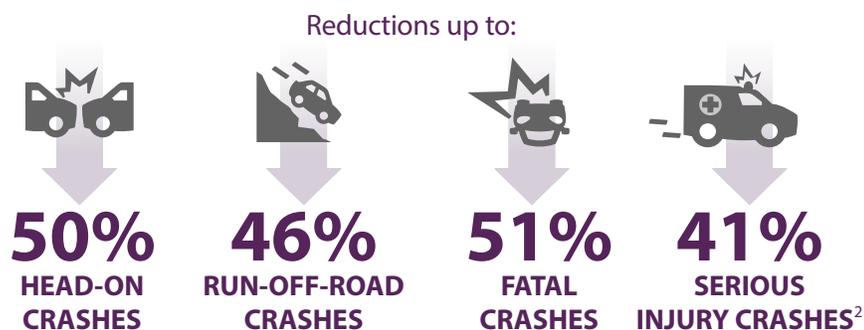
DENSITY

In locations with low residential density where residences are typically 100 feet or more from the edge of road.

Connecticut is one of at least 36 other States using CLRS to reduce crashes.

CLRS are being used across the country to improve safety, and the results have been highly positive. For example, where CLRS were installed along a 2.9 mile section of US 310 in Delaware, crash data showed the average number of head-on crashes declined by 95 percent annually.¹

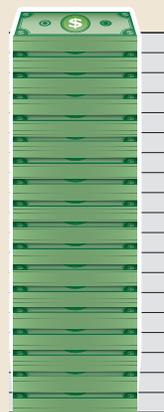
In Michigan, a before-and-after crash study of 5,400 miles of CLRS installations found significant reductions across all crash severities and lane departure crash types, including:



As of November 2017, Connecticut has installed 275 miles of CLRS on the state system and 95 miles on local roads. Although formal before-and-after studies have not been conducted to assess the effectiveness of these installations, preliminary findings are positive and show the potential for significant crash reductions—**possibly as much as 30 percent.**



Based on crash data from 2006-2008, New York State Department of Transportation determined that installation of CLRS on the 7,040 miles of roadway that meet the state's installation criteria would save:



\$85 million each year

\$1.7 billion over 20 years

The resulting benefit to cost ratio is more than 75:1



Source: New York State Department of Transportation, "Centerline Rumble Strips" web page. Available at: <https://www.dot.ny.gov/programs/rumblestrips/centerrumblestrips>

¹ B. Persaud, R.A. Retting, and C. Lyon, *Crash Reduction Following Installation of Centerline Rumble Strips on Rural Two-Lane Roads*, (Insurance Institute for Highway Safety, 2003).

² Michigan Department of Transportation, "Rumble Strips Are Busy Saving Lives" web page. Available at: <http://www.michigan.gov/mdot/0,1607,7-151--191394--00.html>

Better Traction Saves Lives

High Friction Surface Treatment



Connecticut's winding, rural roads carry about 10 percent of all vehicle traffic, but experience more than 30 percent of all traffic fatalities.¹ The majority of these deaths result from roadway departure crashes, defined as a crash that occurs after a vehicle crosses either an edge line or the center line, leaving the travel way, and hitting an object.² This crash type results in an average of 145 fatalities each year in Connecticut.³



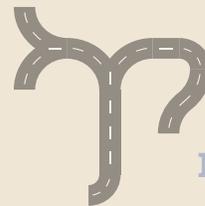
Know the Facts



79
DEATHS

Curve crashes account for 54 percent of the roadway departure fatalities, resulting in 79 deaths each year in Connecticut.

.....



6X
MORE LIKELY

Connecticut's rural roads are 6 times more likely to experience a fatality than all other Connecticut roadways.⁴

.....



12
LIVES LOST

Connecticut loses 12 lives in wet curve crashes every year.²

What is a High Friction Surface Treatment?



HFST Close-up Sample

A High Friction Surface Treatment (HFST) applies a highly durable aggregate to the pavement using a strong polymer binder to restore or maintain pavement friction. The textured aggregate provides a riding surface with superior pavement friction to keep vehicles on the roadway during times of high friction demand, such as through a deficient geometric design like a sharp curve with inadequate superelevation (i.e., banking of the curve) or on the approach to a high-speed intersection. It can also help compensate for conditions that reduce pavement friction, such as:

- Wet pavement
- Worn tires
- Polished surfaces caused by years of wear and tear
- Motorists driving too fast

By increasing the available friction, the treatment improves the connection between the vehicle's tires and the pavement surface and allows the vehicle to decelerate and stop quicker than a standard pavement surface.

1 Federal Highway Administration (FHWA). *Highway Statistics Series, State Statistical Abstracts 2015, Connecticut*. US Department of Transportation. Washington, DC. Accessible at: <https://www.fhwa.dot.gov/policyinformation/statistics/abstracts/2015/state.cfm?loc=ct>

2 Federal Highway Administration. Roadway Departure Safety Homepage. US Department of Transportation. Washington, D.C. Accessible at: https://safety.fhwa.dot.gov/roadway_dept/

3 University of Connecticut (UConn). Connecticut Crash Data Repository (CTCDR). Connecticut Department of Transportation (CTDOT). Newington, CT. Accessible at: <https://www.ctcrash.uconn.edu/>

4 TRIP: A National Transportation Research Group. *Rural Connections: Challenges and Opportunities in America's Heartland*. May 2015. TRIP. 3000 Connecticut Avenue, NW, Suite 208, Washington, DC. Accessible at: http://www.tripnet.org/docs/Rural_Roads_TRIP_Report_May_2015.pdf



HFST Cost

\$25-\$50

PER
SQUARE YARD



10 YEAR

LIFE SPAN



HFST Effectiveness⁷

HFST reduces the total number of crashes by:

CURVES **24%**

RAMPS **35%**

WET CURVES **52%**

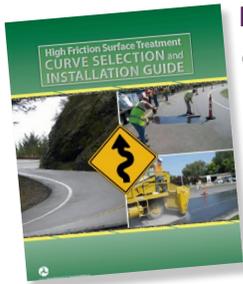
High Friction Surface Treatments Saves Lives

Results from many states show that HFST dramatically and immediately reduces crashes, injuries, and fatalities associated with friction demand issues. For example, Pennsylvania reported a total crash reduction of 87 percent at their HFST trial projects,⁵ while New York found the treatment reduced recurring wet road crashes by 50 percent and all crashes by 20 percent.⁶

Impressive Cost Efficiency

While installation costs are higher than conventional pavement, HFST exhibits a greater coefficient of friction than newly laid pavement and maintains high-friction readings for its entire life span. Compared to higher cost countermeasures (e.g., roadway realignment), HFST is much less expensive and can be nearly as effective, depending on the situation.

Learn More

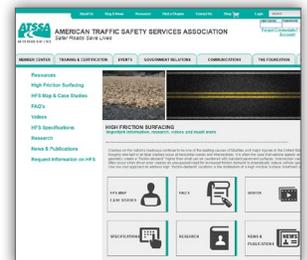


Federal Highway Administration's (FHWA) HFST Curve Selection and Installation Guide. This guide provides a procedure for selecting candidate curves for HFST. It also covers HFST aggregates, binders, installation methods, cost, life cycle, and funding. https://safety.fhwa.dot.gov/roadway_dept/pavement_friction/faqs_links_other/hfst_guide/

FHWA's Pavement Friction Resource Page. This website provides fact sheets, guidance, FAQs, specifications, case studies, videos, and additional resources. https://safety.fhwa.dot.gov/roadway_dept/pavement_friction/faqs_links_other/



American Traffic Safety Services Association's (ATSSA) HFST Resource Page. This website contains HFST related information, research, and videos. It was developed to help policymakers better understand how friction demand impacts the roadway safety and can improve safety at high-risk locations. <http://www.atssa.com/Resources/HighFrictionSurfacing.aspx>



5 Musey, K., Park, S., and Kares, M. *Safety Impact of High Friction Surface Treatment Installations in Pennsylvania*. November 2016 Paper Submitted to the 95 38 th Annual Meeting of the Transportation Research Board 39 January 8-12, 2017, Washington, D.C. Accessible at: <http://docs.trb.org/prp/17-02448.pdf>

6 Gan, A., Shen, J., and Rodriguez, A. *Update of Florida Crash Reduction Factors and Countermeasures to Improve the Development of District Safety Improvement Projects*, p. 139. Florida Department of Transportation. Tallahassee, FL. Accessible at: <http://www.lctr.org/Documents/CRFFinalReport.pdf>

7 Merritt, D., Lyon, C., and Persaud, B. *Evaluation of Pavement Safety Performance: Table 39*. February 2015. US Department of Transportation. Washington, DC. Report No: FHWA-HRT-14-065. Accessible at: <https://www.fhwa.dot.gov/publications/research/safety/14065/14065.pdf>

HAWK Pedestrian Signals

HIGH-INTENSITY ACTIVATED CROSSWALK

▶ [CLICK TO VIEW VIDEO](#)



HAWK Signal
Stamford Street Smarts Initiative



<https://www.youtube.com/watch?v=mwnpDPsHdOU>

What is a HAWK Signal?

The High-Intensity Activated Crosswalk (HAWK) pedestrian signal is a traffic control device designed to support safe pedestrian crossings on multilane roadways with relatively high traffic volume.

In many locations, such as near schools, bus stops, retail stores, and major activity centers, long stretches of road without a signalized intersection can make it difficult for pedestrians to cross. HAWK signals can be placed at critical locations between signalized intersections to help pedestrians cross the road safely.

HAWK signals operate only when a road user activates a push button at the pedestrian crossing. The signal activates a sequence of lights that require approaching drivers to slow and come to a stop. It then provides a WALK indication to pedestrians, and allows vehicles to proceed after pedestrians have crossed.

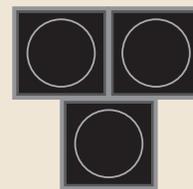
HAWK Signal Benefits

According to the Federal Highway Administration, midblock locations account for more than 70% of the 5,000 pedestrian fatalities that occur each year in the U.S.¹ Vehicle travel speeds are usually higher at midblock locations, contributing to higher injury and fatality rates at these locations. More than 80% of pedestrians are killed when hit by vehicles traveling at 40 mph or faster; however, fewer than 10% die when hit by vehicles traveling at 20 mph.

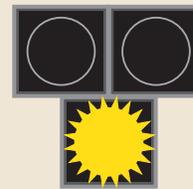
% OF PEDESTRIAN FATALITIES WHEN HIT BY VEHICLES



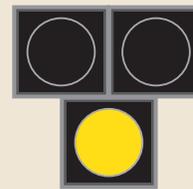
How HAWK Signals Work



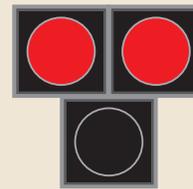
DARK – HAWK signal has not been activated. Vehicles proceed through pedestrian crossing.



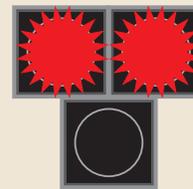
FLASHING YELLOW – Pedestrian has activated the HAWK signal.



SOLID YELLOW – Pedestrian signal is about to change. Motorists are notified their movement is being terminated and a red signal will be displayed.



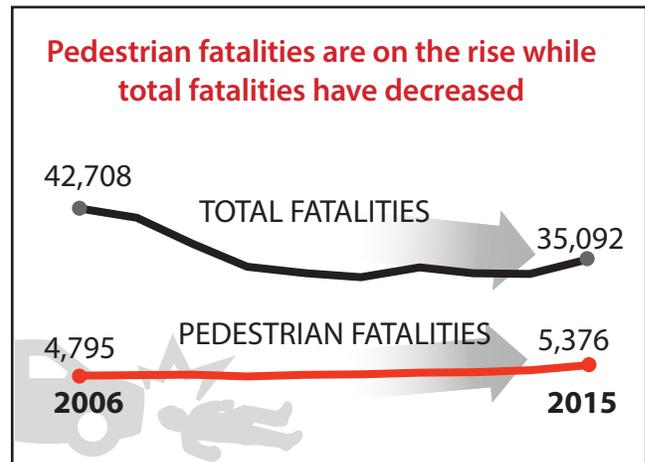
SOLID RED – Pedestrian is in the crosswalk. Motorists must stop.



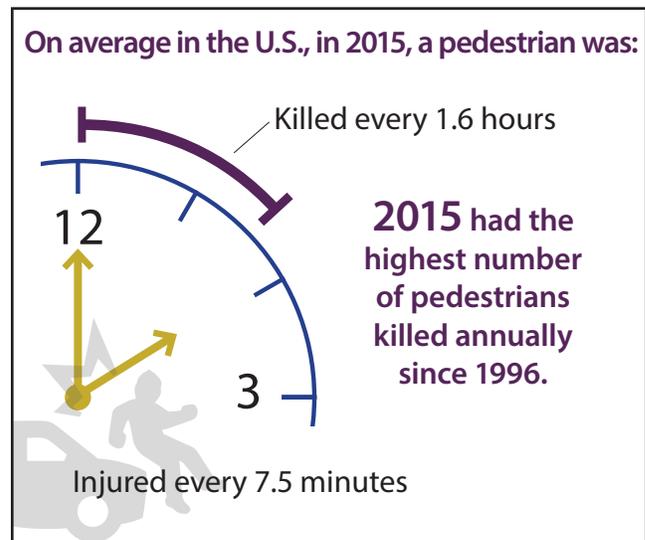
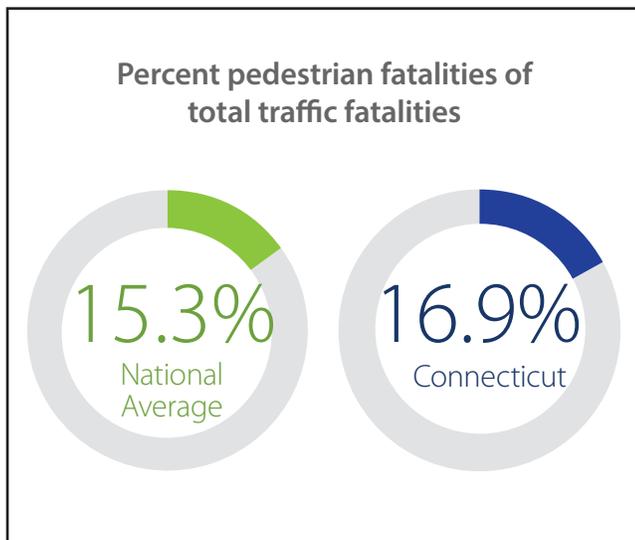
FLASHING RED – The HAWK signal is about to deactivate. Drivers must stop but may proceed when pedestrians have cleared the crosswalk.

Source: Federal Highway Administration. "Manual on Uniform Traffic Control Devices." Chapter 4F: Pedestrian Hybrid Beacons. Washington, D.C. 2009.

To address this issue, a HAWK signal provides an effective treatment for areas with sporadic signalized intersections, high traffic volumes, and a large number of pedestrian mid-block crossings. HAWK signals can provide significant safety benefits, with research documenting a 69% reduction in pedestrian crashes and a 29% reduction in total roadway crashes. As an added benefit to vehicle users, a HAWK signal results in up to a 50% reduction in delays for motorists when compared to traditional signalized crossings.²



Source: Fatality Analysis Reporting System (FARS) 2006-2014 Final File, 2015 Annual Report File (ARF).



Source: National Highway Traffic Safety Administration, "Traffic Safety Facts 2015 Data: Pedestrians", DOT HS 812 375 (Washington, DC: February 2017). Accessible at: <https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/812375>.

Resources

- HAWK Signal Public Educational Video. <https://www.youtube.com/watch?v=mwnpDPsHd0U>.
- Stamford Street Smart Initiative. <http://www.stamfordct.gov/stamford-street-smart>.
- Connecticut Statewide Bicycle and Pedestrian Plan and Map Update. <http://www.ctbikepedplan.org/index.html>.

1 Federal Highway Administration (FHWA), Proven Safety Countermeasures, "Pedestrian Hybrid Beacon," FHWA-SA-12-012, last modified: February, 2017. Available at: https://safety.fhwa.dot.gov/provencountermeasures/fhwa_sa_12_012.cfm

2 Kay Fitzpatrick and Eun Sug Park. "Safety Effectiveness of the HAWK Pedestrian Crossing Treatment" July 2010. USDOT, Report No. FHWA-HRT-10-042. Accessible at: <https://www.fhwa.dot.gov/publications/research/safety/10042/10042.pdf>

Improving Safety for All Road Users

Roundabouts



In Connecticut, approximately one out of every five motor vehicle-related fatalities occurs at a conventional intersection.¹ At an intersection, all roadway users cross paths as they travel through or turn from one road to another, so it is not surprising that a major part of addressing road safety involves intersections.

One of the most effective safety countermeasures to reduce intersection crashes and fatalities is the roundabout. A roundabout is a one-way, circular intersection in which traffic flows counterclockwise around a center island. Roundabouts differ from rotaries and traffic circles, because they operate at lower speeds making them safer and simpler to use.

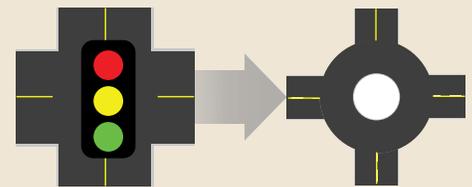
WHY ARE ROUNDABOUTS SO BENEFICIAL?

Some of the ways roundabouts benefit communities include:

- Roundabouts virtually eliminate broadside (“T-bone”) and head-on collisions, which tend to be the most serious crashes.
- The design of the roundabout calms traffic, making it easier for motorists to make driving decisions such as avoiding potential crashes and finding gaps to enter the roundabout.
- Raised “splitter” islands allow pedestrians to cross one direction of traffic at a time. These islands, combined with lower speeds, offer pedestrians more crossing opportunities and improve safety.
- With traffic signals, drivers may try to speed up to “beat the light.” This is not an issue with roundabouts, which reduces the potential for high-speed crashes.
- Since there are no stop signs or traffic signals to halt traffic, roundabouts promote a continuous flow for vehicles and, in turn, reduces delay and congestion.
- Fewer stops and reduced idling time leads to less pollution, noise, and fuel use.
- Without the hardware, maintenance, and electrical costs associated with traffic signals, roundabouts can save thousands of dollars per year per location.

➔ *Converting to a roundabout results in less crashes.*

SIGNALIZED INTERSECTION TO A ROUNDABOUT



Reductions up to:

78%
SEVERE
CRASHES

48%
OVERALL
CRASHES

Source: AASHTO *Highway Safety Manual*.



CONNECTICUT DOT CONVERTED 5 INTERSECTIONS TO ROUNDABOUTS

Reductions:

81%
SEVERE
CRASHES

49%
OVERALL
CRASHES

➔ *As of 2017, 150 crashes and 100 injuries have been prevented.*

¹ National Highway Traffic Safety Administration, Fatality Analysis Reporting System, “State Traffic Safety Information For Year 2015 – Connecticut.” Available at: <https://cdan.nhtsa.gov/STSI.htm>



"Five Corners" Roundabout at Route 74 and Route 286 in Ellington, Connecticut.

"The new roundabout at the Five Corners is 'the greatest thing since sliced bread,' as they would say. I've been traveling through there daily since 1968 and traffic has never flowed more smoothly than it does now... I have never seen a back-up since the day they put the barrels up during construction."

Ellington resident

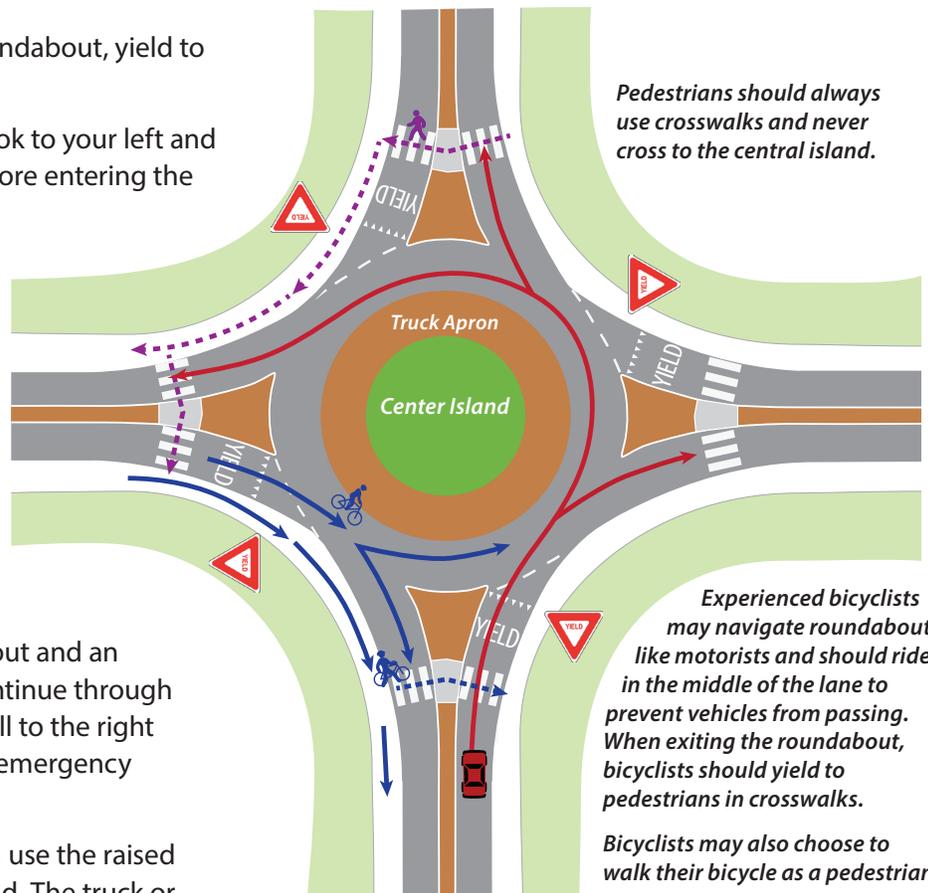


HOW DO I DRIVE THROUGH A ROUNDABOUT?

1. Slow down as you approach the roundabout, yield to pedestrians in the crosswalk.
2. When you arrive at the yield sign, look to your left and wait for a sufficient gap in traffic before entering the roundabout.
3. Once in the roundabout, you have the right of way. Do **not** stop to let in traffic from entering legs.
4. When exiting the roundabout, use your right turn signal to notify other drivers, pedestrians, and bicyclists. Yield to pedestrians in the crosswalk.

Other Driving Tips:

- If you are driving within a roundabout and an emergency vehicle approaches, continue through the roundabout to your exit and pull to the right at a location allowing room for the emergency vehicle to pass.
- Trucks and vehicles with trailers can use the raised truck apron around the central island. The truck or vehicle pulling the trailer should stay on the paved portion of the roundabout while the trailer may ride up onto the truck apron.





New Distractions for Drivers— A Growing Concern

Distracted driving is the practice of driving a motor vehicle while simultaneously engaged in another activity. Distractions may include, but are not limited to, talking or texting on a cell phone, grooming, eating and drinking, changing radio stations, talking to passengers, watching a video, and using a navigation system.

How do distractions affect drivers?

When motorists add distracting tasks to driving, their action pulls mental resources away from the primary task and deteriorates performance. Such distractions can be categorized into:¹

- 1 Visual distractions:** Tasks that require the driver to look away from the roadway to visually obtain information.
→For instance, looking at the car navigation display for directions.
- 2 Manual distractions:** Tasks that require the driver to take a hand or hands off the steering wheel and manipulate a device.
→For instance, switching a radio channel.
- 3 Cognitive distractions:** Tasks that involve thinking about something other than the driving task.
→For example, having a conversation on the cell phone.

The impact of distraction on the driving task is determined not only by type, but also the frequency and duration of the task.² Most notably, texting while driving falls into all three distraction categories above. A 2009 study by Virginia Tech Transportation Institute (VTTI) found that on average a driver's eyes are taken off the road for 5 seconds while texting. The research indicated that drivers who text are 23 times more likely to be involved in a crash than non-distracted drivers.³



By the Numbers— NATIONWIDE

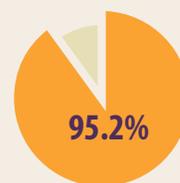
DISTRACTED DRIVING CRASHES

The National Highway Traffic Safety Administration (NHTSA) found that in 2014 distracted driving resulted in:⁴

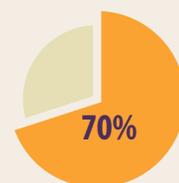
3,179 **431,000**
FATALITIES INJURIES

DISTRACTED DRIVING SURVEY

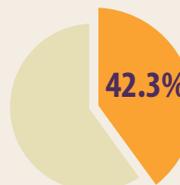
A 2015 American Automobile Association (AAA) survey of 3,405 U.S. residents found:⁵



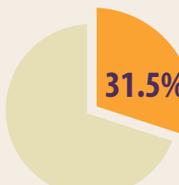
Consider it "unacceptable" for a driver to text or email while driving.



Admitted to talking on the phone while driving during the past 30 days.



Admitted to reading text messages or emails.



Sent a text or email while driving during the past 30 days.

1 National Highway Traffic Safety Administration, "Policy Statement and Compiled FAQs on Distracted Driving" Web page. Accessible at: <http://www.nhtsa.gov/edgesuite-staging.net/Driving+Safety/Distracted+Driving/Policy+Statement+and+Compiled+FAQs+on+Distracted+Driving>
2 National Highway Traffic Safety Administration, Overview of the National Highway Traffic Safety Administration's Driver Distraction Program, DOT HS 811 299 (Washington, DC: April 2010). Accessible at: http://www.nhtsa.gov/edgesuite-staging.net/staticfiles/nti/distracted_driving/pdf/811299.pdf
3 Sherri Box, "New data from Virginia Tech Transportation Institute provides insight into cell phone use and driving distraction," Virginia Tech News, July 29, 2009. Accessible at: <https://www.vtnews.vt.edu/articles/2009/07/2009-571.html>

4 National Highway Traffic Safety Administration (NHTSA), Traffic Safety Facts Research Note: Distracted Driving 2014, DOT HS 812 260 (Washington, DC: April 2010). Accessible at: <https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/812260>
5 American Automobile Association (AAA), 2015 Traffic Safety Culture Index, (Washington, DC: February 2016). Accessible at: http://publicaffairsresources.aaa.biz/wp-content/uploads/2016/02/TSCI_2015_REPORT.pdf

Distracted Driving in Connecticut

Connecticut uses several overarching strategies to reduce distracted driving:⁶

STATUTES: The State of Connecticut passed strict laws against distracted driving, which include banning texting while driving and requiring any mobile phone use to be hands-free.

ENFORCEMENT: The Connecticut State and municipal police run aggressive, high-visibility distracted driving enforcement campaigns on both State and local roads during the months of April and August.⁷

OUTREACH: Connecticut's transportation agencies provide education, discussion, and interactive driving simulation for teens. The State also runs media campaigns to support enforcement efforts and raise awareness of the dangers of distracted driving for all motorists.

By the Numbers-CONNECTICUT

More than 50 law enforcement agencies

worked overtime to enforce Connecticut's hand-held mobile phone ban in 2016.

The "Save a Life Tour" reached

30,000

Connecticut high school students in the 2014-15 academic year.

The 2016 Distracted Driving Campaign was covered by more than 50 online news articles and 3 radio interviews.

.....
"We're making gains. Considering the seriousness of the problem and the fact that we saw movement in the right direction is a sign we need to continue distracted driving enforcement."

Fernando C. Spagnolo
Deputy Chief
Waterbury Police Department

2016 Distracted Driving Campaign

In 2016, Connecticut used the following strategies to implement an aggressive distracted driving campaign:⁴

- 1 High Visibility Enforcement (HVE).** Connecticut paired high-visibility law enforcement activities with a media campaign using the NHTSA slogan "U Drive. U Text. U Pay."
- 2 Public outreach and education campaigns.** Connecticut's Highway Safety Office (HSO) developed products to be used throughout the year that provide educational "social norming" messaging to raise motorists' awareness of the dangers of distracted driving. This campaign is known as "SubtraCT the Distraction."
- 3 Educational programming for high schools and younger drivers.** The HSO worked with the "Save a Life Tour" to bring this educational programming about the dangers of mobile phone use and distracted driving to high schools and younger drivers across the State.

Campaign Outcomes:

- Received extensive media coverage.
- Cited more than 12,000 distracted drivers.
- Reduced cell phone use by 9 percent, according to surveys from the 2015 and 2016 campaigns.

6 Connecticut Department of Transportation, Bureau of Policy and Planning, Highway Safety Office, State of Connecticut Highway Safety Plan: 2016 (Newington, CT: 2015). Available at: http://www.ct.gov/dot/lib/dot/documents/dtransportation_safety/plans/ct_fy16_hsp.pdf

7 Connecticut Department of Transportation, "The Connecticut Highway Safety Office Kicks Off National Distracted Driving Awareness Month with Increased Enforcement," News Release (April 7, 2016). Available at: <http://www.ct.gov/dot/cwp/view.asp?A=1373&O=578904>

Designing for Older Road Users



As drivers age, the following physical and cognitive changes tend to occur:

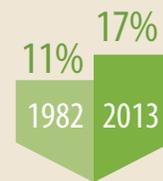
- **Physical capabilities weaken.** Hearing, muscle tone, reaction time, and vision (especially at night) decline.
- **Fragility increases.** The same crash may result in more serious injuries to a 65-year-old than an 18-year-old.
- **Cognitive capabilities can decline.** Driving is a complex activity requiring cognitive skills that can diminish with age.
- **Many older drivers use medications.** These may be necessary to address health conditions, but also may cause drowsiness or otherwise affect driving.
- **Depth perception, slow speeds.** Older drivers may exhibit risky behaviors such as driving slower than prevailing traffic or failing to accurately judge the speed of an oncoming vehicle at intersections.

According to the National Highway Traffic Safety Administration's (NHTSA) 2015 "Traffic Safety Facts: Older Population":¹

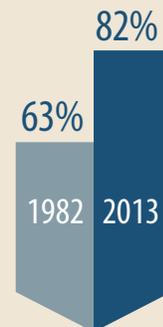
- In 2015, **6,165** people 65 and older were killed in traffic crashes in the United States, **18%** of all traffic fatalities.
- The population among the 65 and older age group increased by **29%** between 2006 and 2015.
- For older pedestrians, **68%** of fatalities in 2015 occurred at non-intersection locations.
- Older motorcyclist fatalities more than **doubled** between 2006 and 2015.

In 2015 older driver fatalities (65 or above) increased by 8.8% as compared to 2014.²

What We Know About Older Driver Trends³



The number of older drivers on the road is increasing.



More older drivers are holding onto their license and continuing to drive.



Older driver fatality rates are increasing faster than other age groups.

If the licensure rate remains the same, by 2030 there will be nearly twice as many older drivers in the United States as there are today.

¹ National Highway Traffic Safety Administration, *Traffic Safety Facts 2015 Data: Older Population*, DOT HS 812 372 (Washington, DC: February 2017). Accessible at: <https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/812372>.

² National Highway Traffic Safety Administration, *Traffic Safety Facts 2015 Motor Vehicle Crashes: Overview*, DOT HS 812 318 (Washington, DC: August 2016). Available at: <https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/812318>.

³ National Highway Traffic Safety Administration, *Countermeasures That Work: A Highway Safety Countermeasure Guide for State Highway Safety Offices*, Eighth Edition, 2015, DOT HS 812 202 (Washington, DC: November 2015). Accessible at: http://www.ghsa.org/sites/default/files/2016-12/812202-CountermeasuresThatWork8th_0.pdf.

HELPFUL RESOURCES

In order to address older driver safety concerns, practitioners implement design solutions for infrastructure issues, and develop training and education to improve road user behavior.

Infrastructure Resources

- **Clearinghouse for Older Road User Safety (ChORUS).** ChORUS is a centralized source of information on highway safety for aging drivers, passengers, pedestrians, and cyclists. Built as a comprehensive resource, it covers all three major components of highway safety: *safe roadways, safe road users, and safe vehicles.*⁴
- **FHWA Office of Safety – Older Road Users Program.** This program addresses the engineering aspects of highway safety with respect to older drivers. *The Engineering Guidance and Training* section in particular provides an exhaustive list of guides, desk references, manuals, and workshops.⁵
- **FHWA Webinar: Designing for Older Road Users.** This session, conducted in 2014, focused on how streets and highways can be designed to better meet the needs of older road users.⁶



Looking to the Future

There is one technology that holds significant promise for the aging population: **Autonomous Vehicles.**

The prospect of self-driving cars could reduce the risks associated with aging.

Autonomous driving technology has the potential to transform life for the elderly, who are often unable to drive as frequently as desired.

Educational Resources

- **American Automobile Association (AAA) – Senior Driving.** This webpage contains an extensive list of training programs and brochures designed to improve the driving skills of older drivers.⁷
- **Roadwise Review Online.** This is a free screening tool developed by AAA to help seniors measure certain mental and physical abilities important for safe driving. In as little as 30 minutes, an older driver can identify and receive further guidance on the physical and mental skills that need improvement.⁸
- **National Aging and Disability Transportation Center (NADTC).** The goal of this organization is to promote the availability and accessibility of transportation options for older adults, people with disabilities, caregivers, and communities.⁹
- **Driver Improvement Courses For Seniors.** AAA's Roadwise Driver™ can be taken online or in a classroom to help older drivers refresh their driving knowledge and get the most out of their vehicle while reducing risk to drivers, passengers, and others on the road.¹⁰
- **CarFit.** CarFit is an educational program, sponsored by AAA, AARP and the American Occupational Therapy Association (AOTA), that offers older drivers the opportunity to check how well their personal vehicles fit them. This program also provides information and materials on community-specific resources that could enhance their safety as drivers, and/or increase their mobility in the community.¹¹

4 Roadway Safety Foundation, "Clearinghouse for Older Road User Safety (ChORUS)," 2017. Available at: <https://www.roadsafeseniors.org/>.

5 Federal Highway Administration, Office of Safety, "Older Road Users," last modified: February 28, 2017. Available at: https://safety.fhwa.dot.gov/older_users/.

6 University of North Carolina Highway Safety Research Center, Pedestrian and Bicycle Information Center, "Designing for Older Road Users," last modified: November 20, 2014. Available at: http://www.pedbikeinfo.org/training/webinars_FHWA_112014.cfm.

7 AAA Senior Driving, "All Available Resources," 2017. Available at: <http://seniordriving.aaa.com/tools-additional-resources/>.

8 AAA Foundation for Traffic Safety, Resources, "Roadwise Review Online," Available at: <https://www.aaafoundation.org/roadwise-review-online>.

9 Federal Transit Administration (FTA), "National Aging and Disability Transportation Center (NADTC)," 2017. Available at: <http://www.nadtc.org/>.

10 AAA Senior Driving, Maintain Mobility & Independence, "Driver Improvement Courses for Seniors," 2017. Available at: <http://seniordriving.aaa.com/maintain-mobility-independence/driver-improvement-courses-seniors/>.

11 CarFit, "Helping Mature Drivers Find Their Safest Fit," 2017. Available at: <https://www.car-fit.org/>.