

Minnesota TZD: 10 Years of Progress

Contents

Behind the Wheel.....	2
On the Road.....	5
After the Crash	6
Working Together	7
The Road Ahead	8



Data in this report were provided by the Minnesota Departments of Transportation, Public Safety, and Health.

Report produced by:
Center for Transportation Studies
200 Transportation and Safety Bldg.
511 Washington Ave. S.E.
Minneapolis, MN 55455
Phone: 612-626-1077
E-mail: cts@umn.edu
Web: www.cts.umn.edu



Minnesota Toward Zero Deaths: 10 Years of Progress

Minnesota has a long history of developing and implementing programs focused on improving traffic safety. Before 2001, these activities were primarily the responsibility of individual state agencies. In response to an increasing trend in the number of traffic-related fatalities and serious injuries in Minnesota and concerns about the effectiveness of individual safety efforts, the Minnesota Departments of Public Safety, Transportation, and Health in 2003 established the Toward Zero Deaths (TZD) program to integrate our safety programs in Minnesota.

Minnesota's traffic fatalities had been on the rise between 1995 and 2003. Since then, traffic fatalities have decreased by 40.5 percent. Had the trend between 1995 to 2003 continued, an estimated 2,046 more lives would have been lost on Minnesota roads over the last 10 years.

Today, Minnesota TZD is the state's cornerstone traffic safety program, employing an interdisciplinary approach to reducing traffic crashes, injuries, and deaths on Minnesota roads. While individual disciplines have a long history of successful traffic safety programs, TZD aims to tie these individual efforts together with a common vision and mission for even greater success. That mission is to create a culture for which traffic fatalities and serious injuries are no longer acceptable through the integrated application of education, engineering, enforcement, and emergency medical and trauma services. These efforts will be driven by data, best practices, and research.

It takes time and a combined effort to change a traffic safety culture. On these pages, we highlight the TZD program's key accomplishments over the last decade in those areas that have contributed most to the decline in road fatalities and injuries. While this fact is something to celebrate, we still have work to do. As long as lives are lost or forever altered on Minnesota roads, the TZD program will continue its multipronged, interdisciplinary approach to drive our state toward zero deaths.





Behind the Wheel

One approach the TZD program has employed to reduce fatalities and injuries is to promote safer driving behavior and remind Minnesotans to buckle up, drive at safe speeds, pay attention, and never drive impaired.

In the last decade:


- The number of motor vehicle occupants killed who were unbelted decreased by 59%
 - The number of people killed in alcohol-related crashes decreased by 49%
 - The number of people killed in speed-related crashes decreased by 60%
 - The number of drivers under the age of 21 killed in speed-related crashes decreased by 61%
 - The number of drivers killed in distracted-driving-related crashes decreased by 55%
- (2012 data are preliminary)*



How we got there:

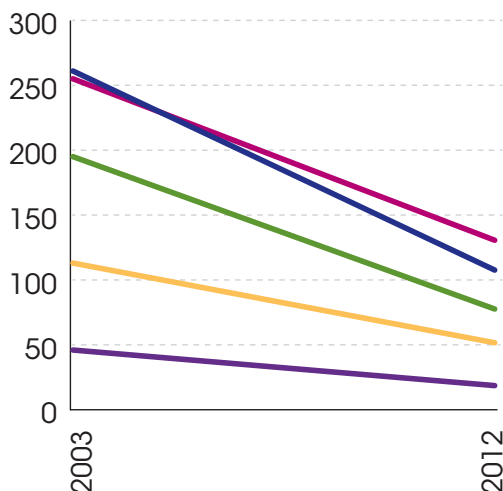
Increasing seat belt use

- The primary seat belt law was passed in 2009, allowing law enforcement officers to ticket drivers for not wearing a seat belt without any other law being broken.
- The “Click It or Ticket” paid media campaign publicized and supported the hundreds of law enforcement agencies in the state working to enforce seat belt laws, both before and after passage of the primary seat belt law.
- TZD partners began conducting Greater Minnesota regional belt use surveys to measure belt use progress at a local level. While the statewide survey provides a comprehensive gauge of statewide belt use, the regional surveys have a smaller sample size and aim to provide an additional snapshot of belt use to measure local progress. Each region surveyed charted increases in belt use in 2012 compared to 2011.
- The booster seat law was passed in 2009, requiring all children under the age of eight to ride in a federally approved car seat or booster seat unless they are taller than 4’9”.



Seat belt use increased from 87 percent in 2008 to 94 percent in 2012, according to a statewide survey.

Behavior-related traffic fatalities



Legislative milestones

- 2005 DWI from 0.1 to 0.08 BAC
- 2008 Ban on texting
- 2009 Seat belt primary and booster laws
- 2010 Expanded ignition interlock

- unbelted
- alcohol-related
- speed-related
- distracted driving
- speed-related, driver under 21 years old

Reducing impaired driving

- High-visibility, multiagency enforcement efforts were supported with paid and earned media.
- A driver's license sanctions/ignition interlock law, which requires certain DWI offenders to have ignition interlock devices installed on any vehicle they drive, went into effect in 2010.
- Legislation passed in 2005 that lowered the blood alcohol content for DWI from 0.1 to 0.08.
- DWI e-charging was developed to allow law enforcement to more effectively identify, charge, and sanction impaired driving offenders, manage impaired driving cases, reduce administrative costs, and increase efficiency. In addition, 270 new breath-testing evidentiary instruments have been provided to law enforcement that integrate with the e-charging system.
- DWI courts were created to change the behavior of alcohol and other drug-dependent offenders arrested for driving while impaired by addressing the root cause. Since 2003, 10 counties have established DWI courts. Since the inception of DWI courts, 794 participants have been admitted into the program; 458 have graduated, 352 have obtained a valid driver license, 107 incurred an additional Driving After Withdrawal violation, and 32 incurred an additional DWI arrest. A comprehensive evaluation of DWI courts is slated for completion in September 2013.
- In 2007, the Traffic Safety Resource Prosecutor was created to increase traffic safety by improving criminal prosecution. Since then, the program has provided 10 hours of Continuing Legal Education training for prosecutors and nearly 90 POST credits for law enforcement officers through sessions held at the TZD annual conference and regional workshops.
- More than seven "safe ride"-type services have started operating in Minnesota in the last decade to provide alternative transportation to individuals who have been drinking. The TZD program published a printed and electronic guide for individuals or communities interested in providing these types of services.



Curbing aggressive driving, such as speeding

- First-year results of the speed management program known as Highway Enforcement of Aggressive Traffic, or HEAT, showed a reduction in the 85th percentile speed and a reduction in the number of people driving 10 mph or more over the posted speed limit.
- Minnesota passed legislation in 2008 prohibiting electronic communications—including texting, e-mail, and web access—while driving.
- Metro-area law enforcement began employing camera-equipped unmarked patrol cars for specific enforcement of aggressive drivers. The cars used front- and rear-facing cameras to capture driving behavior.

Helping younger drivers

- Minnesota passed passenger and night-time driving limitations for newly licensed teen drivers to enhance existing Graduated Driver License laws, which support a



- three-stage driver licensing system to phase in young beginners to full driving privileges.
- Minnesota passed a cell phone ban in 2006 for permit holders under age 18 and provisional drivers.
- Two powerful highway safety video presentations were created by the Minnesota State Patrol to communicate the seriousness of the life-and-death decisions teens make while driving. Troopers have visited hundreds of schools and other public forums and have shown the videos to around 30,000 students.
- In 2009 Minnesota hosted the Ford Driving Skills for Life Summer Camp that trained 430 teen drivers on crash-avoidance skills and educated 180 parents on teen driving risks, laws, and the role they play in developing safer teen drivers.
- A community-based Teen Driver Parent Awareness Class curriculum and materials were created in 2011 for parents and their soon-to-be teen drivers. The classes, taught by driving education, law enforcement, public health, and emergency service partners, continue to be implemented statewide.
- Minnesota conducted a Teen Driving Skills and Parent Awareness Program hosted by the Minnesota Highway Safety and Research Center in St. Cloud in 2012, training 209 teens on crash-avoidance skills and informing 211 parents about teen driving issues.
- TZD partner organizations increasingly targeted teen drivers with their education and advocacy efforts. Examples include MADD's Youth Jam, the Minnesota Safety Council's Teen Safe Driving Coalition, the Metro Area Safe Communities Coalition's Teen Driving Summit, and the AAA and Department of Public Safety annual teen driver public service announcement contest.
- A Teen Driver Support System that gives teen drivers in-vehicle feedback through a smartphone to reduce risky driving behaviors was developed by the University of Minnesota and is being tested by 300 teens.

Increasing driver safety awareness

- Federal funds were used to conduct advertising efforts supporting enforcement campaigns and promoting safe driving behaviors. Thousands of news releases have been issued over the last decade aiming to sustain traffic safety news by generating fresh news hooks, exploring and discovering new data trends, and promoting enforcement activity.
- Statewide law enforcement saturations were supported through the use of overhead changeable message signs 30 times each year, where safety-related messages, such as "Extra DWI Enforcement, This Weekend, Plan a Sober Ride," were displayed to deter high-risk driving behavior. In addition, corridor-specific DWI enforcement efforts were advertised on portable roadside electronic message boards.
- The Minnesota Crash Victims Memorial website (www.minnesotacrashvictims.org) was created for sharing the stories of victims of fatal traffic crashes. To date, 85 testimonials have been uploaded to the site.
- A key DWI campaign addressed the 13 most dangerous drunk driving counties, based on drunk driving deaths and serious injuries. The campaigns use high-visibility enforcement coupled with awareness and education to encourage motorists to plan ahead for a sober ride and avoid the dangers and consequences of driving impaired.



- TZD partners launched a new statewide Share the Road pedestrian safety campaign aiming to increase the percentage of motorists and pedestrians who follow the Minnesota crosswalk law and exhibit safe walking and driving behaviors. Safety campaign materials are available online for all partners looking to improve pedestrian safety.

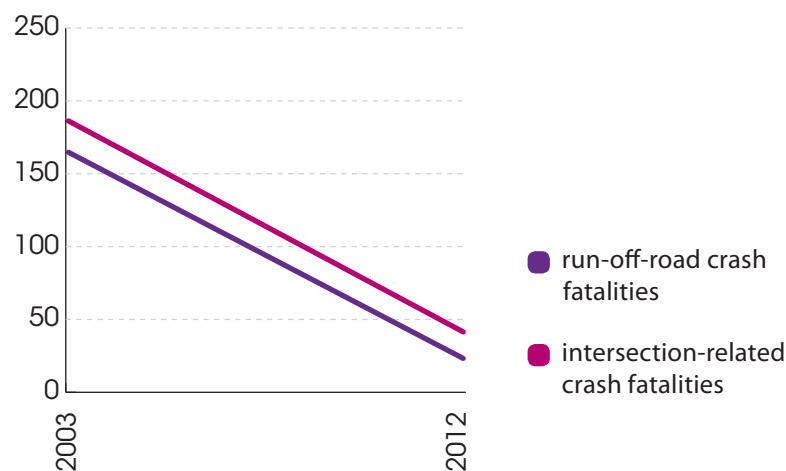
On the Road

Making the roadway environment safer through targeted countermeasures, design improvements, and interventions to assist drivers is another focus area the TZD program employs to reduce fatalities and injuries.

In the last decade:

- The number of motor vehicle occupants killed in run-off-road crashes decreased by 38%
- The number of motor vehicle occupants killed in Minnesota in intersection-related crashes decreased by 40%
- The number of motor vehicle occupants killed in cross-median crashes decreased by 7%
(2012 data are preliminary)

Infrastructure-related crash fatalities



How we got there:

Keeping vehicles on the road and preventing run-off-road crashes

- More than 5,000 miles of rumble strips were installed on Minnesota trunk highways and local roadways over the past five years. Safety edges and centerline and edgeline rumble strips are documented strategies to reduce fatal and serious-injury lane-departure crashes. MnDOT and several Minnesota counties now require installation of safety edges on pavement replacement projects.
- More than 1,500 curves were improved through the use of chevrons, rumble strips, and enhanced pavement markings and by widening narrow shoulders at high-risk curves.
- MnDOT adopted technical policies in 2011 to ensure all construction and preservation projects include rumble strips and safety edge treatments.
- To prevent cross-median crashes, 306 miles of cable median barriers were installed along Minnesota highways.



306 miles of cable median barriers were installed along Minnesota highways to prevent cross-median crashes.

Improving the design and operation of highway intersections

- Systemic intersection improvements, such as signing and pavement markings, were implemented.
- Safety funds were used to light nearly 400 intersections throughout the state between 2007 and 2012.

- To reduce red-light running, confirmation lights were installed at more than 40 intersections. Consisting of a blue light that illuminates only when the red signal light is on, confirmation lights allow officers to verify that a vehicle is running a red light without having to follow the vehicle through the intersection. Use of these lights builds on a partnership between engineering and enforcement communities.
- To reduce crashes at rural through-stop controlled intersections, dynamic rural intersection conflict-warning systems were installed at more than 10 intersections throughout Minnesota, with 20 more planned for 2013. The system uses signs and flashing lights to dynamically warn drivers approaching an intersection to stop for cross traffic.
- 115 roundabouts and several other Reduced Conflict Intersections (RCIs) were constructed throughout the state to improve intersection safety. These intersection alternatives eliminate right-angle conflicts, which present greater risk of serious injury or death.



After the Crash

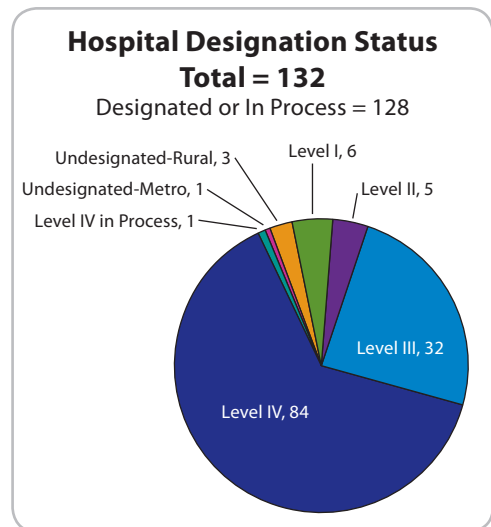
The TZD program strives to reduce not only crashes, but total road injuries and deaths. Fast, efficient emergency medical and trauma services are critical for aiding survival whenever a crash does occur. TZD efforts have fostered improvement in information and decision-support systems to help medical and law enforcement staff respond quickly and efficiently to trauma events.

In the last decade:

- Minnesota’s trauma system—which specifies criteria for treating and transporting seriously injured people and a process for trauma hospital designation—has reduced traffic fatalities by 9 percent.
- Minnesota’s Statewide Trauma System has grown from a small uncoordinated system to a robust, inclusive, and active network of 128 designated in-state hospitals, as well as 6 partner hospitals in neighbor states.
- 99 percent of trauma admissions in Minnesota now occur at hospitals participating in the statewide trauma system.

How we got there:

- In 2005, Minnesota legislation created a statewide trauma system and regional trauma centers to decrease injured patients’ time to definitive care by ensuring patients’ medical needs are appropriately matched with hospitals’ resources.
- Regional trauma advisory committees (RTAC) were created to designate and implement a focus on clinical continuous quality improvement on the local level.
- A Statewide Trauma Advisory Council was created to advise, consult with, and make recommendations to the Commissioner of Health regarding the development, maintenance, and



improvement of the statewide trauma system.

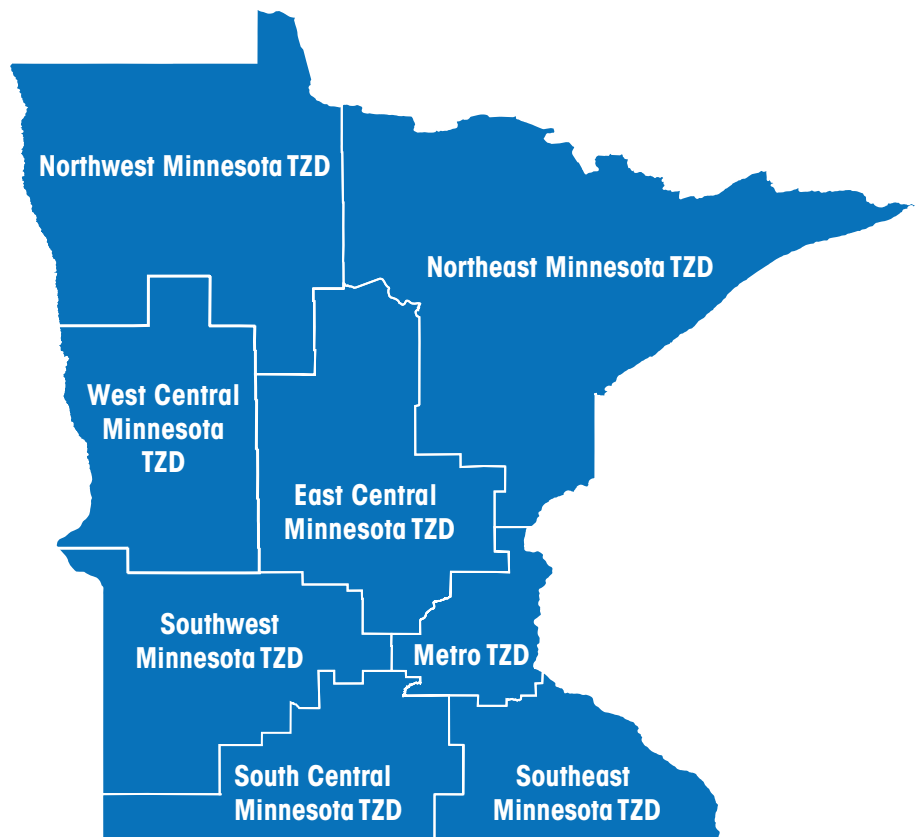
- CrashHelp, a smartphone-based system that enables emergency responders to collect multimedia data about crash victims on-scene and send that data directly into emergency rooms, was created to give hospitals advance notification of crash severity and related information to help them prepare for a patient's arrival.

Working Together

Working together we can accomplish much more than working alone. The TZD program has successfully convened groups of stakeholders in different disciplines to learn from each other and work collaboratively across disciplines.

How we got there:

- Regional partnerships were established in eight geographic areas of Minnesota to coordinate regional traffic safety efforts, and regional coordinators were hired to lead each. Regions look at data specific to their areas to identify factors leading to fatal and serious-injury crashes, then work with their constituents to implement proven countermeasures. Each partnership has a local steering committee made up of local traffic safety stakeholders and led by the MnDOT district engineer and a State Patrol captain in that area.
- TZD events brought together attendees from throughout the state to share information on best practices and identify new approaches for improving traffic safety. Since the first statewide annual conference was held in 2004, attendance has more than doubled—with 955 attendees in 2012. Stakeholder breakfasts are held quarterly and each region now holds annual workshops.
- Law enforcement, with support from TZD Safe Road coalitions, implemented high-visibility enforcement strategies that use multiple jurisdictions and/or squads patrolling at the same time, often using brightly colored vests and signs. Efforts are publicized through statewide media, community events, and a public education campaign.
- County and district safety plans for all 87 Minnesota counties and the 8 MnDOT districts were completed. The plans specify investment priorities and projects for each county and district based on crash data.
- The Strategic Highway Safety Plan (SHSP)—an integral part of Minnesota's TZD initiative—was developed through an evaluation of crash data on all public roads and collaboration with key stakeholders. Using the crash data and stakeholder input, several critical emphasis areas, strategies, and countermeasures were developed, prioritized, and documented in the SHSP.



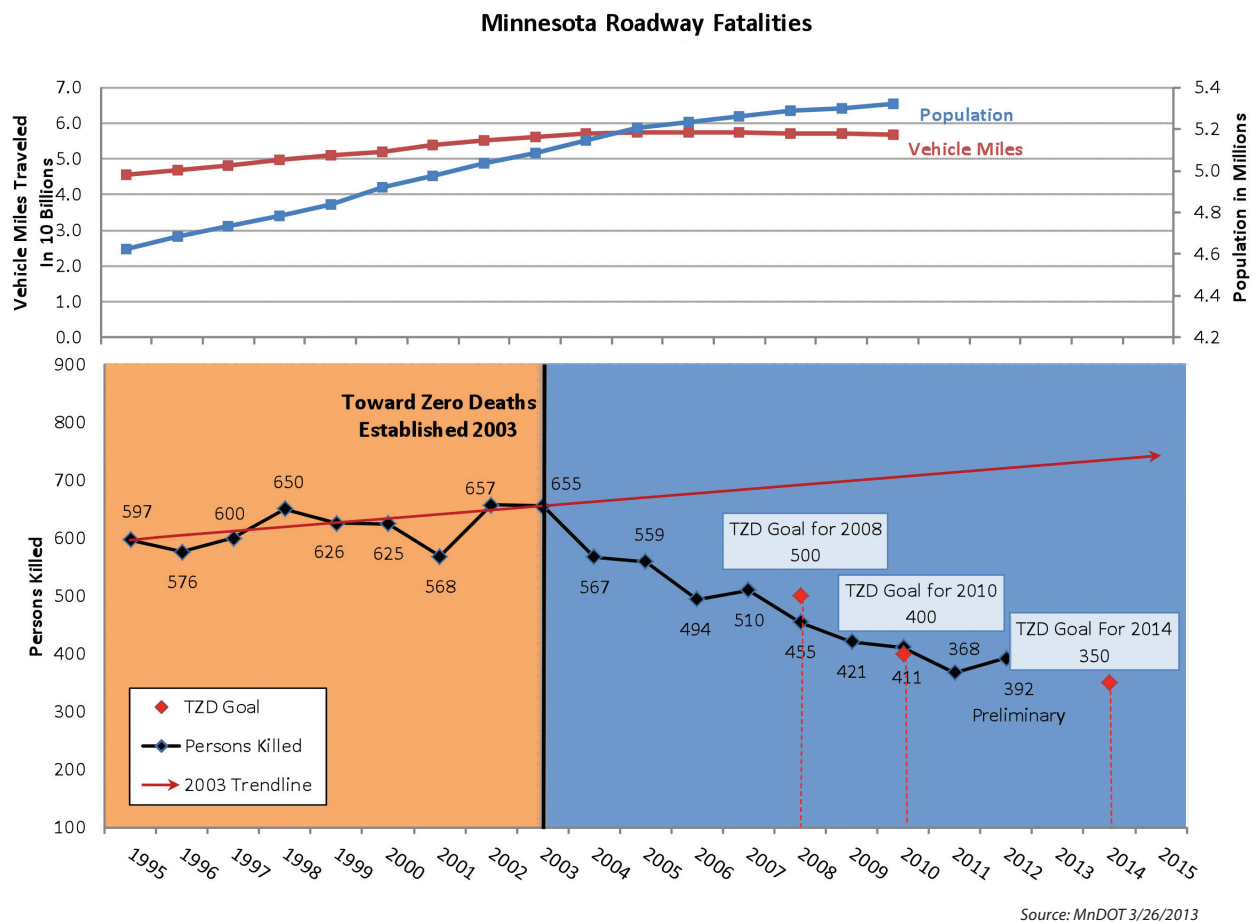
The Road Ahead

TZD efforts have helped reduce by more than 40 percent the number of people who die on Minnesota roads each year. Although that's a tribute to the great strides made, we still have work to do in the decade ahead. On an average day in Minnesota, three people are seriously injured and one person is killed in traffic crashes. We need to make that zero.

How we'll get there:

In addition to continuing its successful efforts, the TZD program will undertake several new initiatives.

- Minnesota's Strategic Highway Safety Plan will be updated according to requirements of the new federal transportation bill, Moving Ahead for Progress in the 21st Century (MAP-21). MnDOT will formally update the document through a collaborative process; however, the SHSP should be viewed as a living document that will be reexamined periodically and evolve to help reach the goal of eliminating deaths and serious injuries on our roadways. Further, all Minnesota counties and districts will work toward deploying the engineering countermeasures identified in the Strategic Highway Safety Plan or their county or district safety plans.
- Minnesota's crash records system will be updated to provide a single source of crash data that is accurate, timely, complete, and accessible to all appropriate users. The system will provide analytical tools for making sound decisions regarding resource allocation, project identification, and program evaluation.
- TZD will further reach out to and engage Minnesota's court system as a traffic safety partner, building on judicial programs that currently support TZD efforts.



- TZD partners will explore how to work with researchers and auto manufacturers to improve vehicle technology that makes for a safer driving experience, such as driver-assist systems and vehicle-to-infrastructure communication.
- TZD will encourage informed and active stakeholders representing every Minnesota county working together to address local traffic safety issues.

Finally, TZD stakeholders will focus on changing Minnesota's traffic safety culture by investigating the best ways to reach drivers and effect lasting change. This includes changing perceptions so that all citizens view deaths and serious injuries on our roads as preventable and unacceptable.



For more information on
Minnesota TZD:
Kaydee Kirk
TZD Program Coordinator
Center for Transportation Studies
University of Minnesota
612-626-5854
KKirk@umn.edu

Visit the TZD website:
www.minnesotatzd.org