2017 System Innovation Grants

The Road to Zero initiative was launched in October 2016, by the National Safety Council, Federal Highway Administration, Federal Motor Carrier Safety Administration and National Highway Traffic Safety Administration with the goal of eliminating roadway deaths within 30 years. U.S. Department of Transportation committed $1 million a year for three years to fund Safe System Innovation Grants, and NSC is distributing these grants.

Awardees presented innovative approaches to evidence-based highway safety measures. To qualify, an organization needed to clearly explain how their program will reduce motor vehicle fatalities, set a timeframe for the reduction, outline how the program will be evaluated, detail how the organization intends to reach its target audience and how much money they are requesting.

Each application was reviewed and rated on the same criteria by four separate grant readers. NSC assimilated this input and made selections based on merit. The top seven, totaling $1 million, were chosen for the first Safe System Innovation Grants are listed below.

Grant Recipients

Organization Receiving Grant	Grant Name	Grant Amount
Chicago Department of Transportation	Vision Zero Garfield Park: City of Chicago	$ 185,654
Los Angeles Police Department	Vision Zero – Priority Corridor Safety Details	$ 182,149
National Association for County Engineers	Advancing Local Road Safety Practices with State DOT's	$ 83,545
National Complete Streets Coalition	Safe Streets Academy	$ 185,567
Roadway Safety Foundation	usRap Across America	$ 139,241
San Francisco Metropolitan Transportation Agency	Vision Zero – Distracted Driving	$ 111,393
University of Michigan - Traffic Research Institute	Reducing Fatalities: Framework for Identifying Future Needs in Technological Countermeasures & Public Policies	$ 112,451
	TOTAL:	**$ 1,000,000**

Grant Recipient Programs

Chicago Department of Transportation - Vision Zero Garfield Park: City of Chicago
www.cityofchicago.org
Vision Zero is a multi-departmental City of Chicago action plan identifying goals and strategies to increase traffic safety. Using Illinois Department of Transportation (IDOT) crash data, five dangerous driving behaviors were found to be present in 72% of fatal traffic crashes in the city: speeding, failure to give the right of way, using a cellphone while driving, driving under the influence, and disobeying traffic signals. Reducing the occurrence of these behaviors is the goal of this project. Through data analysis, city staff identified communities with above average rates of severe crashes (crashes causing death or serious, incapacitating injury). These high crash areas comprise 20% of Chicago's geographic area and 25% of Chicago's population, but a disproportionate 36% of severe injury crashes occur within their boundaries.

Also, Chicagoans living in areas of high economic hardship have a traffic crash fatality rate twice as high as those living in areas of low economic hardship. Seven of the eight high crash areas are also areas of high economic hardship.
The Chicago Department of Transportation (CDOT), in partnership with the Office of the Mayor and the Chicago Police Department (CPD), proposes a pilot community outreach and engagement process centered on traffic safety in a single high crash, high hardship area: Garfield Park.

The pilot goals are to improve upon the high visibility enforcement countermeasure model by adding community input and encouraging culturally sensitive communications and deployments, establishing a model outreach and engagement program that can be replicated in other city-identified high crash areas and communities of high hardship, identifying and addressing neighborhood barriers to safe mobility, understanding the perceptions and impact of dangerous driving behavior in Garfield Park, engaging with the community to build understanding and trust, increasing knowledge and self-awareness of dangerous driving behaviors to reduce traffic crashes caused by these behaviors, and creating a sustainable and accessible program that will continue in the community upon completion of the grant term. A successful VZGP pilot will result in positive interactions, increased understanding, and altered behaviors.

Los Angeles Police Department Vision Zero – Priority Corridor Safety Details

www.lapdonline.org

Every forty hours, a community member in the City of Los Angeles loses his or her life in a traffic collision. The City of Los Angeles experiences more traffic fatalities per capita compared to any other peer city in the United States. The Mayor of Los Angeles, Eric Garcetti, has stated the loss of life in traffic collisions is unacceptable.
Over the past two years, the City of Los Angeles has seen an increase in almost every category of traffic collisions, including alcohol-involved, hit and run, nighttime crashes, right of way infringements, speeding and pedestrian traffic collisions. Reducing traffic fatalities by 20 percent by 2017 requires implementation of a project that will have the greatest effect towards overall fatality reduction.
To determine the locations that warrant immediate attention, the City of Los Angeles developed a scoring methodology to identify high priority intersections and corridors along the High-Injury Network (HIN). Each intersection was assigned a score, based on the severity of the traffic collisions at the intersection, vulnerability of the community members at the intersection and social equity of the community within the vicinity of the intersection. In addition to identifying priority intersections, the City of Los Angeles identified priority corridors based on clusters of the highest priority intersections. Analysis of the priority corridors found they account for approximately 20% of all severe and fatal injuries for people walking and bicycling and identified the top five corridors for priority corridor enforcement. Throughout the span of the program, the Los Angeles Police Department (LAPD) will increase its enforcement efforts in the corridors once a month on the same date and time to maximize the potential for media exposure. The project will be evaluated by measuring the success of the reduction of average pedestrians and bicyclists killed or seriously injured at the targeted priority corridors. By the conclusion of the program, the City of Los Angeles expects a 20 percent reduction at each of the corridors.

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National Association for County Engineers (NACE) - Advancing Local Road Safety Practices with State DOT's

www.nace.org

Of the 35,095 roadway fatalities in 2015, more than half of them occurred on rural roads mostly owned by local agencies. The fatality rate is 2.4x higher on rural roads than urban roads. The few state Departments of Transportation (DOT) that have evaluated their programs and allocated resources based on fatalities have seen a significant drop in fatalities.

The program will be based on a successful program in Florida. In July, 2016, NACE decided to test a strategy using the FL DOT. FL has an extremely high number of fatalities compared to other states but state wide had allocated few federal dollars to address this issue. NACE reviewed the state data and developed a FL-specific presentation that included best practices used by other states successfully.

NACE then called a meeting with high level State DOT employees, FHWA, the NACE Affiliate (FACERS), the Florida Tier 2 Center, and other local representatives. The information was presented in a collaborative fashion with much discussion by all parties. Within a few weeks FACERS became a signatory of FL's Strategic Highway Safety Plan (SHSP) and a memo was sent to Florida DOT districts directing improved collaboration. In addition, the FL Safety Engineer began a program to assist rural counties in addressing local road safety.

This program would identify key states and replicate this process. First, state data will be reviewed to determine which states have the largest fatalities on local roads and largest percentage of local fatalities. Next, five states will be selected for further analysis and collaboration. The goal is to improve collaboration between the state and local agencies, adoption of "new" proven practices that other states have used successfully, and change behaviors on allocation of resources to localities. The number of states visited will be the first measure of the project success. The goal is to visit a minimum of five states which indicate success on this element; however, if all funds are not used, additional states may be targeted.

The ultimate success will be improving collaboration between the state and local agencies, adoption of "new" practices for the state, and changing the behaviors on how states allocate resources to local officials. The objective is to modify decision making behaviors and measure this by identifying changes in the interactions between State and local officials.

National Complete Streets Coalition - Safe Streets Academy

www.smarthgrowthamerica.org

According to the National Complete Streets Coalition (Coalition), a program of Smart Growth America (SGA), between 2005 and 2014 a total of 46,149 people were struck and killed by cars while walking in the United States. There is a direct link between increased speeds and a greater risk for pedestrians when a car crashes into them. Lowering speed limits can help improve safety, and better roadway design plays an integral role in altering driver behavior and reducing crash risk. Design treatments and countermeasures can be active and passive measures for improving driver behavior.

To reduce traffic fatalities and injuries, communities across the country have employed a "Four E's" strategy: education, engineering, enforcement, and evaluation. The Coalition and SGA educate professionals and community members on the best practices in engineering to develop a safe systems approach to their transportation planning, design and implementation by creating an innovative Safe Streets Academy, which educates and trains transportation and public works

professionals on the best practices in engineering countermeasures and roadway design to reduce speeds and pedestrian fatalities.
Through a competitive application process, the Coalition will select participants from three jurisdictions to form a Safe Streets Academy cohort. Over a 12-month time frame, the cohort will participate in in-person workshops, distance trainings, and hands-on learning. Using lectures, case studies, and interactive workshops, they will educate the cohort on topics such as planning and designing for slower speeds, active transportation, Vision Zero, planning freight, and transit planning and learn how to update their plans, process, and decision-making to support safe streets. Each jurisdiction will host one of the in-person trainings, so that the cohort can see first-hand the opportunities and challenges of each community.
To complete the Academy, each jurisdiction will design and implement one demonstration project on an identified corridor or intersection in their community that faces serious safety challenges. The DOT must work with their community to design, plan, and execute the project. The Academy, graduates will be equipped with new tools, skills, ideas and experience with effective engineering countermeasures to control speeds.

Roadway Safety Foundation: usRAP Across America
www.roadwaysafety.org
Safe roadways and roadside environments are an integral part of a safe systems approach to eliminating traffic deaths and injuries. Traditional tools and methods for managing safety on a road network require multiyear, geo-located crash data that point to "trouble spots," or areas that experience higher-than-expected crash, injury, and/or death rates. State-level Departments of Transportation have the resources and capacity to record, maintain, and analyze this level of data; however, many smaller agencies at the local/county level do not. With these local and county highway departments being responsible for roughly 75% of the lane-miles of road in the US, this means that a substantial proportion of the nation's roads potentially lack a valid, data-driven means of assessing network-level safety performance.
As an alternative to reliance on crash history data, the United States Road Assessment Program (usRAP) uses a risk-based approach, based on crash prediction models driven by roadway design and traffic control characteristics. The program was developed to offer highway engineers, safety planners, and transportation officials unique and user-friendly tools for evaluating the safety of their road networks and directing limited resources for improvements to the areas where they will have the most impact. Using video logs and other data, usRAP's star-rating system uses a familiar 1 – 5 scale to rate the safety of a road segment according to its design features and operating conditions. For each star rating increase that a road segment earns, the socioeconomic costs of crashes on that stretch are roughly halved. In addition, program software will then prepare a "safer roads investment plan" – an analysis of possible engineering treatments/crash countermeasures that might be considered for the segment in question, and a rank-ordered cost-benefit list of each. Program software can be applied to any road network and data can be collected from freely available and user friendly tools like Google Earth or Google StreetView. While the usRAP protocols, research basis, and software are mature and validated tools, the program needs to be dramatically scaled-up in order to effect lasting, real-world change. In the past, all usRAP training has been done at brick-and-mortar locations, an arrangement that has been both expensive and limiting in terms of the number of people potentially reached. The online program will be rigorous, technical, free of charge, and designed to fully prepare participants for preliminary usRAP accreditation - the same status currently achieved by attending a 1.5-day in-person class.

Civil engineers, transportation officials, road building consultants, and researchers are the primary audience for the free, rigorous, interactive web-based training program offered free of charge that will fully prepare participants to conduct their own independent preliminary usRAP studies. The course will review usRAP's history, its lifesaving potential as a unique data-driven safety planning tool, data collection methods, data coding/quality control procedures, use of the ViDA Software for generating ratings/investment plans, etc. Upon completion of the course, trainees will be granted access to the ViDA Software and be provided with the usRAP Coding Manual and other materials enabling them to conduct independent usRAP studies. The usRAP technical team will review the first real-world project each trainee completes in order to verify accuracy/quality of the work performed then full accreditation as a usRAP provider.
The long-range expected outcomes are evolution in how data-driven safety analysis is performed, with video/photologs providing a unique source of information in data-starved locales, and a substantial decrease in traffic crashes as the nation's roads move from 1- and 2-star averages to 3-star or better.

San Francisco Metropolitan Transportation Agency - Vision Zero San Francisco: Distracted Driving
www.sfmta.com
Driver inattention is a growing issue leading to fatalities. Recent studies have found that over 660,000 drivers are using an electronic device at any time in the US. The California Office of Traffic Safety identifies that 80% of vehicle crashes involve some sort of driver inattention and that cellphone/texting is the number one source of distraction.
San Francisco's Vision Zero, which aims to eliminate traffic fatalities by 2024, uses a data-driven focus to deal with the behaviors and street designs that result in severe and fatal collisions. Because officers need proof or admission of distraction in order to include it as a collision factor, many collision reports do not include citations for distracted driving, making local data difficult to obtain. This program aims to leverage the already existing large body of anti-distracted driving multi-media campaigns.
The Vision Zero SF Distracted Driving program builds on existing efforts, using high-visibility enforcement efforts to connect the knowledge that distracted driving is dangerous and illegal with the fact that San Francisco takes the issue seriously and Police Officers are citing people for the activity because it is a real and dangerous problem. In January 2017, California law prohibits texting, hand held phone calls and any manipulation of the electronic devise with one's hands while driving, but assistance is needed with compliance. San Francisco Metropolitan Transportation Agency, Police Department and Department of Public Health will leverage anti-distracted driving marketing programs to help by using comprehensive research (surveys, focus groups) to understand the public's thinking, identify better outreach tools, develop messaging that changes behavior, develop paid and earned media, develop materials for SFPD to distribute, and work with mobile phone providers etc. to change behavior.
San Francisco has committed heavily to intense and meaningful evaluation of projects both in terms of ensuring that the data collected and evaluated provide meaningful feedback on the impacts of our programs and are rigorous in their implementation.

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University of Michigan – Traffic Research Institute - Reducing Fatalities: A framework for Identifying Future Needs in Technological Countermeasures and Public Policies
www.umtri.umich.edu

For most of the 20th century, the U.S. was on the forefront of traffic safety in the world. Unfortunately, that is no longer the case, as the current road safety level of the U.S. is far below the level of the best-performing countries, such as Sweden, the United Kingdom and the Netherlands. The reason behind it included factors associated with human, vehicle, and infrastructure, which could be very complex and require further investigation. Because of the complexity of the problem, to ultimately bring fatalities to zero, a wide variety of efforts are necessary.
The University of Michigan Transportation Research Institute (UMTRI) has been dedicated to interdisciplinary road safety research focusing on identifying risk factors and future needs to reduce road fatalities.
UMTRI examined a list of five risk factors associated with road safety that, if they could be addressed, would yield the largest improvements. Those factors included failing to use seat belts, alcohol-impaired driving, young drivers, speeding, and nighttime driving. However, these factors often occur at the same time, as indicated by the fact that the total estimated benefit from addressing all five problems is a crash reduction of more than 100%. A holistic view of the benefits by implementing a variety of safety countermeasures from vehicle safety technologies to providing the needed metrics for potential policy changes to maximize their effectiveness. A tool that can demonstrate the combined impact on road fatality from various safety technologies and legislative practices is not available.
In this proposed study, UMTRI will leverage a tool developed previously at UMTRI called UTMOST: Unified Theory for Mapping Opportunities in Safety Technologies (UMTRI-2007-22 and UMTRI-2009-15). The core of this tool is a statistical model representing crashes in terms of pre-crash conditions, occupant characteristics, crash type, and injury outcome. Overlaid on this is a model of the effects by implementing a number of safety countermeasures, including active safety technological countermeasures and public policies. Because the current version of UTMOST focused on injuries not fatalities, in the proposed study, the main goal is to expand the capabilities of UTMOST to include predictions of how fatalities are affected by active safety technologies and public policies and also to develop modules to estimate possible benefits from passive safety improvements. We will then exercise the tool to estimate how fatalities could be reduced by implementing current technologies and best practice recommendations for legislation. By doing so, it will also help us identify the characteristics of the remaining fatal crashes, and identify what improvements in active and passive safety systems would be needed to bring fatalities to zero.