



## Local Technical Assistance Program

Your Local Technology Transfer Newsletter



### Logo Contest Winner

Congratulations to Matthew Zochowski from the Camden County Department of Planning for winning the New Jersey Local Technical Assistance Program Logo Design Contest!

After receiving dozens of submissions from all around the state of New Jersey, NJLTAP, along with its sponsors at the New Jersey Department of Transportation, selected Mr. Zochowski's logo last month. Mr. Zochowski's design was chosen from a field of many qualified entries, all of which embodied the unique spirit of New Jersey's infrastructure system. We would like to thank all of the contestants who sent in their ideas; it was not an easy choice!

You can find the NJLTAP logo on our future newsletters, training courses, and brochures that we will be handing out.

**Congratulations Matthew!**

### Paving the Way with High Friction Surface Treatment

In its efforts to continue promoting innovation around the country, the Federal Highway Administration selected High Friction Surface Treatments (HFST) as one of its Every Day Counts (EDC) Round 2 initiatives. It is also one of the FHWA nine proven countermeasures to reduce roadway departure crashes. HFST is used to help maintain the ideal amount of pavement friction for safe driving. HFST involves site specific application of very high-quality, durable aggregates using a polymer binder that restores and maintains pavement friction where the need for a safer pavement surface is the most critical. HFST has been deployed in more than 75% of the states, and is scheduled to be used in two new pilot projects for the New Jersey Department of Transportation (NJDOT). A course on High Friction Surface Treatment Installation and Inspection was recently attended by NJDOT and several counties and Metropolitan Planning Organizations to ensure that key considerations for installation and proper inspection will occur. The NJDOT is hopeful that local agencies will also consider implementing HFST. We look forward to the increased safety of our roadways!

### this issue

- Every Day Counts TIM in NJ **P.2**
- NJ Police Crash Investigation Report **P.3**
- Road Diets in NJ **P.4**
- Autonomous Vehicles **P.5-6**
- High Tech Trains Coming to the NEC **P.7**
- EDC-4 Updates and Information **P.10-11**



## Every Day Counts Traffic Incident Management Deployed in New Jersey

The Federal Highway Administration (FHWA) defines Traffic Incident Management (TIM) as a planned and coordinated multidisciplinary process to detect, respond to, and clear traffic incidents so that traffic flow may be restored as safely and quickly as possible. Why is this so important? Well for starters, Texas A&M University Transportation Institute found that in 2014, U.S. citizens spent an extra 6.9 billion hours on roadways and consumed an extra 3.1 billion gallons of fuel during the additional travel time, solely due to traffic congestion, resulting in an additional cost of \$160 billion dollars. This averages out to a cost of almost \$1,000 per motor vehicle commuter in the U.S. More importantly, first responders and motorists are killed or seriously injured as a result of secondary crashes due to changing traffic patterns and congestion created by these incidents. The likelihood of a secondary crash increases by 2.8 percent for each minute the primary incident remains a roadway hazard. This sobering fact was evidenced when New Jersey State Trooper Sean Cullen responded to a motor vehicle crash on Interstate 295 in West Deptford Township in March of this year and was struck by a passing motorist at the scene and died. Unfortunately, tragedies like this happen all too often and leave families devastated as they mourn and cope with the loss of their loved ones.

The New Jersey Department of Transportation (NJDOT), Division of Traffic Operations, has taken a proactive role in addressing TIM that dates back to 1996 when the Department formed a partnership with the New Jersey State Police (NJSP) to address such incidents. This Incident Management Unit responds to major scenes and renders assistance in managing the congestion and traffic that incurs. Further enhancements to identify, address and remove incidences quickly off New Jersey roadways include two state-of-the-art Traffic Operations Centers that utilize over 400 cameras strategically located on highways that feed real-time information back to the centers for analysis and response. Additionally, the NJDOT employs sensors and dynamic message boards to alert motorists well in advance of an incident and Safety Service Patrols to assist motorists that have broken down on the highway and need aid. These patrols are also

equipped with variable message boards, arrow boards, cones and signs that can assist in notifying and diverting traffic when necessary.

Since 2010, NJDOT, in conjunction with the NJSP and the Division of Fire Safety have been conducting incident management training based upon Highway Incident Safety Guidelines that were developed over several years by a committee comprised of representatives from a multitude of transportation and emergency response agencies. This living document has been reviewed by the Attorney General's Office and is the cornerstone of incident management training. In 2014, NJDOT incorporated the National Traffic Incident Management Responder Training Program into its existing training by conducting four National Train-the-Trainer Sessions regarding the strategies, procedures and best practices when detecting, responding to, and clearing incidents quickly. To date, over 7,500 incident responders have been trained. The NJDOT, Division of Traffic Operations, recently added a traffic incident management website, NJTIM.ORG, to educate the public, assist trainers and allow responders to sign-up for classes.

The ultimate goal of this program is to educate the almost 30,000 police, fire, ems, hazmat, tow, utility, public works and transportation professionals that respond out to these dangerous scenes every day. For more information and to sign-up for training, please go to NJTIM.ORG and <http://cait.rutgers.edu/cait/traffic-incident-management>.



## New Jersey Police Crash Investigation Update Report

The Statewide Records Coordinating Committee (STRCC) has been diligently working over the past two years to solicit input from stakeholders for the purpose of incorporating changes and making updates to the *Police Crash Investigation Report (NJTR-1)*. The NJTR-1 is a form used by law enforcement officials to capture contemporary motor vehicle crash investigation data critical to improving safety on our roadways, ultimately saving lives of motorists in New Jersey. A NJTR-1 subcommittee was formed by the STRCC, and through regular meetings has recently completed the final version of the crash investigation report, corresponding overlays and training materials.

The new NJTR-1 form, which will take effect January 01, 2017, has two main alterations. First, there has been an increase in the number of data fields and elements for the purpose of capturing additional information for analysis while increasing New Jersey's compliance with the Federal standards known as the Model Minimum Uniform Crash Criteria (MMUCC). Secondly, the form is two pages in length to accommodate more detailed reporting with the narrative and diagram now located on page two (NJTR-1A).

The updated form and overlays are scheduled to be posted to the NJDOT website early September. This will give vendors the ample time necessary to complete the formatting, additions and alterations to the electronic version of the form prior to the implementation date of January 01, 2017. Although it is the goal of the STRCC to have all police departments statewide utilizing an

electronic version of the new crash report, the committee is cognizant of the fact that several departments are still completing paper reports. Therefore, NJTR-1 booklets will be made available at several distribution sites prior to the January 01, 2017 implementation date. The report will also be available to police departments digitally, where they are encouraged to print additional copies of their own as needed in the future.

Training regarding the new form has already started with the Spring 2016 NJTR-1 Refresher Training Workshops. The current Rutgers Field Training Manual and the Police Guide Book are in the process of being merged into one document, the *New Jersey NJTR-1 Crash Report Manual*, and will serve as the reference guide for completing the form and will also include the updated changes. Furthermore, an interactive web-based training module will be developed and will reflect the revisions. Both the updated manual and the web-based training will be available on the DOT website to assist officers in completing the new form while in the field. In addition, classroom training will take place throughout the Spring of 2017.

For further information regarding the implementation process, you can contact Dave Maruca at [dem200@rci.rutgers.edu](mailto:dem200@rci.rutgers.edu).



NJTR-1 Form  
Field Manual  
Prepared by  
Police Technical  
Assistance Program



## Fall Driving Tips

Fall is a beautiful time of year, but is also host to unique dangers on the road. The traffic environment changes wildly from the summer, with leaves coating the streets and students returning to school. These environmental factors, coupled with increased foot and bicycle traffic, create many hazards on the roads. Be prepared this fall; knowing about potential road hazards is the best way to stop them from becoming an obstacle when it matters.

- **Drive slower**—School buses, students crossing the streets, and leaves on the ground can leave an unsuspecting driver in trouble and are unique hazards not always present in the summertime.
- **Watch out for deer**— especially in the early morning and evening hours, autumn is the time of year when deer migrate and mate, so if you live in an area with heavy deer activity, be on the look out for deer jumping in the road.
- **Be wary of fog**—With the cold fall mornings comes fog; often times drivers use high beams, but this only exacerbates the problem causing glare on the road for themselves and other drivers.
- **Check your tire pressure**—As the temperature begins to cool, your tires will often contract leading to loss of pressure. Check your tire pressure regularly to ensure optimal levels.

## Road Diets in the State of New Jersey

A road diet is defined by the Federal Highway Administration (FHWA) as “removing travel lanes from a roadway and utilizing the space for other uses and travel modes.” In 2012, the FHWA designated road diets as a proven safety countermeasure and has since encouraged their use across the country. According to the FHWA, road diets can reduce the number of traffic crashes by up to 47 percent. However, several other studies have demonstrated that, on some roadways, this number can increase up to 70 percent. Although there are several types of roadway configurations (four to five lanes, two to three lanes, three to three lanes, and five to three lanes), the four- to three-lane configuration is the most common type, as shown in Figure 1. Four-lane undivided roadways have relatively high crash rates due to higher traffic volumes and conflicts between through traffic and turning vehicles. In this road rechannelization or lane reduction, an existing four-lane undivided roadway converts into a three-lane undivided roadway, including a two-way left turn (TWLT) lane, also known as a center turn lane, and two through traffic lanes. The freed-up space can be reallocated for other road users, such as pedestrians, bicyclists, and transit riders, creating an opportunity to achieve Complete Street goals.

Road diets are usually considered to be relatively low-cost improvements because most of the effort includes restriping only. Implementing a road diet plan can significantly improve mobility and road safety by reducing the number of conflict points, reducing the speed differential, and providing facilities for pedestrians and bicyclists. In other words, road diets create a much more orderly environment for safe travel. Left-turning vehicles have a safe place to wait before making a turning movement and have fewer lanes to cross. A wide shoulder or bike lane

creates a safer environment for bicyclists, and pedestrians have a shorter crossing length with fewer conflicts. In addition, they also provide faster, safer, and more efficient travel for emergency vehicles by providing a better sight distance and fewer lanes to cross.

The New Jersey Department of Transportation selected Road Diets as one of

the Every Day Counts 3 initiatives it would implement to improve safety. The very successful New Jersey road diet on Route 45 was the first road diet on the state system. During the past five years, the New Jersey Department of Transportation (NJDOT) has undertaken 47 road diets on state, county, or local roads throughout the state. Figure 2 illustrates examples of completed road diets in New Jersey. Road diets have been implemented on facilities whose average annual daily traffic (AADT) ranges from 2,000 to 26,000 vehicles per day, with most roads having an AADT of fewer than 20,000 vehicles per day. The crash analysis results of five completed road diets in three different towns indicated an average crash reduction rate of between 20 and 30 percent, with severe crashes reduced between 50 and 60 percent.

Note that road diets can be a critical part of a community’s economic development and downtown redevelopment strategy. Although road diets can manifest in different communities throughout the state and country, they are fundamentally a local decision. Thus, it is necessary to work very closely with local communities to determine how a road diet fits within the local context.

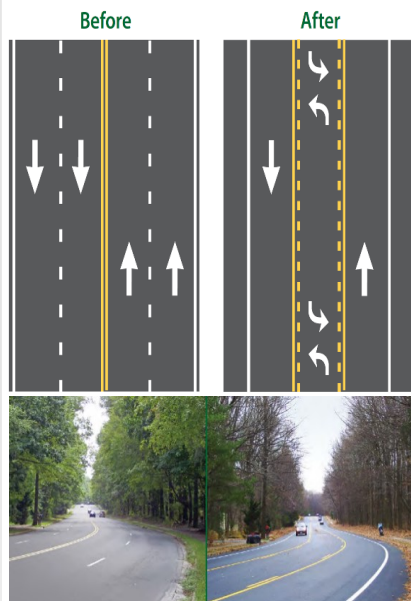
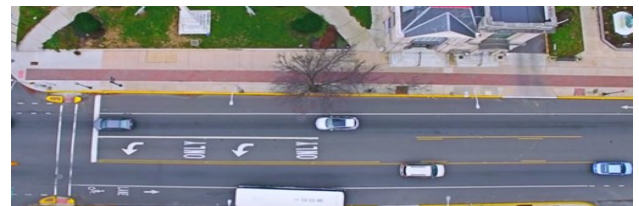


Figure 1. Typical Road Diet Basic Design (Source: FHWA)



Passaic County, NJ



Woodbury, NJ



Ocean City, NJ

Figure 2. Examples of Implemented Road Diets in New Jersey (Source: NJDOT)

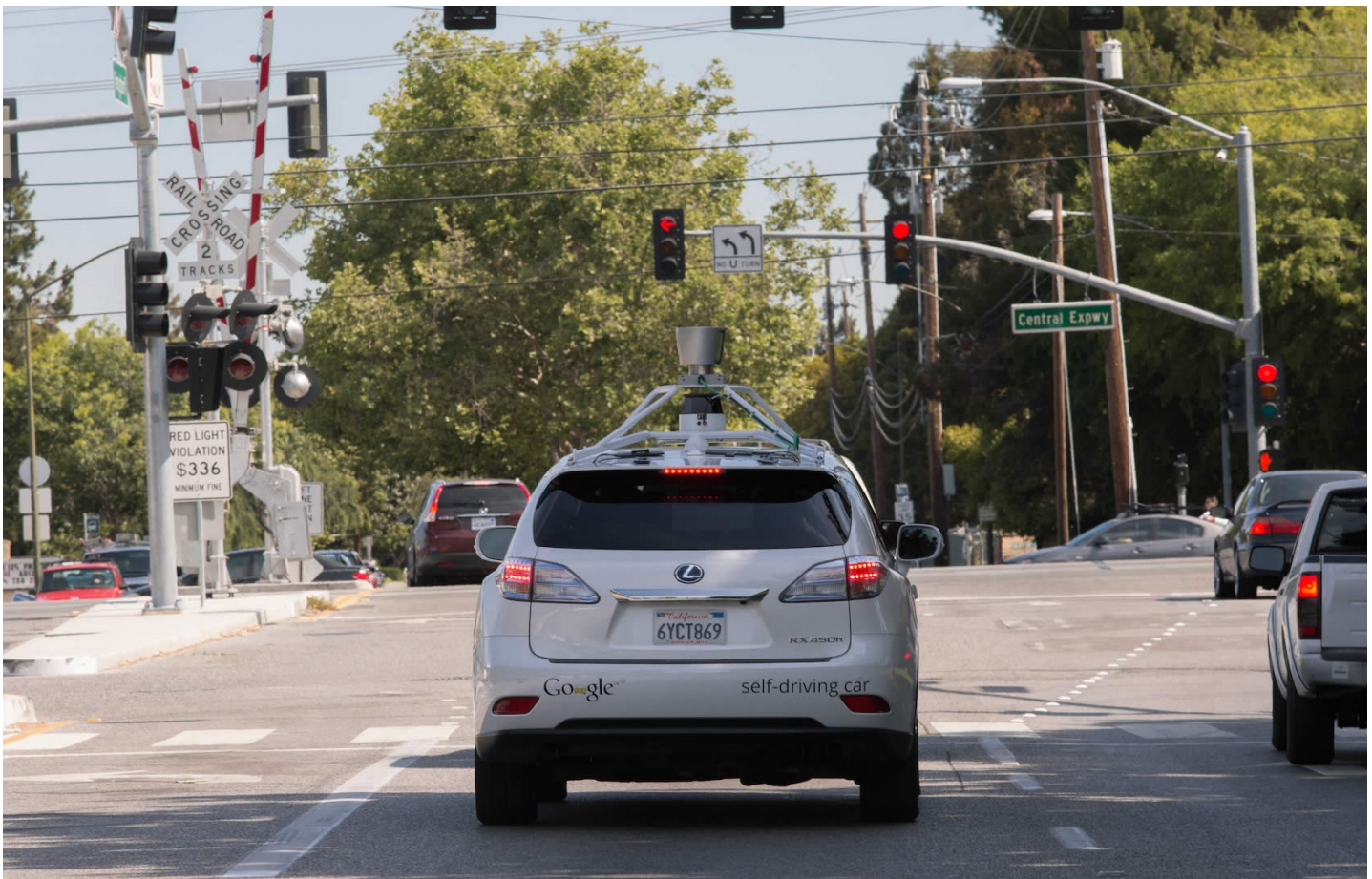
## Autonomous Vehicles: Adapting 21<sup>st</sup> Century Technology to 20<sup>th</sup> Century Infrastructure

While driverless cars may have once seemed like an invention befitting only a science fiction novel, the reality is that the future is here and autonomous vehicles are already on our roadways. While the actual deployment of large scale fleets of autonomous vehicles (AV) is still on the horizon, many companies have already begun development, and are now testing on roadways. In the midst of the excitement and concern surrounding AVs, there are still questions and obstacles that the vehicles face at a number of levels, including regulatory, safety, design, and economic. The good news is that private companies and government entities are already working together to tackle the issues and ease the integration of this technology that is on the fast track to deployment.

[Various studies and real world research](#) efforts have pointed to autonomous and connected vehicles as having numerous travel benefits in addition to mitigating human error in driving. The California DMV defines an autonomous vehicle as “any vehicle equipped with technology that has the capability of operating or driving the vehicle without the active physical control or monitoring of a natural person”. AVs thus will not only allow passengers to sit back and enjoy the ride, but may have the potential to reduce traffic congestion, improve highway safety and make even the far suburbs more convenient places to live. The dedication to improving the safety of our roads can-

not be understated, given that according to the National Highway Traffic Safety Administration (NHTSA), “[driver error is the cause of 94 percent of accidents](#)”. Autonomous Vehicles, especially working in conjunction with large scale fleets of connected vehicles have the potential of widely reducing traffic accidents.

On top of making commuting a more relaxing experience, AVs will likely help traffic flow more smoothly and efficiently, and ultimately cut down on travel times for commuters. According to the Texas Transportation Institute, “the typical driver spends about 42 hours a year stuck in traffic”. AVs will likely take out other human functions in a car, leaving the vehicle with more consistent speeds and better communication with infrastructure and other vehicles, which can reduce congestion issues. As a result, less human drivers on the road may also reduce the need for engineered safety strategies intended to assist human drivers on the road, such as rumble strips or speed bumps. In addition to changing the way we commute and travel, AVs have the potential to change how and where we live. As the USDOT notes, autonomous vehicles “have the potential to transform personal mobility and open doors to people and communities - people with disabilities, aging populations, communities where car ownership is prohibitively expensive, or those who prefer not to drive or own a car - that today have limited or impractical options”.



## Autonomous Vehicles: Continued

According to global consultant McKinsey & Company, “consumers will begin to adopt AVs starting in 2020, and AVs will become the primary mode of transportation by 2050”. However, the future of AVs is still largely dependent on solving issues of safety, technology, cost, social acceptance, federal regulations, and other drivers. All of these are challenges that must be overcome before AVs are the new normal on the roads. As private companies continue research and development, some experts say that developing fail-safe software for driverless cars includes rethinking how software is even designed. Most of the software we use in our everyday devices – phones, laptops, and “smart”-accessories – are not intended to operate for long periods of time without crashing or freezing. In a driverless vehicle, such a software error would have larger consequences and even deadly results. The safety of autonomous vehicles remains a major issue and question for many; as the [New York Times pointed out, “Google’s self-driving car has already run into another perplexing safety problem: human drivers.”](#) Although AV sensors are constantly being improved and refined for a smoother transition with human drivers, one of the biggest challenges facing automated cars is blending them into a world in which humans don’t always follow the rules. While test cars like Google’s fleet of autonomous cars have been programmed to follow the law exactly, human drivers who run a stop or even do not come to a full stop, can paralyze the AV sensors and cause a delay in the vehicles path; or worse, can cause an accident.

As developers continue to fine tune their product and technology, State governments have already started preparing for arrival of AVs. States such as California, Florida, Michigan and Nevada have recently passed legislation governing the use of driverless cars, and other states are considering or working on implementing similar legislation. In June 2016, Pennsylvania created the Autonomous Vehicles Testing Policy Task Force in order to “collaboratively develop guidance that PennDOT will use when drafting autonomous vehicle policy”. PennDOT is chairing the task force, which is comprised of state, federal and private-industry officials such as the Federal Highway Administration, AAA, Carnegie Mellon University (CMU) and Uber Technologies.

### Regulations to Guide the Future

From a regulatory standpoint, the most notable development in the world of autonomous vehicles is the [US Department of Transportation release of the “Federal Automated Vehicles Policy” in September 2016](#). This policy

was created in order to meet the “remarkable speed with which increasingly complex HAVs are evolving” and “to take new approaches that ensure these technologies are safely introduced, provide safety benefits today, and achieve their full safety potential in the future”. Overall, the policy is an agency guidance rather than a set of rules, which is meant as “a regulatory framework and best practices to guide manufacturers and other entities in the safe design, development, testing, and deployment of HAVs”.

The guidelines are broken up into four major areas of: Vehicle Performance Guidance for Automated Vehicles, Model State Policy, NHTSA’s Current Regulatory Tools, and New Tools and Authorities. The Vehicle Performance Guidance for Automated Vehicles (or “Guidance”) section outlines best practices for the safe pre-deployment design, development and testing of HAVs prior to commercial sale or operation on public roads. The Model State Policy section confirms that states retain their traditional responsibilities for vehicle licensing and registration, traffic laws and enforcement, and motor vehicle

*“While test cars like Google’s fleet of autonomous cars have been programmed to follow the law, human drivers who run a stop sign or do not come to a full stop can paralyze the AV sensors and cause accidents”*

insurance and liability regimes. The shared objective is to ensure the establishment of a consistent national framework rather than a patchwork of incompatible laws. The NHTSA Regulatory Tools section confirms that NHTSA will continue to exercise its available regulatory authority over HAVs using its existing regulatory tools: interpretations, exemptions, notice-and-comment

rulemaking, and defects and enforcement authority. NHTSA has the authority to identify safety defects, allowing the Agency to recall vehicles or equipment that pose an unreasonable risk to safety even when there is no applicable Federal Motor Vehicle Safety Standard (FMVSS). The New Tools and Authorities section identifies potential new tools, authorities and regulatory structures that could aid the safe and appropriately expeditious deployment of new technologies by enabling the Agency to be more nimble and flexible.

Overall, the collaboration between a number of involved parties, including state and federal policy makers, safety advocates, city planners, auto makers and insurers, software developers, and others needs to continue as both the product and the regulations that guide it are produced and refined. As the overhaul of our nation’s transportation infrastructure continues to be realized, the importance of safety, regulations, and honest vehicle testing is greater than ever.



## \$2.5B Federal Loan to Bring High-Tech Trains to the Northeast Corridor

Improvements and investment in Amtrak trains along the Northeast Corridor route coming from the Federal level at a time when ridership and capacity are at record highs. In FY 2015, Amtrak reported ridership of 11.7 million along the Northeast Corridor, which was a record high. Acela Express services showed a ridership increase from 2.5 million in FY 2002, to nearly 3.5 million in 2015. In late August, the Acela service received a \$2.45 billion federal loan from the U.S. Department of Transportation, marking the largest USDOT loan ever. The Federal Railroad Administration's Railroad Rehabilitation & Improvement Financing program through which the loan was secured will be repaid through growth in NEC revenues. With the population along the Northeast corridor expecting to reach 58 million by 2040, the loan represents an investment in rail system planning for the future.

Overall, the funds are expected to be used for new technology, track upgrades, and platform improvements. Track upgrades between the New Carrollton, Maryland, and Baltimore stations, as well as station and platform improvements at the under-construction Moynihan Station in New York City, Washington Union Station, Baltimore Penn Station, and New Carrollton Station have all been earmarked for about \$450 million of the loan.

Most notably, however, Amtrak has announced that the bulk of the loan is earmarked for contract with Alstom to supply 28 new high-speed trains. Vice President Joe Biden made the historic announcement at the station that bears his name in Wilmington, Delaware on August 26th, saying that "This is a serious, serious upgrade... One out of every three jobs (in the country) are here, along this corridor... you'd need seven more lanes on I-95 to accommodate the traffic if Amtrak shut down".

The trains will replace the existing Acela fleet by 2021, and because the new trains will be able to accommodate up to 33% more passengers than the Acela sets they are due to replace, capacity is projected to increase by about 40%. With additional trains and capacity, Amtrak says it will be able to offer half-hourly peak Acela Express services between Washington DC and New York as well as hourly services between New York and Boston. In addition, when Amtrak's new trains enter into revenue service in 5 years, they will present travelers with high-tech transportation options unmatched by any other in the country – with USB connectors, improved Wi-Fi capability, and speeds up to 186 miles per hour.

## Traffic Fatalities Up Sharply in 2015

After five decades of declining fatalities, the nation finally experienced a sharp jump in traffic fatalities in 2015. According to the National Highway Transportation Safety Institute, the fatality rate increased 7.2% from 2014, for a total of 35,092 lives lost on our nations roadways. The last time there was an increase of this magnitude was back in 1966, almost a half century ago.

To address this increase, the White House, Department of Transportation, and National Highway Transportation Safety Administration have all joined together issuing a call to action to determine the cause of the increase, as well as the best ways to combat it from occurring again.

Some early signs points to one of the culprits being the increase of the total numbers of cars on the road; naturally, more cars tends to lead to more accidents. As the nation's job recovery continues, more people find themselves commuting to work. Furthermore, as gas prices continue to drop, more Americans are taking their cars out for leisure than before, particularly the younger generation. Overall, Americans experienced a 3.5% higher vehicle miles traveled rate, the largest increase in 25 years.

However, that is not to say the overall trend has been bad. Just a decade ago the fatality rate was almost 25% higher, with nearly 43,000 fatalities reported in 2005. Increased driver education, law enforcement, as well as better safety and road design has all led to a decrease in impaired driving, better seatbelt use, and an overall lower fatality rate.

That said, there is still much to be done to combat rising fatalities. While the usual culprits of low seatbelt use, drunk, drowsy and distracted driving accounted for a large number of accidents, pedestrian and pedacyclist fatalities were also higher than they have been in 25 years. These issues will only be rectified through a combination of approaches, such as innovative engineering solutions, comprehensive enforcement strategies, and improved driver education.

“We’re seeing red flags across the U.S. and we’re not waiting for the situation to develop further,” said Dr. Mark Rosekind, NHTSA Administrator. “It’s time to drive behavioral changes in traf- fic safety and that means taking on new initiatives and addressing persistent issues like drunk driving and failure to wear seat belts.”



[www.nhtsa.gov](http://www.nhtsa.gov)

Quarter	1st Quarter (Jan–Mar)	2nd Quarter (Apr–Jun)	3rd Quarter (Jul–Sep)	4th Quarter (Oct–Dec)	Total (Full Year)
<b>Fatalities and Percentage Change in Fatalities for the Corresponding Quarter From the Prior Year</b>					
2005	9,239	11,005	11,897	11,369	43,510
2006	9,558 [+3.5%]	10,942 [-0.6%]	11,395 [-4.2%]	10,813 [-4.9%]	42,708 [-1.8%]
2007	9,354 [-2.1%]	10,611 [-3.0%]	11,056 [-3.0%]	10,238 [-5.3%]	41,259 [-3.4%]
2008	8,459 [-9.6%]	9,435 [-11.1%]	9,947 [-10.0%]	9,582 [-6.4%]	37,423 [-9.3%]
2009	7,552 [-10.7%]	8,975 [-4.9%]	9,104 [-8.5%]	8,252 [-13.9%]	33,883 [-9.5%]
2010	6,755 [-10.6%]	8,522 [-5.0%]	9,226 [+1.3%]	8,496 [+3.0%]	32,999 [-2.6%]
2011	6,726 [-0.4%]	8,227 [-3.5%]	8,984 [-2.6%]	8,542 [+0.5%]	32,479 [-1.6%]
2012	7,521 [+11.8%]	8,612 [+4.7%]	9,171 [+2.1%]	8,478 [-0.7%]	33,782 [+4.0%]
2013	7,166 [-4.7%]	8,207 [-4.7%]	9,025 [-1.6%]	8,496 [+0.2%]	32,894 [-2.6%]
2014	6,843 [-4.5%]	8,171 [-0.4%]	8,782 [-2.7%]	8,879 [+4.5%]	32,675 [-0.7%]
2015†	7,350 [+7.4%]	8,800 [+7.7%]	9,750 [+11.0%]	9,300 [+4.7%]	35,200 [+7.7%]



## USDOT Launches Build America Bureau To Promote Transportation Infrastructure

The Build America Bureau (the “Bureau”) is responsible for driving transportation infrastructure development projects in the United States. The Bureau streamlines credit opportunities and grants and provides access to the credit and grant programs with more speed and transparency, while also providing technical assistance and encouraging innovative best practices in project planning, financing, delivery, and monitoring. To achieve this vision, the Bureau draws upon the full resources of U.S. DOT to best utilize the expertise of all the modes within the Department while promoting a culture of innovation and customer service.



The Bureau builds upon the foundation established by the Build America Transportation Investment Center (the “BATIC”). The BATIC, which has served as the single point of contact and coordination for states, municipalities and project sponsors looking to utilize federal transportation expertise, apply for federal transportation credit programs and explore ways to access private capital in public private partnerships.

The Bureau combines the BATIC, TIFIA and RRIF loan programs, Private Activity Bonds (PABs), and the new \$800 million FASTLANE grant program all under one roof within the Office of the Undersecretary for Transportation Policy.

### EXPAND

The use of federal transportation credit programs such as TIFIA and RRIF.

### INNOVATE

New approaches to project development processes and funding challenges and institutionalize technology and best practice across credit programs and modal teams.

### DELIVER

Streamlined technical and financial assistance to accelerate project delivery.



## New Jersey Local Technical Assistance Online

At our website <https://cait.rutgers.edu/njltap>, you can find the latest news and information from your local technical assistance program. You can view and register for our entire training course listing at <https://cait.rutgers.edu/cait/training> and also see the upcoming events that we will participate in.

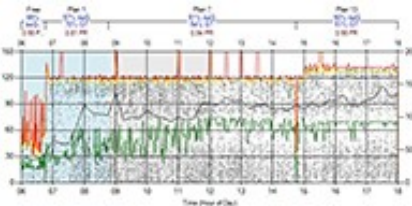
Have you checked out our resource page recently? On our website at <https://cait.rutgers.edu/njltap/resources-links> you can access all sorts of useful information to accommodate your program. Need an answer about Federal Aid Requirements? Want to learn more about our Retroreflectometer Loan program? Interested in getting some no-cost technical assistance for your county and municipality? Please visit the website to find out about the other services New Jersey LTAP offers your community.

## Find Out More: EDC4

Launched in 2010, the Federal Highway Administration (FHWA) Every Day Counts (EDC) strategic deployment program focuses on innovations with proven benefits in shortening the time needed to complete highway projects. Many of the innovations offer additional advantages such as enhanced safety, improved quality, and reduced impact on the driving public. The fourth round of EDC has recently been selected and will again feature 11 technologies and practices that can shorten the project delivery process, improve durability, safety, and environmental sustainability. FHWA will promote these particular initiatives for two years, with teams of specialists to explain the benefits to stakeholders across the country via live, interactive webinars along with other training methods. States will select which innovations they feel make the most sense for implementation, and will work on deployment at both the state and local levels through a variety of activities, including the EDC Exchange Webinars, marketing materials, demonstration projects, and workshops.

The 2017-18 innovations range from accelerated and more efficient data collection to treating roads to withstand any type of weather:

### Accelerating Traffic Incident Management (TIM) Data Collection

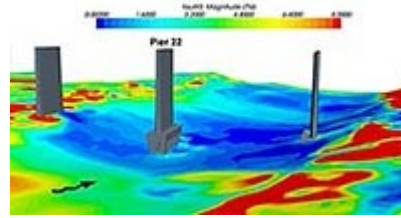


This innovation focuses on improving the adoption and consistency of the collection of TIM data and increasing the volume of data

from transportation, law enforcement, and other responder agencies. It also promotes the use of low-cost, off-the-shelf technologies that streamline data collection, so agencies can measure and improve the performance of their programs.

### Automated Traffic Signal Performance Measures (ATSPMs)

The costs and effort for highway agencies to collect performance data translates into congestion, reduced safety, and increased delays for vehicles, pedestrians, and bicyclists. Automated traffic signal performance measures are revolutionizing the management of traffic signals by providing the high-resolution data needed to actively manage performance.



### Collaborative Hydraulics: Advancing to the Next Generation of Engineering (CHANGE)

Advanced hydraulic modeling technologies offer planners, scientists, and engineers tools to depict specific physical, environmental, and habitat characteristics more accurately through 3-D visualization of flow, velocity, and depth.

### Community Connections

This innovation underscores the value of transportation in community revitalization, such as improving connectivity between disadvantaged populations and essential services. Forums will be held for transportation professionals to discuss and consider highway retrofitting, rehabilitation, or removal options to improve connections between urban cores and neighboring communities.

### Data-Driven Safety Analysis (DDSA)

This type of analysis enables agencies to determine the expected safety performance of roadway projects more reliably, predict the safety implications of their decisions with confidence and results in more scientifically sound, data-driven approaches to committing resources, as well as fewer and less severe crashes on the nation's roadways.

### e-Construction and Partnering: A Vision for the Future

By using digital e-Construction technologies, DOTs can enhance partnering among stakeholders on project teams, while improving communications and workflow to streamline the delivery of projects.

### Integrating NEPA and Permitting

Integrating the NEPA and permitting processes seeks to transform how agencies and stakeholders conduct concurrent, synchronized environmental and permitting reviews, saving time and cost for the agencies involved.



## Find Out More: EDC4 (Continued)

### Pavement Preservation (When, Where, and How)

Applying a pavement preservation treatment at the right time (when), on the right project (where), with quality materials and construction (how) is a critical investment strategy to help meet performance expectations. This innovation helps deploy an array of different analyses, treatments, and construction methods to help infrastructure owners achieve and sustain a desired state of good road repair despite tight budgets.

### Road Weather Management – Weather-Savvy Roads

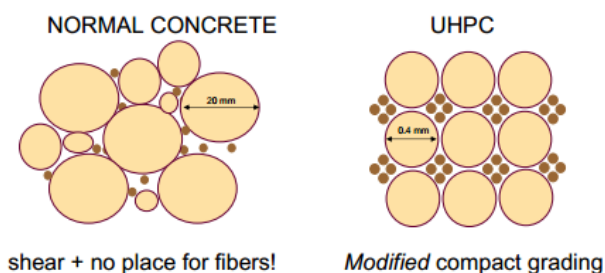
This proactive innovation deploys two distinct road weather management solutions: (1) Pathfinder, which brings together DOTs and the National Weather Service to provide consistent messaging on adverse weather and road conditions and (2) advanced vehicle-based technologies, also referred to as integrated mobile observations.

### Safe Transportation for Every Pedestrian (STEP)

This innovation helps transportation agencies address uncontrolled crossing location crashes or crashes at intersections with no traffic signal or STOP sign by promoting cost-effective countermeasures with known safety benefits.

### Ultra-High Performance Concrete Connections for PBES

Prefabricated bridge elements and systems (PBES) offer superior durability and speed the onsite construction of bridges. Ultra-high performance concrete can be used to help provide simple, strong, and durable connections for prefabricated bridge elements



For more information and to review more detailed descriptions of these innovations, please visit: [https://www.fhwa.dot.gov/innovation/everydaycounts/edc\\_4/](https://www.fhwa.dot.gov/innovation/everydaycounts/edc_4/)

## Beware, and Be Aware: Worker Fatigue

Highway work is a physically demanding job, requiring concentration, strength, and endurance. Throw into the mix heavy machinery, automobiles whizzing by at high speeds, and repetitive work tasks, and there is no surprise that the job is a dangerous one. Indeed, every year over 120 highway workers are killed on the job, with thousands more suffering serious injuries.

One of the major causes of this is worker fatigue. While fatigue has long been an issue, as our nation's infrastructure begins to show signs of aging, more demands are placed on the workers who repair them. What was once a traditionally daytime endeavor has seen extended night time shifts to make sure roads are repaired quickly. Workers are often asked to work over an eight hour day, frequently switch between day and night shifts, and work more than five days in a row. However, while this quick turnaround minimizes the disruptions to traffic, the worker's safety suffers on the other side of the equation.

While there are a litany of new technologies in place to try and make our work zones safer, what can workers themselves do to help guard against the dangers of fatigue? One of the best ways is the simplest; get plenty of sleep before you show up to work, and take rest breaks while you are there. Breaks as short as ten minutes long can help relieve fatigue and reduce stress. During breaks, workers should try and walk around, drink water, stretch, and speak with friends and coworkers. It is most important to physically get away from the work if possible; one of the greatest dangers of highway work is the repetitive nature of it which can cause one to lose focus. This is not something that can be overcome by willpower or concentration. Should you ever notice yourself losing focus, it's probably time to take a break as quickly as possible.

Furthermore, pay attention to the work schedules of not only yourself, but your coworkers as well. It is important to remember that lives are on the line. While new technologies are being developed to make highway work safer, our best bet is to always look out for each other first.



## Publication Statement

This newsletter is published bi-annually by the New Jersey Local Technical Assistance Program, Center for Advanced Infrastructure and Transportation, Rutgers University, using funds from the Federal Highway Administration and the New Jersey Department of Transportation. The opinions, findings, or recommendations expressed in this newsletter are those of the New Jersey Local Technical Assistance Program and do not necessarily reflect the views of the Federal Highway Administration nor the New Jersey Department of Transportation nor Rutgers University. Any product mentioned in this newsletter is for information purposes only and should not be considered a product endorsement.



## Upcoming Events

**This autumn we would like to introduce you to the newest courses in the LTAP catalogue. Whether you're a seasoned veteran or new to the job, LTAP's courses will provide you with the best instruction on what you need to know. Register today!**

### **Principles of Paving — November 2nd, 2016 8:30 a.m.—3:30 p.m.**

This course is for municipal or county employees and those that work with them who are involved in the planning, inspecting and placing of asphalt pavements. The course will provide the information needed to properly plan and monitor a hot mix asphalt paving project.

### **Risk Management Strategies for Public Works Departments — December 8th & 9th, 2016**

8:30 a.m.—3:30 p.m.

This workshop provides an overview of the legal duties and responsibilities of road agencies and their employees. Key legal concepts relating to the liability of roadway agencies are reviewed from a risk management standpoint. Common types of claims/lawsuits brought against street departments and roadway agencies are identified through examples and case studies.

### **An Introduction to NJ Traffic Regulations: Engineering and Traffic Studies — October 18th, 2016, December 14th, 2016**

8:30 a.m.—3:30 p.m.

This course for individuals that conduct engineering and traffic studies will review how to legally establish speed limits on municipal roads, how to properly place Stop signs, the problems associated with improper use of multi-way Stop signs and other common topics every municipality has to address.

**Our full online catalogue of courses can always be found at our website, <https://cait.rutgers.edu/cait/training> or email Bethany Dennis at [bethall@rci.rutgers.edu](mailto:bethall@rci.rutgers.edu) for more info!**

## NJLTAP Contact Information

### Address:

100 Brett Road  
Piscataway, New Jersey 08854  
848.445.3112

Or come visit us at Booth 149 at the 101st New Jersey League of Municipalities from November 15th-17th at the Atlantic City Convention Center!

## NJ LTAP Staff

### Janet Leli

[jleli@rci.rutgers.edu](mailto:jleli@rci.rutgers.edu)

### Ted Green

[tngreen@rci.rutgers.edu](mailto:tngreen@rci.rutgers.edu)

### Bethany Dennis

[bethall@rci.rutgers.edu](mailto:bethall@rci.rutgers.edu)

### Mohammad Jalayer

[mohammad.jalayer@rutgers.edu](mailto:mohammad.jalayer@rutgers.edu)

### David Maruca

[dem200@rci.rutgers.edu](mailto:dem200@rci.rutgers.edu)

### Joseph Weiss

[joseph.weiss@rutgers.edu](mailto:joseph.weiss@rutgers.edu)

### Omid Sarmad

[sarmad@rci.rutgers.edu](mailto:sarmad@rci.rutgers.edu)



LTAP Director, Janet Leli

<http://cait.rutgers.edu/niltap>

[newjerseyLTAP@gmail.com](mailto:newjerseyLTAP@gmail.com)