

Department of Transportation

At a Glance

JAMES REDEKER, Commissioner

Established – October 1, 1969

Statutory authority - p.a. 69-768

Central office – 2800 Berlin Turnpike, Newington, CT 06131-7546

Authorized number of full-time employees – 3,279

Recurring operating expenditures 2015-2016 - \$618.7 million

Capital Budget 2015-2016 -- \$1.72 billion

Organizational structure – Office of Commissioner, Bureau of Finance and Administration, Bureau of Engineering and Highway Operations, Bureau of Policy and Planning, Bureau of Public Transportation, State Traffic Commission.

Mission

The mission of the Connecticut Department of Transportation (Department) is to provide a safe and efficient inter-modal transportation network that improves the quality of life and promotes economic vitality for the State and region.

Statutory Responsibility

The agency shall be responsible for all aspects of the planning, development, maintenance and improvement of transportation in the state (Section 13b-3 C.G.S.). The agency serves its customers by providing safe and efficient systems for the movement of people and goods within, to or from the State, whether by highway, air, water, rail or other means (Section 13b-2[I]).

Information Reported as Required by State Statute

The agency shall develop and revise, biennially, a comprehensive long-range transportation plan designed to fulfill the present and future needs of the state and to assure the development and maintenance of an adequate, safe and efficient transportation system (Section 13b-15 C.G.S.). The purpose of the Master Transportation Plan is to provide its customers, the Administration, the General Assembly, local elected officials, and the general public with a comprehensive understanding of the transportation projects and programs that the agency will be pursuing over the next 10 years. The strategic goals of the agency are to ensure safety, maintain the existing system, increase system productivity, promote economic development and provide required capacity.

Affirmative Action Policy

The Department is an Affirmative Action/Equal Opportunity Employer. It is the established policy of the Department to assure equal opportunity and to implement affirmative action programs. All services and programs of the Department are administered in a fair and impartial manner, pursuant to the State Code of Fair Practices and all other relevant state and federal laws and regulations including, but not limited to, C.G.S. 46a-60, Title VI and VII of the Civil Rights Act of 1964, and the Americans with Disabilities Act (ADA). The Department continues to work cooperatively with the Connecticut Commission on Human Rights and Opportunities and other state and federal compliance agencies in conducting various reviews and providing requested information.

The Bureau of Policy and Planning conducts planning studies and associated activities for the movement of people and goods for all modes of transportation including highway, rail, bus, maritime, and bicycle/pedestrian. Documentation of proposed alternatives with environmental analyses is developed for all proposed projects through a public process. The Bureau interacts with Legislative and Congressional members and staff, as well as nationally recognized transportation organizations, on various transportation bills including major authorizations and appropriation bills for surface transportation, and intercity passenger rail. The Bureau formed working groups to address the rule making guidelines that are the outcome of the new federal transportation bill, Fixing America's Surface Transportation-Act (FAST ACT). The Bureau maintains a database for transportation planning related State legislation. All proposed bills that pertain to the Bureau of Policy and Planning are reviewed and input is provided to the Department's Legislative Office when necessary.

The Bureau of Policy and Planning updated various transportation planning-related documents and documentation required by the Federal Highway Administration.

Bureau staff continues to represent the Department at meetings held by the Office of Policy and Management on the implementation of the State's Plan of Conservation and Development (C & D Plan) and at Neighborhood Revitalization Zone Advisory Board Meetings.

As part of the Department's ongoing performance management initiative, the Bureau continues to publish performance measures and targets for bridge and road conditions, project delivery, highway safety, bicycle and pedestrian accessibility, and rail and bus transit programs. These measures are updated quarterly and placed on the Department's performance-measures web page for public access. This year, major emphasis has been placed on aligning performance measurement to each Bureau's strategic direction, with identification of significant and meaningful trends in the data, with benchmarking our performance measures practice with other state DOTs, and with streamlining the reporting and publication process through a LEAN event that was conducted in early 2016. In addition, performance management is at the heart of the federal surface-transportation legislation, with national performance measures required to be reported for most of these aspects of the transportation system. During the ongoing rulemaking process for these national measures, the Bureau is focusing on developing and coordinating

robust, meaningful, and constructive comments from the Department so that there is good alignment between the national measures and our own performance management effort.

The Bureau is in the final stages of completing a draft of the state's Strategic Transportation Plan, aka TransformCT, and Let'sGoCT! The Strategic Plan was accompanied and supported by the Governor's creation of a bipartisan Finance Panel that was charged with making recommendations to develop a sustainable source of funding for the transportation system. The Plan is expected to be completed in Draft form in the Fall of 2016 and will undergo a second round of public engagement and comment period.

The Bureau introduced the "Community Connectivity Program," an output of Let'sGoCT! designed to improve conditions for walking and bicycling to and within urban, suburban and rural community centers. One component of the Community Connectivity Program is to offer Connecticut's towns and cities assistance to conduct a Road Safety Audit (RSA) at important bike and pedestrian corridors and intersections.

An RSA is a formal safety performance examination of an existing road or intersection by an independent, multi-disciplinary team that includes local public agencies. RSA's will identify and document in a report, bike/ped needs, and develop recommendations to improve conditions. Typically there are low-cost recommendations that can be implemented in the short term, and higher-cost recommendations that can be done over the longer term. The first two years of this new program will be a pilot to determine how to select, rank and prioritize projects for future funding. By making conditions safer and more accommodating for pedestrians and cyclists, the program will encourage more people to use these healthy and environmentally sustainable modes of travel. At the same time, it will make Connecticut's community centers more attractive and livable places to live and work.

The Bureau is working toward implementing a Complete Streets Policy Department-wide through training, design guidance, funding, data collection, and plans to monitor the output through performance measures. Complete Streets is a means to provide safe access for all users (pedestrians, bicyclists, transit users and vehicle operators) by providing a comprehensive, integrated, and connected multi-modal network of transportation options. It is the policy of the Department to consider the needs of all users, of all abilities and ages, in the planning, programming, design, construction, retrofit and maintenance activities related to all roads and streets as a means of providing a safe and efficient transportation network that enhances the quality of life and economic vitality.

The Bureau administered programs for pedestrian access, bicycling, and the federal Safe Routes to School Program (SRTS). SRTS provides eligible schools free support services for bicycle and pedestrian facility planning, as well as educational training for bicycle and pedestrian safety. The SRTS program's ongoing aggressive public outreach efforts for participation resulted in 36 schools participating in International Walk to School Day in October and 23 schools participating in International Bike to School Day in May of 2016. The program is targeting 35 schools to provide site assessments, (called walk audits). A walk audit is an independent safety performance review conducted by an experienced team of safety specialists, with significant participation from the local community. The safety improvements range from

short-term low cost measures to long-range high cost projects. Twenty-three total walk audits have already been completed and ten walk audits have been finalized since 2014.

The Bureau also conducted extensive public outreach for a “Road Diet” project on Route 44 (Burnside Avenue) in East Hartford. The purpose of this project was to enhance the safety of pedestrians and cyclists on a section of Route 44 from Route 5 (Main Street) to Mary Street. Three fatalities on Burnside Avenue precipitated a multifaceted strategy to improve safety which has included local, regional and Department staff. Enforcement, education and engineering were needed to address the behavioral and roadway issues which led to the three deaths in this diverse, dense and urban area.

This particular Road Diet involved converting an existing four-lane, undivided roadway segment to a three-lane segment consisting of two through lanes and a center, two-way left-turn lane. The resulting benefits include a crash reduction, reduced vehicle speed differential, improved mobility and access by all road users, and integration of the roadway into surrounding uses that result in an enhanced quality of life. A key feature of a Road Diet is that it allows reclaimed space to be allocated for other uses, such as turn lanes, bus lanes, pedestrian refuge islands, bike lanes, sidewalks, bus shelters, parking or landscaping. Since this relatively new concept in the state, the infrastructure improvements required an educational approach. In order for all residents to navigate this new traffic pattern, the Bureau has organized a series of youth and adult clinics to reach people of all ages and abilities, to improve their bike skills and build confidence.

The Bureau reviewed 102 Major Traffic Generator submittals for the Office of the State Traffic Administration (OSTA); developed traffic projections for 27 state projects; linked all of the Departments traffic counts from 2007 through the present to the TRU maps found on Departments website; created a database of the Departments 40 Continuous Count Stations allowing users to manipulate the data based on numerous query opportunities; and identified the locations of all traffic counts from state projects and major traffic generators dating back to 2010, to Google Earth for quick and efficient identification.

The Bureau continued to work on two FHWA Grants to perform Value Pricing Pilot Program (VPPP) studies for Interstate 84 in Hartford and Interstate 95 from New York to New Haven. The program's intent is to demonstrate and evaluate road pricing concepts that achieve significant and lasting reductions in highway congestion. The studies final reports will be complete by the summer of 2016.

With the introduction of two new transit services, CTfastrak and the Hartford Line, planning for Transit-Oriented Development (TOD) is a Bureau priority. Bureau staff assists the Office of Policy and Management (OPM) with administering the recently awarded 2015 round of TOD Pilot Planning grants and has actively participated in the State’s Transit-Oriented-Development interagency task force to assist municipalities with planning and design technical services. Bureau staff also participates in the Governor’s Interagency TOD Working Group, as well as the Interagency TOD Policy Sub-Committee. These groups meet monthly to facilitate interagency collaboration on TOD projects and policies.

Bureau staff engaged in several TOD initiatives through the Department's Task-based consultant team, including the completion of the existing conditions report for the CTfastrak Corridor and initiated the Hartford Line TOD capacity project. This is a project funded by FTA competitively awarded to the Department to assess TOD potential along the Hartford Line.

The Bureau has begun its first multi-modal Statewide Freight Plan, in accordance with federal transportation legislation. This planning effort will create a public-private Statewide Freight Advisory Committee to assist with development of freight transportation goals and projects. The Statewide Freight Plan will focus on economic competitiveness, efficiency, safety, and environmental factors. Connecticut is home to seven of the top 100 freight bottlenecks in the nation and those seven are part of only ten bottlenecks in New England, showing that Connecticut must work diligently to repair and upgrade its infrastructure and traffic management systems. Without such an effort, Connecticut stands to lose out on economic growth opportunities and hamper the efficiency of the entire New England corridor. To this end, the Bureau coordinates quarterly discussion with the other New England freight offices, works regularly with RPOs, State and Federal agencies, and the private sector.

The Bureau completed the federal climate change pilot project and has presented the findings to multiple federal agencies and stakeholders. The Bureau is also representing the Department on the Governors Climate Change Council and support working groups on the climate change transportation working groups of the Conference of New England Governors.

The Bureau is continuing compliance with the Programmatic Agreement among the FHWA, FTA, the Connecticut State Historic Preservation Office, the Massachusetts State Historic Preservation Office, and the Department regarding compliance with Section 106 of the National Historic Preservation Act as it pertains to the New Haven-Hartford-Springfield High Speed Intercity Passenger Rail Project. This programmatic agreement will be in force until construction of the entire 62-mile corridor is complete.

In addition, the Bureau is assisting with the project that includes the reconstruction of multiple bridge decks on I-84 and Route 8 located at the Route 8 and I-84 interchange in Waterbury. The Bureau is also involved in the I-84 Hartford Project, which is looking at various alternatives to address the aging Hartford Viaduct, as well as, operational and safety improvements along I-84 in Hartford. This involves a Needs and Deficiency Study, Alternatives Analysis, and eventually a NEPA document. The Bureau also participated in a categorical exclusion for the reconstruction of I-95 over West River in New Haven that included an in-house Phase 1A archeological assessment.

Continuing major studies include an Environmental Assessment/Environmental Impact Evaluation for the Orange Railroad Station, Union Station Parking Garage, Route 9 signal removal project in Middletown, Route 25/111 Corridor Study as well as, assisting with the Re-evaluation of Interchange 33 along Interstate 95 in Stratford and the Merritt Parkway Multi-Use Trail Feasibility Study. The Danbury Branch Improvement Program Study and the Central Connecticut Rail Study are in the process of being finalized.

The Bureau is implementing the procedures outlined in the Programmatic Agreement among the Federal Highway Administration, the Department, the Connecticut State Historic Preservation Office, and the Advisory Council on Historic Preservation regarding implementation of minor transportation projects (transportation projects classified as categorical exclusions). This Programmatic Agreement has facilitated more efficient methods by which FHWA and the Department review individual undertakings that may affect historic properties and will continue to streamline the process for minor projects that are limited in scope and for which no historic properties will be adversely affected.

Through the use of two task-order consultants, the Bureau is also conducting archaeological investigations and historic documentation studies for transportation projects in accordance with State and Federal regulations.

The Bureau coordinated with the State and federal regulatory agencies regarding natural resources and listed species issues and also obtains the necessary water resource permits required for projects. For projects that are designed by state forces in State Highway Design, State Bridge Design, and Facilities Design, the Bureau will flag the wetlands within the project limits, coordinate any needed Fisheries and Natural Diversity Database issues with the Connecticut Department of Energy and Environmental Protection (DEEP), conduct a wetland functions and values assessment of wetlands in the project limits, and fill out the Army Corps of Engineers wetland data sheets for wetlands in the project limits. In addition, the Bureau performed inspections of active construction sites and maintenance projects to ensure compliance with permit conditions.

The Bureau worked with the Department's Bureau of Engineering and Construction in order to implement an internal process for submitting General Stormwater Permits for Construction Activities via DEEP's EZ Filing digital portal system. The Bureau is currently working with the Office of Construction for submitting monthly turbidity monitoring reports required by this permit via EPA's NetDMR system. The Bureau is working with various Bureaus Department-wide, along with DEEP, to develop and agree upon an achievable General Permit for the Discharge of Stormwater from DOT Separate Stormwater Sewer Systems. The Bureau is educating Department staff regarding the requirements of the permits. The Bureau also provided support with revising environmental specifications pertinent to the DOT's Standard Specifications for Roads, Bridges, Facilities and Incidental Construction, Form 817.

The U.S. Fish & Wildlife Service (USFWS) in May Of 2015 listed the Northern Long Eared Bat as an Endangered Species. The Bureau is undertaking all coordination for federally funded projects and projects that require federal permits from the Army Corps of Engineers. The Bureau in cooperation with Federal Highway Administration, Federal Railroad Administration, and Federal Transit Administration is working with the Bureau of Engineering and Construction and the Bureau of Public Transportation to ensure that all applicable projects receive the adequate level of project consultation that is being submitted to the USFWS.

The Bureau is working with DEEP and the Department's Bureau of Engineering and Construction to make the permitting process more efficient. Activities that are being worked on include developing common permit plan sets for roadway, culvert, and bridge projects, revising

the Permit Needs Determination Form, improving DEEP Fisheries coordination, changing the DOT Drainage Manual to reduce the amount of Flood Management Exemptions the Department is sending to DEEP, and exploring methods to eliminate redundant requests for the same information in permit applications.

Improvements continue to be made in follow up to several Lean events which took place beginning in 2012. Significant progress is being made in improving the transportation data gathering and reporting process as well as the development of an E-STIP (electronic STIP) with the cooperation of FHWA/FTA and the MPOs throughout the state.

The Bureau has begun the process of updating the Department's Public Involvement Procedures document. This will be a coordinated effort between all Bureaus in the Department. This should be completed by spring of 2017.

The Bureau assisted the Office of Contract Compliance in updating the Title VI Accomplishment Report and the Title VI program review. The Bureau is continuing its efforts to assure that all MPOs are in compliance with Title VI and Environmental Justice (EJ) requirements. The Bureau requested, received and reviewed the MPOs' quarterly reports to verify the Title VI and EJ practices. The Bureau has developed the federally required listing of the 2015 federal fiscal year Obligated and Granted projects for the Public and Regions use.

The Bureau had initiated the COG CMAQ application process for FFY 2015 and selected 13 applications to go forward. The Bureau has initiated the solicitation of Transportation Alternatives projects through the Metropolitan and Rural Planning Organizations and continues the development of a draft COG/MPO handbook to be used by COG/MPO staff as well as internal DOT staff. This document should be finalized within the next few months.

The update of the 1997 procedure manual for payments to consultant and Council of Governments continues. This should be completed by the spring of 2017.

The Bureau has continued working with the DEEP to develop new Motor Vehicle Emission Budgets for Ozone as part of the State Implementation Plan. New Ozone budgets are required by the Environmental Protection Agency as a result of the State's failure to conform to the 2015 Ozone budgets. The new State Ozone attainment date will be 2017. Air quality conformity model runs were also completed in 2015 for various transportation projects. The Bureau, working with a consultant, has continued to work on the development of a new state-of-the-practice Travel Demand Forecasting Model in order to meet the increasing demand for more complex and finer detailed travel demand, air quality, and economic forecasts. As part of this effort, the Department has worked with the University of Connecticut Engineering Department to conduct a statewide household travel study which surveyed and collect various demographic and travel patterns of the state's households. This task was completed in the summer of 2016. Finalized data will be available by December 2016.

The Bureau provided Geographic Information System software and application development support for the Department including: various new GIS web based maps depicting roadway inventory and data, mapping and analysis of demographic data and of public

transportation rail and bus service areas in support of Title VI Federal reporting, and preparation of the Department's Call-Before-You-Dig 2016 submission.

The Bureau completed its development of a new comprehensive digitized road network which includes over 21,000 miles of state and local roadways. This network and associated new Linear Reference System (LRS) will support asset and data integration for entire Department including critical areas such as: HPMS reporting, MIRE, FMIS, capital projects, VIP paving, snow routes, pavement condition, performance management, crash location, and roadway attribution, guiderail, pavement markings, sign, sign supports, signal work areas and traffic volume data reporting.

In parallel with this effort the Bureau has been assisting with the Department's new Traffic Asset Management Plan assessment which will begin developing policies to ensure Department location and attribution data which is collected will be properly maintained, governed and stewarded to ensure efficient data access and availability. Workflows are being conceptualized on an asset by asset basis, stewards are being identified and centralization of data access is being developed.

In addition, the Bureau maintains the State's traffic counting program, crash data system and an inventory of the highway system. This data, as well as future land use and employment projections, is used to estimate future travel demand, identify current and future capacity deficiencies, analyze alternate highway and transit improvement, and is used in environmental studies.

The Bureau has implemented and continues testing the latest in 3D Photolog technology with the upgrade and purchase of its Photolog ARAN Van fleet. This new technology now supports more efficient data collection and reporting of pavement geometry and condition to the Federal Highway Performance Monitoring System (HMPS) Report. It is also currently being integrated with the official LRS.

The Division of Research was fully transferred to the Bureau with intent of maximizing the use of federal research dollars towards improved support of Bureau and Department needs and initiatives. Recent new and ongoing projects include: Impacts of CTfastrak on Real Estate and Urban Economic Development: Phase 1, Comparison of Photolog data collected from the older ARAN 4900 series and newer ARAN 9000 3D Vans to insure that the best quality data is being collected; Studying the implementation of Resilient Coastal Communities; Studying Dual Purpose Bridge Health Monitoring and Weigh-in-motion (BWIM); Project Delivery Performance.

Refinement continues on the new state of the art fully electronic crash data system which was implemented in Jan. 2015. This system has been recognized nationally for its state of the art design and functionality and has received two national awards. Additional functionality was added to the UCONN repository and nearly real time data is available for querying.

The Highway Safety Office (HSO) has continued to provide leadership in the field of distracted driving prevention and mitigation. A combination of education and enforcement initiatives has been executed during the past year. These education initiatives include partnering with state and corporate partners as well as funding educational programs for high school students.

In an ongoing effort to prevent roadway fatalities and injuries as it relates to distracted driving amongst teens, the HSO in partnership with AT&T Connecticut is once again bringing the highly acclaimed “Save a Life Tour” Distracted Driving Program to 60 Connecticut high schools for the 2016-2017 school year.

The Department’s “Save a Life Tour” is a high impact distracted driving program geared specifically for teens. This multimedia event features the AT&T documentary, “From One Second to the Next,” directed by acclaimed filmmaker Werner Herzog. The documentary highlights real stories of those who have had to face the devastating consequences that are caused by distracted driving. Following the documentary, the students are then given the opportunity to engage in unsafe driving behaviors in a controlled environment via two distracted driving simulators. They are also allowed the opportunity to sign a pledge banner to commit to not driving distracted which is then hung up at their school for future students to see. Upon completion of this school year the “Save a Life Tour” will have visited over 200 Connecticut high schools since its inception.

Work continues with the Governor’s Prevention Partnership in an effort to impact teens and educate them on the potentially devastating impacts of dangerous choices. A youth peer to peer program was developed to encourage high school students to resist pressure to engage in risky behavior such as driving impaired. Based on information gathered by the Governor’s Prevention Partnership from their pilot sites around Connecticut, youths have noted that they have many friends that participate in extreme behavior such as driving while under the influence but they do not know how to effectively speak to them about this behavior. Some of the high-risk situations that teens report are driving impaired, binge drinking, and other impaired and distracted driving practices which are on the rise among the teen population.

The objective of the 3E program (Encourage, Empower, Engage, the name for The Partnership’s youth led, peer-to-peer prevention approach) is to continue to increase the connections with youth groups across the state of Connecticut to promote positive decision making, education on alcohol and other substances and education on impaired driving. With the partnering of the Highway Safety Office, this group will continue to develop the youth web portal, create more collaboration among youth groups and empower teens from across the state with different backgrounds to motivate peers to become leaders and encourage others to make healthy decisions. The reach of this program continues to expand heading into the 2016-2017 academic year with schools throughout Connecticut implementing this with the assistance of the peer leaders.

A partnership with WGBH television and PBS kids to educate children about the dangers of distracted driving with the goal of having them influence their parent’s driving behavior was

continued. The majority of the time and effort was spent on researching and producing a robust array of materials with PBS, through whose platforms much of this material will be distributed.

Work was done with formative research conducted by students in the Master's program at the Harvard Graduate School of Education. They helped steer us towards an approach that we have embraced, one in which the child can be something of a co-pilot who helps remove distractions from the driver such as handling the phone.

A key approach in developing a digital game was to offer the player a chance to keep the driver's thoughts clear and focused, leaving the passenger to address any distractions. Using the visual texting language of emoji's, game pieces are created where the player must assign to either the driver's thoughts or the passenger's. The player has to keep the driver focused on traffic, pedestrians, weather etc. and so must assign these icons to Ruff's thought bubbles and assign the rest (food, inconsequential events, media use etc.) to Ruff's nephew Glen, who is represents the child/player.

The game introduces feedback to explain why a driver might need, for example, to be aware of a ball or dog in the road, or why the driver should not be wearing headphones. The game also has typical gaming features such as a timer, rounds of increasing difficulty, fun feedback, sound effects, and an overall goal (of completing a family photo album.)

The HSO continues to work in partnership with Central Connecticut State University (CCSU) and the Institute for Municipal and Regional Policy (IMRP) to analyze the current racial profiling law and make recommendations to the Connecticut General Assembly to better align the statute to legislative intent and current best practices. This initiative includes collecting, maintaining, and providing public access to traffic stop data and evaluation of the results of such data. Currently, data collection by all law enforcement agencies in the State with the ability to make traffic stops is mandated by law. Agencies are collecting data and submissions to the Office of Policy and Management via the Criminal Justice Information System are made on a monthly basis. Multiple training sessions have been held for law enforcement agencies to educate them about the law and options for data collection and submission. Training sessions on fair and impartial policing have also been given at multiple law enforcement agencies. Similarly, a public awareness campaign is underway to educate the public about the project and their rights during a traffic stop. IMRP has released a full report on traffic stop data analysis and most recently released another six months of data on the CT Data collaborative website. For more information about this project, visit www.ctrp3.org

In March 2016, the State of Connecticut HSO hosted a bi-regional Seat Belt Summit in Windsor, Connecticut. The Summit was attended by over 120 individuals from nine States and two territories. The activities were conducted over a three-day period and included traffic safety practitioners and advocates from the host state as well as the states of Maine, Massachusetts, New Hampshire, New York, New Jersey, Pennsylvania, Rhode Island and Vermont, as well as contingents from Puerto Rico and the Virgin Islands. In addition, representatives from the National Highway Traffic Safety Administration (NHTSA), Federal Highway Administration (FHWA) and the International Association of Chiefs of Police (IACP) also attended. The

American Automobile Association (AAA), Northeast assisted Connecticut as a supporting sponsor.

What made this Summit unique was that it was a single focused topic gathering eleven separate jurisdictions into one location, networking and exchanging ideas, and insuring that each attendee would leave with tangible take-aways.

The Department of Transportation's (DOT) Connecticut Rider Education Program and the Department of Motor Vehicles (DMV) have partnered to address a growing segment of the population who choose to ride three-wheeled motorcycles. Officials at DOT and DMV recognized the need for additional training services as new types of vehicles gained popularity and gaps existed in programs meant to train prospective riders. The agencies worked to develop language and policy to create a special endorsement on a driver's license to indicate the eligibility to operate a three-wheeled motorcycle only. Specifically, this cooperation resulted in the drafting and passage of Public Act 15-46 that created this new special license classification. This Public Act was signed by the governor on June 5, 2015.

The cooperative effort between agencies resulted in updates to state policy that will allow for a participant to take the Connecticut Rider Education Program course on a three-wheeled motorcycle and receive an endorsement for three-wheeled motorcycles only. Participants who take the course on two-wheeled motorcycles will continue to receive the traditional motorcycle endorsement; allowing them to operate either a two-or a three-wheeled motorcycle.

The HSO completed the second year of a comprehensive High Risk Rural Roads Speed enforcement campaign. This was accomplished through a speed enforcement campaign combining high visibility enforcement (HVE) and the strategic use of media outlets on Connecticut's rural roads. 47 rural towns participated in this 2 month summer campaign. Connecticut utilized FHWA transfer funding for High Risk Rural Roads Speeding Program. Historically, strong high visibility enforcement efforts integrated with targeted media campaigns have proven to be most effective in creating change in public behavior.

The Impaired Driving program will be hosting a Drugged Driving summit to address new concerns in drugged drivers, including the possibility of legalization of marijuana. The Drug Recognition Experts (DRE) program has continued to grow this year and the HSO has been providing advanced training of personnel in the latest methods of drug evaluation and classification and certify law enforcement officials as DREs.

The HSO hosted a child passenger safety conference attended by 250 car seat technicians. Car seat manufacturers demoed and showcased the newest car seats on the market. Emergency room doctors spoke on what they see when a child comes into the hospital who was not properly restrained. Occupational and Physical Therapists also spoke about the challenges technicians face when assisting parents with a child who has a special need. Various informational brochures were provided to everyone. CEU's were earned from attending this conference.

The Bureau of Engineering and Construction continued to manage all programs and projects to maximize federal funds allocated to Connecticut for improvements to all transportation modes. The Bureau began to implement the Governor's "Let's Go CT" initiative in 2015-2106, to include beginning an Engineering review of the I-95 corridor, starting the preliminary design process for I-84 Exits 3 through 8 in Danbury, and initiating planning for the replacement of the I-84 / Route 8 interchange in Waterbury.

A "Fix-it-First" approach to the overall program continues to be an emphasis for the Department due to the age of our infrastructure assets and uncertainty in future federal funding levels. In order to maximize the benefit from both federal and state investment dollars, the Bureau advanced the Department's Transportation Asset Management Plan (TAMP) for the state's Highway transportation system. The TAMP will improve on current Department practices used to prioritize actions for improving asset condition in the short and long-term, and will help better define best management practices in order to ensure the best use of preservation funding. The TAMP will help the Department comply with federal legislation and will guide the Department in its endeavor to deliver better asset performance, while also managing risks. A draft TAMP is anticipated by the end of 2016.

The Bureau continues to implement an asset **pavement** preservation strategy. In 2016, pavement preservation on expressways includes five resurfacing projects valued at \$50 million. The Vendor-In-Place Program managed by the Bureau of Highway Operations includes 81 termini valued at approximately \$73 million, and a crack seal program that includes numerous termini valued at approximately \$1 million.

New preservation or pavement related safety treatments being implemented this year are as follows:

- A 5/8-inch thick surface treatment with polymer modified asphalt is being placed directly on existing pavement on the mainline of I-84 in Cheshire, which is a less expensive alternative to mill and overlay preservation treatments.
- An emulsified asphalt seal coat is being applied to extend the longevity of the shoulders along this same stretch of I-84 in Cheshire.
- A High Friction Surface Treatment (HFST) will be applied on the Route 3 NB interchange ramp to Route 2 WB to help decrease roadway departure crashes.
- A new Thin-Friction Wearing Course developed by the University of Connecticut's Advanced Pavement Laboratory (CAP Lab) will be introduced on two bridges on Route 3 in Wethersfield to provide an alternative treatment to existing thicker bridge wearing surfaces.

The Bureau also continued to place an emphasis on the state's LeanCT initiative. Lean participation included tracking and reporting progress; and solicitation, selection, and prioritization of topics for the scheduling of upcoming Kaizen events. Lean events resulted in active implementation of process improvements that came from the Kaizen events. Implementation focus included improvements to the traffic signal design process, the List Bridge Program process, Rights of Way concurrence and deed writing, Rights of Way closing and condemnation processes, construction time overages, DOT/DEEP Permitting, the management of

the Disadvantaged Business Enterprise (DBE) Program, as well as efficiencies through initiatives in e-construction (paperless construction delivery process.)

The Department has made a renewed effort to drive down the number of fatalities and serious injuries of all road users on Connecticut's highways. This is being led by the creation of a brand new Strategic Highway Safety Plan (SHSP). The SHSP is a plan for all of Connecticut's safety stakeholders and brings them together in order to collaborate on safety efforts and leverage resources. The SHSP is expected to be finalized in 2016.

The Bureau has established a dedicated staff to run a highway safety program focused on implementing systematic transportation safety improvements. These types of projects focus on providing safety improvements over the entire transportation network and provide the highest safety benefit for each dollar spent. These systematic projects are expected to cost approximately \$11 million and include:

- A rumble strip project, which are grooves within the pavement that produce noise and vibration when traveled over and are a proven safety countermeasure to reduce lane departure crashes. Eight (8) miles of shoulder rumble strips on state routes and 200 miles of centerline rumble strips on both local and state routes are to be installed this construction season. Another 200 miles of rumble strips (both centerline and shoulder) are in design for the 2017 construction season.
- A pedestrian warning sign statewide project. Pedestrian warning signs and associated plaques are being upgraded with a fluorescent yellow background and post delineator to enhance visibility, especially during dawn and dusk periods. A systematic initiative to replace these signs on state routes in Districts 3 and 4 will be constructed in 2016. The design for Districts 1 and 2 will be completed in 2016 and 2017, respectively and constructed in 2017.
- A statewide clearance interval retiming project. All state owned and maintained signals are being revised using engineering methods for the yellow and red clearance intervals. The timings are being calculated and the signal plan is being revised. The actual timing changes are being performed through the Department's maintenance forces.
- A horizontal curve project on local rural roads. Improved horizontal curve delineation is proven to be a cost-effective approach to reducing roadway departures. The locations are being designed in a consistent approach in accordance with national standards with the use of signs and pavement markings. Project will be constructed in 2017.

The Bureau's Traffic Studies units will be upgrading pedestrian control features at signalized intersections under Accessible Pedestrian Signal (APS) projects, to include: APS design, countdown pedestrian signals, sidewalk ramps, and crosswalks. Intersections included in the projects include those that have the old-style audible buzzers for non-visual cue during an exclusive pedestrian phase. The projects are a result of language included in the 2009 Manual of Uniform Traffic Control Devices. Ninety-eight (98) intersections in various District 1 towns were included as part of three projects. The first project (15 locations) was constructed in 2015. The second project (39 locations) is being constructed during the 2016 and 2017 construction seasons. The third project (44 locations) will be constructed during the 2017 and 2018 construction seasons. Intersections programmed for APS upgrades in Districts 2, 3, and 4 are

presently under design. They are scheduled for the 2019 construction season and will include 51 total intersections (17 in each District).

The Department continues to manage a more flexible approach to the funding of Bicycle/Pedestrian projects in an effort to close some of the existing statewide gaps. Toward this goal, the Department will facilitate completion of a network of inter-connected, statewide trails under the Multi-use Trail Implementation Plan (Gap Closure Efforts). This program will initially focus on the East Coast Greenway (ECG). The key is to establish clear priorities that will close the most critical gaps and create long continuous portions of the statewide trail network. The program may include other regional trails that link to the ECG, but the majority of funds and resources will be devoted to completing the ECG.

Included in the program are provisions for a Trail Maintenance Program. Construction activities have commenced on Project No. 51-268, a 2.2 mile section of the ECG in Farmington. Additionally, construction activities have been and are nearing completion of two significant segments of the ECG in Cheshire (Project Nos. 25-135 and 24-144) along the Farmington Canal Heritage Trail. A key section of the ECG was also completed in Windham (Project No. 163-194) linking the Airline Trail with the ECG; and, construction is underway for Project No. 42-300/301, closing a 1.7 mile section of the ECG.

A unique “materials only” project, Project No. 172-421, is nearing completion in the eastern Connecticut towns of Windham, Chaplin, Hampton, Pomfret, and Putnam. This project was a joint interagency effort between the Department and the Department of Energy and Environmental Protection (DEEP) whereby the Department funded and DEEP provided the labor to effect improvements on a 17 mile long corridor of the ECG.

Design activities are nearing completion on an additional section of the ECG in Bolton under Project No. 12-96, and New Haven under Project No. 92-621. Design activities are also underway on the following projects: Cheshire, Project No. 25-144; Southington, Project No. 131-203; and Windham, Project No. 163-204, all along various alignments of the ECG. Design will begin shortly on sections of trail on either side of the Putnam Bridge in Glastonbury and Wethersfield (Project No. 53-192), and a study is currently underway within the town of Plainville.

The Department has initiated two additional sections of regionally significant trails along the ECG alignment. In the towns of Coventry and Columbia, a length of the Hop River State Park Trail will be improved, closing an existing trail gap in this area. In the towns of Plainfield and Sterling, a section of the Moosup Valley State Park Trail will also be improved, reducing a gap in the ECG alignment. Moving forward, the Department will continue to initiate new sections of regionally significant trails in an effort to close existing gaps in the ECG across the state.

The Bureau’s Highway Design – Local Roads unit has implemented and continues to oversee the Local Transportation Capital Improvement Program (LOTICIP). LOTICIP allows municipalities to perform capital improvements on smaller, locally owned, roadways that qualify for the Federal Surface Transportation Program Urban (STP-U) without needing to adhere to

Federal Title 23 requirements that many municipalities are unfamiliar with and find burdensome, time consuming, and expensive. LOTCIP has freed up a significant amount of Department resources that have historically been devoted to oversight on municipally sponsored Federal-aid projects. LOTCIP also allows the portion of Federal STP-U monies historically dedicated to improvements on municipally owned facilities to be utilized by the Department for eligible activities, predominantly on State owned assets. Since November 1, 2013 when LOTCIP was first implemented, the Department has worked with the regional Council of Governments (COG's) through this ramp-up period and issued funding commitments for 65 regionally-endorsed municipal projects representing approximately \$110 million in construction. \$17 million in LOTCIP funded construction projects were awarded in SFY 2016, with \$43 million currently programmed to be awarded in SFY 2017. The Department continues to coordinate with the regional COG's on new location solicitations and enhancing project delivery.

A major Department transportation initiative which started construction in 2015 involves widening and safety improvements on I-84 in Waterbury. The project includes complete reconstruction of the highway for 2.7 miles, replacement of 8 bridges, construction of one pedestrian crossing, and the widening of I-84 in each direction to include the addition of a 3rd lane. The project also includes the realignment of the Interstate roadway in the vicinity of Harpers Ferry Road to eliminate the existing substandard "S" curve alignment, interchange ramp reconfiguration, relocation of the Mad River and Beaver Pond Brook, and state and local road reconstruction. As a result of the realignment of I-84 and the reconfiguration of the ramps, portions of Hamilton Ave, Harpers Ferry Road, Scott Road, Plank Road, Reidville Drive, Plank Road East, and East Main Street will be reconstructed.

This is a significant and important project because this two-lane section of I-84 cannot accommodate existing peak-period demands and sustained periods of congestion are routine. This section of I-84 carries an Average Daily Traffic (ADT) volume of 121,800 vehicles, including a significant number of trucks that provide for goods movement through-out the state and region. The project is currently targeting the completion of three continuous lanes of travel through the project limits before the end of the summer of 2019, nearly one year ahead of schedule. The anticipated overall project completion date is 2020.

The Department has completed the widening of I-95 in Norwalk between Exit 14 and 15, to include the widening and replacement of three (3) bridges over I-95: Fairfield Avenue, Cedar Street, and Taylor Avenue. The widening and improvements to adjacent Route 1 were completed in June 2016.

Significant transportation improvements to Route 15, the Merritt Parkway, are in design or under construction as part of the Merritt Parkway Corridor Improvement Plan. This includes improvements in Stamford and New Canaan. The currently active project on Route 15 begins at the Greenwich town line just north of Exit 31 (North Street) and ends in the vicinity of Exit 37, Route 124 (South Avenue) in New Canaan. This project consists of 6.5 miles of roadway resurfacing, safety improvements, and landscaping enhancements. The work also includes continued rehabilitation of several historic, architecturally-sensitive bridges, including Bridge No. 00712 Route 124 (South Avenue), Bridge No. 00710R Metro-North Railroad, Bridge No. 00708 Ponus Ridge, Bridge No. 00702 River Bank Road, and Bridge No. 00700 Guinea Road.

The project is expected to cost approximately \$75 million and is now scheduled to be completed by September 2016. The next project in this program will include 4.6 miles of the Merritt Parkway in Fairfield and Westport. Design was recently completed on this section with construction expected to begin in the spring of 2017, at an estimated cost of \$60 million. Construction is expected to last three years.

A new project is currently being initiated that will result in the removal of the traffic signals from the Route 9 expressway in Middletown. Associated work includes the construction of sidewalk “bump-outs” on Main Street to shorten the pedestrian crossing distances, and a new pedestrian bridge over Route 9 that will connect downtown Middletown to the Connecticut River riverfront. Previously scheduled for construction in 2021-2023, this project is being accelerated at the Governor’s request. Construction is now scheduled to begin in 2018, with the goal of removing the signals by the end of 2021.

Construction of the new Boathouse in the City of New Haven is getting underway during the 2016 construction season now that the Boathouse Platform Project is complete. This is a City of New Haven project that will satisfy the Program Commitment for the State’s acquisition of the old Yale Boathouse.

The Bureau’s Bridge Management Unit has currently programmed all the state maintained structurally deficient bridges for rehabilitation or replacement, and all projects are either in design or construction. The states increased financial investment in transportation is starting to show dividends, with the number of bridges that are in a state of good repair steadily increasing over the last three years.

The Department's Bridge Safety and Evaluation unit continued to aggressively inspect, evaluate, and inventory the structural condition of more than 5,000 bridges, 1,800 overhead sign supports, and 900 traffic signal mast arm supports. Signs and traffic signal supports are typically inspected at four-year intervals. Bridges are typically inspected at two-year intervals. However, some bridges are inspected more frequently if warranted due to structural deterioration. This critical function helps to ensure the safety of the traveling public through the identification of deficiencies and needs in a systematic and timely manner.

Major bridge replacement/rehabilitation projects active during 2015-2016 include the replacement of the Moses Wheeler Bridge that carries I-95 over the Housatonic River in Stratford and Milford; the reconstruction of I-95 over the West River located in West Haven and New Haven; and the replacement of the Pearl Harbor Memorial (Q) Bridge over the New Haven Harbor in New Haven, which is part of the I-95 New Haven Harbor Crossing Corridor Improvement Program. Major bridge projects in design include a significant rehabilitation of the Northbound Gold Star Memorial Bridge in New London and Groton, an accelerated bridge replacement of Route 1 over I-95 in Stamford, a rehabilitation of the Route 8 and I-84 Interchange in Waterbury, replacement of the Railroad Bridge over Atlantic Street in Stamford and reconstruction of the Heroes Tunnel in Woodbridge and New Haven. Additional details of some of our major initiatives are noted below.

The Moses Wheeler Bridge that carries I-95 over the Housatonic River is one of the longest and most heavily traveled bridges in the state of Connecticut. The replacement of the bridge and associated improvements on this section of the I-95 corridor began in August 2011 and is expected to cost approximately \$260 million with completion scheduled for December 2016.

The West River Bridge carries I-95 over the West River in the towns of West Haven and New Haven. The \$134 million construction project began in December 2013 and is expected to be completed in late 2018. The project includes reconstruction of approximately one mile of I-95. The project removes the southbound loop ramp to Kimberly Avenue. Exit 45 is eliminated with the removal of the loop ramp. A single diamond interchange will increase safety and improve traffic flow by eliminating the existing weave condition on the interstate.

The largest and most comprehensive transportation program ever undertaken by the Department is the I-95 New Haven Harbor Crossing Corridor Improvement Program. The centerpiece of the Program is the recently completed Pearl Harbor Memorial (Q) Bridge, an extra-dosed cable-stayed bridge, the first of its kind in the U.S. The new bridge has a 100-year life span through the use of innovative and high performance materials (roadway wearing surface, high strength concrete, high performance structural steel). The designs are sensitive to traditions and urban characteristics of the area and create a sense of continuity throughout the corridor. The \$1.93 billion Program is in its 16th year of construction. It is approximately 96% complete and is currently under budget and will be completed on schedule in 2016. A total of 18 program contracts have been completed as of June 30, 2016 with total expenditures to date of \$1.71 billion. The innovative processes CTDOT and CTDEEP developed and implemented during construction have streamlined reviews and issue resolution, and mitigated cost and schedule impacts, while complying with environmental permit requirements.

The northbound Gold Star Memorial Bridge, Bridge No. 03819, located on I-95 between Groton and New London is currently planned to undergo a major bridge rehabilitation. The project is in the final design phase. The anticipated work on this bridge includes replacement of the bridge deck, structural steel repairs, spot painting, replacement of the rocker bearings, and replacement of existing structure-mounted sign supports. The current cost estimate for this project is \$200 million, with an anticipated construction start date of spring 2018. In Addition, minor rehabilitation design plans for the I-95 Gold Star southbound bridge were recently completed and are being prepared for advertising. This project will address miscellaneous steel repairs, spot painting, deck patching, and install a new membrane and pavement overlay. The project is scheduled to commence in construction in the spring of 2017.

Bridge No. 00037, a two-span structure carrying U.S. Route 1 over I-95 in Stamford, is scheduled for a superstructure replacement. The project's construction cost is estimated at \$20 million, with construction anticipated to start in the spring 2018 and be completed by the spring 2020. The project will use accelerated bridge construction (ABC) techniques to demolish and replace both spans during one weekend in the fall of 2018 utilizing Self-Propelled Modular Transports (SPMTs). This project will be very similar to the Department's successful I-84 bridge superstructure replacements in Southington that was completed in June of 2014.

A rehabilitation project for the Aetna Viaduct, which carries I-84 over Amtrak, city streets, and parking lots in Hartford, is currently complete in design. The project will include repairs to structural steel, bearing and concrete repairs, and will replace the median barrier and parapets. Similar repairs will also be accomplished to Bridge Nos. 01765 and 01766, located just east of the viaduct along I-84. The three projects will be combined into one construction contract. The estimated total construction cost of these three projects is \$52 million. Construction is expected to begin in the spring of 2017 and be complete by the fall of 2018.

The I-84/Route 8 Interchange in Waterbury will be rehabilitated to provide additional service life in anticipation of a future interchange replacement. The project will address the mainline I-84 and Route 8 structures and the turning roadways connecting them. It is anticipated that the three design projects will be advertised for construction together in the fall of 2017. The total estimated construction cost is \$190 million.

A project to replace the existing railroad bridge over Atlantic Street in Stamford is currently in the final design phase. The project utilizes accelerated bridge construction techniques. The work is broken down into two phases. Phase 1 relocates the buried utilities and the I-95 NB exit ramp, and reconstructs a portion of South State Street. The Phase 1 construction contract was awarded and work began in the spring of 2016. Phase 2 will replace the railroad bridge using jump spans and Self-Propelled Modular Transport (SPMT) units. Also, at track level, a new station platform will be constructed on the north side of the rail yard in anticipation of a new Track 7 to be used in the future to service the New Canaan line. Phase 2 is scheduled to be advertised in the fall of 2016. The overall construction completion will be early in 2020, with the bridge completed late in 2019. The total construction cost for Phase 1 and Phase 2 is estimated to be approximately \$100 million.

The proposed rehabilitation of the Heroes Tunnel, carrying Route 15 through West Rock Ridge in Woodbridge and New Haven, is entering the preliminary design stage. The Department is presently considering construction alternatives to improve the tunnels, including alternates to add an additional traffic tunnel and/or enlarging the two existing traffic tunnels. The next step will be to prepare an Environmental Assessment in order to document impacts and identify a preferred alternative. Construction is currently anticipated to begin in spring 2020 and be complete by fall 2024, with an estimated construction cost of \$200 million.

A new highway maintenance repair and stores facility is under construction in Rocky Hill and will consolidate the existing repair and stores operations in Wethersfield and the outdated machine shop in Portland. The project involves the construction of an approximately 82,000 SF building, including administrative offices, vehicle repair bays, machine shop, material storage parts room, and employee support and utility spaces. The project also includes the demolition of an existing obsolete building and the construction of a separate 2,450 SF unheated cold storage building for material storage, a new motor fuel island, and site improvements, plus utilities to support the new and existing buildings that are to remain. The construction of this facility started in May 2015 and is scheduled to be completed in May 2017. The construction cost is estimated at \$38.6 million.

CTfastrak combines the fast, traffic-free advantages of a train with the frequent, direct-to-your-destination flexibility of a bus. Currently, 12 of the 14 contracts to build *CTfastrak* are complete or near final completion. The system-wide New Fare Technology System (NFTS) project is anticipated to be awarded in 2016 and the Flatbush on and off ramp reconstruction and wetland mitigation creation is also anticipated to be completed in 2016. The 9.4 mile exclusive bus roadway has been constructed on an abandoned railroad corridor from New Britain to Newington Junction, and from Newington Junction to Hartford's Union Station alongside the active Amtrak rail right-of-way. The project was substantially complete and began revenue operations in March 2015. *CTfastrak* includes service routes extending from Waterbury to Manchester via the new guideway, New Britain, and Hartford.

A new Bus Maintenance Facility serving the Waterbury Area began construction in February 2015 and is scheduled to be completed in September 2017. This 276,000 SF building is a multi-story facility accommodating bus storage, maintenance and administration. Additionally, a trailhead and a multi-use trail are being constructed within the project limits to support the Naugatuck River Greenway Trail. This facility is located on a parcel of property in the town of Watertown, adjacent to Frost Bridge Road (SR 262) and the Naugatuck River. The facility will replace the current storage and maintenance facility, located in leased space in a former foundry in the Waterville area of Waterbury. The total project cost is approximately \$93 million dollars.

The New Haven Rail Yard (NHRY) Facilities Improvement Program is a comprehensive plan to transform and provide state of the art storage, servicing and maintenance facilities for the New Haven Line fleet, as well as CT Commuter Rail service (Shoreline East and Hartford line). The \$1.178 billion dollar multi-project program is approximately one-third complete. Completed projects at the NHRY include the M8 Acceptance Facility, Diesel Storage Yard, Traction Power Supply Substation, and the recently opened independent Wheel Truing Facility. Active projects at the NHRY include the Component Change-Out Shop, Central Distribution Warehouse and Yard Power Upgrade, as well as the Maintenance of Way Facility. The Component Change-Out Shop is partially open for basic M8 car maintenance; the balance of the facility will be completed by the end of 2016. Projects currently in design include the East End Connector, Pedestrian Bridge Overpass, and West End Yard. The Pedestrian Bridge project will connect all four Union Station platforms to each other and the proposed 1,000 space public parking garage to be built adjacent to the existing garage. Design has begun for the new garage and the connecting pedestrian bridges.

The New Haven-Hartford-Springfield (NHHS) Rail Program will result in the addition of a key rail component to a more robust and vibrant Connecticut multi-modal regional transportation system. Utilizing funding from the new federal High-Speed Intercity Rail Program and state bond funds, the NHHS Rail Program will provide the infrastructure and trains to operate some of the nation's best passenger rail services. As the gateway to New England, the NHHS Rail Program will also facilitate improved service to Massachusetts, Vermont and, in the future, Montreal. New train service will connect communities, generate sustainable economic growth, help build energy independence, and provide links to travel corridors and markets within and beyond the region.

Over the past year, Amtrak awarded Middlesex Corporation the civil construction contract to provide new track bedding, ballast, and improvements to drainage as well as retaining walls and bridge replacements. This work will allow Amtrak to upgrade the majority of the line to a double track configuration, resulting in expanded service options, with up to 17 round trip-passenger trains per day. The program also increases freight capacity. The launch of the enhanced rail service resulting from this program is scheduled for January 2018.

Additionally, four Amtrak Stations are being upgraded or replaced on the line to accommodate level boarding. Hartford's Union Station received upgrades to both the track platform and within the station's terminal. Service is now operating using the new platform. Berlin, Meriden and Wallingford Stations are being replaced under a Department construction contact that was awarded to Judlau Contracting. These new stations will have five hundred foot platforms and complete ADA interconnectivity between platforms, as well as new parking facilities. These new stations will be operational in the summer of 2017. In association with the NHHS initiative, a Wetlands Creation project was recently completed in Windsor by Empire Paving.

Two significant Metro-North Railroad (MNRR) movable bridges that are each over 110 years old have been identified for replacement. These bridges are key pieces of infrastructure that carry the Northeast Corridor railroads "Amtrak and MNRR" over two rivers and are vital to the operation of these railroads. The Department has started the designs for the replacement of the MNRR Movable Bridge over the Norwalk River, the "Walk Bridge", and the MNRR Movable Bridge over the Housatonic River, the "Devon Bridge". The Walk Bridge replacement is a fast track project; construction for this project will start in 2017 with an estimated cost of approximately \$650 million. The Devon Bridge replacement is scheduled to be completed by 2024 with an estimated cost of \$1 billion.

Shore Line East railroad expansion continued during 2016. Upgrades to the stations at Branford and Guilford are nearing completion. Construction will be completed in September 2016. The supplemental parking lot built at the Old Saybrook station opened in February 2016.

The project to construct P&W Railroad spur tracks to terminal properties on Waterfront Street in the New Haven Port Area is now complete.

Bureau of Finance and Administration is responsible for the following functions within the Department: Finance, Operations and Support, Information Systems, External Audits, Human Resources, and Contract Compliance, Contracts, and Agreements. The bureau provides the fiscal and support services necessary for the development and implementation of the department's programs. In addition, the bureau administers fuel distribution for most state agencies and oversees the operation of the twenty-three service plazas on the Governor John Davis Lodge Turnpike and the Merritt and Wilbur Cross Parkways.

The following is a summary of some of the key initiatives being undertaken in the Bureau:

A project closeout team was formed in October 2008 with representatives from the Department's operational areas and the United States' Department of Transportation, Federal Highway Administration (FHWA). The Department seeks to close out projects and release unused state and federal funding for obligation on new projects. Since the initiative began, the Department has closed 2,923 projects releasing over \$161 million in federal funding through SFY 2016. We have eliminated the backlog of projects awaiting closeout. We are currently working on final vouchers as the projects advance to the final voucher step in the project life-cycle. Currently there are 110 final vouchers assigned with 67 drafted; 34 in process.

Unexpended balances of federal highway funds continue to be a focus for the FHWA. In 2009, Connecticut's federal inactive funding balances ranked second worst in the nation. In November 2009, FHWA and the Department entered into a Memorandum of Agreement (MOA) to reduce the federal inactive percentage from 14 percent to 5 percent by the end of FFY 2010. Through mutual efforts by the FHWA and the Department, a percentage of inactive federal funds below 5 percent was achieved by June 2010. The quantity shrank by over 275 projects. In June 2011, the FHWA lowered the goal of maintaining an inactive percentage at or below 4 percent and reducing the number of inactive projects by 10 percent. Both statistics were achieved and maintained as required for the remainder of 2011, during 2012 and through 2013. In December 2013, the FHWA again changed procedures, eliminated some reporting exemptions and lowering the goal even more. This current requirement is to maintain an inactive percentage at or below 2 percent, measured on a 4 quarter rolling average. The Department continues ongoing efforts with monthly monitoring to ensure the goal is achieved and maintained. In 2014 an inactive statistic of 1.58 percent was achieved. During 2015 and 16 the statistic has been remained below 1.0 percent. Steady progress continues on reducing the number of inactive projects from a peak of 650 in 2008 to below 200 since March 2015.

The Department has established a performance target for its Contracts unit to award construction projects within 60 days of the Department's receipt of bids. During this 60 day period, the Contract's unit reviews all bids for accuracy, status of contractor qualifications, ensures that environmental permits and rights of way requirements are in order, verifies project funding is in place and ensures the proper federal approvals have been received. Performance against this target is assessed regularly through self-reporting by the unit and this structure has served the Department well. In FY 2007 seven percent and in FY 2008 nine percent of all of the Department's awards met this target. As a result of this initiative in FY 2016 96.5 percent of all of the Department's awards met this target which rivaled the best performance of 94 percent which was achieved in FY 2014.

The Department revised the Contractor Prequalification application process in October 2015. The previous application process required contractors (approx. 240) to complete and submit a full application every year. The Department had to review/process approximately 240 applications annually, which in most cases had little change from year to year. With the new process, the Department staggered the expiration dates to minimize application backlog, and the contractor's approved Prequalification Statements are now valid for three State Fiscal Years. We also require the contractor to submit a simple Update Certification Form for the years they do not have to submit a full application. This is the first year of implementation and the new process has been an efficient and positive improvement.

The Department entered into a 35 year Concession Agreement with a new operator during SFY 2010 to operate the 23 Service Plazas located on I-95, I-395 and Route 15. The Concession Agreement also required the operator to redevelop all 23 plazas to add new and more varied food options for the traveling public. The redevelopment called for the complete knock-down and rebuilding of three locations and extensive renovations at the remaining locations. The last of the 23 plazas renovations was completed in August of 2015 and all plazas are now are reopened to the public. The with new facilities and venue offerings. The renovations also included the installation of full emergency generators at all of the plazas which will allow them to remain open to the public during power outages and storms as long as the roads are passable.

The Commissioner's Office contains the offices of Communication, Legislative Program & Grants Review, Equal Opportunity & Diversity, Consultant Selection, Security, Legal, Staff Development, Internal Audits, State Traffic Administration and Information Systems. Each office handles a multitude of tasks on behalf of the Commissioner and in support of the operation of the agency.

Of particular note, the Office of Information Systems which is responsible for the daily maintenance and support of the DOT computer network infrastructure, network servers, computers, telecommunications and all computer applications used by more than 180 locations across the State has the following major accomplishments to report for Fiscal Year 2015 to 2016:

- The successful replacement of the 20 year old cabling on Floors 1, 2 and 3 at the DOT Headquarters Building with no disruption to users. The new cabling in combination with a high speed network backbone has greatly improved the speed and performance required by DOT Engineering and Geospatial applications. The 4th and Ground floor are scheduled for completion during FY17.
- The replacement of the aging phone systems located at seven Maintenance Facilities (East Lyme, Meriden, Middletown, Southington, Farmington, Guilford and Old Saybrook) with little to no disruption of services to staff.
- The replacement of the outdated Synergen Fleet Management System by AssetWorks which has features that will enable the DOT to be more efficient and cost effective with our fleet. We are now able to track all functions related to maintenance of equipment, including repair and preventative maintenance (PM) Work orders
- The replacement of the outdated SIS System used for bridges by Inspectech which has greatly enhanced the process used for bridge inspections, design, and analysis of all bridge types on both new and existing structures.
- The development of a Record Tracking application that allows for efficient tracking and retrieval of hardcopies of memos, contracts and project information filed and stored in the DOT Records Center located at Pascone Place in Newington.

- The development of a Consultant Selection Application to electronically maintain a database of all consultant selections for hundreds of DOT Projects.
- The development of a Work Order application that eliminates paper and, electronically tracks work orders submitted by employees to maintenance staff in the Property and Facilities unit.
- Staff performed a full GIS analysis and created 112 maps for the Bureau of Public Transportation to comply with Title 6 Federal reporting requirements.
- The development of a Payroll Toolkit application for Finance to calculate salary variations when there is a permanent or temporary reassignment of an employee.
- As part of a LEAN Event, DOT Technology Services developed the use of Digital Signatures and associated workflows that had a tremendous efficiency impact for Contracts and Negotiations, Construction Documents and Capital Projects. The use of Digital Signatures will be expanded further throughout the DOT in FY17.
- Development of a Contract and Negotiation document generator which automatically creates a customized document from a list of contract clauses.
- Development of a Performance Measure application for Policy and Planning which provides a database for data from different sources that can be uploaded to a DOT Performance Measures Dashboard. The Dashboard automatically calculates and translates the data into graphs. (<http://www.ct.gov/dot/cwp/view.asp?a=3815&q=448402>).
- Development of the OSTA 85% application which has eliminated the use of paper by the Office of State Traffic Administration when collecting and calculating the average speed of traffic on Connecticut roadways. The application integrates the data with GIS mapping.
- E-Construction is a federal initiative to eliminate the use of paper and build efficiency for the construction field personnel via the use of mobile devices such as tablets. IT staff have deployed more than 60 Windows tablets to Construction staff with connectivity to DOT applications for increased efficiency and productivity with more deployments planned for FY17.
- Development of the Advanced Traffic Management System for Highway Operations using the ESRI GIS platform. This application assists with “Call Before You Dig” as well as with Rights of Way, Traffic Signal locations and much more. The application is now being used daily by Operations staff.
- The successful migration of our Oversize/ Overweight Permitting application to a web base hosted cloud solution which has resulted in the elimination of all technical hardware related issues that were being experienced by OS/OW Permits and a significant increase

in speed and performance of the application. This has resulted in greater efficiency and productivity of the Permitting staff.

The Bureau of Highway Operations The Bureau of Highway Operations provided roadway and roadside maintenance to 5,682 effective two-lane miles of roadway and provided snow removal and other roadway maintenance services to 76 state agencies. With respect to snow and ice control, there were 12 winter storms which required the use of 112,000 tons of sodium chloride and 649,000 gallons of liquid magnesium chloride and 0 cubic yards of sand abrasives applied by 634 state trucks assisted by 221 contracted trucks for plowing purposes only. Maintenance of existing roadways included 433 miles of vendor-applied bituminous concrete overlay. In addition, 5,735 feet of drainage pipe was installed along with 120 drainage structures. During the past year, maintenance repairs were performed on 863 of the 4,009 state-maintained bridges through the combined efforts of Department personnel and contractors. The total number of state-maintained bridges has increased by 11 this year. The Traffic Services Units installed 4,520 miles of center lines and lane lines; erected 2,285 new traffic regulatory, warning and directional signs; renewed or removed 11,210 existing signs; continued maintenance of 4,424 traffic signals and 1,281 miles of highway illumination; and installed 52 new traffic signals and 181 signal revisions.

There were 4,576 highway encroachment permits issued. The Oversize/Overweight Unit collected \$2,802,055.00 for the issuance of 91,906 oversize/overweight permits, 65 radioactive permits and 116 industrial permits.

The Department's computerized traffic control signal systems include a total of 956 traffic signals on 53 major arterials in 58 municipalities.

The Operations Centers responded to a total of 4,328 reported incidents on the state's limited access highway system. The Newington and Bridgeport Operations Centers monitor 326 highway cameras and operate 135 variable message signs and 14 highway advisory radio stations. The Department's Connecticut Highway Assistance Motorist Patrol (CHAMP) Program provided highway assistance to a total of 9,401 motorists along the I-95 corridor from the New York state line to the Rhode Island State line. In the Danbury to greater Hartford area the CHAMP Program provided assistance to 6,978 motorists.

The Bureau of Public Transportation's mission is to provide mobility to the residents of the State and to enhance economic development, access to jobs and the environment by providing safe, efficient, economical and reliable transportation alternatives.

Over the past year, substantial progress has been made in advancing the Bureau's long-term capital agenda. In addition, ridership grew significantly as commuters and discretionary riders reacted to higher fuel prices early in the fiscal year, but dropped off later in the year as gas prices plummeted and national economic conditions negatively impacted all modes of travel.

Over the past year, substantial progress has been made in advancing the Bureau's long-term capital agenda. The State is moving forward with the Hartford Line and is bringing Inter City Passenger Rail Service between New Haven, Hartford and Springfield, Massachusetts. The

Line is scheduled to open for service on January 1, 2018. In addition, ridership grew on the New Haven Line and it is on track to carry a record number of passengers in 2016.

Rail ridership grew by 2.1 percent on the New Haven Line over the first six months of FY 2016 (July through December 2015) and grew by 2.3 percent in the second half (January through June 2016). The New Haven Line is the busiest Line in the United States and will have over 40,000,000 riders in 2016. Rail ridership fell by 4.6 percent on Shore Line East over the first six months of FY 2016 (July 2015 through December 2015) and increased 0.9 percent in the second half (January through June 2016).

Since instituting half hour service in 2014 New Haven Line ridership has shown a steady growth in ridership. Ridership on the New Haven Line has seen growth in both commuter travel and discretionary rides.

Stimulus funds made available through the American Recovery and Reinvestment Act (ARRA) were directed to a rail signalization project on the Danbury Branch, rail station improvements on the New Haven Line SLE Branford Station additional parking and the construction of a major rail car facility in New Haven to inspect and maintain the new M8 rail cars.

Bus ridership grew by 5.1 percent over the first six months of FY 2009 as gas prices began the year at historic highs and declined throughout the remainder of the calendar year. Bus ridership fell by about 5 percent in the second six months of the fiscal year when compared to the prior year, as gas prices remained low and national economic conditions deteriorated. The Transit Office facilitated the development of a package of capital improvements in response to the funding made available through the ARRA program. More than \$75 million of new bus capital funding was made available to the State and its transit systems. The Office conducted a Statewide service planning effort to develop a second phase of bus service enhancements to add to the \$3 million of new services funded in FY 2008. However, funding for these enhancements was delayed due to the State budget crisis. The Office conducted an update of the Statewide effort to implement new Safe Accountable Flexible Efficient Transportation Equity Act: A Legacy For Users (SAFETEA-LU) planning requirements for specialized public transportation programs.

The Bureau has made significant progress in moving its long-term Capital Program forward. Major activities and achievements during the year include:

- Continued construction of catenary (electric overhead wire) replacement and bridge rehabilitation from New Haven to the New York state line on the New Haven Main Line.
- Initiated the design phase for priority improvements at New Haven Line train stations (ARRA construction project).
- Continued inspections and condition studies for New Haven Line bridges.

- Continued the track maintenance program, bridge timber replacement program, and railroad bridge maintenance program.
- Assisted the Next Generation Equipment Committee in completing a dual mode (diesel/3rd rail) locomotive specification for future national use.
- Continued oversight of Kawasaki application of Fleet Modification Instructions (FMI) to the M8 fleet in cooperation with Metro North Railroad (MNR). This process standardizes the equipment and software across the entire fleet to bring it to the highest level of reliability.
- New Haven Line future equipment requirements in cooperation with Metro North Railroad.
- Completed the study to evaluate the New Haven Line signal and communication system with MNR and provided recommendations to upgrade the system; continued the design phases for the program; began signal system construction from the New York State Line through Greenwich
- Continued construction of key facilities in the New Haven Rail Yard.
- Began design for additional parking at Union Station in New Haven.
- Began the Environmental Assessment for a new station in Orange, which is expected to include 1,000 parking spaces.
- Continued design for the rehabilitation of the Walk (over the Norwalk River) movable bridge on the New Haven Line.
- Began design for the Devon (over the Housatonic River) moveable bridge on the New Haven Line.
- Upgraded to Network Infrastructure for Security System on the New Haven and Branch Lines.
- Design and installation of the Positive Train Control (PTC) System, which will allow integrated command, control, communications, and information systems for controlling train movement.
- Construction of the expansion of the Shore Line East stations including north side platforms, pedestrian overpasses and parking expansion at Branford and Guilford.
- Construction of a new bus storage and maintenance facility for the CTTransit Waterbury division.