

Investment in Infrastructure

With the 2014 construction season behind us, the Bureau's "Turnpike System Priority Capital Program" is another year closer to its goal of replacing red-listed bridges, improving safety and reducing congestion. Currently 8 of the 19 red-listed bridges in the program have been replaced with 6 more slated for replacement in 2016. Costs of turnpike projects under construction during the 2014-construction season was over \$122 million.

Construction under the capital program reached its peak in 2013 at \$186 million, however, several contracts remain under construction with more improvements targeted for construction to begin in the spring of 2015. The projected level of construction expenditures will reach \$41 million and in FY15 will include the Hampton-Hampton Falls Taylor River Bridge Replacement project and the rehabilitation of the existing Little Bay Bridges.

The third of five Newington-Dover projects to rehabilitate the existing bridge over the Little Bay River advertised with R. S. Audley, Inc. the low bidder at \$21.9 million. Work will begin in the spring of 2015. A.J. Coleman continues construction of the road and bridge improvements south of the Little Bay bridges. This \$49.6 million improvement project has completed the roadway south of the Little Bay Bridges to allow for a shift of southbound traffic along NH 16 onto the newly constructed bridge over Little Bay. Moving the Northbound traffic from the old Little Bay Bridge to the new bridge is targeted for June 2015, which will allow Audley to start the rehabilitation that includes the removal and replacement of the existing deck and girders. This contract has a targeted completion date of September 2018.

The Bow-Concord project, contract 13742-B which included the replacement of two red listed bridges along I-93 at the I-89 interchange is the second in a series of three projects in the Bow-Concord area. Audley has nearly completed work on this

project with the exception of the final paving and striping to be completed in the spring of 2015. The major work efforts were completed approximately seven months ahead of schedule due to coordinated efforts between the Bureau of Turnpikes, Bureau of Construction and R. S. Audley. In addition an interim traffic phase was achieved early which allowed for improved traffic operations. This development allowed for the advancement of bridge replacement operations to begin ahead of schedule. Completing this work ahead of schedule eliminated the recurring traffic delay, "bottleneck", at the I-89 interchange increasing mobility and safety for drivers as well as significantly improving the travel experience for commuters, tourists and race fans.

The Bow contract for replacement of the I-93, Exit 12, NH 3A bridge has shut down for the winter. Audley, however, has made significant progress on this contract and have completed construction of both abutments since the project started July 2014. As work began on this contract, Audley's work continued on the I-89 bridge replacements less than a mile to the south. The close proximity of these two contracts allowed for a smooth startup with minimal mobilization needs. The new NH 3A bridge over I-93 will be a single span bridge located directly adjacent to the existing bridge allowing traffic on I-93 and NH 3A to remain largely unimpacted by construction. The new bridge will be wide enough to accommodate the future Bow-Concord Capitol corridor widening project along I-93 from the I-89 interchange through the Bureau of Turnpike's northern limits at Exit 14.

Severino Construction is completing the Manchester 14966 contract at the Exit 4 interchange of the F.E. Everett turnpike (I-293) and is replacing or rehabilitating 5 red list bridges. Originally estimated to cost \$33.2 million, the project bid came in at \$28.6 million due to aggressive bidding by several contractors resulting in a savings of \$4.6 million. To date, road and

bridge construction along the westerly side of I-293 has been completed and southbound traffic shifted to the newly built improvements. Work on the median portion of the bridges along I-293 and the replacement of the I-293 Exit 4 Off Ramp bridge remains ongoing. As challenging as this winter has been, from the first significant snowfall in November, Severino continued construction working towards a completion date in the fall of 2016.

The Bureau's current Priority Capital Program has over 72% of its funded program contracts either completed or under construction. Completed construction projects include the first of five Newington-Dover projects (construction of the new Little Bay bridge) along the Spaulding Turnpike, the expansion of the Spaulding Turnpike in Rochester from Exits 11 to 16, Hampton and Hooksett Open Road Tolling projects, Portsmouth I-95 SB Sound wall adjacent to Atlantic Heights, US 3 bridge replacement over FEET in Bedford, Merrimack bridge replacement over Souhegan River and the I-93 Exit 14 bridge deck replacement over Loudon Road in Concord.

Additional projects funded under the 2015-2024 Ten-Year-Plan include the Newington-Dover Little Bay Bridge rehabilitation and the Taylor River bridge replacement contracts scheduled to begin this spring, widening along the Everett Turnpike in three locations from Nashua to Bedford along with the installation of highway cameras and Dynamic Message Signs to support NHDOT's Intelligent Transportation System (ITS) program and the conversion of Rochester and Dover Toll Plazas to Open Road Tolling (ORT).



2015 Winter/Spring



Hooksett Welcome Center Grand Opening

The new northbound Hooksett Welcome Center along I-93 celebrated its grand opening March 17th after only 18-months from groundbreaking in October 2013. The final touches on the 10,000 square foot food court area were the only remaining elements to be completed for the northbound facility. These final touches included a visitor information desk, a preserved 1950's vintage relief map of New Hampshire, a fully functioning waterfall, covered bridge and an old farm house facade over the entrance. This represents the final phase of the staggered construction which previously included the opening of the 20,000 square foot liquor and wine outlet, the 3,000 square foot convenience store with 16 fuel pumps and bathrooms as well as the interactive visitor center and Hi-Way Diner.

The Hi-Way Diner located in the food court area is open for breakfast and lunch, where customers can come in for a mouth-watering meal and take in the impressive sights and sounds of the waterfall which has seen it fair share of "well-wishers" throwing pennies in the waterfall pool. The vaulted ceiling with a clear-story bringing

in natural light, enhancing the arched portion of the ceiling which is painted with an outdoor sky can also be appreciated from the seats of the diner. The remaining food court venues include an Italian restaurant, a deli, bakery and coffee shop.

The Southbound Hooksett Welcome Center is scheduled to be complete and fully open by mid April.

Upon entering the southbound facility though the main entrance, visitors will be struck with the vision of the massive 22' diameter waterwheel. The waterwheel, which was refurbished and reconstructed after many years in storage, is reflective of New Hampshire's history of industry and "yankee" ingenuity and is consistent with the "NH Life" theme in this facility which will focus on NH businesses, technology and schools. The schedule for the southbound facility follows that of the northbound by approximately 4 -weeks.

Each facility strikingly resembles the initial renderings developed by the architectural firm Samyn-D'Elia Architects. These renderings were developed in the initial

phases of project development even before the engineering plans were initiated. These facilities progressed from an initial vision to reality, primarily (over 95%) with homegrown State of New Hampshire workforce, materials and funding.

The framework for all these improvements and the public-private partnership is a ground lease contract between Granite State Hospitality, LLC (GSH-developer and operator of the facilities) and the State which requires that GSH finance, design, build, operate and maintain the welcome centers for a period of 35 years (with the exception of the 20,000 square feet Liquor Store which is owned, operated and financed by the NH Liquor Commission). During the timeframe of the ground lease, a percentage of the revenue from gross sales of the concession areas (convenience store, restaurants and advertising, but not to include the liquor store sales), as well as revenue based upon gallons of fuel sold will be paid to the Turnpike system. Over the term of the 35-year lease this may exceed \$40 million based on forecasted sales.

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For additional articles on the New Hooksett Welcome Center facilities, use the following links:

<http://manchesterinklink.com/alex-ray-common-man-will-never-rest-hooksett-rest-areas/>

<http://manchesterinklink.com/get-free-cup-coffee-new-common-man-roadside-adored-mobil-app/>



Innovations In Winter Maintenance Operations

The Maintenance section of the Bureau of Turnpikes continues to strive to become more efficient and cost effective through the use of innovative equipment.

A third Turnpike tow plow was placed into service in November of 2014. It is assigned to the Merrimack maintenance facility and is used on the F E Everett Turnpike between exits 11 and 5. Tow plows are capable of clearing two lanes in one pass utilizing only one truck and one operator. This of course is less expensive than two trucks and two operators. Tow plows also reduce the dependency of hired equipment. Whereas each tow plow can do the work of two trucks, fewer hired trucks are needed. This has been very helpful as for the last several years the Bureau has been unable to contract the desired amount of hired equipment. Unfortunately there are also a few drawbacks to tow plows including that they are not very easy to turn around at the end of many plow routes, and they are difficult if not impossible to bring into the maintenance shed for repairs or routine maintenance. The Bureau plans to continue to evaluate the use of tow plows in order to determine if more should be purchased.

The Bureau continues to expand on its liquid anti-icing program. Just prior to the winter of 2013/2014 the Bureau put into service five liquid anti-icing distribution trailers. Each Turnpike maintenance shed now possesses a 3,000 gallon tanker-trailer that is used for pre-treating the road surface with an anti-icing liquid prior to a storm in order to help prevent the snow or sleet from bonding to the road's

surface. The primary benefit to this practice is that it delays the deterioration of driving conditions allowing more time for the crews to be called in and get their trucks out on the road.

Turnpike's fleet of heavy plow trucks are equipped with saddle tanks attached to the material spreader for the purpose of pre-wetting the salt with an anti-icing liquid just prior to dispensing it on the road. This process reduces the "bounce" of salt keeping more of salt in the lane where it belongs. In addition, it provides moisture to the salt for quicker activation and allows the pre-wet to work at lower temperatures than dry salt. This practice has allowed the Bureau to reduce application rates traditionally used with dry salt, therefore saving money and reducing environmental impact.

The primary anti-icing liquid used for both pre-wetting and pre-treating activities is a blend of salt brine and an additive called Ice Be Gone II. The salt brine is a mixture of salt and water that is made at the Bureau's Hampton Maintenance facility. Ice Be Gone is a purchased product made up of magnesium chloride and sugars. The additive is mixed into the brine at a 20% ratio. The salt brine mixture is then transported by our anti-icing tanker trailers to each Turnpike maintenance facility for immediate use or storage in a 5,000 gallon storage tank located at each maintenance facility.

Pre-treatment of pavement surfaces have several determined factors:

- * Temperature must be above 22 degrees
- * Pre-treatment is not considered if precipita-

tion is expected to start as rain.

- * Salt residue on pavement surfaces from previous maintenance activities eliminates the need for pretreatment in some cases.

For the fourth straight year, the Bureau of Turnpikes is utilizing and evaluating the use of Automatic Vehicle Locators (AVL) and Material Data Collecting (MDC) equipment. The Bureau installed 13 AVL units in plow trucks for the 2014/2015 winter season. The primary purpose of AVL/MDC units are to collect information such as vehicle location, speed, direction of travel, as well as salt and liquid distribution application rates, helping the Bureau to better track salt usage, particularly in salt impaired areas. These systems also allow supervisors to log onto a website from any computer for detailed information on the fleet.

The Bureau has also expanded the use of dynamic message signs along the Turnpike system. During the winter of 2014/2015 the Bureau utilized 25 message signs throughout the Turnpike system to provide travel information. Examples of the information provided via the use of these message signs include preparation advisories in advance of storms, winter weather advisories, reduced speed limits, road conditions, pre-treatment activities and post storm clean-up activities. Field conditions observed by the Turnpike maintenance staff are forwarded to the Transportation Management Center, who remotely program the message signs with the appropriate messages.

sponder to an existing NH E-ZPass account.

Purchasing an E-ZPass "On-the-Go" transponder is convenient, and ready to use on your next toll transaction. Purchase yours today and receive a 30% discount on tolls when used at any NH toll plaza.

On-the-Go transponders are also available at NH Liquor & Wine Outlets on I-93 in Hooksett and I-95 in Hampton as well as select AAA locations.

On-the-Go E-ZPass transponders are valid for use in: NH, ME, MA, RI, NY, PA, DE, MD, NJ, VA, WV, OH, IL IN and NC.

Upon successful implementation, the Department plans to expand the E-ZPass On-the-Go program to additional toll plazas for your convenience.

The Bureau of turnpikes began selling E-ZPass "On-the-Go" transponders on October 24, 2014 at the Hooksett Toll Plaza in lanes one (1) and two (2) of the northbound and southbound toll booths as a pilot program.

In-lane retail sale of transponders are being sold for 2-axle, 4-tire passenger vehicles only (no commercial vehicles).

Pre-programmed E-ZPass transponders are \$25, cash only and are pre-loaded with \$9.01 in tolls (packaging cost included). Mounting strips and instructions for on-line registration are included.

Residents from any state may purchase the On-the-Go transponder and become a NH EZPass account holder or can add an additional tran-

E-ZPass "ON-THE-GO" Transponder Sales Hooksett Main Line Toll Plaza

ENJOY ON-THE-GO CONVENIENCE

E-ZPass keeps NH Moving

A Safe, Convenient, Cost-Effective Way to Pay Your Toll
30% Discount on Tolls & No monthly fees

MOTORIST SAFETY PATROL EXPANDS



Motor Safety Patrol 2014

In 2014 Bureau of Turnpikes Motor Safety Service patrol vehicles logged 2178 stops, an average of 182 stops per month.

313 days of scheduled patrols totaled 3,522 hours, covering more than 140,175 miles and averaging nearly 450 miles of coverage per day. MSP provided traffic control assistance on 227 occasions, 90 of which were due to motor vehicle accidents. In addition our drivers provided direct vehicle assistance on 796 occasions:

- * 316 changing of flat tires;
- * 44 jump starts;
- * 44 adding water/coolant;
- * 15 phone;
- * 21 directions;
- * 169 providing fuel;
- * 187 other

Cleaning up debris is part of the daily routine as it poses a hazard to drivers. MSP stopped to remove roadway hazards 191 times including items such as, dead animals, tire debris bedding, metal, and wood to name a few.

Our MSP Provided motorist indirect assistance 932 times, calling for tow services and/or waiting for other aid to arrive while providing traffic control with arrow board and/or flashing lights.

Motorists stranded with minor vehicle problems on the Spaulding Turnpike from Portsmouth to Rochester will soon find help. Beginning on January 14, 2015, the New Hampshire Department of Transportation (NHDOT) is introducing a Service Patrol truck for the Spaulding Turnpike during early morning and afternoon commuting hours.

The goal is to improve safety along the corridor and reduce the potential for significant traffic tie-ups by clearing minor incidents, such as flat tires, charging a battery or vehicle overheating, as quickly as possible. Minor incidents like flat tires and running out of fuel on a congested highway have the potential to cause secondary incidents. Motorist Safety Patrols (MSP) can help reduce the potentially significant impacts of otherwise minor incidents by lending assistance to stranded motorists. The MSP communicates with the NHDOT's Traffic Management Center (TMC) in Concord, which has direct contact with NH State Police and other emergency responders.

The MSP will operate during the winter months in the early morning and late after-

noon hours Monday through Friday, 5:30 - 8:00 AM and 3:30 - 6:00 PM, and during the summer months on Monday through Thursday, 5:30 - 8:00 AM and 3:30 - 6:00 PM, on Friday from 5:30 - 8:00 AM and 3:30 - 7:00 PM, Saturday 9:00 AM - 5:00 PM, and on Sundays 10:00 AM - 6:00 PM. Extra coverage may be added on holidays and for special events.

This service is an extension of the public-private partnership between the NHDOT's Bureau of Turnpikes and State Farm Insurance for sponsorship of the Motorist Safety Patrol on Interstate 95 (Blue Star Turnpike). As part of the sponsorship program, the MSP vehicle will include the State Farm logo as well as enhanced, highly-reflective safety markings to make the vehicle more visible to motorists, especially at night. The sponsorship also includes highway signs indicating patrol areas along the covered routes. Funds from the sponsorship are used to offset the programs operating costs.



Traffic and Revenue Highlights

For the first half of FY15 (July through December 2014), traffic and revenue grew approximately 1.3% and 2.1% respectively, as compared to the same period in FY14. Even with the continued loss of traffic experienced with the opening of the Manchester Access Road (November 2011) and the recent closing of the Merrimack Exit 12 ramp plazas (July 2014), overall traffic on the Turnpike System started the fiscal year higher than FY07 (which represents the year of historic peak traffic levels on the Turnpike System), traffic dipped below the FY07 peak levels in September through December, but has generally exceeded the FY14 traffic volumes.

The relatively low gas prices, improved economic activity, and on-going capital improvements on the Turnpike System are reflective of the increasing traffic volumes and increased revenue.

