

**WEST VIRGINIA
PARKWAYS AUTHORITY
WEST VIRGINIA TURNPIKE
ANNUAL REPORT 2016**



HNTB

Photo of the First Accelerated Bridge
Construction in the State of West Virginia



WEST VIRGINIA PARKWAYS AUTHORITY

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Treasurer



July 1, 2016

West Virginia Parkways Authority
Post Office Box 1469
Charleston, West Virginia 25325

Dear Authority Members:

As required by the Indentures of Trust securing the West Virginia Parkways Authority (WVPA) Revenue Bonds, we are pleased to submit our 2016 Annual Report regarding the condition and operation of the West Virginia Turnpike during the 2015/2016 fiscal year. Our findings on the condition of the Turnpike, our recommendations concerning maintenance, operation and insurance requirements and our recommendations for deposits into the renewal and replacement account are summarized in this report. Findings and recommendations are based on field review, meetings with the Authority and participation in design projects throughout the Turnpike system.

The West Virginia Turnpike is an 88-mile, four-lane toll road between Princeton and Charleston, West Virginia. The Turnpike is the direct route south from the Great Lakes and regions of Canada. Portions of both Interstate 77 and Interstate 64 are carried on this route, which includes 18 interchanges and 116 bridges.

A Resolution in support of tolls was passed by the WVPA Board on January 7, 2016 to urge the West Virginia Legislature to amend the existing legislation requiring the cessation of tolls after the bonds are paid. The Board concludes that the State of West Virginia has had significant difficulty balancing its budget over the last few years due in part to declining revenue. Tolls on the Turnpike continue to pay for the toll road's operation, maintenance and capital improvements and continue to provide 360 full and part-time jobs with benefits.

The Resolution also concluded the following:

- The elimination of tolls would result in the loss of approximately \$90 million of yearly revenue that could have been collected from the use of the West Virginia Turnpike. Since 76% of all toll revenues come from out-of-state passenger and commercial vehicles, there would be a loss of \$68 million annually to pay for the cost to operate the 88-mile Turnpike which has 426 lane miles and 116 bridges. Without toll revenue, the entire cost of operating the West Virginia Turnpike would shift directly or indirectly to the taxpayers of West Virginia. Over a 30 year period, West Virginia would lose approximately \$2.7 billion in revenue from tolls, \$2 billion of which comes from out-of-state users of the West Virginia Turnpike.
- The Parkways Authority, through its customer service center, continues to offer generous discounts to E-ZPass customers to lessen the costs to both personal and commercial users



of the Turnpike. In addition, a West Virginia tax deduction is permitted for tolls paid with WV E-ZPass.

In 2006, Governor Joe Manchin III requested the Public Resources Advisory Group (PRAG) to conduct an independent financial review and analysis of the Authority to assist in the evaluation of the need for future toll increases and the relationship of toll increases to maintaining the Turnpike in a manner that provides a safe facility and an acceptable level of service to its users. This report was submitted February 5, 2007.

On April 12, 2007, the Authority adopted a resolution refocusing the Authority to its core and principal mission of maintenance and upkeep of the Turnpike. This required the elimination of all economic and development investments except for Tamarack.

In July 2009, after years of decreasing toll revenues and increased costs to repair, rehabilitate and reconstruct the Turnpike's aging bridges, roadways and facilities; the Authority voted to approve the first, across-the-board toll increase on the West Virginia Turnpike in 28 years.

On August 1, 2009, new toll rates went into effect increasing rates from \$1.25 to \$2.00 per passenger car. In 2010, Senate Bill 427 was enacted which renamed and reorganized the West Virginia Parkways Authority (formerly known as West Virginia Parkways Economic Development Tourism Authority). This bill gave the Parkways Authority the authorization to construct new toll road projects by issuing bonds secured with toll revenues; however, bonds sold for new toll road construction cannot be used for the West Virginia Turnpike pursuant to Section 17-16A-10(a) which states that "the Parkways Authority is authorized to provide by resolution for the issuance of parkway revenue bonds of the state for the purpose of paying all or any part of the cost of one or more parkway projects: Provided, that this section shall not be construed as authorizing the issuance of parkway revenue bonds for the purpose of paying the cost of the West Virginia Turnpike. The aggregate amount of the West Virginia Turnpike's outstanding principal amount of bonds cannot exceed \$200 million. Toll revenues for the 2016 fiscal year were \$93.579 million compared to the 2015 fiscal year of \$88.697 million, an increase of \$4.882 million or 5.5%. During the 12-month period ended June 2016, passenger car transactions increased 3.3% and commercial truck transactions increased 2.1% compared to the fiscal year ended June 2015. Operating expenses for the 12 months ended June 2016 increased 3.1% compared to the 12 months ended June 2015. This increase was the result of additional depreciation expense of \$1.6 million due to the growing number of infrastructure projects being placed in service. There were increases in other expenditures related to snow and ice control expenses, damage claims and recoveries, guardrail replacement and other maintenance expenses. We believe the Turnpike revenues under this new schedule of tolls are adequate to meet all needs of the Authority to maintain current debt service and provide sufficient liquidity levels while maintaining system assets and adequately funding capital needs.

The system wide upgrade of the WVPA toll collection system was successfully completed in 2012. The system includes cash and automated tolling via E-ZPass, replacing the previous system originally installed in late 1999 and early 2000.

All West Virginia citizens who participate in the E-ZPass non-commercial commuter pass program are able to deduct tolls from adjusted gross income up to \$1,200 per year on their state income tax



return for taxable years beginning on or after January 1, 2007 (minimum amount eligible for deduction is \$25.00).

Authority personnel continue their excellent performances in both operation and maintenance activities. The Authority received the "Certificate of Excellence in Financial Reporting" from the Government Finance Officers Association of the United States and Canada for the 26th consecutive year. We sincerely appreciate the Authority's cooperation from its members and staff, as they continue to operate with a commitment to excellence.

Respectfully submitted,

A handwritten signature in blue ink, appearing to read "Randolph T. Epperly, Jr.", written over a faint, illegible printed name.

Randolph T. Epperly, Jr., P.E.
HNTB Corporation
Vice President

cc: United Bank, Trustee (Attention: Kathy Smith)



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**Bluestone Southbound
Bridge at Milepost 17**

APPENDIX

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FISCAL YEAR 2016 ACCOMPLISHMENTS

A contract was awarded to Radford and Radford, Inc. on April 9, 2015 to build a new Beckley Maintenance and State Police facility. Turnpike maintenance personnel were relocated and the old facilities were demolished. Construction began on the new facility on May 6, 2015 and it was completed in October 2016. This new facility includes the State Police offices, maintenance, safety and training offices, truck bays, mechanic shop and a new salt storage building.

The Board voted to construct a new, modern building, including parking area, and a new wastewater treatment plant at Rest Area 69. The new facility, with a stone exterior, will have a similar look as the new rest areas built by the West Virginia Division of Highways. Rest Area 69 is under construction and will re-open in Spring 2017.

In 2015, the Parkways Authority awarded a contract to Orders Construction for the first bridge deck replacement on the Turnpike. It was the first use of the Accelerated Bridge Construction (ABC) method of replacing bridge decks in the State of West Virginia and it had minimal impact on traffic. The project replaced the 220 foot two-lane bridge deck on northbound I-77 over Route 48 in Ghent, Mercer County, West Virginia in less than 2 weeks, in contrast to a 6-8 month construction period for a traditional method bridge deck replacement. The project was completed in May 2016.



Accelerated Bridge Construction



Bridge Approach Mill and Inlay



**Northbound Yeager Bridge
Latex Modified Concrete (LMC)**



HIGHWAY AND BRIDGE REHABILITATION PROJECTS

Following the toll increase in 2009 and the increase in funds that followed, the WVPA began road and bridge rehabilitation projects on the West Virginia Turnpike such as full depth concrete repairs, asphalt pavement overlays, bridge deck overlays, bridge and facilities retrofit work and repairs and rehab to median barriers, retaining walls, buildings, toll plazas, culverts and pavement markings. These are much needed pavement, concrete and bridge rehabilitation projects for Kanawha, Fayette, Raleigh, and Mercer Counties. A ten year plan from 2009 to 2019 will use toll revenues of \$335 million for deferred maintenance and capital costs, including \$242 million for paving needs. During 2010, patrons began to see significant improvements in pavement ride quality on sections of the Turnpike. The majority of the construction work for 2016 was performed in the Chelyan and Beckley areas (\$44.9 million in contracts were awarded this year as well as completing punch-list items from last year's contracts). Following Memorial Day, the majority of all work was performed at night, Monday through Thursday from 6:00 p.m. to 6:00 a.m., in order to keep traffic delays at a minimum. Toll revenues are being used to fund capital highway and bridge projects.

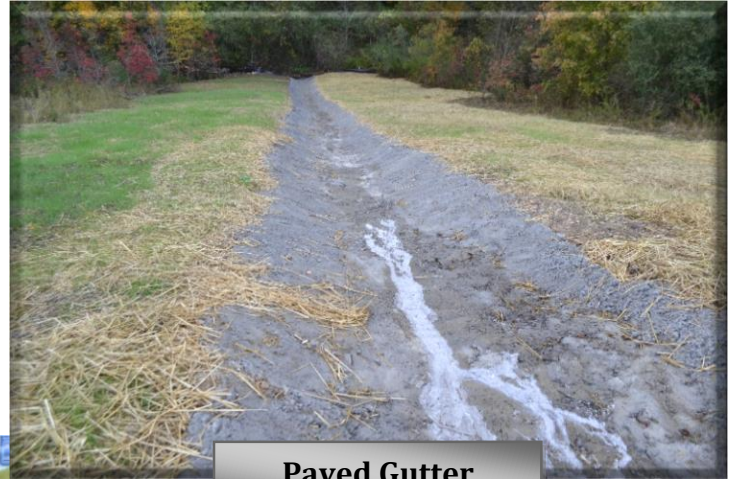


Bridge Deck Overlay Removal

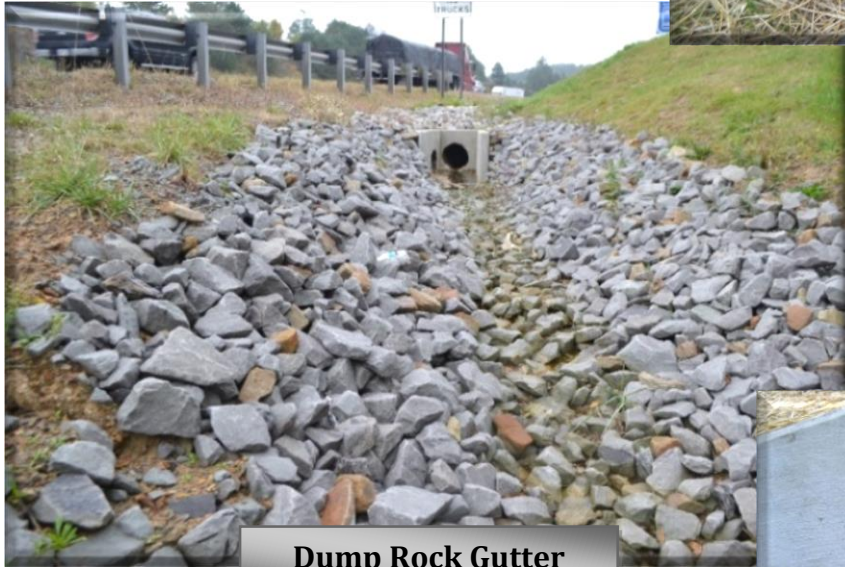


Culvert Cleaning & Retrofit Contracts 1C-15 and 1C-16

These are culvert repair projects at select locations throughout the West Virginia Turnpike. They are primarily composed of culvert retrofits by dewatering, lining, paving inverts, miscellaneous repairs to end treatments and maintenance of traffic. Teays River Construction Company retrofitted 16 pipes ranging from 18" to 84". The approximate construction costs totaled \$2,256,433.00.



Paved Gutter



Dump Rock Gutter



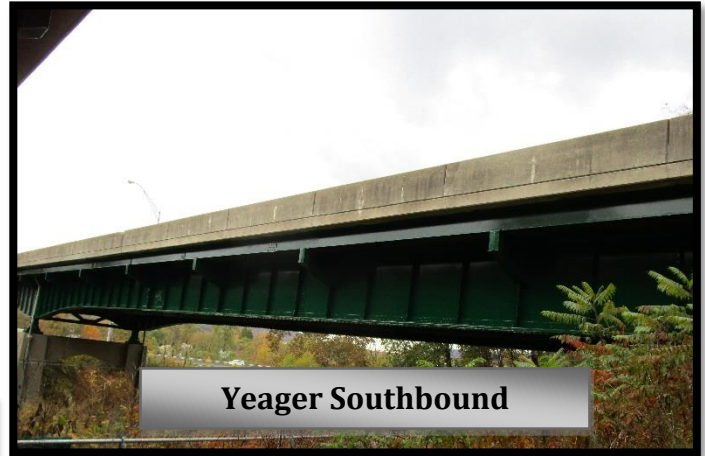
Insituform Pipe Repair



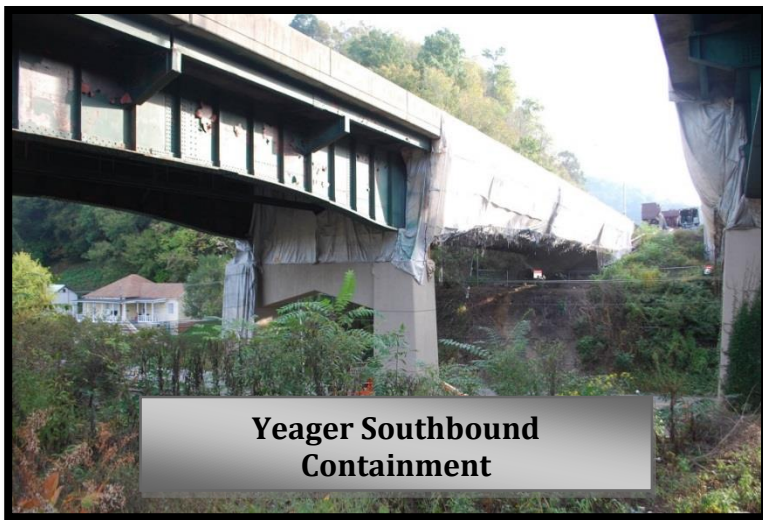


Bridge Painting Contract BP-1-16

This project consisted of blasting and painting all steelwork on Bridge 3050N near Pax, fascia steelwork of Bridge 3050S near Pax and fascia steelwork in Span 12 on both Yeager Bridges. The work included 46,600 square feet of steelwork and 7,900 square feet of concrete coatings for an approximate cost of \$746,557.00.



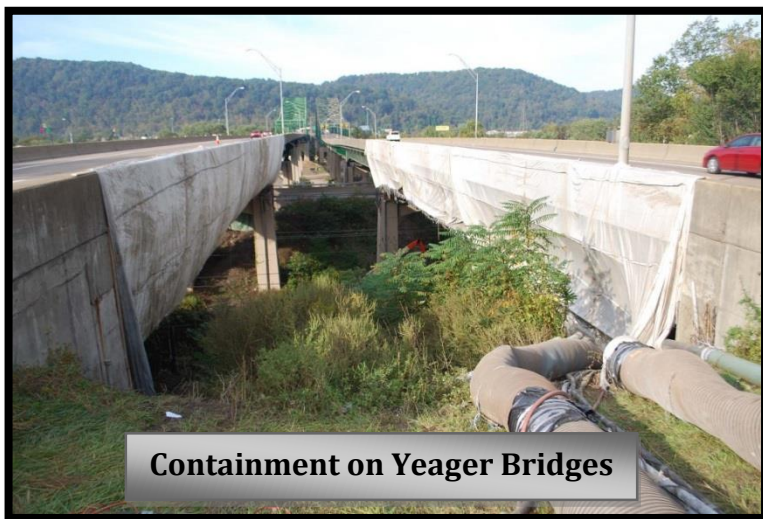
Yeager Southbound



**Yeager Southbound
Containment**



Bridge 3050S Containment



Containment on Yeager Bridges

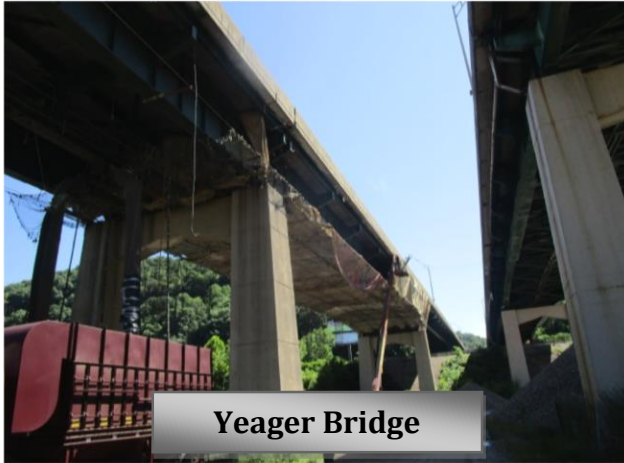


Bridge 3050N Primed Steelwork

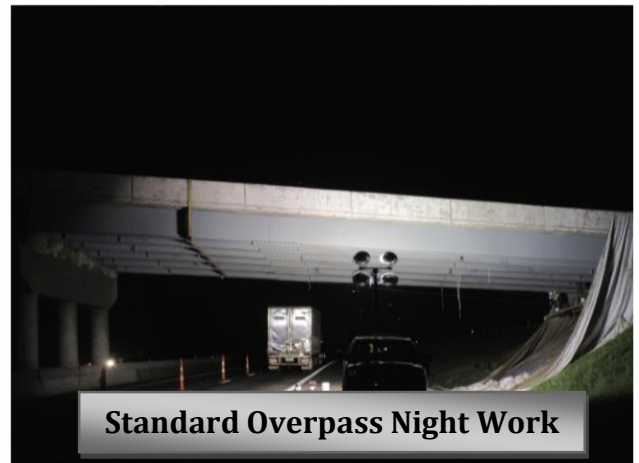


Bridge Painting Contract BP-3-15

This project consisted of fully blasting and painting the Mahan overpass, Standard overpass and Yeager Southbound bridge Spans 9 and 10. A total of 48,500 square feet of steelwork and 3,500 square feet of concrete protective coating was applied at an approximate cost of \$787,790.00.



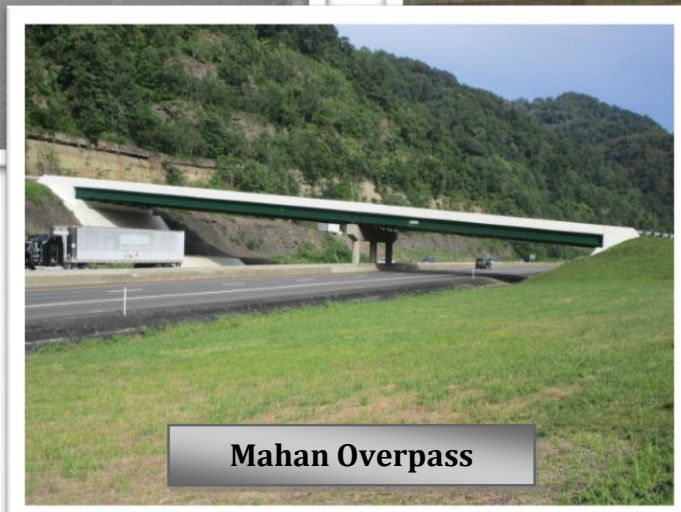
Yeager Bridge



Standard Overpass Night Work



Standard Overpass



Mahan Overpass



State Police & Beckley Maintenance Building Contract SP-1-15

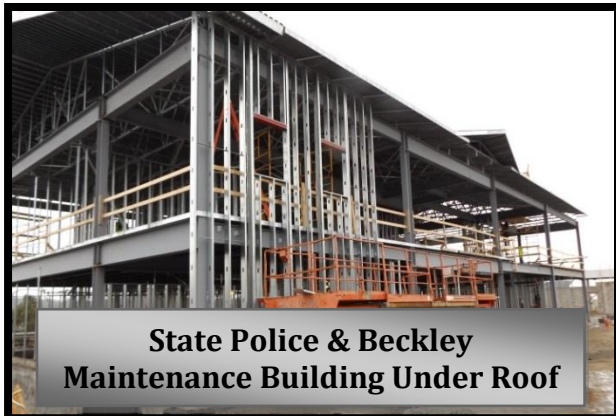
Construction continued on a new 19,200 square foot office building with mechanic shop and truck bays including site and utility work. The approximate cost is \$3,880,240.00. Work was completed in October 2016.



Beginning of Construction



Steel Framework



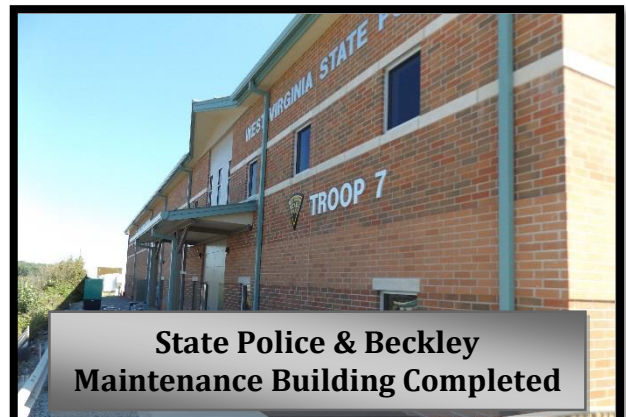
**State Police & Beckley
Maintenance Building Under Roof**



Brick Being Laid



Finishing Exterior Construction



**State Police & Beckley
Maintenance Building Completed**



Bridge/Facility Retrofit Contract BFR-1-12

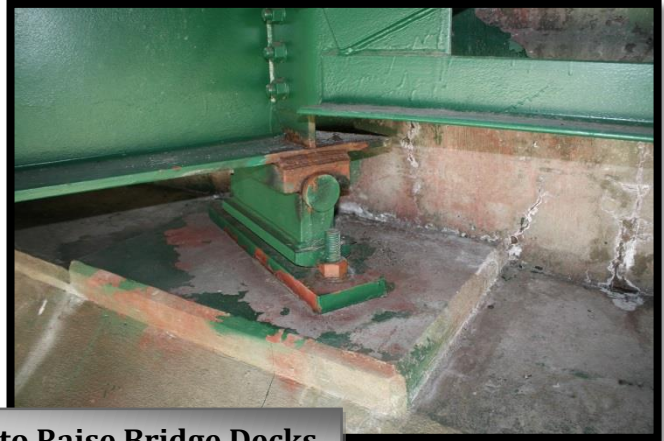
Contract BFR-1-12 is a 3 year contract with 2 one-year renewals. For fiscal year 2016, the contract amount was \$1,881,000.00 A major portion of this contract's work is to replace defective expansion joints/seals, retrofit structural steel members with section loss, repair damaged barrier walls, patch bridge decks and rehab toll plaza lanes.

Yeager Northbound LMC Overlay





Contract BFR-1-12 (Continued)



Bearing Shims Added to Raise Bridge Decks



Cantilever Sign Replacement at Barrier B



Bluestone Truss Retrofit



Bridge Shotcrete Repairs Contract BSR-1-16

Deteriorated substructure units were repaired by Shotcrete. Air Placement Cement, Inc. repaired 15 bridges, a total of 1,197 square feet, at an approximate cost of \$256,640.00.



Abutment Shotcrete Repair



Delaminated Concrete Removed from Backwall



Delaminated Concrete Repaired on Backwall



Pier Shotcrete Repair



Bridge Repair Contract BR-1-15

Bridge 2144S (Yeager Bridge) was retrofitted to strengthen Approach Span Unit A, Approach Span Unit B, West Truss and East Truss. Advantage Steel and Construction, LLC installed new transverse stiffeners on the girders and longitudinal angles on the truss top chords. Approximate cost of this project was \$548,641.50.



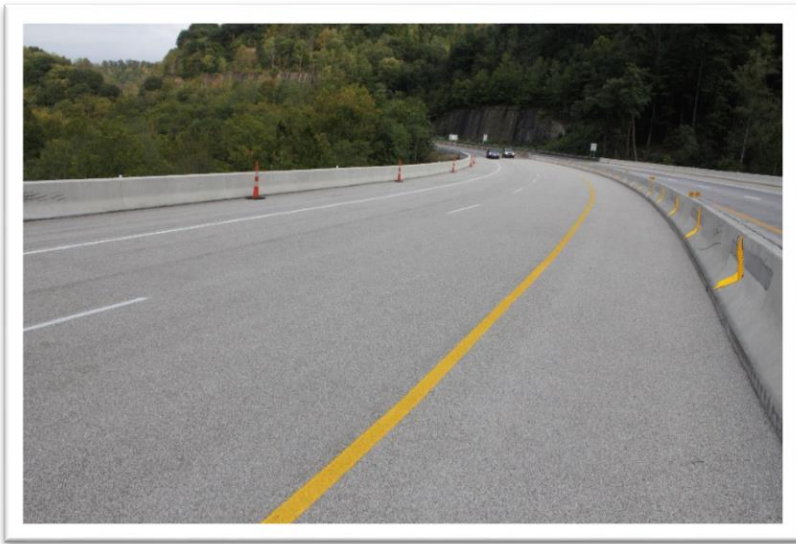
Longitudinal Angles Installed on the Top Chord of South Yeager Bridge



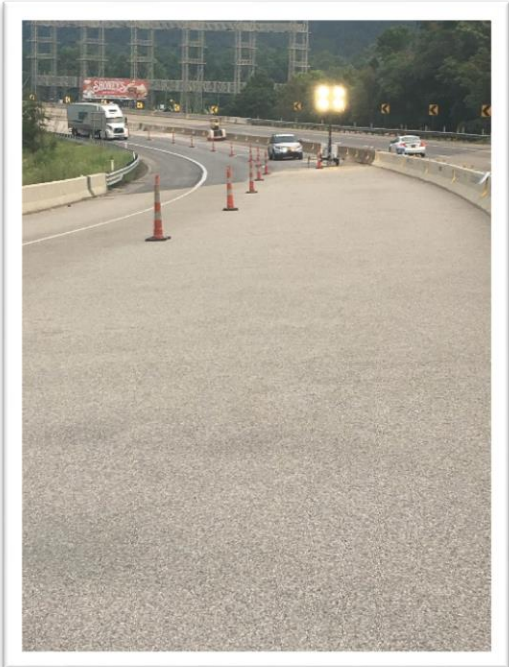


Bridge Deck Overlay Contracts BDO-1-16 and BDO-2-16

Six bridges were overlaid to provide a salt resistant, multi-layer non-skid surface to withstand continuous heavy traffic and extreme changes in weather condition. All bridges were in curves and skid numbers were increased to provide more safety to the traveling public. Specialty Groups, Inc. and Mountain State Bridge Co. performed the work. Approximate total cost was to \$683,912.00.



Bridge Deck Overlay with Non-Skid Surface





Bridge 3017N Deck Replacement Contract BDR-1-15

This project was the first Accelerated Bridge Construction (ABC) project in the state of West Virginia. Accelerated Bridge Construction is a method in which the decks are brought in as pre-cast units and provides better quality control as the units are made in a casting plant. Once the casts are brought in, the old deck is replaced and the new deck is put into place with a crane and locked in place within a week's time. The project consisted of fully replacing the Ghent NB bridge deck with pre-cast deck panels and parapets. The project replaced 220 foot, two lane bridge deck on northbound I-77 over Route 48, in Ghent. The bridge was replaced in less than 2 weeks with minimal traffic delays. Orders Construction Company, Inc. was awarded this project and approximate total cost was \$2,621,477.16.



Existing Bridge Deck



Temporary Construction Platform



Pre-cast Deck Panels



Existing Deck Removed



Overall Site Construction



Pre-cast Deck Panels in Place

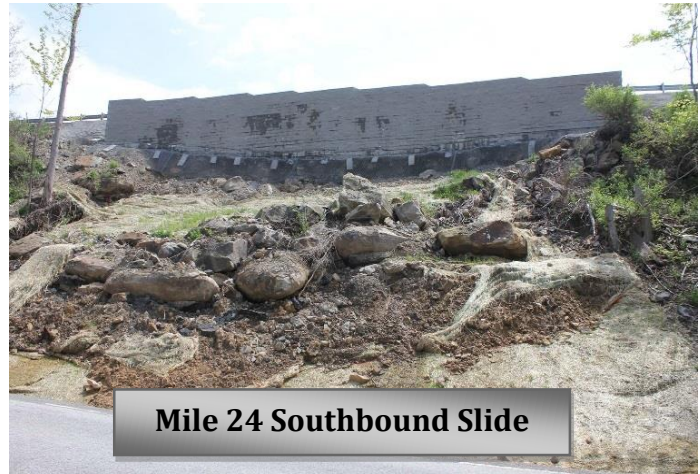


First Completed ABC Project in the State of West Virginia



Milepost 24 Slide Repair

A slide occurred at Milepost 24 Southbound. The slope between I-77 and Route 19 rapidly became unstable. West Virginia Parkways Authority and West Virginia Division of Highways partnered and contracted with Geo Stabilization International to stabilize slope. The total cost was approximately \$458,670.00.



Mile 24 Southbound Slide



Mile 24 Southbound Slide Repair



Retaining Wall on Route 19

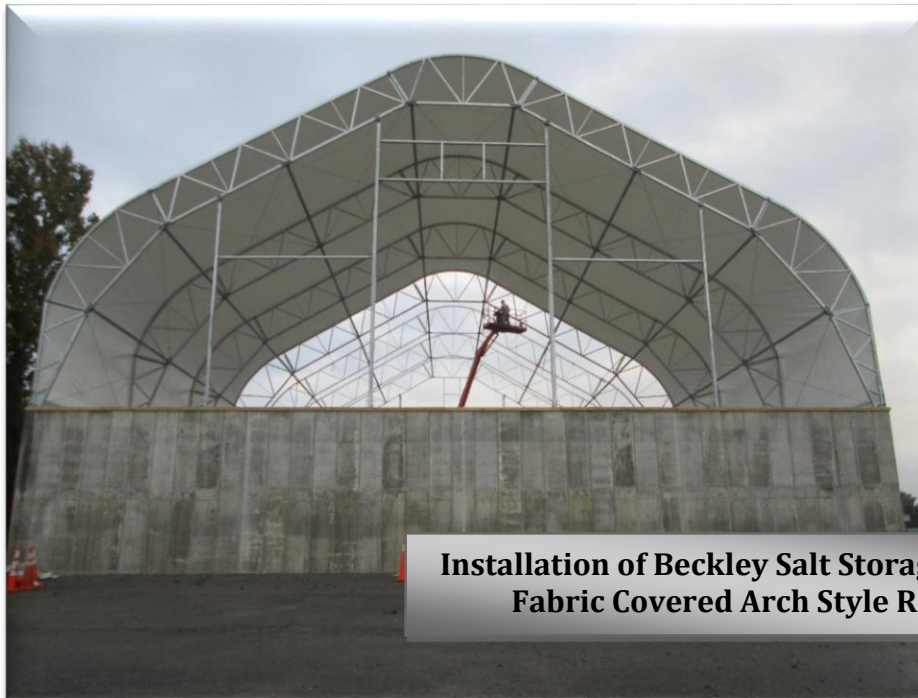


Beckley Salt Building Roof - Contract SBR-1-15

This project consisted of supplying all materials and installing a fabric covered arch style roofing system for a salt storage building that was constructed at the Beckley Maintenance Facility. R & T Enterprises Inc. was awarded this project and total cost was \$223,743.17.



Construction of Beckley Salt Storage Building



**Installation of Beckley Salt Storage Building
Fabric Covered Arch Style Roofing**

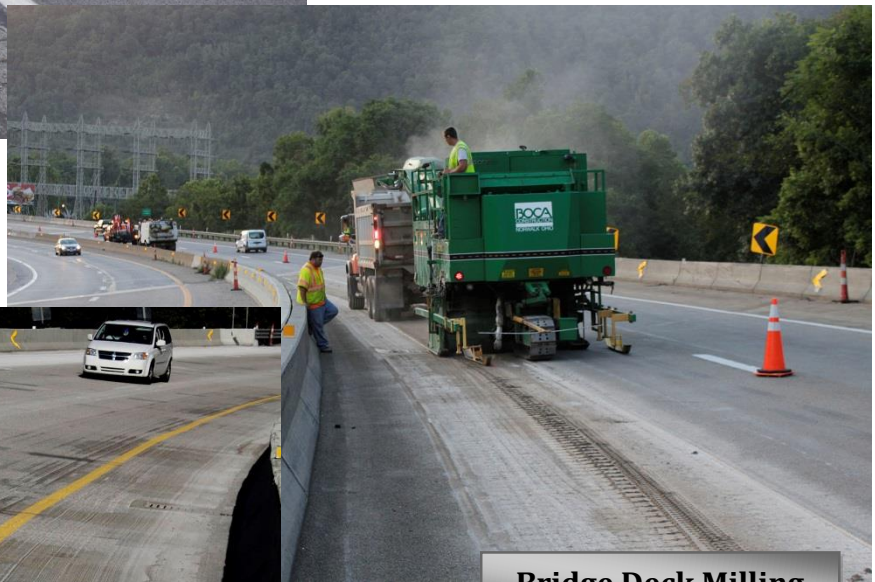


Bridge Deck Milling – Contracts BDM-1-15 and BDM-1-16

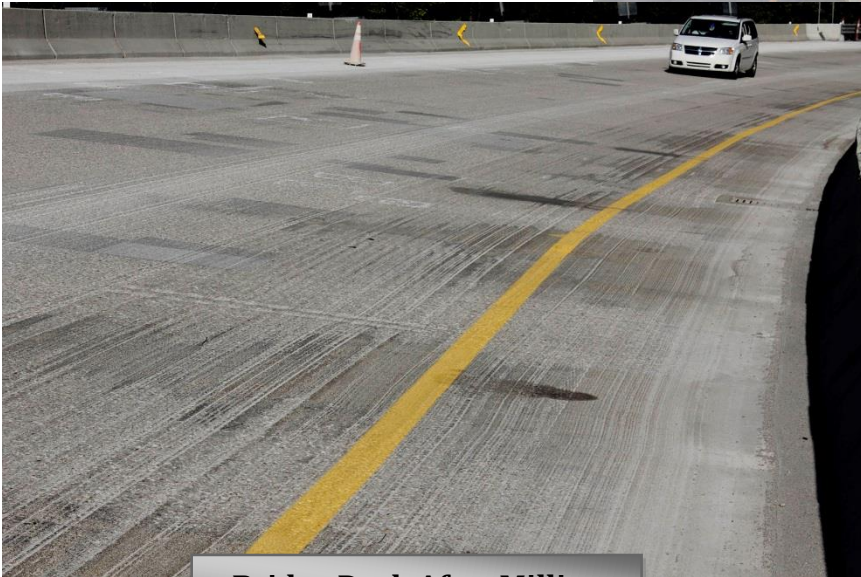
Bridges 3276, 3034N, 3044N, 3073N, 3074N, 3076N and 3074S had the epoxy aggregate overlay milled off due to debonding and to provide a higher skid resistance in Contracts BDM-1-15 and BDM-1-16. BOCA Construction, Inc. and Donegal Construction Corporation were awarded these contracts and the approximate total cost was \$105,409.70 and \$16,150.20, respectively.



Bridge Deck Prior to Milling



Bridge Deck Milling



Bridge Deck After Milling



Barrier C Waterline Replacement Contract WL-1-15

This project consisted of installing a 4" waterline for service to the Barrier C Toll Plaza. Kanawha Stone Company was awarded the contract and the approximate total cost is \$643,974.00.



**4" Waterline Installed On
Bridge 3073 West Fascia**





TOLL COLLECTION SYSTEM

The system wide upgrade of the WVPA toll collection system was successfully completed in 2012. The system includes cash and automated tolling via E-ZPass, replacing the previous system originally installed in late 1999 and early 2000. In addition to accepting cash payments, the current system includes an electronic system that allows patrons equipped with E-ZPass transponders to pass non-stop through the toll plazas, which accounts for approximately 37.2% of toll transactions and collects 43.6% of toll revenue. An overhead antenna in each lane at each plaza reads the transponder and automatically identifies the vehicle for toll collection. A video enforcement system, in select lanes at toll plazas, photographs the vehicle and license plate of any vehicle that violates the toll collection system. The WVPA is currently a Full Member Agency of the E-ZPass Group along with multiple other toll agencies equipped with the E-ZPass system. This allows any vehicle equipped with a transponder to travel seamlessly without stopping throughout 16 eastern states, including 27 public transportation toll agencies where the E-ZPass standard is accepted. These states range from Illinois to the west, North Carolina in the south and up to Maine in the north. The program overall includes over 18 million accounts with over 30 million transponders in circulation and the collection of over \$8 billion in electronic toll revenues.

All toll plaza lanes accept E-ZPass. In addition to staffed and E-ZPass capability, the North Beckley Toll Plaza includes two lanes in each direction that provide the option to pay by coin via automatic coin machines when operated unstaffed with "EXACT CHANGE" signs displayed. The use of these lanes provides additional options for patrons and operational efficiencies for the WVPA. Advance signage advising of E-ZPass capability is presented along the roadways approaching the toll plazas to further communicate that all lanes are available for E-ZPass customers.

The WVPA currently operates with a nine-category toll classification system and rate structure, based upon number of axles and height, adopted originally in January 2000. This program also integrated the Parkways Authority Commuter Cards (PACC) discount program into the E-ZPass system for high frequency passenger cars.

On July 1, 2009 the West Virginia Parkways, Economic Development and Tourism Authority held a meeting at the Charleston Civic Center to give consideration and evaluation of public comments in connection with voting on the first across-the-board toll increase on the West Virginia Turnpike in 28 years. The Board voted to increase tolls for passenger cars from \$1.25 to \$2.00 for cash and non-WV E-ZPass customers. The commuter discount plan for high frequency users of the West Virginia Turnpike (formerly "PACC" or "PAC" Card Program) continued with no increase in fees.

A new discount program for the less frequent Turnpike traveler was also approved. Customers who drive the Turnpike occasionally can sign up for a WV E-ZPass at a cost of \$5.00 per year, then pre-pay funds via credit card into their account (\$20.00 minimum account balance). Rates for these customers only increased from \$1.25 to \$1.30 (a 35% savings). Toll is automatically deducted from the pre-paid account as they drive through the toll plazas. The WV E-ZPass is available to anyone, regardless of state or country of residence. Rates for all classes of commercial vehicles also increased; however, WV E-ZPass commercial account holder rates only increased to \$5.40 (a 20% savings), and the non-WV E-ZPass rate increased to \$5.87 (a 13% savings).



Temporary tandem toll booths continue to be available as a tool to relieve congestion during holiday periods as necessary at Toll Plazas A (Ghent), B (Pax) and C (Chelyan).

The WVPA's administrative headquarters continues to self-operate E-ZPass customer service and violation enforcement activities using upgraded computer systems as part of the completed conversion in 2012, replacing the system originally installed in 1999. The upgraded system significantly expanded the capabilities of the service center for improved service to WVPA customers including the addition of a self-service website and electronic notifications. Continued activities with the new system include a walk-up counter for in-person customer services, phone-based services, storage and distribution of transponders, management and processing toll accounts and maintenance of the back-office system for computer data and hardware.

The upgrade of the WVPA toll system represented a significant effort over four years on the part of the Authority to responsibly and proactively replace an aging system that was reaching the limits of its projected useful life. Previous issues, including difficulty with obtaining spare parts and significant financial risks should the system fail, have been eliminated. The system successfully passed a series of rigorous acceptance tests in 2012 to demonstrate the required performance accuracy and has been in live operation since. The switchover from the previous system was controlled over a period of time to ensure minimal customer impacts. The Authority is now well positioned for long term operation of the toll collection system and providing state of the art services to customers.

TRAFFIC & REVENUE SUMMARY

On July 1, 2009, the Authority adopted a new toll and discount rate schedule that became effective August 1, 2009. The Authority's 2016 toll revenues exceeded those of the previous year by \$4.882 million or 5.5%. Passenger car transactions increased 3.3% and commercial truck transactions increased by 2.1% for the twelve months ending June, 2016.

The Authority's investment in capital assets at June 30, 2016 amounted to \$1.179 billion of gross asset value with accumulated depreciation of \$725 million, leaving a net book value of \$454 million. Capital assets represented 82.6% of the Authority's total assets and deferred outflows of resources at June 30, 2016.

The original West Virginia Turnpike opened to traffic in 1954 and has grown from 2 million vehicles annually during the 1950s and 1960s to the record 37.0 million transactions during fiscal year 2015-2016. From 1955 through 1999, traffic volume was based on the number of vehicles. Beginning in 2000 when the new toll system became operational, traffic volume was based on the number of transactions. The designation of the Turnpike as part of the interstate highway system in conjunction with its upgrading and dualizing to interstate standards and the completion of connecting interstate highways that include I-64, I-77 and I-79 at the north terminus, I-64 near the middle of the Turnpike and I-77 at the south terminus all led to dramatic traffic growth during the 1980s, which saw traffic double every five years. A sharp traffic increase also occurred after November 8, 1989, when toll collection was discontinued at 12 local interchanges, leading to heavy usage by local residents.



The average daily traffic counts, which correspond with the West Virginia Division of Highways FY 2015 traffic counts, are listed by location in the following table.

To reflect the agency’s new mission and reduce operating costs, the Authority has been proactive in implementing cost-saving measures. These measures include utilizing modern technology, utilizing the purchasing power created through the State of West Virginia’s Purchasing Division and implementing organizational efficiencies throughout the past 17 years. The implementation of these and other cost-cutting measures have limited the growth rate of operating expenses during the past 17 years. However, increases in costs outside the WVPA’s control, such as health insurance premiums, road salt and construction materials, are making it very difficult for the WVPA to implement any further substantial cost savings in operating expenses.

AVERAGE DAILY TRAFFIC (ADT) STATS LISTED SOUTH TO NORTH		
MILE MARKER	LOCATION	ADT
9-28	Princeton to Ghent	32,356
28-40	Ghent to I-64	26,977
40-42	I-64 to Mabscott	38,772
42-44	Mabscott to Harper Rd	42,268
44-48	Harper Rd to N. Beckley	46,839
48-60	N. Beckley to Mossy	29,948
60-74	Mossy to Standard	29,566
74-78	Standard to Sharon	29,825
78-85	Sharon to Chelyan	29,408
85-90	Chelyan to Marmet	35,213
90-95	Marmet to Kanawha City	36,010
95-96	Kanawha City to Belle	53,791

CAPITAL IMPROVEMENT PROJECTS/RENEWAL AND REPLACEMENT (R&R)

The capital improvement projects are the WVPA projects scheduled and budgeted in the five-year work program. The five-year program for facilities capital projects and the five-year program for renewal/replacement and highway and bridge capital projects are detailed in the following tables. The itemized budget amounts are listed for 2017 through 2021.

MEMORIAL TUNNEL PROJECT

The WVPA, WVDOH and the Federal Highway Administration signed a 50 year lease with the West Virginia National Guard Adjutant General’s office to use the Memorial Tunnel for a federal government test and training facility to support counter-terrorism and emergency response. A supplemental lease was signed for 6.785 additional acres that are being used for administration housing, parking and staging activities.



FIVE-YEAR PROGRAM FOR R&R AND CAPITAL - \$ THOUSANDS					
	2017	2018	2019	2020	2021
Bridge Painting	\$2,440	\$2,513	\$2,097	\$2,160	\$2,225
Bridge Deck Overlays	\$828	\$856	\$878	\$905	\$932
Bridge/Facilities Retrofit	\$1,616	\$1,664	\$1,714	\$1,766	\$1,819
Guardrail Replacement	\$1,940	\$543	\$560	\$576	\$593
Shotcrete Repairs	\$170	\$100	\$75	\$77	\$80
Slope Reconditioning	\$0	\$0	\$0	\$0	\$0
Culvert Repair/Replacement	\$1,404	\$1,460	\$1,504	\$1,550	\$1,595
Vehicle/Equipment Replacement	\$2,383	\$2,500	\$1,800	\$1,400	\$1,800
Facilities Renovation and Repair	\$563	\$580	\$597	\$615	\$634
Sign Replacement/Overlays	\$115	\$119	\$124	\$128	\$132
Roadway Lighting	\$0	\$0	\$0	\$0	\$0
Pavement Striping and Markings	\$1,500	\$1,500	\$1,500	\$1,688	\$1,688
Full Depth Repairs/Undersealing	\$789	\$632	\$505	\$250	\$200
Safety Projects	\$84	\$86	\$89	\$92	\$95
Subtotals R&R	\$13,832	\$12,553	\$11,443	\$11,207	\$11,793
Paving	\$26,100	\$20,500	\$18,000	\$7,020	\$7,000
Facilities	\$1,800	\$350	\$1,975	\$3,000	\$2,000
Bluestone Southbound Bridge Painting	\$0	\$0	\$0	\$10,000	\$0
Bridge Deck Replacement	\$3,800	\$3,914	\$4,031	\$4,152	\$4,277
Subtotals Capital	\$31,700	\$24,764	\$24,006	\$24,172	\$13,277
Grand Totals	\$45,532	\$37,317	\$35,449	\$35,379	\$25,070

MAJOR PAVING NEEDS				
FY & Direction	Milepost	Miles	Cost in Millions	Comments
FY 2016 SB	95.5 to 86.5	9	\$24.50	
FY 2017 NB	82.4 to 89.4	7	\$16.90	
FY 2018 NB	89.4 to 95.5	6.1	\$15.10	
Totals		22.1	\$56.50	<i>(calculated at today's cost)</i>
426 total lane miles including truck climbing lanes				
Notes:				
1. This program will heavy overlay all existing concrete on the Turnpike as well as sections with thin overlays over previously paved projects.				
2. Cost estimates are based on the following scope of work:				
a. Concrete repairs where needed		d. Shoulders and ditches		
b. 8" asphalt overlays		e. Guardrail		
c. Drainage		f. Median extensions where needed		



MAINTENANCE & SAFETY HIGHLIGHTS

Key activities of the WVPA's Maintenance Division include:

- Road and bridge safety improvement
- Resource deployment for continuing pothole repairs
- Continued implementation of the Maintenance Management System (modern management approach to improve efficiency and to reduce overall asset life cycle costs)
- Snow Removal and Ice Control (SRIC) operational improvements

MAINTENANCE PERFORMANCE SCORECARD

	TARGET	ACTUAL
ROADWAY		
Asphalt Pavements	A	A-
Concrete Pavements	B	N/A
Signs	A	B-
Other Traffic Control	A	B
Drainage Structures	A	A-
Bridges	A	B+
Vegetation Control	B	B-
Litter	B	C

Recent equipment purchases include:

- Shot Blaster Machine
- Plows for Pickups (8 each)

Highlights from Fiscal Year 2016 are listed below:

- Joint & Crack Sealing – 1,240,000 Linear Feet
- Patching – 1,375 Tons
- Shoulder Stabilization – 411,111 Linear Feet
- Concrete Repair – 2,184 Square Feet
- Deck Patching – 4,025 Square Feet
- Bridge Expansion Joints – 89 Joints
- Bridge Deck Epoxy Overlays – 100 Square Feet
- Bridge Parapet Wall Coating – 6,418 Linear Feet
- Bridge Inspection/Support – 1,420 Man-hours
- Bridge Structure Repairs – 2,100 Man-hours
- Abutment/Pier Coating – 128 Each
- Abutment/Pier Patching – 105 Square Feet
- Ditch & Channel – 23,993 Linear Feet
- Culvert & Drop Inlet – 13,388 Linear Feet
- Annual Drain Inspection – 212 Each
- Bench & Slope – 16,098 Linear Feet
- Sweeping – 236 Miles
- Fence Repair – 1,852 Linear Feet
- Litter Pickup & Disposal – 4,446 Bags
- Brush Cutting – 143 Acres
- Mowing – 2,391 Acres
- Herbicide Spraying – 162 Acres
- Bridges Washed – 129 Structures (some bridges get washed twice when prepping for sealing)
- Bridge Lanes Sealed – 20 Each
- Roadside Delineators Installed – 4,458 Each
- Salt Used – 19,442 Tons
- Courtesy Patrol/Daywatch – 25,626 Man-hours
- Emergency Response – 3,368 Man-hours
- Install/Repair Barrier Walls – 1,749 Man-hours
- Line Striping – 31,347 Linear Feet
- Pipe Lining – 40 Linear Feet



WVPA Maintenance continued with their bridge preservation efforts by shotblasting and sealing 18 bridge decks. This will prolong the service life of these decks.

Deck joint rehab and replacement is an ongoing repair due to corrosion and impact loads from trucks.



Sign Base Installation



Sign Base Inspection



**Composite Action Through
Nelson Stud Retrofit**



INSURANCE

Section 7.10, Subsection (E) of the 1993 Indenture of Trust as supplemented for the West Virginia Parkways Authority states:

(E) The Authority will at all times cause to be maintained, to the extent reasonably obtainable, the following kinds and the following amounts of insurance, with such variations as shall reasonably be required to conform to applicable standard or customary insurance practice and subject to such exceptions and permissible deductions as are ordinarily required:

(a) Multi-risk insurance on the facilities of the system which are of an insurable nature and of the character usually insured by those operating similar facilities, covering direct physical loss or damage thereto from causes customarily insured against, in such amounts as the consulting engineer shall certify to be necessary or advisable to provide against such loss or damage and to protect the interest of the Authority and the bondholders;

(b) Use and occupancy insurance covering loss of system revenues by reason of necessary interruption, total or partial, in the use of facilities of the system, due to loss or damage to any such facility on which multi risk insurance is maintained as provided in this section, in such amount as the consulting engineer shall certify will provide income during the period of interruption, but in no event less than 12 months, in the event of the occurrence or any such loss or damage, equal to the amount of the loss of system revenues, computed on the basis of system revenues of the corresponding period during the preceding calendar year, or if such facility was not in operation during the preceding calendar year, then computed on the basis of the consulting engineer's estimate, attributable to such loss or damage;

(c) War risk insurance, if obtainable from the United States Government or any agency thereof, covering direct physical loss or damage, and loss of system revenues attributable thereto, on the facilities of the system which are insurable there under, in each case in the respective amount, as nearly practicable, provided under clauses (a) and (b) above;

(d) During the period of construction or reconstruction of any material portion of the facilities of the system, the Authority shall require contractors constructing any such portion of the facilities of the system to file bonds or undertakings for the full performance of such contracts, and under which all risk from any cause whatsoever, without any exception during the period of such construction, shall be assumed by such contractors; and

FATALITY RATES PER HUNDRED MILLION MILES TRAVELED		
YEAR	ANNUAL FATALITIES	FATALITY RATE
2000	12	1.3
2001	6	0.7
2002	9	1.0
2003	4	0.4
2004	15	1.6
2005	5	0.5
2006	6	0.6
2007	8	0.8
2008	7	0.8
2009	8	0.9
2010	4	0.4
2011	8	0.8
2012	8	0.8
2013	5	0.5
2014	3	0.3
2015	4	0.4
2016	7	0.8



(e) Any additional or other insurance covering (i) loss or (ii) damage for which the Authority is or may become liable.

The Authority obtains insurance coverage for general liability, property damage, business interruption, errors and omissions and natural disasters through the West Virginia Board of Risk and Insurance Management. This board provides insurance for the State of West Virginia, local government entities and eligible non-profit organizations. Liability coverage provided to all these insured entities is limited to \$1,000,000 per occurrence with an annual aggregate coverage limit of \$22,000,000.

The Authority established a \$5 million self-insurance fund after losing the excess liability coverage from a private insurance company during 1986. In September 1992, the Authority obtained \$10 million excess liability coverage from a private insurance company. In view of this, the Authority's insurance consultant recommended that the self-insurance fund be reduced to \$1 million and be changed from liability exclusively to include other risk of loss such as pollution first party clean-up, pollution third party liability, condemnation, earthquake, earth shift, flood, etc., and be specifically designated as the Authority's percentage of contribution in the event of a disaster.

The Appendix contains copies of the consulting engineer's July 1, 2016 letter regarding recommendations for Multi-risk Insurance, in accordance with subparagraph (a) above, listing current replacement cost for bridges, and the consulting engineer's July 1, 2016 letter with recommendations for Use and Occupancy Insurance, in accordance with subparagraph (b) above, in the amount of \$94 million to remain in line with current toll revenues. All other insurance needs are determined by the Authority.



Bridge Deck Repairs



Bridge Joint Repair

APPENDIX



Ghent Maintenance Facility



July 1, 2016

Mr. Gregory C. Barr, General Manager
West Virginia Parkways Authority
P.O. Box 1469
Charleston, WV 25325

RE: Use and Occupancy Insurance

Dear Mr. Barr:

Section 7.10, Subsection (E) of the 1989 and 1993 Indentures of Trust state that Use and Occupancy Insurance shall be in such amounts as the Consulting Engineer shall certify will provide income during a period of interruption of up to 12 months for loss of system revenues due to damage to the system resulting in partial or total loss of revenues. This amount shall equal revenues during the corresponding period for the preceding year.

It is recommended that the Authority obtain Use and Occupancy Insurance coverage in the amount of \$94,000,000 (Ninety Four Million) for the 2016-2017 fiscal year. Toll revenues for the fiscal year 2015-2016 were \$93.579 million.

Very truly yours,

A handwritten signature in blue ink, appearing to read "Randolph T. Epperly, Jr.".

Randolph T. Epperly, Jr., P.E.
HNTB Corporation
Associate Vice President

RTE/cak

cc: - United Bank, Trustee (Attention: Kathy Smith)
 - West Virginia State Board of Risk & Insurance Management
 (Attention: Dave Mason)
 - Margaret Vickers, WVPA



July 1, 2016

Mr. Gregory C. Barr
General Manager
West Virginia Parkways Authority
P.O. Box 1469
Charleston, WV 25325

RE: Multi-Risk Insurance

Dear Mr. Barr:

Section 7.10, Subsection (E) of the 1989 and 1993 Indentures of Trust state that the Authority shall maintain Multi-Risk Insurance on the system facilities which are of an insurable nature and of the character usually insured by those operating similar facilities in such amounts as the Consulting Engineers shall certify to be necessary or advisable to provide against such loss or damage and to protect the interest of the Authority and the Bondholders.

It is recommended that Multi-Risk Insurance be carried on all bridges, equipment, vehicles and facilities at the Administration Building, Maintenance Areas, Rest Areas, Service Areas, Toll Plazas, Caperton Center, Welcome Center, and all other facilities owned and operated by the Authority, including all structures, furnishings and equipment.

The Authority engaged an insurance consultant in 1993 to review insurance coverage. The list of Authority buildings, structures and contents of buildings and structures has been revised and updated annually in accordance with the advice of the Authority's insurance consultant and our previous recommendations. It is recommended that this list be revised and updated to include all additions, deletions and current values.

The insurance consultant recommended that the bridges be insured for replacement costs. Attached is a list of those current costs that were calculated using "Engineering News Record" construction indices. The estimated 2016 replacement costs were determined by multiplying the bid price by the ratio of the construction cost index of 10,379.26 to the cost index for the year that each bridge was bid.

Very truly yours,

Randolph T. Epperly, Jr., P.E.
HNTB Corporation
Associate Vice President

RTE/cak

Attachments

cc: - United Bank, Trustee w/att.
(Attention: Kathy Smith)
- West Virginia State Board of Risk & Insurance Management
w/att. (Attention: Dave Mason)
- Margaret Vickers, WVPA



WEST VIRGINIA PARKWAYS AUTHORITY

2016 BRIDGE REPLACEMENT COST

STRUCTURE NUMBER	YEAR BID	ENR INDEX	BID PRICE	REPLACEMENT COSTS (ROUNDED)
2144N	1980	3237	\$ 15,235,011	\$ 48,851,000
2144S	1952	569	\$ 2,419,297	\$ 44,131,000
3001N	1976	2401	\$ 311,298	\$ 1,346,000
3001S	1976	2401	\$ 316,803	\$ 1,370,000
3003N	1976	2401	\$ 287,596	\$ 1,250,000
3004S	1976	2401	\$ 306,888	\$ 1,327,000
3005N	1976	2401	\$ 649,641	\$ 2,809,000
3005S	1976	2401	\$ 565,379	\$ 2,445,000
3006	1976	2401	\$ 375,435	\$ 1,623,000
3007	1976	2401	\$ 372,640	\$ 1,611,000
3008N	1976	2401	\$ 256,237	\$ 1,110,000
3008S	1976	2401	\$ 268,094	\$ 1,160,000
3010N	1976	2401	\$ 7,966,577	\$ 34,439,000
3010S	1952	569	\$ 1,546,394	\$ 28,209,000
3012N	1976	2401	\$ 744,234	\$ 3,218,000
3012S	1976	2401	\$ 560,547	\$ 2,424,000
3017N	1976	2401	\$ 335,144	\$ 1,449,000
3018S	1976	2401	\$ 334,367	\$ 1,446,000
3019N	1976	2401	\$ 308,425	\$ 1,334,000
3019S	1976	2401	\$ 178,300	\$ 771,000
3020N	1976	2401	\$ 195,939	\$ 848,000
3020S	1976	2401	\$ 291,219	\$ 1,260,000
3021N	1976	2401	\$ 211,463	\$ 915,000
3021S	1976	2401	\$ 344,491	\$ 1,490,000
3022N	1976	2401	\$ 257,358	\$ 1,120,000
3022S	1976	2401	\$ 243,665	\$ 1,060,000
3026N	1983	4066	\$ 1,261,802	\$ 3,221,000
3026S	1983	4066	\$ 1,010,343	\$ 2,580,000
3029N	1983	4066	\$ 625,654	\$ 1,598,000
3029S	1983	4066	\$ 354,725	\$ 906,000



WEST VIRGINIA PARKWAYS AUTHORITY

2016 BRIDGE REPLACEMENT COST

STRUCTURE NUMBER	YEAR BID	ENR INDEX	BID PRICE	REPLACEMENT COSTS (ROUNDED)
3030N	1983	4066	\$ 822,446	\$ 2,100,000
3030S	1983	4066	\$ 1,566,506	\$ 3,999,000
3034N	1983	4066	\$ 1,008,408	\$ 2,575,000
3034S	1983	4066	\$ 1,038,557	\$ 2,652,000
3038N	1978	2776	\$ 349,604	\$ 1,308,000
3038S	1978	2776	\$ 565,705	\$ 2,116,000
3039E	1978	2776	\$ 354,302	\$ 1,325,000
3039W	1978	2776	\$ 354,302	\$ 1,325,000
3041N	1982	3825	\$ 505,662	\$ 1,373,000
3041S	1982	3825	\$ 495,378	\$ 1,345,000
3042	1982	3826	\$ 384,616	\$ 1,050,000
3043N	1982	3825	\$ 444,803	\$ 1,210,000
3043S	1982	3825	\$ 840,560	\$ 2,281,000
3044N	1982	3825	\$ 1,171,994	\$ 3,181,000
3044S	1982	3825	\$ 1,047,519	\$ 2,843,000
3045N	1982	3825	\$ 596,023	\$ 1,618,000
3045S	1982	3825	\$ 883,965	\$ 2,399,000
3046N	1981	3533	\$ 573,556	\$ 1,685,000
3046S	1981	3533	\$ 707,668	\$ 2,079,000
3048N	1981	3533	\$ 441,062	\$ 1,296,000
3048S	1981	3533	\$ 430,038	\$ 1,270,000
3050N	1981	3533	\$ 482,166	\$ 1,417,000
3050S	1981	3533	\$ 491,056	\$ 1,443,000
3051N	1982	3825	\$ 410,565	\$ 1,120,000
3051S	1982	3825	\$ 410,565	\$ 1,120,000
3053N	1982	3825	\$ 747,909	\$ 2,030,000
3053S	1982	3825	\$ 747,909	\$ 2,030,000
3055N	1979	3003	\$ 1,266,273	\$ 4,377,000
3055S	1979	3003	\$ 1,264,663	\$ 4,372,000
3056N	1979	3003	\$ 1,456,339	\$ 5,034,000
3056S	1979	3003	\$ 1,467,482	\$ 5,073,000
3057N	1979	3003	\$ 1,669,909	\$ 5,772,000



WEST VIRGINIA PARKWAYS AUTHORITY

2016 BRIDGE REPLACEMENT COST

STRUCTURE NUMBER	YEAR BID	ENR INDEX	BID PRICE	REPLACEMENT COSTS (ROUNDED)
3057S	1979	3003	\$ 1,467,837	\$ 5,074,000
3058N	1979	3003	\$ 2,590,444	\$ 8,954,000
3058S	1979	3003	\$ 2,539,317	\$ 8,777,000
3059N	1979	3003	\$ 1,310,193	\$ 4,529,000
3059S	1979	3003	\$ 954,601	\$ 3,300,000
3060N	1979	3003	\$ 1,366,315	\$ 4,723,000
3060S	1979	3003	\$ 1,344,010	\$ 4,646,000
3061	1979	3003	\$ 610,330	\$ 2,110,000
3063N	1979	3003	\$ 538,107	\$ 1,860,000
3063S	1979	3003	\$ 535,374	\$ 1,851,000
3065N	1979	3003	\$ 1,445,790	\$ 4,998,000
3065S	1979	3003	\$ 1,445,790	\$ 4,998,000
3066	1979	3003	\$ 576,917	\$ 1,994,000
3067N	1979	3003	\$ 2,256,259	\$ 7,799,000
3067S	1979	3003	\$ 2,256,259	\$ 7,799,000
3070N	1983	4066	\$ 528,737	\$ 1,350,000
3070S	1983	4066	\$ 528,737	\$ 1,350,000
3072N	1983	4066	\$ 717,000	\$ 1,831,000
3072S	1983	4066	\$ 717,000	\$ 1,831,000
3073N	1980	3237	\$ 981,507	\$ 3,148,000
3073S	1980	3237	\$ 981,507	\$ 3,148,000
3074N	1980	3237	\$ 1,110,269	\$ 3,561,000
3074S	1980	3237	\$ 1,110,269	\$ 3,561,000
3075N	1980	3237	\$ 1,930,130	\$ 6,189,000
3075S	1980	3237	\$ 1,930,130	\$ 6,189,000
3076N	1978	2776	\$ 1,036,302	\$ 3,875,000
3076S	1978	2776	\$ 1,036,302	\$ 3,875,000
3077	1978	2776	\$ 708,758	\$ 2,650,000
3078	1978	2776	\$ 448,257	\$ 1,676,000
3080N	1978	2776	\$ 635,890	\$ 2,380,000



WEST VIRGINIA PARKWAYS AUTHORITY

2016 BRIDGE REPLACEMENT COST

STRUCTURE NUMBER	YEAR BID	ENR INDEX	BID PRICE	REPLACEMENT COSTS (ROUNDED)
3080S	1978	2776	\$ 635,890	\$ 2,378,000
3081N	1980	3237	\$ 399,901	\$ 1,283,000
3081S	1980	3237	\$ 399,901	\$ 1,283,000
3082N	1980	3237	\$ 2,687,208	\$ 8,617,000
3082S	1980	3237	\$ 2,687,208	\$ 8,617,000
3083N	1980	3237	\$ 336,301	\$ 1,080,000
3083S	1980	3237	\$ 336,301	\$ 1,080,000
3084N	1980	3237	\$ 821,754	\$ 2,635,000
3084S	1980	3237	\$ 821,754	\$ 2,635,000
3085N	1981	3533	\$ 503,608	\$ 1,480,000
3085S	1981	3533	\$ 503,608	\$ 1,480,000
3086N	1981	3533	\$ 602,286	\$ 1,770,000
3086S	1981	3533	\$ 602,286	\$ 1,770,000
3087N	1980	3237	\$ 990,712	\$ 3,177,000
3087S	1980	3237	\$ 990,712	\$ 3,177,000
3088	1980	3237	\$ 157,856	\$ 507,000
3235E	1981	3533	\$ 385,112	\$ 1,140,000
3235W	1981	3533	\$ 385,112	\$ 1,140,000
3271	1983	4066	\$ 1,213,000	\$ 3,097,000
3272	1983	4066	\$ 1,044,771	\$ 2,667,000
3273	1983	4066	\$ 1,142,945	\$ 2,918,000
3276	1983	4066	\$ 487,747	\$ 1,250,000
4172	1995	5506	\$ 1,328,831	\$ 2,505,000
4178	1995	5506	\$ 814,289	\$ 1,536,000