

WEST VIRGINIA PARKWAYS AUTHORITY WEST VIRGINIA TURNPIKE ANNUAL REPORT 2019



HNTB

Photo Prior to Beckley
Widening Project
Contract BW-1-18



WEST VIRGINIA PARKWAYS AUTHORITY

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Director of Toll

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Executive Assistant

CAPT. TIMOTHY BRAGG
Officer-in-Charge of WV State Police, Troop 7

SHERRY LILLY
Director of Human Resources

DAVID H. ROLLINS
Treasurer



June 13, 2019

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

Dear Authority Members:

HNTB Corporation ("HNTB"), as the Consulting Engineers to the West Virginia Parkways Authority (the "Authority"), is pleased to submit to the Authority the attached 2019 Annual Report which includes this cover letter and the certifications made in this letter (collectively, the "Annual Report").

The Annual Report is delivered to you as required by relevant provisions of the Master Trust Indenture dated as of August 1, 2018, by and between the Authority and United Bank, as Trustee (the "Trustee") (the "Master Trust Indenture"). The Master Trust Indenture was amended and supplemented by that certain First Supplemental Trust Indenture dated as of August 1, 2018, by and among the Authority and the Trustee, (as supplemented and amended, the "Indenture"), in connection with the Authority's issuance of its \$166,370,000 Senior Lien Turnpike Toll Revenue Bonds, Series 2018 (the "Series 2018 Bonds") which are secured under the Indenture by a pledge of Net Toll Road Revenues as defined in the Indenture. Prior to issuance of the Series 2018 Bonds, the Authority in July 2018 defeased all of its prior outstanding Turnpike toll revenue bonds.

The Master Trust Indenture establishes various covenants with which the Authority must comply. One major covenant (often called the "Good Repair Covenant") requires the Authority to operate, maintain and keep the West Virginia Turnpike (the "Turnpike") and other Authority properties in good repair, all as more fully set forth in Section 503 of the Master Trust Indenture. The Good Repair Covenant and several other covenants under the Master Trust Indenture require HNTB, as the Consulting Engineers for the Authority under the Indenture, to provide the Authority with an annual report on the condition of the Turnpike and to provide certain certifications to be used by the Authority in its annual budget-making process that are to be reflected and incorporated in its Annual Budget for the upcoming Fiscal Year.

This Annual Report and the certifications set forth herein are being delivered to you to satisfy those various requirements under the Master Trust Indenture and to document the Authority's compliance with such covenants

1. **Annual Physical Examination and Inspection of the Turnpike; Annual Turnpike Condition Report; Certification of Compliance with Section 503 of the Master Trust Indenture (including the Good Repair Covenant).**

In accordance with the requirements of Section 503 of the Master Trust Indenture, HNTB certifies that it has made a physical examination and inspection of the Turnpike for Fiscal Year 2018/2019 and has submitted to the Authority this Annual Report its written annual report on the condition of the Turnpike. As required by Section 503, this Annual Report is being delivered to the Authority prior to the end of Fiscal Year 2018/2019.



This Annual Report documents, and HNTB hereby certifies, that the Authority has complied with the Good Repair Covenant and related requirements as more fully set forth in Section 503. Specifically, and as further required by Section 503 of the Master Trust Indenture, HNTB hereby further certifies that:

- (i) the Authority in operating the Turnpike has maintained it in good repair, working order and condition,
- (ii) the Authority has complied with the covenants set forth in the Master Trust Indenture with respect to the efficient management of the Turnpike, the proper maintenance of the properties of the Turnpike, and the making of necessary repairs, renewals and replacements thereto and thereof and the necessity for capital replacements and improvements, and
- (iii) the Authority has complied with the recommendations made by HNTB with respect to each of the foregoing items, and,
- (iv) In the judgment of HNTB, the Authority has not in any way failed to perform or comply with the covenants and agreements set forth above.

2. Certifications Under Section 508 of the Master Trust Indenture as to Operation and Maintenance Expenses, Renewal and Replacement Costs, and Renewal and Replacement Reserve Fund Requirement, for Purposes of the Authority's Annual Budget for Fiscal Year 2019/2020.

As required by Section 508 of the Master Trust Indenture and the definitions of "Annual Budget," "Operation and Maintenance Expenses," "Renewal and Replacement Costs," and "Renewal and Replacement Reserve Fund Requirement" as set forth in Section 101 of the Master Trust Indenture, respectively, HNTB as Consulting Engineers HNTB hereby certifies that the following amounts are necessary to be included in the Annual Budget and expended in Fiscal Year 2019/2020 for the following purposes:

- (i) Operating and Maintenance Expenses: \$46,097,000;
- (ii) Renewal and Replacement Costs: \$18,800,000; and
- (iii) Renewal and Replacement Reserve Fund Requirement: \$18,800,000.

Accordingly, HNTB recommends that the Authority include these amounts in its Annual Budget for the Fiscal Year ending June 30, 2020 ("Fiscal Year 2019/2020"). The body of the Annual Report contains additional information and details concerning these recommendations.

It should be noted that some Renewal and Replacement projects begun in and budgeted for Fiscal Year 2018/2019 could not be completed before the end of that Fiscal Year, and will be completed after the end of such Fiscal Year. The funds budgeted for the Renewal and Replacement Costs for such projects will be carried over and expended to complete those projects after the end of Fiscal Year 2018/2019. HNTB certifies that such an approach is reasonable under all the circumstances and is consistent with the Authority's Good Repair Covenant and related obligations under Sections 503 and 508 of the Master Trust Indenture. Such carried-over funds and costs are not included in HNTB's recommendations and certified amounts, set forth above, for Fiscal Year 2019/2020.



3. **Certification Under Sections 503 and 508 of the Master Trust Indenture of Amounts Necessary to Be Expended for Renewal and Replacement Reserve Fund Requirements for the Five (5) Next Fiscal Years.**

As required by Sections 503(c) and 508 of the Master Trust Indenture, HNTB hereby certifies that the amounts that are necessary to be expended for the Renewal and Replacement Reserve Fund Requirement for the Turnpike for each of the five (5) next succeeding Fiscal Years are as follows:

- (i) Fiscal Year 2019/2020: \$18,800,000;
- (ii) Fiscal Year 2020/2021: \$19,040,000;
- (iii) Fiscal Year 2021/2022: \$18,940,000;
- (iv) Fiscal Year 2022/2023: \$18,940,000; and
- (v) Fiscal Year 2023/2024: \$19,310,000.

The body of the Annual Report contains additional information and detail concerning the foregoing recommendations.

Again, it should be noted that some Renewal and Replacement projects begun in and budgeted for Fiscal Year 2018/2019 could not be completed before the end of that Fiscal Year, and will be completed after the end of such Fiscal Year. The funds budgeted for the Renewal and Replacement Costs for such projects will be carried over and expended to complete those projects after the end of Fiscal Year 2018/2019. As noted earlier, above, such carried-over funds and costs are not included in HNTB's recommendations and certified amounts, set forth above, for Fiscal Year 2019/2020.

4. **Certifications as to Insurance Under Section 515(a) of the Master Trust Indenture.**

As required by Section 515(a) of the Master Trust Indenture, the Consulting Engineers are required to provide recommendations as to self-insurance funds, Multi-risk Insurance, and Use and Occupancy Insurance. HNTB hereby certifies that its insurance recommendations to the Authority, which are more fully set forth and discussed in the body and appendices of this Annual Report, are as follows:

(i) Self-insurance funding of \$1,000,000 should continue to be maintained by the Authority and such funding should be available for the Authority's percentage of contribution for liability or other risks of losses and should be specifically designated as the Authority's percentage of contribution in the event of a disaster;

(ii) Use and Occupancy Insurance, in accordance with Section 515(a)(ii) of the Master Trust Indenture, should be maintained for Fiscal Year 2019/2020 in the amount of \$149,283,000; and

(iii) Multi-risk Insurance, in accordance with Section 515(a)(i) of the Master Trust Indenture, should be maintained for Fiscal Year 2019/2020 in the amount of \$616,016,050, as more fully explained in the Appendix to the Annual Report addressing this subject, which amount is the approximate replacement cost of the roadways, bridges, buildings, service plazas, rest areas, toll plazas, Caperton Center, and all other buildings, structures, facilities, furnishings and equipment, all as more fully explained in the Appendix on this subject that is included in the Annual Report.



5. **Certifications as to Other Turnpike Capital Improvement Funding In Next Five Fiscal Years.**

HNTB has received and reviewed the Authority's proposed budget for its five-year capital improvement program for the Turnpike for the next five Fiscal Years, i.e., the Fiscal Years ending on June 30th of the years 2020 through 2024, inclusive. Such five-year capital program, as required by Sections 412 and 508 of the Master Trust Indenture, separately identifies for each of those 5 Fiscal Years the (A) Renewal and Replacement Costs and Renewal and Replacement Reserve Fund Requirements, which are in the respective amounts recommended and certified by HNTB in this Annual Report, and (B) other Capital Costs that are not Renewal and Replacement Costs. As required by Section 508 of the Master Trust Indenture, the Authority is required to include its five-year capital improvement program cost estimates (separated into these two categories) as part of its Annual Budget.

HNTB hereby certifies that such five-year capital improvement program for the Turnpike for the next five Fiscal Years, as more fully discussed and analyzed in the body of this Annual Report, is reasonable and sufficient to assure that the Authority, in each of such five Fiscal Years, will satisfy the Good Repair Covenant and its related obligations under the Master Trust Indenture in each of the five ensuing Fiscal Years

6. **Conclusion and Final Certification for this Annual Report.**

HNTB has monitored and continually reviews the Authority's collection of Turnpike toll revenues and expenditures to ensure that adequate funds are available in the amounts needed to address the Authority's various requirements under the Master Trust Indenture including but not limited to its obligations to fund and pay Debt Service and to fund, at required levels, all required Reserves that must be funded. HNTB certifies that the Authority has been, and will continue to be able to satisfy, the Good Repair Covenants and its related obligations under the Master Trust Indenture in each of the five ensuing Fiscal Years ending on June 30th of 2020 through 2024.

Respectfully submitted,

A handwritten signature in blue ink, appearing to read "Randolph T. Epperly, Jr.", written over a horizontal line.

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

cc: United Bank, Trustee (Attention: Thomas Provenzano)



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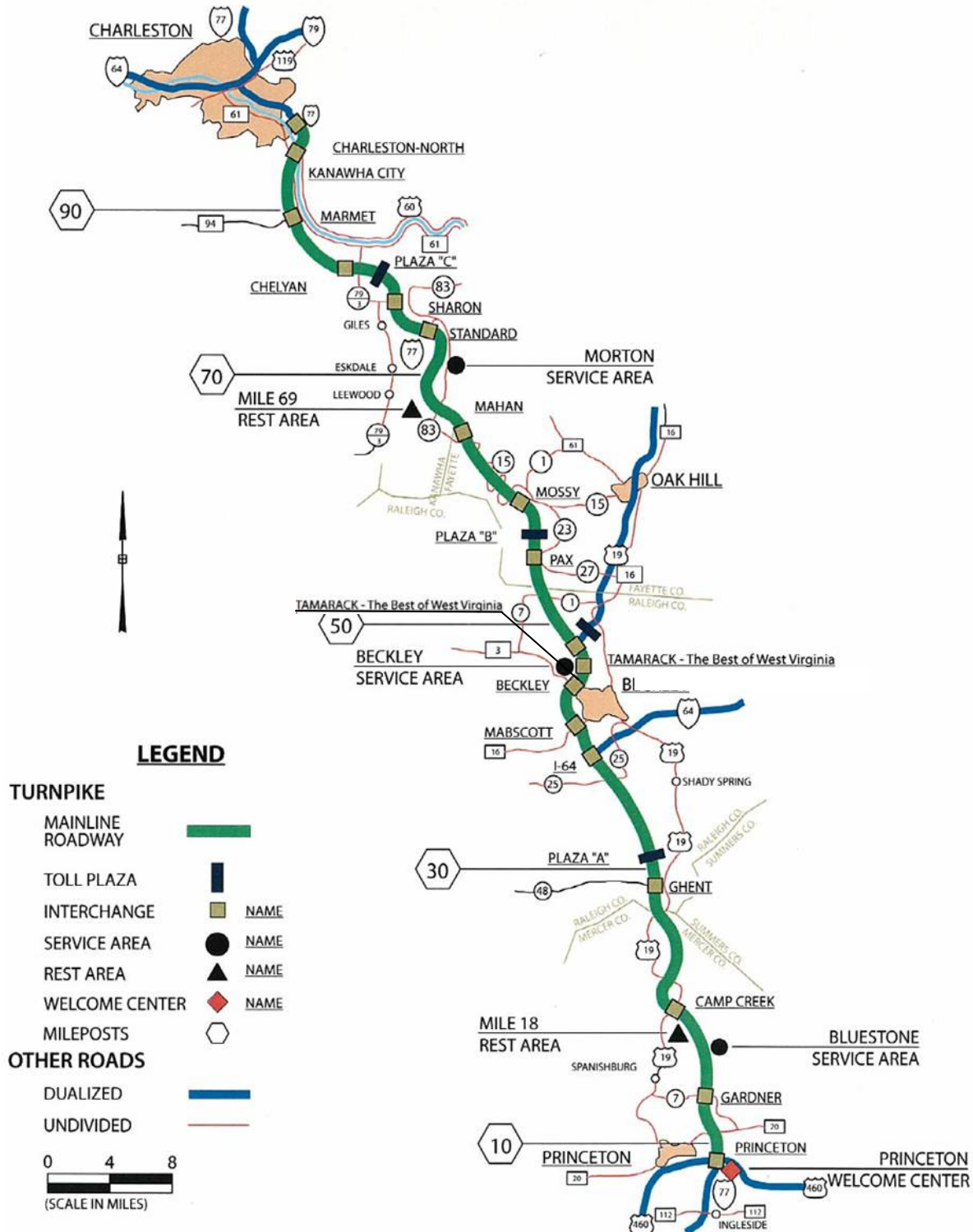


APPENDIX

2019 BRIDGE REPLACEMENT COSTS



SITE MAP





5-YEAR PROGRAM NEEDS

OPERATION AND MAINTENANCE EXPENSES

HNTB recommends the following for Operation and Maintenance Expenses:

- A. Maintenance
- B. Toll/Accounting/Customer Service
 - Credit Cards
- C. Traffic Control (State Police)
- D. Administration
- E. Tourist Information Centers
- F. Non-Departmental
- G. Governor's Salary Adjustment

RENEWAL AND REPLACEMENT

HNTB recommends the following for Renewal and Replacement:

- A. Bridge Painting-The estimated cost for bridge painting is \$10.3 million over the next 5 years.
 - B. Bridge Deck Sealing and Overlays-Certain existing bridge decks are exhibiting an increasing number of spalls and reduced skid resistance. These will need to be sealed and overlaid . The bridge deck sealing and overlay costs are estimated at \$2.9 million over the next 5 years.
 - C. Bridge and Facilities Retrofit-The estimated cost for bridge repairs, median barrier wall repairs and miscellaneous structural repairs is at \$10.8 million over the next 5 years.
 - D. Guardrail Replacement-The estimated cost for guardrail replacement and repair is \$3.5 million over the next 5 years.
 - E. Shotcrete Repairs-The estimated cost for shotcrete repairs is \$0.5 million over the next 5 years.
 - F. Slope Reconditioning-Based on past history of slide repairs and rock fall cleanup, the estimated cost is \$3.3 million over the next 5 years.
 - G. Culverts-Culverts are rated on a condition rating system of 1 thru 3. Culverts rated 1 need to be replaced or repaired within the next 5 years. The current assessment procedures utilized visual inspection and video camera inspection. The 5 year funding needs identified 286 inlets or culverts needing repairs. The estimated cost for these repairs is \$33.85 million over the next 5 years.
 - H. Vehicle/Equipment Replacement-The estimated cost for equipment is \$8.6 million over the next 5 years.
 - I. Sign Replacements/Overlays-Signing meets current standards. The estimated cost for signing/footer repairs is \$0.5 million over the next 5 years.
 - J. Roadway Lighting-All lighting meets current standards. The estimated cost for lighting is \$0.5 million over the next 5 years.
 - K. Raised Pavement Markers/Safety Projects-The estimated cost for replacing raised pavement markers and safety projects is \$0.836 million over the next 5 years.
 - L. Roadway Painting and Markings-The estimated cost for pavement striping and markings is \$11.77 million over the next 5 years.
 - M. Full Depth Pavement Repairs/Undersealing-The estimated cost for full depth concrete repairs and undersealing is \$4.26 million over the next 5 years.
-



- N. Facilities Renovation and Repairs-The estimated cost for facilities renovation and repairs is \$4.2 million over the next 5 years.

CAPITAL REPLACEMENTS AND IMPROVEMENTS

HNTB recommends the following for Capital Replacements and Improvements:

- A. Pavement-Pavement costs are based on current needs as determined by recent review of WV Turnpike pavements. The estimated cost for pavement rehabilitation, reconstruction and overlays is \$79.6 million over the next 5 years.
- B. Facilities Capital Improvements-The estimated cost for facilities capital needs is \$13 million over the next 5 years.
- C. Yeager Bridges Painting-Yeager Bridges are due for full steel superstructure painting. The estimated cost for this painting is \$32 million over the next 5 years.
- D. Bridge Deck Replacement-WVPA has established a yearly plan for bridge deck replacement based on current condition of the decks. Many of these decks are 30 years old and have not had any structural overlay repairs. The estimated cost for bridge deck replacements is \$100.1 million over the next 5 years.
- E. Toll System Upgrades-The estimated cost for upgrading the toll system is \$1.5 million in 2020 and an additional 10 million in 2021.
- F. Safety Features – Guardrail-The estimated cost for installing guardrail as a necessary safety feature is \$2.481 million in 2020.

5-YEAR PROGRAM RECOMMENDATIONS

OPERATION AND MAINTENANCE EXPENSES

Operating Expenses include all of the Authority's expenses in operating, maintaining and servicing the Turnpike system and otherwise carrying out and administering its related programs. Operating expenses include, for example, salaries, supplies, utilities, ordinary maintenance and repairs, insurance premiums, legal, accounting, management, traffic engineers and consulting engineers. The operating and maintenance expenses are detailed in the following table.

OPERATION AND MAINTENANCE EXPENSES - \$ THOUSANDS					
	2020	2021	2022	2023	2024
Maintenance	\$19,785	\$20,181	\$20,584	\$20,996	\$21,416
Toll/Accounting/Customer Service	\$15,000	\$15,300	\$15,606	\$15,918	\$16,236
Traffic Control (State Police)	\$4,471	\$4,560	\$4,652	\$4,745	\$4,840
Administration	\$2,112	\$2,154	\$2,197	\$2,241	\$2,286
Tourist Information Centers	\$1,407	\$1,435	\$1,464	\$1,493	\$1,523
Non-Departmental	\$3,322	\$3,388	\$3,456	\$3,525	\$3,596
Total Operating Costs	\$46,097	\$47,019	\$47,959	\$48,919	\$49,897



RENEWAL AND REPLACEMENT

Under the Indenture, annual Renewal and Replacement requirements must be determined and certified by the Consulting Engineers. Under the Indenture, Renewal and Replacement requirements exclude annual Operating Expenses and include those expenditures required in the year for keeping the Turnpike open to public travel and use. Renewal and Replacement requirements constitute the most essential capital outlays for a given fiscal year. The five-year program for Renewal and Replacement projects are detailed in the following table. The itemized budget amounts are listed for 2020 through 2024.

FIVE-YEAR PROGRAM FOR R&R - \$ THOUSANDS					
	2020	2021	2022	2023	2024
Bridge Painting	\$2,000	\$2,000	\$2,000	\$2,150	\$2,200
Bridge Deck Sealing and Overlays	\$500	\$600	\$600	\$600	\$600
Bridge/Facilities Retrofit	\$2,000	\$2,100	\$2,200	\$2,200	\$2,300
Guardrail Replacement	\$700	\$700	\$700	\$700	\$700
Shotcrete Repairs	\$100	\$100	\$100	\$100	\$100
Slope Reconditioning	\$600	\$600	\$700	\$700	\$700
Culvert Repair/Replacement	\$6,000	\$6,700	\$6,900	\$7,000	\$7,250
Vehicle/Equipment Replacement	\$1,600	\$1,700	\$1,700	\$1,800	\$1,800
Sign Replacement/Overlays	\$100	\$100	\$100	\$100	\$100
Roadway Lighting	\$100	\$100	\$100	\$100	\$100
Pavement Striping and Markings	\$2,400	\$2,400	\$2,440	\$2,290	\$2,240
Full Depth Repairs/Undersealing	\$1,600	\$1,240	\$700	\$400	\$320
Facilities/Safety	\$1,100	\$700	\$700	\$800	\$900
Subtotals R&R	\$18,800	\$19,040	\$18,940	\$18,940	\$19,310

CAPITAL REPLACEMENTS AND IMPROVEMENTS

The capital improvement projects are the WVPA projects scheduled and budgeted in the five-year work program to allow the Turnpike to be operated and maintained in a sound and economical manner consistent with sound management practices and principles and that it is being kept in good repair, working order and condition. The five-year program for facilities capital projects and highway and bridge capital projects are detailed in the following table. The itemized budget amounts are listed for 2020 through 2024.

FIVE-YEAR PROGRAM FOR CAPITAL - \$ THOUSANDS					
	2020	2021	2022	2023	2024
Paving	\$26,000	\$10,300	\$10,600	\$12,600	\$20,100
Facilities	\$6,000	\$4,000	\$1,000	\$1,000	\$1,000
Yeager Bridge Painting	\$0	\$0	\$15,000	\$0	\$17,000
Bridge Deck Replacement	\$18,900	\$19,400	\$20,000	\$20,600	\$21,200
Toll System Upgrade	\$1,500	\$10,000	\$0	\$0	\$0
Safety - Guardrail	\$2,481	\$0	\$0	\$0	\$0
Subtotals Capital	\$54,881	\$43,700	\$46,600	\$34,200	\$59,300



BUDGET FISCAL YEAR 2020

HNTB recommends the following:

BUDGET RECOMMENDATIONS FY 2020 - \$ THOUSANDS	
Operation and Maintenance	\$46,097
Renewal and Replacement	\$18,800
Capital Replacements and Improvements	\$54,881
Grand Total Budget	\$119,778



INSURANCE

Section 515, Subsection (a) of the Master Trust Indenture dated as of August 1, 2018 as supplemented for the West Virginia Parkways Authority states:

(a) The Authority shall at all times cause to be maintained, to the extent reasonably obtainable, the following kinds of insurance with responsible insurance and/or reinsurance companies authorized and qualified to do business in (or with companies duly authorized and qualified to do business with companies that are authorized and qualified to do business in) the State, in such amounts as recommended by the Consulting Engineers as provided below or as determined by the Authority:

(i) multi-risk insurance on the facilities of the Turnpike 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 recommended by the Consulting Engineers to provide against such loss or damage and to protect the interest of the Authority;

(ii) use and occupancy insurance covering loss of Toll Road Revenues by reason of necessary interruption, total or partial, in the use of the facilities of the Turnpike, 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 recommended by the Consulting Engineers to provide income during the period of interruption, but in no event less than 12 months, in the event of the occurrence of any such loss or damage, equal to the amount of the loss of Toll Road Revenues, computed on the basis of Toll Road Revenues for the corresponding period during the proceeding calendar year, or if such facility was not in operation during the preceding calendar year, then computed on the basis of the Consulting Engineers' estimate, attributable to such loss or damage;

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
2017	8	0.8
2018	9	0.9
2019	14	1.5

(iii) public liability insurance covering injuries to persons or property, in such amount as recommended by the Consulting Engineers;

(iv) war risk insurance, if obtainable from the United States Government or any agency thereof, covering direct physical loss or damage, and loss of Toll Road Revenues attributable thereto, on the facilities of the Turnpike which are insurable thereunder;

(v) during the period of construction or reconstruction of any material portion of the facilities of the Turnpike, such insurance as is customarily carried by others with respect to similar structures used for similar purposes, provided, however, that the Authority shall not be required to maintain any such insurance to the extent that such insurance is carried for the benefit of the Authority by contractors, and provided, further, that 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 risks from any cause whatsoever, without any exceptions, during the period of such construction, shall be assumed by such contractors; and

(vi) any additional or other insurance as the Authority in its discretion may determine;

provided, however, that the Authority may self-insure, in whole or in part, with the approval of the Consulting Engineers, against public liability for bodily injury and property damage, loss of Toll Revenues normally covered by use and occupancy insurance and other risks not enumerated above to the extent permitted by law and up to the levels recommended by the Consulting Engineers or a recognized, independent insurance consultant. The adequacy of any self-insurance reserve, or other insurance reserve, established by the Authority shall be evaluated annually by the Authority in consultation with the Consulting Engineers (or a recognized, independent insurance consultant). Deficiencies, if any, in any such self-insurance reserve, or other insurance reserve, shall be made up in accordance with the recommendations of the Consulting Engineers. Except to the extent such coverage is provided by the Authority, such policies shall be taken in the names of the Authority and the Trustee for the benefit of the Holders.

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 June 13, 2019 letter regarding recommendations for Multi-risk Insurance, in accordance with subparagraph (i) above, listing current replacement cost for bridges, and the consulting engineer's June 13, 2019 letter with recommendations for Use and Occupancy Insurance, in accordance with subparagraph (ii) above, in the amount of \$149.283 million to remain in line with current toll revenues. All other insurance needs are determined by the Authority.



June 13, 2019

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 515, Subsection (a) of the Master Trust Indenture dated as of August 1, 2018 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 not be less than toll road 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 \$149,283,000 (One Hundred Forty-nine Million Two Hundred Eighty-three Thousand) for the 2019-2020 fiscal year. This amount of Use and Occupancy Insurance coverage will satisfy Section 515, Subsection (a) of the Master Trust Indenture dated as of August 1, 2018.

Very truly yours,

A handwritten signature in blue ink, appearing to read "RTE", followed by a stylized flourish.

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

RTE/cak

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



June 13, 2019

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

RE: Multi-Risk Insurance

Dear Mr. Barr:

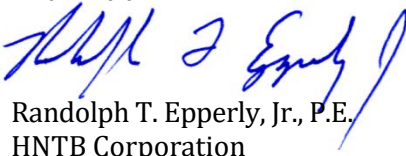
Section 515, Subsection (a) of the Master Trust Indenture dated as of August 1, 2018 state that the Authority shall maintain Multi-Risk Insurance on the system facilities which are of an insurable nature and of the character usually insured by those operating similar facilities in such amounts as the 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 totaling \$616,016,050 with an annual premium of \$662,897.00. Such annual premium is included in the Operation and Maintenance expenses recommended by HNTB Corporation as consulting engineers for FY 2019-2020.

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 2019 replacement costs were determined by multiplying the bid price by the ratio of the construction cost index of 11068.57 to the cost index for the year that each bridge was bid.

Very truly yours,


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

RTE/cak

Attachments

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



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	B+
Concrete Pavements	B	N/A
Signs	A	B+
Other Traffic Control	A	B+
Drainage Structures	A	B+
Bridges	A	B+
Vegetation Control	B	B+
Litter	B	C

Recent equipment purchases include:

- Mobile Trailer Mounted Hot-Mix Asphalt Machine (2 Each)
- Culvert Camera Tractor and Software System
- Skid-steer Hot Mix Asphalt Machine (1 Each)

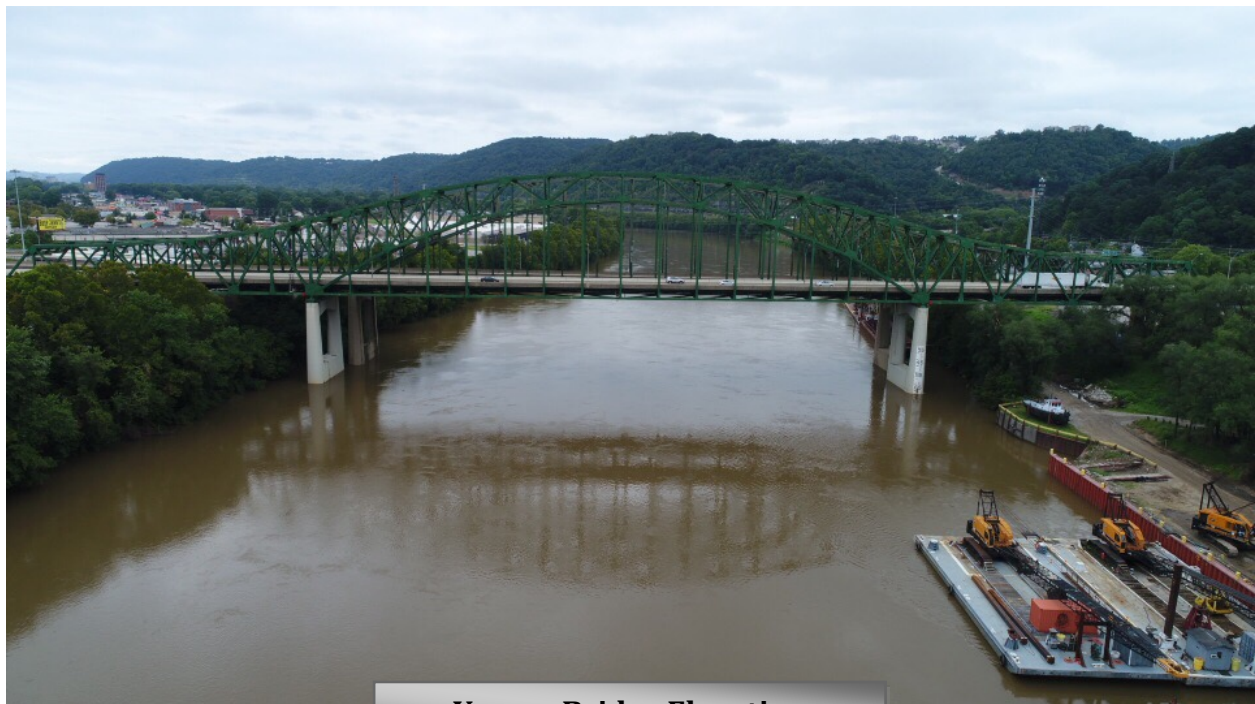
Highlights from Fiscal Year 2019 are listed below:

- Joint & Crack Sealing – 512,788 Linear Feet
- Patching – 2,448 Tons
- Shoulder Stabilization – 142,714 Linear Feet
- Deck Patching – 2,638 Square Feet
- Bridge Expansion Joints – 68 Bridge Lanes
- Bridge Overlay Repairs – 394 Square Feet
- Bridge Parapet Wall Coating – 7,860 Linear Feet
- Bridge Inspection/Support – 1,120 Man-hours
- Bridge Structure Repairs – 42 Man-hours
- Abutment/Pier Coating & Patching – 241 Square Feet
- Ditch & Channel – 11,560 Linear Feet
- Ditch Debris & Brush Removal – 1,937 Linear Feet
- Drop Inlet Cleaning & Grate Replacement – 655 Each
- Camera Culverts – 190 Linear Feet
- Annual Drain Inspection – 65 Each
- Bench & Slope – 7,539 Linear Feet
- Sweeping – 350 Miles
- Fence Repair – 555 Linear Feet
- Litter Pickup & Disposal – 2,106 Bags
- Brush Cutting – 50.4 Acres
- Mowing – 862 Acres
- Herbicide Spraying – 79.1 Acres
- Bridge Lanes Sealed – 23 Each
- Roadside Delineators Installed – 1,790 Each
- Salt Used – 12,569 Tons
- Courtesy Patrol/Daywatch – 20,784 Man-hours
- Emergency Response – 3,272 Man-hours
- Install/Repair Barrier Walls – 1,609 Man-hours
- Line Striping – 32,096 Linear Feet



FISCAL YEAR 2019 ACCOMPLISHMENTS

The WVPA continues accomplish road and bridge rehabilitation projects on the West Virginia Turnpike such as full depth concrete repairs, asphalt pavement overlays, bridge deck overlays, bridge deck replacements, bridge and facilities retrofit work and repairs and rehab to median barriers, retaining walls, buildings, toll plazas, culverts, guardrail and pavement markings. These are much needed pavement, concrete and bridge rehabilitation projects for Kanawha, Fayette, Raleigh, and Mercer Counties. Most of the construction work for Fiscal Year 2019 was performed in the Chelyan/Marmet and Ghent areas (\$47.6 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 7:00 p.m. to 7:00 a.m., in order to keep traffic delays at a minimum. Toll revenues are being used to fund capital highway and bridge projects.



Yeager Bridge Elevation



Pavement Rehabilitation

Contract 1A-18 & 2A-18

Contract 1A-18 is a pavement rehabilitation project in Kanawha County on the West Virginia Turnpike. It consists of a hot-mix asphalt overlay, milling, full depth concrete pavement repairs and incidentals in the northbound direction from Barrier C to the Marmet Interchange (Milepost 82.5 to 89.4). Contract 2A-18 is a hot-mix asphalt inlay, milling, full depth concrete pavement repairs and incidentals at various locations in Raleigh, Fayette and Kanawha Counties. West Virginia Paving performed the work for Contracts 1A-18 and 2A-18. The approximate construction costs are \$21,976,000 and \$8,060,000 respectively.



**Contract 1A-18 Full Depth
Concrete Repair**



**Contract 2A-18 Full Depth
Concrete Repair**





Culvert Cleaning & Retrofit Contract 1C-18

This culvert repair project is in Mercer, Raleigh and Fayette Counties on the West Virginia Turnpike. It is primarily composed of culvert retrofits by dewatering, lining, paving inverts, miscellaneous repairs to end treatments and maintenance of traffic. Teays River Construction Company completed the work. The approximate construction cost is \$1,662,990.79.



**Culvert Liner Being Installed as
a Method of Repair**





Tree and Brush Removal Contract TC-1-19

This project consists of cutting trees and brush in various location within the WVPA's right-of-way. The general work area from milepost 77.5 to 78.3 northbound was approximately 7.85 acres. Astech Corporation performed the work at a cost of \$650,410.55.



**Tree Removal in
Progress**





Bridge Painting Contract BP-1-18

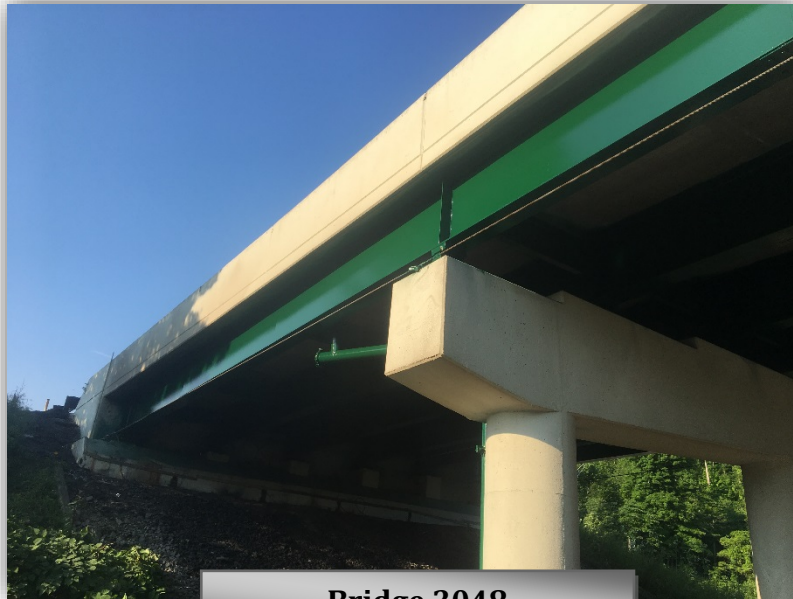
This project consists of blasting and spot painting various members on Bridges 3048N/S, 3053, 3055 and 2144N (Yeager Bridge Northbound). The work included 61,400 square feet of steelwork coating and 17,300 square feet of concrete protective coating at a cost of \$1,755,138.75. Elite Contractors performed the work.



Bridge 3055 Containment



SP-10 Near White Metal Blast



Bridge 3048



Bridge Painting Contract BP-2-18

This project consists of blasting and spot painting various members on Bridges 3008N/S and 3041N and fully repainting Bridge 3018S. The work included 23,400 square feet of steelwork coating and 11,900 square feet of concrete protective coating at a cost of \$333,375.38. Southeast Bridge FL Corp. performed the work.



Bridge 3018S Full Repaint





Bridges 3019N & 3020N Deck Replacement Contracts BDR-1-17 & BDR-2-17

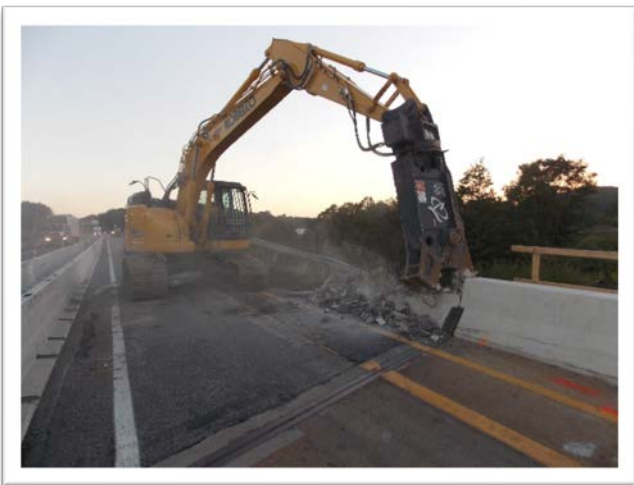
These contracts utilize a method called Accelerated Bridge Construction (ABC). Accelerated Bridge Construction is a method in which the decks are brought in as pre-cast units to provide better quality control as the units are made in a casting plant. Once the pre-cast units are brought in, the old deck is replaced and the new deck is put into place with a crane and locked in place. The project fully replaced Bridge 3019N, which is a 138 foot, two lane bridge deck on northbound, I-77 over County Route 19/25. This project also replaced Bridge 3020N, which is a 141 foot, two lane bridge deck on northbound, I-77 over County Route 42. Both the bridges are located just north of Ghent. BDR-1-17 (Bridge 3019N) began on Sunday evening September 9th, 2018. At that time, Hurricane Florence was predicted to make landfall somewhere in the Carolina's during the upcoming week of construction. Approximately half way through the project, Florence did indeed make landfall and there was a mandatory evacuation for several of the east coast states from Georgia to North Carolina. This created an unanticipated spike in traffic, particularly heading northbound on the Turnpike. On September 12th, the governor of WV directed the WVPA to halt all construction on the Turnpike. Since construction was not complete, HNTB and the Contractor worked together to expedite the completion of the first half of the bridge deck. The traffic was then split to allow motorists to travel on both the existing deck (right lane) and the proposed deck (left lane) to help minimize the traffic back-ups. It took approximately six hours for the traffic queue to dissipate and at that time, traffic began to flow with minimal disruptions for the remaining duration. After the mandatory evacuation was lifted, work resumed on the bridge beginning on September 19th and the Contractor completed the project on September 22nd. Brayman Construction Corporation was awarded this project and the approximate total cost was \$5,423,884.00.



Pre-Cast Deck Panel Staging



Off-Site Staging of the Pre-Cast Deck Panels



Demolition of the Existing Bridge



Pre-Cast Deck Panels in Place



Milling of Approach Pavement



Construction Sequencing



Bridge/Facility Retrofit Contract BFR-1-17

Contract BFR-1-17 is a 1-year contract with 2 one-year renewals. For fiscal year 2019, the contract amount was approximately \$1,780,200. 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.



Bridge 3067 Joint Replacement



Median Barrier Repair at Milepost



Bluestone Bridge Modular Joint Repair





Bridge Shotcrete Repair **Contract BSR-1-19**

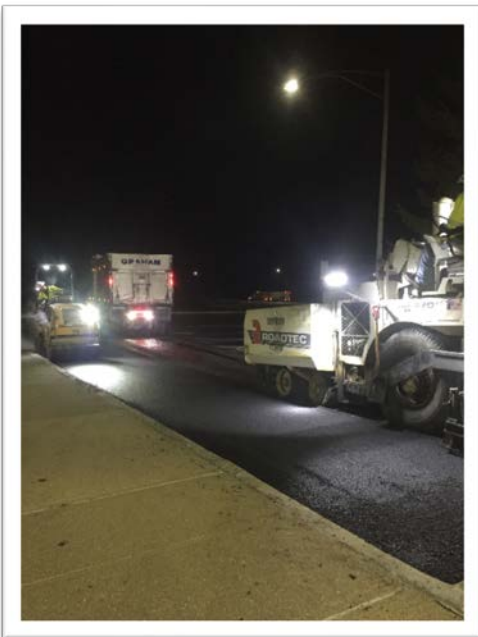
This project consists of repairs to selected structures by pneumatically applied mortar (shotcrete). The work included 136 square feet of repairs to Bridge 2144N and 455 square feet of repairs to Bridge 3060. Air Placement Cement Company performed the work for a total cost of \$173,490.





Parking Lot Pavement Rehabilitation Contract PL-1-19

This project consists of rehabilitating the parking lots at Turnpike Headquarters, Barrier A and Barrier B in Kanawha, Raleigh and Fayette counties. The contract required approximately 900 tons of Hot-Mix Asphalt. West Virginia Paving performed the work at an approximate construction cost of \$191,439.75.



**Pavement Rehab at
Turnpike Headquarters**



**Maintenance Crew
Patching Asphalt**

APPENDIX



**Cell Phone Tower Installation
at Mahan Interchange**



WEST VIRGINIA PARKWAYS AUTHORITY

2019 BRIDGE REPLACEMENT COST

STRUCTURE NUMBER	YEAR BID	ENR INDEX	BID PRICE	REPLACEMENT COSTS (ROUNDED)
2144N	1980	3237	\$ 15,235,011	\$ 52,845,000
2144S	1952	569	\$ 2,419,297	\$ 47,740,000
3001N	1976	2401	\$ 311,298	\$ 1,456,000
3001S	1976	2401	\$ 316,803	\$ 1,482,000
3003N	1976	2401	\$ 287,596	\$ 1,350,000
3004S	1976	2401	\$ 306,888	\$ 1,436,000
3005N	1976	2401	\$ 649,641	\$ 3,038,000
3005S	1976	2401	\$ 565,379	\$ 2,644,000
3006	1976	2401	\$ 375,435	\$ 1,756,000
3007	1976	2401	\$ 372,640	\$ 1,743,000
3008N	1976	2401	\$ 256,237	\$ 1,200,000
3008S	1976	2401	\$ 268,094	\$ 1,260,000
3010N	1976	2401	\$ 7,966,577	\$ 37,255,000
3010S	1952	569	\$ 1,546,394	\$ 30,515,000
3012N	1976	2401	\$ 744,234	\$ 3,481,000
3012S	1976	2401	\$ 560,547	\$ 2,622,000
3017N	1976	2401	\$ 335,144	\$ 1,568,000
3018S	1976	2401	\$ 334,367	\$ 1,564,000
3019N	1976	2401	\$ 308,425	\$ 1,443,000
3019S	1976	2401	\$ 178,300	\$ 834,000
3020N	1976	2401	\$ 195,939	\$ 917,000
3020S	1976	2401	\$ 291,219	\$ 1,370,000
3021N	1976	2401	\$ 211,463	\$ 989,000
3021S	1976	2401	\$ 344,491	\$ 1,611,000
3022N	1976	2401	\$ 257,358	\$ 1,210,000
3022S	1976	2401	\$ 243,665	\$ 1,140,000
3026N	1983	4066	\$ 1,261,802	\$ 3,485,000
3026S	1983	4066	\$ 1,010,343	\$ 2,790,000
3029N	1983	4066	\$ 625,654	\$ 1,728,000
3029S	1983	4066	\$ 354,725	\$ 980,000



WEST VIRGINIA PARKWAYS AUTHORITY

2019 BRIDGE REPLACEMENT COST

STRUCTURE NUMBER	YEAR BID	ENR INDEX	BID PRICE	REPLACEMENT COSTS (ROUNDED)
3030N	1983	4066	\$ 822,446	\$ 2,272,000
3030S	1983	4066	\$ 1,566,506	\$ 4,326,000
3034N	1983	4066	\$ 1,008,408	\$ 2,785,000
3034S	1983	4066	\$ 1,038,557	\$ 2,868,000
3038N	1978	2776	\$ 349,604	\$ 1,415,000
3038S	1978	2776	\$ 565,705	\$ 2,289,000
3039E	1978	2776	\$ 354,302	\$ 1,434,000
3039W	1978	2776	\$ 354,302	\$ 1,434,000
3041N	1982	3825	\$ 505,662	\$ 1,485,000
3041S	1982	3825	\$ 495,378	\$ 1,455,000
3042	1982	3826	\$ 384,616	\$ 1,130,000
3043N	1982	3825	\$ 444,803	\$ 1,310,000
3043S	1982	3825	\$ 840,560	\$ 2,468,000
3044N	1982	3825	\$ 1,171,994	\$ 3,441,000
3044S	1982	3825	\$ 1,047,519	\$ 3,075,000
3045N	1982	3825	\$ 596,023	\$ 1,750,000
3045S	1982	3825	\$ 883,965	\$ 2,595,000
3046N	1981	3533	\$ 573,556	\$ 1,823,000
3046S	1981	3533	\$ 707,668	\$ 2,249,000
3048N	1981	3533	\$ 441,062	\$ 1,402,000
3048S	1981	3533	\$ 430,038	\$ 1,370,000
3050N	1981	3533	\$ 482,166	\$ 1,533,000
3050S	1981	3533	\$ 491,056	\$ 1,561,000
3051N	1982	3825	\$ 410,565	\$ 1,210,000
3051S	1982	3825	\$ 410,565	\$ 1,210,000
3053N	1982	3825	\$ 747,909	\$ 2,196,000
3053S	1982	3825	\$ 747,909	\$ 2,196,000
3055N	1979	3003	\$ 1,266,273	\$ 4,735,000
3055S	1979	3003	\$ 1,264,663	\$ 4,729,000
3056N	1979	3003	\$ 1,456,339	\$ 5,446,000
3056S	1979	3003	\$ 1,467,482	\$ 5,487,000
3057N	1979	3003	\$ 1,669,909	\$ 6,244,000



WEST VIRGINIA PARKWAYS AUTHORITY

2019 BRIDGE REPLACEMENT COST

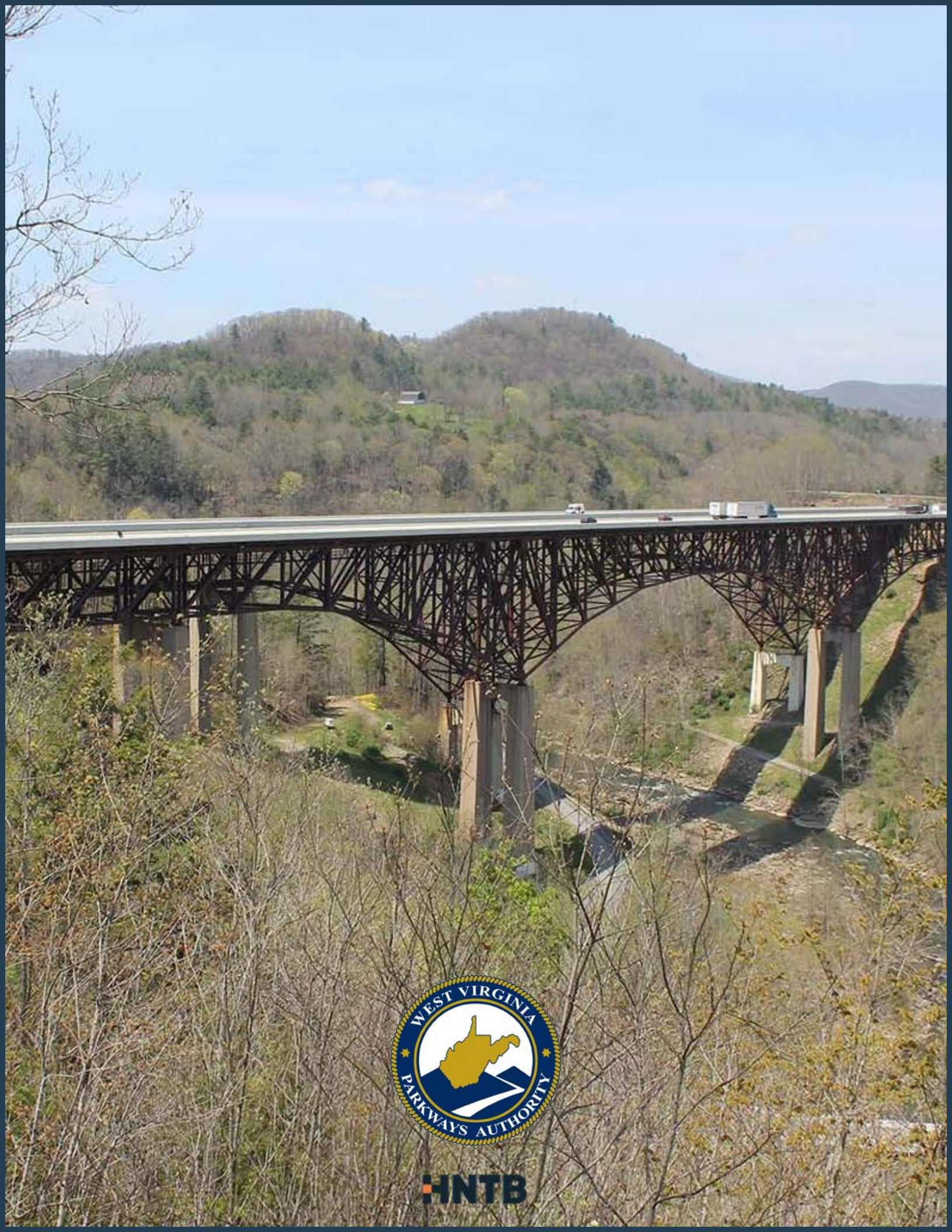
STRUCTURE NUMBER	YEAR BID	ENR INDEX	BID PRICE	REPLACEMENT COSTS (ROUNDED)
3057S	1979	3003	\$ 1,467,837	\$ 5,489,000
3058N	1979	3003	\$ 2,590,444	\$ 9,686,000
3058S	1979	3003	\$ 2,539,317	\$ 9,495,000
3059N	1979	3003	\$ 1,310,193	\$ 4,899,000
3059S	1979	3003	\$ 954,601	\$ 3,570,000
3060N	1979	3003	\$ 1,366,315	\$ 5,109,000
3060S	1979	3003	\$ 1,344,010	\$ 5,026,000
3061	1979	3003	\$ 610,330	\$ 2,282,000
3063N	1979	3003	\$ 538,107	\$ 2,012,000
3063S	1979	3003	\$ 535,374	\$ 2,002,000
3065N	1979	3003	\$ 1,445,790	\$ 5,406,000
3065S	1979	3003	\$ 1,445,790	\$ 5,406,000
3066	1979	3003	\$ 576,917	\$ 2,158,000
3067N	1979	3003	\$ 2,256,259	\$ 8,436,000
3067S	1979	3003	\$ 2,256,259	\$ 8,436,000
3070N	1983	4066	\$ 528,737	\$ 1,461,000
3070S	1983	4066	\$ 528,737	\$ 1,461,000
3072N	1983	4066	\$ 717,000	\$ 1,980,000
3072S	1983	4066	\$ 717,000	\$ 1,980,000
3073N	1980	3237	\$ 981,507	\$ 3,405,000
3073S	1980	3237	\$ 981,507	\$ 3,405,000
3074N	1980	3237	\$ 1,110,269	\$ 3,852,000
3074S	1980	3237	\$ 1,110,269	\$ 3,852,000
3075N	1980	3237	\$ 1,930,130	\$ 6,695,000
3075S	1980	3237	\$ 1,930,130	\$ 6,695,000
3076N	1978	2776	\$ 1,036,302	\$ 4,192,000
3076S	1978	2776	\$ 1,036,302	\$ 4,192,000
3077	1978	2776	\$ 708,758	\$ 2,867,000
3078	1978	2776	\$ 448,257	\$ 1,814,000
3080N	1978	2776	\$ 635,890	\$ 2,580,000



WEST VIRGINIA PARKWAYS AUTHORITY

2019 BRIDGE REPLACEMENT COST

STRUCTURE NUMBER	YEAR BID	ENR INDEX	BID PRICE	REPLACEMENT COSTS (ROUNDED)
3080S	1978	2776	\$ 635,890	\$ 2,572,000
3081N	1980	3237	\$ 399,901	\$ 1,388,000
3081S	1980	3237	\$ 399,901	\$ 1,388,000
3082N	1980	3237	\$ 2,687,208	\$ 9,321,000
3082S	1980	3237	\$ 2,687,208	\$ 9,321,000
3083N	1980	3237	\$ 336,301	\$ 1,170,000
3083S	1980	3237	\$ 336,301	\$ 1,170,000
3084N	1980	3237	\$ 821,754	\$ 2,851,000
3084S	1980	3237	\$ 821,754	\$ 2,851,000
3085N	1981	3533	\$ 503,608	\$ 1,601,000
3085S	1981	3533	\$ 503,608	\$ 1,601,000
3086N	1981	3533	\$ 602,286	\$ 1,915,000
3086S	1981	3533	\$ 602,286	\$ 1,915,000
3087N	1980	3237	\$ 990,712	\$ 3,437,000
3087S	1980	3237	\$ 990,712	\$ 3,437,000
3088	1980	3237	\$ 157,856	\$ 548,000
3235E	1981	3533	\$ 385,112	\$ 1,230,000
3235W	1981	3533	\$ 385,112	\$ 1,230,000
3271	1983	4066	\$ 1,213,000	\$ 3,350,000
3272	1983	4066	\$ 1,044,771	\$ 2,886,000
3273	1983	4066	\$ 1,142,945	\$ 3,157,000
3276	1983	4066	\$ 487,747	\$ 1,347,000
4172	1995	5506	\$ 1,328,831	\$ 2,710,000
4178	1995	5506	\$ 814,289	\$ 1,661,000



HNTB