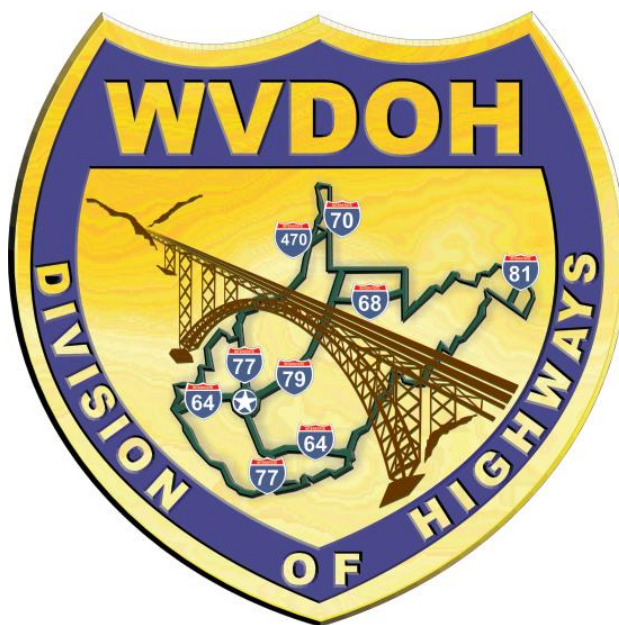


West Virginia Division of Highways

Design-Build Program Experience



Report to the Joint Committee on Government and Finance

January 15, 2019



WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

Division of Highways

**1900 Kanawha Boulevard East • Building Five • Room 110
Charleston, West Virginia 25305-0430 • (304) 558-3505**

**Jim Justice
Governor**

**Thomas J. Smith, P. E.
Secretary of Transportation/
Commissioner of Highways**

January 15, 2019

**The Honorable Craig Blair
West Virginia Senate
1900 Kanawha Boulevard, East
Building One, Room 451M
Charleston, West Virginia 25305**

**The Honorable Eric Householder
West Virginia House of Delegates
1900 Kanawha Boulevard, East
Building One, Room 464M
Charleston, West Virginia 25305**

**Joint Committee on Government and Finance
1900 Kanawha Boulevard, East
Building One, Room 214W
Charleston, West Virginia 25305**

Dear Senator Blair, Delegate Householder, and Committee Members:

Please find enclosed a report on the Division of Highways' Design-Build Program in 2018.

I appreciate your continued support and interest in highway matters. Should you require additional information, please do not hesitate to contact my office.

Sincerely,

A handwritten signature in blue ink that reads "Thomas J. Smith".

**Thomas J. Smith, P.E.
Secretary of Transportation/
Commissioner of Highways**

TJS:JCsh

Enclosures

**Report to the Joint Committee on Government and Finance Division of
Highways Experience on Design-Build Projects
January 15, 2019**

This report has been prepared in accordance with West Virginia Code Chapter 17, Article 2D, Highway Design-Build Program (See Appendix A).

As per the legislation, “the Commissioner of the West Virginia Division of Highways may expedite the construction of projects by combining the design and construction elements of a highway or bridge project into a single contract as provided in this article. On or before January 15, 2014 and annually thereafter the commissioner shall prepare and submit to the Joint Committee on Government and Finance a report evaluating the experience of the Division of Highways with each project, including whether the division realized any cost or time savings, the number and cost of change orders, the quality of work performed, the number of bids received and other issues the commissioner considers appropriate.”

WVDOH Design-Build Program – 2018

During 2018, the West Virginia Division of Highways (WVDOH) has used the Design-Build method of project procurement to award 45 projects. Two of the projects were from the regular program, 18 projects were awarded under the bond programs, and 25 projects were awarded in an effort to bring intersections across the state into compliance with updated ADA requirements.

The design-build project procurement method allows for the design phase and construction phase of a project to be completed by a team, usually a contractor paired with an engineering firm, which typically allows the project to be completed on an accelerated schedule because design and construction can occur concurrently. WVDOH has experienced these time savings on nearly all the design-build projects. With the contractor owning the design from the beginning, they can steer the final design to fit their company's individual strengths while providing a final product that meets the requirements of the original contract. This not only allows for innovation on projects, but it also allows for a better final product which benefits the travelling public. The quality of work performed has been comparable to the projects awarded through the design-bid-build process. The number of contractors that bid on the design-build projects for the WVDOH has increased since the first design-build projects were awarded. The increased competition for projects has led to more competitive bids and a larger number of bids in general. Another benefit of having one team complete the project is the reduction in number of change orders and value engineering proposals compared to traditional design-bid-build projects. It should be noted that all contracts, whether design-bid-build or design-build, will have at least one change order to final and close out the project because of the software used to manage and fund the projects.

The Design-Build tool continues to be one of the most valuable tools that the WVDOH has at its disposal for expediting work and maintaining quality in design and construction. WVDOH has reported extremely favorable results to the Legislature for all 12 years since the Legislature approved the use of Design-Build. As can be seen from the attached list of projects, this tool has been crucial in the delivery of the Roads to Prosperity Program.

Regular Program Projects

Projects from the regular federal program were selected to use the design-build of project procurement based on schedule, type of work, and potential for innovation. The following projects were awarded during 2018:

Project	County	Bid Amount	Expended as of 12/31/2018	# of Bids Received	# of Change Orders	Cost of Change Orders
White Oak Bridge*	Boone	\$1,515,000	\$1,528,662	3	3	\$16,532
Dola Bridge	Harrison	\$1,961,499	\$1,366,057	3	3	\$267,500

Bond Projects

With the sale of the GARVEE bonds and Turnpike bonds, a large number of projects were needed to be made ready for award on a very short schedule. Projects were selected based on environmental sensitivity/restrictions, utility involvement, right-of-way requirements, and project scope. The following projects were awarded during 2018:

Project	County	Bid Amount	Expended as of 12/31/2018	# of Bids Received	# of Change Orders	Cost of Change Orders
Tom Williams Family Bridge +3	Kanawha	\$19,555,555	\$977,778	3	1	\$0
Tickville Bridge	Mason	\$1,709,997	\$168,250	7	2	\$250
McClanahan Bridge +1	Putnam	\$2,284,954	\$173,096	5	1	\$0
Sandyville Bridge	Jackson	\$1,937,627	\$230,000	6	1	\$0
Race Track Bridge	Wood	\$2,137,103	\$190,250	5	1	\$250
Airport Exit Bridge	Monongalia	\$3,818,000	\$295,723	4	1	\$0
US Navy PO 1st Class Kevin	Harrison	\$4,240,894	\$362,553	3	1	\$0
Camden Street Bridge	Harrison	\$2,234,900	\$521,980	2	1	\$0
Mill Branch Bridge	Hampshire	\$1,153,250	\$517,809	2	0	\$0
Rock Cliff Drive Bridge	Berkeley	\$4,546,116	\$1,072,883	3	0	\$0
Chapel Road Bridge +1	Ohio	\$6,141,218	\$393,038	3	1	\$0
Harmon Creek Bridge	Brooke	\$6,765,600	\$446,530	3	1	\$0
Diana Deck Girder	Webster	\$1,378,998	\$74,466	5	0	\$0
Junior Bridge	Barbour	\$3,194,180	\$654,807	3	0	\$0
Dunloup Creek Bridge*	Fayette	\$1,147,130	\$1,133,364	6	0	\$0
Reese Bridge	Greenbrier	\$1,181,832	\$1,047,103	5	0	\$0
Powell's Creek Bridge +1	Nicholas	\$3,131,777	\$930,029	3	0	\$0
Green B. Margie Blankenship Bridge	McDowell	\$1,830,999	\$1,445,153	3	1	\$0

ADA Projects

The design-build procurement method was used to award projects to bring intersections across the state into compliance with the Proposed Accessibility Guidelines for Pedestrian Facilities in the Public Right of Way (PROWAG). The following projects were awarded in 2018:

Project	County	Bid Amount	Expended as of 12/31/2018	# of Bids Received	# of Change Orders	Cost of Change Orders
Charleston ADA	Kanawha	\$950,000	\$949,591	4	2	\$0
Seventh Ave ADA +2*	Kanawha	\$947,773	\$938,295	3	0	\$0
Cross Lanes ADA*	Kanawha	\$734,590	\$727,244	3	0	\$0
MacCorkle ADA +1	Kanawha	\$302,097	\$143,527	4	0	\$0
Huntington ADA +2*	Cabell	\$699,000	\$699,000	3	0	\$0
South Parkersburg ADA*	Wood	\$688,158	\$619,343	1	1	\$0
Downtown Pburg Curb Ramps +3*	Wood	\$892,883	\$800,915	1	1	\$0
East Main St +1*	Harrison	\$252,000	\$244,543	3	3	-\$2,000
Wellsburg ADA +2*	Brooke	\$1,300,083	\$1,235,079	2	0	\$0
North Wheeling ADA*	Ohio	\$515,199	\$489,439	2	1	\$8,883
Paden City ADA +2*	Tyler	\$994,129	\$1,030,064	2	3	\$133,940
Weirton ADA*	Hancock	\$1,343,480	\$1,403,937	3	3	\$148,783
Barbour Co ADA	Barbour	\$1,108,392	\$912,623	2	1	\$0
Braxton Co ADA*	Braxton	\$471,762	\$427,416	7	0	\$0
Webster Co ADA	Webster	\$712,715	\$474,668	7	0	\$0
Turnpike Rd. +1	Nicholas	\$1,211,500	\$1,054,005	2	0	\$0
Main St +2	Fayette	\$1,941,900	\$1,475,844	2	0	\$0
Temple St. +3	Summers	\$2,853,700	\$2,197,349	3	0	\$0
Riverview Ave +4	Greenbrier	\$1,644,900	\$575,715	3	0	\$0
Fayette Pike*	Fayette	\$274,400	\$268,912	2	0	\$0
Market St. +2*	Monroe	\$835,000	\$818,300	1	0	\$0
Courthouse Rd - Kegley Rd +1	Mercer	\$256,200	\$243,390	2	0	\$0
Riverside Dr - Stewart St +1*	McDowell	\$712,800	\$635,010	1	0	\$0
Bluefield Ave - E Cumberland Rd +1*	Mercer	\$1,150,000	\$202,070	2	0	\$0
Mabscott - Skelton Rd +2*	Raleigh	\$2,792,445	\$2,774,245	1	0	\$0

Projects marked with “*” in the 3 charts above are considered “substantially complete.”

Appendix A

West Virginia Code §17-2D

“West Virginia Highway Design-Build Pilot Program”

WEST VIRGINIA CODE: §17-2D-1

§17-2D-1. Short title.

This article shall be known and may be cited as the West Virginia Highway Design-Build Pilot Program.

WEST VIRGINIA CODE: §17-2D-2

§17-2D-2. Highway Design-Build Program.

(a) Notwithstanding any provision of this code to the contrary, the Commissioner of the West Virginia Division of Highways may expedite the construction of projects by combining the design and construction elements of a highway or bridge project into a single contract as provided in this article.

(b) The Division of Highways may expend no more than \$50 million in each year in the program: Provided, That if any of the \$50 million is unused in one year, the remaining amount may be applied to the following year's amount: Provided, however, That the total aggregate amount to be expended may not exceed \$150 million in any one year: Provided further, That for fiscal years beginning after June 30, 2017, the Division of Highways may expend no more than \$200 million on any one project: And provided further, That for fiscal years beginning after June 30, 2017, the Division of Highways may expend no more than \$400 million in each year in the program: And provided further, That for fiscal years beginning after June 30, 2017, if any of the \$400 million is unused in any year, the remaining amount may be applied to the following year's amount: And provided further, That for fiscal years beginning after June 30, 2017, the total aggregate amount to be expended may not exceed \$500 million in any one year: And provided further, That expenditures made for projects that are necessitated by a declared state of emergency within a county that the Governor has included in a declaration of emergency are not to be included against the expenditure limits provided in this subsection.

(c) A design-build project may be let to contract only in accordance with the commissioner's established policies and procedures concerning design-build projects.

(d) Projects receiving funding above the amount of federal core funding as appropriated to the state by formula in a federal highway authorization, currently titled MAP-21, may utilize the program, but shall not be included in expenditure limits provided by subsection (b) of this section.

WEST VIRGINIA CODE: §17-2D-3

§17-2D-3. Invitation for bids.

(a) The division shall prepare an invitation for bids for prequalified design-builders, which must provide at a minimum:

(1) The procedures to be followed for submitting bids and the procedures for making awards;

(2) The proposed general terms and conditions for the design-build contract;

(3) The description of the drawings, specifications or other information to be submitted with the bid, with guidance as to the form and level of completeness of the drawings, specifications or submittals that will be acceptable;

(4) A proposed time schedule commencement and completion of the design-build contract;

(5) Budget limits for the design-build contract, if any;

(6) Requirements or restrictions for the subletting of specific portions of the design-build contract, if any; and

(7) Requirements for performance bonds, payment bonds, insurance, professional liability insurance and workers' compensation coverage.

(b) The division shall make available to the qualified design-builders, a list of prequalified consultants, approved subcontractors, suppliers and sureties, as applicable, additional information including, but not limited to, surveys, soils reports, drawings or information regarding existing structures, environmental studies, photographs or references to public records, or other pertinent information.

(c) The division shall set forth its needs with sufficient clarity to assure that there is a comprehensive understanding of the project's scope and requirement.

WEST VIRGINIA CODE: §17-2D-4

§17-2D-4. Acceptance of design-build bid.

(a) The design-builder shall submit the bid to the division as required in the invitation for bids.

(b) The design-builder shall furnish a bid bond not to exceed five percent of the maximum cost of the design-build contract.

(c) The selection committee may choose to reject all bids. If the selection committee chooses to accept a bid, the committee shall award the project to the qualified design-builder based on low bid or a value-based selection process combining technical qualifications and competitive bidding elements. The selection committee shall ascertain that the submissions comply with the requirements of this article and the policies and procedures of the commissioner.

WEST VIRGINIA CODE: §17-2D-5

§17-2D-5. Report to the Legislature.

On or before January 15, 2014, and annually thereafter, the commissioner shall prepare and submit to the Joint Committee on Government and Finance a written report evaluating the experience of the Division of Highways with each project completed during the prior calendar year, including whether the division realized any cost or time savings, the number and cost of change orders, the quality of work performed, the number of bids received and other issues the commissioner considers appropriate: Provided, That the report submitted on or before January 15, 2014, shall contain such information as to all design-build projects that have been completed under the program prior to 2014.