

GENERALLY ACCEPTED GOVERNMENT AUDITING STANDARDS STATEMENT

We conducted this performance audit in accordance with Generally Accepted Government Auditing Standards (GAGAS). Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

POST AUDIT DIVISION Justin Robinson, Director

Post Audit Division

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WV Division of Highways -Highway Maintenance

December 6, 2022

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Background

The West Virginia Division of Highways (WVDOH) is responsible for the planning, engineering, construction, and maintenance of the majority of public roads within the state. As of December 31, 2021, the total mileage of public roads in West Virginia was approximately 38,833. Of this amount, 34,929 are classified as State Public Miles which include, but are not limited to, Interstates, the West Virginia Turnpike, and state and county routes. Additionally, 914 miles are classified as Federal Public Miles. These roads are maintained by several federal agencies such as the National Forest Service, National Park Service, US Fish & Wildlife Service, and the US Corp of Engineers. Lastly, 2,990 miles of the public roads within the state are classified as Municipal Public Mileage and are maintained by the cities and towns where these roads are located.

WVDOH does not maintain Federal Public Miles, Municipal Public Miles, nor the 88 miles of the West Virginia Turnpike, which is maintained by the WV Parkways Authority. However, even when these roadways are excluded from the total public mileage, WVDOH remains responsible for maintaining 90% of the state's total public roadways. Furthermore, in addition to state-owned roadways, the agency maintains ancillary infrastructure and facilities such as signs, lights, sidewalks¹, maintenance facilities, fleet vehicles, rest areas, and welcome centers.

Data compiled by the Federal Highway Administration in 2019, ranked West Virginia 39th of the 50 states in public road length; however, the state maintains the 6th largest highway system in the nation and is one of only five states that maintain both state and county roads. Further, the data notes West Virginia has significantly more rural roads than most states with approximately 83% of the State's highway system marked as rural compared to the national average of 67%.

In 2020, the West Virginia Section of the American Society of Civil Engineers² (ASCE) issued a report detailing the state's infrastructure in five broad categories of bridges, dams, drinking water, roads, and wastewater. The report states most of West Virginia's infrastructure constructed over the past 70 years has deteriorated while new construction, replacement, rehabilitation, and repair efforts have not kept pace with the needs. Additionally, the report notes West Virginia's declining population and raises the question of whether the state will have adequate resources to maintain safe roads and bridges in the future.

On a typical A to F letter grading system, West Virginia received a D+ on the quality of its infrastructure for both roads and bridges in the 2020 ASCE report. When compared to the 2021 ASCE National Infrastructure Report,³ it is apparent that West Virginia's scores are comparable to the average for all states, as shown in the table that follows:

	Table 1	
	ASCE Infrastructure Repo	ort Card
<u>Category</u>	2020 West Virginia	2021 National
Bridges	D+	C
Roads	D+	D

¹ Primarily, the agency maintains mostly curb ramps. WVDOH does not maintain sidewalks within municipalities.

² https://infrastructurereportcard.org/state-item/west-virginia/

³ https://infrastructurereportcard.org/

West Virginia's roads score slightly better than the national average, while the state's bridges score slightly lower. Therefore, it would seem many of the issues West Virginia faces concerning its infrastructure for roads and bridges appear to be overarching problems for the entire nation.

The 2021 ASCE National Infrastructure Report provides relevant information as to what areas of the nation's infrastructure need the most attention moving forward. Overall, the 2021 report commends recent efforts put forth to preserve our nation's roads; however, the report notes there is still work to be done. For instance, the number one key finding in the report states maintenance backlogs continue to be an issue. Further, the report states the underfunding of roadway maintenance has resulted in a \$786 billion backlog of road and bridge capital needs, the bulk of which (\$435 billion) is needed to repair existing roads.

Maintenance and Planning

As the 2021 ASCE report shows, maintenance is a key component of preserving the nation's roads. According to most recently revised version of WVDOH Policy 5.15, West Virginia places its emphasis on five "core" maintenance categories the agency considers as essential or most important to maintaining existing roadways. These categories are:

- 1. Mowing,
- 2. Patching paved roadways,
- 3. Ditching paved roadways,
- 4. Ditching and blading unpaved roadways (Stabilization), and
- 5. Snow Removal and Ice Control (SRIC)

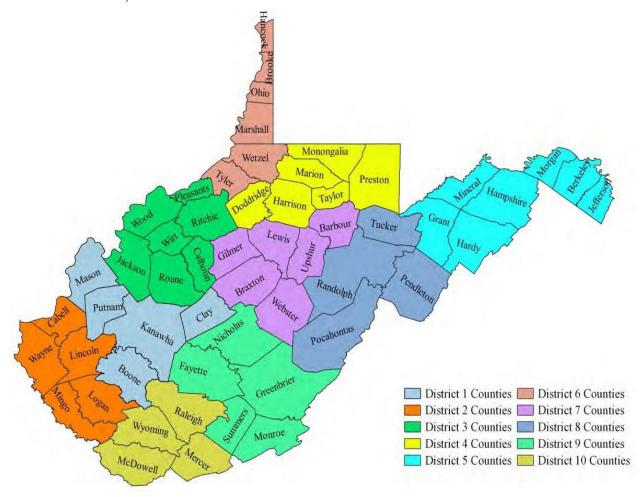
While these five areas make up the "core" of WVDOH maintenance, a multitude of specific activities fall under each of these five general categories. A complete listing and description of these specific activities classified by the WVDOH as core maintenance can be found in Appendix D.

According to the WVDOH Maintenance Manual, "Highway maintenance requires the application of suitable methods for preserving each roadway structure and facility as it was originally constructed or subsequently improved...." Each of the five core maintenance activities listed above prolong the life of West Virginia's roads. For instance, activities such as ditching allow water to properly drain from roadways and aids in safer travel, while blading of unpaved roadways provides a smooth-running surface and slope to ensure proper drainage. Maintaining proper roadway drainage is important to prevent erosion of the roadway and saturation of the subbase⁴.

It should be noted core maintenance activities are driven and impacted by climate. In recent years West Virginia has faced record rain with several major flooding events. Inclement weather beyond the norm results in an increase in the frequency of roadway damage such as potholes. Further, weather occurrences resulting in snow cause more damage to roadways and additional work due to damage caused by the freeze-thaw cycle. Such occurrences result in deviations from WVDOH's regular duties and, consequently, necessitate the reallocation of resources.

⁴Subbase is the layer of aggregate material that lies immediately below the pavement.

To combat the unpredictable factors that impact maintenance operations of the WVDOH, the agency must adequately plan and allocate funds to ensure that projects are prioritized equitably throughout the state. According to the WVDOH Operating Procedures: Section V, Chapter 6, "... The purpose of making a plan is to utilize controllable factors and resources in the best way possible and at the same time attempt to reduce the adverse effects of those factors over which the planner have (sic) little or no control...." One way the WVDOH accomplishes this is by splitting the state in to ten districts, as illustrated below:



In addition to separating the state into smaller, more manageable districts, the agency emphasizes the importance of planning by creating and documenting two related yearly maintenance strategies the agency refers to as the *Annual Plan* and the *Core Maintenance Plan*. Both documents assist the agency in prioritizing maintenance projects and in allocating funds necessary to perform maintenance activities. Specifically, the *Annual Plan* outlines how funds appropriated for maintenance will be allocated to each county and subsequently split among smaller organizations such as the expressway, bridge, and sign shop organizations.

Fundamentally, WVDOH creates plans by scheduling basic costs utilized in any budget, such as labor cost, equipment cost, and material cost for applicable maintenance jobs in the plan year. Additionally, the agency utilizes several planning aids to ensure that adequate resources and

manpower are available to accomplish scheduled work. These aids include, but are not limited to, the *Roadway Feature Inventory* and the *Maintenance Performance Standards*.

The Roadway Feature Inventory provides the planner with a detailed listing of the roads contained in a specific organization along with road features that influence the type of work needed. The Maintenance Performance Standards contain valuable information about maintenance activities and the number of man hours required to perform these activities. In sum, the Annual Plan serves as the WVDOH budget for each district organization and is created using similar inputs as most budgets. Additional planning aids utilizing significant WVDOH data allow the agency to tailor the Annual Plan to specific needs based on historic performance.

Like the *Annual Plan*, in that both are focused on maintenance, the *Core Maintenance Plan* (CMP) ensures the performance of CMP activities are consistent statewide while also emphasizing the importance of such activities. Specifically, the *Core Maintenance Plan* is a comprised of several sub-plans for each of the five general categories of core maintenance: mowing, patching of paved roadways, ditching of paved roadways, ditching and blading of unpaved roadways, and snow removal and ice control.

Each maintenance sub-plan includes all applicable routes, frequency of job performance, and planned accomplishment date for applicable maintenance activities. Each of these three guidelines ensure that Core Maintenance activities are completed efficiently and effectively while providing a basis for district planners to determine a schedule of work to be performed. Currently, WVDOH policy requires all districts to budget and schedule at least 70% of the agency's *Annual Plan* resources for Core Maintenance activities.

While both the *Annual Plan* and *Core Maintenance Plan* allow the WVDOH to adequately allocate resources and plan work to be performed, deviations from these plans are often needed due in part to occurrences such as complaints of roadway hazards made by citizens of the state. In order to properly record and track complaints made by citizens, the WVDOH has established a section dedicated to this issue called the *Safety With Action Today* (SWAT) team. The SWAT team is responsible for logging complaints, communicating complaints to the applicable district/county, and subsequently relaying appropriate information back to the citizens that filed the complaint. It should be noted that work stemming from complaints is not specifically factored in either the *Annual Plan* or *Core Maintenance Plan*. According to the WVDOH "*The minor deficiencies reported we hope to resolve by working our Core Maintenance Plan*..." In essence, the WVDOH will address complaints as they arise; however, the agency believes continuous emphasis on the CMP will ultimately lower the total number of complaints.

Supplemental Appropriations - Maintenance

In FY 2019, Governor Justice and the WVDOH launched the Secondary Roads Initiative, which explicitly emphasizes maintenance for the state's secondary roads. Subsequently, the Legislature supported the initiative by making multiple supplemental appropriations during fiscal years 2019 thru 2023 to fund the needed maintenance. During this period, the Legislature appropriated approximately \$477.8 million of additional funding for maintenance through a series of transfers from the state's General Revenue Fund and through the reallocation of prior appropriations from non-maintenance line items to the maintenance line-item appropriation. A

breakdown of supplemental general revenue transfers, modifications to maintenance appropriations, as well as the authorizing bills, are detailed in the following table:

WVDOH	Supplemental A	Table 2 ppropriations Providing A	dditi	onal Funds
		FY 2019 - FY 2023		
	Mainten	ance (Appropriation #23700)		
Budget Year Affected	<u>Authorizing Bill</u>	Type of Transaction		<u>\$ Amount</u>
2019	HB 119	Reduction of other line items	\$	34,500,000
2020	SB 1016 & 1019 ⁵	Transfer from General Revenue	\$	50,000,000
2020	HB 154 & 155	Transfer from General Revenue	\$	50,200,917
2021	HB 2768	Increase in Spending Authority	\$	68,067,146
2022	HB 101 & 102	Transfer from General Revenue	\$	150,000,000
2023	SB 4002 & 4003	Transfer from General Revenue	<u>\$</u>	125,000,000
		Total	\$	477,768,063

Upon review of the authorizing bills and supplemental appropriations listed in the preceding table, the Post Audit Division made a series of inquiries with the WVDOH regarding how the agency utilized the additional funds. Specific inquiries were made on how work was prioritized and how the agency accounted for the additional funding. In response to these requests, the WVDOH informed the audit team that supplemental appropriations were utilized for various types of jobs under the maintenance umbrella. The WVDOH added that additional maintenance funds were used to complete projects and address areas of deferred maintenance, such as needed paving projects, bridge repairs and replacements, slips, drainage issues, and guardrails.

To understand how the WVDOH selected and prioritized the aforementioned activities, the audit team asked the WVDOH to describe the selection and prioritization process. In response, the WVDOH provided the following summary on how such decisions were made and who was involved:

...DOH Management allows the ten (10) Districts to work with the County Administrators to identify, prioritize and select projects, that could be done with the amount of extra allocated funding, based on their known needs in their respective county....

County Administrators, District Engineers/Managers, and their staff were heavily involved in the project prioritization/selection process. Their (Districts) lists were reviewed at central office by various Divisions (i.e., Operations, Engineering, Traffic Engineering, and others) and Chief Engineers before being reviewed and approved by DOH Management....

In addition to the assertion above, the agency provided the audit team information summarizing the allocation of the additional funds amongst the ten WVDOH districts. Allocations

⁵ It should be noted that SB 1019 also reduced the Non-Federal Improvements appropriation spending authority by \$224,046,854 and simultaneously increased the maintenance appropriation (23700) spending authority by the same amount. This transaction simply combined two appropriation numbers in order to list all maintenance expenditures under the 23700-maintenance appropriation. Therefore, this transaction did not provide any additional funding for the agency.

varied for each supplemental appropriation. Earlier supplemental appropriations, such as the \$34.5 million provided by HB 119 in FY 2019, were allocated to counties based on prioritized jobs that could be completed, billed, and paid out by the end of the Fiscal Year. The \$50 million provided by SB 1019 in FY 2020 provided \$1.5 million to each district for bridge projects and an additional \$35 million for slip repairs. The \$35 million for slips was apportioned based on the particular needs of each District/County. More recently, HB 101 allocated \$150 million amongst the districts in a clearer, more equitable manner by utilizing an average of the 1998 *Annual Plan* Formula and the percentage formula the WVDOH currently uses to allocate funds.

To quantify an increase in completed projects resulting from the additional funding provided by the supplemental appropriations, the audit team posed several questions regarding the accounting and tracking of the additional monies. Specifically, the audit team asked if the WVDOH accounted for the additional funds separately from their typical budget allowance. In response, the WVDOH informed the audit team that additional funds were not accounted for separately from the agency's typical budget allowance "as there was not a separate fund established by the Legislature...." for that purpose. Rather, additional funds resulting from transfers from the General Revenue Fund were deposited directly into the State Road Fund (9017) and the maintenance appropriation spending authority was subsequently increased per the authorizing bills. Therefore, the audit team was unable to identify specific expenditures made with additional funds or perform any financial analysis specific to expenditures made with additional funds resulting from the supplemental appropriations.

While the WVDOH's accounting of the supplemental appropriations precludes the audit team from correlating maintenance activities financed solely with additional appropriated funds to specific WVDOH maintenance projects, it is apparent the agency is taking steps necessary to ensure funds are utilized in a more efficient and transparent way. Recently, the WVDOH began providing the Legislature with lists of work planned from funds provided with supplemental appropriations prior to the Legislature's vote on said appropriations. However, this remedy still does not ensure funds are spent in accordance with the agency's plan. Therefore, it is the Legislative Auditor's opinion that if it is the Legislature's intent to require the WVDOH to separately account for additional funds provided through supplemental appropriations, the Legislature consider establishing a separate fund in wvOASIS to account for such additional monies apart from funds accounted for within the State Road Fund (9017).

Supplemental Appropriations – Revolving Equipment

In addition to the \$477 million of additional funds provided by the Legislature to the maintenance appropriation, the Legislature also made supplemental appropriations that provided additional funds for equipment purchases in FY 2020 and FY 2023. Specifically, the Legislature redirected a total of \$38.5 million of additional funding to the Revolving Equipment appropriation. A table summarizing these supplemental appropriations follows:

		Table 3		
DOH Supplem	iental Appro	priations Providing Addition	ıal F	<u>'unds</u>
	FY	Y 2019-FY 2023		
Re	evolving Equip	ment (Appropriation #27600)		
	<u>Authorizing</u>			
Budget Year Affected	<u>Bill</u>	Type of Transaction		<u>\$ Amount</u>
2020	SB 1016	Transfer from General Revenue	\$	4,000,000
2020	SB 1019	Reduction of other line items	\$	9,500,000
2023	SB 4003	Transfer from General Revenue	\$	25,000,000

Total

38,500,000

In a series of requests made by the Post Audit Division, the audit team posed multiple questions as to how the additional funds for equipment were utilized by the agency. In response to these requests, the WVDOH provided internal documents summarizing purchase plans for the applicable fiscal years; however, the documents provided by the WVDOH summarize equipment purchases for the entire Revolving Equipment spending authority and do not outline specific equipment purchased with additional funding provided by the supplemental appropriations as these funds were simply added to the State Road Fund. While the Legislative Auditor can verify that additional funds were spent on equipment necessary for continued roadway maintenance efforts, the commingling of these funds with other monies accounted for in the State Road Fund precludes determining specific equipment purchases attributable exclusively through the use of supplemental appropriations.

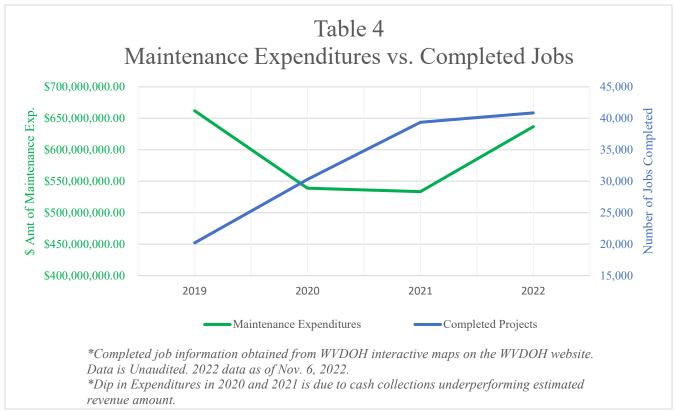
Increase in Production / Jobs Completed

In order to correlate the increase in maintenance roadwork performed with the recent increase in funding, the audit team utilized project data obtained from interactive maps on the WVDOH website and compared the data to cumulative WVDOH maintenance expenditures retrieved from wvOASIS for the same period. The interactive maps allow users to search for specific areas within the state and view which roads are scheduled to have work performed or have had work recently completed. Roads scheduled for work in a given calendar year are color-coded so as to indicate the specific type of project to be performed. Lastly, the maps provide quantified data regarding the planned, completed, and ongoing projects within the state for paving, core maintenance, bridge, slide, and *Roads to Prosperity*⁶ projects allowing users to gauge the WVDOH's plan accomplishments for a given calendar year.

As shown in Table 4, the overall increase in funding and subsequent increase in maintenance expenditures⁷ has resulted in a large growth of completed projects by the WVDOH. It should be noted the information provided in Table 4 is presented on a calendar year basis as opposed to supplemental appropriations, which are allocated and budgeted on a fiscal year basis:

⁶ The Roads to Prosperity Amendment of 2017 set into motion a proposed \$2.8 billion road program that includes various types of roadways and bridge construction and maintenance.

⁷ In FY 2020, the WVDOH combined Appropriation 23700 and 23701 by transferring the spending authority for the 23701 appropriation to the 23700 appropriation. Therefore, in Table 4, expenditures for 23701 and 23700 have been combined for FY19 and FY20.



In sum, the table above shows the additional funding has assisted the WVDOH to more than double the total number of completed projects from calendar year 2019 to 2022 while steadily increasing overall production each successive year. Though the sum of completed projects in this visual are comprised of paving, core maintenance, bridge, slide, and *Roads to Prosperity* projects, it should be noted that the majority of the increase in job completion is attributable to Core Maintenance activities. The following table provides more detail of the increased production and details completed jobs by job type for each calendar year from 2019 thru 2022:

			T	able 5				
	Numbe	r of Planne	ed Vs Co	mpleted M	aintenar	ice Project	S	
	2	2019	2	020	2	021	2	2022
	Planned	Completed	Planned	Completed	Planned	Completed	Planned	Completed
Paving	1,112	742	386	302	467	336	902	659
Core Maintenance	27,822	18,876	49,515	29,634	48,798	38,890	50,330	41,301
Roads to Prosperity	383	217	378	148	168	46	157	2
Bridge	254	60	206	53	199	32	188	30
Slide	558	304	409	145	285	56	237	159
Total	30,129	20,199	50,894	30,282	49,917	39,360	51,814	42,151

^{*}Information obtained from the WVDOH interactive maps on WVDOH website. Data is unaudited. Rounded to nearest decimal.

^{*2022} Data is from January 2022 to Nov. 20, 2022

The data in Table 5 provides information necessary to correlate an increase in overall roadway maintenance efforts; however, quantifying jobs such as paving, core maintenance, and *Roads to Prosperity* by number of jobs completed does not provide the best summation of the increase in work as these jobs often vary in size or roadway miles. To provide a clearer picture of the heightened effort of the WVDOH on these job types, the audit team formulated another table for these three jobs that summarizes the agency's performance based on planned and completed roadway miles. This information can be found in Table 6. For completed Core Maintenance project data by district, see Appendix E.

			T	able 6				
Numb	er of Pla	anned Vs C	Complete	d Highway	Mainte Mainte	nance Proj	ect Mile	S
	2	019	2	020	2	021	2	022
	Planned	Completed	Planned	Completed	Planned	Completed	Planned	Completed
Paving	1,914	1,294	724	507	978	643	1,461	1,030
Core Maintenance	43,049	29,271	57,243	38,626	54,981	46,853	53,343	45,867
Roads to Prosperity	546	306	347	117	234	16	147	0
Total	45,509	30,871	58,314	39,250	56,193	47,512	54,951	46,897

^{*}Information obtained from the WVDOH interactive maps on WVDOH website. Data is unaudited. Rounded to nearest decimal. *2022 Data is from January 2022 to Nov. 20, 2022

While the data obtained from the WVDOH interactive maps shows a drastic increase in work completed since 2019, it is unclear why the WVDOH does not meet its planned work goals. However, it should be noted that funding for maintenance in FY 2020 and FY 2021 was limited due to cash collections underperforming projected estimates due to the COVID epidemic, which restricted the agency's ability to fund planned projects in those calendar years.

It is the opinion of the Legislative Auditor that the agency's tendency to over-plan does not diminish the increased number of projects and road miles the agency has been able to accomplish since 2019. Additionally, over-planning ensures the agency always has work to do, as opposed to under-planning that could result in delays in completing needed maintenance activities.

Internal Maintenance Reports

Another way the WVDOH is improving maintenance processes is by performing annual internal maintenance reviews and issuing internal reports summarizing the findings of these reviews. While the reviews are performed internally and most of the findings appear to be self-reported by the districts, the reports serve as a great way for districts to convey issues which may hinder individual county or districts maintenance plan accomplishments to the WVDOH central office.

Beginning in 2020, the WVDOH Operations Division conducted reviews of maintenance organizations within each of the ten district's and scored them in three categories: completeness, preparation/execution, and quality. The three scores for each are added together to calculate an organization's overall score based on maximum possible score of 100. This process has allowed the agency to identify areas the WVDOH can improve maintenance performance, while also providing a way to identify districts that perform jobs more efficiently in relation to other districts.

For 2020, the average score for the ten districts was 74.2 with most of the districts struggling in the completeness category. Scores in this category ranged from the lowest score of

17.5 out of a possible 60 for District 1, to the highest at 52.5 out of 60 for District 7. While the deviation in scores between these two districts seems extreme, information highlighted in the report explains factors that contributed to certain districts' struggles to complete scheduled maintenance.

To identify some of the underlying issues limiting the districts' performance, the audit team reviewed the 2020 report and highlighted repeated findings / issues, as well as findings / issues the audit team deemed as materially relevant⁸. These topics are summarized as follows:

- Multiple districts cited issues regarding failure of equipment, such as mowers. At least one district cited improper training of equipment operation and lack of regular equipment maintenance as contributing factors.
- Multiple districts cited staffing issues regarding recruiting new hires or the fulfillment of positions internally. At least one county attributed these issues to competition from the oil and gas industry, while another district cited losing potential employees due to extensive delays in the hiring process.
- Multiple districts cited inequalities in "quotas" regarding the number of employees assigned for maintenance activities in a given county. Specifically, some counties with less road miles had a similar number of dedicated employees as counties with considerably more road miles.
- Multiple districts reported issues regarding accurate reporting of work performed.

Through the review noted above, the audit team identified that many of the districts struggle with similar issues; however, some districts have distinct uncontrollable factors that uniquely complicate the completion of projects. For instance, one district had a significant flood that caused several weeks of delay for planned projects as the district had to deviate from the maintenance plan to complete flood damage repair work. Another district cited increased traffic from heavy trucks in the oil and gas industry contributing to road damage.

Overall, the reports are a great way for the WVDOH to self-assess areas where the agency can continue to improve performance. Examples of this are evident in the 2021 report with some of the changes implemented by the agency in quantifying district performance. For example, the scoring system utilized in the 2020 report was changed in the 2021 report to highlight an emphasis on completion of core maintenance activities. Specifically, the report scores organizations within the districts on the completion of planned miles of four of the five categories of Core Maintenance: Ditching, Mowing, Patching, and Stabilization. Ditching and patching were weighted at 30 points each while mowing and stabilization were weighted at 20 points each to generate a total possible score of 100.

However, the amended scoring for the 2021 report impedes comparing the two reports for either improvements or regressions in district performance as the parameters used for scoring are not comparable. While the change in scoring methods make it difficult to compare the districts' overall performance between the years, it is the Legislative Auditor's opinion that changes made in the 2021 report provide more detail as to a district's completed work relative to the work planned. In the future, continued reviews utilizing this same scoring method will provide the

⁸ For a complete breakdown by district of findings deemed materially relevant by the audit team for the 2020 and 2021 internal reviews see Appendix F.

agency with data that can then be compared to assess changes in overall performance of maintenance from year to year. Additionally, the scoring changes made in the 2021 report highlight that WVDOH is utilizing the data compiled in the reports to ultimately influence decision-making and improve maintenance processes.

Further, many of the findings / issues cited in the 2020 report were not present in the 2021 report with the exception of recurring issues concerning outdated and aging equipment, equipment breakdowns with extensive down times for repairs, inequitable quotas among counties. While it is evident significant improvements were made from 2020 to 2021, it is the Legislative Auditor's opinion continued efforts to address the aforementioned issues are needed and will be included in the recommendations at the conclusion of this report.

Overall, the internal reports are an important tool for the WVDOH to self-assess maintenance efforts, implement internal controls, and ensure that resources are being utilized efficiently and effectively. Continued dedication to producing these reports will allow the WVDOH to monitor the overall performance of maintenance projects, while simultaneously collecting data to help guide decision-making and funding in the future.

Conclusion

The recent emphasis placed on maintenance will benefit the state for years to come. Benefits of the increased funding are already evident in FY 2023. Recently, in the 2022 Fourth Extraordinary Session, the Legislature again made a supplemental appropriation from the State General Revenue Fund to the State Road Fund in the amount of \$150 million for the 2023 Fiscal Year budget. The authorizing bill, SB 4003, stipulates that \$125 million of these funds are to be appropriated to the maintenance appropriation and the remaining \$25 million appropriated to the Equipment Revolving appropriation.

During a meeting on September 11th, 2022, of the Legislative Oversight Commission on the Department of Transportation Accountability, West Virginia Department of Transportation Secretary, Jimmy Wriston, stated that primarily the additional Maintenance funds derived from SB 4003 would be used for projects that are ready to be paved. Additionally, Secretary Wriston stated most of this work is ready to be paved because of the recent efforts made performing core maintenance activities.

According to the WVDOH, the additional \$125 million dollars for maintenance is planned to be used to complete a total of 388 projects across the state. As of August 30, 2022, 129 of the reported 388 projects had been completed with approximately 10%, or \$13 million, of the \$125 million being expended thus far. As for the \$25 million dollars appropriated for equipment, the WVDOH provided the Post Audit Division a copy of the agency's buy plan for FY 2023. The additional funds will allow the agency to acquire much of the equipment necessary to continue increased maintenance efforts including, but not limited to, dump trucks, graders, and ancillary snow equipment like spreaders and plows. Additionally, the WVDOH is planning approximately \$364 million for the Annual Plan [Maintenance activities] with its typical budget allocation, which is almost \$14 million more than the previous year. Non-Federal Projects are planned at \$79 million, which includes bridge projects, slide repairs, replacement of drainage structures, culvert pipes and some paving.

In conclusion, recent maintenance efforts made by the WVDOH and additional funding provided by the Legislature has allowed the state to perform additional necessary overdue roadway

maintenance. As noted in the 2020 West Virginia and 2021 ASCE National Infrastructure Reports, underfunding of roadway maintenance is not just an issue plaguing West Virginia, but an issue the nation is facing. West Virginia's 2020 review scored roads within the state slightly higher than the 2021 national average, while bridges received a score slightly below the national average. Since the 2020 review of West Virginia's infrastructure, the Legislature has made supplemental appropriations increasing the WVDOH maintenance spending authority by approximately \$343 million.

Additionally, the WVDOH has made strides to improve public transparency and self-assess the agency's overall performance regarding maintenance activities. The agency has provided biweekly updates of maintenance efforts dating back to January 2019 via interactive maps on the WVDOH website and has also implemented internal maintenance reviews that highlight deficiencies in the maintenance program on the district level. Continued performance of these reviews will allow the agency to utilize data collected to guide decision-making resulting in a more efficient use of resources.

Given the information above, it is reasonable to believe that future assessments of the state's infrastructure should provide better results. While the recent efforts highlighted within this report are steps in the right direction, it is the Legislative Auditor's opinion there are additional ways the WVDOH and Legislature can work together to improve maintenance performance in the state. Therefore, the Legislative Auditor makes the following recommendations:

Recommendations

- 1. The Legislative Auditor recommends that, if the Legislature desires the WVDOH specifically provide an exclusive accounting of how supplemental appropriations and related transfers from the state's general fund are expended by the WVDOH, the Legislature consider establishing a new fund exclusively designated for such monies so they are not commingled with the agency's regular funding sources.
- 2. The Legislative Auditor recommends the WVDOH continue performing annual internal maintenance reviews. Such annual reviews should utilize consistent scoring methods so the agency can generate maintenance performance data over multiple years to assess overall changes in performance of each district's maintenance activities.
- 3. The Legislative Auditor recommends the WVDOH continue to ensure employees are adequately trained on proper operation and maintenance of roadway equipment in order to preserve the life of said equipment and conversely cut down on prolonged repair times.
- 4. The Legislative Auditor recommends the WVDOH continue ongoing efforts to ensure the agency is properly staffed and vacancies are filled in a timely fashion.
- 5. The Legislative Auditor recommends the WVDOH review all man-power quotas to ensure that resources are efficiently allocated and distributed throughout the state.

Appendix A

WEST VIRGINIA LEGISLATIVE AUDITOR'S OFFICE

Post Audit Division

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Justin Robinson Director

November 23, 2022

Jimmy Wriston, Cabinet Secretary West Virginia Department of Transportation 1900 Kanawha Boulevard East State Capitol Complex, Building 5 Charleston, WV 25305

Commissioner Wriston:

This is to transmit a draft copy of the Post Audit Division's report on the West Virginia Division of Highways (WVDOH). This report is scheduled to be presented to the Post Audits Subcommittee during the upcoming December interim meetings. A date and time for this meeting has not been set; however, the interim meetings are currently scheduled for December 5-6, 2022. Once a time and date are set, we will contact you and provide that information. We recommend that a representative(s) from WVDOH be present at the meeting to respond to the report and answer any questions committee members may have during or after the meeting.

If you wish to have an exit conference to discuss this draft report prior to its release, please contact me at (304) 347-4880 to schedule a meeting for a time and date that would occur prior to December 1, 2022. In addition, if you wish to provide a written response to be included in the final report, we ask that this be provided to us by noon on Friday, December 2, 2022, so that it may be incorporated into the report prior to publication. If you have any questions or concerns, please feel free to contact me. Thank you for your cooperation.

Sincerely,

Justin Robinson

Attachment: PA Draft Report Transmittal - DOH Highway Maintenance

C: Lorrie Hodges, Executive Assistant to the WVDOT Cabinet Secretary

Appendix B - Agency Response to Audit Report



WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

1900 Kanawha Boulevard East • Building Five • Room 109 Charleston, West Virginia 25305-0440 • (304) 558-0444

Jimmy Wriston, P.E. Secretary of Transportation Commissioner of Highways

December 5, 2022

Electronically Submitted

West Virginia Legislative Auditor's Office Post Audit Division Attn: Stan Lynch 1900 Kanawha Blvd., E Room W329 Charleston, West Virginia 25305

Dear Mr. Lynch;

Thank you for requesting West Virginia Division of Highways (WVDOH) to review the draft report that has been prepared by the Post Audit Division. Below is DOH response in blue to the noted legislative recommendation.

1. The Legislative Auditor recommends that, if the Legislature desires the WVDOH specifically provide an exclusive accounting of how supplemental appropriations and DRAFT related transfers from the state's general fund are expended by the WVDOH, the NOT FOR PUBLIC RELEASE 13 Legislature consider establishing a new fund exclusively designated for such monies so they are not commingled with the agency's regular funding sources.

The WVDOH agrees with the recommendation to provide detailed accounting of general funds expended by the WVDOH. However, we do not agree with the concept of creating a separate new fund for these monies. As stated in the legislative audit, the WVDOH has been able to expend these funds in an efficient manner by having the flexibility to use its forces to prepare projects and use contractors to perform the primary work. Creating a separate fund will require projects to be funded completely by one delivery method therefore reducing the efficiency provided by using a combination our inhouse forces with contract work. We believe that creating a separate fund will reduce the efficiency we have gained by combining our normal work in a way that prepares roadways for the projects funded by general fund monies in conjunction with our normal CORE maintenance activities.

2. The Legislative Auditor recommends the WVDOH continue performing annual internal maintenance reviews. Such annual reviews should utilize consistent scoring methods so the agency can generate maintenance performance data over multiple years to assess overall changes in performance of each district's maintenance activities.

The WVDOH fully agrees with this recommendation and has implemented it. We agree with the recommendation to have consistent scoring parameters each year. The years reviewed in the report were years involving change due to the implementing the Public Facing CORE Editor. This implementation required some changes to our CORE

West Virginia Legislative Auditor's Office Post Audit Division December 5, 2022

activities reporting measures. These changes have been implemented and the resulting subsequent evaluation procedures will be much more consistent.

3. The Legislative Auditor recommends the WVDOH continue to ensure employees are adequately trained on proper operation and maintenance of roadway equipment in order to preserve the life of said equipment and conversely cut down on prolonged repair times.

4. The Legislative Auditor recommends the WVDOH continue ongoing efforts to ensure the agency is properly staffed and vacancies are filled in a timely fashion. 5. The Legislative Auditor recommends the WVDOH review all man-power quotas to ensure that resources are efficiently allocated and distributed throughout the state.

We fully agree with this recommendation and have implemented it. We have greatly expanded our operator training to include routine daily equipment maintenance. We have also initiated an internal audit of our local shops. Additionally, we have implemented a completely new certification process for our mechanics.

4. The Legislative Auditor recommends the WVDOH continue ongoing efforts to ensure the agency is properly staffed and vacancies are filled in a timely fashion.

The WVDOH has fully implemented a new Human Resources system that is addressing staffing issues as well as the timeliness of filling vacancies as recommended. We are monitoring these results and constantly seeking improvement in these areas. This recommendation is an important part of the implementation of Number 3 above. We have found that a well trained staff is more stable and that it is easier to fill vacancies when candidates see advancement and training in their future.

5. The Legislative Auditor recommends the WVDOH review all man-power quotas to ensure that resources are efficiently allocated and distributed throughout the state.

We have started a policy of constantly and continuously reviewing manpower needs in all of our units. This allows us to react to pressing needs in a nimble manner. The WVDOH fully agrees with this recommendation.

Should you have additional questions or require more information, please no not hesitate to contact my office.

Sincerely,

Jimmy D. Wriston

Secretary of Transportation Commissioner of Highways

JDW/Bh

Appendix C

Objective, Scope, and Methodology

The Post Audit Division within the Office of the Legislative Auditor conducted this review as authorized by Chapter 4, Article 2, Section 5 of the *West Virginia Code*, as amended.

Objective

The objectives of this review were:

- 1. Determine how DOH has utilized highway maintenance funding since at least Fiscal Year 2019 to Fiscal Year 2022 with a specific emphasis on supplemental appropriations made by the Legislature to fund highway maintenance projects. Additionally, determine how the DOH plans highway maintenance projects for the upcoming plan year, how decisions on prioritizing the funding of projects are made, and who is responsible for making the decisions.
- 2. Determine the goals and projects for fiscal year 2023.
- 3. Determine if there has been an overall increase or decrease in highway maintenance project completion as a result of additional supplemental funding appropriations by the Legislature for highway maintenance projects or a change in the prioritization of those projects since additional appropriations were made in 2019.

Scope

The scope of this audit consisted of a review of all documents pertaining to the objectives above, as well as all applicable W.Va. Code, Legislative Rules, and best business practices. Also included were reviews of pertinent information on the WVDOH website as well as relative information from other external sources such as the Federal Highway Administration (FHWA) and the American Society of Civil Engineers. The timeframe of these reviews spanned from fiscal years 2019-2023.

Methodology

Post Audit staff gathered and analyzed several sources of information and assessed the sufficiency and appropriateness of the information used as evidence. Testimonial evidence was gathered through meetings with the WVDOH and correspondence via email with department heads. The purpose for testimonial evidence was to gain a better understanding or clarification of certain issues, to confirm the existence or non-existence of a condition, or to understand the respective agency's position on an issue.

We conducted this performance audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Appendix D

CORE MAINTENANCE ACTIVITIES

ACTIVITY	DESCRIPTION	UNIT OF MEASURE
Group 1	Bituminous Pavement Maintenance	
201	Patching of Bituminous Pavements	Tons
202	Repair of Base Failure	Tons
203	Skip Patching	Tons
204	Seal & Surface Treatment	Tons
207	Hand Patching & Sealing with Asphalt and Aggregate	Tons
208	Joint & Crack Sealing in Flexible Pavements	Feet
Group II	PCC Pavement Maintenance	
241	Patching PCC Pavements	Sq. Feet
244	Joint & Crack Sealing in PCC Pavements	Feet
245	Surface Repair of PCC Pavements	Sq. Feet
246	Patching PCC Pavements with Premix	Tons
Group III	<u>Unpaved Surface Maintenance</u>	
260	Stabilization Shoulders	Tons
261	Stabilization Roadway	Tons
262	Ditching and Blading Unpaved Roadway	Miles
263	Blading Unpaved Roadway	Miles
Group IV	<u>Drainage Maintenance</u>	
281	Minor Drainage Structures	Employee Hours
287	Removing Ditchline Obstacles	Feet
288	Pulling Shoulders or Ditches Paved Roadway	Miles
289	Dressing Shoulders Under Guardrail	Feet
Group V	Roadside Maintenance	
303	Mowing Non Expressway	Acres
304	Brush Control Hand	Employee Hours
305	Brush Control Machine	Acres
308	Litter Pickup & Disposal	Bags
312	Litter Disposal/Support (Non-DOH Forces)	Employee Hours
316	Hand Mowing/Trimming	Employee Hours
317	Mowing Expressway (Interstate/APD)	Acres
Group VI	Snow Removal and Ice Control	
340	Deicing/Anti-icing With Brine	Gallons
341	Mechanical Application of SRIC Materials	Tons
342	Snow Plowing and Blowing	Employee Hours
343	Snow Fence	Feet
344	Post Storm Cleanup	Employee Hours
345	SRIC Support Operations	Employee Hours
Group IX	Other Maintenance	
401	Rotomilling	Sq. Yards
Group X	Service Function	
813	Flagging	Employee Hours

Appendix E

					Core M	Core Maintenance	ınce					
			Plann	Planned vs Comp	eleted Milea	ge by D	OH Distric	mpleted Mileage by DOH District FY 2019-2022	022			
		2019			2020			2021			2022	
	Planned	Planned Completed	%	Planned	Completed	%	Planned	Completed	%	Planned	Completed	%
District 1	4,649	2,443	23%	5,933	3,652	62%	6,427	5,147	%08	5,819	2,366	92%
District 2	5,465	4,391	%08	4,890	2,033	42%	4,837	4,384	91%	4,869	4,852	%59.66
District 3	5,103	3,144	62%	7,159	4,528	63%	7,208	5,856	81%	6,861	5,289	77%
District 4	6,568	2,872	44%	7,260	3,707	51%	7,530	5,268	%02	7,373	4,037	55%
District 5	3,511	2,767	%6 <i>L</i>	6,023	4,903	81%	695'5	5,107	92%	5,845	5,570	95%
District 6	1,606	1,291	%08	3,565	3,095	87%	3,475	3,026	%28	3,343	2,327	%02
District 7	3,376	3,356	%66	668'9	4,958	72%	5,916	4,575	77%	5,657	5,657	100%
District 8	3,060	2,536	83%	4,204	4,160	%66	3,730	3,730	100%	3,695	3,695	100%
District 9	5,524	2,299	42%	6,930	4,083	%65	5,751	5,475	%56	5,393	4,681	87%
District 10	4,188	4,172	%9.66	4,380	3,506	%08	4,539	4,284	94%	4,489	4,394	%86
Total	43,050	29,271	%89	57,243	38,626	%29	54,981	46,853	%58	53,343	45,868	%98

^{*}Information obtained from the WVDOH interactive maps on WVDOH website. Data is unaudited. *2022 Data is from January 2022 to Nov 20, 2022

					Core M	Core Maintenance	nce					
			Planne	ed vs Comp	Planned vs Completed Projects by DOH District FY 2019-2022	ts by DC)H District	FY 2019-2	022			
		2019			2020			2021			2022	
	Planned	Planned Completed	%	Planned	Completed	%	Planned	Completed	%	Planned	Planned Completed	%
District 1	3,385	1,449	43%	5,486	3,102	27%	5,259	3,694	%02	5,750	5,175	%06
District 2	4,933	3,897	%62	5,884	2,733	46%	5,675	5,106	%06	962'5	5,777	%2.66
District 3	2,350	1,483	63%	5,214	2,711	52%	5,342	4,222	%62	5,117	3,611	71%
District 4	3,871	1,608	42%	269,7	2,838	37%	8,106	4,506	999	8,264	3,505	42%
District 5	1,754	1,275	73%	4,118	3,195	%82	4,192	3,549	85%	4,680	4,144	%68
District 6	1,023	891	87%	2,948	2,439	83%	2,873	2,464	%98	2,924	2,122	73%
District 7	1,380	1,373	99.5%	4,523	3,209	71%	3,959	2,825	71%	4,186	4,186	100%
District 8	1,146	994	87%	2,467	2,465	99.92%	2,341	2,341	100%	2,340	2,340	100%
District 9	3,390	1,354	40%	5,223	3,145	%09	4,742	4,551	%96	4,585	4,051	%88
District 10	4,590	4,552	99.2%	5,955	3,797	64%	6,306	5,632	%68	889'9	6,390	%96
Total	27.822	18,876	%89	49,515	29,634	%09	48.798	38,890	%08	50,330	41,301	82%

*2022 Data is from January 2022 to Nov 20, 2022 19

Appendix F

Repeat or Significant Issues Noted in DOH Internal Maintenance Reports for FY 2020 and FY 2021, Grouped by DOH District

	<u>District 1</u> Mason, Putnam, Kanawha, Clay, and Boone Counties
2020	No reported findings.
2021	Multiple expressway organizations were significantly below quota at various times during the year.
2021	Numerous equipment issues throughout the district concerning various types of equipment, especially dump trucks, graders, and mowers.

	<u>District 2</u> Cabell, Wayne, Lincoln, Logan, and Mingo Counties
2020	Large number of tractor mowers are not operational. Most organizations have less than half of their assigned fleet.
2020	At least one organization lost potential hires to internal hiring process taking too long.
2021	Personnel situation has improved; however, several counties are down to 5 to 8 workers.
2021	Numerous equipment issues throughout the district concerning various types of equipment, especially dump trucks, skid steers, and graders.

:	District 3 Jackson, Wood, Pleasants, Wirt, Ritchie, Roane, and Calhoun Counties
2020	Several vacant positions, some not posted for hire approximately 2 months after retirements.
2021	Personnel situation has improved; however, several counties are down to 5 to 8 workers.
2021	Numerous equipment issues throughout the district concerning various types of equipment, especially mowers, graders, skid steers, and excavators.

Do	District 4 oddridge, Harrison, Marion, Monongalia, Taylor, and Preston Counties
2020	Large disparity among organizational "quotas." Smaller counties have a similar number of allotted positions as larger counties.
2021	Issues with keeping adequate employee numbers. Even when the agency hires new employees, other retire or resign. Therefore, it is tough for the agency to maintain quotas.

<u>District 5</u> Grant, Mineral, Hardy, Hampshire, Morgan, Berkeley, and Jefferson Counties						
2020	Issues regarding incorrect reporting of work completed.					
2020	Issues with worn out and broken mowers paired with long wait times for repairs.					
2020	Some counties are experiencing employee shortages and frequent turnover due to competition from other industries.					
2020	Several organizations have had issues getting proper materials such as asphalt due to plants not producing what they need; some cite long haul times which lowered productivity.					
2021	Personnel situation continues to be an issue and impedes organization's ability to complete maintenance work.					
2021	Still issues with equipment in district. New dump trucks have had sporadic issues.					

<u>District 6</u> Tyler, Wetzel, Marshall, Ohio, Brooke, and Hancock Counties					
2020	The district has a lot of rental equipment, both heavy and transportation. Additionally, the report cites totaled vehicles never being replaced.				
2020	Large disparity among organizational "quotas." Smaller counties have a similar number of allotted positions as larger counties.				
2021	Personnel issue has improved; however, some vacancies remain open. Mechanics are generally still lacking in the district.				
2021	Issues with equipment, specifically dump trucks, skid steers, and some excavation equipment.				
2021	Continued issues with inequitable quotas.				

District 7 Gilmer, Braxton, Lewis, Upshur, Barbour, Webster Counties			
2020	No reported findings.		
2021	No reported findings.		

District 8 Tucker, Randolph, Pendleton, and Pocahontas Counties				
2020	Issues regarding incorrect reporting of work completed.			
2020	Issues regarding availability of equipment, specifically mowers had universal complaints of being worn or broken.			
2020	Issues filling vacant positions and finding summer help.			
2021	Continued issues with equipment, specifically new and old dump trucks and a lack of skid steer attachments.			
2021	Late opening of asphalt plants challenged the district's ability to obtain materials and meet patching deadlines.			

<u>District 9</u> Nicholas, Fayette, Summers, Greenbrier, and Monroe Counties			
2020	Issues with equipment failure paired with expired parts contracts.		
2021	Issues regarding staffing. Most organizations in the district were 5%-15% below quota for available positions.		
2021	Numerous equipment issues, specifically with older model dump trucks, graders, and mowers.		

District 10 Raleigh, Wyoming, McDowell, and Mercer Counties			
2020	No reported findings.		
2021	Most organizations were constantly below quota but were actively working to fill vacancies.		
2021	Numerous equipment issues, specifically with dump trucks, graders, and mowers. Some dump trucks were reported to have been permanently retired due to condition but not replaced yet.		



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