



WYOMING DEPARTMENT OF TRANSPORTATION



2026 Transportation Asset Management Plan



Mark Gordon
Governor

WYOMING Department of Transportation

"Provide a safe and effective transportation system"

5300 Bishop Boulevard, Cheyenne, Wyoming 82009-3340



Darin J. Westby, P.E.
Director

July 15, 2026

John Cater, Acting Division Administrator
Federal Highway Administration
2617 E. Lincolnway, Suite D
Cheyenne, WY 82001-5671

Dear Mr. Cater:

The Wyoming Department of Transportation (WYDOT) is pleased to submit its 2026 Transportation Asset Management Plan (TAMP) to the Federal Highway Administration for certification and review. The elements of this plan were developed in accordance with the requirements set forth under 23 U.S.C. 119, and in conjunction with the Bipartisan Infrastructure Law (BIL) and the Moving Ahead for Progress in the 21st Century (MAP-21) Act. The asset management practices described herein reflect the department's commitment to effectively managing its infrastructure assets and highway system over the next decade for the benefit of all residents and travelers on Wyoming roads.

If you have any questions or comments, please let us know.

Sincerely,

Darin J. Westby, P.E.
Director, WYDOT



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List of Acronyms

ADA	Americans with Disabilities Act
AADT	Annual Average Daily Traffic
AASHTO	American Association of Highway and Transportation Officials
BFP	Bridge Formula Program
BIL	Bipartisan Infrastructure Law
BMS	Bridge Management System
BUILD	Better Utilizing Investments to Leverage Development
CFR	Code of Federal Regulation
CMAQ	Congestion Mitigation & Air Quality
DOT	Department of Transportation
EO	Executive Order
ERP	Enterprise Resource Planning
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
GASB	Governmental Accounting Standards Board
HPMS	Highway Performance Monitoring System
HSIP	Highway Safety Improvement Program
IRI	International Roughness Index
ITS	Intelligent Transportation System
LCCA	Life-cycle Cost Analysis
LCP	Life-cycle Planning
LOS	Level of Service
L RTP	Long-Range Transportation Plan
MAP-21	The Moving Ahead for Progress in the 21st Century Act
MBEI	Manual for Bridge Element Inspection
MERRA-2	Modern-Era Retrospective Analysis for Research and Applications
NEPA	National Environmental Protection Act
MPO	Metropolitan Planning Organization
NBI	National Bridge Inventory
NHPP	National Highway Performance Program
NHS	National Highway System
PHED	Peak Hour Excessive Delay
PMP	Plant Mix Pavement
PMS	Pavement Management System
PRR&R	Preservation, Repair, Rehabilitation, and Replacement program
PQR	Pavement Quality Rating
SOGR	State of Good Repair
SMS	Safety Management System
SNBI	Specifications for the National Bridge Inventory
STBG	Surface Transportation Block Grant
STIP	Statewide Transportation Improvement Program
TAM	Transportation Asset Management
TAMP	Transportation Asset Management Plan
TPM	Transportation Performance Management
TRIP	Transportation Resilience Improvement Plan
USC	United States Code
VMT	Vehicle Miles Traveled
WYDOT	Wyoming Department of Transportation



1. INTRODUCTION

1.1 TRANSPORTATION ASSET MANAGEMENT

The purpose of this Transportation Asset Management Plan (TAMP) is to establish how the Wyoming Department of Transportation (WYDOT) plans to maintain and improve its transportation network over the next 10 years, and to document the strategic and systematic processes the agency intends to use to facilitate a sustainable program for managing Wyoming's roads and bridges. Federal Law 23 U.S.C. 119(e) and the Moving Ahead for Progress in the 21st Century Act (MAP-21) initiated a requirement that all State DOTs institute a risk-based asset management plan that, at minimum, includes strategies for programming projects that will make progress toward achievement of state targets for asset condition and performance on the National Highway System (NHS). The Bipartisan Infrastructure Law (BIL) (§ 11105), signed into law on November 15, 2021, further amended requirements for State Departments of Transportation (DOTs) to take into consideration extreme weather and resilience in their life-cycle planning and risk management processes.

Transportation infrastructure represents a substantial public investment and requires continuous funding for proper maintenance. Transportation Asset Management (TAM) is the long-term, multi-disciplinary approach WYDOT uses to manage its infrastructure assets. TAM is a performance-based planning process that links investment decisions to anticipated asset condition improvements. Since timely preservation and regular planned investments extend the service life of assets while minimizing the impacts of deterioration and usage over time, WYDOT has adopted a preservation-based approach to asset management that prioritizes maintenance and preservation over capital expansion and system modernization. Accordingly, WYDOT's investment priorities reflect the value Wyoming places on preservation of the highway system, including the anticipated future costs associated with maintaining infrastructure assets in a serviceable condition.

MAP-21 Definition of Asset Management

Asset management is defined as the “strategic and systematic process of operating, maintaining, and improving physical assets, with a focus on both engineering and economic analysis based upon quality information, to identify a structured sequence of maintenance, preservation, repair, rehabilitation, and replacement actions that will achieve and sustain a desired state of good repair over the life-cycle of the assets at minimum practicable cost.” [23 USC, Sec. 101 (a) (2)].

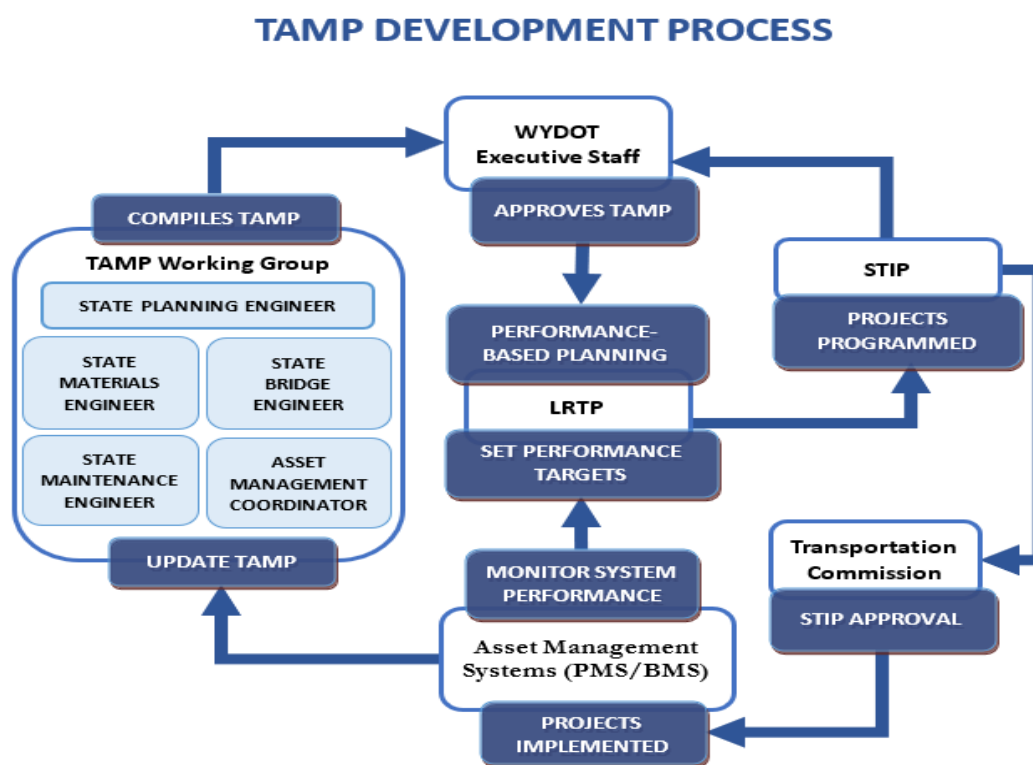
Due to its aging system and limited revenue streams, WYDOT's TAM strategy involves maintaining the existing network at the highest possible level of service (LOS) given finite funding levels through cost-effective resource allocation. To achieve this, WYDOT utilizes a set of sophisticated software technologies (asset management systems) to prioritize investment decisions, and identify the optimal sequence of maintenance, preservation, repair, rehabilitation, and replacement activities that best sustain infrastructure over their lifespan at the least cost to the agency. Elements of risk management are also incorporated into WYDOT's TAM practices for pavements and bridges. While WYDOT manages additional



ancillary assets (sign inventory, Intelligent Transportation System (ITS) equipment, buildings, rockfall mitigation sites, etc.), these highway assets are not currently included in this TAMP, but may be included in future versions (23 CFR 515.9(b)).

Figure 1 shows an overview of the general process WYDOT used in developing this plan.

FIGURE 1: TAMP DEVELOPMENT PROCESS



The Planning Program coordinates and compiles the TAMP in conjunction with input from the TAMP Working Group. Members of this group include WYDOT’s State Planning Engineer, Systems Planning Engineer, State Materials Engineer, State Bridge Engineer, and State Maintenance Engineer. Executive Staff provides the strategic direction and recommends funding levels for individual asset classes. Input from the various programs and subject matter experts, along with condition projections from the management systems, are used to formulate the investment strategies and Financial Plan.

TABLE 1: TAMP WORKING GROUP

TAMP Contributor	Role in TAMP Development
State Planning Engineer	Serves as executive of the TAMP Working Group
State Materials Engineer	Compiles statewide pavement inventory, conditions & life-cycle costs
State Bridge Engineer	Compiles statewide bridge inventory, conditions & life-cycle costs
State Maintenance Engineer	Compiles statewide maintenance costs
State Systems Planning Engineer	Coordinates financial plan and investment strategies
Asset Management Coordinator	Compiles draft TAMP document; coordinates between programs
WYDOT Executive Staff provides strategic guidance and TAMP approval	



1.2 OBJECTIVES AND GOALS

WYDOT's TAMP mission and goals were established with the objective of supporting Wyoming's economy, while safely connecting communities and improving the quality of travel for roadway users. A comprehensive planning process ensures that infrastructure assets continue operating at their highest possible condition given the limited funding available. WYDOT's TAM practices include monitoring asset inventory, condition deterioration modeling, financial forecasting, and developing investment strategies that promote long-term asset sustainability. The guiding strategic objectives listed in Figure 2 are strongly tied to the TAMP elements for stewardship and resource management, and correlate with the preservation strategy WYDOT has chosen to adopt.

The objective of this plan is to develop asset management principles and investment strategies that align WYDOT's transportation system goals with national transportation performance areas. It serves as a strategic planning document that shows current asset conditions, and provides a summary of funding required to achieve target service levels (projected condition states) and promotes progress towards meeting federal performance targets over the next 10-years.

WYDOT's TAMP strategy is primarily focused on infrastructure preservation. Multiple transportation needs vie for the same funding, and the existing network requires costly repairs to bring the system up to current functional design standards. Considering the cost of preserving the existing system at current service levels, little remains for new capital improvements or system expansion. As such, system level requirements must be weighed against asset preservation needs for pavements and bridges, as well as performance targets for safety. A preservation-based approach is consistent with the agency's guiding strategic objectives, and demonstrates WYDOT's commitment to providing a safe and effective transportation system.

TAM helps ensure that highway improvement projects contribute towards achieving the agency's performance measures. Effective asset management involves identifying and implementing timely preservation and maintenance treatments that sustain acceptable service levels in the long term. Regular and routine investments are the optimal way to prolong asset service life and mitigate the effects of deterioration to existing assets, while simultaneously maximizing the State's resource allocations. WYDOT's TAMP covers the entire transportation network of WYDOT maintained roads and bridges, including all NHS and Non-NHS routes. The individual elements of this plan as required by 23 CFR 515.9 are listed in Figure 3 on the following page.

FIGURE 2: WYDOT MISSION





FIGURE 3: REQUIRED TAMP ELEMENTS

REQUIREMENT	DESCRIPTION
 Asset Management Objectives & Measures	▪ Alignment between the agency's mission and asset management practices and its asset management philosophy
 Inventory & Condition Data	▪ A summary listing of all NHS pavement and bridge assets ▪ Condition measures used to assess the condition of assets and the performance of the National Highway System (NHS)
 Life-cycle Planning	▪ Life-cycle cost analysis to determine treatment strategies that best manage infrastructure assets over their lifespan
 Risk Management	▪ The processes used to identify, assess, prioritize, mitigate and monitor risks that can adversely affect the condition of assets
 Financial Plan & Investment Strategies	▪ A list of funding sources and expected funding levels for NHS pavements and bridges over the 10-year period ▪ Investment strategies (expenditures per work type category)
 Performance Gap Analysis	▪ Comparison between current conditions and national performance targets with respect to anticipated funding levels

Source: 23 CFR 515.9

Should a state fail to meet the minimum conditions for bridges or pavements as outlined in the federal requirements, or if asset conditions deteriorate below federal minimum performance thresholds and significant progress has not been made toward rectifying the deficiencies, then the following federal funding penalties may occur:

(f) INTERSTATE SYSTEM AND NHS BRIDGE CONDITIONS. —

(1) CONDITION OF INTERSTATE SYSTEM. —

(A) PENALTY—If a State reports that the condition of the Interstate System, excluding bridges on the Interstate System, has fallen below the minimum condition level established by the Secretary under section 150(c)(3), the State shall be required, during the following fiscal year—

- (i) to obligate, from the amounts apportioned to the State under section 104(b)(1), an amount that is not less than the amount of funds apportioned to the State for fiscal year 2009 under the Interstate maintenance program for the purposes described in this section (as in effect on the day before the date of enactment of the MAP-21), except that for each year after fiscal year 2013, the amount required to be obligated under this clause shall be increased by 2 percent over the amount required to be obligated in the previous fiscal year; and
- (ii) to transfer from the amounts apportioned to the State under section 104(b)(2) (other than amounts sub allocated to metropolitan areas and other areas of the State under section 113(d)) to the apportionment of the State under section 104(b)(1), an amount equal to 10 percent of the amount of funds apportioned to the State for fiscal year 2009 under the



Interstate Maintenance program for the purposes described in this section (as in effect on the day before the date of enactment of MAP-21).

(B) *RESTORATION. —The obligation requirement for the Interstate System in a State required by subparagraph (A) for a fiscal year shall remain in effect for each subsequent fiscal year until such time as the condition of the Interstate System in the State exceeds the minimum condition level established by the Secretary.*

(2) *CONDITION OF THE NHS BRIDGES. —*

(A) *PENALTY—If the Secretary determines that, for the 3-year-period preceding the date of the determination, more than 10 percent of the total deck area of bridges in the State on the National Highway System is located on bridges that have been classified as structurally deficient, an amount equal to 50 percent of the funds apportioned to such State for fiscal year 2009 to carry out section 144 (as in effect the day before enactment of MAP-21) shall be set aside from amounts apportioned to a State for a fiscal year under section 104(b)(1) only for eligible projects on bridges on the National Highway System.*

(B) *RESTORATION—The set-aside requirement for bridges on the National Highway System in a State under subparagraph (A) for a fiscal year shall remain in effect for each subsequent fiscal year until such time as less than 10 percent of the total deck area of bridges in the State on the National Highway System is located on bridges that have been classified as structurally deficient as determined by the Secretary. [§1106; 23 USC 119(f)]*



2. ASSET INVENTORY

2.1 PAVEMENT INVENTORY AND CONDITION

2.1.1 Pavement Inventory

Wyoming's highway network is comprised of 24,296 centerline miles, including a small portion of NHS mileage owned or controlled by federal or local governments. WYDOT manages an on-system highway network that consists of 6,733 WYDOT-owned miles. WYDOT also owns other roadway segments such as Interstate ramps, service roads, frontage roads, and turnouts that are not measured or actively managed as part of the WYDOT-owned highway system. WYDOT divides its roadways into three functional systems:

INTERSTATES – High Speed, typically four-lane, divided, and controlled access roadways that carry the highest traffic volumes and the most freight load.

NON-INTERSTATE NHS – Federally designated roadways that are primarily functionally classified as Principal Arterials, and have been designated as important to the nation's economy, defense, and mobility.

NON-NHS – Non-NHS highways are non-federal roadways, and encompass all other roads managed by WYDOT.

WYDOT's Pavement Inventory Mileage, by ownership and district, is summarized in Table 2 below. Mileage is represented as centerline miles, which is a measure of the total length of a highway facility as measured along the highway centerline.

TABLE 2: WYDOT PAVEMENT INVENTORY

WYDOT Pavement Inventory (Ownership Based on Centerline Miles)							
	District 1	District 2	District 3	District 4	District 5	Yellowstone	Total
NHS							
Interstate	247	241	187	238	-	-	913
Non-Interstate	110	514	390	316	757	-	2,087
Non-WYDOT	-	-	55	-	-	6	61
Total NHS	357	755	632	554	757	6	3,061
Non-NHS							
WYDOT-owned	773	796	814	745	605	-	3,733
Non-WYDOT	3,284	4,487	2,875	3,421	3,189	246	17,502
Total Non-NHS	4,057	5,283	3,689	4,166	3,794	246	21,235
TOTALS	4,414	6,038	4,321	4,720	4,551	252	24,296

Source: WYDOT 2026 HPMS Submittal



A very small portion of Wyoming’s NHS system is controlled by other owners within the state (approximately 61 miles); however, WYDOT collects the asset condition data of this mileage on behalf of the other NHS owners. NHS roads that are federally or locally owned are measured for performance under WYDOT’s data collection contract, but not managed by the Pavement Management System (PMS). Data collected on non-WYDOT-owned NHS roadways is shared with other NHS owners, and WYDOT works to coordinate any work that is required for these sections and provides recommendations for surface treatments when they are needed. No other sub-groups were excluded from the PMS analysis.

2.1.2 Monitoring Pavement Conditions

Pavement inventory is managed by the Pavement Management Section within WYDOT’s Materials Program. Pavement data is stored within its Pavement Management System (PMS), which is a highly specialized asset management software hosted by Agile Assets in an Oracle database. The PMS Module in Agile Assets houses the condition data for all WYDOT-managed roadways. Pavement data is stored for each pavement management section, detailing surface condition, pavement thickness, prior construction history, and traffic levels. Additional PMS data includes surface friction and distress and asphalt rutting concerns.

Roadway condition is measured annually or biennially, depending on the highway system. For Interstates, surface condition data is collected on an annual basis, while Non-Interstate NHS Routes and Non-NHS roadway condition data are collected every other year (alternating years between NHS and Non-NHS collection). All NHS roadways are measured for asset condition under this data collection contract, and a detailed history of conditions is continuously maintained within the PMS. WYDOT’s pavement data has been collected in this manner since 2016.

WYDOT contracts with a third-party consultant for its statewide pavement data collection process for International Roughness Index (IRI), Rutting, Faulting, and Cracking Percent data, along with other minor items. WYDOT uses this surface data to submit its annual pavement condition reporting to the Federal Highway Administration’s (FHWA’s) Highway Performance Monitoring System (HPMS), and to ensure that all national performance measures for pavements are actively being met. Pavement condition metrics are explained in more detail in Table 3.

TABLE 3: PAVEMENT METRICS

Metric	Description
IRI	International method for measuring the smoothness (or roughness) of pavements. IRI is the road roughness index most commonly used for evaluating and managing road systems.
Cracking	A fissure or discontinuity of the pavement surface, measured in terms of the percentage of cracked pavement surface. Cracking can be caused by excessive loading, poor drainage, low temperatures, temperature changes, frost heaves, or construction flaws.
Rutting	Surface depression within the wheel path resulting in permanent deformation of the pavement and/or subgrade. Rutting is typically caused by the consolidation or lateral movement of the pavement materials due to heavy traffic loads.
Faulting	Faulting occurs when adjacent concrete slabs are vertically misaligned. It is most often caused by poor load transfer between slabs, slab settlement, curling, warping, or movement induced by erosion of the subgrade material beneath the slab.

Source: HPMS Field Manual



Roadway sections are evaluated for each of the defined metrics, and a pavement condition rating is calculated based on the pavement condition thresholds shown in Table 4.

TABLE 4: HPMS PAVEMENT CONDITION THRESHOLDS (FHWA RATING)

Metric	Units	Good	Fair	Poor
IRI	Inches/mile	< 95	95 - 170	> 170
Cracking	Percentage	< 5	Jointed Concrete: 5 - 15 Asphalt: 5 - 20	> 15 > 20
Rutting (Asphalt)	Inches	< 0.20	0.20 - 0.40	> 0.40
Faulting (Concrete)	Inches	< 0.10	0.10 - 0.15	> 0.15

Source: FHWA

HPMS ratings are calculated based on the combination of IRI, rutting, faulting, and percent cracking. PMS pavement sections are analyzed based on data derived from contracted third-party data collection, which form the basis for a determination of predicted future ride quality, rut depth, cracking level, faulting, and skid resistance of each pavement section. Pavement sections are classified as Good, Fair, or Poor, for each of the pavement metrics, then assigned an overall pavement condition rating based on the combination of threshold conditions as calculated in Table 5.

TABLE 5: HPMS PAVEMENT MEASURE CALCULATION (FHWA RATING)

Pavement Type	Asphalt and Jointed Concrete		Continuous Concrete
	Concrete	Concrete	Measures
Overall Section Condition Rating	3 metric ratings (IRI, cracking & rutting/faulting)	2 metric ratings (IRI & cracking)	
Good	All 3 metrics rated "Good"	Both metrics rated "Good"	% of lane-miles in "Good" condition
Poor	≥ 2 metrics rated "Poor"	Both metrics rated "Poor"	% of lane-miles in "Poor" condition
Fair	All other combinations	All other combinations	

Source: FHWA

WYDOT's Interstate, Non-Interstate NHS, and Non-NHS pavement condition data were collected and analyzed in accordance with FHWA's HPMS reporting requirements. WYDOT has also implemented an internal pavement metric that analyzes pavement management segments in tenth mile (0.1) sections to be more aligned with federal reporting requirements. This will help converge long-term projections and available funding with HPMS targets. WYDOT is also in the process of adding the cracking percentage and faulting values into its performance model calculations.

Based on the latest outputs from the PMS (using the 1/10th mile HPMS segments), the percentage of Interstate and NHS system classified as "Poor" continue to remain well below the federal condition threshold. Current pavement conditions using FHWA's standard reporting criteria based on the latest HPMS submittal are summarized in Table 6. Pavement conditions are expressed in percentages of total lane miles by functional system.

TABLE 6: WYDOT AVERAGE STATEWIDE PAVEMENT CONDITIONS

System	Good	Fair	Poor
Interstate	61.34%	38.66%	0.00%
Non-Interstate NHS	65.28%	34.49%	0.23%
Non-NHS	48.31%	50.83%	0.86%
Overall	56.40%	43.14%	0.46%

*Note: Pavement Condition averages do not include locally owned NHS pavement data.

Visual depictions of roadway surface condition based on the HPMS classifications (FHWA rating) of Good, Fair, and Poor are shown below.

FIGURE 4: VISUAL PAVEMENT CONDITIONS



Good Condition



Fair Condition



Poor Condition

As a business practice, WYDOT continues to manage pavement sections based on its internal composite index, the Pavement Quality Rating (PQR), rather than the FHWA standard (HPMS) criteria since this allows for the management of existing roadway sections and suggests treatments based on an optimization of overall conditions from target ranges set by the Materials Program and Executive Staff. The PQR is WYDOT's internal composite pavement health index, which is comprised of a combination of pavement roughness, rutting/faulting, and cracking percentage. It is calculated using the ride rating values, rutting or faulting



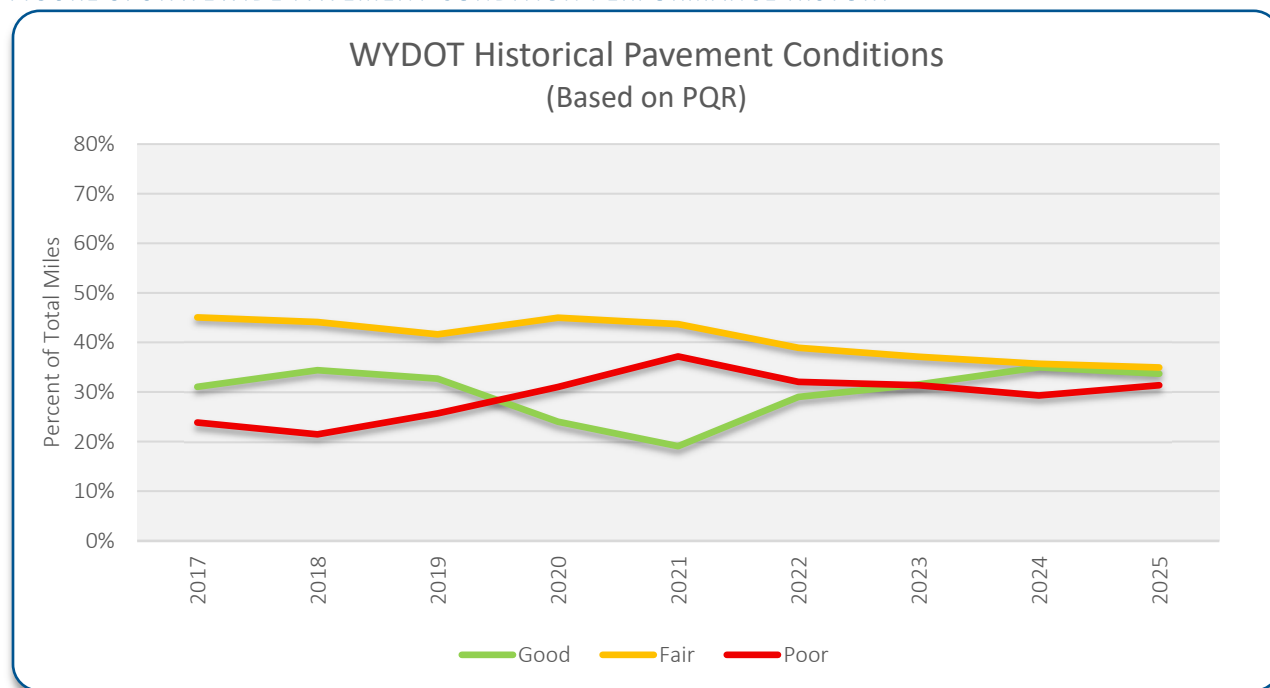
value (depending on surface type), and percentage of roadway surface cracking. The ride rating value is based on the IRI (smoothness variable). PQR values form the basis for the PMS analyses, and are used within the optimization models and decision trees to estimate future pavement conditions. PQR's are classified as Good, Fair, or Poor relative to the following condition thresholds:

TABLE 7: PQR SCALE

Rating	Raw Value	Index
Good	$3.5 < \text{PQR} \leq 5$	$70 < \text{PQR} \leq 100$
Fair	$2.5 \leq \text{PQR} \leq 3.5$	$50 \leq \text{PQR} \leq 70$
Poor	$0 \leq \text{PQR} < 2.5$	$0 \leq \text{PQR} < 50$

The PMS suggests treatment candidates by optimizing network conditions relative to established PQR target ranges. In 2023, WYDOT's PMS began reporting road conditions as index values to better facilitate condition comparisons. Index values convert raw data into percentages using 100% as perfect condition, with declining index values indicating greater distress. Statewide pavement conditions based on WYDOT's PQR metric are shown in Figure 5.

FIGURE 5: STATEWIDE PAVEMENT CONDITION PERFORMANCE HISTORY

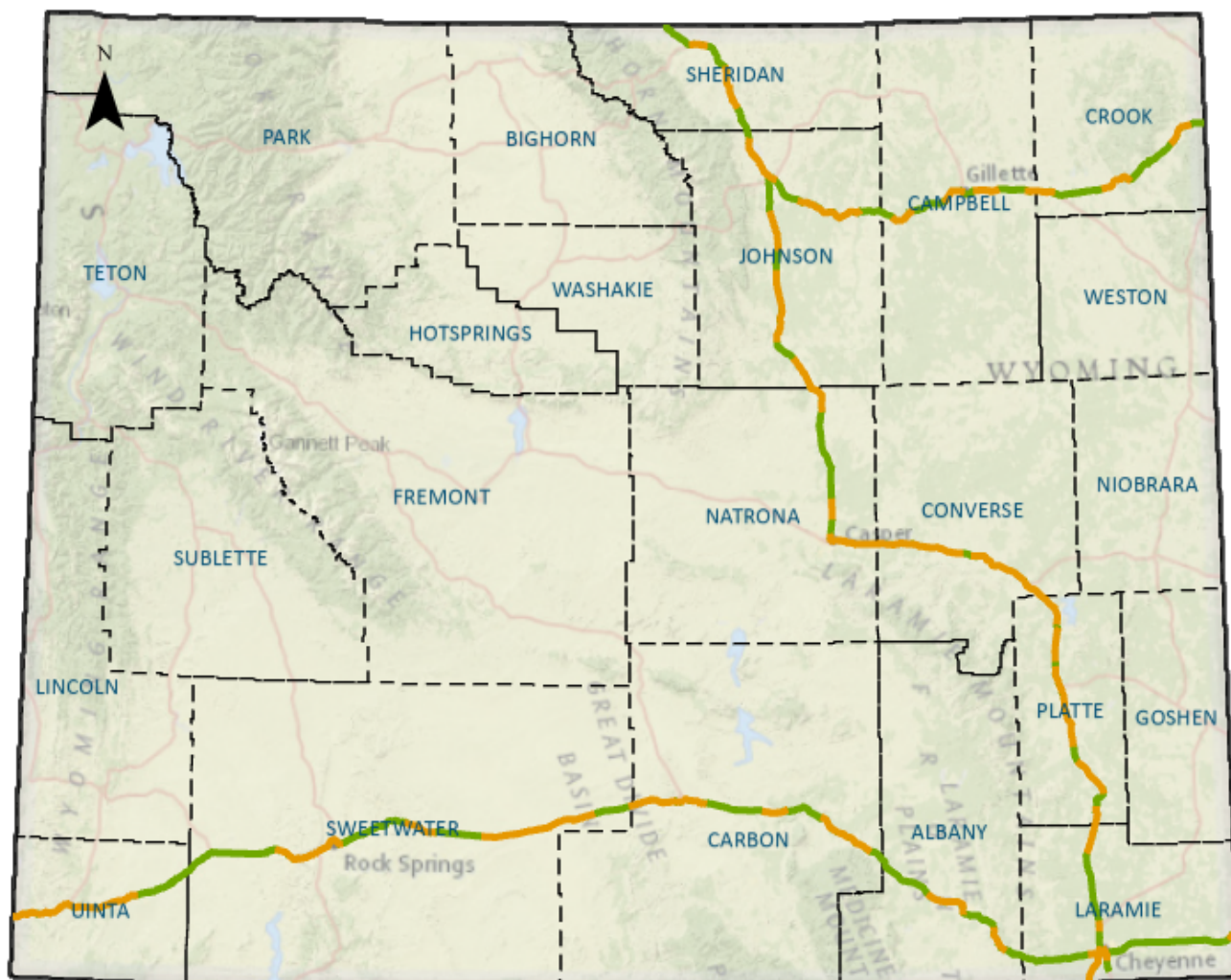


Pavement conditions for each of WYDOT's roadway systems (Interstate, Non-Interstate NHS, and Non-NHS) are shown in the following maps. Conditions were calculated based on FHWA standard reporting criteria.



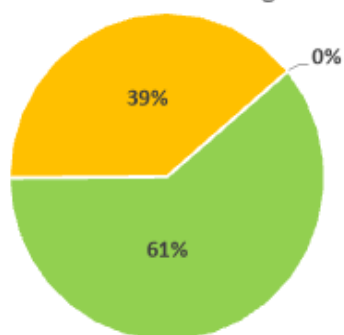
FIGURE 6: INTERSTATE PAVEMENT CONDITIONS

Interstate Pavement Conditions



Source: 2026 HPMS

Condition Percentages

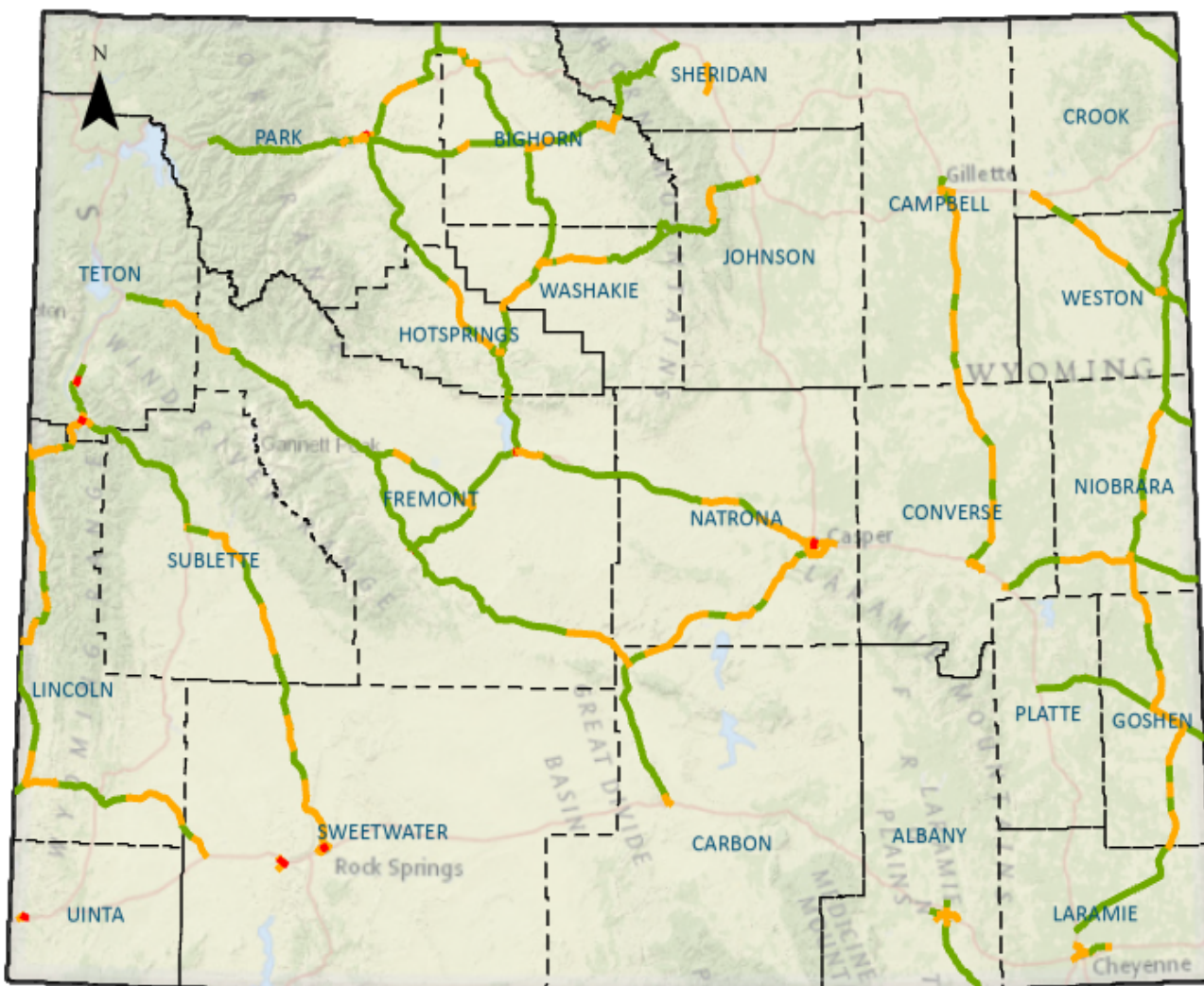


FHWA Rating

- Good
- Fair
- Poor

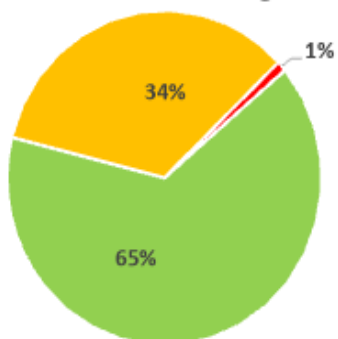
FIGURE 7: NON-INTERSTATE NHS PAVEMENT CONDITIONS

Non-Interstate NHS Pavement Conditions



Source: 2026 HPMS

Condition Percentages



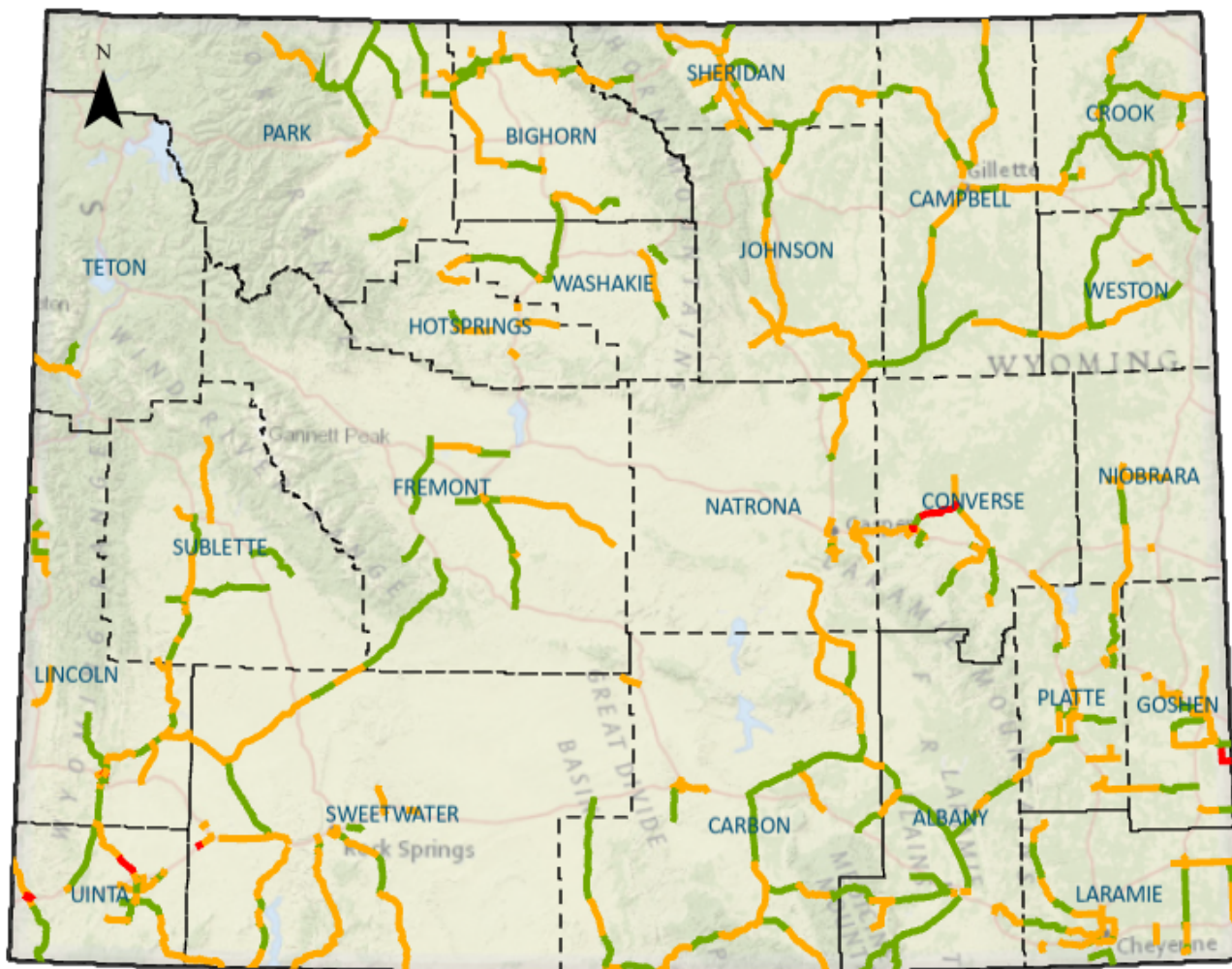
FHWA Rating

- Good
- Fair
- Poor



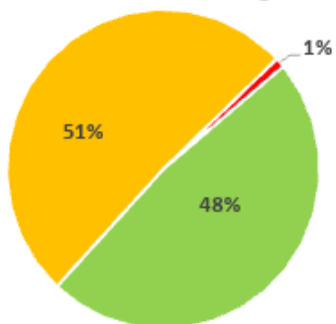
FIGURE 8: NON-NHS PAVEMENT CONDITIONS

Non-NHS Pavement Conditions



Source: 2026 HPMS

Condition Percentages



FHWA Rating

- Good
- Fair
- Poor



WYDOT's annually produced *Wyoming Transportation Facts & Annual Insights* publication contains more information on the current infrastructure condition and performance of all Wyoming roadways: https://www.dot.state.wy.us/files/live/sites/wydot/files/shared/Management_Services/Annual%20Insights/260406-2025%20Annual%20Insights-Infrastructure%20Performance.pdf.

A complete interactive map depicting current statewide pavement conditions can be found at the following link: <https://apps.wyoroad.info/itsm/index.html>.

2.2 BRIDGE INVENTORY AND CONDITION

2.2.1 Bridge Inventory

WYDOT currently manages 1,970 structures, consisting of 1,640 bridges and 330 bridge-sized culverts, within the state. A bridge is defined as a structure erected over a depression or obstruction (such as a waterway, highway, or railway) having a passageway for carrying traffic and an opening of twenty feet or more as measured along the center of the roadway (23 CFR 650.305). This definition includes multiple pipe culvert installations where the clear distance between openings is less than half the width of the smaller contiguous pipe diameter opening, and the distance between the extreme ends of openings is twenty feet or more. WYDOT also inventories 10 tunnels, 2,134 minor structures not meeting the definition of a bridge, and 1,171 ancillary structures such as high-mast light towers, overhead sign structures, pedestrian bridges, railroad overpasses, retaining walls, runaway truck arrestors, side-mount sign structures, siphons and other miscellaneous structures.

WYDOT's bridge inventory has been summarized below, based on the latest National Bridge Inventory (NBI) Submittal:

TABLE 8: WYDOT BRIDGE INVENTORY

WYDOT Bridge Inventory		
System	Number of Bridges	Total Deck Area (ft ²)
NHS		
Interstate	915	5,391,345
Non-Interstate NHS	407	3,041,197
Federal Agencies	10	68,729
Total NHS	1,332	8,501,271
Non-NHS		
WYDOT-owned	648	3,689,694
Cities, Counties and Railroads	842	2,413,609
Other State Agencies	6	17,854
Federal Agencies	318	696,662
Total Non-NHS	1,814	6,817,819
Totals	3,146	15,319,090

Source: WYDOT 2026 NBI Submittal



WYDOT's Bridge Management System (BMS) addresses the maintenance and preservation needs of all WYDOT-owned and maintained structures. Bridge-sized pipes and box culverts are excluded from the BMS inventory, since when these types of structures require work, replacement is typically the only option. Ten federally-owned NHS structures are located within the state; however, WYDOT does not include these structures in its BMS, since federally-owned structures are inspected and managed by the federal government.

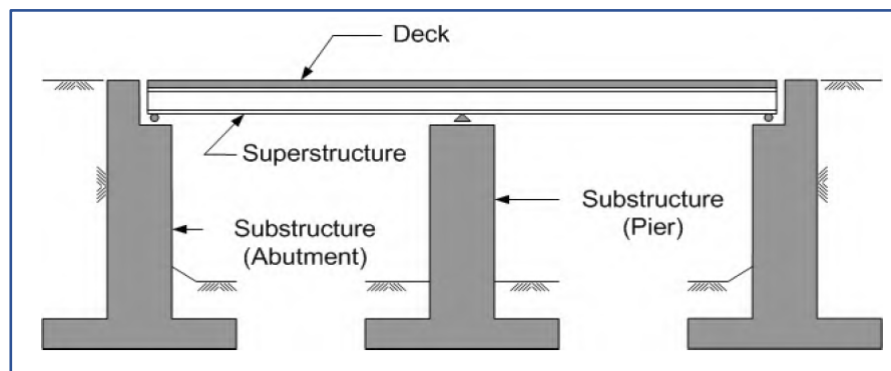
2.2.2 Monitoring Bridge Conditions

WYDOT uses AASHTOWare™ Bridge Management software BrM for its BMS, along with an internally-developed BRASS™ Suite of programs, and customized spreadsheets to manage bridge inventory. BrM houses the bridge inventory condition data that is collected across the state, which constitutes the basis for the NBI component condition ratings submitted to FHWA on an annual basis. WYDOT's BMS uses deck, superstructure, and substructure NBI ratings to implement a focused approach to determining specific recommendations for candidate structures and rehabilitation strategies.

All WYDOT-managed bridges are assessed in accordance with the FHWA Specifications for the National Bridge Inventory (SNBI). WYDOT bridge inspectors also utilize FHWA's Bridge Inspection Reference Manual, the American Association of State Highway and Transportation Officials' (AASHTO) Manual for Bridge Element Inspection (MBEI), and the AASHTO Manual for Bridge Evaluation as evaluation guidance during their assessments. NBI component condition ratings are used to assess the structural adequacy of a bridge, the condition of commonly maintained components, effect on users, and a structure's vulnerability to extreme hazard events. They provide a broad-level overview of the relative current condition-state of the structure, while the individual component condition ratings help distinguish the condition states of specific bridge attributes.

NBI component condition ratings are assigned based on an evaluation of the physical attributes of a structure, including the condition of individual components. A Bridge Condition Classification (SNBI Item B.C.12) is calculated for each structure based on the minimum condition rating of the three primary bridge components (Figure 9), which include: (1) deck (SNBI Item B.C.01), (2) superstructure (SNBI Item B.C.02), and (3) substructure (SNBI Item B.C.03). A separate component condition rating exists for culverts (SNBI Item B.C.04).

FIGURE 9: BRIDGE COMPONENTS



Source: FHWA Bridge Inspector's Manual



WYDOT inspects the condition of all WYDOT-owned bridges and large bridge-sized culverts according to the National Bridge Inspection Standards. Inspections are performed on a minimum twenty-four-month cycle by qualified bridge inspectors (23 CFR 650(c)) in accordance with federal regulations, although inspection cycles may be more frequent if a structure has been identified as at-risk. For example, if certain levels or types of deterioration that may affect the safe usage of the structure have been discovered during a routine inspection, bridges may receive additional special inspections designed to more closely monitor their condition. Special inspections include In-depth, Damage, Fracture Critical, Underwater, and Non-destructive Pin inspections. All load-posted bridges (i.e. bridges with weight limit restrictions), whose load limiting component has condition rating or 4 or less (Poor), whether on-system or off-system, are inspected annually, including all bridges located on the NHS regardless of ownership (except for federally-owned bridges).

To calculate the condition for each of the primary bridge components, individual bridge elements (such as slabs, girders, abutments, piers, etc.) are evaluated using the Manual for Bridge Element Inspection (MBEI). Inspectors calculate the condition of each structure element across four condition states (CS1 - Good, CS2 - Fair, CS3 - Poor, and CS4 - Severe) using the guidance provided in the MBEI. Portions of each element may be allocated amongst the four condition states, depending on the asset's observed structural condition. For example, if one particular element is examined and 17 linear feet out of the total 80 linear feet has experienced some degree of deterioration, while the remainder of that bridge element remains in good or fair condition, the condition state of that element will be allocated based on the unit of measure (in this example, by percentage of linear feet) for each condition state that apply to that specific bridge element.

Using the combined condition of all bridge elements, inspectors assign an overall condition rating for each major bridge component based on a rating scale of 9 (Excellent) to 0 (Failed) in accordance with the SNBI. Bridge element condition ratings for each of the major bridge components (deck, superstructure, substructure) are then used to calculate an overall Bridge Condition Classification. Bridges are given an overall condition classification of Good, Fair, or Poor, based on the minimum score of the individual components' ratings. For culverts, the condition classification is based on the culvert condition rating. Minimum component condition ratings of 7 – 9 are considered "Good"; component ratings 5 - 6 are considered "Fair"; and component ratings of 4 or less indicate a "Poor" condition.

TABLE 9: BRIDGE CONDITION CLASSIFICATIONS

Bridge Condition	NBI Condition Rating
Good	9 - 7
Fair	6 - 5
Poor	4 - 0

Source: FHWA

A Bridge Condition Classification of "Poor" indicates that bridge components have experienced a level of deterioration that could reduce the structure's ability to carry design loads. However, designating a bridge as such does not imply that it is likely to collapse or is unsafe for the travelling public, but rather it indicates that maintenance or rehabilitation of various components is required to improve its condition.

Current bridge conditions, classified by Bridge Condition Classifications, are summarized in Table 10 on the following page. Figure 11 shows WYDOT's statewide bridge condition performance history.

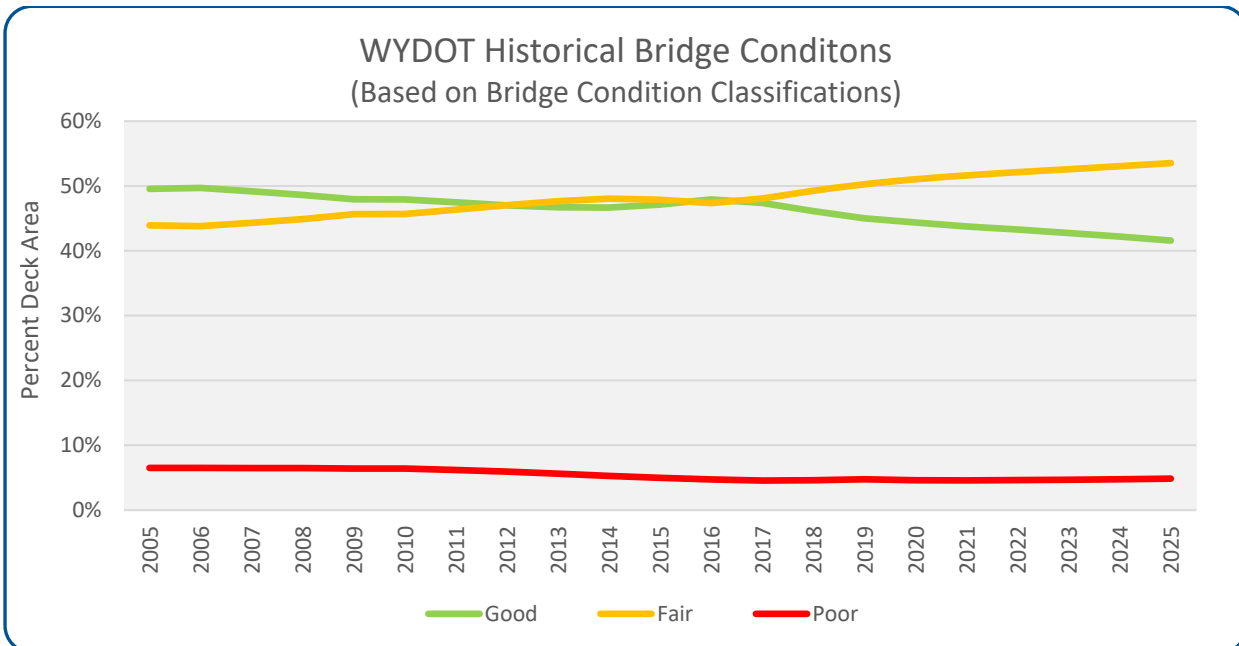


TABLE 10: WYDOT STATEWIDE BRIDGE CONDITION CLASSIFICATIONS

Total Deck		Good		Fair		Poor	
System	Area	Area	%	Area	%	Area	%
NHS							
Interstate	5,391,345	1,096,257	20.33%	3,906,332	72.46%	388,756	7.21%
Non-Interstate NHS	3,041,197	599,807	19.72%	2,291,716	75.36%	149,674	4.92%
Non-WYDOT NHS	0	0	0.00%	0	0.00%	0	0.00%
Total NHS	8,432,542	1,696,064	20.11%	6,198,048	73.50%	538,430	6.39%
Non-NHS							
State	3,689,694	998,417	27.06%	2,417,600	65.52%	273,677	7.42%
Total Non-NHS	3,689,694	998,417	27.06%	2,417,600	65.52%	273,677	7.42%
Overall	12,122,236	2,694,481	22.23%	8,615,648	71.07%	812,107	6.70%

Source: WYDOT 2026 NBI Submittal

FIGURE 10: STATEWIDE BRIDGE CONDITION PERFORMANCE HISTORY



Source: NBI



3. LIFE-CYCLE PLANNING

3.1 LIFE-CYCLE COSTS

Life-cycle planning (LCP) is an integral component of WYDOT's asset management process. LCP is defined as the process to estimate the cost of managing an asset class or asset sub-group over its whole life, with consideration for minimizing cost, while preserving or improving asset condition (23 CFR 515.5(b)). The results of the LCP analyses are used to formulate the investment strategies outlined in the TAMP. WYDOT conducts LCP at the network level for its two primary asset classes: pavements and bridges.

Life-cycle cost analysis (LCCA) seeks to minimize the cost of maintaining infrastructure assets while maximizing service value and asset

LCP is based on the aggregated network level results of life-cycle cost analysis (LCCA) for each individual asset class or asset subgroup. The LCCA process examines individual project-level decision making across the entire cost stream over an asset's lifespan to determine a structured sequence of treatments that achieve the lowest overall cost to maintain individual assets. According to the AASHTO TAM Guide, "Life Cycle Cost Analysis (LCCA) is an engineering-economics approach that can be used to quantify the differential costs of alternate design approaches". The analysis considers all costs incurred over the serviceable life of an asset, from initial construction to replacement, and compares different treatment options and work intervals to determine the optimal set of investment decisions.

WYDOT's asset management systems utilize LCCA for all WYDOT-owned or maintained pavements and bridges. Asset classes are assessed individually based on a number of different funding scenarios and rehabilitation strategies within the management systems. Optimization algorithms and decision trees determine the series of rehabilitation strategies and treatment intervals for maintenance, preservation, rehabilitation/repair, and replacement work for each roadway segment or bridge, considering the entire cost stream over an asset's useful life. Investment strategies are based on the optimal scenario that reduces total long-term costs while sustaining desired service levels across the network.

The management systems identify the sequence of maintenance, preservation, repair, rehabilitation, and replacement activities that best sustain a state of good repair (SOGR) at the least practicable cost to the agency. Recommended treatment candidates are selected based on the greatest return on investment, with the goal of maximizing asset value while minimizing the overall network maintenance costs. WYDOT defines a SOGR to be a condition in which transportation infrastructure assets are functioning according to their design standards and expected service life. In general, WYDOT considers the serviceable life of an asset to be the period of time over which the asset is expected to remain in use before replacement is required. Most bridges are designed on average to have a useful service life of 50 to 75 years. The average lifespan of pavements is assumed to be 20 years for asphalt, and 30 years for concrete.

Multiple funding scenarios are used to analyze and develop WYDOT's long-term investment strategies for each asset class, which may differ from a strategy that seeks to reduce costs in the short term. LCP is an



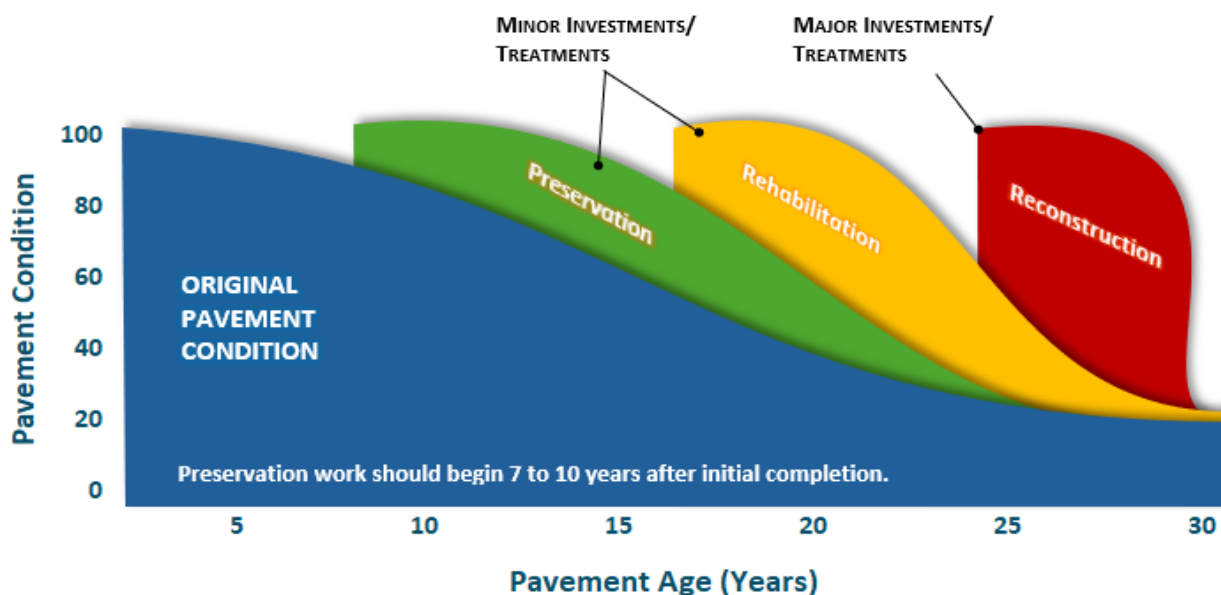
iterative process that uses varying funding constraints, inflation assumptions, and the established performance targets (goals), which affect the management system's output and recommendations based on the levels of funding availability that are expected to be received. Network level LCP results are used to assist decision makers in determining how much funding should be allocated on an annual basis to meet defined performance targets and sustain the system.

3.2 PAVEMENT LIFE-CYCLE COST ANALYSIS

WYDOT's Materials Program manages statewide pavement conditions through its Pavement Management System (PMS) hosted in Agile Assets. The goal of the PMS is to preserve Wyoming's roadway conditions at current levels by applying the proper treatment at the right time. The objective is to prevent pavements from deteriorating to a "Poor" condition state, which will ultimately require costlier repairs or reconstruction to restore. Pavement life-cycle costing is incorporated into the PMS model using a systematic process of preservation and rehabilitation treatments to maintain the state's roadways at the least overall network cost.

Proper surface treatments help prolong service life and are necessary for achieving the lowest life-cycle cost. Treatment costs are lower when applied earlier in a pavement's life-cycle, and WYDOT has determined that preventive treatments provide the lowest cost per added year of service life. Preventive repairs are not as effective once a road has deteriorated into the "Fair" or "Poor" condition state; therefore, the PMS optimizes treatments based on a blend of surface strategies that best sustain the health of the entire highway network. Figure 11 below depicts the average life-cycle cost of pavement repair over its lifespan.

FIGURE 11: PAVEMENT LIFE-CYCLE COSTS





To calculate the lowest life-cycle cost, the PMS uses the most recently available pavement condition data, along with a set of deterioration and performance models, to analyze and predict future surface conditions within a constrained budget scenario. The software forecasts predicted pavement improvements based on a cost-benefit analysis of recommended treatment types for each roadway segment. Network-level optimization is set to maximize overall system performance based on the funding inputs and established system performance targets. WYDOT's PMS models were developed through an analysis of over 300 simulations or scenarios, and are continually analyzed and refined to ensure that predictions are accurate.

3.2.1 PMS Models

The PMS works by forecasting annual changes in asset condition for future years based on a system-wide incremental cost methodology. Pavement conditions are predicted using current inventory data, deterioration curves, performance models, and a set of system hierarchies (decision trees). The PMS analysis accounts for various budget projections and a set of inflation assumptions to calculate predicted future roadway conditions and recommend proposed work treatments based on a 10-year projection. This analysis produces optimized preventative maintenance and rehabilitation strategies (candidates) based on the given budgetary constraints, the results of which are aggregated to a network level to determine the overall expected performance of Wyoming's roadways.

WYDOT's PMS Pavement Module uses surface condition and a detailed construction history, along with the surface characteristics for each roadway section (pavement age, depth of last treatment, base material, etc.) to calculate predicted annual changes in condition for future years. The PMS Cost Model inputs are based on the average unit cost per square yard for recommended treatment types using plant mix pavement (PMP) thickness. These costs are continually reviewed and updated for accuracy. The different PMS treatments, descriptions, and costs for the various surface work types are shown in Table 11 below.

TABLE 11: PMS COST MODEL

PMS Treatment Costs		
"S" Treatment	Work Description	PMS Cost
1S Preventive Maintenance	Microsurfacing, chip seal, contract patches, thin overlays (PMP < 2"); partial/full-depth repairs, slab replacement with joint seal, cross-stitching, spall repair.	\$11/SY
2S Minor Rehabilitation	2" ≤ PMP < 3" asphalt overlay; isolated slab replacement with joint seal, diamond grinding and/or grooving with joint seal (entire length of project).	\$29/SY
2S Minor Rehabilitation on I-80	2" ≤ PMP < 4" asphalt overlay; isolated slab replacement with joint seal, diamond grinding and/or grooving with joint seal (entire length of project).	\$31/SY
3S Major Rehabilitation	≥ 4" pavement resurfacing on I-80, ≥ 3" pavement resurfacing on other WYDOT-owned routes, full depth reclamation, whitetopping; complete slab replacement of all broken slabs within a PMS section (including joint sealing & diamond grinding and/or grooving entire section length), thin concrete overlays, hot plant mix level/overlay and seal coat with or without crack and seat.	\$47/SY

Historic age and condition data form the basis for the PMS performance models. WYDOT measures the condition of each pavement management segment annually for Interstates or biennially for NHS and Non-



NHS roadways. The basic PMS optimization allows for major rehabilitation work on extremely “Poor”, higher traffic roadways, minor rehabilitation work on “Poor” and “Fair” roadways, and lighter, preventive maintenance strategies on roadways deemed in “Good” condition. The objective of this strategy is to maximize future network conditions based on anticipated pavement funding levels for each of Wyoming’s highway systems, and to maintain the State’s percentage of Interstate and NHS pavement mileages in an acceptable condition (SOGR). This strategy helps ensure that the network-level pavement performance remains sustainable in the long run, minimizes life-cycle costs, enhances the safety of Wyoming’s roads, and improves mobility throughout the state.

Six different decision trees and 37 PQR pavement performance models are used to evaluate approximately 1,669 PMS roadway segments that are actively managed in the system. Rehabilitation recommendations are based on pavement type (asphalt versus concrete) and traffic levels for each of the different highway systems, including Interstate, Non-Interstate NHS, Non-NHS, Urban, Concrete-Interstate, and Concrete-Urban. Individual decision trees were developed for each highway system and pavement type to allow for different pavement condition thresholds to be set. Grouping similar pavement types and traffic levels provides a detailed set of data points that is used to create the deterioration curve models. The PMS pavement models are described in greater detail in WYDOT’s Annual Pavement Management System Analysis Report.

Future pavement condition projections are made by inputting a constant anticipated budget for 20 years. All funding scenarios incorporate a mixture of treatments across all systems. Performance models predict annual changes in the PQR for each roadway section based on the decision trees. When rehabilitation is applied to any section, the PQR is reset to a predetermined, post-construction level. The applied treatment type (i.e. the depth of pavement repair/rehabilitation) affects the models in a wide variety of ways, such as steepening the deterioration rate (decay projection) for short-term rehabilitation strategies (i.e. 1S treatments), and lengthening of the performance curve for more robust treatment options. The PMS also includes a feature that compares actual data points to the expected performance models. In most cases, the model is conservative compared to the actual data points (i.e. the data points lie underneath the curve). The models are set up this way to account for annual maintenance that is not directly incorporated in the pavement module. All curves use the general form of steepening rates of deterioration with age.

Once short- and long-term budgetary needs are identified and the PMS analyses are run, a list of recommended treatment candidates is produced to maximize overall program benefits across the network. Funding is split among the five districts based on overall pavement needs within the state, using a multi-variable methodology that incorporates vehicle traffic counts, composition of truck versus passenger vehicle traffic volumes, total miles, and total project valuation based on the complete candidate list for the evaluation year. Allocated district funds are further subdivided by funding class (highway system) and “S” treatment category. Specific mileage goals are assigned according to the funding class splits for the different treatment categories for each district to ensure all roadway systems are receiving some level of work. WYDOT tracks internal PMS mileage treatment goals to assess whether districts are following the PMS output recommendations and achieving the required roadway surfacing work each year that will allow WYDOT to continue meeting federal pavement performance targets.



Pavement Quality Rating (PQR) is the internal pavement index WYDOT uses to assess pavement health.

Composite Pavement Quality Rating (PQR) values are the primary factor in determining individual treatment types. PQR is calculated using a combination of the federal HPMS measures for pavement roughness, rutting/faulting, and percent cracking. In certain instances, it is possible that even though all distresses on a section may be in moderate condition, the combination of all three distresses could result in a more robust treatment recommendation from the system. PMS models determine the expected annual changes in the PQR index for each PMS roadway section that WYDOT manages, as conditions are projected into the future based on roadway system, current condition measurements, and estimated average traffic volumes. When rehabilitation is applied to any section, the PQR is reset to a predetermined, post-construction level.

The PMS does not explicitly account for extreme weather within the management system. However, WYDOT addresses climate-related and environmental factors during the design phase of project development to minimize life-cycle costs and prolong the lifespan of pavements. Surface treatments are designed using climate input options, including Modern-Era Retrospective Analysis for Research and Applications (MERRA-2), Long-Term Pavement Performance sites, or other user defined data. These inputs allow for accurate design and selection of performance graded asphalt binders to account for average low and high temperatures specific to regional and geographic variations.

3.2.2 Pavement Work Types

WYDOT's pavement preservation strategy involves completing the right treatment at the right time. To improve or preserve the condition of existing roadway assets, pavement treatments are selected to optimize the total life of Wyoming's road sections, with consideration for minimizing construction activity and the corresponding inconvenience to the driving public. The average lifespan of new pavements is typically assumed to be 20 years for asphalt, and 30 years for concrete. Although the expected surface life is no longer included in the design plans, an assumed expected lifespan assumption for pavement treatments is incorporated into the PMS models.

Pavement work types are described in further detail as follows:

PAVEMENT MAINTENANCE ("M" TREATMENTS) – Pavement maintenance strategies include crack sealing, chip sealing, and contract patching, and are short-term treatments designed to prolong roadway service life by 1-2 years until a more robust treatment can be applied. While maintenance dollars are not directly incorporated into the funding strategies produced by the PMS (Pavement Candidate List), the performance models do account for potential undetermined maintenance activities, the effects of which are incorporated into the deterioration models reflecting WYDOT's long-term pavement investment needs.

For the purpose of mileage goal calculation, certain pavement maintenance treatments may be eligible to receive 1S mileage credit, depending on the treatment applied and whether the pavement section was listed as an "S" candidate. In order to receive credit for pavement maintenance work, the districts provide a list of maintenance locations to the Materials Program annually for review of 1S credit determination. For asphalt pavements, chip seals must cover the entire PMS section length and will provide full-length credit for application to 1S candidates, and 50% credit when applied to 2S or 3S candidates. Patching provides full mileage credit on a 1S candidate, and 50% credit of patched length if applied to 2S and 3S candidates.



1S treatment, excluding slab replacement, will provide 50% section length credit if applied to a 1S candidate or 25% section length credit on 2S and 3S candidates for concrete pavements. For slab replacement, 1S or 2S treatment will provide 50% section length credit on a 1S or 2S candidate, respectively. If one or more lesser treatments (1S and/or 2S) are applied in addition to a greater treatment (2S or 3S) on concrete pavement, credit will be calculated based on the greater of the two treatments being applied. Pavement candidates without a required “S” candidate treatment do not receive any 1S mileage credit for the maintenance work.

PAVEMENT PREVENTATIVE REHABILITATION/PRESERVATION (“1S” TREATMENTS) – The effects of pavement preventative rehabilitation treatments vary according to the surfacing type (bituminous versus concrete), as well as by the existing age of the pavement and type of treatment being applied. In general, it’s assumed that maintenance and preservation (1S) treatments will extend the expected life of the pavements by approximately 4 years for asphalt, and 5-7 years for concrete. For asphalt pavements, 1S treatments include microsurfacing, chip seals, contract patching, and thin asphalt overlays of less than 2”. For concrete pavements, 1S treatments include slab replacement, partial/full-depth repairs, cross-stitching, and spall repair.

MINOR PAVEMENT REHABILITATION (“2S” TREATMENTS) – Minor pavement rehabilitation (2S) treatments are designed to extend the service life of the pavement for approximately 8-10 years for asphalt, and 10-13 years for concrete. For asphalt pavements, 2S treatments include surface prep (mill, level, or combination), 2”- 4” pavement surfacing and seal coat on I-80, 2”- 3” pavement surfacing and seal coat on all other WYDOT-owned routes. For concrete pavements, 2S treatment includes isolated slab replacement with grinding on all new slabs and diamond grinding and/or grooving with joint seals for the entire length of the project.

MAJOR PAVEMENT REHABILITATION (“3S” TREATMENTS) – Major pavement rehabilitation (3S) treatments are designed to extend service life for approximately 12-20 years for asphalts, and 15-20 years for concrete. For asphalt pavements, 3S treatments include greater than 4” of pavement surfacing and seal coat on I-80, greater than 3” pavement surfacing and seal coat on all other WYDOT-owned routes, full depth reclamation and overlay, and whitetopping. For concrete pavements, 3S treatments include thin concrete overlay, hot plant mix level/overlay and seal coat with or without crack and seat, or complete slab replacement of all broken slabs within a PMS section (including diamond grinding and/or grooving the entire length of the project and re-sealing all joints).

RECONSTRUCTION – Reconstruction projects are not currently recommended by WYDOT’s PMS. Reconstruction is defined as roadways that are rebuilt primarily along existing alignment. This involves full-depth base repair and complete pavement replacement. Other work that would fall into this category would be constructing additional lanes adjacent to an existing alignment, changing the fundamental character of the roadway (e.g. converting a two-lane highway to a multi-lane divided arterial), or reconfiguring intersections and interchanges. Historically, full reconstruction projects were performed for mobility purposes not related to preservation work. However, when significant subgrade issues are identified, reconstruction becomes the only option to restore the roadway.

NEW CONSTRUCTION – New Construction involves the construction of a roadway segment that does not replace or relocate an existing roadway, that is constructed in a location where one did not previously exist, or creates an alternate route to serve traffic.



3.2.3 Pavement Maintenance

WYDOT's asset management strategy includes routine maintenance and repairs on all WYDOT maintained roadways. Preventive maintenance forms the basis for an effective pavement preservation philosophy. Proactive maintenance activities include crack sealing, culvert cleaning, or maintaining sign reflectivity, all of which are subsidiary activities that are not included in the management system's cost modelling, but which are necessary for keeping the asset models functioning. Preventive maintenance is the most cost effective way to extend the life of pavements by preventing the onset or acceleration of surface distress.

Pavement maintenance consists of just-in-time repairs to prolong service life and achieve the lowest life-cycle cost for roadways.

Maintenance activities are a key function of asset preservation and allow the management systems to achieve the lowest overall life-cycle costs. While the pavement deterioration models do not directly account for the effects of the surface maintenance that WYDOT performs, maintenance is still considered a critical component in minimizing life-cycle costs over the long term. Pavement maintenance dollars are not incorporated into the funding strategies that the PMS produces since these treatments do not generally add additional structural integrity to the roadway, rather they are intended as short-term repairs that prolong the life of the assets until more robust treatments can be applied.

Typical maintenance activities performed by WYDOT include asphaltic crack sealing of pavements, roadway patching (patches less than a mile in length), chip seals, minor areas of slab repair and partial slab replacement, and joint cleaning on bridge decks. Short-term roadway maintenance treatments are used to extend the service life of existing roadways through cheaper, cost-effective treatments. Without this work, pavements would deteriorate more quickly, have shorter overall life expectancies, and the PMS pavement deterioration models would need to be modified to show steeper deterioration curves. Annual average maintenance costs for pavements, by highway system, are presented below in Table 12.

TABLE 12: ANNUAL PAVEMENT MAINTENANCE COSTS

Average Annual Maintenance Expenditures	
Roadway Category	Annual Maintenance Cost per Year
Interstate	\$4.1 million
Non-Interstate NHS	\$3.8 million
Non-NHS	\$4.2 million
Total	\$12.1 million

Source: Annual average pavement maintenance expenditures for 2015-2025.

3.2.4 Traffic Demand

Traffic demand and vehicle mix are key factors that influence the performance, deterioration, and future maintenance needs of Wyoming's highway system. Roads that carry more vehicles, especially heavy trucks, wear out faster and require more frequent maintenance. Understanding traffic patterns is essential for planning, budgeting, and keeping the highway system in good condition.



WYDOT monitors traffic through the Traffic Survey Program within the Planning Program, which collects and analyzes traffic data from permanent and portable automated counters, as well as manual classification counts. Approximately 125 permanent traffic counters are placed throughout the state to continuously monitor traffic, providing accurate estimates of Annual Average Daily Traffic (AADT). AADT, along with Vehicle Miles Traveled (VMT), helps WYDOT understand both current and projected traffic levels, including the proportion of trucks versus cars, which is critical for anticipating pavement and bridge wear, planning future maintenance and rehabilitation, and making informed investment decisions.

Traffic across most of Wyoming has remained relatively stable over time, with localized increases in areas affected by energy and resource development. These increases are often driven by higher truck traffic associated with industrial activity, which accelerates roadway deterioration. Interstate 80 (I-80), a major national freight corridor, carries sustained heavy truck traffic, resulting in faster pavement deterioration and higher maintenance and rehabilitation needs compared with other highways. By monitoring traffic demand and vehicle mix, including AADT and truck volumes, across the state and along key routes like I-80, WYDOT can prioritize resources, plan maintenance, and manage Wyoming's highway system effectively for the long term.

3.3 BRIDGE LIFE-CYCLE COST ANALYSIS

The objective of WYDOT's BMS is to maximize the useful life of the State's bridge infrastructure assets while minimizing network-level life-cycle costs. The BMS is used to quantify WYDOT's statewide bridge needs by analyzing and forecasting future structure conditions based on deterioration models and expected funding constraints. To develop its Preservation, Repair, Rehabilitation, and Replacement (PRR&R) program activities, historical bridge condition data, typical rehabilitation and repair costs, and improvement models are used, along with current in-service conditions and given funding scenarios, to predict future deterioration and probable structure conditions. BMS outputs are used to develop the associated treatment strategies for managing Wyoming's bridges.

Bridge assets are managed using a balanced approach to preservation and replacement, and BMS rehabilitation treatments are evaluated based on a cost-benefit analysis of predicted condition improvements. Bridge work is selected to optimize network-level bridge performance over time through a system of preservation and rehabilitative treatments to restore structures to a higher condition state. Initially, the BMS focused its PRR&R actions on structures classified as "Poor", to ensure that all bridge condition classification performance targets on the NHS were maintained. As the percentage of "Poor" square footage in the state began to fall, WYDOT's BMS recommendations shifted towards more preventative maintenance and preservation efforts, since delaying preservation treatments typically results in a general worsening of condition and costlier future repairs, and potentially accelerating the need for replacement. As the cost of structure rehabilitation work begins to approach the cost of full bridge replacement, replacement becomes the more economical alternative. Bridge decks that have received three rigid overlays can no longer be suitably rehabilitated and must be replaced. WYDOT has begun incorporating full bridge replacement targets into its BMS recommendations. WYDOT continually reviews and refines the BMS models to ensure accurate predictions and direct investment decisions.



3.3.1 BMS Models

BMS candidate recommendations are based on the set of improvements that optimize funding for the most cost efficient repairs. WYDOT uses the BMS to quantify overall bridge funding needs based on defined performance targets and respective PRR&R actions. These four treatment types are used in conjunction with the optimization algorithm to determine specific bridge candidates and the optimal PRR&R actions to meet NHS performance measures using the given budget scenarios and funding allocations that minimize network-level LCCA for bridges across the state.

WYDOT's BMS models were developed from historical WYDOT bridge conditions and treatment cost data. The BMS optimization uses a utility function within BrM to predict future bridge performance using current Bridge Condition Classifications for the deck, superstructure, and substructure condition. The optimization algorithm determines the best PRR&R actions according to a utility-to-dollar cost amount to select the work types and structures that help meet WYDOT's Bridge Condition Classification performance measures.

Structure treatment recommendations are calculated using prediction step-functions, a cost matrix, cost-benefit analyses, and a utility function to predict seventh year future bridge classifications for all WYDOT-owned bridges. Classification projections are based on the most current Bridge Condition Classifications for the deck, superstructure, and substructure from the latest inspection report, as well as structure type (i.e. slab bridge, concrete deck on steel girders, precast, or timber).

The BMS optimizes a single-objective utility function to forecast future bridge condition state. Optimization models typically prioritize a single metric, such as total PRR&R costs. In WYDOT's case, the objective utility function optimization is based on the bridge performance measure itself (i.e. minimizing "Poor" Bridge Condition Classification percentage by square footage deck area) within a given budget constraint. This strategic allocation relies upon treatment costs and expected transition times (years that a bridge will remain at its current NBI condition rating), and compares expected deterioration without PRR&R actions to condition improvements with PRR&R actions. Financial constraints determine which specific PRR&R actions should be taken for the recommended bridges, and produces the list of eligible candidates that should be prioritized when developing bridge improvement projects.

The BMS utility function incorporates several factors derived from the following weighted elements:

- **10% MOBILITY ELEMENTS** - approach roadway alignment, deck geometry, posting, and under clearance
- **15% RISK ELEMENTS** - channel and channel protection, fracture critical, load posting, scour critical, under clearance, and water adequacy
- **75% CONDITION STATE** – 80% Deck Rating, 10% Superstructure Rating, and 10% Substructure Rating

Deterioration modeling determines predicted future condition ratings by calculating expected degradation over time without PRR&R actions using a step-model function. Deterioration of the various bridge components depends on the structure type, current condition state, and the number of years it has existed in that condition rating. The structure improvement model evaluates the effectiveness of various PRR&R actions in extending the useful service life of a bridge, while maintaining its structural integrity.



Improvement models were developed using historical WYDOT rehabilitation data, namely PRR&R actions and NBI condition ratings before and after application of rehabilitative treatments. The BMS improvement models simulate the effects associated with typical PRR&R actions, and help forecast future statewide bridge funding needs. Bridge replacement and full deck replacement typically return the structure to a “Good” classification (NBI rating of 8 or 9). Substructure or superstructure rehabilitation treatments of structures with conditions ratings of 3 through 6 are generally reset to a “Fair” classification (NBI condition rating of 6). Rehabilitation work on bridges with a deck condition rating of 3 or 4 returns the structure to “Fair” classification, while rehabilitation treatments on bridges with deck condition ratings of 5 or 6 generally resets the structure to zero years in its existing condition state.

The BMS cost matrix quantifies estimated rehabilitation costs associated with differing treatment actions. These unit cost inputs were developed by analyzing historical WYDOT preservation, repair, rehabilitation, and new construction treatment costs. Cost models are continually evaluated, refined, and updated as necessary to ensure that current construction costs are being captured in the BMS projections. Table 13 presents the BMS unit treatment costs for bridge rehabilitation and repair (based on current NBI condition ratings), and Table 14 shows structure replacement costs.

TABLE 13: BMS COST MATRIX

BMS Modeling Costs (Based on Deck Area Square Footage)			
NBI Condition Rating	Deck Unit Cost per SF	Superstructure Unit Cost per SF	Substructure Unit Cost per SF
8	\$0.00	\$0.00	\$0.00
7	\$18.00	\$0.00	\$0.00
6	\$42.00	\$6.00	\$6.00
5	\$60.00	\$7.20	\$7.20
4	\$115.00	\$8.00	\$8.00
3	\$115.00	\$10.40	\$10.00
2	\$115.00	\$125.40	\$414.00
1	\$115.00	\$125.40	\$414.00

TABLE 14: STRUCTURE REPLACEMENT COSTS

Bridge Replacement Costs		
Structure Type	Unit Cost per SF	Unit Cost/Perimeter FT/FT
Bridge	\$414.00	N/A
Bridge Deck Replacement	\$115.00	N/A
Culvert	N/A	\$150.00

Typically, a structure replacement occurs when the Bridge Condition Classification of a structure is rated “Poor”, or it has an NBI rating of 4 or less. Bridge decks with three existing rigid overlays are scheduled as deck replacement. Reinforced concrete tee-beam and reinforced concrete slab bridges which are recommended for deck replacements are scheduled as structure replacements.

WYDOT recognizes that there are inherent uncertainties relating to the prediction of future deterioration, estimation of unit costs associated with PRR&R actions, and the prediction of the effects of PRR&R actions. To account for these uncertainties, the BMS models and optimization algorithm are continually evaluated,



refined, and updated as necessary. Performance measures are tracked to ensure the BMS recommendations and subsequent treatments performed as expected.

3.3.2 Bridge Work Types

WYDOT's bridge work type treatments are defined as follows:

BRIDGE MAINTENANCE Bridge maintenance activities include deck cleaning, minor pothole patching, expansion joint cleaning, minor expansion joint repair, minor bridge rail painting, drainage system cleaning, superstructure cleaning, minor damage repair, or other specific work required to maintain functional capacity in response to conditions or events that temporarily affect the operational performance of a structure. These activities typically do not improve the existing condition of the structure, but are critical in sustaining the operational efficiency of the asset. Maintenance work is not incorporated into the funding strategies developed by the BMS. Bridge maintenance costs are not programmed into the BMS investment plan, as they are usually reactive by nature.

BRIDGE PRESERVATION - Bridge preservation work activities typically include: asphalt deck overlays with waterproof membranes, berm, riprap or slope paving repair, superstructure and substructure painting, concrete/crack sealing, culvert repair, debris removal from channel, drainage system repair, expansion joint repair/replacement, epoxy deck overlays, epoxy injection of concrete cracks, concrete repair, painting bridge rail, scour countermeasure installations, spot painting of steel girders, bearings, cross frames, rigid deck overlays, bridge deck repair, approach slab repair/replacement, substructure repair, superstructure repair, or bearing device modifications. Preservation work is incorporated in the funding strategies developed by the BMS.

BRIDGE REHABILITATION - Bridge rehabilitation includes structure widening, partial or complete deck replacement, strengthening of superstructures and substructures. Often these activities are included in Bridge Preservation Work activities. Bridge rehabilitation work is not predicted or included in the BMS funding model or in funding strategies developed by the BMS.

BRIDGE REPLACEMENT - Bridge replacement involves the removal and replacement of existing structures with a new bridge meeting current design and functional standards, and the associated roadway work required to tie-in the new structure.

BRIDGE NEW CONSTRUCTION - Bridge construction involves the placement of a new structure that does not replace or relocate an existing bridge, including roadway work required to tie-in the new structure. New bridge construction is not incorporated into the funding strategies developed by the BMS.



4. PERFORMANCE MANAGEMENT

4.1 TRANSPORTATION PERFORMANCE METRICS

Transportation Performance Management (TPM) measures were established under 23 USC 150(b), in part to help assess the health of the nation's transportation system. TPM measures allow FHWA to evaluate the condition of all NHS roadways and bridges, and track the progress State DOTs make towards meeting asset condition thresholds and performance improvements. Federal TPM systems goals relate to infrastructure management, safety enhancements, congestion mitigation, system reliability, freight movement and economic vitality, environmental sustainability, and reduced project delivery delays. These funding areas were specifically intended to facilitate resource allocations to those areas where improvements are most needed, and to aid in monitoring the condition and performance of assets located on the NHS.

FIGURE 12: NATIONAL TRANSPORTATION SYSTEM GOAL AREAS

Increase Safety	Infrastructure Conditions	Congestion Reduction	System Reliability	Freight Movement & Economic Vitality	Environmental Sustainability	Reduced Project Delivery Delays
						
<i>Reduce traffic fatalities & serious injuries on all public roads</i>	<i>Maintain the NHS in a state of good repair</i>	<i>Reduce congestion on the NHS</i>	<i>Improve the efficiency of the surface transportation system</i>	<i>Improve the national freight network</i>	<i>Enhance performance of the transportation system while protecting the natural environment</i>	<i>Reduce project costs, accelerate project completion through eliminating delays in the project development and delivery process</i>

Source: 23 U.S.C. 150

The purpose of these federal TPM measures is to improve accountability to the public in the stewardship of public transportation resources, and promote consistency across the national highway network. Federal reporting requirements provide greater transparency in how resources are expended, and allow State DOTs to better communicate to lawmakers the requisite funding levels needed to sustain highway infrastructure assets. Transportation performance targets and measures are reported to FHWA on a 4-year cycle, and may be adjusted at the 2-year midpoint.

The federal transportation measures, as well as the metrics used to assess them, are summarized in Table 15 on the next page.

**TABLE 15: NATIONAL TRANSPORTATION PERFORMANCE MEASURES**

National Transportation Performance Areas and Measures	
Safety Performance Measures	
	Number of Fatalities
	Number of Serious Injuries
	Rate of Fatalities per 100 million VMT
	Rate of Serious Injuries per 100 million VMT
	Number of Non-motorized Fatalities and Non-motorized Serious Injuries
Pavement Condition Performance Measures	
	% Interstate Pavements in Good Condition
	% Interstate Pavements in Poor Condition
	% Non-Interstate NHS Pavements in Good Condition
	% Non-Interstate NHS Pavements in Poor Condition
Bridge Condition Performance Measures	
	% NHS Bridges (by deck area square footage) in Good condition.
	% NHS Bridges (by deck area square footage) in Poor condition.
System Performance Measures	
	% of Reliable Person-miles Traveled on the Interstate
	% of Reliable Person-miles Traveled on the Non-Interstate NHS
Freight Performance Measures	
	Truck Travel Time Reliability on the Interstate
Congestion Mitigation & Air Quality (CMAQ) Performance Measures	
	Traffic Congestion Peak Hour Excessive Delay (PHED) Measure-Annual Hours of PHED per Capita
	On-Road Mobile Source Emissions Reduction (kg/day)

Target setting for transportation assets is centralized at WYDOT Headquarters in Cheyenne, and directed by the Assistant Chief Engineer for Engineering and Planning. Targets are established using the latest available condition data and projection forecasts based on reasonably expected future transportation revenues, baseline performance, and historical trends.

Performance measures for safety, system reliability, freight movement, congestion, and emissions reductions are also reported to FHWA. Safety measures aim to reduce fatalities and serious injuries. System reliability is measured on the Level of Travel Time Reliability, calculated as the percentage of person-miles travelled on the Interstate and NHS that are considered reliable. The freight movement and economic vitality measure is based on Truck Time Travel Reliability, which is an index value that constitutes time delay (a lower index value is preferable). Most of the time delay for truck traffic in Wyoming is related to winter road closures and construction.

As a mostly rural, geographically large state, Wyoming does not typically experience issues of actual congestion; therefore, WYDOT is not required to report the national performance metric for congestion mitigation, or Peak Hour Excessive Delay, which is only applicable to urbanized areas or Metropolitan Planning Organizations (MPO's) with populations exceeding one million people, and located in a federally designated nonattainment or maintenance area for ozone, carbon monoxide or particulate matter. Similarly, Wyoming does not suffer from air quality or pollution issues to the same extent that larger



populated states or major metropolitan cities do, and the majority of contributors to air pollutants are non-transportation related.

For infrastructure condition, WYDOT has set relatively conservative targets. These targets are not intended to maintain the system in their existing state forever but rather to maintain acceptable levels of service over the long-term, while ensuring a safe and effective transportation system across the state. Funding for the various system areas is primarily distributed to maximize asset longevity, while still balancing the rest of the State's transportation needs in other performance areas. Currently, there are no gaps affecting the performance of the NHS related to reliability, freight, or congestion in Wyoming.

WYDOT works in conjunction with other NHS owners and two MPO's, located in Casper and Cheyenne, to direct highway improvements that improve NHS assets located within the designated MPO planning areas. However, WYDOT maintains all federal condition thresholds for TPM reporting for all NHS assets, regardless of ownership or whether facilities are located within respective MPO boundaries.

4.2 PAVEMENT PERFORMANCE TARGETS

State DOTs are required to submit HPMS pavement data for the condition of Interstate and NHS roadways each year. FHWA assesses whether State DOTs have met minimum condition requirements for their pavements based on the federal reporting criteria. Pavement performance targets include the following measures: (1) percentage of Interstate pavements in good condition; (2) percentage of Interstate pavements in poor condition; (3) percentage of Non-Interstate NHS pavements in good condition; and (4) percentage of Non-Interstate NHS pavements in poor condition.

Federal regulations require that states maintain no greater than 5% of Interstate and no greater than 10% Non-Interstate NHS pavements in a reported "Poor" condition. WYDOT's pavement performance targets and conditions by highway system, calculated using FHWA standard reporting criteria, are shown in Figures 13 through 15:

FIGURE 13: INTERSTATE PAVEMENT TARGETS AND CONDITIONS

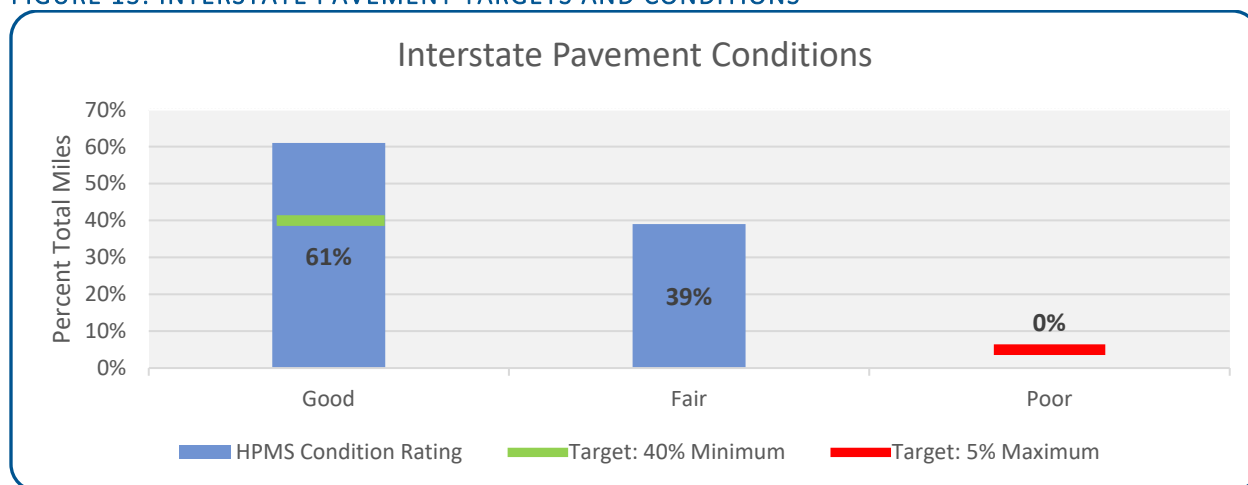




FIGURE 14: NON-INTERSTATE NHS PAVEMENT TARGETS AND CONDITIONS

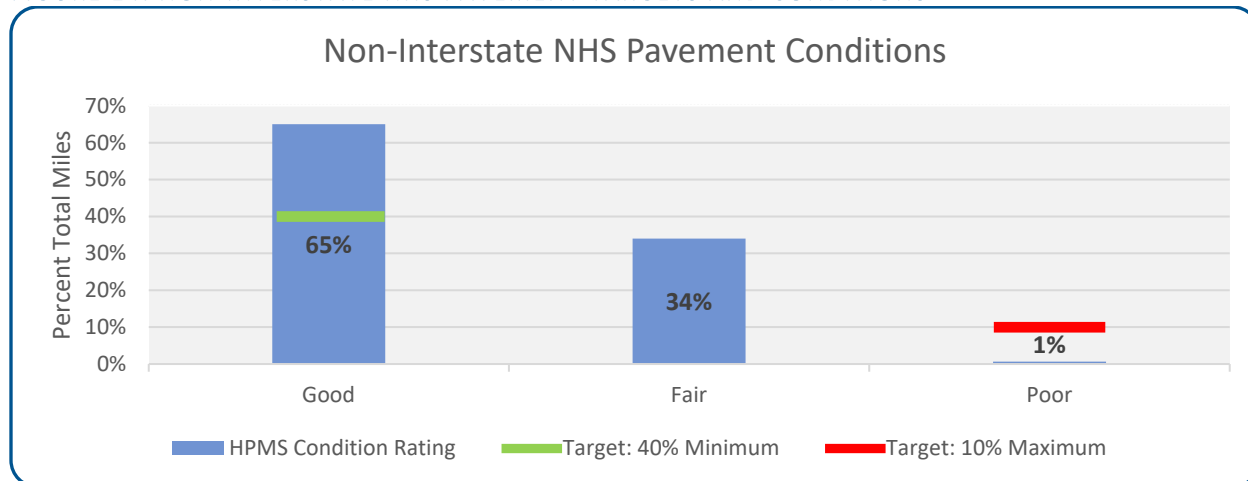
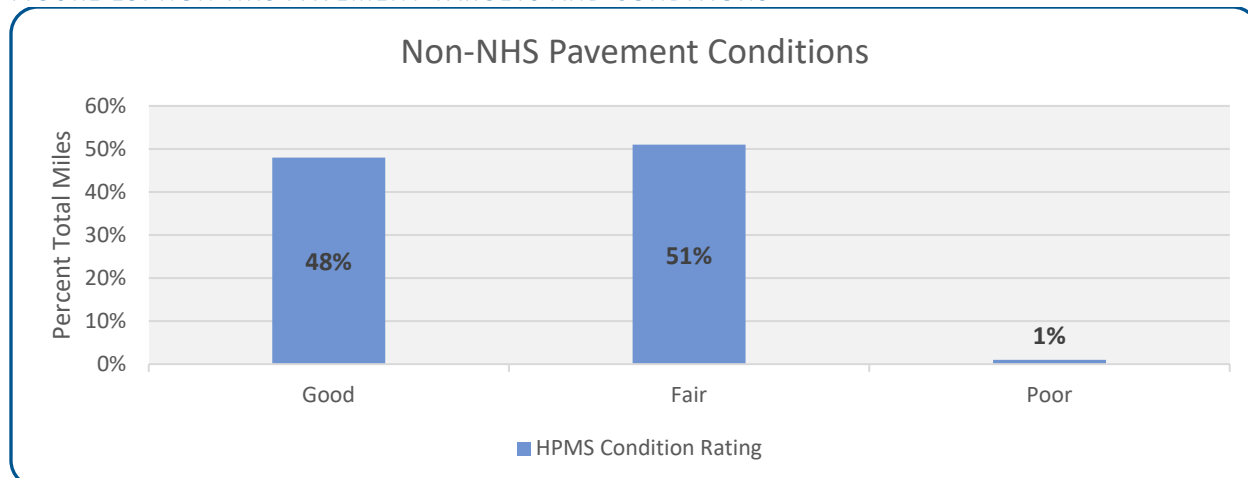


FIGURE 15: NON-NHS PAVEMENT TARGETS AND CONDITIONS



For Interstates, WYDOT has set a performance goal to maintain greater than 40% of roadways in good condition, with less than 5% in poor condition. For the Non-Interstate NHS system, WYDOT’s performance target is to maintain greater than 40% of all NHS roadways in good condition, with less than 10% in poor condition. Based on outputs from the PMS and its latest HPMS submittal, the percentage of pavements in “Poor” condition constitute less than 1% on both the Interstate and Non-Interstate NHS systems. WYDOT continues to meet all its pavement condition reporting requirements for Interstate and NHS.

Pavement targets were established using FHWA’s standard reporting criteria, which includes International Roughness Index (IRI), Rutting, Faulting, and Percent Cracking Data. In addition to the FHWA reported metrics, WYDOT has also established internal network level targets based on PQR values. PQR targets only loosely correlate to FHWA’s standard reporting criteria; however, PQR is the composite index WYDOT uses to assess pavement health. As such, new relative PQR targets were established to converge PMS recommendations with FHWA reporting requirements over the long term.

WYDOT actively manages its pavement conditions and performance targets using a network level PMS analysis. The PMS is set to optimize pavement conditions across the network at current service levels. The



goal is to maintain overall PQR conditions at the following values: for Interstates, the overall PQR should be greater than or equal to 3.0, for Non-Interstate NHS the overall PQR should be greater than or equal to 2.5, and for Non-NHS routes the overall PQR should be greater than or equal to 2.0.

Projected pavement conditions as calculated using WYDOT's own internal PQR health measures are shown in Figures 16 through 19.

FIGURE 16: PROJECTED STATEWIDE PAVEMENT CONDITIONS

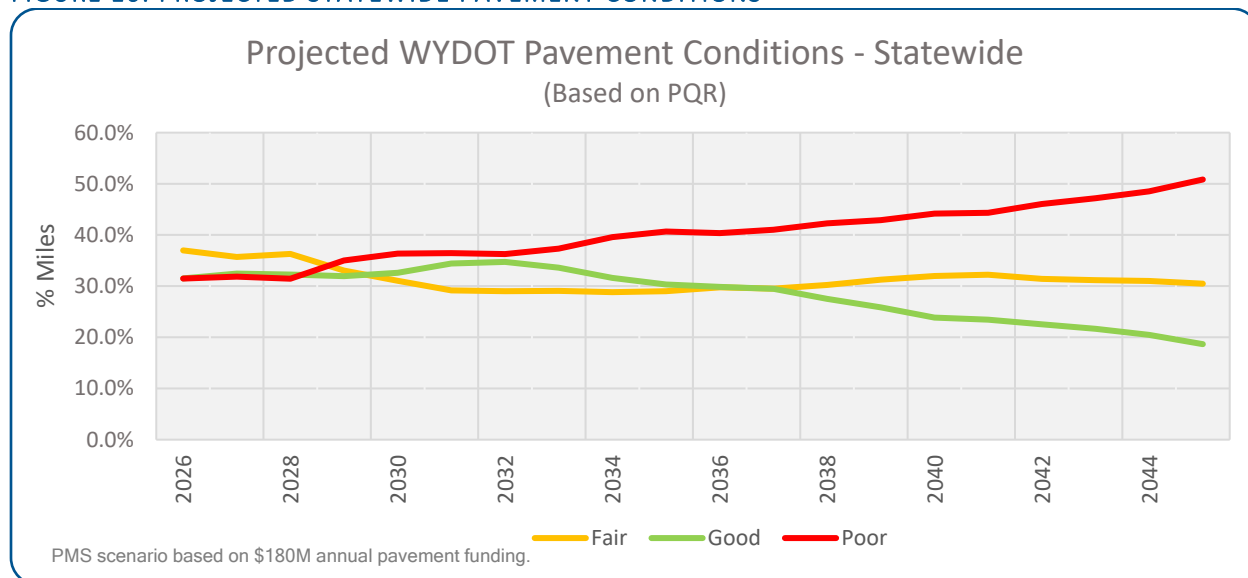


FIGURE 17: PROJECTED INTERSTATE PAVEMENT CONDITIONS

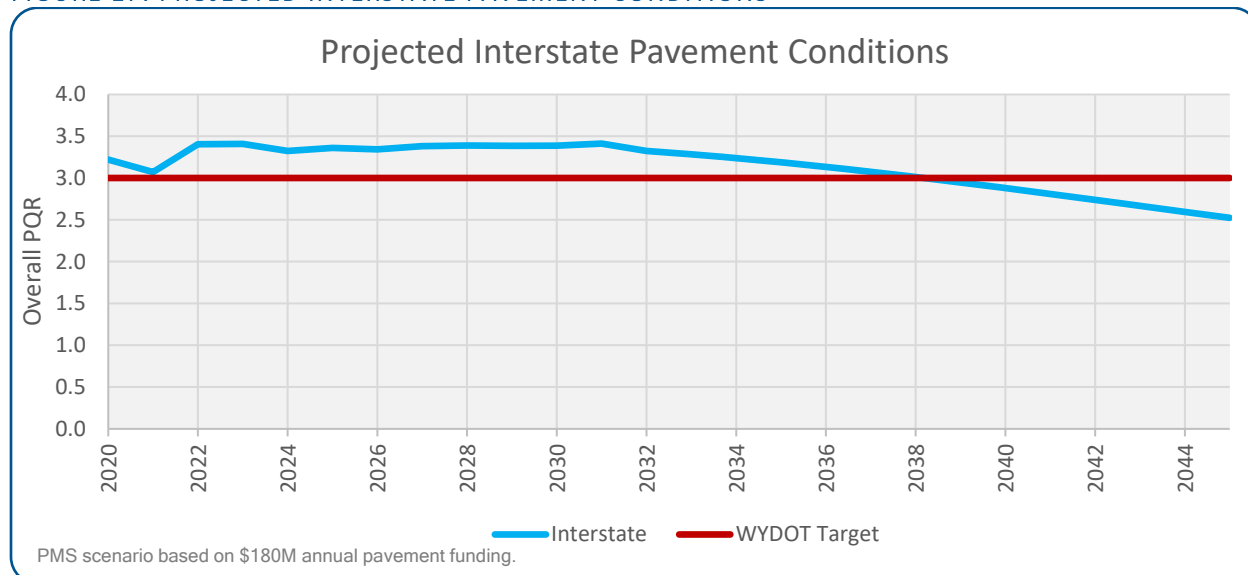




FIGURE 18: PROJECTED NON-INTERSTATE NHS PAVEMENT CONDITIONS

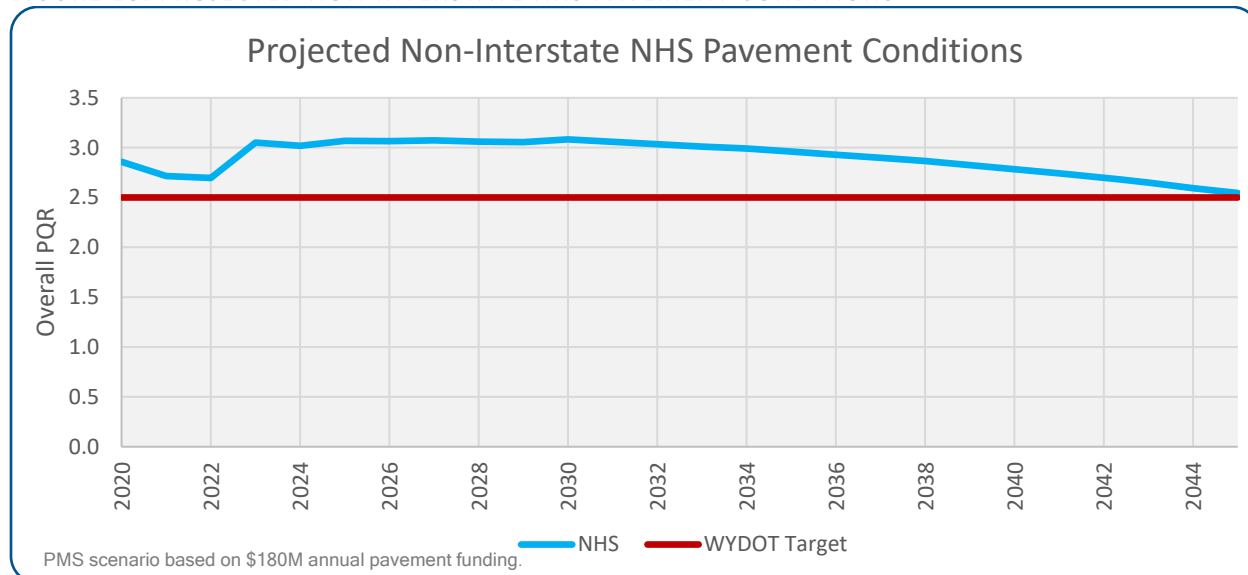
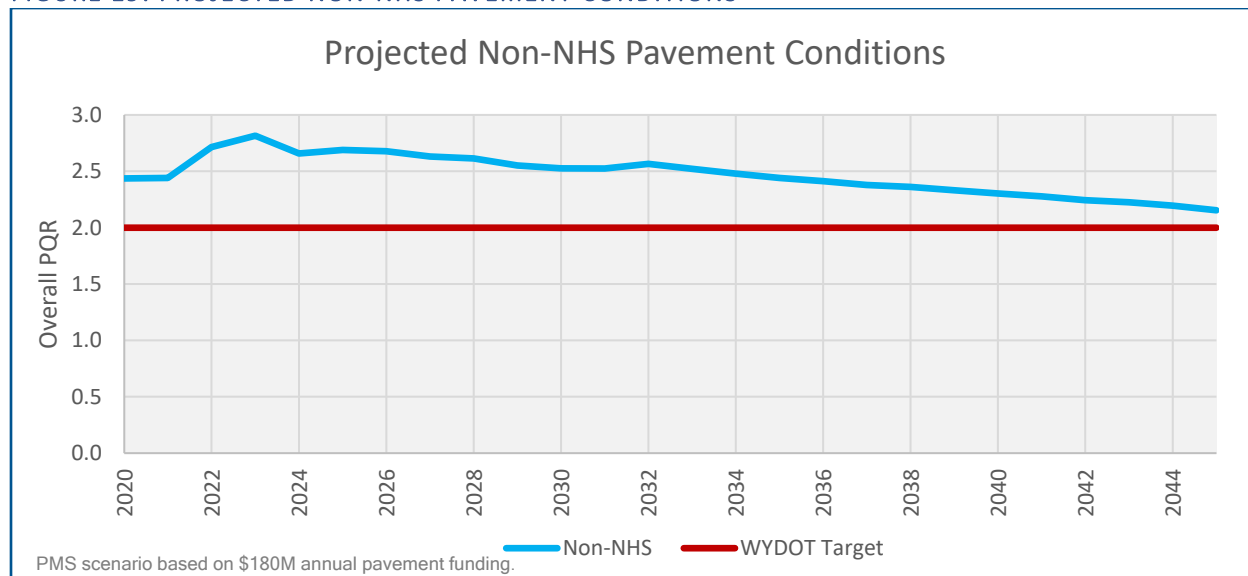


FIGURE 19: PROJECTED NON-NHS PAVEMENT CONDITIONS



Pavement preservation and rehabilitation needs were calculated by forecasting the required funding to maintain Wyoming’s highway system in its 2025 state of performance. This performance level was selected because it maintains and preserves the highway in “Good” condition and reduces the amount of “Poor” condition pavements on the network. Total estimated pavement funding needs amounted to an annual investment of nearly \$304.91 million to maintain existing performance levels for the entire state (including the Non-NHS system). The calculated pavement funding amount from the study represented a significant increase compared to WYDOT’s previous annual pavement funding level of \$185 million. As such, WYDOT increased its pavement funding levels to between \$200-\$215 million per year, with an additional set aside of \$15-20 million per year for reconstruction. Accounting for the additional state revenues projected by the recently passed Vehicle Sales Tax bill, and taking into account the adjustments to the programmed

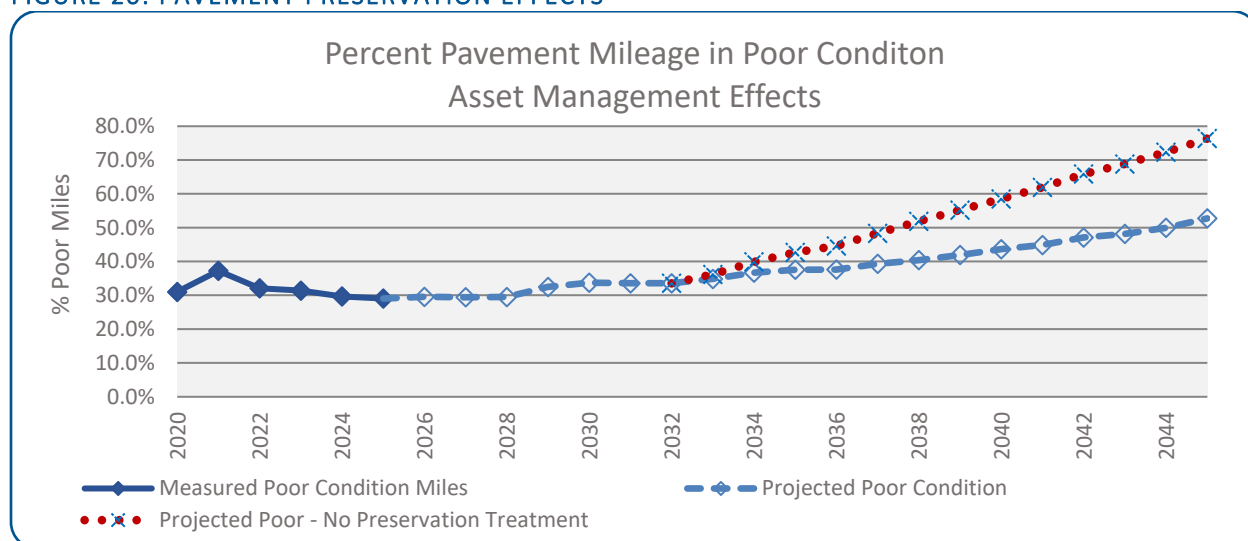


funding amounts, if WYDOT invests the maximum amount of \$236.19 million per year in pavements, this would still reflect an annual gap of \$68.72 million for pavements alone.

Despite this difference, WYDOT has been meeting its federal pavement performance targets for the Interstate and NHS systems, and expects to continue doing so for the next 10 years. The real effects of the performance gap will be experienced on the Non-NHS system. Since the majority of WYDOT's state funds are used to provide a matching state contribution for federally funded projects, maintaining the Non-NHS continues to present a major challenge to the agency.

Figure 20 shows the effects of different pavement funding levels on the percentage of WYDOT's "Poor" roadways throughout the state. Without adequate funding for all highway systems, pavement conditions will continue to deteriorate, potentially requiring substantially greater investment to restore them to a "Good" condition.

FIGURE 20: PAVEMENT PRESERVATION EFFECTS



4.3 BRIDGE PERFORMANCE TARGETS

WYDOT's Bridge Program aims to maintain the condition of all NHS bridges within the state at their current service levels, while not allowing overall statewide bridge classifications to deteriorate below federal minimum performance thresholds, which would result in federal funding penalties. State DOTs are required to set and report bridge classification performance targets for the following measures: (1) percentage of NHS bridges classified as "Good"; and (2) percentage of NHS bridges classified as "Poor". As stated in 23 CFR Part 490.411, the percentage of the state's NHS bridges classified as "Poor" must not exceed 10% based on deck area square footage.

Bridge performance targets have been set to maintain at least 10% of all structures classified as "Good", and no greater than 7% classified as "Poor" on all systems. Expected funding levels and recommendations from the BMS were used to establish these targets, with the goal of maintaining bridges in a healthy



condition within given budget constraints. Based on the latest federal NBI submittal, WYDOT expects to continue meeting all bridge performance targets.

Statewide bridge condition projections for NHS and Non-NHS are presented in Figures 21 and 22.

FIGURE 21: PROJECTED NHS BRIDGE CONDITION CLASSIFICATIONS

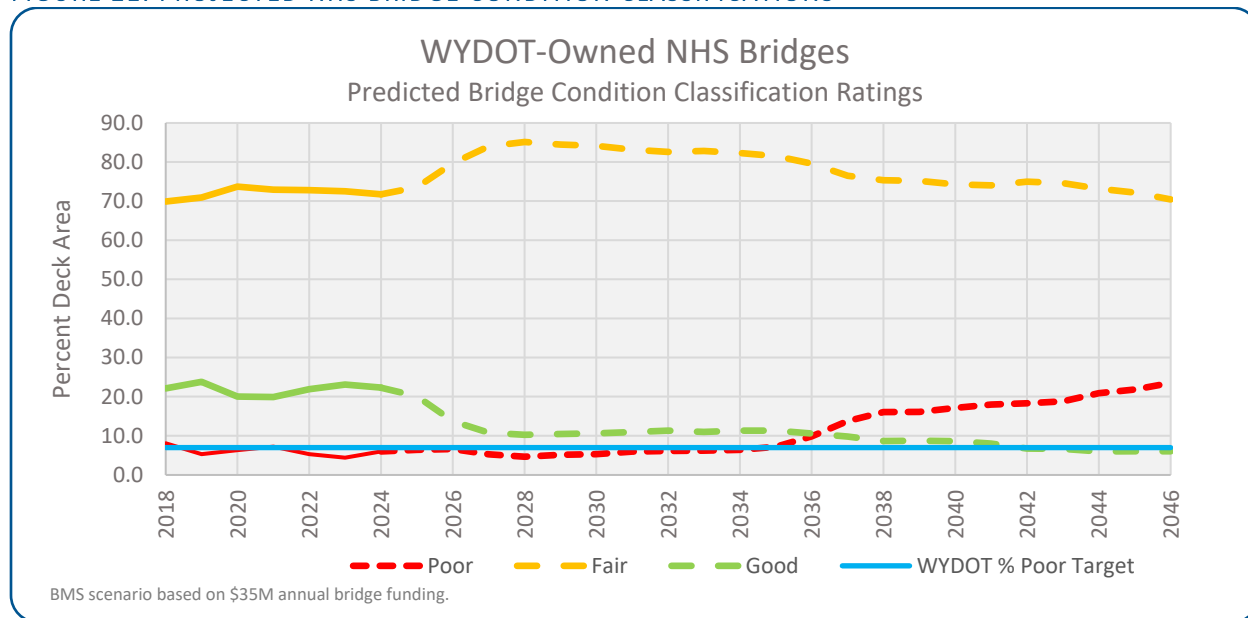
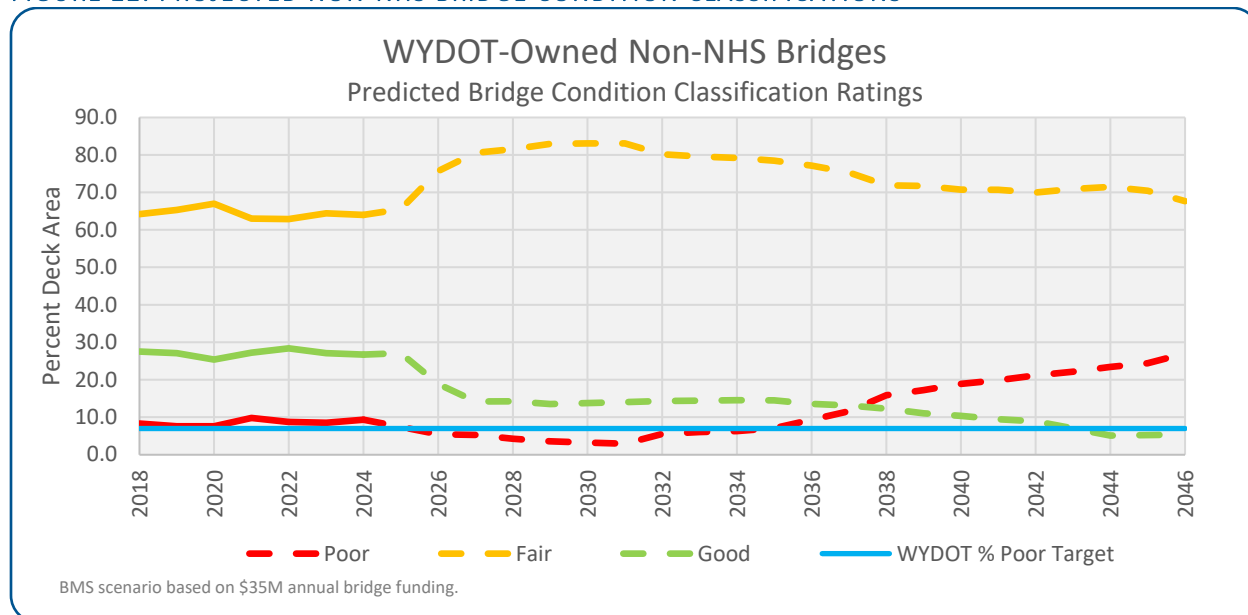


FIGURE 22: PROJECTED NON-NHS BRIDGE CONDITION CLASSIFICATIONS



WYDOT's current investment plan estimates that there will be adequate funding to maintain all NHS bridge condition targets above the federal condition threshold over the next 10-years. This assumes a minimum annual investment of approximately \$35 million for bridge preservation and rehabilitation work (\$25 million



for rehabilitation and preservation with \$10 million set aside for bridge replacements. At this level, WYDOT can expect to continue meeting all federally mandated minimum performance requirements for NHS bridges, while still achieving its minimum performance targets for bridges in the state. The current investment strategy allocates adequate funds to maintain bridge targets for the period covered by this plan; therefore, no bridge performance gaps exist within the 10 year forecast.

While WYDOT projects adequate funding to maintain all NHS bridges at acceptable performance levels for the duration of this plan; these expenditure levels will ultimately be insufficient to maintain minimum threshold requirements for percentage “Poor” indefinitely. Longer-term projections indicate an overall decline in bridge conditions based on average annual funding levels and the overall age of the system. Bridge design specifications are based on a 75-year design life; however, WYDOT’s current rate of replacement for bridges results in a greater than 300-year service life. This means that bridges are currently expected to last 300% longer than their original design life. Eventually, preservation, repair, and rehabilitation actions will no longer be cost effective or possible, and bridges will need to be replaced as the cost to rehabilitate approaches full replacement cost.

Based on the results of the previous Unfunded Needs Study, WYDOT estimates a total of \$210.62 million is needed annually to begin systematically replacing structures that have already exceeded their expected design life over the next 20 years. WYDOT received \$45 million for bridge replacements per year through the Bipartisan Infrastructure Law (BIL) legislation (also known as the Infrastructure Investment and Jobs Act) as part of the Bridge Formula Program (BFP). BFP funding is dedicated to bridge replacements, with a portion reserved for locally-owned bridges. WYDOT expended 40% of this funding on locally-owned bridges that had already exceeded their design life or were in poor condition. These funds were supplemental to the \$35 million annually that WYDOT expends on bridges; however, it is uncertain whether this program will continue past 2029-2030. Including BFP funding, total program bridge expenditures amount to approximately \$76.69 million annually, which still reflects an annual gap of \$133.93 million for bridges when accounting for design-life specifications.

While this gap is not expected to impact the agency’s ability to meet its federal performance requirements for bridge condition, calculations were based on the actual age of bridges across the state using a bridge design life specification of 75-years compared to the average 300-year service life that is currently expected of Wyoming’s bridges. With the continuation of the BFP funding, WYDOT expects to continue investing a minimum of \$75 million per year in bridge rehabilitation and replacements.

4.4 PERFORMANCE GAP ANALYSIS

A performance gap assessment is also included as part of this plan per the requirements of 23 CFR Part 515. The performance gap analysis compares actual projected asset conditions against stated performance goals and target measures. It is used to quantify the difference between expected funding levels, and the actual funding levels required to preserve assets in a SOGR. The gap analysis helps communicate unfunded transportation needs to lawmakers and the general public.



The performance gap estimates an additional \$203 million is needed annually to maintain pavements in their current condition and replace bridges on a 100-year life

WYDOT commissioned a statewide Unfunded Needs Study in 2020 to identify the agency's budgeted and unbudgeted surface transportation needs. The results of this study were updated in 2025 to determine the current funding gap. Transportation needs were estimated using existing programmed funding levels compared to what is required to preserve or maintain transportation infrastructure assets in a SOGR, rehabilitate those that are aging or in poor condition, and replace those that have come to the end of their useful service life. Actual versus projected performance levels were compared to determine whether a funding gap exists. The calculated performance gap does not affect WYDOT's ability to meet federal condition performance measures on the Interstate or NHS in the 10-year period covered by this plan. As such, no alternate investment strategies were required to be developed.

However, WYDOT still continues to seek additional funding to address Non-NHS roadways and begin replacing bridges on a 100-year service life. Based on the results of the Unfunded Needs study and the latest forecasts from the asset management systems, an additional \$68.72 million is needed per year to maintain statewide pavement conditions at their current service levels, while an additional \$133.93 million annually is needed to maintain and replace bridges that have surpassed or will surpass their life expectancy over the next twenty years. The total WYDOT performance gap (including the Non-NHS system) is summarized in Table 16 below.

TABLE 16: WYDOT Unfunded Highway Asset Needs

Annual Unfunded Transportation Funding Needs (Amounts shown in \$ Millions)			
Highway Asset	Total System Needs	Program Funded Amount	Unfunded Asset Needs
Pavements	304.91	236.19	68.72
Bridges	210.62	76.69	133.93
Total	515.53	312.88	202.65

The majority of WYDOT's unfunded pavement needs relate to the Non-NHS state highway system. While the condition of Non-NHS roadways does not impact federal pavement performance targets, prolonged periods of deterioration and a lack of state funding will result in greater rehabilitation treatments required to restore these roadways to an acceptable condition. Chronic underfunding erodes the health of the transportation system, and the consequences of deferred investments result in multiplied costs for future repairs. Wyoming's transportation network continues to face major challenges due to inadequate past funding levels that led to increasing deterioration and declining conditions statewide, and which will require more costly future repairs to bring assets back up to current standards.

The Unfunded Needs Study did not take into consideration future increases in traffic levels that will cause increased deterioration rates and decreased levels of service. WYDOT increased its annual funding levels for pavement and bridges as a result of the Infrastructure Investments and Jobs Act; however, WYDOT continues to face major challenges maintaining the condition of the transportation system, and deteriorating roadways will result in greater cost to taxpayers over time.



5. FINANCIAL SUMMARY

5.1 FINANCIAL PLAN

The TAMP Financial Plan establishes how the agency intends to manage its highway infrastructure assets over a 10-year time period (at a minimum), and constitutes the basis for the investment strategies that will be implemented. It represents a forecast of WYDOT's long-term funding sources and anticipated spending levels, while summarizing the agency's revenues and work type expenditures to establish how WYDOT plans to meet current and future performance targets and achieve its stated TAM objectives. Also included in this section is an estimation of WYDOT's total infrastructure asset value, and the investment levels that are required to maintain the value of these assets.

Federal regulations consider a financial plan to be "a long-term plan spanning 10 years or longer, presenting a State DOT's estimates of projected available financial resources and predicted expenditures in major asset categories that can be used to achieve State DOT targets for asset condition during the plan period, and highlighting how resources are expected to be allocated based on asset strategies, needs, shortfalls, and agency policies" (23 CFR 515.5). The Financial Plan ties budgetary expectations to long-term asset condition needs, and demonstrates whether any financial sustainability gaps exist. WYDOT uses its TAMP Financial Plan to address how transportation funding will be used to meet performance targets, including an accounting of all expenditures, total projected revenues, and the extent to which anticipated revenues will not exceed expenditures.

WYDOT Programs work in conjunction with WYDOT's Budget Office to develop the TAMP Financial Plan, as well as to construct the 6-year fiscally constrained State Transportation Improvement Program (STIP) budget to ensure the financial sustainability of the State's transportation assets. A comprehensive financial planning process is used to support WYDOT's asset management systems to estimate the required investment levels that are needed to maintain the value of Wyoming's transportation network and meet national performance targets. The Financial Plan helps communicate the performance that can reasonably be expected given available funding.

As of September 30, 2025, WYDOT's total infrastructure assets were valued at \$5,935,398,296 and Infrastructure Work in Progress (W.I.P) were valued at \$88,202,702. Infrastructure Assets are broken down into the following categories: land (right-of-way) - \$69,246,068; bridges - \$871,942,363; roadways - \$4,826,727,099; communication systems - \$74,985,336; and permanent easements - \$4,294,728. This valuation is based on official Governmental Accounting Standards Board (GASB) Statement 34 Financial Statements.

WYDOT uses the Governmental Accounting Standards Board 34 (GASB 34) Modified Approach for calculating the total valuation of Wyoming's infrastructure assets; however, GASB 34 values are based on historical acquisition and construction costs, and do not reflect current market valuation or replacement costs. WYDOT's asset management systems (PMS, BMS) use actual or expected replacement costs for calculating LCCAs to maintain the infrastructure value. However, GASB-34 demonstrates the magnitude of



public investment that has already been invested in the transportation system, and highlights the importance of maintaining infrastructure assets. This infrastructure valuation also offers additional insight into whether an agency's overall financial position has improved or deteriorated from previous years, and whether revenues are sufficient to maintain the system.

WYDOT's detailed Financial Plan is contained in Appendix A: Programming Investment Summary at the back of this document. The summary contains the full detailed account of WYDOT's Financial Plan projected revenues, by source, and planned highway construction expenditures, by federal work type code.

5.2 TRANSPORTATION FUNDING

This section establishes the transportation funding levels that will be needed to preserve or maintain WYDOT's infrastructure assets over the next 10 years. WYDOT derives its transportation funding (revenues) from a variety of sources, the majority of which comes from the Federal-Aid Highway Program funds. Transportation funds are also received from Wyoming's State Highway Fund, and local governments. Revenue forecasting is an iterative process that may change over time. Funding estimates are based on relatively conservative growth rate assumptions for each funding source, taking into consideration historic revenue trends and motor fuel consumption trends. Due to Wyoming's small population base and limited tax revenues, the expected highway expenditures projected in this plan are based on the expectation that all funding levels will remain relatively flat, with an assumed annualized increase of 1% per annum for all federal and state funds. All revenue assumptions and projections used in the TAMP Financial Plan are based on the continuation of current funding levels.

Various funding scenarios were developed in conjunction with WYDOT's Long Range Transportation Plan (LRTP) to determine annual funding requirements to maintain Wyoming's transportation infrastructure at desired service levels. The LRTP provides a 20-year outlook for the statewide transportation system, outlines the department's strategic vision, and contains a financial assessment of infrastructure preservation needs. To develop scenarios for analysis, WYDOT compared 3 distinct funding levels: a base case reflecting current revenue; the level of investment required to maintain the system at its current condition; and the investment level required to bring the system up to current design and functional standards. The funding scenario used to develop this TAMP aligned with the base case scenario, which is in line with WYDOT's historical annual average Highway Improvement Program funding levels.

Approximately two-thirds of WYDOT's transportation revenues for highway construction come from the Federal-Aid Highway Program. Federal aid apportionments from the Highway Trust Fund are computed based on prescribed formulas as set forth in law (23 U.S.C.). Discretionary grant funding is not included in WYDOT's TAMP financial planning, as these funds are obtained through a highly competitive grant application process, with no guarantees that grant funding will be received. Federal funding is the primary revenue source for WYDOT's highway construction budget. Each of the federal funding programs has different eligibility requirements and are described in more detail as follows.

[NATIONAL HIGHWAY PERFORMANCE PROGRAM \(NHPP\)](#) - Provides support for the condition and performance of the NHS (including construction of new facilities) to ensure that investment of Federal-Aid funds in highway construction projects support progress towards the achievement of the national



performance targets stipulated in a state’s asset management plan for the NHS. These federal funds may only be obligated for eligible facilities or activities that support progress toward the achievement of national performance goals for improving infrastructure condition, safety, congestion reduction, system reliability, or freight movement on the NHS. Projects must be identified in the STIP and remain consistent with a State DOT’s LRTP.

SURFACE TRANSPORTATION BLOCK GRANT (STBG) - Provides greater flexibility in state and local transportation decisions to help DOTs address state and local transportation needs.

CONGESTION MITIGATION/AIR QUALITY (CMAQ) - A flexible funding source to state and local governments for transportation projects that help meet requirements of the Clean Air Act.

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) - Safety funding intended to facilitate a significant reduction in traffic fatalities and serious injuries on all public roads, including non-state-owned public roadways.

The Federal-Aid program provides states with financial assistance for the construction, preservation, and operation of state and local highway systems through a “pay-as-you-go” account, which provides reimbursement to the State DOT as highway construction projects are completed. Eligible roadways are designated based on functional classification, and include higher-level public roads, such as arterial roadways, urban collector roads, and other major rural collector roads. Congressional Authorization and Appropriations bills are required to fund the individual programs within the Federal-Aid Highway Program and ultimately determine the federal revenues that will be available to WYDOT for each federal fiscal year.

Based on the last highway appropriation bill, WYDOT received an average of \$331 million per year in Federal-Aid highway funds for fiscal years 2022-2026, with similar apportionments expected for future fiscal years. This federal funding amount included approximately \$45 million per year in BFP funding, which allowed WYDOT to begin replacing bridges in poor condition throughout the state. WYDOT also recently received \$24 million in Better Utilizing Investments to Leverage Development (BUILD) grants, which is a competitive federal funding program. WYDOT projects future federal funding to grow at a conservative rate of 1% annually for the ten year period covered in this plan, which is in alignment with the historic growth rate of federal funding availability.

State funding is primarily used to provide the state match for federally funded projects, annual highway maintenance and operations, and highway improvements to Non-NHS roadway and bridge projects that are not eligible to receive federal funding. State funds are comprised of revenues derived from motor fuel tax revenues, mineral royalties and severance taxes, motor vehicle sales tax and registration fees, and from legislatively appropriated state general funds. Like most states, Wyoming levies excise taxes on gasoline, diesel fuel, and special fuels used by motor vehicles that use public highways. Registration fees include not only vehicle registration fees but also driver’s licenses, permits, and other roadway-related licensing. Vehicle registration fees are based on a vehicle’s classification and are renewed annually. Driver’s licenses and learner’s permit fees are paid by persons licensed to operate a motor vehicle.

The Wyoming State Legislature passed a bill in 2025 amending the distribution of sales and use taxes on motor vehicles and trailers from the general fund to the highway fund beginning July 1, 2025, thereafter intended for the purpose of operation, maintenance, construction, and reconstruction of state highways.



It is anticipated that this redistribution will generate approximately \$62 million annually in additional state funding to help address the condition of Wyoming's roads. The new vehicle sales tax revenues from this bill have been specifically designated for use only on state roadways and should begin to help to address under-funded needs for roads and bridges throughout the state.

Local funding varies year-to-year, and is largely dependent on small and rural communities' ability to provide matching funding for respective roadway improvement projects. The majority of local funds are based on co-operative agreements and involve other entities funding at least a portion of the project. These dedicated program funds are used for transportation alternative programs, Congestion Mitigation and Air Quality (CMAQ) work, or other community enhancements such as installation of pedestrian lighting, construction of bike and multimodal pathways, Americans with Disabilities Act (ADA) curb ramp upgrades, and sidewalk installation.

Predicting future funding availability can be challenging, as there are a number of variables and changing assumptions that can oftentimes be dictated by factors outside of the department's control (including legislative changes at the state and federal level). Actual funding levels may vary due to changes in congressional and state appropriations, and planned expenditures are based on conservative estimates of projected federal and state funding availability. Any significant change in the federal funding formula or applications to competitive grant opportunities may result in adjusting the schedule of projects.

For WYDOT's complete 10-year Programming Investment Summary, please see Appendix 8.1 for a comprehensive list of revenue projections that are expected to be available for the upcoming fiscal years.

5.3 HIGHWAY CONSTRUCTION EXPENDITURES

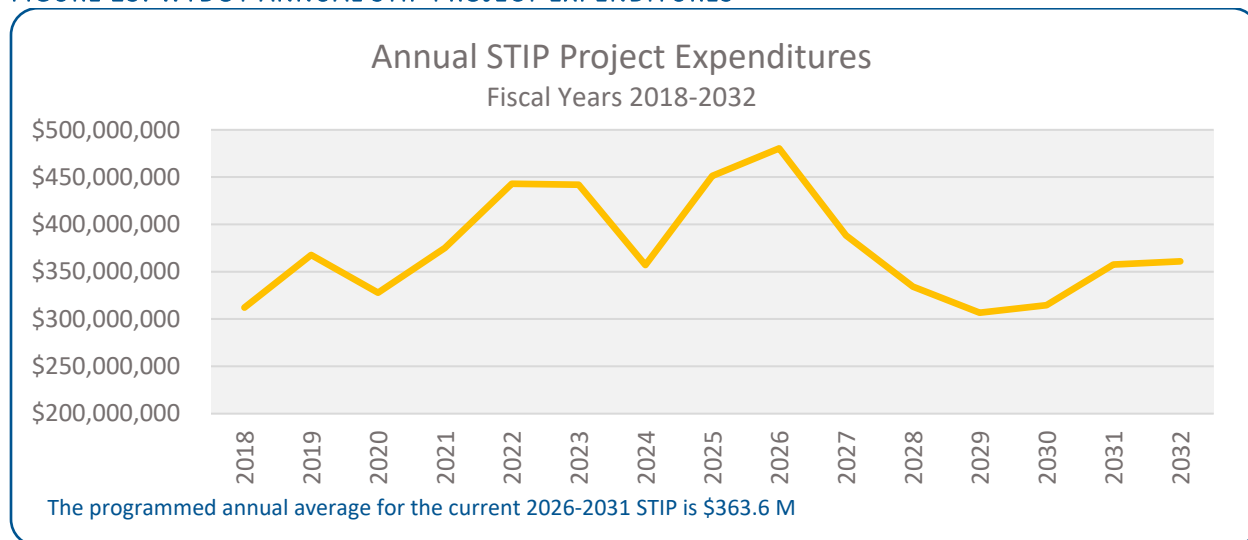
WYDOT's Executive Staff, in consultation with the Budget Office, analyzes statewide transportation needs and ultimately determines funding allocations for each area of Wyoming's transportation network. To construct the State Transportation Improvement Program (STIP) budget, the total statewide funding amount available for highway construction contracts is reduced by the statewide designated funds, and the balance of available funds is distributed amongst the five districts based on a combination of overall asset condition and network-level system needs.

The STIP is WYDOT's highway construction program and serves to forecast the agency's future transportation expenditures. The 6-year, fiscally constrained improvement plan facilitates highway improvements to the transportation system, and addresses the agency's mission of providing a safe and effective transportation system. It is not merely an accounting document, but rather a snapshot of programmed projects and their anticipated completion timeframes. Since both the nature of the projects and the funding sources are dynamic, the STIP is inherently fluid. Highway construction projects selected for inclusion in the STIP are also guided by the agency's system-level investment priorities and corridor planning efforts, the LRTP, management system outputs (PMS/BMS), and other strategic planning documents that direct how WYDOT plans to manage its transportation network. For the most part, STIP projects are primarily intended to help meet established performance targets related to pavement and bridge condition.



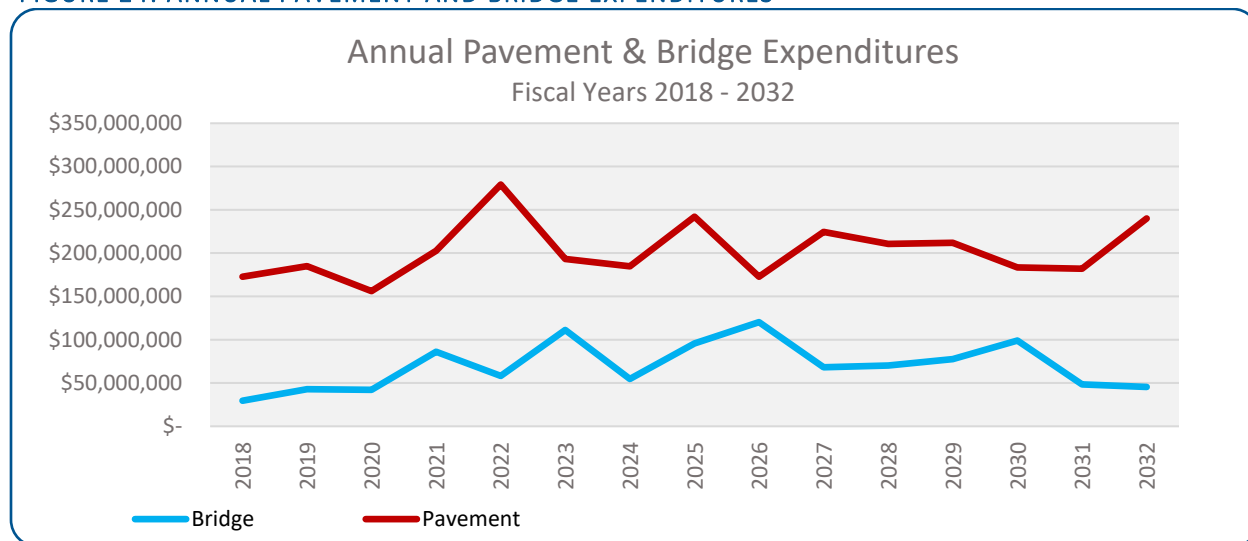
Historical and projected average annual STIP expenditures are displayed in the graphs that follow.

FIGURE 23: WYDOT ANNUAL STIP PROJECT EXPENDITURES



Source: STIP project expenditures based on WYDOT's ERP as of 7/13/2026.

FIGURE 24: ANNUAL PAVEMENT AND BRIDGE EXPENDITURES



Source: Expenditures based on WYDOT's ERP as of 7/13/2026.

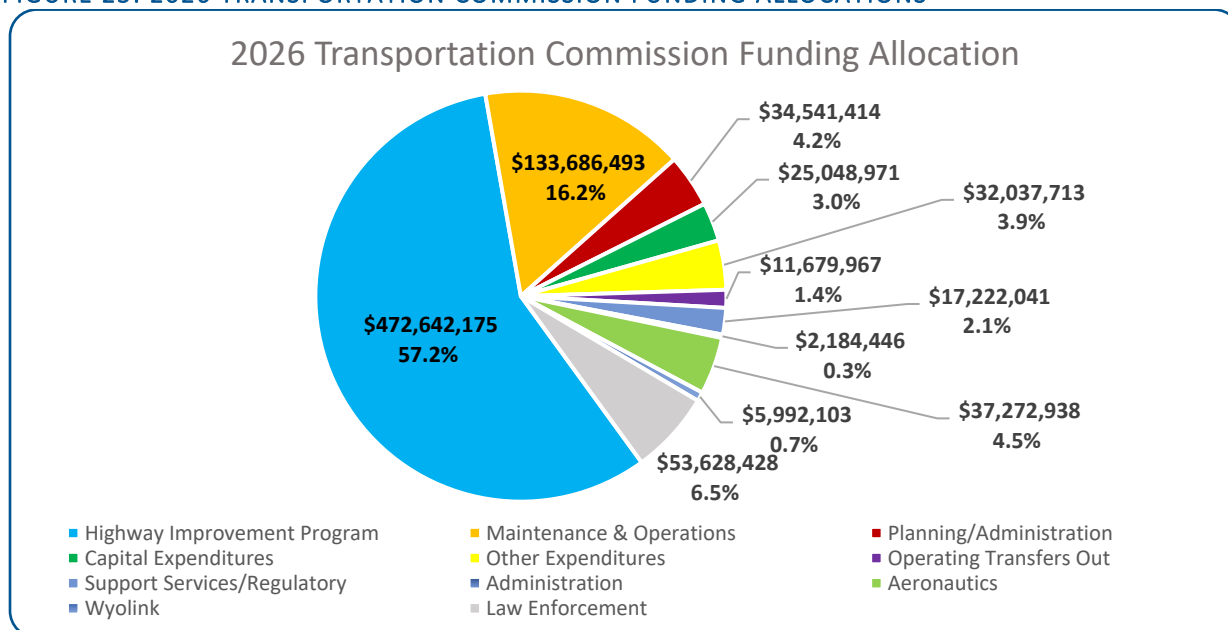
WYDOT's STIP contains a mixture of preservation and rehabilitation projects, with very few capital expansion or system modernization projects. A limited number of reconstruction and other mobility-related improvement projects are also included in the STIP to address other areas of the system not related to asset condition (i.e. safety, mobility, capacity, etc.). Highway construction projects are generally selected to preserve or improve the condition of existing transportation infrastructure, in order to help achieve progress towards meeting federal condition requirements. The majority of the programmed projects are based on the outputs of the management systems to ensure designated performance goals are actively met. WYDOT will also begin using state funding from the recently passed Vehicle Sales Tax bill to address



mobility concerns on state highways, including the addition of passing lanes, reconstruction for roadway widening, and interchange modification.

For fiscal years 2026 through 2031, WYDOT anticipates Highway Improvement Program funding of approximately \$473 million annually. After deductions for project modifications, preliminary engineering, right-of-way acquisitions, utilities, indirect cost allocation plan expenses, and other dedicated program funding amounts, \$407.1 million remains for actual highway construction projects (including construction engineering costs). The following graph illustrates WYDOT's 2026 Transportation Commission funding allocations.

FIGURE 25: 2026 TRANSPORTATION COMMISSION FUNDING ALLOCATIONS



Source: WYDOT Budget Program.

An annualized inflation rate of 5% is included in STIP project cost estimates, allowing for greater uniformity in planning over the life of the STIP. It also provides more consistency for longer-term asset management strategies, and increased budgetary controls for project selection and scheduling. A detailed breakdown of WYDOT's anticipated expenditures by fiscal year, and federal work type, for the 10-year time period covered in this plan can be found in the Programming Investment Summary in Appendix 8.1 at the end of this document.

5.4 INVESTMENT STRATEGIES

WYDOT's investment planning process identifies the funding allocations required for each program given the State's total funding constraints. The TAMP investment strategies determine how WYDOT plans to allocate resources amongst different asset classes and work types to best maintain and preserve the transportation network in a way that promotes system-wide asset condition sustainability, and facilitates



progress towards national performance goals. WYDOT’s investment planning process is presented below in Figure 26.

FIGURE 26: INVESTMENT PLANNING PROCESS



A performance-based planning process involves making investment decisions based on anticipated asset condition improvements. FHWA defines an investment strategy as the “set of strategies that result from evaluating various levels of funding to achieve State DOT targets for asset condition and system performance effectiveness at a minimum practicable cost while managing risk.” The investment strategies outlined in this section are based on a comprehensive analysis between WYDOT’s two primary asset classes (bridges and pavements) weighted against overall system needs, and establish the methodology WYDOT uses to allocate transportation resources that yield the greatest return on investment.

WYDOT’s STIP portfolio reflects the investment strategies formulated in this plan. STIP projects are selected to maximize resource allocations to promote long-term asset sustainability while ensuring progress towards meeting national TPM goals. The investment planning process uses a system-level overview of the size and mixture of highway construction improvements required for each designated funding area. The majority of investments are concentrated on asset preservation and implementing highway construction projects that contribute progress toward meeting the defined federal measures. WYDOT also works in conjunction with other NHS owners and Wyoming’s two MPO’s to develop transportation improvement projects to improve the condition and performance of NHS assets located within designated MPO planning areas.



The investment analysis quantified the effects of various funding scenarios on network-level asset conditions for each of the different program areas, in order to build the optimal mix of STIP projects that best meet performance goals and maintain asset condition across all highway systems. To meet its pavement performance targets, WYDOT has established an annual pavement funding requirement of approximately \$235 million. To meet its bridge performance targets, WYDOT has established a minimum annual funding level of \$35 million (including \$10 million set aside specifically for bridge replacements). Expenditures may exceed the minimum amount required when additional funding becomes available.

WYDOT's primary investment areas are defined as follows:

PRESERVATION - Work intended to maintain, preserve, rehabilitate and repair the existing transportation network at current condition levels, or desired levels of service (LOS). The majority of STIP projects fall into this category.

SYSTEM MODERNIZATION - Involves upgrades to the existing state highway system, including shoulder improvements, construction of passing lanes, and intersection reconfiguration/reconstruction. These types of highway construction projects do not increase the capacity of the system, rather they are intended to bring existing facilities into conformity with current design and functional standards. Modernization projects may impact maintenance activities or physical asset inventory, and improve long-term system performance and safety of the existing system.

CAPITAL EXPANSION - Improvements that add capacity to the existing roadway network, construction of additional travel lanes on existing roadways or bridges, construction of new bridges, and new interchange construction. These projects increase the existing infrastructure asset inventory, and create future maintenance responsibilities/additional financial burdens.

LOCAL CONSTRUCTION - Construction on county and city roads (including those located on the NHS) that are primarily safety-oriented, or preservation projects. Some minor expansion to accommodate local mobility needs may be included. Funding to support local construction is derived from a combination of federal, state, and local governments.

The Planning Program analyzes transportation needs and intended funding, in consultation with the Budget Program, for all projects that are adopted into the STIP. The STIP represents WYDOT's planned investment in highway construction projects for the upcoming fiscal years. The basis for the STIP is to construct a fiscally constrained list of roadway and bridge improvement projects, with an appropriate mix of preservation and rehabilitation, that reflect the investment strategies identified in this plan.

STIP projects are selected using the asset management systems recommendations (PMS, BMS) for pavement and bridges. Safety and mobility components are evaluated on a project-by-project basis during the project design phase. Highway projects are mostly intended to meet performance goals based on statewide system performance, and are actively tracked to ensure WYDOT districts are meeting their internal management system recommendations. Additionally, some funding is available each year to complete a limited number of reconstruction projects, or other improvements not related to the output produced by the management systems.



In order to evaluate investment levels and expenditures per federal work type, asset categories are assigned to projects once they have been officially included in the STIP. Actual project expenditures are allocated based on the percentage of project work falling into defined asset categories and subcategories. Expenditures are tracked throughout the design and development of the project, and regularly updated if changes in the work scope occur. Asset category descriptions used for expenditure tracking and reporting are defined in Table 17.

TABLE 17: ASSET CATEGORY DESCRIPTIONS

Asset Category	Description
PAVEMENT	Roadway surfacing work not associated with system expansion or mobility improvements.
BRIDGE	All bridge work on or off the WYDOT-owned highway system.
MOBILITY	Capacity increases, new roadways or additional lanes to reduce traffic congestion or travel times, acceleration/deceleration lanes, intersection improvements for traffic flow, turn lanes, etc.
SAFETY	Items affecting the safety of the transportation network, including guardrail installation, rumble strips, chevron striping, grading side slopes, epoxy striping, and signage upgrades.
ENVIRONMENTAL SUSTAINABILITY	Wetland mitigation, wildlife improvement activities (installation of wildlife crossings and protections), pit reclamation, archaeological protection, endangered species protection, and air quality improvements.
MAINTENANCE	Work for general maintenance of the roadway, including fencing, sign replacement, crack sealing, pothole patching, drainage improvements, rest area improvements, etc.
URBAN	Transportation-related improvements within a designated urban boundary.
COMMUNITY DEVELOPMENT	Enhancements to community livability, such as lighting, pedestrian crossings, sidewalks, ADA upgrades, bicycle pathways, landscaping and aesthetic improvements.
OTHER	Other non-defined transportation items.

Project expenditures for pavements and bridges are reported to FHWA in the TAMP Annual Consistency Determination each year to verify that the investment strategies outlined in this plan are being carried out. The Planning Program uses relevant planning and engineering documents to determine the percentage of each project's anticipated construction costs that should be allocated to each of the work categories. STIP projects may be assigned multiple asset categories or subcategories, depending on the nature of the work that is completed. For example, if a project whose primary purpose is pavement rehabilitation also includes safety shoulder widening and/or passing lane construction to improve mobility and traffic flow and decrease crashes, then a portion of the project cost will be attributed to pavement preservation, while the remaining amount would be allocated to the Safety or Mobility categories. For projects located within urban boundaries, the work is typically included under the Urban category.



6. RISK MANAGEMENT

6.1 RISK ANALYSIS

Federal Regulation 23 CFR 515.7(c) requires State DOTs to develop and implement a risk-based asset management plan for the National Highway System (NHS) to improve or preserve the condition and performance of the NHS. The Bipartisan Infrastructure Law (BIL) (Public Law 117-58 § 11105) further amended these requirements to include consideration of extreme weather and resilience (23 U.S.C. 119(e)(4)(D)). WYDOT used AASHTO and FHWA's guidance to create the risk management portion of this plan, which identifies the strategies and resources that will be required to address risks to Wyoming's transportation assets and system performance. Whenever possible, WYDOT works to proactively address risk to assets, and to incorporate resiliency measures that mitigate against the effects of potential service disruptions (i.e. landslides, earthquakes).

Risk management is the formal and systematic process used by an agency to assess the effects of uncertainty on the organization's strategic objectives.

FHWA defines risk as “the positive or negative effect of uncertainty or variability on agency objectives.” This includes the potential for loss of service or harm to the transportation network due to unforeseen circumstances resulting in adverse consequences. Within the context of this plan, risk is considered to be the probability or threat of damage, injury, liability, loss, or any other negative occurrence caused by external or internal system vulnerabilities that could impact the operability of the transportation network, and which may be avoided through preemptive action.

WYDOT's risk management process evaluates the following elements: uncertainty of future cash flows; changes in economic conditions; bridge strikes; rockfalls/landslides; flooding events (including scouring & overtopping); avalanches; wildfires; and seismic activity. Risk management requires a continual reevaluation of possible risk factors, including a general assessment of the estimated consequences of those risks, and developing effective mitigation measures to maintain operational continuity and functionality if a risk event occurs. This allows WYDOT to actively manage or adapt to changed conditions resulting from an unexpected risk occurrence.

Risk management generally involves a scoring process that is used to assess the likelihood of occurrence and the consequence of each risk, as well as a ranking of the identified risks and related vulnerabilities. Additionally, WYDOT recently conducted a statewide resiliency analysis to ascertain system vulnerabilities and at-risk infrastructure assets of its existing transportation system to improve system resiliency and reduce asset vulnerability to environmental factors.

The analysis examined three risk levels: agency risk, program risk, and project risk. Agency risks are those affecting more than one major program, or having the ability to affect agency objectives or strategic progress. Program risk involves an event that prevents the traveling public, commerce, or both from



successfully moving from one location to another across Wyoming's transportation systems. The third and lowest risk level is project-level risk, which relates to bringing individual projects to completion.

This TAMP focuses primarily on program-level risks. Available funding is the main driver affecting the agency's ability to provide a low-risk transportation experience in Wyoming. Using the asset management principles outlined in this plan, the analytical software of the management systems (as previously described), and in-house expertise and inspection processes, WYDOT addresses programmatic risk to minimize hazard-related service disruptions to the transportation network through an emphasis on preventative efforts.

6.1.1 Agency Risk

The greatest risk to Wyoming's transportation network is agency risk, specifically, the lack of adequate funding to preserve and maintain existing infrastructure, combined with an inability to modernize or expand the system to meet future needs. Infrastructure assets such as bridges and pavements need a reliable funding stream throughout their lifespan to ensure sustained functionality. Funding shortfalls remain the highest long-term risk to the assets WYDOT strives to maintain. If Wyoming experiences a significant decrease in federal funding, then levels of service (LOS) may fall below federal minimum requirements. Financial risks, in particular, can hinder an agency's ability to implement the investment strategies identified in this asset management plan. In addition to decreased funding, other financial risks can include scope growth and project cost increases, labor and material price volatility, revenue uncertainty, political pressure, and environmental or right-of-way acquisition issues.

Another agency risk is inflation, which erodes purchasing power and increases the cost of construction. Long-range revenue projections predict relatively flat future funding levels, and the anticipated average annual funding increases over the next 10 years are not expected to keep up with annual inflation. WYDOT compared the region's Construction Price Index with other factors, and estimates an annual inflation rate of 5%. While in the short-term this has little impact on the agency's ability to meet its performance targets, longer term projections (ten years or more into the future) show a growing funding shortfall compared to expected pavement and bridge preservation needs.

6.1.2 Program Risk

WYDOT's TAMP primarily focuses on risk at the programmatic level. Programmatic risks are common to clusters of projects, programs, or entire business units. Program risks fall into one or more of three broad categories: (1) natural risks (geological hazards), (2) environmental risks (e.g. extreme weather), and (3) man-made risks.

NATURAL RISKS – Wyoming's highways are susceptible to a large variety of naturally occurring elements and hazards. Natural risks consist of earthquakes or seismic events, avalanches, forest fires, ground subsidence, landslides, and rock falls. These risks tend to disrupt the traveling public for longer periods of time, are random and unpredictable in their occurrence, and have the potential for significant and costly damage to transportation infrastructure assets.

Due to the state's geology and mountainous terrain, highways that traverse large geologic basins or mountain passes are particularly susceptible to potential soil movement and slide risk. Landslides are one of the most common geologic risks in Wyoming, and can seriously disrupt transportation corridors. One recent example of the catastrophic nature of this hazard type was seen with the Big Fill Slide that occurred along WY 22 over Teton Pass in June 2024. Teton Pass is one of the busiest two-lane highways in the state, and remains a vital roadway corridor for commuters and tourists. WYDOT had previously identified and begun monitoring this slide area, which allowed WYDOT to act immediately once accelerated ground movement was detected. This advance monitoring enabled WYDOT to close the highway before the roadway had become compromised and total failure occurred, thereby preventing any fatalities or injuries.

FIGURE 27: BIG FILL SLIDE



By actively monitoring slide areas such as this, WYDOT is able to evaluate ground saturation and unstable soil areas that might adversely impact roadways, and better predict the frequency and/or likelihood of a natural hazard event. When areas prone to natural risk are identified, WYDOT can initiate mitigation measures prior to the natural hazard occurring (when feasible), and respond quickly by closing roadways to protect the travelling public. The agency documents and maintains historical databases of geological incident-prone areas, previous slides, rockfall locations, and avalanches to monitor land movements and other naturally-related risk factors. In most instances, these natural risks can be addressed during the project design phase using industry and national design standards to pre-emptively moderate the risks.

ENVIRONMENTAL RISKS – Environmental risks are typically due to climate-related events, such as extreme wind hazards, blizzards and blowing snow, and flooding or storm water runoff. Significant damage to infrastructure is less likely to occur from these environmental hazards than with other identified risks; however, these types of hazards still have the potential to disrupt the traveling public for extended periods of time. For instance, snow-related storms are a frequent occurrence during the winter months and typically result in road closures, particularly along I-80.

Most of these hazards are shorter-lived events that disrupt traffic for a brief period of time before service is fully restored. Environmental risks tend to occur more often (cyclically) than natural risks. These risks are predictable in that their occurrence is considered in the cost-benefit analysis during each project's design; for example, structures are designed (sized) to pass a flood event of a given design frequency (i.e. 25-year, 50-year, or 100-year flood levels) and the possibility of a larger flood occurring during the structure's life is considered an acceptable risk trade-off.



MAN-MADE RISKS – Man-made risks are road closures caused by accidents, fires, fuel spillage, or other errors in judgment made by the driving public and commercial carriers. Historically, these road closures have been reasonably short and/or easy to route traffic around. Man-made events rarely cause significant damage to the transportation infrastructure. Local emergency response agencies typically manage these types of incidents.

6.1.2.1 Pavement Risks

FHWA recommends a risk-based approach to managing networks, corridors, and critical infrastructure by classifying routes based on varying degrees of importance, and using metrics that encompass economic generators, traffic counts, or distance from population centers. Accordingly, WYDOT makes risk trade-offs for pavement conditions based on system classification of the roadway (i.e. Interstate, Non-Interstate NHS, and Non-NHS), with the recognition that more risk is being taken on lower trafficked Non-NHS roads, which allows for the overall condition on less-travelled roadways to be lower than for higher volume roadways.

A secondary risk to WYDOT's pavements relates to this prioritization of roadway systems. WYDOT recognizes that it is less expensive to keep good pavements in "Good" condition than to repair them once they have fallen into a "Poor" condition state. This translates into the accepted risk that some lower volume Non-NHS roads are allowed to remain in a "Poor" condition for longer relative to higher-volume NHS and Interstate roadways, which results in continued deterioration.

Beyond this, WYDOT's approach to monitoring other pavement risks throughout the state is relatively reactive. Some roadways are more prone to natural and environmental risks due to their geographical location and proximity to mountains, waterways, or canyons. These areas are typically monitored through WYDOT's Geology Program. Unfortunately, WYDOT is unable to address a significant percentage of these existing risks with preventative measures whilst still maintaining a functioning transportation system due to the cost prohibitive nature of such projects. For example, it is simply not feasible to pre-emptively stabilize all possible rock fall slopes or landslide areas within the state, nor is it economical to realign routes around mountain passes or to bypass canyons to mitigate rockfall hazards. For more uncommon and remote risks, WYDOT has developed operational procedures to react quickly and effectively as soon as operational failures happen to minimize the duration of closures and return the system to a fully functioning operational state.

6.1.2.2 Bridge Risks

Wyoming's bridges are prone to numerous risks, particularly for structures located within seismic zones, erected over flood-prone waterways, or constructed on foundations susceptible to scour. As bridge infrastructure assets age, their serviceability and structural integrity may be reduced over time due to the increased impacts of deterioration. Some structures may contain non-redundant steel tension members or have fatigue prone details. Failure of key elements (such as protective coating systems, expansion joints, and bearings), along with bridge deck cracking, may rapidly reduce structural integrity and require a bridge to be load posted, or closed entirely in extreme cases (i.e. if a critical inspection finding is deemed significant enough to pose a safety threat to the travelling public). Bridges with substandard vertical and horizontal clearances may also be at risk from impacts of oversize loads.



WYDOT's Bridge personnel work to actively monitor and identify possible bridge risks through their Bridge Inspection Program. Inspection data itself tends to be inherently subjective, which constitutes another risk element for structures. When a risk to an existing structure has been identified, appropriate actions are taken to address areas of concern that could threaten the stability of a structure or present a serious safety hazard to the travelling public, including load posting or closing structures to through-traffic until corrective measures can be implemented.

To manage future risk occurrences and improve system resilience, risk mitigation strategies are typically incorporated during the design process, including hydraulic analyses to determine flooding risk and scour potential, and geotechnical investigations to ascertain seismic probability. To account for future environmental changes, bridges are typically designed to pass a flood event of a given design frequency (i.e. 25-year, 50-year, or 100-year flood levels) depending on the highway system, with the possibility of a larger flooding event (500-year) considered an acceptable risk trade-off. In some cases, a hazard risk is considered tolerable if it does not affect the structural integrity of the bridge or affect the travelling public, such as with riprap, which is a layer of large stones that protects soil erosion around structures in areas of high or concentrated flows. The riprap is considered a "sacrificial element" that is cheaper to repair or replace when flooding occurs, and WYDOT has determined that it is more feasible to simply replace the riprap when such an event occurs.

6.1.3 Project-Level Risk

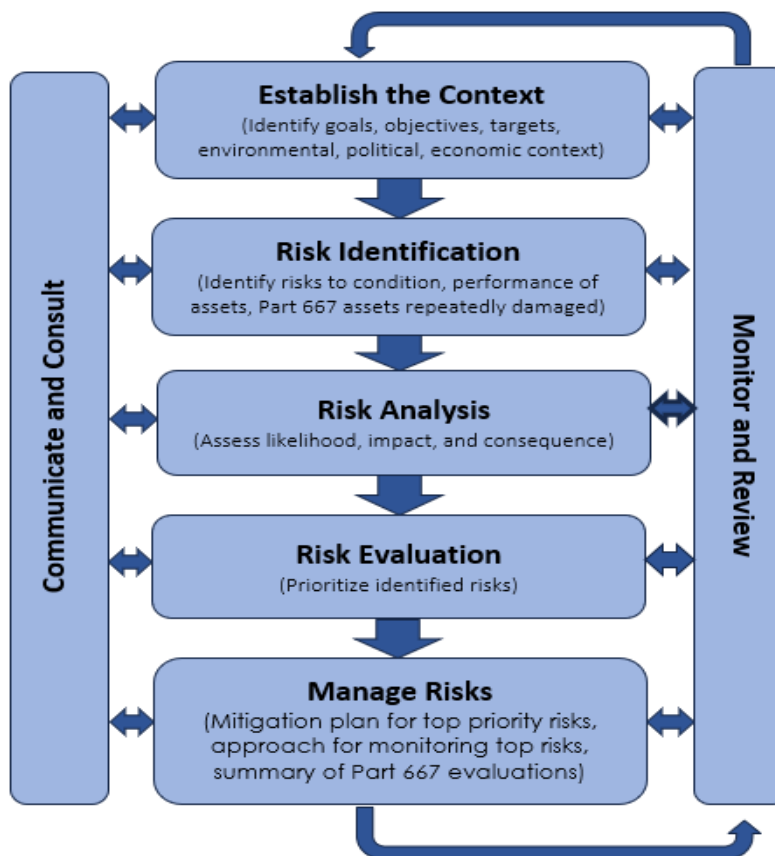
The third level of risk evaluated in this TAMP relates to project-level risks, which pertain to bringing individual highway improvement (STIP) projects to contract and completion. There are a number of risk factors that may prevent a project from successfully going to contract as scheduled, including but not limited to right-of-way acquisition, environmental clearances and permits, National Environmental Protection Agency (NEPA) compliance, construction funding constraints, and project cost increases. Project risks are only considered in the TAMP to the extent that their accumulated effect may impair the agency's ability to implement the STIP.

6.2 RISK MANAGEMENT PLAN DEVELOPMENT PROCESS

The TAMP final rule established under 23 CFR 515.7(c) requires State DOTs to establish a process for developing a risk management plan. WYDOT's risk management plan development process focused on program-level risks that could impact an agency's ability to operate and maintain a functioning transportation network at expected service levels. The framework assessed risk probability, identified strategies and resources required to remediate against, and prioritized risks based on likelihood and impact to the agency.

The following section explains WYDOT's risk framework for managing potential hazards, including identifying, analyzing, evaluating, and addressing risks to system performance and infrastructure asset condition on the NHS. The process WYDOT used to develop its Risk Management Plan is based on FHWA's standard risk framework, shown on the next page in Figure 28.

FIGURE 28: RISK MANAGEMENT PLAN FRAMEWORK



Source: FHWA

Four primary risk types are addressed in WYDOT's risk management plan:

OPERATIONAL RISKS – asset and maintenance failures, staff turnover, and internal procedural breakdowns.

STRATEGIC RISKS – public opinion, stakeholder demands, and changing standards and regulations.

ENVIRONMENTAL RISKS – rock slides, landslides, flooding, and seismic events.

FINANCIAL RISKS – lack of funding, budget uncertainty, price volatility, price increases (inflation), and negative economic conditions.

The following risk matrix (Figure 29) was used to identify, assess, evaluate, and prioritize risks to the transportation network. Risk scores are based on probability and severity of consequence, with an aggregated single score for each risk element used to prioritize the agency's top rated risks and related vulnerabilities. This rubric evaluates the impacts and probability of potential risk events based on asset criticality and likelihood. The consequence score reflects the direct and indirect impact of a hazard on the transportation network, and the likelihood of occurrence score is the probability of a hazard occurring.



FIGURE 29: RISK ASSESSMENT MATRIX

Risk Matrix								
Risk Impact				Likelihood of Occurrence				
				Rare	Unlikely	Likely	Very Likely	Almost Certain
				1	2	3	4	5
Consequence	Catastrophic	Potential for multiple deaths & injuries; substantial public & private cost.	5	Medium	Medium	High	Very High	Very High
	Major	Potential for multiple injuries, substantial public or private cost and/or foils agency objectives.	4	Low	Medium	Medium	High	Very High
	Moderate	Potential for injury, property damage, increased agency cost and/or impedes agency objectives.	3	Low	Low	Medium	Medium	High
	Minor	Potential for moderate agency cost and impact to agency objectives.	2	Low	Low	Low	Medium	Medium
	Insignificant	Potential impact low and manageable with normal agency practices.	1	Low	Low	Low	Low	Medium

WYDOT personnel, including members of executive staff, program managers, district staff, data stewards, and planning personnel completed a risk management survey to help identify the top priority agency risks. Specific risks to the system were evaluated according to the magnitude of disruption and the likelihood or probability of occurrence. Average risk score ranges are shown in Table 18, and the agency's top rated risks are summarized in Table 19 on the next page.

TABLE 18: RISK SCORE RANGES

Risk Score	Risk Rating
1-5	Low
6-7	Medium
8	High
9-10	Very High



TABLE 19: TOP RATED AGENCY RISKS

Identified Risk	Likelihood Score	Impact Score	Overall Risk Rating	Heat Type	Response
Workforce Turnover/Loss of Knowledge	4.34	3.69	8.03	High	Treat
Lack of Funding	3.84	3.81	7.65	Medium	Tolerate
Prolonged Preservation Strategy	4.03	3.47	7.50	Medium	Treat
Inflation/Cost Uncertainties	4.03	3.44	7.47	Medium	Tolerate
Inadequate Maintenance Budget	3.69	3.44	7.13	Medium	Treat
Competing Priorities	3.81	3.09	6.90	Medium	Tolerate
Landslides/Slope Failure	3.31	3.31	6.62	Medium	Treat
Lack of Contractors	3.41	3.13	6.54	Medium	Tolerate
Natural Disasters/Extreme Weather	3.22	3.31	6.53	Medium	Treat
Supply Constraints	3.16	2.97	6.13	Medium	Tolerate
Rock Falls/ Geohazards	3.06	3.00	6.06	Medium	Treat
Lack of Redundant Routes	3.03	2.59	5.62	Low	Tolerate
Environmental Restrictions	3.00	2.56	5.56	Low	Tolerate
Congestion/Increased Traffic	2.88	2.63	5.51	Low	Treat
PMS/BMS Models	2.91	2.59	5.50	Low	Treat
Changing Regulatory Requirements	2.91	2.50	5.41	Low	Tolerate
Urban/ADA Requirements	3.13	2.28	5.41	Low	Tolerate
New Technology/EV's	3.19	2.19	5.38	Low	Tolerate

WYDOT's risk management framework considers different approaches depending on the type and nature of the risk identified. Possible risk responses include:

- **TREAT THE RISK** – Taking action to reduce the chance of the risk occurring, or lessening its impacts when it does.
- **TOLERATE THE RISK** – Accepting and monitoring a risk because it cannot be feasibly addressed.
- **TERMINATE THE RISK** – Taking action to eliminate the risk or hazard.
- **TRANSFER THE RISK** – Outsourcing risk exposure to other agencies, or contractors.
- **TAKE ADVANTAGE OF THE RISK** – Capitalizing on the risk, i.e. seizing additional funding opportunities, to implement system improvements that strengthen the system.

The risks identified in this process are high-level agency risks, so specific mitigation strategies are not required; however, mitigation strategies are developed where applicable. Some of the agency's top rated risks are not considered treatable, and therefore must be tolerated. Those risks include funding deficits, supply availability/contractor constraints, increased fuel efficiencies, inflation and commodity price volatility. For identified risks that are considered treatable, mitigation strategies were identified, and the top priority treatable risks are addressed in WYDOT's Risk Register, presented on the following page.



TABLE 20: WYDOT RISK REGISTER

Risk Identification			Response	Monitor
Rank	Priority Risks	Description of Identified Risk	Mitigation Strategies	Responsible Parties
1	Workforce Turnover/Loss of Knowledge	–Lack of trained personnel (resources to recruit, train, retain employees) –Retirement of workforce (back fill and training) –Inexperience of workforce (recruitment, retention, education, training, loss of institutional knowledge, lack of experience)	–Develop contingency plans for decreased staffing levels that explore re-allocating staff and contracting alternatives. –Standardize internal training procedures and on-the-job training. –Utilize WYDOT University to provide professional training opportunities through instructor-led courses, distant learning options, and the WYDOT eLearning library. –Update recruitment strategies to reflect changing workforce needs. –Communicate to the legislature the need for a competitive compensation package. –Engage in succession planning, defining critical positions, and improving knowledge transfer.	Support Services Administrator, Assistant Chief Engineer, Engineering and Planning, HR Manager
2	Prolonged Preservation Strategy	– Falling behind on improvements, which increases likelihood of responding reactively – Aging infrastructure – Lack of reconstruction & added safety measures – Masking deep-rooted deterioration, which increases likelihood of responding reactively	–Determine proper annual funding levels for system-wide preservation, & set-aside limited funding for modernization/system expansion. –Communicate the benefits of preservation first & the impacts of not optimizing the use of resources to the public and legislature. –Ensure there are sufficient funds to maintain any capital expansion improvements. –Use LRTP to assist the legislature in determining funding levels to meet system requirements.	State Planning Engineer, System Planning Engineer, Assistant Chief Engineer, Engineering and Planning
3	Inadequate Maintenance Budget	–Premature asset failure due to lack of routine maintenance activities	–Analyze annual maintenance expenditures to determine the actual maintenance levels required to sustain and/or optimize the model deterioration curves. –Evaluate the cost of annual maintenance activities & their effects on asset life-cycle cost. –Incorporate maintenance expenditures into the asset performance models.	State Maintenance Engineer, PMS & BMS Engineers
4	Landslide/Slope Failures	–Loss of existing roadway or embankment due to landslides or unstable slopes	–Maintain geodatabase of identified slide areas and unstable slopes. –Install monitoring devices at vulnerable locations to proactively monitor ground movement. –Remediate storm water infiltration, re-contour or preemptively stabilize slopes when possible.	Geology Program



Risk Identification			Response	Monitor
Rank	Priority Risks	Description of Identified Risk	Mitigation Strategies	Responsible Parties
5	Natural Disasters/Extreme Weather	–Extreme wind hazards, blizzards, blowing snow, storm water runoff –Earthquakes or seismic activity, avalanches, forest fires, mud slides, flooding and overtopping events	–Conduct Statewide Hazard Analysis and develop a Transportation Resilience Improvement Plan (TRIP) that identifies high level risks and program projects designed to improve system resiliency. –Coordinate emergency response procedures. –Develop STIP projects to implement risk mitigation strategies. using industry and national design standards and historical data to determine the frequency or likelihood of re-occurrence. –Perform seismic retrofitting to vulnerable bridge assets. –Utilize geospatial analysis to assess areas with greater susceptibility to extreme climate events.	Project Design Engineers, Systems Planning Engineer
6	Rock Fall/Geo-hazards	–Rock fall hazards affecting the safety of the travelling public	–Expand use of GIS database to map and monitor geo-hazard locations throughout the state.	Geology Program
7	Congestion/Increased Traffic	–Increases in traffic and system demand due to population changes and economic development	–Create corridor plans for mobility/economic growth. –Monitor traffic volumes and truck counts. –Monitor automated/connected vehicle usage.	State Planning Engineer
8	PMS/BMS Models	–Assets deteriorating more quickly than the deterioration model predicts –Suboptimal treatment recommendations	–Compare post-project roadway metrics to ensure treatments are achieving predicted performance. –Evaluate system inputs and refine cost matrices. –Refine deterioration models to ensure that predictions are accurate. –Update cost models to reflect changing project costs. –Improve data collection and quality control processes. –Incorporate capital expansion/full reconstruction into management system outputs.	PMS & BMS Engineers

6.3 SYSTEM RESILIENCY

Transportation system resilience is a system’s ability to anticipate, prepare for, adapt and recover from natural disasters or hazard disruptions. System resiliency applies to all levels of public transportation infrastructure, and is a function of system-wide preparedness and planning for prevention, protection, mitigation, response, and recovery. It is a measure of an agency’s ability to keep the transportation system

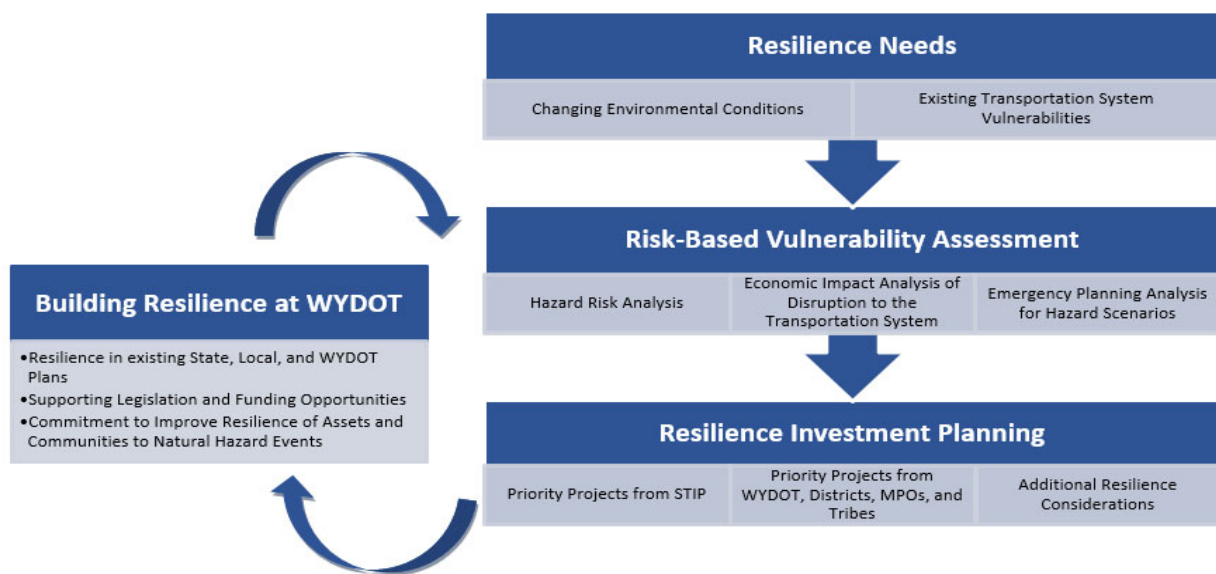


open and operational in the face of unexpected risk events, and to decrease the system’s vulnerability when such events occur.

Due to the State’s large geographically dispersed land area, Wyoming’s citizens rely heavily on the state highway system, and an individual failure may result in severe economic hardship for rural and small communities that are not served by other modes of transportation. Infrastructure assets are susceptible to a variety of hazards that stem from both natural and economic factors. Natural hazard risks can also be compounded by existing system vulnerabilities, such as aging infrastructure, deteriorating asset conditions, and revenue shortfalls.

WYDOT recently conducted a statewide hazard assessment analysis to develop a Transportation Resilience Improvement Plan (TRIP), which was completed in May 2025. The TRIP hazard assessment identified system vulnerabilities, including the potential for loss of service or harm to the transportation network due to unforeseen circumstances. Deteriorating roadways, bridges nearing the end of design life, capacity concerns, safety objectives, supporting rural communities, inadequate infrastructure to support economic growth or industry needs, and underfunded transportation alternatives all contribute to the challenges WYDOT faces in regard to maintaining the state highway system at its current level, and could result in adverse consequences for the agency or the travelling public. WYDOT’s process for improving transportation system resilience is illustrated below in Figure 30:

FIGURE 30: SYSTEM RESILIENCE



Source: WYDOT TRIP

6.3.1 Statewide Hazard Analysis

A statewide risk-based vulnerability assessment (hazard analysis) of all WYDOT-owned or maintained highway infrastructure assets was completed to further address and improve system resiliency within the state. This network-level evaluation identifies critical facilities, such as roadways, bridges, and ITS assets, to



determine the probable cost and consequence to Wyoming’s transportation network following an emergency event. The hazard analysis focused on critical WYDOT-owned transportation assets on the National Highway System (NHS) and on the Non-NHS network. The transportation assets evaluated in the assessment included paved roadways, WYDOT-owned bridges and culverts, WyoLink communication towers, and Intelligent Transportation System (ITS) assets, such as variable speed sensors, environmental sensor station webcams, and dynamic message signs.

The purpose of the analysis was to assess the probability and consequences of natural hazards affecting transportation infrastructure. Eight specific natural hazards that pose the greatest known risk to infrastructure throughout the state were identified in the TRIP. The analysis evaluated assets and locations most susceptible to natural hazards and extreme weather events to prioritize project recommendations for strengthening the transportation network. Each hazard analysis was conducted separately, and based on exposure and probability scores for that defined hazard event. The assets included in the analysis are presented in Figure 31, and the natural hazards types are shown in Figure 32.

FIGURE 31: TRANSPORTATION ASSET TYPES

Transportation Asset Types			
	Paved Roadways		ESS Webcams
	Bridges		Variable Speed Sensors
	Culverts		Dynamic Message Signs
	WyoLink Communication Towers		

Source: WYDOT TRIP

FIGURE 32: NATURAL HAZARD TYPES

Natural Hazard Types			
	Avalanche		Landslide
	Earthquakes		Rockfall
	Extreme Wind		Wildfire
	Flood		Winter Storms

Source: WYDOT TRIP

WYDOT’s TRIP was developed to ensure the agency is able to effectively respond to and recover from unexpected risk events. A list of the agency’s priority resilience projects was developed using the results of the hazard analysis, and in consultation with the five WYDOT districts. The results of the TRIP hazard analysis will help WYDOT to proactively address hazards that pose the greatest threat of disruption from changing environmental conditions, and to develop risk reduction strategies aimed at increasing the



adaptability of the transportation system to withstand extreme weather events and environmental disasters.

Critical infrastructure must be secure and able to withstand and rapidly recover from all hazards. Incorporating the proper resiliency measures to mitigate or offset the effects of any potential service disruptions when they do occur is a fundamental component of WYDOT's risk management process. Once critical assets have been identified, WYDOT determines the optimal mitigation strategy, and implements remediation efforts when required (i.e. constructing the necessary transportation improvements that will enhance an asset's ability to withstand and recover from a hazard event). However, addressing system vulnerabilities requires adequate funding, and continued resilience planning to ensure that the safety and reliability of Wyoming's transportation network is maintained.

When possible, redundant elements are added to Wyoming's transportation infrastructure. This can be done by constructing highway improvements that reduce network vulnerabilities to potential threats from environmental and man-made hazards, or incorporating design elements that reduce risks from natural disasters. In earthquake- or flood-prone areas, for example, resiliency can be improved by proactively monitoring high risk locations and retrofitting bridges in areas with known seismic activity. Redundant facilities and alternative routes also harden the system by ensuring drivers have an alternative way to get to their destination should infrastructure become damaged or removed from service due to a risk event (i.e. when a flood event takes a bridge out of service). Incorporating redundant elements and developing preparedness plans can also help circumvent disruptions when they do occur.

System resiliency is further addressed in WYDOT's Freight Resilience Plan, which prioritizes the State's critical highway freight facilities based on criticality rating, condition/performance, and risk analysis. A more thorough and comprehensive resiliency analysis process is applied to higher priority critical assets. WYDOT's principal resiliency risks include bridge flooding, bridge strikes, weather-related road closures, and light high-profile vehicle blow-overs.

6.4 EVALUATION OF EMERGENCY EVENTS

WYDOT conducted a statewide evaluation of existing network roads, highways, and bridges applicable under Title 23 that, "have required repair and reconstruction activities on two or more occasions due to emergency events, to determine if there are reasonable alternatives to any of these roads, highways, and bridges; evaluation should consider the risk of recurring damage and cost of future repair under current and future environmental conditions." An emergency event is defined as, "a natural disaster or catastrophic failure due to external causes resulting in an emergency declared by the Governor of the State or an emergency or disaster declared by the President of the United States."

Federal Regulation 23 CFR 515.7 requires State DOTs to identify risks that could adversely affect the condition or performance of NHS pavements and bridges, as well as to evaluate and prioritize these risks in order to develop a mitigation plan for monitoring the severity and likelihood of occurrence of these risks. 23 CFR Part 667 further requires an evaluation of facilities repeatedly damaged by emergency events (at a minimum on the NHS), as well as any proposed mitigation alternatives for those locations. WYDOT conducted a statewide evaluation of the state's existing roads, highways, and bridges eligible for funding



under Title 23 of the United States Code (U.S.C.) to meet the Evaluation of Emergency Events requirement and to better equip WYDOT to mitigate potential natural and environmental risks.

All Gubernatorial Executive Orders (E.O.'s) and Presidential Declarations of Emergency or Federal Emergency Management Agency (FEMA) Disaster Declarations that affected NHS highways and bridges since 1997 are included in the analysis. Events prior to that were not included since the federal regulations only stipulate an evaluation of emergencies that occurred after 1997. Emergencies that did not affect the state's transportation system or use Title 23 funding were not considered in this evaluation. Additionally, damage to non-WYDOT-owned assets were excluded from the analysis, since WYDOT is not responsible for maintaining those assets. Relevant emergency events were researched to determine specific locations, including the cost and extent of damage, and the type of repair work required to mitigate the impacted assets. Emergency and damage repair projects were queried from WYDOT's Enterprise Resource Planning (ERP) system, and cross-referenced to locations where infrastructure damage occurred as a result of a declared emergency.

Based on the evaluation of emergency events, six locations along the NHS were identified as having required repair or reconstruction on two or more occasions due to emergency events as decreed by the Governor of Wyoming or by the President of the United States. Three separate bridges located over the Little Wind River required minor riprap repair resulting from damages sustained in an emergency on two separate occasions; however, WYDOT considers riprap to be a sacrificial element that protects the substructures. No real mitigation strategies exist to protect the riprap at these locations in an instance of an emergency event. The cost to fully mitigate or eliminate the risk of damage to riprap at these locations would be cost prohibitive and environmentally unsound; therefore, WYDOT has elected to "tolerate" the risk of riprap damage to these structures.

Two locations had duplicate repairs and/or reconstruction activities that occurred during the same emergency event; therefore, a write-up of reasonable alternatives was not required. The last location is situated in the Wind River Canyon, where the highway traverses alongside the Wind River at the bottom of the canyon, with the adjacent canyon walls reaching up to 2500 feet high in some places. The road through the canyon is a designated Wyoming Scenic Byway with exposed rock and very steep slopes. During heavy rainfall and flooding events, large rock falls or erosion may occur. The damage that occurred at this location was the result of large rocks that dislodged from the canyon walls, and encroached upon the roadway. WYDOT is currently in the process of studying improvements or alternatives to the Wind River Canyon, including potential construction of a redundant route that could be used in the case of canyon closure. Based upon initial analyses, however, protecting the entire 11 miles of canyon is cost prohibitive and beyond the scope of reasonable risk mitigation measures.

The complete summary table of all locations affected by emergency events in Wyoming can be found in Appendix 8.2 at the end of this document, including a summary of those locations on the NHS requiring repair on two or more occasions.



7. ASSET MANAGEMENT PROCESS IMPROVEMENT

7.1 EVOLVING TAM PRACTICES

WYDOT has incorporated the principles of asset management into internal operating procedures and planning processes to further strengthen and support its national performance management objectives. The TAM is considered a “living” document that is regularly reviewed and updated in coordination with the implementation of WYDOT’s asset management practices. WYDOT strives to continually refine and advance these practices to effectively manage and preserve the state’s transportation network. The pavement and bridge asset management systems undergo continuous improvements, including adjusting the cost model inputs and updating performance and deterioration models as new asset condition data is collected. Better data allows for better investment decisions, and WYDOT continues to focus on data governance within the management systems, and refining the project selection process in accordance with its stated asset management principles.

Additionally, WYDOT performs asset management activities on many other highway assets; however, current regulations only require pavement and bridge assets to be included in this plan. These additional ancillary assets include traffic signals, sign structures, retaining walls, ITS devices, minor culverts, guardrail and many other highway assets. Although not required as part of this plan, WYDOT recognizes that maintaining these ancillary asset inventories and conditions are important factors in contributing to the overall efficiency and safety of the transportation network. For most of these ancillary assets, the replacement cycle is not condition-based, such as with bridges and pavements; however, asset management principles can still be used to determine appropriate rehabilitation and replacement strategies and intervals for other asset classes and subclasses within the agency. Improvements in data governance, refining data collection methods, and ensuring that all asset inventories are as complete as possible will also help improve the agency’s overall asset management process.

7.2 PROGRAM TRADE-OFF ANALYSIS

As the knowledge and principles of TAM continue to develop, and as newer technologies arrive to assist agencies in their data-driven decision methodologies, WYDOT is continuously working to improve and refine its asset management strategies. Program trade-offs are constantly being made across the agency to maintain the existing network; however, the balance of core statewide preservation needs must be weighed against public mobility and system modernization.

Trade-offs can be particularly challenging given the geographical diversity of the state and the importance of roadway travel for residents. On the whole, Wyoming experiences the highest rate of vehicle miles traveled (VMT) per person in the United States, with an average of approximately 20,000 miles travelled per person annually. Important economic sectors like energy, tourism, agriculture, and freight all rely



heavily on Wyoming's roadway network. System reliability and mobility access continue to be important considerations with respect to highway investments while still maintaining current service levels.

Two-thirds of WYDOT's contract construction budget is typically expended on three asset categories: (1) pavement, (2) bridges, and (3) safety improvements. Investing in safety improvements to reduce fatalities and serious injuries is part of WYDOT's core mission to provide a safe and effective transportation system. Although this TAMP does not address safety-related elements in this plan, WYDOT has implemented a network-level Safety Management System (SMS) that provides a data-driven strategic approach to improving highway safety. SMS data is used to identify vulnerable locations that could be improved through specific safety treatment recommendations, to create stand-alone safety improvement projects to mitigate crash potential where safety concerns have been detected, or to increase the overall systemic safety of Wyoming highways.

At present, the District Engineers perform the required tradeoff analysis between individual program areas within their respective districts. Utilizing their public information program, annual meetings with Tribal and local governments, and input from WYDOT Program Managers, the District Engineers select construction projects that will meet internal mileage treatment goals, bridge square footage rehabilitation goals, and safety treatments while working within their allocated funding constraints. WYDOT has also recently created an Innovation, Research and Asset Performance program to continue exploring more advanced methodologies for trade-off analysis. The objective of this new program is to develop a priority rating model that will be used to evaluate STIP projects based on competing highway needs.

The priority rating model would rank projects in terms of importance to Wyoming's roadway network, with the eventual goal of creating a project-prioritization tool that facilitates trade-offs across asset classes and system needs. Optimized trade-offs would further assist the agency in determining appropriate funding allocations for the remainder of highway construction needs beyond system preservation. Mobility and capacity expansion are areas where trade-offs will be explored to aid decision makers. While these factors are not explicitly incorporated into the asset management systems, they represent competing priorities outside of the annual system preservation needs. In some instances, construction of additional travel lanes to alleviate capacity concerns or widening bridges to accommodate more travel lanes may be required to maintain highways at desired service levels.

Based on its present strategy of asset preservation, WYDOT aims to manage its highway system at its current levels of service (LOS), and to facilitate efficient and economical movement of people and goods within the state. However, certain roadways will eventually require additional capacity to maintain economical movement of goods, as these roads are either beyond the desired capacity now or will be within the next 10 years. The majority of these roads are located within urban boundaries or fringe areas where the cost of expansion is many times more expensive than typical rehabilitation of a rural road.

For Interstate mainline facilities, WYDOT defines LOS C as the designated threshold to warrant capacity improvements. For all other facilities, LOS D serves as the warrant for improvement (construction of additional lanes). In other words, these are the service levels where traffic can move comfortably and at the posted speed limit. However, as the LOS on roadway segments fall below these benchmarks, travelers may experience disruptions and/or congestion during peak hours. The public's concern about safety as capacity is reached often drives alternative countermeasures such as reduced speed limits or the installation of traffic signals, which may temporarily alleviate the safety concern, but ultimately creates a



larger capacity issue. When analyzing individual projects, capacity improvements to add additional travel lanes are usually delayed if not specifically justified by projected AADT traffic volumes within the 20-year design life.

Another key capacity concern relates to freight movement and the need for commercial truck parking, particularly along Interstates. During the winter months, road closures due to inclement weather and weather-related crashes cause delays and can create freight bottlenecks that disrupt traffic flow when there is a lack of available truck parking spaces. I-80 is a primary route for the Interstate transport of goods across the nation, and constructing adequate parking facilities for commercial trucking vehicles remains a high priority. WYDOT continues to invest in additional parking facilities along I-80 in order to alleviate parking shortages during winter storm closures.

Reconstructing the I-25/I-80 Interchange is another system priority that must be factored against existing system preservation needs. The current interchange clover leaf design has not kept up with mobility demands, and without infrastructure improvements, continued safety issues, deteriorated traffic operations, and increased congestion are expected. The interchange will eventually need to be upgraded to more efficiently and safely accommodate existing & future traffic flows. The project involves demolishing the existing bridges, roadways, and ramps, and then reconstructing and modifying the interchange configuration with directional ramps to meet current design codes and safety measures. Ten existing bridges will need to be replaced due to the roadway widening and reconstruction, poor conditions, substandard load ratings, insufficient minimum vertical clearances, or due to having reached the end of their service life. Due to the magnitude and cost of this size of project, it is anticipated that it will take between 5 to 7 years to construct, and the cost of which will have to be balanced against the current funding needed to preserve the system.

Allocating limited resources amongst the many competing highway needs in a constrained fiscal environment remains one of the greatest obstacles the agency faces. Capacity, safety, and freight movement within the state are all important considerations, and WYDOT continues to develop and refine trade-off methodologies that advance the asset management processes used to maintain the highway network.



8. APPENDICES

8.1 APPENDIX A: PROGRAMMING INVESTMENT SUMMARY

Programming Amounts by Fiscal Year (Amounts shown in \$ millions)										
Revenue Sources	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
State Sources	318.9	384.1	388.0	391.9	395.8	399.7	403.7	407.8	411.8	416.0
Federal Revenues	498.5	503.5	508.4	513.6	518.7	523.9	529.1	534.3	539.8	545.2
Local Revenues	7.5	7.6	7.7	7.8	7.8	7.9	8.0	8.1	8.1	8.2
TOTAL REVENUES	824.9	895.2	904.1	913.3	922.3	931.5	940.8	950.2	959.7	969.4
Agency Expenditures	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Highway Improvement Program	472.7	514.4	519.5	524.8	529.9	535.3	540.5	545.9	551.4	557.0
Regular-Special Maintenance/Operations	133.7	160.0	161.6	163.2	164.9	166.5	168.2	169.9	171.6	173.3
Planning/Administration	34.5	34.9	35.2	35.6	35.9	36.3	36.7	37.0	37.4	37.8
Capital Expenditures	25.0	25.3	25.6	25.8	26.1	26.3	26.6	26.9	27.1	27.4
Other Expenditures	32.0	32.4	32.7	33.0	33.3	33.7	34.0	34.3	34.7	35.0
Operating Transfers Out	11.7	11.8	11.9	12.1	12.2	12.3	12.4	12.5	12.6	12.8
Support Services/Regulatory	17.2	17.4	17.6	17.7	17.9	18.1	18.3	18.5	18.6	18.8
Administration	2.2	2.2	2.2	2.3	2.3	2.3	2.3	2.3	2.4	2.4
Aeronautics	37.3	37.6	38.0	38.4	38.8	39.2	39.6	40.0	40.4	40.8
Wyolink	6.0	6.0	6.1	6.2	6.2	6.2	6.3	6.5	6.5	6.5
Law Enforcement	52.6	53.2	53.7	54.2	54.8	55.3	55.9	56.4	57.0	57.6
TOTAL EXPENDITURES	824.9	895.2	904.1	913.3	922.3	931.5	940.8	950.2	959.7	969.4
Project Expenditures	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
State Transportation Improvement Program (STIP)	407.1	448.4	453.1	458.0	462.7	467.7	472.5	477.5	482.6	487.8
Project Modifications	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
ROW/Utilities/PE/Misc.	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0
Indirect Cost Allocation Plan (ICAP)	39.6	40.0	40.4	40.8	41.2	41.6	42.0	42.4	42.8	43.2
Total STIP Expenditures	472.7	514.4	519.5	524.8	529.9	535.3	540.5	545.9	551.4	557.0



Programming Investment Summary for Asset Management

Asset Funding Amount	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Bridge Maintenance	0.7	4.2	0.0	12.0	0.0	0.0	0.0	0.0	0.0	0.0
Bridge Preservation	36.4	24.8	28.2	23.3	27.4	29.2	30.1	28.2	33.5	33.9
Bridge Rehabilitation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Bridge Replacement	85.2	48.2	43.9	41.6	71.7	19.5	34.9	38.7	43.5	43.5
Bridge New Construction	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pavement Maintenance	18.5	11.0	15.9	11.9	10.6	3.1	6.9	6.5	7.0	7.5
Pavement Preservation (1S)	6.0	3.5	5.7	16.8	8.5	19.7	20.6	8.1	7.5	8.5
Pavement Rehabilitation (2S+3S)	148.4	211.6	187.9	183.2	183.4	169.1	217.0	208.3	210.0	215.0
Pavement Reconstruction	23.0	22.1	24.1	2.1	11.3	67.7	19.8	8.6	15.0	15.0
Pavement New Construction	0.0	8.1	1.2	0.0	0.0	0.0	0.0	6.1	0.0	0.0
Dedicated Programs*	25.2	25.2	25.2	25.2	25.2	25.2	25.2	25.2	25.2	25.2
Other Asset Categories	63.7	89.7	121.0	141.9	124.6	134.2	118.0	147.8	140.9	139.2
Total Program Expenditures to Manage Assets	407.1	448.4	453.1	458.0	462.7	467.7	472.5	477.5	482.6	487.8

*Note: \$25.2M is reserved out of the Highway Improvement Program for dedicated programs. Funds for other agencies include Off-System Bridges, County Roads Improvement Program, Rail Highway Crossings, Congestion Mitigation Air Quality (CMAQ), Transportation Alternatives, Enhancements, Recreational Trail Enhancements, and State Urban Programs.



8.2 APPENDIX B: SUMMARY OF EMERGENCY EVENTS

Evaluation of Emergency Events									
Event Code: Type	Event Type	County	Date of Disaster Declaration	Incident Period	Projects	ML	RM	Project Type	Project Cost
E.O. 1997-2	Mud Slides	Teton	Governor: 5/29/97	Unknown	N/A	-	-	-	-
FEMA-1268-DR	Severe Winter Storm	Niobrara	Governor: 10/5/98 President: 2/17/99	10/5/98- 10/9/98	N/A	-	-	-	-
FEMA-1351-DR	Winter Storm	Crook, Goshen, Platte, & Weston Counties	Governor: 11/9/00 President: 12/13/00	10/31/00 - 11/20/00	N/A	-	-	-	-
FEMA-1599-DR	Tornado	Campbell	President: 8/22/05	8/12/05	N/A	-	-	-	-
FEMA-1923-DR	Flooding	Fremont County & portions of the Wind River Indian Reservation	Governor: 6/30/10 President: 7/14/10	6/4/10 - 6/18/10	N151025	ML15B	16.13	Erosion Repair ²	\$120,878
					N151024	ML15B	5.14	Erosion Repair	\$111,664
					N151026	ML15B	0.17	Channel Scour Repairs	\$67,165
					N203067	ML20B	102.93	Channel Scour Repairs ³	\$218,862
E.O. 2011-4, FEMA-4007-DR	Flooding; Severe Weather; Landslides	Albany, Big Horn, Carbon, Crook, Fremont, Goshen, Johnson, Lincoln, Platte, Sheridan, Sublette, Teton, Uinta, Washakie, & Weston Counties, & the Wind River Indian Reservation	Governor: 5/27/11 President: 7/22/11	5/18/11 - 7/8/11	DR32366	ML2104B	3.26	Enclosed Rip Rap	\$60,863
					DR41296	ML607B	185.2	Emergency Work ⁷	\$316,889
					DR41301	ML601B	21.2	Slide Repair	\$1,028,394
					DR41305	ML37B	75.6	Landslide	\$264,116
					0607037	ML607B	184.86- 197.5	Slide Repair ⁷	\$740,794
					DR41320	ML607B	187.8	Slide Repair ⁷	\$78,667
					DR12294	ML18B	50.31	Emergency Work	\$10,139
					DR50897	ML37B	31.5	Slide Repair	\$758,730
E.O. 2011-4, FEMA-4007-DR	Flooding; Severe Weather; Landslides	Albany, Big Horn, Carbon, Crook, Fremont, Goshen, Johnson, Lincoln, Platte, Sheridan, Sublette, Teton, Uinta, Washakie, & Weston Counties, & the Wind River Indian Reservation	Governor: 5/27/11 President: 7/22/11	5/18/11 - 7/8/11	DR50907	ML30B	104.02- 104.64	Erosion & Scour Repair	\$462,126
					DR50908	ML36B	31.1-31.3	Erosion & Scour Repair	\$93,611
					DR50911	ML34B	114.43- 128	Rock Fall/scaling ⁵	\$559,837
					DR50913	ML30B	69.0-69.1	Erosion & Scour Repair	\$101,813
					DR50914	ML35B	70.0	Emergency Work	\$27,295
					DR50915	ML37B	20.44-21.5	Rock Fall/scaling ⁶	\$448,047
					DR50920	ML35B	56.89- 58.08	Erosion & Scour Repair	\$1,523,566
					DR50924	ML37B	29.1	Emergency Slide Repair	\$6,330,180
					DR50925	ML37B	29.5	Emergency Slide Repair	\$871,053
					DR50926	ML37B	26.9	Emergency Slide Repair	\$201,513
					DR50929	ML37B	20.55-20.6	Erosion Scour Repair ⁶	\$216,521



Evaluation of Emergency Events									
Event Code: Type	Event Type	County	Date of Disaster Declaration	Incident Period	Projects	ML	RM	Project Type	Project Cost
E.O. 2011-4, FEMA-4007-DR (Continued)	Flooding; Severe Weather; Landslides	Albany, Big Horn, Carbon, Crook, Fremont, Goshen, Johnson, Lincoln, Platte, Sheridan, Sublette, Teton, Uinta, Washakie, & Weston Counties, & the Wind River Indian Reservation	Governor: 5/27/11 President: 7/22/11	5/18/11 - 7/8/11	DR50930	ML34B	152.2- 152.4	Landslide Repair	\$72,475
					DR50934	ML8889B	0.0	Erosion Scour Repair	\$123,193
					DR50935	ML5281B	0.547	Erosion Repair	\$412,926
					DR50962	ML8841B	4.8	Slide Repair	\$328,199
					N303055	ML30B	102.81	Bank Armoring & Levee ⁴	\$1,264,496
E.O. 2014-2 (replaced E.O. 2014-1)	Flooding; Severe Weather	Statewide	Governor: 4/25/14	3/14/2014 - 4/25/2014	N/A	-	-	-	-
E.O. 2015-1, FEMA-4227-DR	Flooding, Severe Weather	Statewide	Governor: 6/5/15 President: 7/7/15	5/24/15 - 6/6/15	DR51575	ML34B	118.0- 125.0	Landslide repair ⁵	\$899,832
					DR23431	ML85B	149.93- 150.01	Emergency Bridge Replacement ¹	\$2,566,894
					DR23462	ML1401B	132.65	Erosion repair ¹ ⁸	\$789,147
						ML85B	173.74		
						ML85B	185.55		
					DR23463	ML1401B	99.77- 133.34	Drainage repair ¹ ⁸	\$531,442
						ML39B	41.39-43.0		
						ML40B	30.0-40.88		
						ML85B	149.77- 187.0		
					DR51724	ML20B	102.93	Flood Repair ³	\$91,157
E.O. 2016-3 (replaces E.O. 2016-2)	Flooding, Severe Weather, Spring Rains, Snow Melt Runoff, Main Stream and Tributary River Flooding, Flash Flooding, Mudslides, & Landslides	Statewide	Governor: 5/7/16	5/7/2016- 5/31/2016	DR51725	ML703B	7.68	Flood Repair	\$59,356
					DR51726	ML20B	90.59	Flood Repair	\$86,834
					DR51728	ML15B	16.13	Flood Repair ²	\$114,497
					DR51730	ML703B	0.3	Flood Repair	\$87,297
					DR51732	ML20B	104.13	Flood Repair	\$263,692
					DR51740	ML14B	53.75- 53.80	Slide Repair	\$1,081,266
					DR51742	ML20B	84.58	Slide Repair	\$1,325,140
					DR51743	ML701B	2.04	Slide Repair	\$321,980
					DR51776	ML14B	55.45	Slide Repair	\$1,086,513
FEMA-4306-DR	Severe Winter Storm, Damaging High Winds, Power Outages, Excessive Snow, Rain, Rapid Snow Melt Runoff, Flooding, Mudslides, Snow Avalanches & Landslides	Teton	Governor: 2/10/17 President: 3/21/17	2/6/17 - 2/7/17	N/A	-	-	-	-
E.O. 2017-1, FEMA-4327-DR	Severe Winter Storm, Damaging High Winds, Power Outages, Excessive Snow, Rain, Rapid Snow Melt Runoff, Flooding, Mudslides, Snow Avalanches & Landslides	Statewide	Governor: 6/28/17 President: 8/5/17	6/7/17 - 6/22/17	DR51885	ML1507B	26.04-26.1	Slide Repair	\$6,093,911
					DR51892	ML30B	102.0- 104.50	Flood Repairs ⁴	\$1,261,546
					DR51873	ML30B	40.1	Slope Failure, Drainage	\$1,645,657



Evaluation of Emergency Events									
Event Code: Type	Event Type	County	Date of Disaster Declaration	Incident Period	Projects	ML	RM	Project Type	Project Cost
E.O. 2019-2	Tunnel Collapse	Goshen	07/22/19	07/17/19	N/A	-	-	-	-
E.O. 2021-4	Severe Winter Storm, Damaging High Winds, Power Outages, Excessive Snow, Rain, Rapid Snow Melt Runoff, Flooding, Mudslides, Snow Avalanches & Landslides	Statewide	03/16/21	03/16/21	N/A	-	-	-	-
E.O. 2022-05	Flooding	Statewide	06/17/22	06/12/22	ND52213	ML31B	21.9	Erosion Repair	\$882,519
					ND52215	ML31B	12.2	Erosion Repair	\$1,067,499
FEMA-4739-DR	Flooding	Natrona	09/11/23	06/15/23	N/A	-	-	-	-
E.O. 2024-06	Mud Slides	Teton	06/08/24	06/08/24	ND32401	ML2000B	12.8	Slide Repair	\$23,033,000
					ND32402	ML2000B	14.5-16.5	Mudslide Cleanup	\$2,265,100
E.O. 2024-08	Wildfires	Statewide	08/30/24	09/13/24	N/A	-	-	-	-
E.O. 2024-09	Wildfires	Statewide	08/30/24	09/29/24	N/A	-	-	-	-
E.O. 2024-10	Wildfires	Statewide	09/13/24	10/13/24	N/A	-	-	-	-
E.O. 2024-12	Wildfires	Statewide	09/27/24	10/29/24	N/A	-	-	-	-
E.O. 2024-13	Wildfires	Campbell, Converse, Crook, Fremont, Goshen, Johnson, Park, Platte, Sheridan, Sublette, Teton, Weston	11/15/24	11/15/24	N/A	-	-	-	-
E.O. 2025-02	Tunnel Crash	Sweetwater	02/14/25	03/17/25	DR37526	ML80D/I	90.1-90.33	Tunnel Repairs	\$17,739,092
E.O. 2025-05	Wildfires	Hot Springs	08/17/25	08/13/25	N/A	-	-	-	-
E.O. 2025-06	Wildfires	Sublette	08/24/25	08/21/25	N/A	-	-	-	-

Locations Requiring Repair and Reconstruction Activities on Two or More Occasions Due to Emergency Events				
Damage Location	Damage Description	Projects	Location	Agency Response
1	Damage to various bridge and drainage locations along US 85.	DR23431 DR23462 DR23463	ML85B RM 149.77-187.0	The duplicate repairs and/or reconstruction activities occurred during the same emergency event; therefore, a write-up of reasonable alternatives was not required.
2	Bridge riprap damage due to flooding and severe weather.	N151025 DR51728	ML15B RM 16.13	Damage in both events was to the riprap, which is considered a sacrificial element to protect the abutments. It would be cost prohibitive to prevent future damage to the riprap.
3	Bridge riprap damage due to flooding and severe weather.	N203067 DR51724	ML20B RM 102.93	Damage in both events was to the riprap, which is considered a sacrificial element to protect the abutments. It would be cost prohibitive to prevent future damage to the riprap.
4	Channel bank erosion due to flooding and severe weather.	N303055 DR51892	ML30B RM 102.81	Damage in both events was to the riprap. WYDOT utilized FEMA Hazard Mitigation Assistance grant funding to perform Bank Armoring and Levee construction to prevent future disruptions at this location.



Locations Requiring Repair and Reconstruction Activities on Two or More Occasions Due to Emergency Events				
Damage Location	Damage Description	Projects	Location	Agency Response
5	Various rockfall locations within roadway segment due to flooding and severe weather.	DR50911 DR51575	ML34B RM 114.43-128	Rockfall throughout Wind River Canyon encroached upon the roadway during these events. Slope scaling was performed to remove loose debris, reducing the immediate risk of additional rockfall. Riprap was added to the channel to armor the banks against future erosion. WYDOT is also currently in the process of studying alternatives to the Wind River Canyon; however, it would not be economically feasible to protect all 11 miles of the Wind River Canyon walls that are susceptible to rockfall.
6	Rockfall/landslide due to flooding and severe weather.	DR50915 DR50929	ML37B RM 20.44-21.5	The duplicate repairs and/or reconstruction activities occurred during the same emergency event; therefore, a write-up of reasonable alternatives was not required.
7	Landslide caused by severe storms and flooding.	DR41296 0607037 DR41320	ML607B RM 187.8	The duplicate repairs and/or reconstruction activities did not occur on the NHS; therefore, a write-up of reasonable alternatives was not required.
8	Landslide caused by severe storms and flooding.	DR23462 DR23463	ML1401B RM 132.65	The duplicate repairs and/or reconstruction activities did not occur on the NHS; therefore, a write-up of reasonable alternatives was not required.