

PORTFOLIOS & STRATEGIES

INNOVATION PORTFOLIO



Focus on existing and emerging technology opportunities to optimize program delivery, expand technology pilots and use cases, build new partnerships and enhance statewide mobility.



GUIDING PRINCIPLES

- **Strategies which enhance** agency response, data streams, and communication with changing infrastructure conditions to facilitate an environment of data-driven decision making
- **Strategies which can provide more real-time information** to transit providers and users through web and mobile applications
- **Strategies which cultivate a “technology awareness”** within all phases of project planning, design, operations, and construction
- **Strategies which position WVDOT to be proactive** and to leverage new opportunities to partner with the private sector, and to pilot and deploy new technologies

PORTFOLIO STRATEGIES

Multimodal Asset
Performance

Expand
Coordination

Prepare for the
Future

Statewide Mobility
Planning

Innovative Project
Delivery

These 5 strategies will foster new partnerships with other public agencies, expand the potential for private investment, efficiently manage existing assets, and prepare West Virginia for the future of transportation.

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INNOVATION STRATEGIES



Invest in asset condition and performance tools to better inform decision-makers on future investment needs related to existing infrastructure or the potential need for future projects.



LRTP ALIGNMENT

Advances three of the five LRTP Goals:

- System Condition, Efficiency, and Fiscal Sustainability
- Economic Vitality and Freight Movement
- Multimodal Mobility, Access, and Reliability

Low High



PERFORMANCE

Provides a framework for WVDOT to build a complete and interconnected suite of data and tools to inform data-driven decision making at all levels and modes. Ultimately this approach enhances the ability to deliver a higher return on investment and an agile approach to managing resources.

Low High



READINESS

Adjusts current performance tools and services to encompass all modes. It will encourage publication of asset and performance condition on publicly-available web-based applications. However, this strategy will require training for DOT staff and investment in more devices on transportation assets to collect data.

Low High



RESILIENCY

Further West Virginia's commitment to new technologies, helps build the workforce to implement, and improves information gathering. More real-time information and decision support systems will encourage more data-driven and responsive decision making.

Low High

CURRENT STATE OF STRATEGY IN WV

- Recent investment and expansion of pavement and bridge management systems and asset standard operating procedures
- Currently establishing performance management practices for non-highway modes
- New programming/data management tools

ACTIONS

Invest in tools, data management and reporting systems to communicate accountability and resource stewardship

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Expand coordination activities with Federal, state, and local partners. Set up regular coordination meetings to review current performance of assets, potential future needs, and current/future planning studies.



L RTP ALIGNMENT

Advances two of the five LRTP Goals:

- System Condition, Efficiency, and Fiscal Sustainability
- Livable and Health Communities

Low High



PERFORMANCE

Provides a framework for WVDOT to enhance communications with all transportation planning, programming, and implementation partners. Enhanced communications will facilitate decision making, including streamlining implementation and managing contentious issues within the project development process.

Low High



READINESS

Sets regularly-scheduled coordination activities between public agencies that support transportation program development or performance such as target setting. However, it may require additional internal organization and resources to coordinate meetings, travel around the state, and invest in a standard platform to manage engagement and virtual meetings.

Low High



RESILIENCY

Enhances West Virginia's technological ability to improve information gathering, synthesize feedback and communicate stakeholder engagement. It will improve online communication technology with partner agencies to facilitate efficient meetings, share feedback, data and potentially support quicker decision making.

Low High

CURRENT STATE OF STRATEGY IN WV

- Regular coordination with MPOs and transit providers
- Partner state agency coordination
- Federal agency coordination
- Coordination with private partners

ACTIONS

Encourage use of online communication technologies to enhance and coordinate partner input and decision making

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Support legislation that allows for the testing and deployment of automated vehicles or other travel modes. Invest in infrastructure projects that prepare for and support future communication technologies and vehicles.



LRTP ALIGNMENT

Advances three of the five LRTP Goals:

- System Condition, Efficiency, and Fiscal Sustainability
- Economic Vitality and Freight Movement
- Multimodal Mobility, Access, and Reliability

Low  High



PERFORMANCE

Expands broadband connectivity to rural and remote areas through transportation projects. Enables more WVDOT participation in emerging mobility (testing automated and connected vehicles, drone pilots, 5G communications for cell phone coverage). It may require a review of electric vehicle charging requirements, siting, and signage in priority corridors across West Virginia.

Low  High



READINESS

Addresses a long-term gap in how people travel and the technologies they use, and how freight moves and attracts more technology testing in West Virginia. It will require greater internal coordination or centralized oversight to balance private and public safety interests. It will require additional legislative action and/or state policies to implement.

Low  High



RESILIENCY

Enhances West Virginia's technological ability and prepares for the future of transportation by allowing for quick adoption of new technologies that would benefit the state. It would also allow for more flexible funding if partnering with private agencies, which could help if budgets are tight.

Low  High

CURRENT STATE OF STRATEGY IN WV

- “Dig Once” policy helps position WVDOH to optimize use of its right-of-way to support communications technology expansion and connections
- West Virginia Broadband Expansion Council is strategically planning how to address broadband gaps
- Partnership with the private sector on hyperloop

ACTIONS

Support, facilitate and enable investments, use cases and partnerships which prepare WV for next generation mobility

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Develop a statewide mobility plan that coordinates multiple transit agency schedules and routes across the state to better inform the public of transit options available to them.



L RTP ALIGNMENT

Advances two of the five L RTP Goals:

- System Condition, Efficiency, and Fiscal Sustainability
- Multimodal Mobility, Access, and Reliability

Low  High



PERFORMANCE

Addresses an emerging need to improve flexible mobility options for citizens without access to automobiles, particularly based on observed gaps in rural and urban WV communities from the COVID-19 pandemic experience.

Low  High



READINESS

Establishes a new West Virginia statewide coordinated plan to potentially model after the Ohio Statewide Connected Plan. It will address a long-term gap of rural transit access and increasing urban mobility needs of the state. It will address 5310 and 5311 recipient populations.

Low  High



RESILIENCY

Seeks to address changing demographic trends of rural and urban West Virginia, leading to a more balanced opportunities and launch innovative pilots, including micro transit, alternative fare payments, mobility as a service (MaaS) and fleet electrification. It will enable efficient service coordination between local operators to ease transit access for West Virginians.

Low  High

CURRENT STATE OF STRATEGY IN WV

- Expansion of GTFS (general transit feed specification) to cover all West Virginia fixed-route transit systems
- New partnership with the Department of Health and Human Resources to provide transportation options to individuals seeking treatment from addictions

ACTIONS

Establish coordinated mobility planning and services which streamline and enhance transit access and options

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Innovative project delivery and system management strategies create opportunities for WVDOT to bundle investments, utilize new construction methods and materials, and leverage new policies and programs to reduce costs.



LRTP ALIGNMENT

Advances all five of the LRTP Goals:

- System Condition, Efficiency, and Fiscal Sustainability
- Multimodal Mobility, Access, and Reliability
- Safety and Security
- Economic Vitality
- Livable and Health Communities

Low  High



PERFORMANCE

Facilitates enhanced internal coordination to leverage technology data sharing or workflow solutions from planning to project scoping to design. Facilitates creative contracting approaches with a focus on cost savings and resource effectiveness. Streamlines decisions to support efficient project delivery which contribute to the state's transportation performance.

Low  High



READINESS

Supports ongoing innovative contracting and design techniques in place such as alternative delivery methods. Leverages lessons learned from current initiatives to enhance implementation in the future. Research other best practices in neighbor and peer states to incorporate additional value.

Low  High



RESILIENCY

Helps establish an innovation culture across WVDOT to promote and proactively exploit new techniques and technologies to modernize decision support systems and evolve, accelerate project delivery over time. It will support and better prepare WVDOT to respond to grant opportunities to leverage project delivery.

Low  High

CURRENT STATE OF STRATEGY IN WV

- 2018 “Dig Once” policy extends broadband through highway and bridge improvements
- Since 2019, WVDOT has been deploying drones for stockpile intersections at scale
- WVDOH innovative project delivery includes multiple contracting mechanisms, including design-build, indefinite delivery/indefinite quantity (IDIQ) and warranty contracting

ACTIONS

Support innovation across WVDOT to streamline, enhance and modernize decisions and program delivery