

# 2050 LRTP

## Planning Process Review and Plan Implementation



**WVDOT Briefing  
September 21, 2021**



# Why We Are Here



West Virginia  
Department of  
Transportation

**2050 WEST VIRGINIA  
STATEWIDE LONG-RANGE  
TRANSPORTATION PLAN**





# 2050 LRTP Agenda

## ➤ LRTP Development

- » Purpose and Context
- » Approach
- » Plan Outcomes

## ➤ LRTP Implementation

- » Continuity
- » Awareness
- » Cohesiveness
- » Connections



# 2050 LRTP Requirements

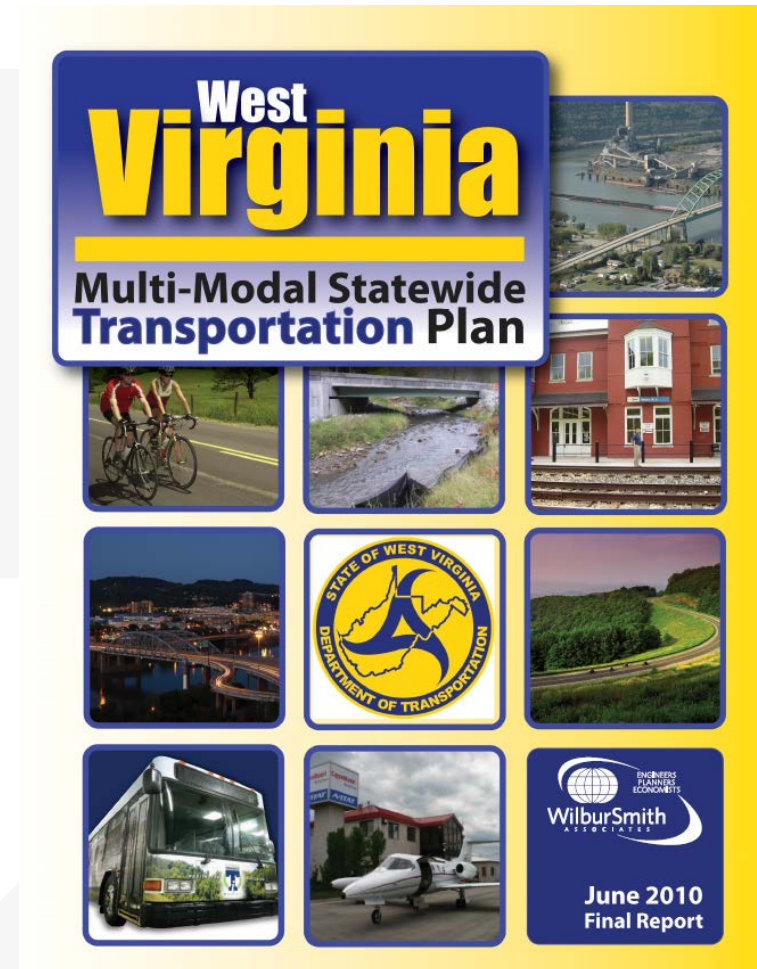
23 CFR 450.216 –  
Development and content of the long-range statewide transportation plan

“The State shall develop a long-range statewide transportation plan, with a minimum 20-yr forecast period at the time of adoption, that provides for the **development and implementation** of the multimodal transportation system for the State.”

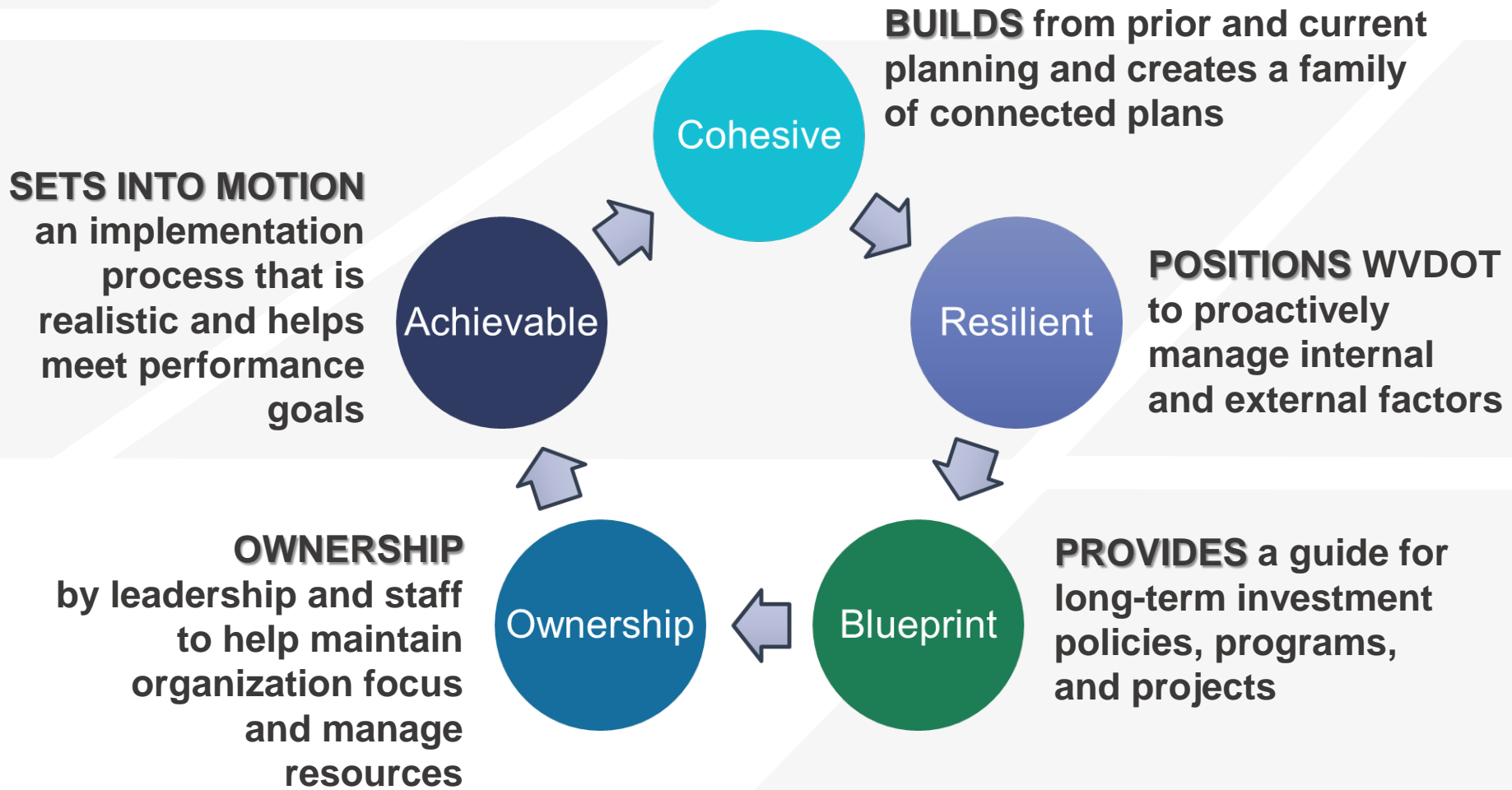


# What Has Changed?

- ➔ New Federal transportation bills and regulations
- ➔ Multiple new WV led transportation initiatives and funding
- ➔ Evolution of transportation technology, demographic and economic shifts, and new areas of uncertainty
- ➔ New WVDOT tools, data, and priorities



# What Did We Want to Accomplish?



# What Were Our Core Values?

- ➔ **Meet or exceed** Federal requirements
- ➔ Create a comprehensive multimodal understanding of **constrained and aspirational needs**
- ➔ Present **revenue trends, risks, and opportunities**
- ➔ Show the **funding gap** by comparing constrained revenues to **constrained and aspirational needs**
- ➔ Develop **strategies and actions** to help WVDOT address the gap while meeting mission and goals
- ➔ Rely on **stakeholder input**



# What Was the Approach?





# 2050 LRTP

## Final Plan Overview

### 1. Foundation

- Basis for Long Range Planning

### 2. WV LRTP Context

- Trends, System Goals, Objectives

### 3. Multimodal Needs

- Current and Future Conditions

### 4. Revenue

- Financial Assumptions, Opportunities

### 5. Gap Assessment

- Challenges, Portfolio Development

### 6. Tradeoffs

- Strategies to Address the Gap

### 7. Engagement & Input

- External and Internal Perspectives

### 8. Connections

- Performance links to Plans, Programs

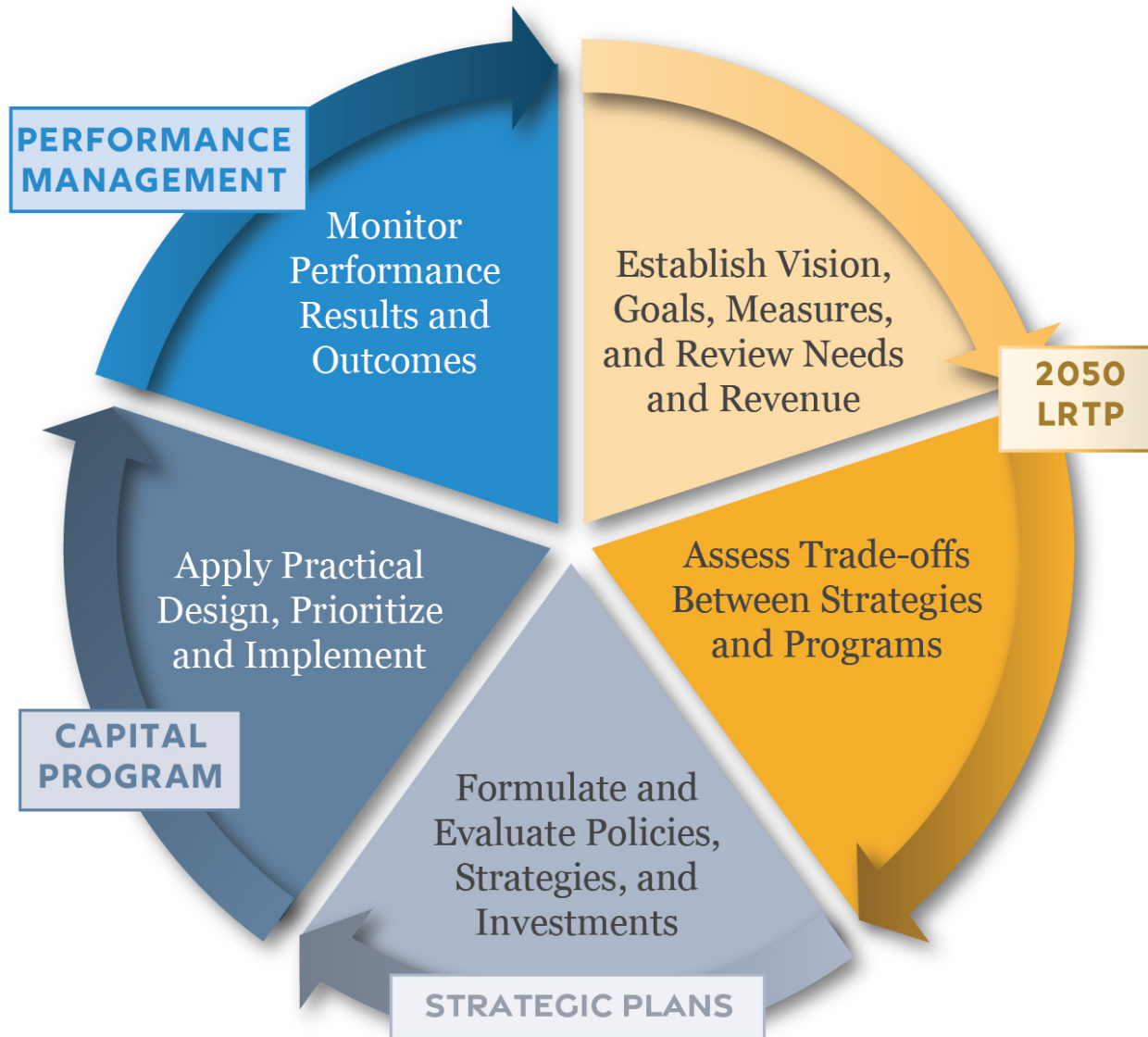
### 9. Implementation

- Short- and Long-Term Priority Actions Operationalize the WV LRTP



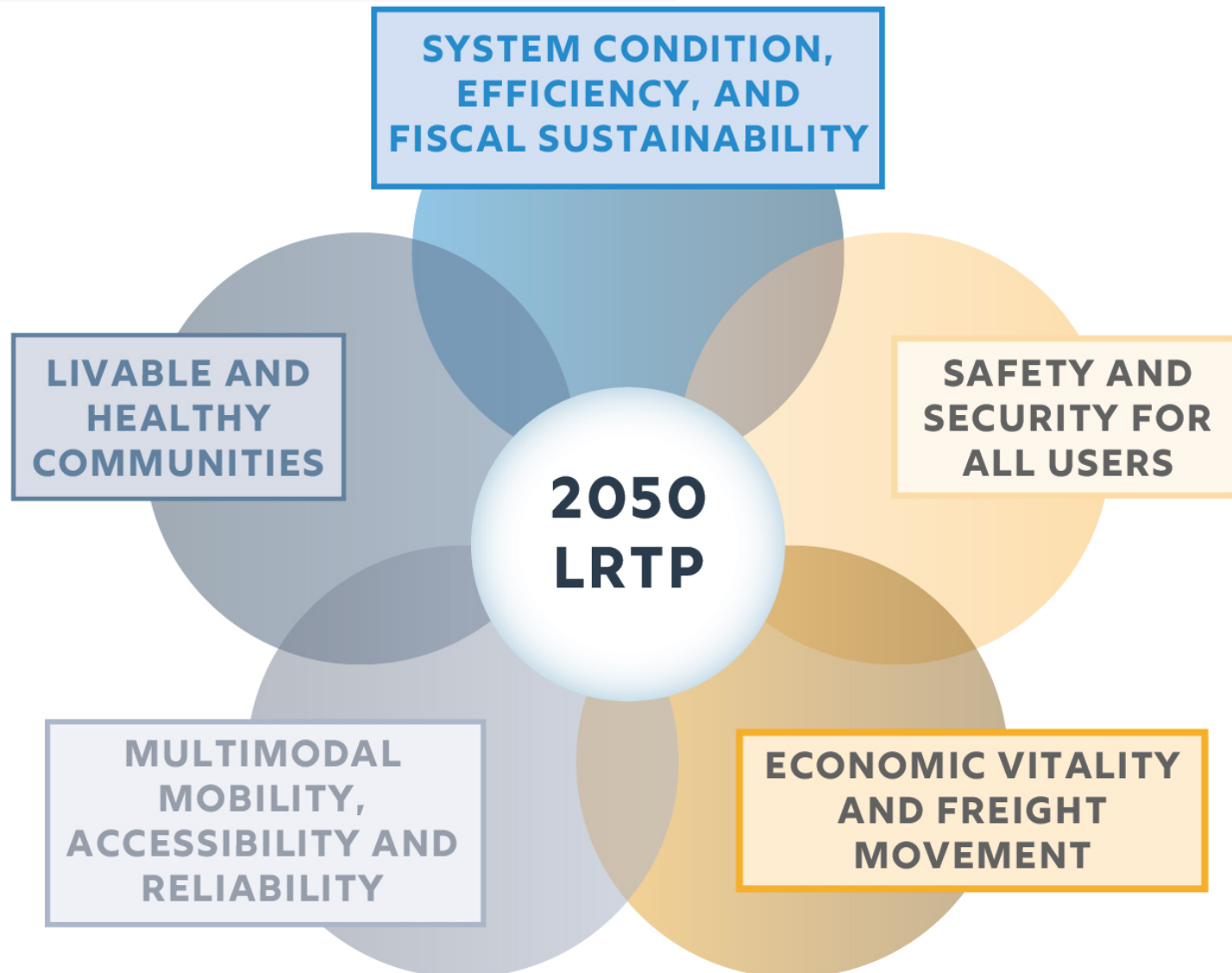
# 1. Foundation

➤ Basis for Long Range Planning



## 2. WV LRTP Context

➤ Trends, System Goals, Objectives



# 2. WV LRTP Context

## Trends, System Goals, Objectives

### Partners

#### STATE OF THE SYSTEM

**WEST VIRGINIA DOT - AGENCY OVERVIEW AND PARTNERSHIPS**

The West Virginia Department of Transportation (WVDOT) is composed of more than 6,000 men and women who work at the Division of Highways, Division of Airports, Division of Public Transportation, the Public Post Authority, the Parkways, Commercial Development and State Authority (DM, Transport), the State Rail Authority, and the Aeronautics Commission.

WVDOT provides essential services in transportation, facilities and economic development, including:

- Safety and protection for drivers through modern operating standards for our highways, road and airport facilities and licensing and permitting of drivers and motor vehicles.
- Transportation services including support of public transit, transit operation and maintenance, airports and their operations and highways construction and maintenance.
- Community and economic development through accessible roads, transit services, roads, transit and airports and support for the local community through technical and other development activities.
- Revenue generation through the highway toll, fuel tax and extension, fuel taxes, tolls and concessions fees and bond and lease funding activities.
- Information and education through driver education, traffic information, safety guidance, public involvement in transportation planning and continuing education.

**Mission Statement:**  
It is the mission of the West Virginia Department of Transportation to create and maintain for the people of West Virginia, the United States and the world a safe, secure and efficient transportation system that supports the safe, efficient and efficient movement of people, information and goods that enhances the opportunities for people and communities to enjoy environmentally sensitive and economically sound development.

The Aeronautics Commission issues and enforces the regulations for the certification of aircraft and pilots in West Virginia and oversees the operations of airports and air navigation facilities.

The Division of Highways is responsible for planning, engineering, right-of-way acquisition, construction, traffic regulation and maintenance of more than 40,000 miles of state roads.

The Division of Airports provides driver education and education through the West Virginia Regional Airport.

WVDOT's overall goal is to provide safe, efficient and reliable transportation services to West Virginia's citizens.

**West Virginia Division of Highways - Planning Division | 1**

### Aviation

#### STATE OF THE SYSTEM

**AVIATION IN WEST VIRGINIA**

West Virginia airports serve a significant role in the state's economy and quality of life, including employment opportunities, the business community, supporting tourism, and providing excellent service to the local communities they serve.

West Virginia airport system serves a variety of benefits to residents and visitors of the state including business and leisure, shipping, sports, tourism, and more targeted aviation activities such as using general aviation (GA) to monitor weather, visit and bring government and other state officials to the state. Among the 38 public-use airports in West Virginia, seven provide commercial service. Three of these airports are considered primary airports, including Hager Airport in the City of Charleston, Huntington Tri-State Airport in the City of Huntington, and North Central West Virginia Airport associated with the City of Charleston.

In 2013, according to Federal Aviation Administration (FAA) employment (Billing) data, there were 417,925 total commercial flight enplanements at the seven commercial airports in the state. There are not any airports for commercial air travel (there are just three primary airports within an hour drive that serve WV residents and visitors, including Duke International Airport (Birmingham, Tennessee Regional Airport, and Pittsburgh International Airport).

**34** public-use airports  
**7** commercial service airports connect West Virginia to regional and national markets  
**417,925** passengers boarded a commercial flight at these airports in 2013

**WHY AVIATION IS IMPORTANT**

According to the 2013 National Business Impact Study for Huntington Tri-State Airport, the airport and its associated businesses generated an estimated 1.25 jobs with a payroll of more than \$4 million dollars in 2011. The total economic output of the Huntington Tri-State Airport was more than \$28 million dollars. Similarly, Hager Airport generated approximately 1,300 jobs and had an estimated total economic impact equivalent of more than 180 million dollars in 2010. These economic impacts are just through an airport's engine.

West Virginia's three main commercial airports, North Central West Virginia Airport associated with the City of Charleston, Arthur B. Moore Airport, Aerospace Campus (MAC) at Parkersburg, and Huntington Tri-State Airport, are all FAA certified airports. The MAC supports more than 1,500 aviation-related jobs in the Parkersburg area.

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### Highways

#### STATE OF THE SYSTEM

**HIGHWAYS IN WEST VIRGINIA**

West Virginia is the 31st largest and the 18th most populous state in the country by total land area. West Virginia is known for its natural beauty, its small towns, and small communities. Linking these together is an extensive network of roads of which about 80 percent are owned and operated by the WV Division of Highways (DOH), making it the largest state road-maintained highway network in the nation.

**14** major state (6+ mile) roads  
**6** major state-maintained highway systems (Summit of Transportation Districts) (DOTD)  
**350** local government (DOTD)

**18,810** miles of public roads  
Of which, WVDOT owns 16,918 miles (90% of the state's roads), including:  
 - WVDOT owns 14,342 miles, including:  
 - 468 Interstate miles  
 - 1,139 non-Interstate I-90 miles  
 - 10,827 Federal-aid highways  
 - The WV Turnpike runs 87 Interstate miles  
 - 7,269 WVDOT maintained bridges  
 Of which, WVDOT owns:  
 - 294 Interstate I-81 bridges  
 - 693 non-Interstate I-81 bridges  
 - 71% of bridges and 64% of a (2.5 million sq ft)  
 - The WV Turnpike runs 95 Interstate bridges and 2 non-Interstate I-81 bridges

Other facts:  
 - 4 toll roads, 10 toll-free road miles  
 - 4,400+ toll bridges and over 30,000 signs  
 - Over 40,000 roadlights  
 - Turfgrass travel lanes  
 - 5 distinct effect on 34 county maintenance schedules  
 - 1,400+ toll bridges and over 30,000 signs  
 - Over 40,000 roadlights  
 - Turfgrass travel lanes  
 - 5 distinct effect on 34 county maintenance schedules

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### Goals

#### STATE OF THE SYSTEM

**2050 LRTP - GOALS AND OBJECTIVES**

The West Virginia Department of Transportation (WVDOT) 2050 Long Range Transportation Plan (LRTP) will identify goals, objectives, and performance measures that will guide WVDOT through plan implementation. The goals define the desired state, while objectives support a specific goal and provide additional details or strategies on how the goal will be achieved. Performance measures are tied to each objective and are used to assess the effectiveness of policies and projects.

WVDOT LRTP goals and objectives were developed through the following process:

- Ensuring that WVDOT's Mission Statement is represented in the goals.
- Researching other WVDOT plans including the Transportation Asset Management Plan, the prior WV Long Range Transportation Plan, the Freight Plan, the Rail Plan, the Bicycle System Plan, Transit Asset Management Plan, Modern Service Coordinator Plans, Public Transit Safety Plan, and the State Highway Safety Plan.
- Examining the Federal Planning Act (23 CFR 430.206A) and the Federal Transportation Goals (23 USC 1080) and ensuring those factors and goals are incorporated in the proposed goals and objectives.
- Looking at peer and neighboring states' long range transportation plans.
- Input from WVDOT staff and external stakeholders.

These resources helped the LRTP team reach consensus on five goals:

- G** System Condition, Efficiency & Fiscal Sustainability
- S** Safety and Security for All Users
- E** Economic Vitality & Freight Movement
- M** Multimodal Mobility, Reliability & Accessibility
- H** Healthy & Healthy Communities

**WVDOT Mission:** Plan Vision/Goals/Targets  
**How Are We Going to Make Decisions?** (Goals, Objectives, Measures)  
**How Are We Going to Get There?** (How Are We Going to Track Performance?)  
**How Are We Going to Track Performance?**

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### Transit

#### STATE OF THE SYSTEM

**PUBLIC TRANSPORTATION IN WEST VIRGINIA**

West Virginia's transit system provides a variety of services to its residents and visitors, including providing economic, recreational, and health benefits to communities across the state and the access work, education, training, medical facilities, and shopping areas. WVDOT's transit system includes public transportation, commuter bus, and local transit services that provide a safe and efficient mode of transportation for the state's residents and visitors. The transit system also provides a variety of services that support the state's economic and social development.

Urban Transit Systems	Rural Transit Systems	Intercity Systems
Urban transit systems are those that serve incorporated areas of over 50,000 people. Urban transit services include a variety of combinations of fixed route, demand, and on-demand services, non-emergency medical, and other services. These services are distributed by the Division of Public Transit. There are eight urban transit providers in West Virginia.	Rural transit systems are those that serve unincorporated areas of under 50,000 people. Rural transit services include a variety of combinations of fixed route, demand, and on-demand services, non-emergency medical, and other services. These services are distributed by the Division of Public Transit. There are eight rural transit providers in West Virginia.	Intercity transit systems are those that provide direct service between Charleston and Morgantown, and multiple lines between other major cities in the state. These services are provided by the Division of Public Transit. There are three intercity transit providers in West Virginia.

**2019 DATA**  
**7.2M** passenger trips  
**12.5M** revenue-miles of service  
**800k** revenue hours of service  
**404** vehicles in operation

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### Bicycle

#### STATE OF THE SYSTEM

**BIKING AND WALKING IN WEST VIRGINIA**

The importance of bicycle and pedestrian travel and supporting infrastructure continues to rise as both a local and national level, providing a variety of benefits to communities across the state. Bicycling and walking are important modes of transportation for the state's residents and visitors, providing a safe and efficient mode of transportation for the state's economic and social development.

**BICYCLE ROUTES**

In 2010, West Virginia had 347 local bicycle routes in use by the West Virginia Department of Transportation (WVDOT). WVDOT has identified the need to provide a bicycle route network that connects major cities and towns across the state, providing a safe and efficient mode of transportation for the state's residents and visitors.

**TRAIL NETWORK**

West Virginia offers over 1,300 miles of trails that support recreation, health, and economic development. The state's trail network includes a variety of trails that provide a safe and efficient mode of transportation for the state's residents and visitors.

**COMPLETE STREETS**

The Complete Streets concept promotes safe, multi-modal streets. Complete Streets improvements include crossing streets for pedestrians and bicyclists, high-visibility crosswalks, crosswalks with flashing lights for non-motorized users, non-motorized user facilities, and other related services through geometric redesigns. The Complete Streets Advisory Board provides technical communication, education and training to WVDOT and operates on Complete Streets projects.

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### Freight

#### STATE OF THE SYSTEM

**FREIGHT IN WEST VIRGINIA**

West Virginia's multimodal freight network provides a variety of services to its residents and visitors, including providing economic, recreational, and health benefits to communities across the state and the access work, education, training, medical facilities, and shopping areas. WVDOT's freight network includes a variety of services that support the state's economic and social development.

Mode	Miles of Freight Network by Mode
Highway	3,199 miles
Railroad	2,112 miles
Inland Waterway	214 miles
Pipeline	2,110 miles

**Highway**  
 - The highway network provides critical first and last-mile access to the state's freight-generating industries and businesses.  
 - The State's highway system includes 1,319 miles of designated roadway miles, and includes the Highway Freight Network, Appalachian Development Highway System, and the Coal Resource Transportation System.

**Railroad**  
 - West Virginia has a total of 12 freight railroads in operation, comprised of two Class I railroads, Norfolk Southern and CSX, and 10 short-line or regional railroads (Ches and R).

**Inland Waterway**  
 - Of these railroads, the largest carrier is CSX with 1,113 route miles. Norfolk Southern is the second largest carrier, with 850 route miles of track.

**Pipeline**  
 - There are approximately 276 miles of navigable waterways in West Virginia including the Ohio, the Kanawha, and Monongahela Rivers.  
 - The combination of air and water connectivity in the West provides an essential option for moving both commodities, which comprise a major portion of the state's economy.  
 - West Virginia is a leading natural gas-producing state in the nation.  
 - According to the U.S. Energy Information Administration, West Virginia was ranked the seventh-largest market for natural gas in the nation in 2010.  
 - The state was the seventh-largest market for crude oil production in the nation in May 2010.

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## 2. WV LRTP Context

### ➤ Trends, System Goals, Objectives

#### » Introduction/Context

Why is this relevant to WV's transportation and economic future?

#### » Where Are We Today?

What is WV's current position relative to our peers and the nation?

#### » Where Are We Going?

Where might the future take us, here in WV and through outside perspectives?

#### » Future Direction and Opportunities

How might WV create opportunities from these trends and how can it avoid or mitigate possible risks?



# 3. Multimodal Needs

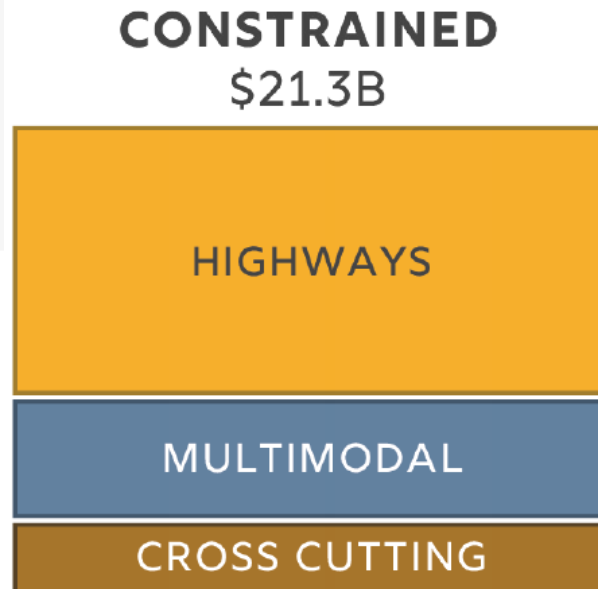
➤ Current and Future Conditions



### 3. Multimodal Needs

➤ Current and Future Conditions

- » Importance of asset management
- » Evolving safety needs
- » Industry changes
- » Relationship to broader state goals
- » High cost of doing nothing



**ASPIRATIONAL**  
\$87.3B

4X CONSTRAINED

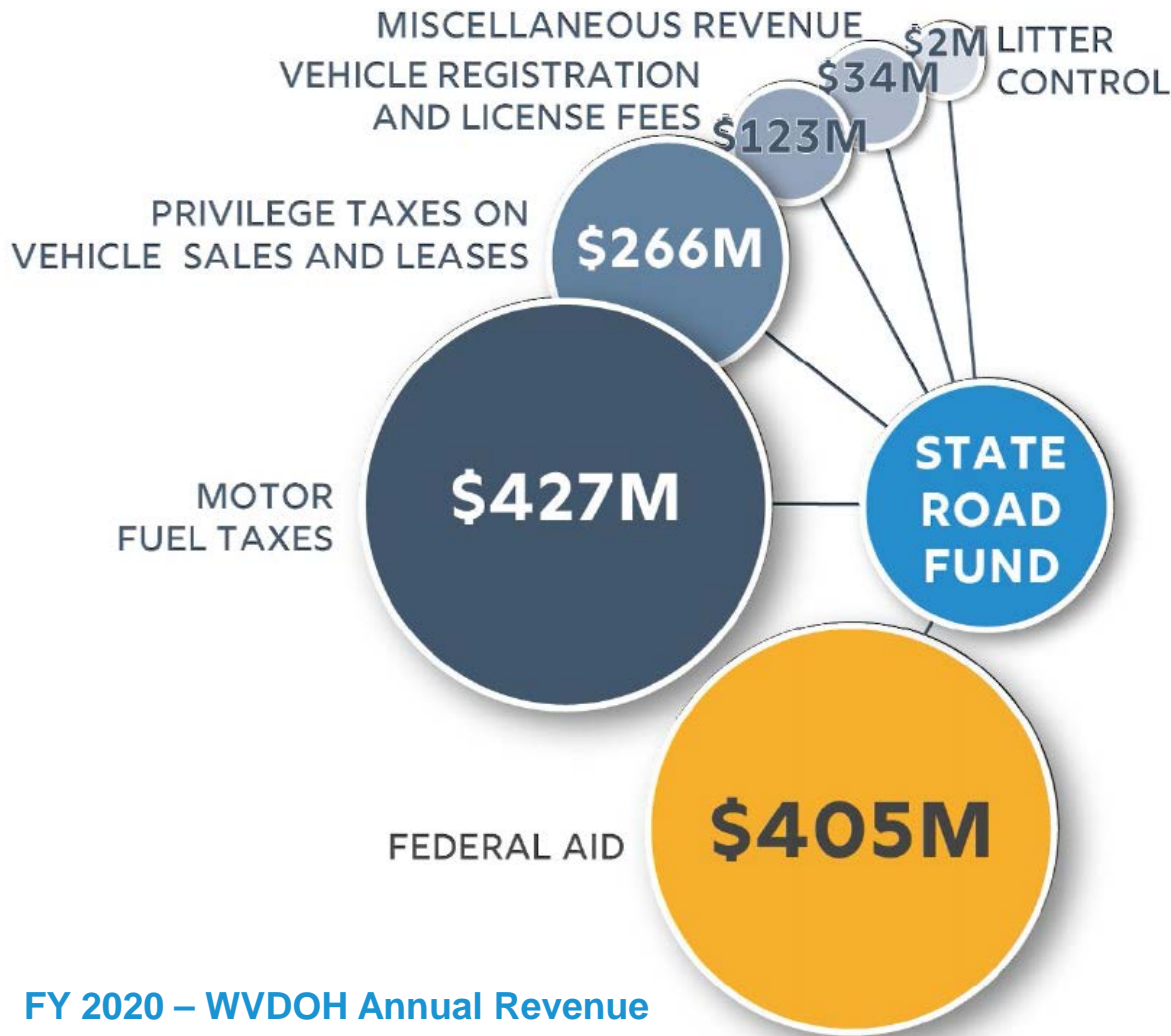
Full accounting of needs from projects, plans and programs regardless of cost of feasibility

For bridge and pavement, the total funding required to maintain asset condition at 10% poor or better was analyzed



# 4. Revenue

➤ Financial Assumptions, Opportunities



FY 2020 – WVDOT Annual Revenue

## Spending drivers

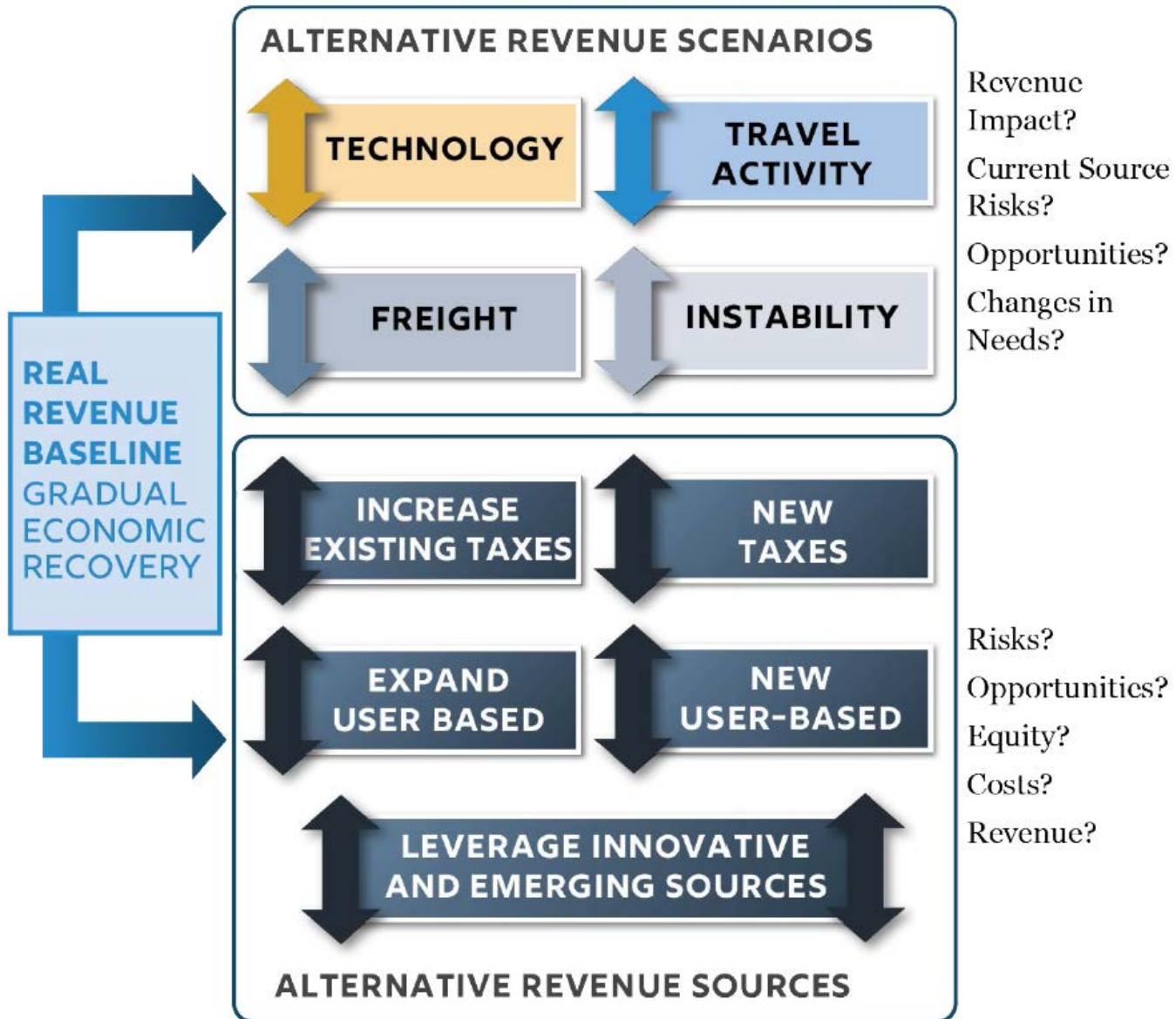
- » State of good repair
- » Increasing cost of doing business
- » Economic shifts
- » Demographic and social change
- » Post-pandemic travel adjustments
- » Demand for multimodal options
- » Unforeseen emergencies





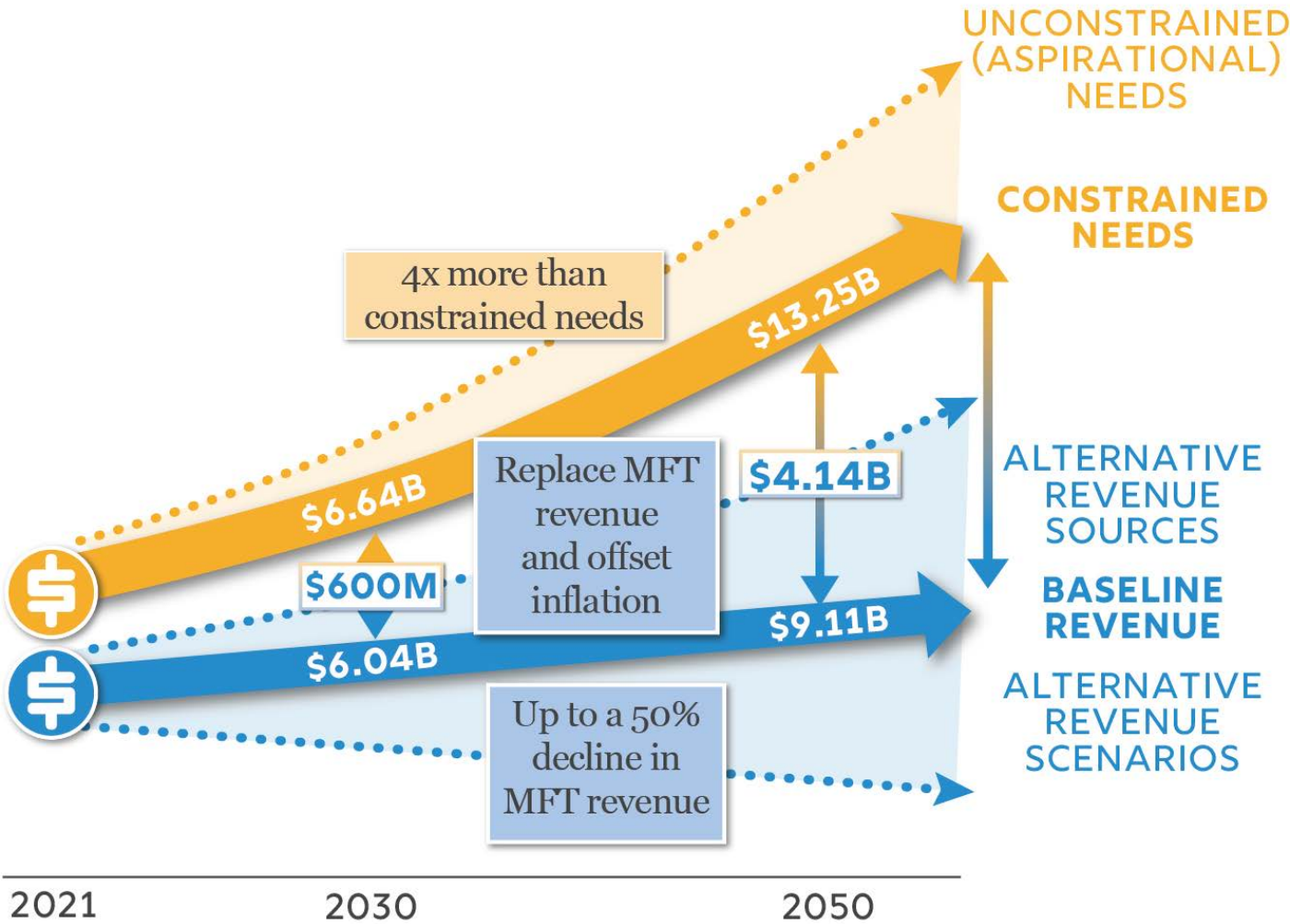
# 4. Revenue

➤ Financial Assumptions, Opportunities



# 5. Gap Assessment

➤ Challenges, Portfolio Development



- » The gap will expand as needs and costs to do business increase
- » The longer the revenue sources remain unchanged, revenue risks increase from inflation and other externalities
- » More efficient spending and new revenue sources can help reduce the gap



# 6. Tradeoffs

## ➤ Strategies to Address the Gap



**FOCUS ON THE MOST CRITICAL ASSET MANAGEMENT NEEDS** INCLUDING BRIDGES, PAVEMENT, AND ROADSIDE ASSETS



**FOCUS ON ADDRESSING HIGHWAY SAFETY AND RELIABILITY NEEDS**, INCLUDING BEHAVIORAL AND SYSTEMIC SAFETY IMPROVEMENTS AND HIGHWAY OPERATIONS AND CAPACITY STRATEGIES



**FOCUS ON EXISTING AND EMERGING TECHNOLOGY OPPORTUNITIES**, TO OPTIMIZE ASSET PRESERVATION, SAFETY, HIGHWAY OPERATIONS, AND MULTIMODAL MOBILITY AND ACCESS



**FOCUS ON MULTIMODAL OPTIONS FOR PASSENGER AND FREIGHT TRIPS** TO IMPROVE ACCESS TO DESTINATIONS AND OPPORTUNITIES



**FOCUS ON SERVING DISCONNECTED COMMUNITIES AND ADDRESSING NETWORK GAPS** TO IMPROVE ACCESS TO JOBS, HEALTH CARE, RECREATION, AND KEY INDUSTRIES



Portfolios are the **objectives** for creating strategies

Strategies **operationalize** the general approaches to meet the objectives

There are **trade-offs** among strategies, including costs, feasibility, performance outcomes, equity

Actions represent the **tactical steps** to deliver

In short-term, focus on **high-return, low risk actions**

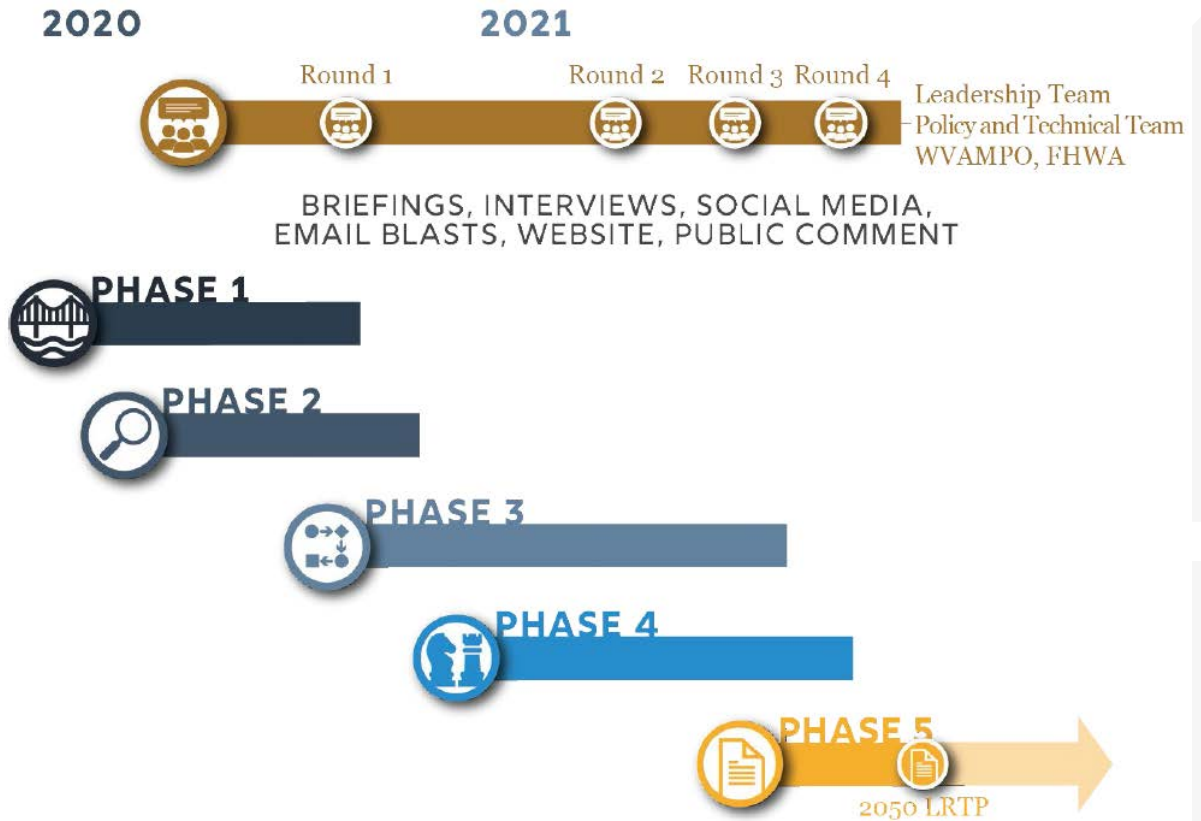


# 7. Engagement & Input

➤ External and Internal Perspectives

➤ Multi-faceted outreach

➤ 4 rounds of engagement



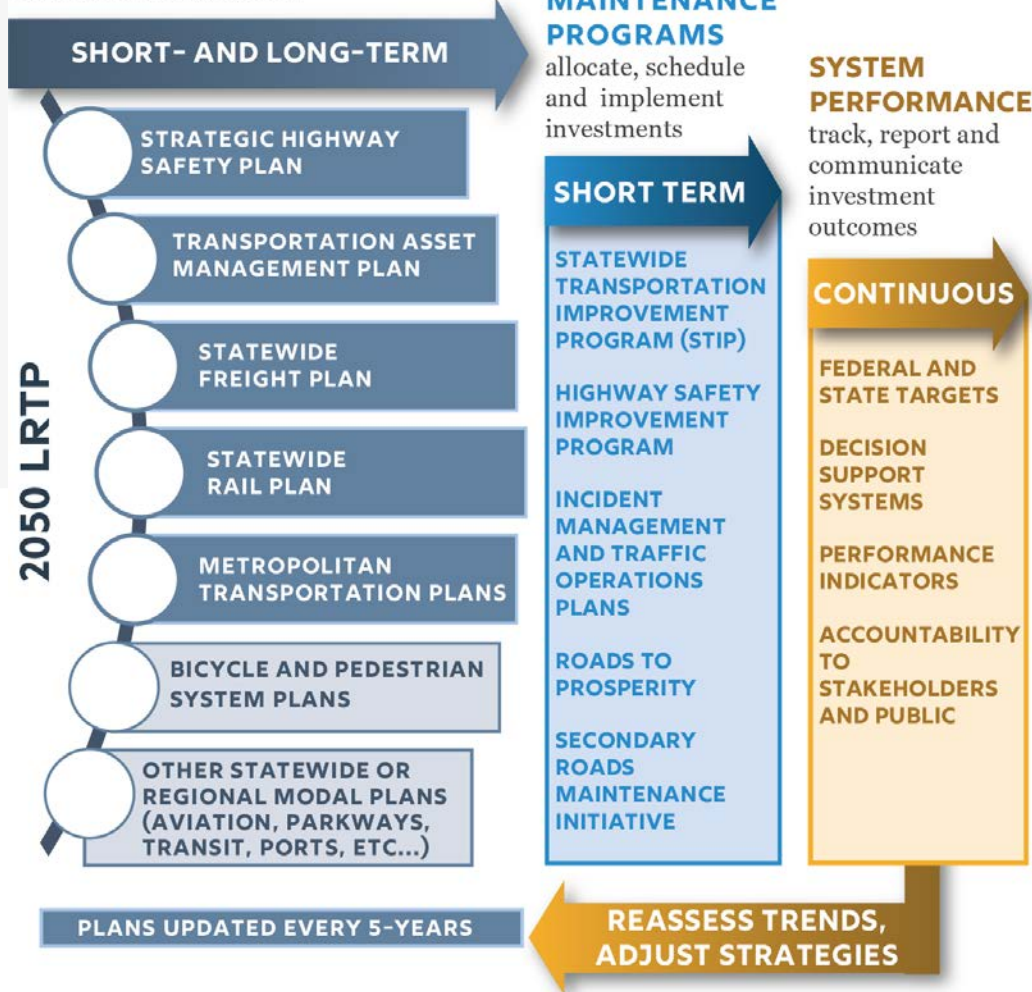


# 8. Connections

➤ Performance links to Plans, Programs

## SYSTEM AND MODAL PLANS

guide strategic, coordinated investments to reduce costs and increase efficiency in response to emerging needs



➤ The LRTP can provide a platform for:

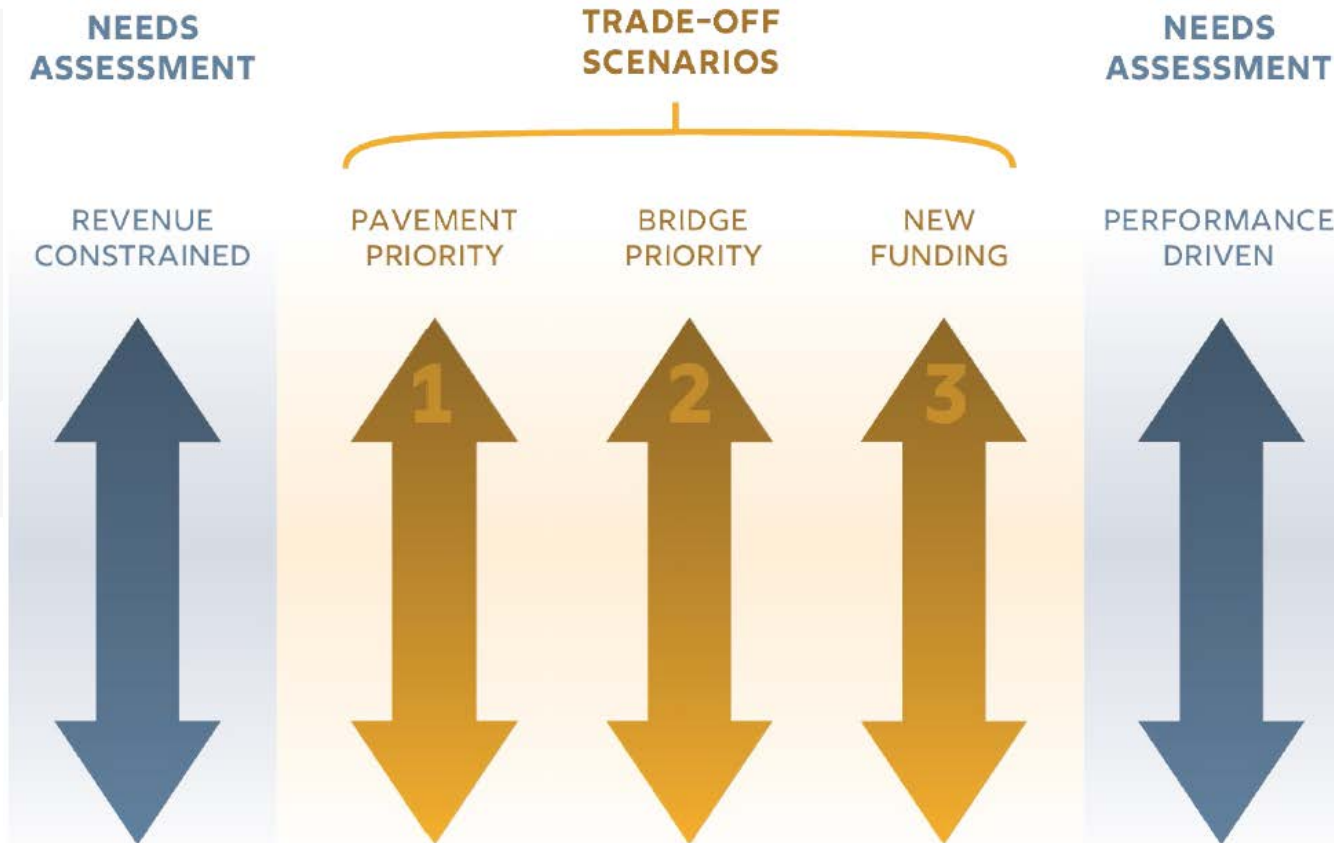
1. Future plans
2. Future programs
3. Ongoing system performance and management



# 8. Connections

➤ Performance links to Plans, Programs

## Priority Decisions and Performance Outcomes



Balancing future investments across bridge and pavement assets and by NHS and non-NHS consistent with constrained revenue forecasts and potential new revenue assumptions



## 9. Implementation

➤ Short- and Long-Term Priority Actions Operationalize the WV L RTP

- Identifies over **60 actions prioritized into 5, 10, and more than 10+ year implementation windows**
  - » Actions position WVDOT to enhance performance through efficiencies and to prepare for the future
- Poses policy questions regarding how **WVDOH should invest across system assets and goal areas**
- Sets stage for **improved planning and programming**
  - » Needs Assessment Platform (NAP)
  - » Revenue Forecasting Tool (STREET)
  - » Trade-off Analysis Tool

# 9. Implementation

➤ Short- and Long-Term Priority Actions Operationalize the WV L RTP

## Roadmap for Implementation



**ACHIEVABLE PLAN AND IMPLEMENTATION PROCESS THAT IS REALISTIC AND HELPS MEET PERFORMANCE GOALS**

## Categorizing Actions

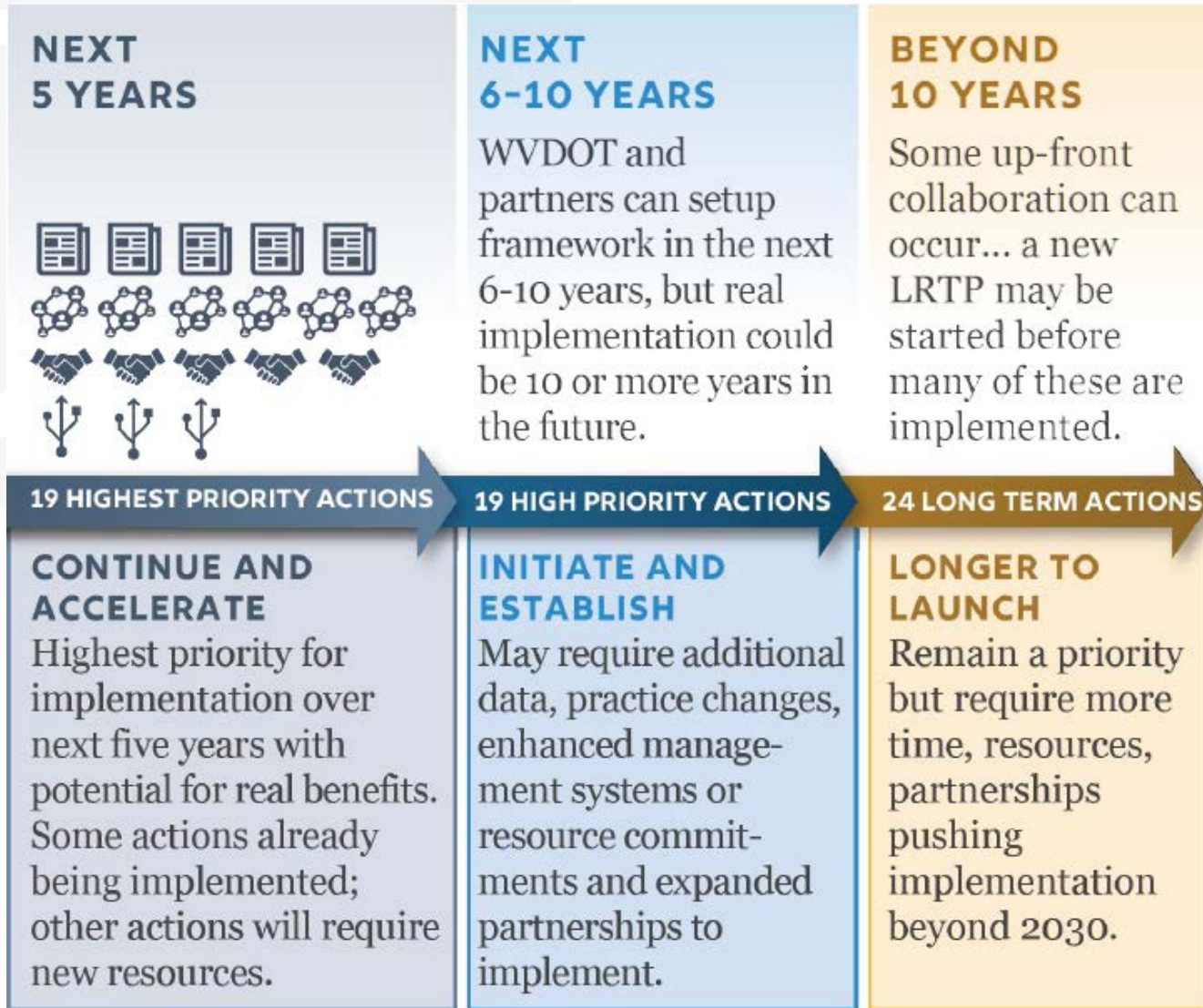




# 9. Implementation

➤ Short- and Long-Term Priority Actions Operationalize the WV LRTP

## Prioritizing Actions



# 2050 LRTP Implementation

## Purpose and Process

- **Continuity – Awareness – Cohesiveness**
- **LRTP Connection to Planning**
  - » Informing the next round of strategic and modal plans
- **LRTP Connection to Programming and Delivery**
  - » Shaping investment programs and routine activities
- **LRTP Connection to Performance Management**
  - » Tracking progress toward our goals – operating as an agency combined with how the transportation system performs
- **Next Steps**

# 2050 LRTP Implementation

## Continuity – Awareness – Cohesiveness

- ➔ Maintain leadership engagement
- ➔ Keep staff in the know and enable ownership
- ➔ Regularly brief key stakeholders
- ➔ Communicate progress regularly





# 2050 LRTP Implementation

System Condition,  
Efficiency, and Fiscal  
Sustainability

Multimodal Mobility,  
Accessibility and  
Reliability

Safety and  
Security for All  
Users

Economic Vitality  
and Freight  
Movement

Livable and Healthy  
Communities



West Virginia  
Department of  
Transportation

## 2050 WEST VIRGINIA STATEWIDE LONG-RANGE TRANSPORTATION PLAN

West Virginia  
Department of Transportation



### Our Mission

Connecting citizens throughout the state and to the nation through the delivery of a well-maintained, quality transportation system which is safe and reliable.

### Our Vision

To enhance the quality of life for all West Virginians by providing modern transportation solutions.

### Our Goals

- ▶ Promote Transportation Safety
- ▶ Value Our Employees
- ▶ Foster Public Trust
- ▶ Protect Our Transportation Asset Investments
- ▶ Ensure Network Mobility





# 2050 LRTP Implementation Practice Concept

## 2050 LRTP

The strategy to help meet agency and system goals

## Goals and Objectives

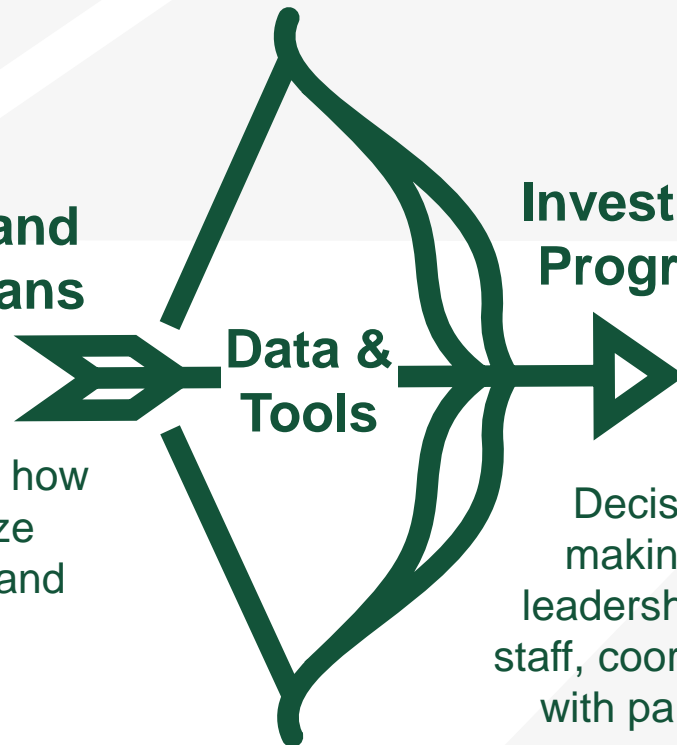


## Performance Management

How did we do?  
What can we do better?

## System and Modal Plans

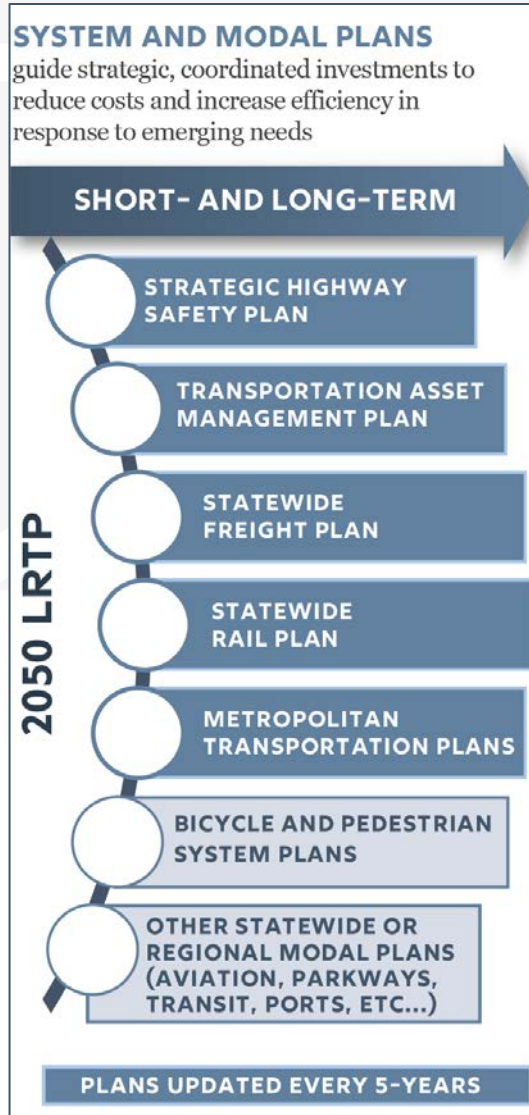
Direction on how to prioritize resources and policy



## Investment Programs

Decision-making by leadership and staff, coordination with partners

# 2050 LRTP Implementation Planning Connections



## How does the 2050 LRTP inform the next generation of system and modal plans?

- » Technical analyses, assumptions and trends
- » Actions cross checked to mode-specific issues, needs
- » System wide strategies connect to programmatic, project specific decisions
- » Performance assessment

# 2050 LRTP Implementation Planning Connections – a "Family of Plans"

## System and Modal Plans



# 2050 LRTP Implementation Programming and Delivery Connections

## CAPITAL, SAFETY, OPERATIONAL AND MAINTENANCE PROGRAMS

allocate, schedule  
and implement  
investments

### SHORT TERM

STATEWIDE  
TRANSPORTATION  
IMPROVEMENT  
PROGRAM (STIP)

HIGHWAY SAFETY  
IMPROVEMENT  
PROGRAM

INCIDENT  
MANAGEMENT  
AND TRAFFIC  
OPERATIONS  
PLANS

ROADS TO  
PROSPERITY

SECONDARY  
ROADS  
MAINTENANCE  
INITIATIVE

➤ **How does the 2050 LRTP inform the STIP and supporting capital, preservation, and maintenance programs?**

- » Policy direction, like investment priorities and project prioritization
- » Immediate actions to improve system performance, cost effectiveness, program delivery
- » Resource efficiencies and new technologies
- » Internal coordination and decision making



# 2050 LRTP Implementation Programming and Delivery Connections

## CAPITAL, SAFETY, OPERATIONAL AND MAINTENANCE PROGRAMS

allocate, schedule  
and implement  
investments

### SHORT TERM

STATEWIDE  
TRANSPORTATION  
IMPROVEMENT  
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HIGHWAY SAFETY  
IMPROVEMENT  
PROGRAM

INCIDENT  
MANAGEMENT  
AND TRAFFIC  
OPERATIONS  
PLANS

ROADS TO  
PROSPERITY

SECONDARY  
ROADS  
MAINTENANCE  
INITIATIVE



**Constrained Resources – set priorities**

**STIP – inform levels and sources of funding**

**Federal Funding – grants (RAISE) and each modal agency grants**

**Other state agencies support**



# 2050 LRTP Implementation Priority Actions

## CAPITAL, SAFETY, OPERATIONAL AND MAINTENANCE PROGRAMS

allocate, schedule  
and implement  
investments

### SHORT TERM

STATEWIDE  
TRANSPORTATION  
IMPROVEMENT  
PROGRAM (STIP)

HIGHWAY SAFETY  
IMPROVEMENT  
PROGRAM

INCIDENT  
MANAGEMENT  
AND TRAFFIC  
OPERATIONS  
PLANS

ROADS TO  
PROSPERITY

SECONDARY  
ROADS  
MAINTENANCE  
INITIATIVE

## NEXT 5 YEARS



19 Highest Priority Actions

## CONTINUE AND ACCELERATE

Highest priority for  
implementation over  
next five years with  
potential for real benefits.  
Some actions already  
being implemented;  
other actions will require  
new resources.

## What is the role of central office, districts, divisions?

- Implement priority actions
- Integrate WVDOT Mission, Vision, Goals into decision making
- Establish and implement processes and tools for data-driven decision making
- Collect and manage quality data

STRATEGY	HIGHEST PRIORITY ACTION	PERFORMANCE RESULT / GAP IMPACT
<b>STRENGTHEN STATEWIDE BRIDGE SYSTEM AND TURNPIKE CONDITION</b>	Link bridge-related asset management and analysis systems for efficient data flow.	Linking bridge and pavement asset management systems will allow for better, data-driven decisions to address the wave of bridge projects expected in the next 10-15 years, while also maintaining high NHS pavement performance and understanding comprehensive non-NHS pavement needs.
<b>STRENGTHEN STATEWIDE PAVEMENT SYSTEM AND TURNPIKE CONDITION</b>	Link pavement-related asset management and analysis systems for efficient data flow. Provide necessary funding amounts to prevent decline in current asset condition.	
<b>STRENGTHEN LOCAL BRIDGE / PAVEMENT SYSTEM CONDITION</b>	Improve and increase communication across offices to leverage best practices.	
<b>FOCUS ON STORMWATER AND ROADSIDE MANAGEMENT TO PROTECT AND REPAIR ASSETS</b>	Based on past flood and repair data, identify locations that may need additional attention. Use best-available and sustainable technology in poor-drainage areas to reduce potential stormwater issues.	Better vulnerability assessments and proactive responses to slip failures will help reduce flood events and associated road closures which lead to economic losses for WV residents and businesses.
<b>INCREASE TRAFFIC SAFETY AWARENESS, EDUCATION &amp; ENFORCEMENT</b>	Reach young drivers through social media and educational programs to emphasize the importance of safe driving decisions. Improve how traffic accident data (injuries, fatalities, and violations) are reported between State and local officials.	Reduce the annual 250+ fatalities that occur on West Virginia roadways, particularly the 65% that cite roadway departure as a contributing factor.
<b>DEPLOY EMERGING TRAFFIC SAFETY COUNTERMEASURES</b>	Install more safety devices, such as guardrails and brighter pavement markings, to prevent crashes.	
<b>EXPAND COVERAGE OF TRAFFIC TECHNOLOGY INFRASTRUCTURE</b>	Update emergency management plans to better coordinate and respond to crashes and make drivers aware of detours to avoid major delays.	Lessen the \$1.4 billion in annual economic cost from crashes in West Virginia, helping to keep the system moving safely around events.
<b>EXPAND THE USE OF ASSET PERFORMANCE TOOLS AND DECISION SUPPORT SYSTEMS</b>	Test more durable and longer-lasting materials for infrastructure such as bridges and pavements.	Increase the life-span of new bridges and pavements in a cost effective manner, 30% of which will need to be replaced in the near future.
<b>EXPAND AGENCY COORDINATION AND FOSTER NEW PARTNERSHIPS</b>	Communicate more efficiently and effectively between West Virginia DOT, other State agencies, local agencies, and other interested partners.	Better internal and external communication will result in resource efficiencies, support staff morale, and help leverage resources across key WVDOT partners.
<b>SUPPORT STATEWIDE MOBILITY MANAGEMENT SERVICES SUPPORT MORE ALTERNATIVE PROJECT DELIVERY AND MANAGEMENT INITIATIVES</b>	Develop plans to coordinate all transit providers within the State to prepare for shifts in commuting patterns. Pursue discretionary opportunities from the Federal government and other sources to leverage additional funding for transportation projects.	Integrated local, regional, and statewide mobility options enhances cross coordinated transit service and asset, safety, and security planning. Secure additional discretionary Federal funding for effective, proven best practice applications to free up State finance burden.
<b>BUILD SAFE AND CONNECTED ACTIVE TRANSPORTATION NETWORKS</b>	Install cross-state bike route signage and markings and promote cross-state bike routes through the West Virginia Department of Tourism. Develop a plan to design and construct more sidewalks and trails to provide pedestrian connections.	Decrease the annual 30+ pedestrian and bicyclist fatalities and increase access for tourism along recreation and scenic routes, creating economic benefits for West Virginia communities.
<b>EXPAND FREIGHT RAIL MARKET ACCESS AND INTERMODAL OPPORTUNITIES</b>	Plan for and install more crossing safety devices at highway-rail crossings to reduce accidents and limit gate-running.	Increase the number of grade crossings with active warning devices from the current 56% to decrease the 115 crossing incidents reported in West Virginia since 2013.
<b>IMPROVE RELIABLE ACCESS TO WEST VIRGINIA RECREATIONAL AND HERITAGE LOCATIONS</b>	Use the internet and social media to promote access to safe, healthy, and fun outdoor attractions for everyone to enjoy. Promote areas with real high-speed internet access as broadband expansion continues through the use of WVDOT right-of-way.	Increase the tourism revenue from West Virginia's 50+ national and State parks/recreation areas through convenient and reliable connections. Facilitates virtual educational opportunities to raise 83 percent rural high school graduation rate and fosters wider employment options like remote worker lifestyle.

## 19 Highest Priority Actions

- Reflect “ready-to-go” or actions already underway with proven success
- Some will require more work than others to start-up
- All are doable within the next 5 years and address critical needs



# 2050 LRTP Implementation Priority Actions (examples)

STRATEGY FOCUS	ASSESS
<b>STORMWATER AND ROADSIDE MANAGEMENT TO PROTECT / REPAIR ASSETS</b>	<ul style="list-style-type: none"> <li>• Map all high-risk locations related to slips</li> <li>• Conduct vulnerability assessment based on past emergency / flood events</li> <li>• Research effectiveness and cost savings of green infrastructure technologies</li> </ul>
<b>TRAFFIC SAFETY COUNTERMEASURES</b>	<ul style="list-style-type: none"> <li>• Map locations in need of more rumble strips, retroreflective pavement markings, clear zones/fixed object removal</li> <li>• Research effective emerging technologies - RFID embedded signs, colored lane marking materials, new guardrail construction, LEDs</li> <li>• Track and report through evidenced-based pilots</li> </ul>
<b>ASSET PERFORMANCE TOOLS AND DECISION SUPPORT SYSTEMS</b>	<ul style="list-style-type: none"> <li>• Incorporate scenario planning analyses in TAMP update</li> <li>• Expand “smart infrastructure” demonstration - drone program, 3D imagery for NBI inspections</li> </ul>
<b>FREIGHT RAIL MARKET ACCESS AND INTERMODAL OPPORTUNITIES</b>	<ul style="list-style-type: none"> <li>• Map recurring freight bottlenecks affecting service and connectivity</li> <li>• Map rail network gaps or low cost, high benefit market access improvements</li> <li>• Sustain improvements through State Rail Development Fund to improvements across the state</li> </ul>





# 2050 LRTP Implementation

## Continuity – Awareness – Cohesiveness

- **Prioritize and implement** – mix of highest performing, proven, cost and resource efficient solutions
- **Share and regularly communicate** – results oriented approach between Central, Division and District offices
- **Present findings and goals to Leadership** – continuing and enhancing what we are already doing vs. activities to evaluate, stand-up, and implement in 1-2 years

# 2050 LRTP Implementation Performance Management Connections

## SYSTEM PERFORMANCE

track, report and communicate investment outcomes

## CONTINUOUS

FEDERAL AND STATE TARGETS

DECISION SUPPORT SYSTEMS

PERFORMANCE INDICATORS

ACCOUNTABILITY TO STAKEHOLDERS AND PUBLIC

## ORGANIZATIONAL PERFORMANCE

- Agency efficiency, program/project delivery, cost effectiveness, response time
- Staff ownership and accountability

## SYSTEM PERFORMANCE

- Federal measures, plus other relevant measures addressing systemwide performance
- Transparency to the public and elected officials

# 2050 LRTP Implementation

## Moving Forward

- **Expand staff awareness**
- **Provide additional guidance**
  - » Leveraging LRTP tools and data
  - » Implementation activities
- **Enable regular coordination**
  - » Within and among Divisions & Districts
- **Integrate into performance management efforts**
- **Guide next round of statewide plans**
  - » Strategic Highway Safety Plan
  - » Statewide Freight Plan