Why We Are Here

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?

**BUILDS** from prior and current planning and creates a family of connected plans

**SETS INTO MOTION** an implementation process that is realistic and helps meet performance goals

**OWNERSHIP** by leadership and staff to help maintain organization focus and manage resources

**RESILIENT**

**COHESIVE**

**ACHIEVABLE**

**PROVIDES** a guide for long-term investment policies, programs, and projects

**POSITIONS** WVDOT to proactively manage internal and external factors
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

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1. Foundation

- Basis for Long Range Planning

- Monitor Performance Results and Outcomes
- Establish Vision, Goals, Measures, and Review Needs and Revenue
- Assess Trade-offs Between Strategies and Programs
- Formulate and Evaluate Policies, Strategies, and Investments
- Apply Practical Design, Prioritize and Implement

PERFORMANCE MANAGEMENT
CAPITAL PROGRAM
STRATEGIC PLANS

2050 LRTP
2. WV LRTP Context

- Trends, System Goals, Objectives

**2050 LRTP**

- System Condition, Efficiency, and Fiscal Sustainability
- Livable and Healthy Communities
- Safety and Security for All Users
- Multimodal Mobility, Accessibility and Reliability
- Economic Vitality and Freight Movement
2. WV LRTP Context

- Trends, System Goals, Objectives
2. WV LRTP Context

» 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

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

Highways
Multimodal
Cross Cutting

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

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

FY 2020 – WVDOH Annual Revenue
4. Revenue

恼财 Assumptions, Opportunities

REAL
REVENUE
BASELINE
GRADUAL
ECONOMIC
RECOVERY

ALTERNATIVE REVENUE SOURCES

TECHNOLOGY

TRAVEL
ACTIVITY

FREIGHT

INSTABILITY

INCREASE
EXISTING TAXES

NEW
TAXES

EXPAND
USER-BASED

NEW
USER-BASED

LEVERAGE INNOVATIVE
AND EMERGING SOURCES

Revenue
Impact?
Current Source
Risks?
Opportunities?
Changes in
Needs?

Risks?
Opportunities?
Equity?
Costs?
Revenue?
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

- **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.

### Objectives

**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.

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

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 LRTP

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 LRTP

Roadmap for Implementation

- WVDOT Mission
- 2050 LRTP Goals and Objectives
- Current State/Future Conditions
- Gap Analysis
- Strategies and Actions
- Highest Priority Actions

Categorizing Actions

- Policies to Guide Strategic Decisions and Resources
- Practices to Impact Multimodal Asset, Safety and Mobility Performance
- Partnerships to Coordinate Transportation Investments with State Goals and Objectives
- Technologies to Enable Enhanced Program Delivery and Asset Management

Achievable Plan and Implementation Process that is Realistic and Helps Meet Performance Goals
9. Implementation

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

Prioritizing Actions

- **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.

- **NEXT 6-10 YEARS**

  - **19 HIGH PRIORITY ACTIONS**
  
    INITIATE AND ESTABLISH
    
    May require additional data, practice changes, enhanced management systems or resource commitments and expanded partnerships to implement.

- **BEYOND 10 YEARS**

  - **24 LONG TERM ACTIONS**
  
    LONGER TO LAUNCH
    
    Remain a priority but require more time, resources, partnerships pushing implementation beyond 2030.

WVDOT and partners can setup framework in the next 6-10 years, but real implementation could be 10 or more years in the future.
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

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

System and Modal Plans
Direction on how to prioritize resources and policy

Data & Tools

Investment Programs
Decision-making by leadership and staff, coordination with partners

Goals and Objectives

Performance Management
How did we do? What can we do better?
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

- **TAMP**
  - Short, long term revenue assumptions
  - AMS scenarios and summaries
  - Consistent policy considerations

- **SHSP & HSP**
  - Annualized obligations for statewide safety treatments
  - Safety Management System - enhance analysis, reporting of crash and citation data with GHSP, law enforcement partners

- **FREIGHT**
  - Air cargo trends and airport needs
  - Freight bottlenecks
  - Rail-specific projects, secure grade crossing and rail asset improvements
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**

### SHORT TERM
- **STATEWIDE TRANSPORTATION IMPROVEMENT PROGRAM (STIP)**
- **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

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
<table>
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<th>STRATEGY</th>
<th>HIGHEST PRIORITY ACTION</th>
<th>PERFORMANCE RESULT / GAP IMPACT</th>
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<tbody>
<tr>
<td>STRENGTHEN STATEWIDE BRIDGE SYSTEM AND TURNPIKE CONDITION</td>
<td>Link bridge-related asset management and analysis systems for efficient data flow.</td>
<td>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.</td>
</tr>
<tr>
<td>STRENGTHEN STATEWIDE PAVEMENT SYSTEM AND TURNPIKE CONDITION</td>
<td>Link pavement-related asset management and analysis systems for efficient data flow.</td>
<td>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.</td>
</tr>
<tr>
<td>STRENGTHEN LOCAL BRIDGE / Pavement System Condition</td>
<td>Provide necessary funding amounts to prevent decline in current asset condition.</td>
<td></td>
</tr>
<tr>
<td>FOCUS ON STORMWATER AND ROADSIDE MANAGEMENT TO PROTECT AND REPAIR ASSETS</td>
<td>Improve and increase communication across offices to leverage best practices.</td>
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</tr>
<tr>
<td>INCREASE TRAFFIC SAFETY AWARENESS, EDUCATION &amp; ENFORCEMENT</td>
<td>Based on past flood and repair data, identify locations that may need additional attention.</td>
<td>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.</td>
</tr>
<tr>
<td>DEPLOY EMERGING TRAFFIC SAFETY COUNTERMEASURES</td>
<td>Reach young drivers through social media and educational programs to emphasize the importance of safe driving decisions.</td>
<td>Reduce the annual 250+ fatalities that occur on West Virginia roadways, particularly the 65% that cite roadway departure as a contributing factor.</td>
</tr>
<tr>
<td>EXPAND COVERAGE OF TRAFFIC TECHNOLOGY INFRASTRUCTURE</td>
<td>Improve how traffic accident data (injuries, fatalities, and violations) are reported between State and local officials.</td>
<td></td>
</tr>
<tr>
<td>EXPAND THE USE OF ASSET PERFORMANCE TOOLS AND DECISION SUPPORT SYSTEMS</td>
<td>Install more safety devices, such as guardrails and brighter pavement markings, to prevent crashes.</td>
<td>Lessen the $1.4 billion in annual economic cost from crashes in West Virginia, helping to keep the system moving safely around events.</td>
</tr>
<tr>
<td>EXPAND AGENCY COORDINATION AND FOSTER NEW PARTNERSHIPS</td>
<td>Update emergency management plans to better coordinate and respond to crashes and make drivers aware of detours to avoid major delays.</td>
<td>Increase the life-span of new bridges and pavements in a cost effective manner, 50% of which will need to be replaced in the near future.</td>
</tr>
<tr>
<td>SUPPORT STATEWIDE MOBILITY MANAGEMENT SERVICES SUPPORT MORE ALTERNATIVE PROJECT DELIVERY AND MANAGEMENT INITIATIVES</td>
<td>Test more durable and longer-lasting materials for infrastructure such as bridges and pavements.</td>
<td></td>
</tr>
<tr>
<td>BUILD SAFE AND CONNECTED ACTIVE TRANSPORTATION NETWORKS</td>
<td>Communicate more efficiently and effectively between West Virginia DOT, other State agencies, local agencies, and other interested partners.</td>
<td>Better internal and external communication will result in resource efficiencies, support staff morale, and help leverage resources across key WVDOT partners.</td>
</tr>
<tr>
<td>EXPAND FREIGHT RAIL MARKET ACCESS AND INTERMODAL OPPORTUNITIES</td>
<td>Develop plans to coordinate all transit providers within the State to prepare for shifts in commuting patterns.</td>
<td>Integrated local, regional, and statewide mobility options enhances cross coordinated transit service and asset, safety, and security planning.</td>
</tr>
<tr>
<td>IMPROVE RELIABLE ACCESS TO WEST VIRGINIA RECREATIONAL AND HERITAGE LOCATIONS</td>
<td>Pursue discretionary opportunities from the Federal government and other sources to leverage additional funding for transportation projects.</td>
<td>Secure additional discretionary Federal funding for effective, proven best practice applications to free up State finance burden.</td>
</tr>
<tr>
<td>TYPO: BUILD SAFE AND CONNECTED ACTIVE TRANSPORTATION NETWORKS</td>
<td>Install cross-state bike route signage and markings and promote cross-state bike routes through the West Virginia Department of Tourism.</td>
<td>Decrease the annual 50+ pedestrian and bicyclist fatalities and increase access for tourism along recreation and scenic routes, creating economic benefits for West Virginia communities.</td>
</tr>
<tr>
<td>IMPROVE RELIABLE ACCESS TO WEST VIRGINIA RECREATIONAL AND HERITAGE LOCATIONS</td>
<td>Develop a plan to design and construct more sidewalks and trails to provide pedestrian connections.</td>
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### 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)

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<th>STRATEGY FOCUS</th>
<th>ASSESS</th>
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</table>
| **STORMWATER AND ROADSIDE MANAGEMENT TO PROTECT / REPAIR ASSETS**            | • Map all high-risk locations related to slips  
• Conduct vulnerability assessment based on past emergency / flood events  
• Research effectiveness and cost savings of green infrastructure technologies |
| **TRAFFIC SAFETY COUNTERMEASURES**                                           | • Map locations in need of more rumble strips, retroreflective pavement markings, clear zones/fixed object removal  
• Research effective emerging technologies - RFID embedded signs, colored lane marking materials, new guardrail construction, LEDs  
• Track and report through evidenced-based pilots |
| **ASSET PERFORMANCE TOOLS AND DECISION SUPPORT SYSTEMS**                     | • Incorporate scenario planning analyses in TAMP update  
• Expand “smart infrastructure” demonstration - drone program, 3D imagery for NBI inspections |
| **FREIGHT RAIL MARKET ACCESS AND INTERMODAL OPPORTUNITIES**                  | • Map recurring freight bottlenecks affecting service and connectivity  
• Map rail network gaps or low cost, high benefit market access improvements  
• Sustain improvements through State Rail Development Fund to improvements across the state |
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

**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