

# 2050 Multimodal Long-Range Transportation Plan (2050 LRTP)



Virtual Public Meeting  
June 15, 2021

# Welcome

## 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 multi-modal and inter-modal transportation system that supports the safe, effective and efficient movement of people, information and goods that enhances the opportunity for people and communities to enjoy environmentally sensitive and economically sound development.

The **Aeronautics Commission** fosters and assists in the development of aeronautics in West Virginia and encourages the establishment of airports and air navigation facilities.

The **Division of Highways** is responsible for planning, engineering, right-of-way acquisition, construction, reconstruction, traffic regulation and maintenance of more than 34,000 miles of state roads.

The **Division of Motor Vehicles** provides driver information and education through twenty-four (24) regional offices.



The **State Rail Authority** promotes the beneficial use of rail transportation and works to protect essential rail service across the state.

The **Division of Public Transit** is the state administering agency for all federal and state programs relating to public transportation.

The West Virginia **Parkways Authority** fosters economic development and tourism through a safe and efficient mountain transportation system, the West Virginia Turnpike, and accessible tourist information centers.





# Introduction

- The 2050 Long Range Multimodal Transportation Plan (LRTP) is a federally required statewide plan for the future of transportation
- Guides future transportation policies and investments for decades
- Blueprint for funding and improving the state multimodal transportation system
- **WVDOT representatives and consultant team members are available to answer questions and receive comments**



# Meeting Logistics

- Everyone will be muted for the length of the meeting
- The presentation is being recorded and will be posted to the LRTP website later this week
- The project team will share details on the 2050 LRTP process to date through a <40 minute presentation
- Throughout the presentation, we encourage you to enter questions through the webinar chat window
- After the presentation is complete, we will repeat each question entered via the chat and respond verbally
- If you join by phone, please send questions by email to [DOT2050@wv.gov](mailto:DOT2050@wv.gov)

# For More Information...

<https://transportation.wv.gov/highways/programplanning/LRTP/Pages/default.aspx>

## 2050 Multimodal Long-Range Transportation Plan (LRTP)

West Virginia DOT's new statewide long-range transportation plan will help position WVDOT and the multimodal system it manages to further support WV's economy, enhance quality of life, foster safe and reliable transportation options, and better connect WV residents and businesses to opportunities.

The WVDOT is conducting an update to its statewide multimodal long-range transportation plan to help guide future transportation policies and investments. The plan will provide a 30-year blueprint to fund and improve the preservation, management, and expansion of West Virginia's multimodal transportation system. To build this blueprint, WVDOT will work with transportation stakeholders, coordinate with Federal partners, and seek input from West Virginia residents across five study phases throughout 2020 and 2021.

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For more information on each phase, please click the icons below, or use the links under [2050 LRTP Resources](#).



### Stakeholder and Public Engagement - Updated on June 04, 2021

Stakeholder and Public Engagement will occur throughout the plan process through a variety of outreach opportunities. Engagement will ensure that the Plan remains transparent and accessible to stakeholders, residents, and businesses and enables input to steer plan outcomes.



### Implementation Plan - Updated on October 13, 2020

The 2050 LRTP Implementation Plan highlights the key Plan outcomes and recommendations and identifies near term steps that WVDOT and its partners can take to propel and manage plan implementation forward over the next decade.



### Policies, Strategies, Trade-offs - Updated on June 04, 2021

Policies, Strategies, and Trade-offs considers the differences between future transportation revenues and multimodal investment priorities to help WVDOT use existing and new tools to answer critical questions including:



### Future Needs, Revenues, Priorities - Updated on May 19, 2021

Trend, Drivers, and Opportunities focus on trends shaping transportation through 2050, including demographics, economics, technology, environment, and transportation funding. Cross-cutting issues in these topics like education, equity, public health, and resiliency will also be considered.



### Trends, Drivers, and Opportunities - Updated on April 19, 2021

Trends, Drivers, and Opportunities focus on topics shaping WV's future like demographics, economics, technology, and environment. Cross-cutting issues in these topics like education, public health, tourism, and resiliency are also important to WV's transportation future. This information will help WVDOT develop strategies in the LRTP that account for the opportunities and challenges West Virginia is experiencing across these topics.



### State of the System - Updated on January 8, 2021

The State of the System builds a platform for the rest of the Plan by detailing the status and performance of the multimodal system. This includes the goals, plans, programs, and partnerships that will shape system preservation, operations, and expansion over the coming years.

# Participating in the Plan

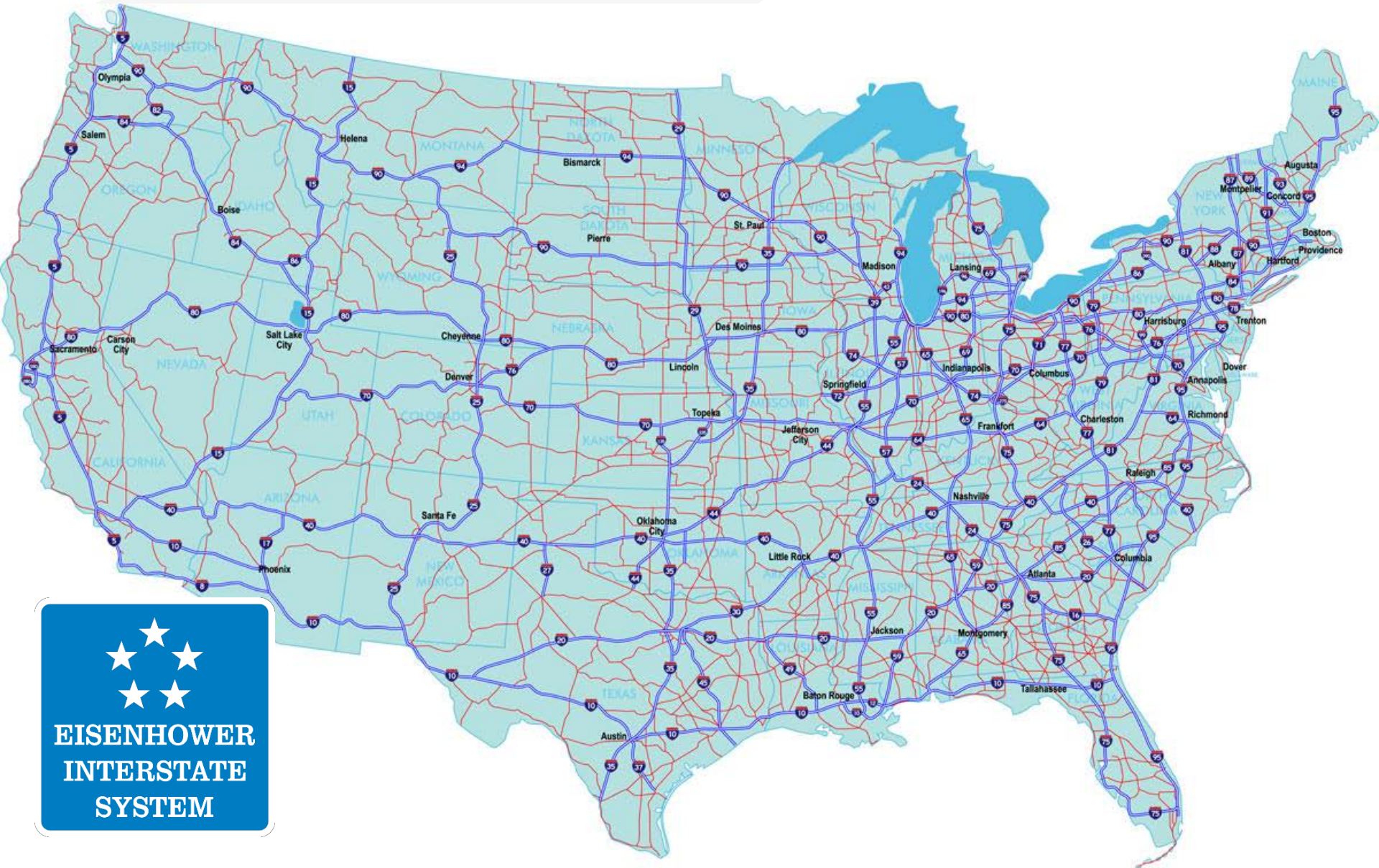
- Follow WVDOT on social media
- Visit the LRTP website
- Email ideas, comments, and questions to [DOT2050@wv.gov](mailto:DOT2050@wv.gov)
- Mail comments:  
Planning Division,  
West Virginia Division of Highways  
1900 Kanawha Boulevard  
Building 5, Room 740  
Charleston, West Virginia 25305
- **Open public comment period now through August 14<sup>th</sup>**

# Why Are We Doing This?





# Why Plan for the Future?





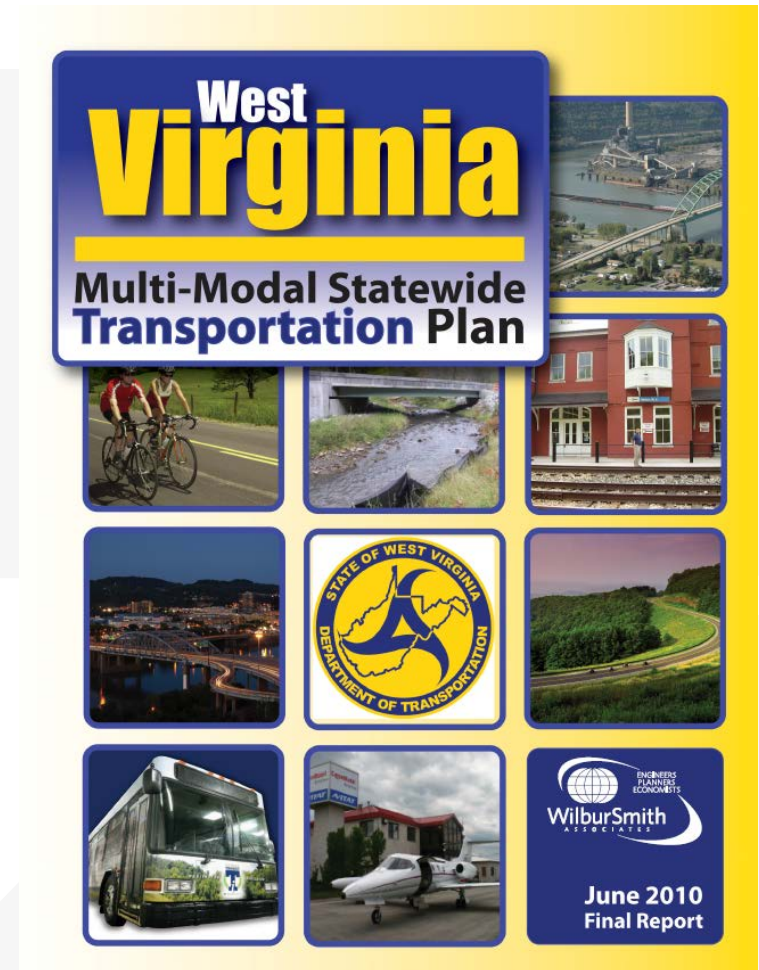
# Why Plan for the Future?

The future is hard to predict...



# What Has Changed?

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



# How Are We Doing This?





# How Do We Do Statewide Planning?



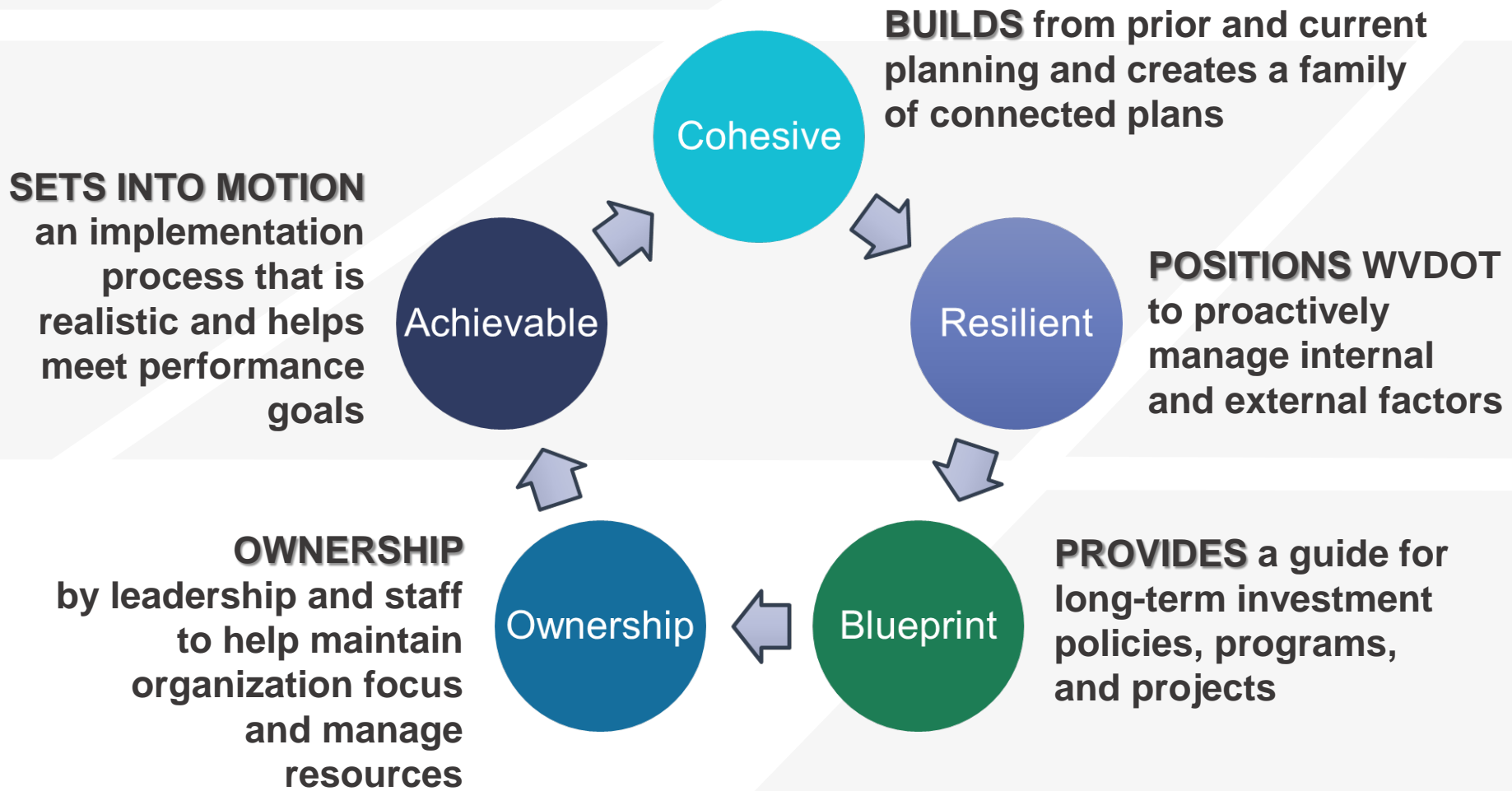
Address the current condition of the multimodal transportation network



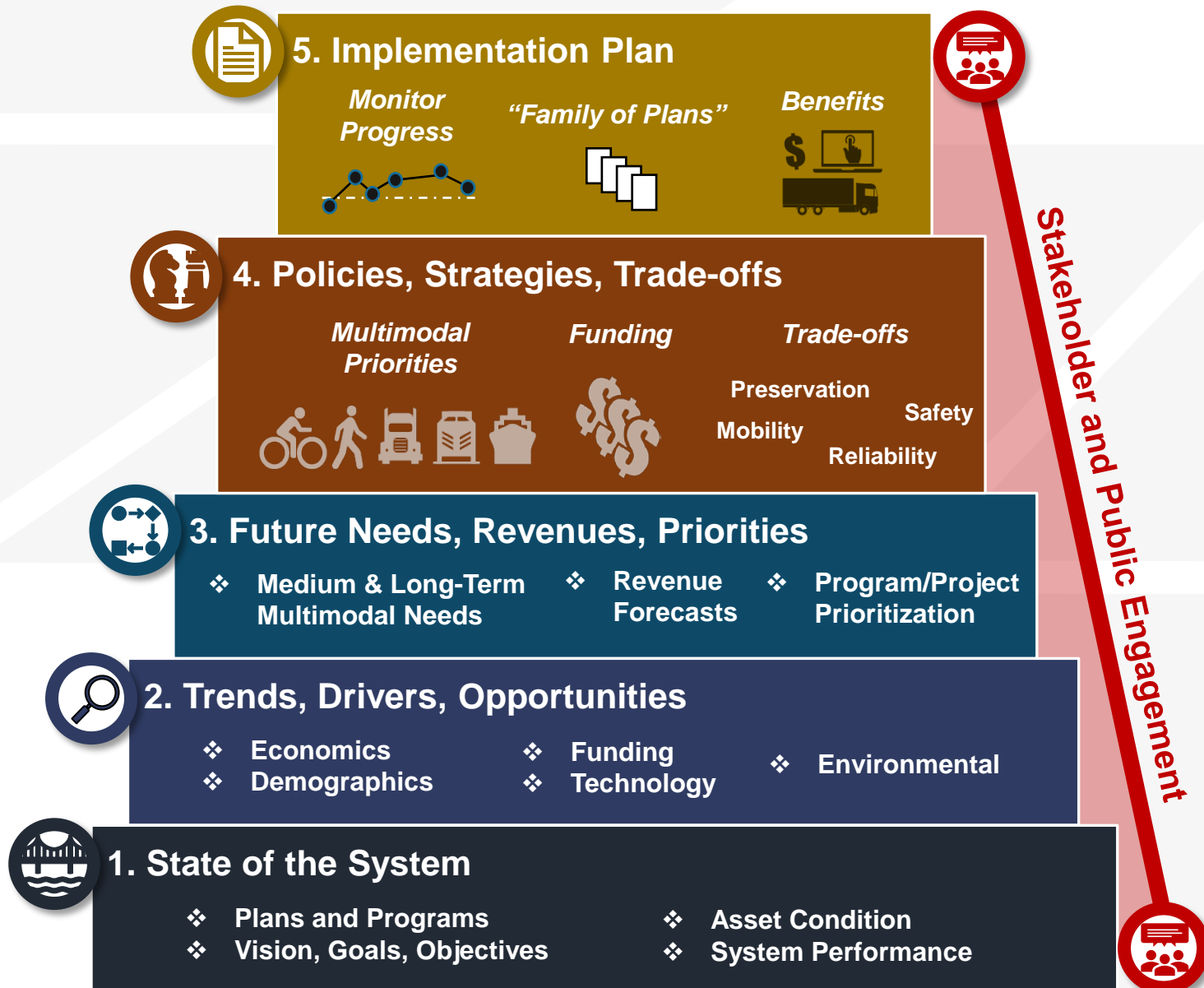
Blueprint for future multimodal transportation investments

- Support the movement of all people and goods
- Deliver a transparent and accessible planning process

# What Do We Want to Accomplish?

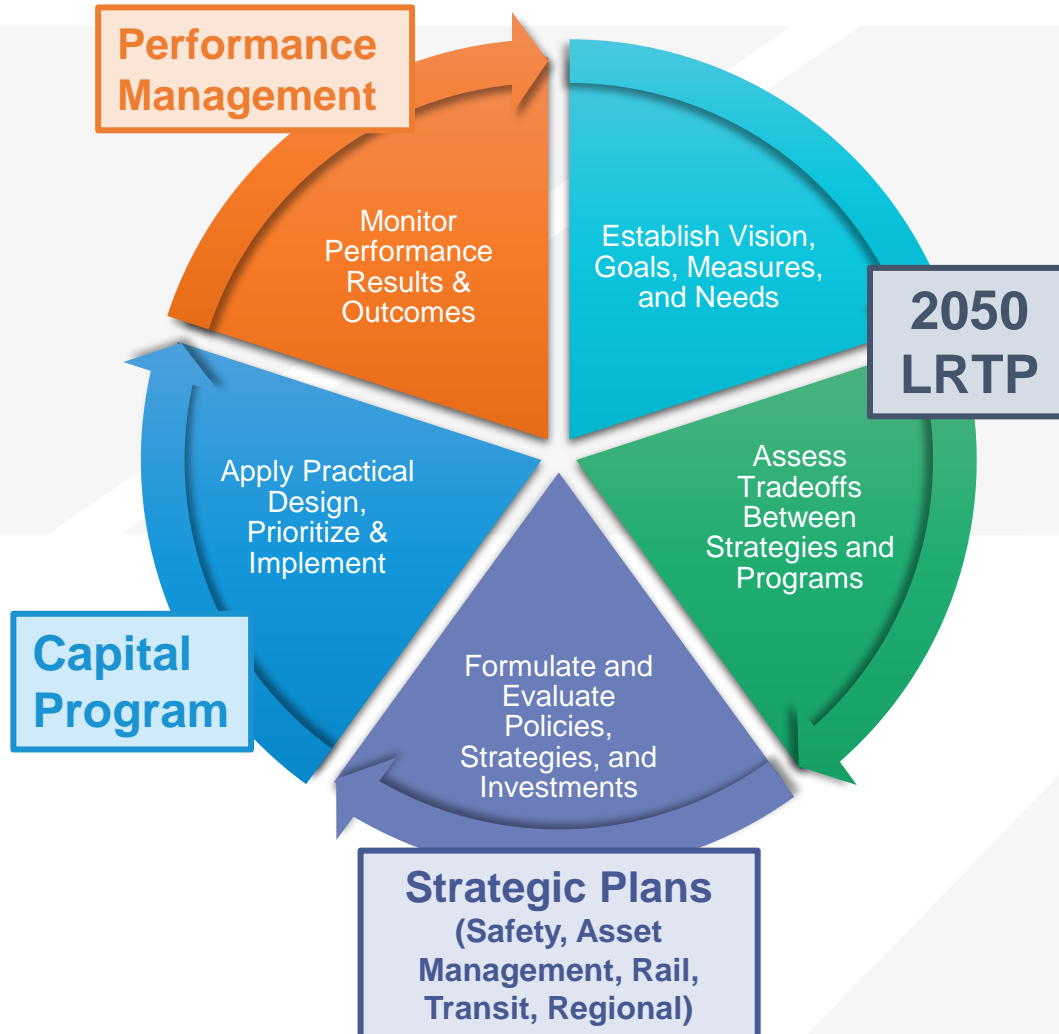


# Our Approach





# Transportation Planning 101



## LRTP helps connect...

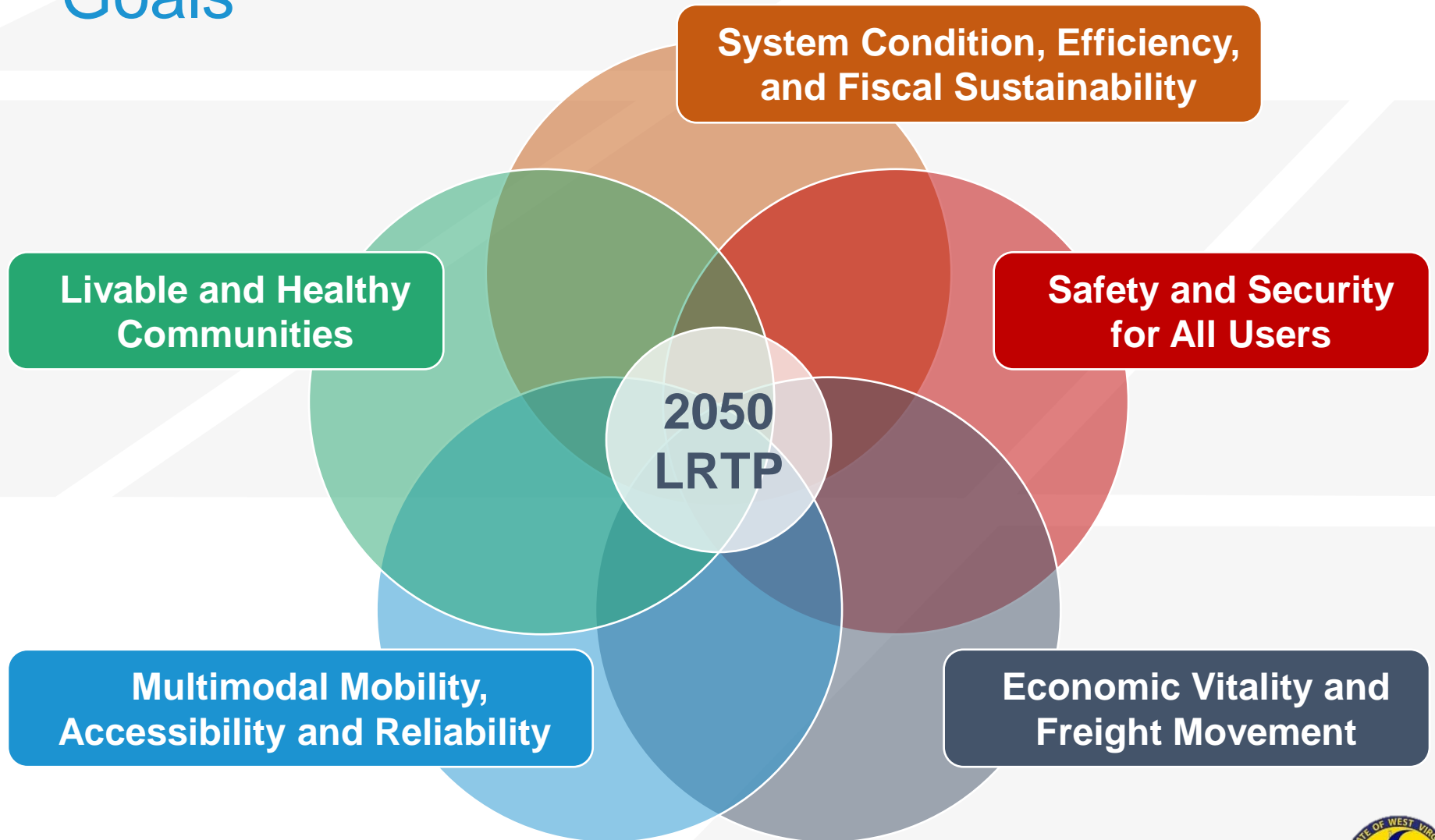
- » Long-range plan goals, measures, and needs
- » Long-range plan strategies and programs

## With WVDOT...

- » Strategic Plans
- » Capital Program
- » Performance Management



# 2050 LRTP Goals



# 2050 LRTP Objectives

System Condition, Efficiency,  
and Fiscal Sustainability

Livable and Healthy  
Communities

Safety and Security  
for All Users

**Maintain** the existing multimodal transportation system in a state of good repair

**Invest** in innovative technologies and efficient program delivery strategies

**Explore** new and sustainable revenue options

**Ensure** that WVDOT has necessary resources to fulfill its mandate effectively and efficiently

Multimodal Mobility,  
Accessibility and Reliability

Economic Vitality and  
Freight Movement



# 2050 LRTP Objectives

System Condition, Efficiency,  
and Fiscal Sustainability

Livable and Healthy  
Communities

Safety and Security  
for All Users

**Reduce** fatalities and serious injuries on the multimodal transportation system

**Decrease** incident clearance time and recovery

**Manage** a resilient and redundant transportation network

Multimodal Mobility,  
Accessibility and Reliability

Economic Vitality and  
Freight Movement

# 2050 LRTP Objectives

System Condition, Efficiency,  
and Fiscal Sustainability

Livable and Healthy  
Communities

Safety and Security  
for All Users

**Improve** intermodal freight connections

**Address** bottlenecks and first-mile/last-mile access

**Expand** access to economic activity centers and emerging industries/clusters

Multimodal Mobility,  
Accessibility and Reliability

Economic Vitality and  
Freight Movement

# 2050 LRTP Objectives

System Condition, Efficiency,  
and Fiscal Sustainability

Livable and Healthy  
Communities

Safety and Security  
for All Users

**Manage** recurring congestion and improve reliability on the highway system

**Enhance** multimodal transportation accessibility to key destinations and jobs

**Create** new opportunity for access to key destinations and jobs for underserved or disadvantaged populations

Multimodal Mobility,  
Accessibility and Reliability

Economic Vitality and  
Freight Movement

# 2050 LRTP Objectives

**System Condition, Efficiency,  
and Fiscal Sustainability**

**Livable and Healthy  
Communities**

**Safety and Security  
for All Users**

**Reduce** emissions and mitigate environmental impacts

**Coordinate** land use and transportation decisions

**Promote** and improve bicycle and pedestrian infrastructure

**Multimodal Mobility,  
Accessibility and Reliability**

**Economic Vitality and  
Freight Movement**



# Where Are We Today?





# 2050 LRTP

## State of the System



### » 38,850 miles of public roads

- WVDOT owns **35,038 miles** of those (90% of the total system)

#### Including:

**468** Interstate miles (WVDOH)

**1,433** non-Interstate National Highway System (NHS) miles (WVDOH)

**10,477** Federal aid eligible miles (WVDOH)

**87** West Virginia Turnpike miles (WV Parkways Authority)



### » 7,269 WVDOT maintained bridges

- Representing **92%** of all bridges

#### Including:

**556** Interstate bridges (WVDOH)

**639** non-Interstate NHS bridges (WVDOH)

**95** Interstate bridges and 2 non-Interstate NHS bridges  
(WV Parkways Authority)

# 2050 LRTP

## State of the System



- **13 freight railroads and 274 miles of navigable waterways**
  - » 299.8 million tons of freight (\$140.0 billion in value) moved in 2018
  - » 2,310 miles of pipeline and 2,312 miles of railroad



- **7,200,000 public transportation passenger trips in 2019 on services with access to 37 of 55 WV counties**



- **34 public-use airports and 7 commercial service airports**
  - » 417,925 passengers boarded a commercial flight at WV airports in 2019



- **Over 5,000 miles of trails to support recreation**



# Where Are We Going?



# 2050 LRTP

## Trends, Drivers, Opportunities

### » 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, both in WV and through regional and national perspectives?

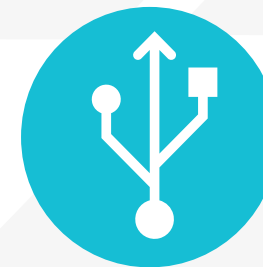
### » Future Direction and Opportunities

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



**Demographics**

**Economics**



**Technology**

**Environment**



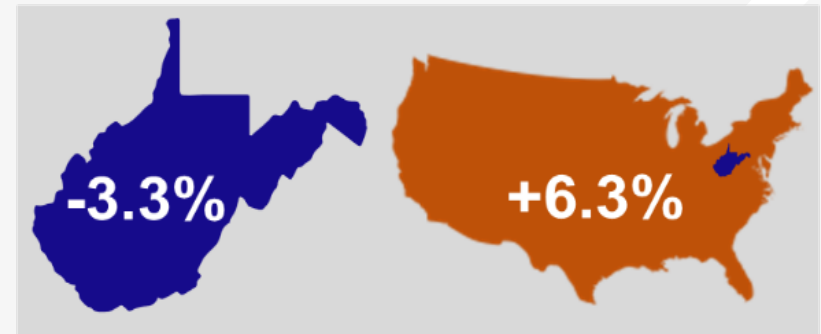
# 2050 LRTP

## Trends, Drivers, and Opportunities

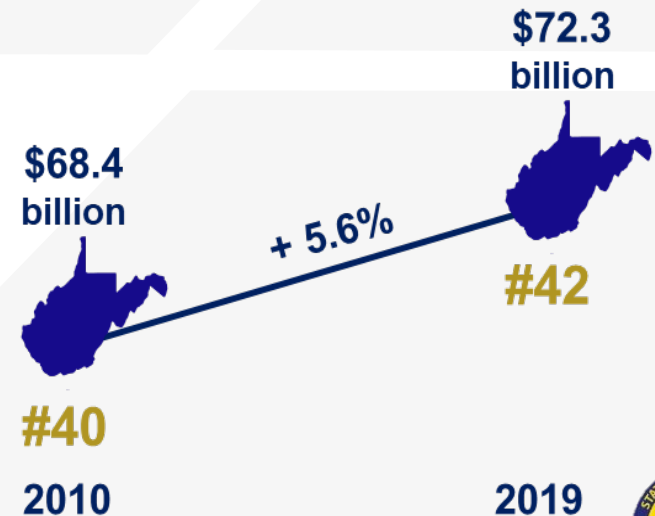


- » Population Change + More Seniors
- » Travel Pattern Shifts
- » Public Education and Public Health

2010 to 2019

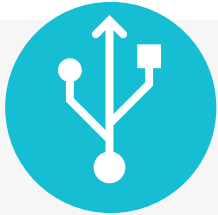


- » Enhance Job Creation & Workforce Development
- » Support Freight Movement
- » Access for Emerging Industries
- » Diversify Energy Sources



# 2050 LRTP

## Trends, Drivers, and Opportunities



- » Bridge the Digital Divide
- » Expand Partnerships
- » Assess Capabilities, Roles, and Responsibilities
- » Advance Technology Across Project Life Cycles



- » Prepare for Environmental Resiliency
- » Operations and Maintenance of Infrastructure
- » Increase Environmental Tourism
- » Enable New Technology

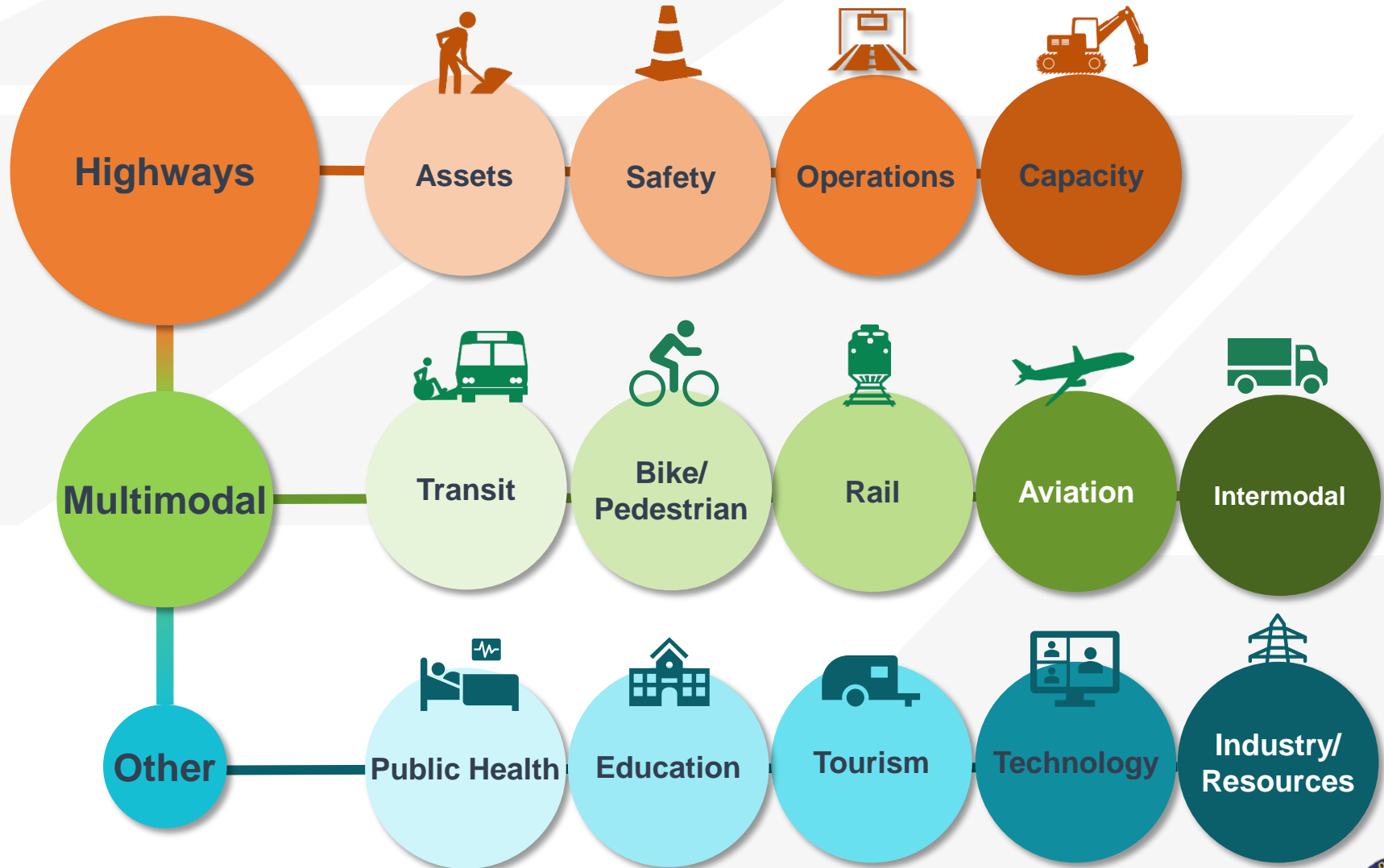




# What Are Our Transportation Needs?



# Needs Assessment



# 2050 LRTP

## Summary of Needs

### Constrained and Aspirational Needs



**Expansion** – what is reasonable to deliver by 2050?

**Targets** – what level of asset performance to achieve by 2050?

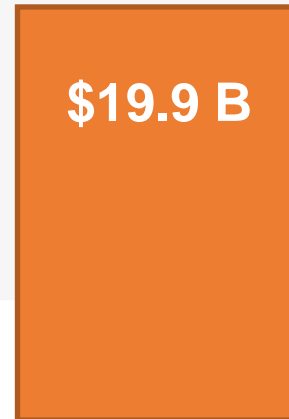


**Gaps** – what resources to address rural and urban mobility and enhance site access and intermodal connections by 2050?



**Opportunity** – what project decisions best align to statewide issues by 2050?

**Constrained**  
**\$21.3 B**



### Aspirational

**Up to**  
**\$87 B**

Full accounting of needs from plans and programs regardless of cost of feasibility.

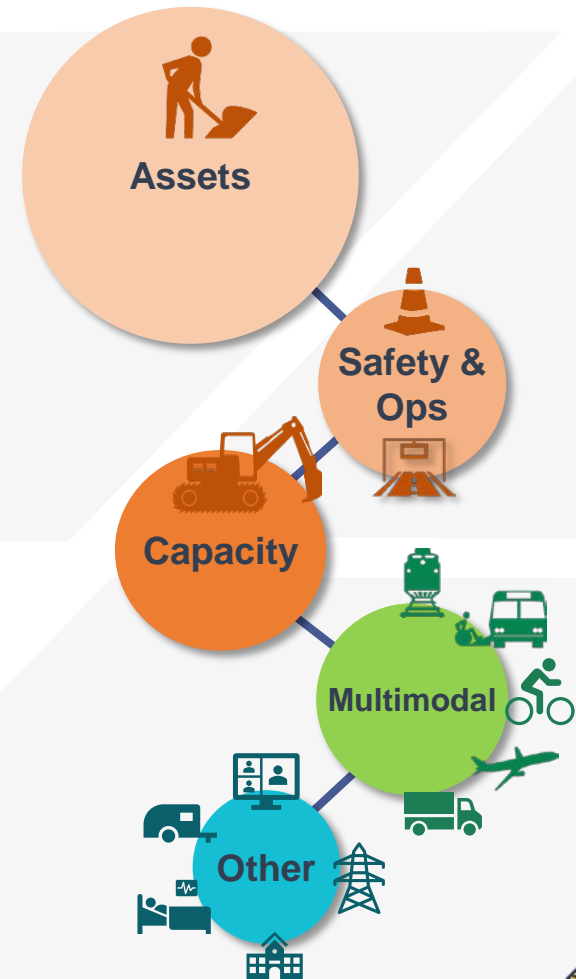
For bridge and pavement, the total funding required to maintain asset condition at 10% poor or better was analyzed



# 2050 LRTP

## Needs Assessment – Takeaways

- Maintain & modernize highway assets
- Sustain statewide programs (highway operations, tolling, safety)
- Targeted bottleneck needs
- Address multimodal system gaps, new connections
- Align with public health, economic development, and tourism goals
- Inform future planning



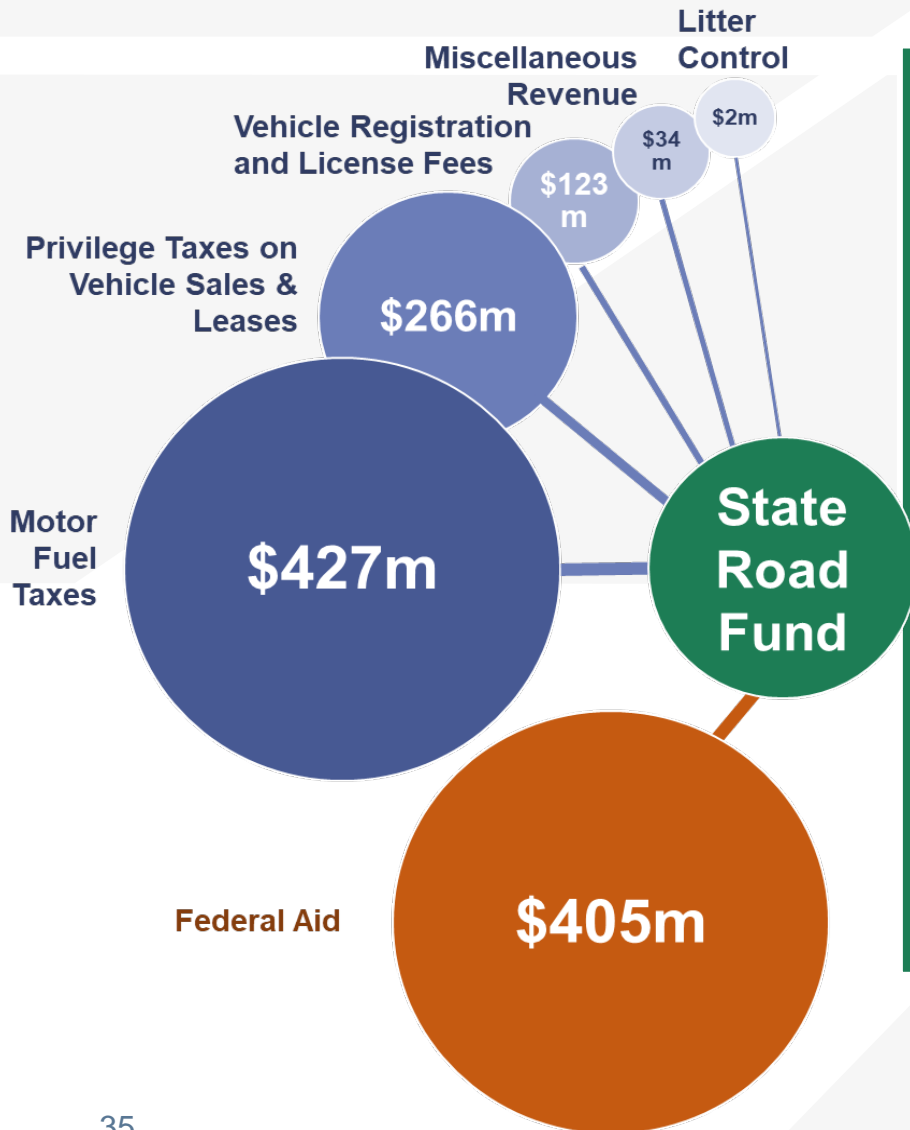


# What Are Our Transportation Revenues?



# 2050 LRTP

## Transportation Revenue Sources



### Federal Aid

**Motor Fuel Taxes** – Includes flat rate (\$0.205/gal) + variable rate (\$0.152/gal) based on 5% of average wholesale price

**Privilege Taxes** – Applied at time of sale/lease of vehicles registered in state; charged on vehicle net sale price (6% on purchased vehicles, 5% on leased vehicles)

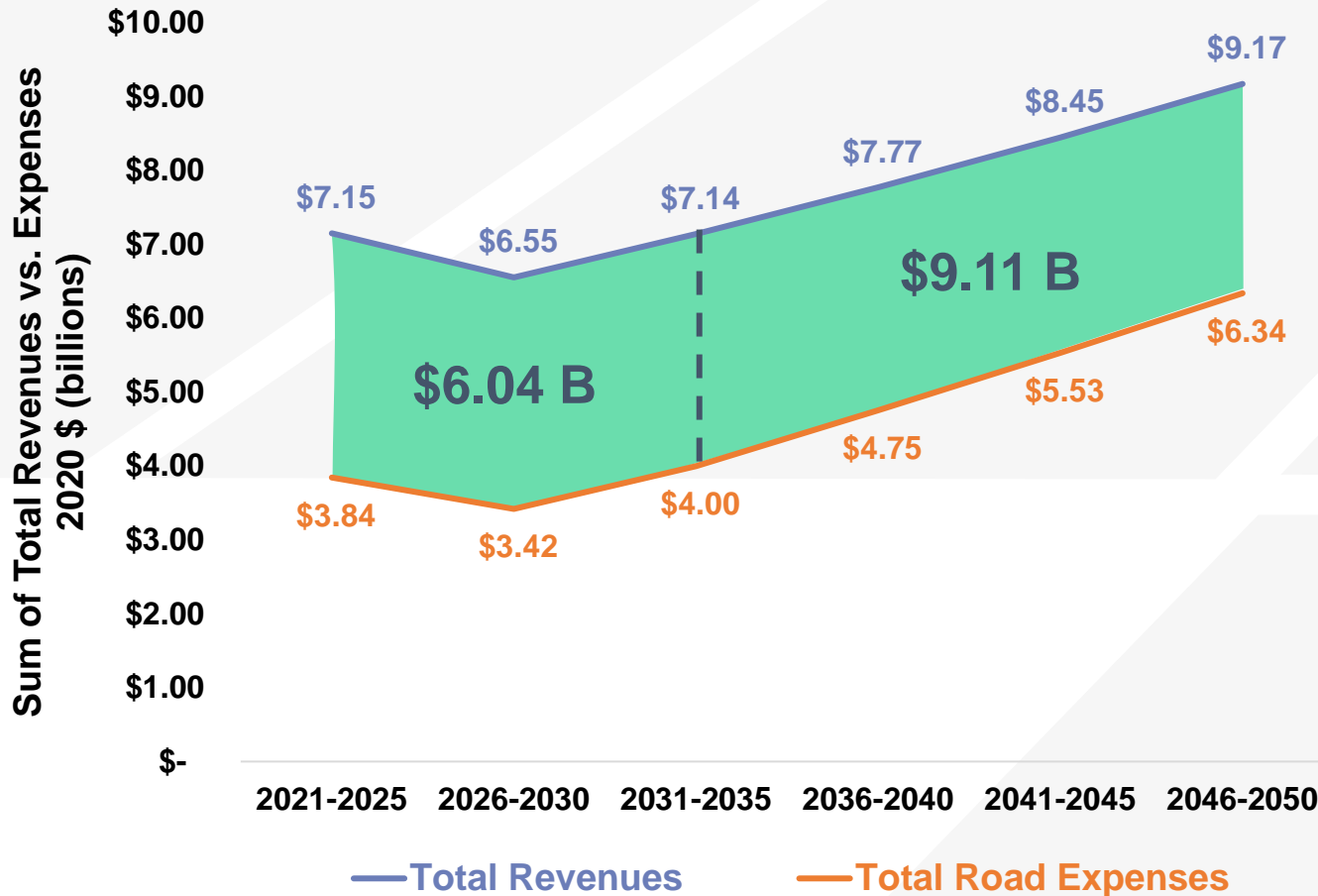
**Vehicle Registration & License Fees** – Annual fee: \$51.50 registration, \$200 EV fee, \$100 plug-in-hybrid

**Miscellaneous & Litter Control** – From map and permit sales, tonnage fees, interest earned on investments, and litter control fee



# 2050 LRTP

## Expenses vs. Revenues – Baseline



Growth in revenue driven by 2% annual growth in auto privilege and registrations and growth at CPI for federal sources, offset by stable/declining revenue from MFT

Available revenue for capital highway expenses slowly declines relative to total revenue and increase in other expenses

Growth in expenses driven by assumed 4% annual maintenance cost increase and 4% annual admin cost increase, including debt service schedule



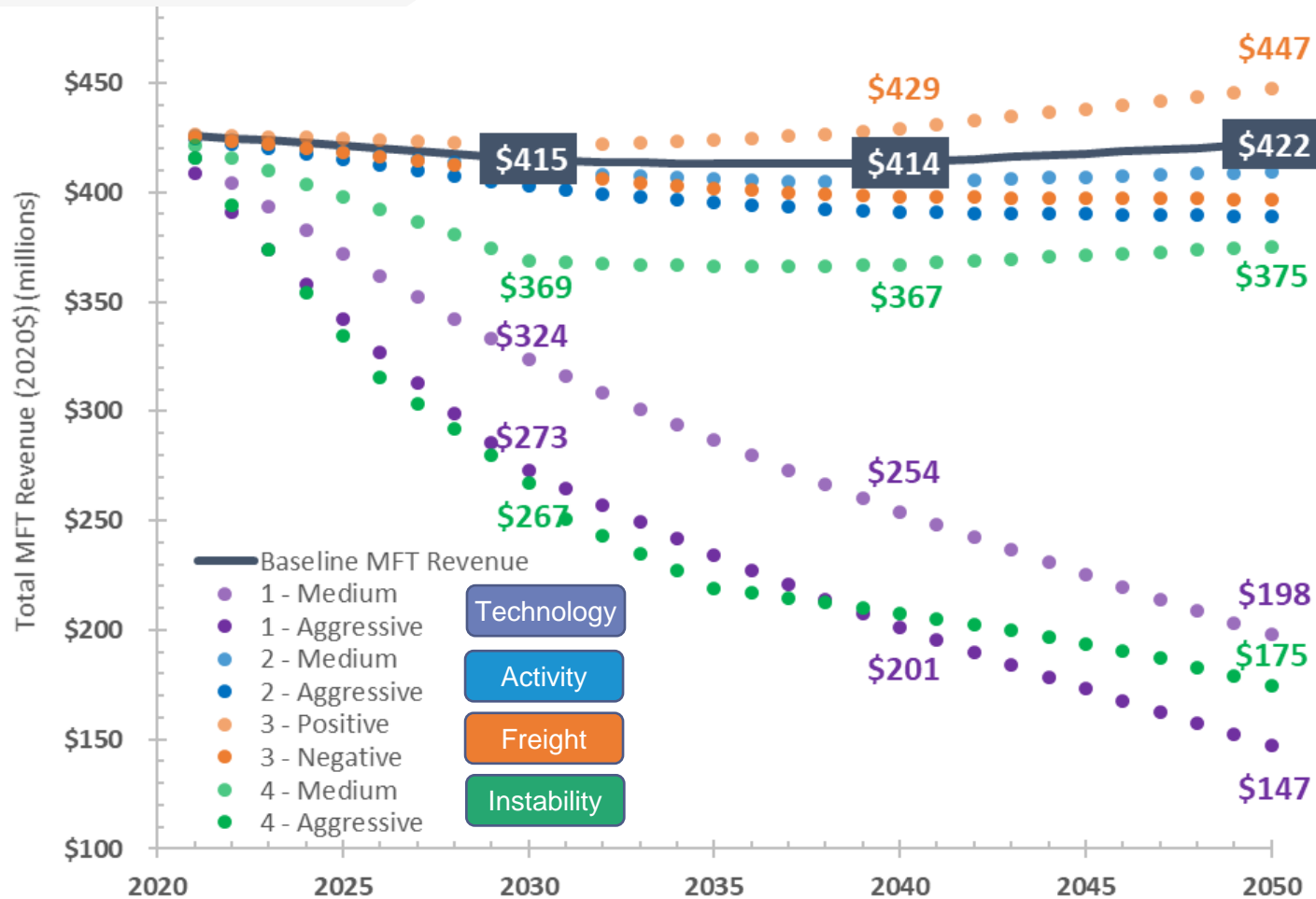
# 2050 LRTP Revenue Scenarios

**High EV market share**  
(up to 40% by 2050)  
has large effect on  
Motor Fuel Tax revenue

**Changing travel activity**  
may lead to revenue  
decreases (uncertainty)

**Freight traffic growth**  
can provide added  
revenues

**Unexpected events** and  
high inflation impacts  
both revenue and costs



# 2050 LRTP Revenue Options

## Increasing Existing Taxes

enables revenue to keep pace with cost increases

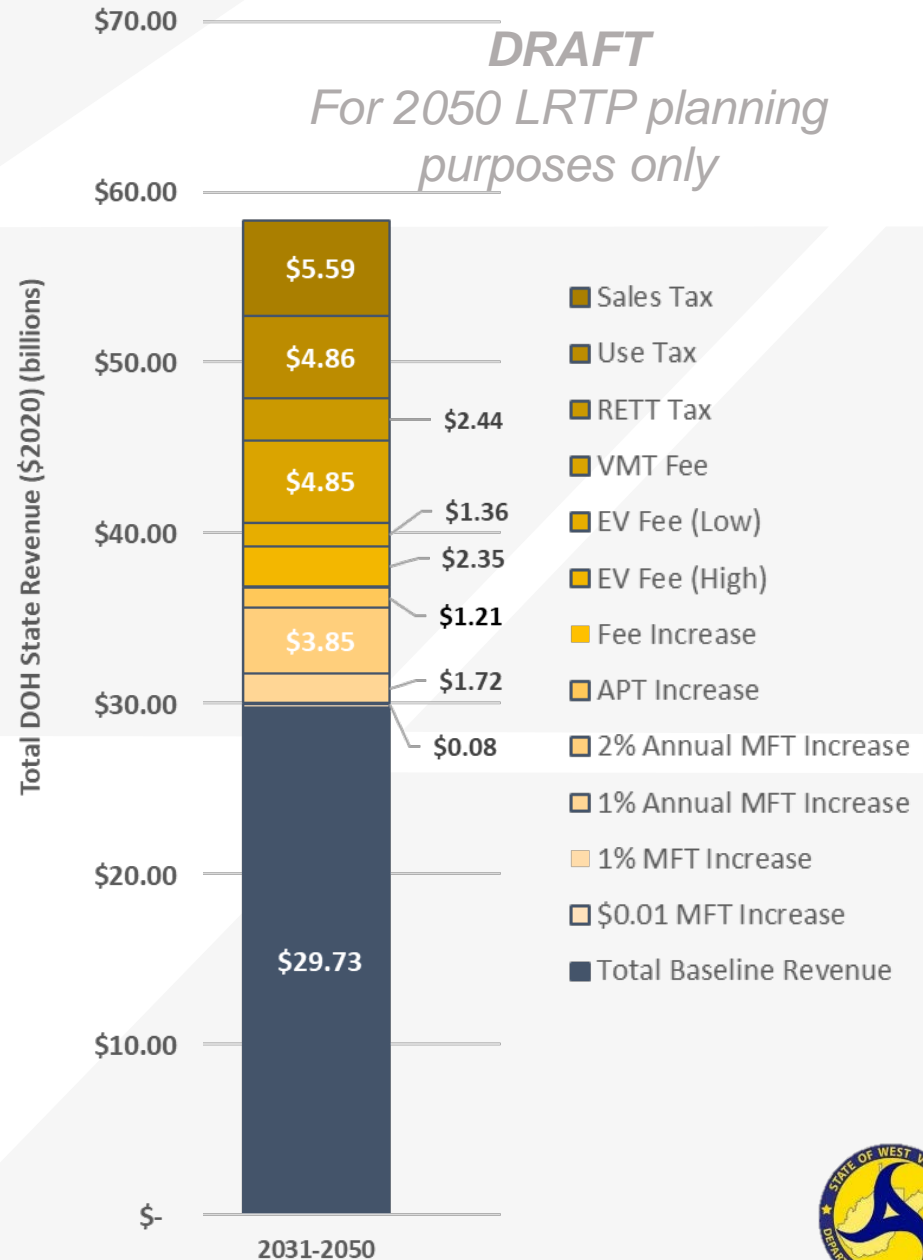
**New Fees** offsets tax burden

**EV fees** offset losses to fuel taxes from fleet changes

## Implementing VMT Fee

generates direct revenues for roads being used and could eventually replace MFT

**Introducing new taxes** outside transportation diversifies revenue sources and provides significant yield





# Where Does this Leave Us Today and In the Future?

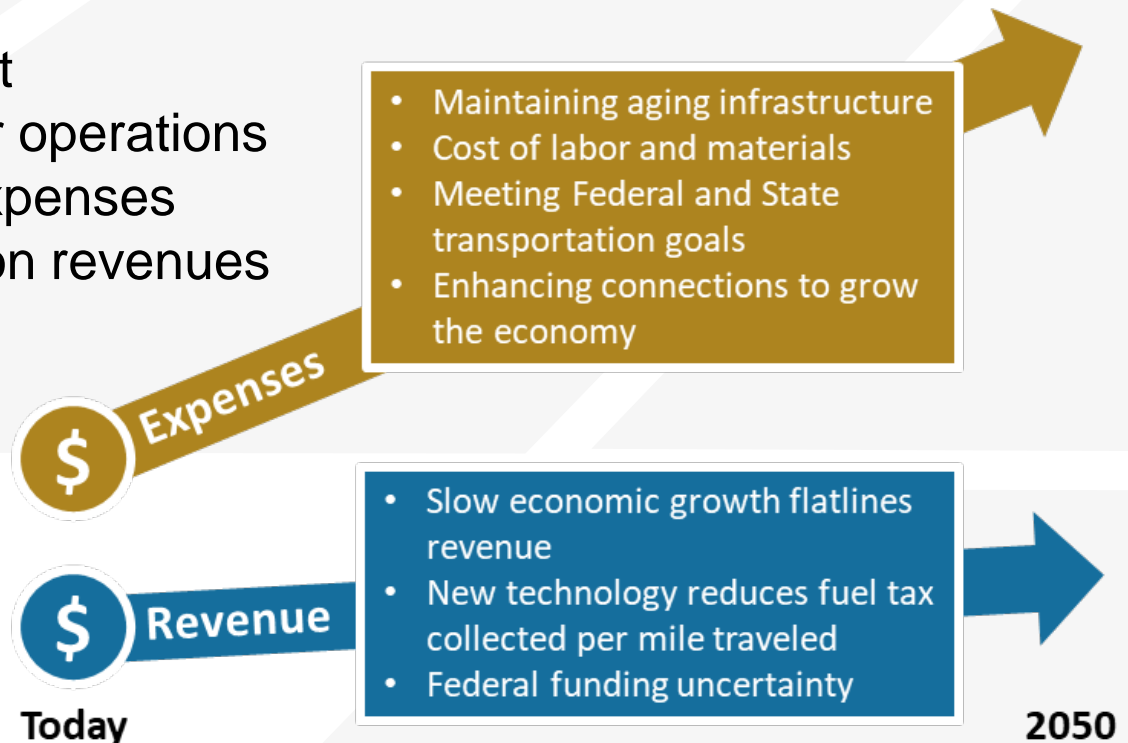


# 2050 LRTP

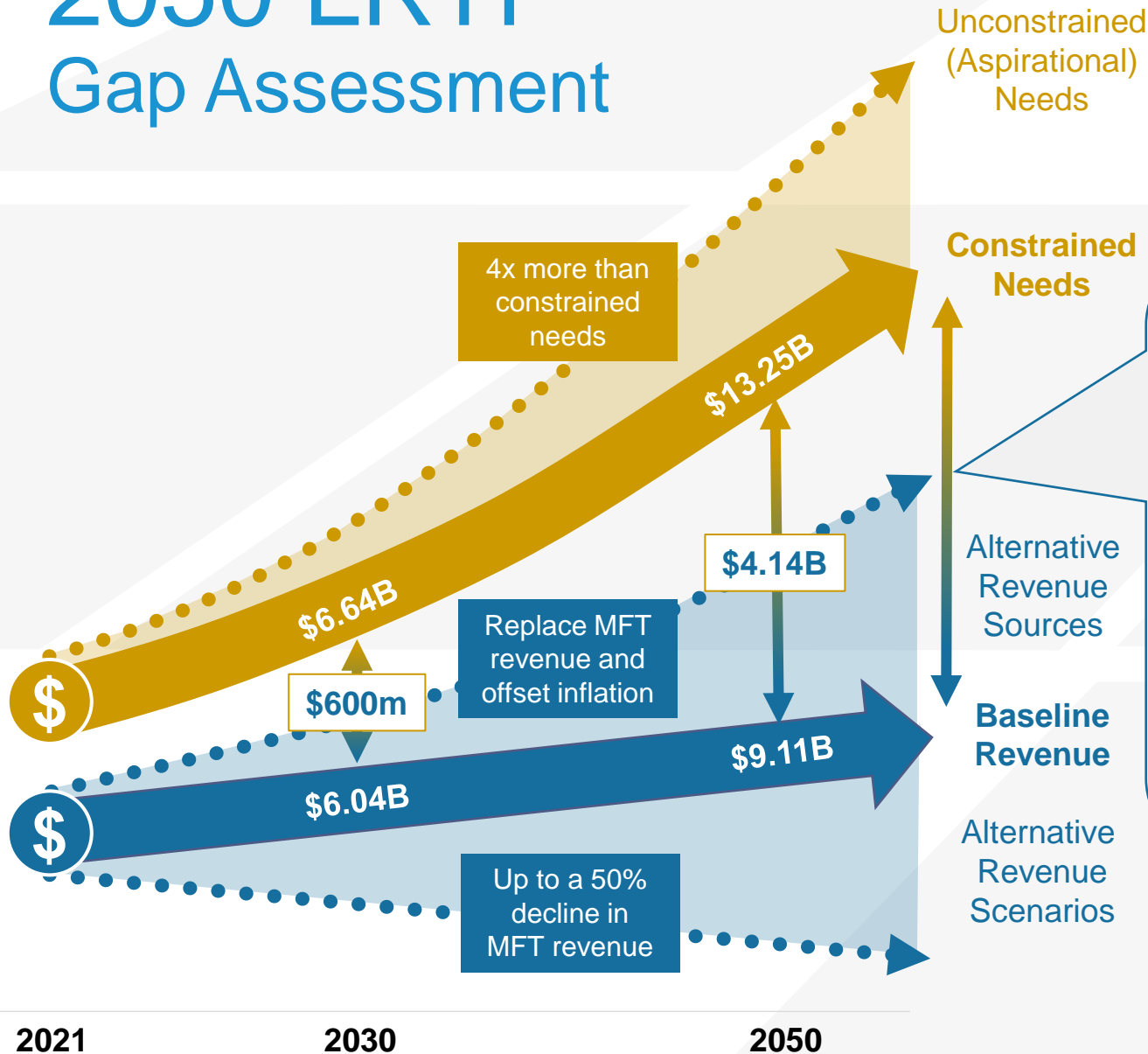
## Gap Assessment

### ➤ **Expenses** are more than **Revenues**

- » Capital improvement needs PLUS regular operations and maintenance expenses exceed transportation revenues
- » Increasing gap is due to traditional revenue sources generating less than the ongoing growth in needs and regular system maintenance expenses.



# 2050 LRTP Gap Assessment

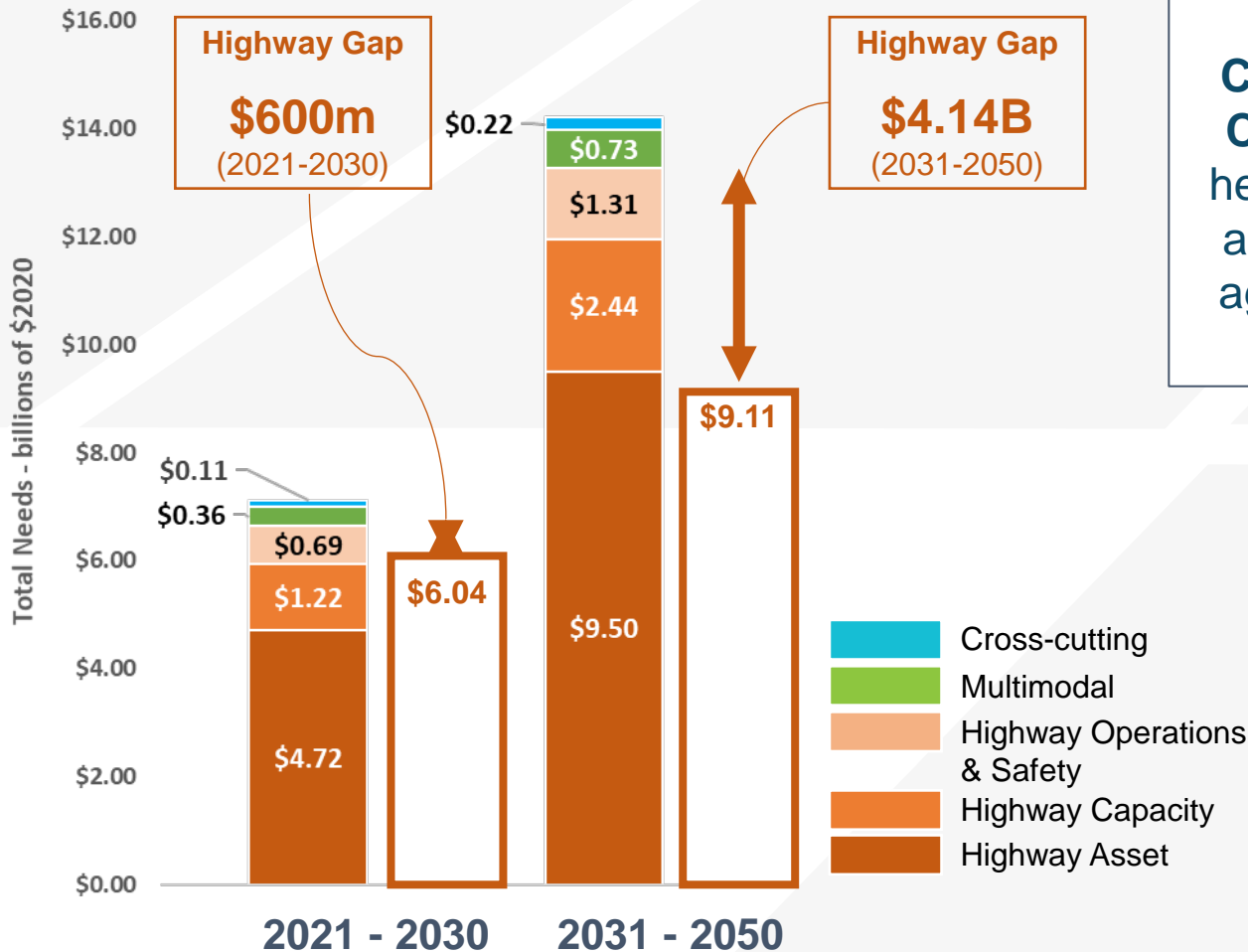


- The gap will continue to increase as needs and costs to do business increase
- The longer that revenue sources remain fixed, the more revenue risks increase from inflation and other external drivers
- More efficient spending and new revenue sources can reduce the gap



# 2050 LRTP Gap Analysis

## Constrained Needs versus Constrained Revenues



**Needs Exceed Revenues**  
 Focusing on **Constrained Needs** and **Constrained Revenues** helps us compare existing and alternative revenues against **constrained** and **aspirational** needs

Platform to develop **Portfolios and Strategies**



# What Can We Do?





# 2050 LRTP

## The Road Ahead

*Shaped by Goals & Objectives*



**As needs increase**, costs continue to rise, assets continue to age, economy diversifies, and travel patterns change

**Gap Increases**

**As revenues yield less** (if sources remain constant) due to inflation, emerging trends and uncertainties

**If WVDOT increases efficiency** through new technology and best practices leading to lower costs and higher return on investment

**Gap Decreases**

**If modified and new revenue sources can limit the impact of trends** that weaken existing revenue sources

# Defining Portfolios



**Focus on critical asset management needs** by balancing asset preservation strategies across the entire system



**Focus on highway safety and reliability needs**, including behavioral and systemic safety improvements and operations and capacity strategies



**Focus on existing and emerging technology opportunities** to optimize program delivery, capitalize on opportunities, build new partnerships, and prepare for new technologies








**Focus on increasing investment in 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

# Portfolio Strategies

 <p><b>PRESERVATION</b></p>	 <p><b>PERFORMANCE</b></p>	 <p><b>INNOVATION</b></p>	 <p><b>DIVERSIFY</b></p>	 <p><b>ACCESS</b></p>
<p>Preserve and comprehensively improve bridge conditions</p>	<p>Expand safety awareness which target driver behavior and decision making</p>	<p>Invest in asset condition and performance tools to better inform decisions</p>	<p>Integrate complete streets, regional trails, rail trails, on-road bicycle systems, and ADA compliance programs</p>	<p>Ensure rural roads are accessible, reliable, &amp; resilient to provide vital links for all residents &amp; visitors</p>
<p>Preserve and comprehensively improve pavement conditions</p>	<p>Deploy more countermeasures in the form of rumble strips, guardrails, retroreflective pavement markings</p>	<p>Expand coordination activities with activities with partner agencies and private sector</p>	<p>Modernize and market commercial service airports and expand general aviation opportunities</p>	
<p>Deliver equitable and balanced asset management to foster local and regional commerce</p>	<p>Deploy localized roadway design improvements and enhancements</p>	<p>Support policy enabling electric, connected, and autonomous vehicle technologies</p>	<p>Ensure transit assets remain in working condition, improve passenger facilities, and expand and implement new flexible systems</p>	<p>Leverage technology to expand education opportunities especially in underserved communities</p>
<p>Ensure support facilities, vehicles, roadside assets are in good condition, and enhance quality and capacity of travel plazas and welcome centers</p>	<p>Expand statewide Intelligent Transportation Systems along high priority WV routes</p>	<p>Develop a statewide mobility plan and program that coordinates transit and other mobility services</p>	<p>Enhance passenger rail service and reliability and improve access to key destinations</p>	<p>Promote access to health programs &amp; services for all citizens across developed &amp; rural communities</p>
<p>Protect at risk assets and maintain stormwater facilities</p>	<p>Enhance operational, design, and access management features of high priority WV routes</p>	<p>Implement new innovative project delivery and management strategies</p>	<p>Collaborate with Class I and shortline railroads to improve rail crossings, address bottlenecks, and provide access to industries</p>	

# How Are We Going To Do It?



# Strategies to Actions Categories



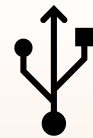
**Policies** to guide strategic decisions, programs, and resource allocation



**Practices** to impact multimodal asset, safety and mobility performance



**Partnerships** to coordinate transportation investments with state goals and objectives



**Technology** to enable enhanced program delivery and asset management



# Strategies to Actions

## Timeframe

**Within each strategy**  
**will be targeted short-term actions**  
(specific policies, practices, programs, projects)

Incorporate into  
future **programming**  
**cycles** (5 years)

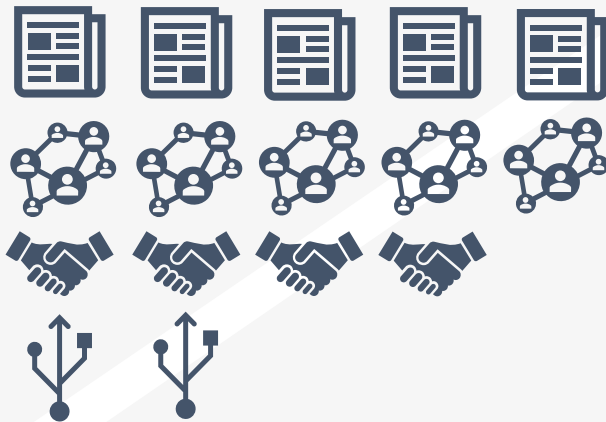
Trade-off decisions should consider readiness, resource availability, implementation barriers (institutional, technology, etc...), and acceptance/willingness to implement

**Within each strategy**  
**will be priority and longer-term actions**  
(planning and policy development and other actions with a longer lead time)

Incorporate into  
**planning cycle**  
(6+ years)

# Plan Implementation Approach

## Next 5 years



## Next 6 - 10 years

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

## Beyond 10 years

Some up-front collaboration can occur... a new LRTP may be started before many of these are implemented

### 19 Highest Priority Actions

#### CONTINUE AND ACCELERATE

Highest priority for implementation over next 5 years with potential for real benefits. Some actions already being implemented; other actions will require new resources.

### 21 High Priority Actions

#### INITIATE AND ESTABLISH

May require additional data, practice changes, enhanced management systems or resource commitments and expanded partnerships to implement.

### 25 Long Term Actions

#### LONGER TO LAUNCH

Remain a priority but require more time, resources, partnerships pushing implementation beyond 2030



# Plan Implementation

## Highest Priority Actions – Next Five Years

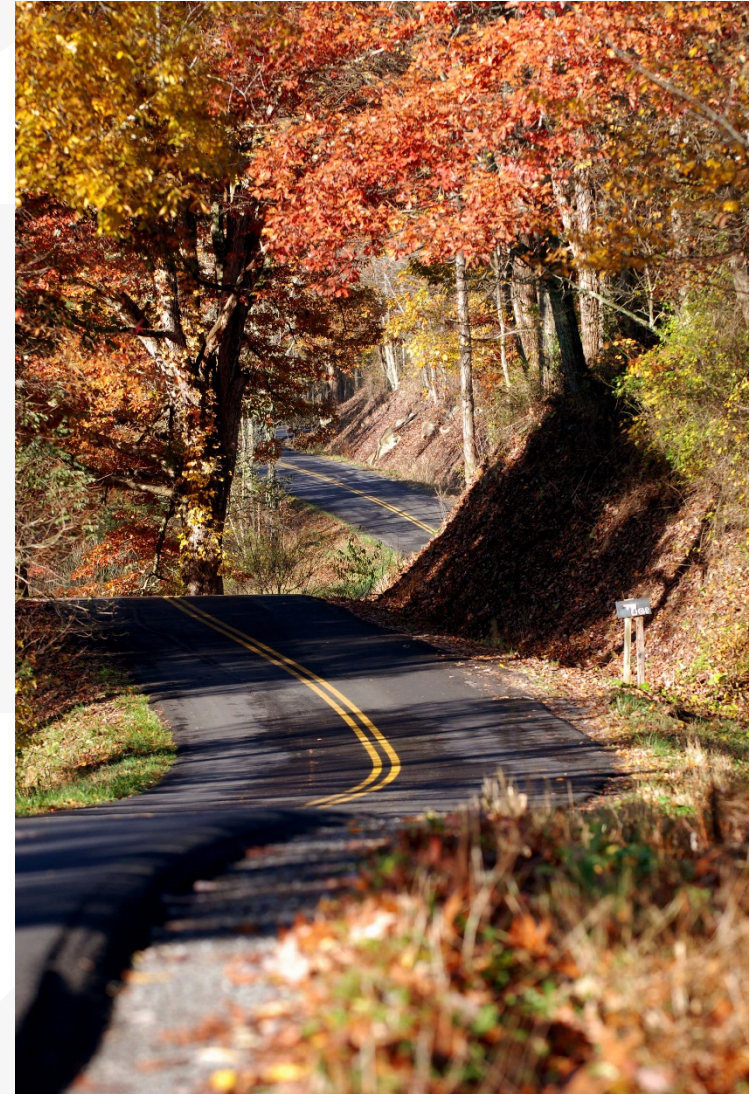
	Strategy	Action
	NHS and Turnpike Bridge Condition	Integrate bridge management system and roadway data
	NHS and Turnpike Pavement Condition	Integrate pavement management system and roadway data Maintain current projected funding levels to maintain condition
	Non-NHS Bridge and Pavement Condition	Improve communication between Districts and Central Office
	Slides, Stormwater & Roadside Management	Deploy stormwater management and green infrastructure
	Traffic safety awareness, education, enforcement	Expand communication tools, education, marketing Streamline traffic record data management
	Traffic safety countermeasures	Expand use of emerging countermeasures to prevent crashes
	Asset tools and support systems	Pilot longer lasting, durable construction materials and methods
	Agency coordination and partnerships	Improve communication of planning, projects and major initiatives
	Mobility services and management	Develop a Statewide Coordinated Transit Plan
	Project Delivery and Management	Proactively pursue Federal grant and financing opportunities
	Connected active transportation networks	Deliver needed sidewalk Infrastructure and ensure ADA compliance
	Freight market access and intermodal opportunities	Improve highway-rail crossings
	Recreation and heritage access	Enhance assets to promote outdoor tourism
Ensure adequate access to state historic/recreational sites		



# 2050 LRTP

## Next Steps

- **Plan for Public Comment** available June 30<sup>th</sup>
- Public comment period now through August 14<sup>th</sup>
- Final Plan August 2021
- Implementation of the LRTP will be ongoing
- **Your input is important!**



# 2050 LRTP

Your input is important to us!

➔ **Review all content here:**

<https://transportation.wv.gov/highways/programplanning/LRTP/Pages/default.aspx>

➔ **Email comments/questions to:** [DOT2050@wv.gov](mailto:DOT2050@wv.gov)

➔ **Mail comments/questions to:**

Planning Division,  
West Virginia Division of Highways  
1900 Kanawha Boulevard,  
Building 5, Room 740  
Charleston, West Virginia 25305



Thank you!

