2050 Multimodal Long-Range Transportation Plan

Round 2 Stakeholder Meetings
February 3 – 4, 2021
Agenda

- 2050 LRTP Schedule & Status
- Needs Assessment
- Revenue Forecast
- Needs vs. Revenue Gap
- Needs Prioritization, Strategies, Policies, and Portfolios
- Next Steps
2050 LRTP
Work Completed Since October

- Website –
  - State of the System Fact Sheets
  - Drivers, Trends, and Opportunities Fact Sheets and White Papers including Funding Fact Sheet
  - Refined engagement approach

- Interviews with Subject Matter Experts – input to “ground truth” needs and revenue forecasts

- Stakeholder survey – perspective from stakeholders and partners
2050 LRTP
Upcoming Milestones

- Complete needs assessment and revenue forecasts
- Finalize gap assessment and evaluate revenue alternatives
- Develop priority policies and strategies
- Develop prioritization and trade-off approach
2050 LRTP
Plan Schedule

2020

- Phase 1
- Phase 2

2021

- Round 1
- Round 2
- Round 3

- WVDOT Goal to Complete by June 2021

2050 LRTP
Addresses Federal requirements and documents the LRTP process, recommendations, and prioritized strategies and projects

Implementation
WVDOT approach to put the 2050 LRTP into motion
2050 LRTP Engagement 2020

Actions to Date

» **Round 1 – Stakeholders** – plan approach, state of the system, trends

» **Round 2 – Stakeholders** – gathering feedback on needs and strategies
  - Announcements – e-mail blast, stakeholder contact list
  - Surveys / Polling – future needs, recommendations
  - Website – home to all LRTP materials
  - Workshops – today (next cycle in April)

How You Can Help...

» Share and link to LRTP website

» Send E-mail blasts / surveys to your distribution lists and local partners

» Social Media Announcements
Planned Actions

» Round 2 & 3 – Public – Introduce the LRTP to the public and seek input

» Virtual Approaches (for now…)
  ▪ Announcements – Press Release, E-mail Blast, Social Media posts
  ▪ Website – Home to all LRTP materials, open public comment period
  ▪ Media Toolkits – Developing materials and messaging (quotes, links, pictures, schedule)

» In-Person Approaches (to be determined)
  ▪ LRTP Outreach Tour – Research local spring event opportunities (with your input)
  ▪ Open House Public Meeting (and Virtual Public Meeting)

How You Can Help…

» Share and link to LRTP website

» Send E-mail blasts / surveys to your distribution lists and local partners

» Social Media Announcements (through your organization channels)
Needs Assessment
2050 LRTP Overview – How This All Connects

Phase 3 – synthesis to compare future revenues against multimodal needs

NEEDS
define through models, experts, plans, studies

GAPS
Mid- and long-term by system, mode, investment type, goal, or objective

REVENUES
forecast from current investment plans and changing revenue futures and risks

OPTIONS
Test revenue sources

PRIORITIES
» Short and long term
» Capital and asset related
» Partner candidates
» Decision criteria
» Performance impacts

TRADE-OFFS
performance outcomes driven by multimodal priorities vs. revenue

PORTFOLIOS
» Optimized investment levels
» Prioritized pipeline for future capital programs

Phase 4 – identify most critical policies, programs and projects to meet goals
2050 LRTP Needs Assessment

- **Groundbreaking** – 1st comprehensive multimodal inventory of long-term transportation needs across West Virginia
- **Representative** – Project-specific & network-based improvement costs; Assets needs derived through scenarios; all values in 2020 $’s
- **Consistent** – Aligns with 10-year plans; assessment beyond 10 years to sustain performance targets & address user needs
- **Reflects Trends** – Builds from information in the White Papers
2050 LRTP
Needs Assessment – Context

Defining Needs
» Difference between a “need” and a “want”
» Driven by values and goals (variable state, regional, local)

Limitations & Considerations
» Qualitative vs. Quantitative
» Plan Driven vs. Expert Insight
» Changing, Connection to Priority and Policy

Methodology
» Ranges – Constrained vs. Aspirational
» Existing Snapshot vs. Uncertainty
Needs Assessment

Highways

- Assets
- Safety
- Operations
- Capacity

Multimodal

- Transit
- Bike/Pedestrian
- Rail
- Aviation
- Intermodal

Other

- Public Health
- Education
- Tourism
- Technology
- Industry/Resources
# 2050 LRTP Summary of Needs (DRAFT)

## Constrained v. Aspirational Influences

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
<th>Constrained</th>
<th>Aspirational</th>
</tr>
</thead>
<tbody>
<tr>
<td>Highways</td>
<td><strong>Expansion</strong> - what is reasonable to deliver by 2050?</td>
<td>$19.9 B</td>
<td>$21.3 B</td>
</tr>
<tr>
<td>Multimodal</td>
<td><strong>Target Setting</strong> – what level of asset performance to achieve by 2050?</td>
<td>$1.1 B</td>
<td>Up to $87 B</td>
</tr>
<tr>
<td>Other</td>
<td><strong>Gaps</strong> – what resources to address rural and urban mobility and enhance site access and intermodal connections by 2050?</td>
<td>$0.3 B</td>
<td>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</td>
</tr>
</tbody>
</table>

**Opportunity** – what project decisions best align to broader, cross cutting statewide issues by 2050?
<table>
<thead>
<tr>
<th>Category</th>
<th>2020-2030</th>
<th>2031-2050</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Highways</td>
<td>$6,630 M</td>
<td>$13,250 M</td>
<td>$19,880 M</td>
</tr>
<tr>
<td>Bridge</td>
<td>$2,170 M</td>
<td>$4,620 M</td>
<td>$6,790 M</td>
</tr>
<tr>
<td>Pavement</td>
<td>$2,550 M</td>
<td>$4,880 M</td>
<td>$7,430 M</td>
</tr>
<tr>
<td>Highway Expansion</td>
<td>$1,220 M</td>
<td>$2,440 M</td>
<td>$3,660 M</td>
</tr>
<tr>
<td>Highway Traffic Ops</td>
<td>$270 M</td>
<td>$550 M</td>
<td>$820 M</td>
</tr>
<tr>
<td>Highway Safety</td>
<td>$400 M</td>
<td>$720 M</td>
<td>$1,120 M</td>
</tr>
<tr>
<td>Highway Other</td>
<td>$20 M</td>
<td>$40 M</td>
<td>$60 M</td>
</tr>
<tr>
<td>Non-Highways</td>
<td>$360 M</td>
<td>$730 M</td>
<td>$1,090 M</td>
</tr>
<tr>
<td>Active Transportation</td>
<td>$120 M</td>
<td>$240 M</td>
<td>$360 M</td>
</tr>
<tr>
<td>Aviation</td>
<td>$40 M</td>
<td>$80 M</td>
<td>$120 M</td>
</tr>
<tr>
<td>Transit</td>
<td>$150 M</td>
<td>$300 M</td>
<td>$450 M</td>
</tr>
<tr>
<td>Rail</td>
<td>$50 M</td>
<td>$110 M</td>
<td>$160 M</td>
</tr>
<tr>
<td>Other</td>
<td>$110 M</td>
<td>$220 M</td>
<td>$330 M</td>
</tr>
<tr>
<td>Total</td>
<td>$7,100 M</td>
<td>$14,200 M</td>
<td>$21,300 M</td>
</tr>
</tbody>
</table>
2050 LRTP Needs Assessment – Takeaways

- Maintain & modernize highway assets
- Sustain statewide programs (highway operations, tolling, safety)
- Targeted capacity needs
- Address multimodal system gaps, new connections
- Align with public health, economic development, and tourism goals
- Inform future planning
Establish priorities – *(Phase 4)*

» Goal and performance perspective
   Asset condition & safety

» Cross-cutting topics perspective
   Multimodal & economic

» Rural or urban perspective
   Varying regional values

» System perspective
   Balance and criticality

» Available resources
   Optimize limited resources
Revenue Forecast
2050 LRTP
Revenue Forecast

For WVDOH:

- Identify revenues & expenses and the factors driving them
- Create forecasts under varying future economic scenarios
- Utilize results to:
  - Forecast total revenues and revenues available for capital investment
  - Support long range financial planning to meet 2050 LRTP goals & objectives

Revenue forecast focuses on DOH sources only

Sources for non-DOH investments are formula and grant driven, with less connection to economic factors

Non-DOH revenue forecasts extrapolate recent trends through 2050
2050 LRTP – DOH Revenue Forecast

Foundation & Existing Conditions –
  Identified Revenue & Funding Sources
  Highway vs. Non-Highway Modes

Input from WVDOT Divisions –
  Incorporated Additional Information from
  WV Dept of Revenue

Confirm Assumptions –
  Understand Current Methodology &
  Escalation Levels for Forecast

Construct Revenue Forecast –
  Historical Conditions + Near-Term Estimates
  Build Baseline Run

Validate Results –
  Analyze / Adjust Results, Test Alternatives
2050 LRTP – DOH Revenue Forecast

Foundation – Non-Tolled Roadway Revenues

**Federal Aid** – Reimbursements for Federal-aid eligible highway investments and FHWA GARVEE bond debt service

**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 and License Fees** – Annual fee: $51.50 registration, $200 EV fee, $100 plug-in-hybrid

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

WV DOH Revenue (FY2020): $1.257 billion
Relied on WV DOH & WV Dept of Revenue to confirm:

» Gallons of fuel consumed & taxed by fuel type

» Numbers of licenses and vehicle titles and registrations

» Historic tax, fee, & toll rates

» Escalation methods &/or frequency

» Policy or other changes on the horizon

Motor Fuel Taxes = Motor Excise Tax + Motor Carrier Tax

Motor Fuel Taxes = $0.357/gal + $0.205/gal

Motor Excise Tax = $0.205/gal gasoline, kerosene, & diesel + $0.152/gal (variable)

Motor Carrier Tax = $0.205/gal for gasoline, kerosene, & diesel
Constrained Revenues illustrate total funds available for Capital Investments adding future value to the highway system.

\[
\text{Constrained Revenues} = \text{Annual Revenues} - \text{Basic Operating Expenses}
\]

(Road Maintenance, Admin, & Debt Service)

Excludes: DMV, Claims, Courtesy Patrol, Admin Hearings, and Road Construction
Test Assumptions – Forecast Drivers

- Validated & aligned forecast revenue streams with historical revenues & near-term insights
- Population changes are best predictor of future DOH revenue streams
- Forecasts developed for alternative future population scenarios
- Used 2% discount rate to bring future revenue values to 2020$ for comparison to needs which are in 2020$
2050 LRTP – DOH Revenue Forecast

Baseline Forecast Results – DRAFT Revenues vs. Expenses

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.

Total Revenues vs. Expenses 2020 $ (billions)

- Total Revenues
- Total Road Expenses

2021-2025 2026-2030 2031-2035 2036-2040 2041-2045 2046-2050

Total Revenues

Total Road Expenses

- $6.03 B
- $6.55
- $7.15
- $7.14
- $7.77
- $8.45
- $9.17

- $3.84
- $3.42
- $4.00
- $4.75
- $5.53
- $6.34
Validate Results – Test Population Alternatives

2 million – WV’s population in 1950

Return – Return to 2000’s growth rate

Rebuild – Return to 2012 population

Real – Gradual economic recovery

Baseline – Decline consistent with 2012-2020 and recent forecasts
2050 LRTP – Forecast Alternatives

Validate Results – Draft Revenue Results

<table>
<thead>
<tr>
<th>Year</th>
<th>Baseline</th>
<th>Real Gradual</th>
<th>Rebuild</th>
<th>Return 2000’s</th>
<th>2 million WV's</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020-2030</td>
<td>$6.03</td>
<td>$6.08</td>
<td>$6.12</td>
<td>$6.12</td>
<td>$6.08</td>
</tr>
<tr>
<td>2031-2050</td>
<td>$8.79</td>
<td>$9.11</td>
<td>$9.45</td>
<td>$9.48</td>
<td>$9.81</td>
</tr>
</tbody>
</table>

Baseline: Trend based on 2012-2020 and forecasts
Real: Gradual economic recovery
Rebuild: Return to 2012 population
Return: 2000’s growth rate
2 million: WV’s population in 1950
2050 LRTP
Revenue Forecast Discussion

Future revenues are challenged by internal and external factors

Current sources are falling further behind needs and costs

Operating expenses continue to increase

Existing debt service burden through 2040s

Feedback on analytical method
» Constrained vs. Total Revenues
» Revenue and expense growth factors

Revenue alternatives and policies
» Additional tax-based sources
» Alternative user-based fee sources
» Flexibility and leverage

Revenue forecasting tool
» Value to long-range planning
» Value to programming

Future revenues are challenged by internal and external factors.

Current sources are falling further behind needs and costs.

Operating expenses continue to increase.

Existing debt service burden through 2040s.
Needs vs. Revenue Gap
2050 LRTP
Needs vs. Revenues

Expenses
- Maintaining aging infrastructure
- Cost of labor and materials
- Meeting Federal and State transportation goals
- Enhancing connections to grow the economy

Revenue
- Slow economic growth flatlines revenue
- New technology reduces fuel tax collected per mile traveled
- Federal funding uncertainty

Today

2050
## 2050 LRTP
### Needs vs. Revenues

<table>
<thead>
<tr>
<th>Needs</th>
<th>Revenue</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Policy/priority questions</strong></td>
<td><strong>WV and Federal direction</strong></td>
</tr>
<tr>
<td>» Short vs long term performance relative to goals</td>
<td>» Federal uncertainty</td>
</tr>
<tr>
<td>» Immediate priorities – bridge condition, secondary roads</td>
<td>» Declining return from traditional sources relative to cost increases</td>
</tr>
<tr>
<td>» Rural connectivity and mobility</td>
<td>» Limited bonding capacity</td>
</tr>
<tr>
<td>» Prepare for technology and other industry changes</td>
<td>» More fuel-efficient fleet</td>
</tr>
<tr>
<td>» Economic development</td>
<td>» More flexibility among sources and grant focused</td>
</tr>
</tbody>
</table>
What criteria should define highest priority investments?

What is the optimal mix of investment (portfolios) among highest priorities to address the gap?

Different approach for Short vs. Long Term?
2050 LRTP Next Steps

- LRTP project team to finalize needs assessment and revenue forecast results and reports
- Refine and deliver a proactive & interactive engagement effort
- Organize findings into comparative portfolios, start conducting trade-off analysis
- Prepare for Meeting #3 where we will discuss your perspectives on the optimal long term multimodal investment strategy

By end of February through Fact Sheets & Technical Reports
Proactive approach through June
Starting in February through April
Targeting mid-April
Contacts:

Project Manager
Chris Kinsey, P.E.
Statewide Planning Section Head
Planning Division, WVDOH
Chris.J.Kinsey@wv.gov
304 414-6926

Elwood Penn, P.E.
Director
Planning Division, WVDOH
Elwood.C.Penn@wv.gov
304 414-6933