

Agenda

- Welcome and Introductions
- Background/Overview
- Plan Directions
- Comprehensive Freight Movement Plan
- Draft Modal Needs
- Baseline Revenue and Projections
- Project Prioritization Process
- Modal Scenarios Introduction

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2

PA On Track
PA'S LONG RANGE TRANSPORTATION & COMPREHENSIVE FREIGHT MOVEMENT PLAN

Plan Background/Overview

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3



Stakeholder Participation

- Eight Stakeholder Webinars
- Website interaction
 - <http://paontrack.com/>
 - Voice Your Opinion Polls
 - Surveys
- State and local conferences
- External stakeholder engagement (this Winter)



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4



Project Website

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HOME ABOUT THE 2040 PLAN PUBLIC PARTICIPATION 2040 PLAN DOCUMENTS STAKEHOLDER WEBINARS CONTACT US

Integrating Pennsylvania's
TRANSPORTATION SYSTEM

Voice Your Opinion

Among the choices shown, what is the top long-range issue facing Pennsylvania transportation?

- ☐ Growing senior population
- ☐ Autonomous vehicles
- ☐ Interstate State
- ☐ Worsening of the Panama Canal
- ☐ Other

[Vote](#)

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Public Participation

[Comment Here](#)

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The next webinar "Project Prioritization" is just a few days away. [Click here to register.](#)

Your Involvement Matters

To add your name to our email list please:

[CLICK HERE](#)

Welcome

As we strive to maintain our roads and bridges, PennDOT has embarked upon a challenging journey to develop strategies and priorities to guide decision makers now and in the years ahead. This is not a journey we can take alone. It will require significant input from a wide variety of partners, as well as from members of the public. PA On Track will serve as a gateway to your participation along this journey.

With your help, by the summer of 2014 PennDOT will have two important plans in place to guide them into the future. The first will produce our long range transportation plan to preserve and improve accessibility and connectivity for all modes. The second is the state's first ever comprehensive freight movement plan, which will reflect and strengthen the importance of integrating the various modes.

Timeline

- Vision, Goals and Objectives
- Performance measures
- Identification of needs
- Revenue/Finance
- Evaluate strategy scenarios

Roadways

- PennDOT owns, operates, and maintains **40,000** miles of roadway.
- Highways
 - Ranks **5th** in the nation in total mileage of state-owned roadway
 - Ranks **6th** in the nation in vehicle miles traveled
 - Ranks **6th** in the nation in total Interstate mileage
 - **1,855** miles

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Roadway Preservation

- **8,452** miles of highway have a poor rating and need improvement.
- Implications
 - Current funding levels are **forcing lower-cost treatments** to be performed instead of the full scope of needed repairs and reconstruction.
 - Each year PennDOT gets **further behind**.



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Bridges

- PennDOT owns, operates, and maintains more than **25,000** bridges
- Bridges
 - Ranks **3rd** in the nation in number of state-owned bridges
 - More than **25,000** bridges
 - **4th** oldest bridge inventory in the nation



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Structurally Deficient Bridges

- Statewide, **4,476** bridges require near-term improvements.
- Implication
 - If money is not available to fix, bridges must be **weight-restricted** and ultimately closed.
 - This forces **change in traffic flow**— already being experienced by hundreds of Pennsylvania communities—overburdens other routes and adds significant delays to commutes and deliveries.
 - “Additional miles will add \$200,000-\$300,000 to Armstrong’s transportation costs.” – *WSJ article, Oct. 14, 2013*

18 percent of PA’s bridges are structurally deficient, while the national average is 7.3 percent.

Structurally Deficient Bridges 18% (4,476 bridges)




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COMPREHENSIVE FREIGHT MOVEMENT PLAN

Pennsylvania Modal Facts

- Public Transportation
 - 37** urban and fixed route transit systems
 - 58** shared-ride/demand response operators
 - 5,500** transit vehicles
 - 400** million trips per year
 - Philly’s system ranks **5th** nationally
 - Pittsburgh’s system ranks **21st** nationally
 - Transit service is provided throughout all **67** counties




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10

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Pennsylvania Modal Facts

- Intercity Rail
 - AMTRAK provides daily services with **120** trains and **24** stations
 - AMTRAK operates **5** corridors
 - Keystone Corridor (Harrisburg-NYC, via Philly) ranks **4th** in nation
 - **1.2 million** annual passengers
 - **3.9 million** passengers used Philadelphia's 30th Street Station




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11

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PA's Long-Range Transportation
Comprehensive Freight Movement Plan

Pennsylvania Modal Facts

- Aviation
 - **134** public use airports
 - **313** private use airports
- Bicycle and Pedestrian
 - Nine designated BicyclePA routes
 - **2,200** miles




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12

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PA's Long-Range Transportation
Comprehensive Freight Movement Plan

Pennsylvania Modal Facts

- Rail Freight
 - 4 Class I railroads
 - 5th largest rail system in the nation
 - 60 railroads operating 6,000 miles of track
 - Largest short-line and regional rail line network in the nation



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13

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Pennsylvania Modal Facts

- Ports
 - 3 major ports
 - Total trade
 - Philadelphia ranked 21st nationally (34.0 MT)
 - Pittsburgh ranked 22nd nationally (33.8 MT)


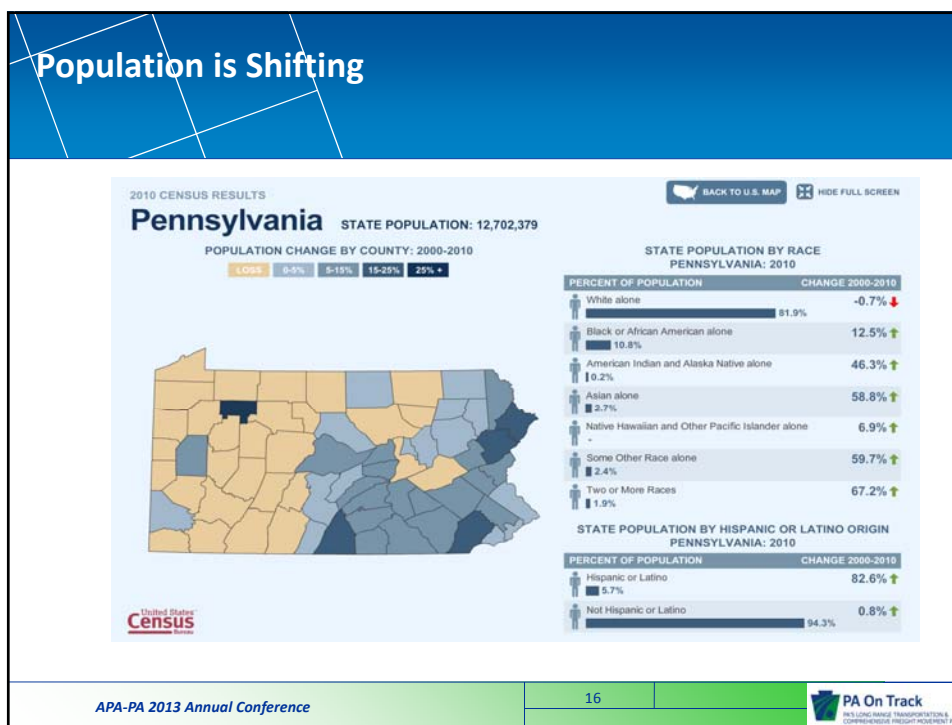
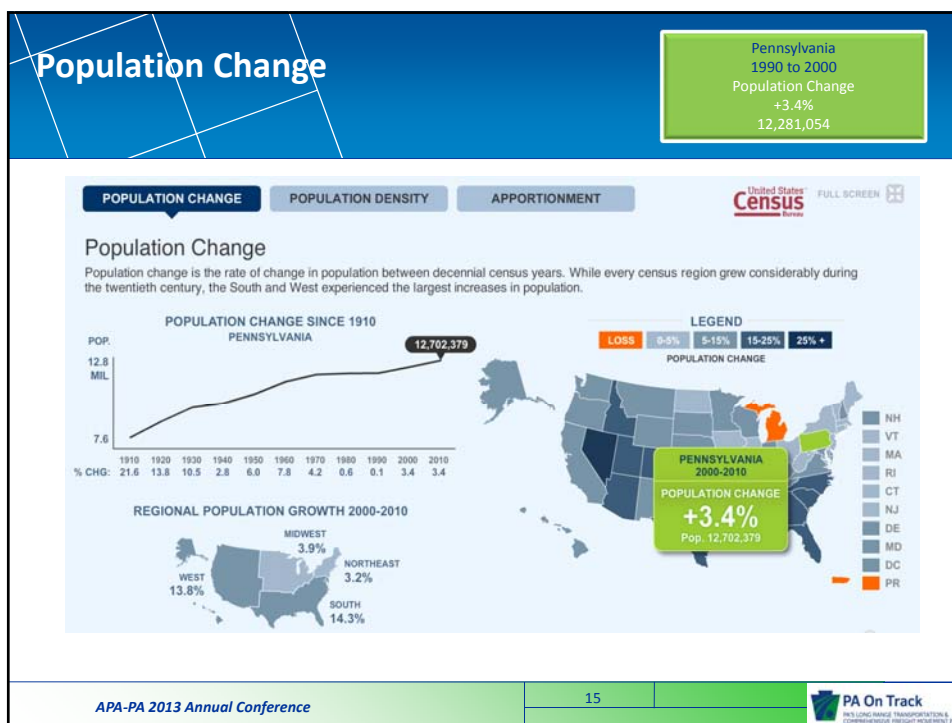


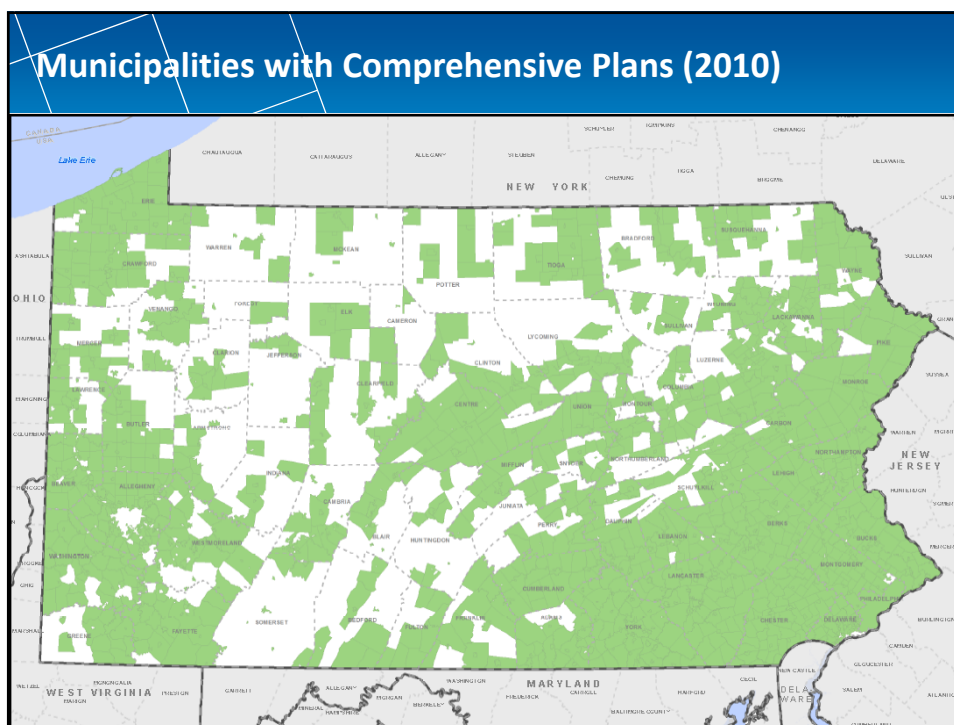
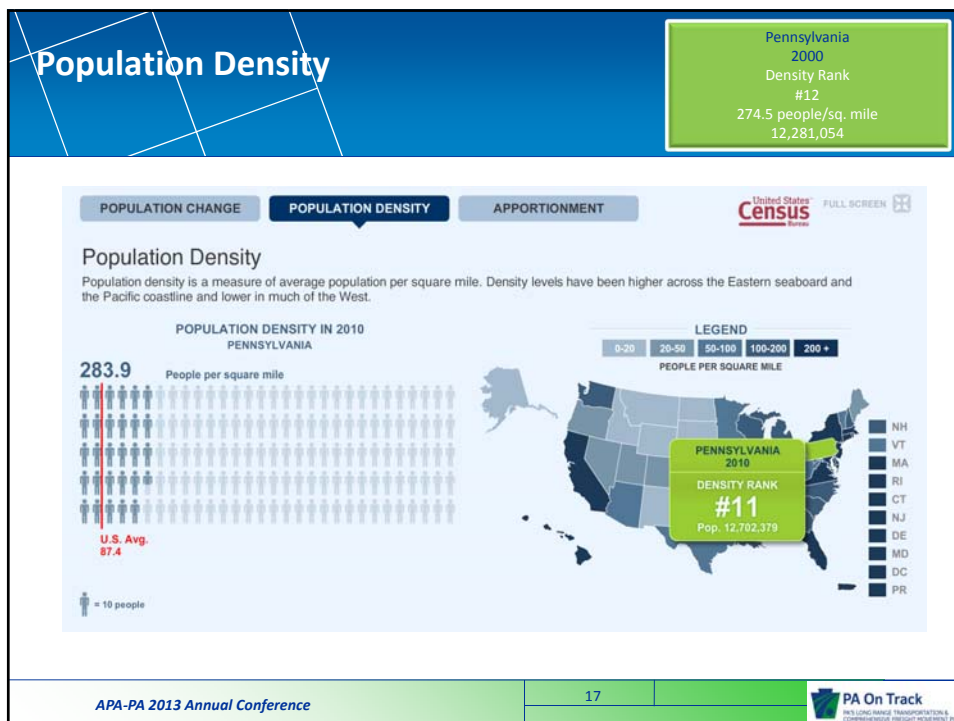
Image courtesy of Philadelphia Regional Port Authority

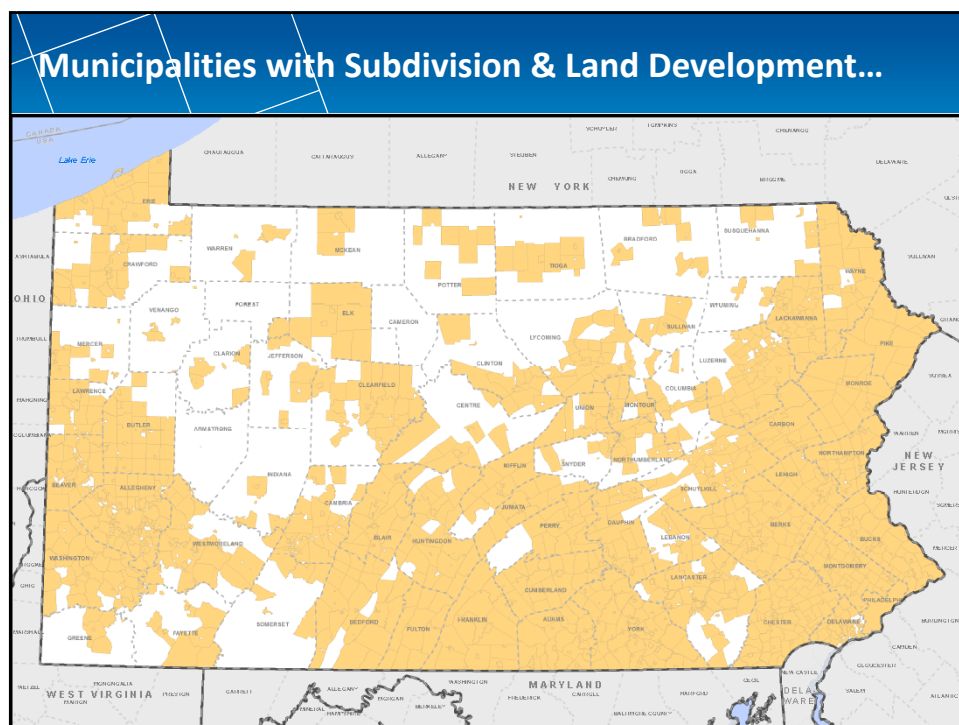
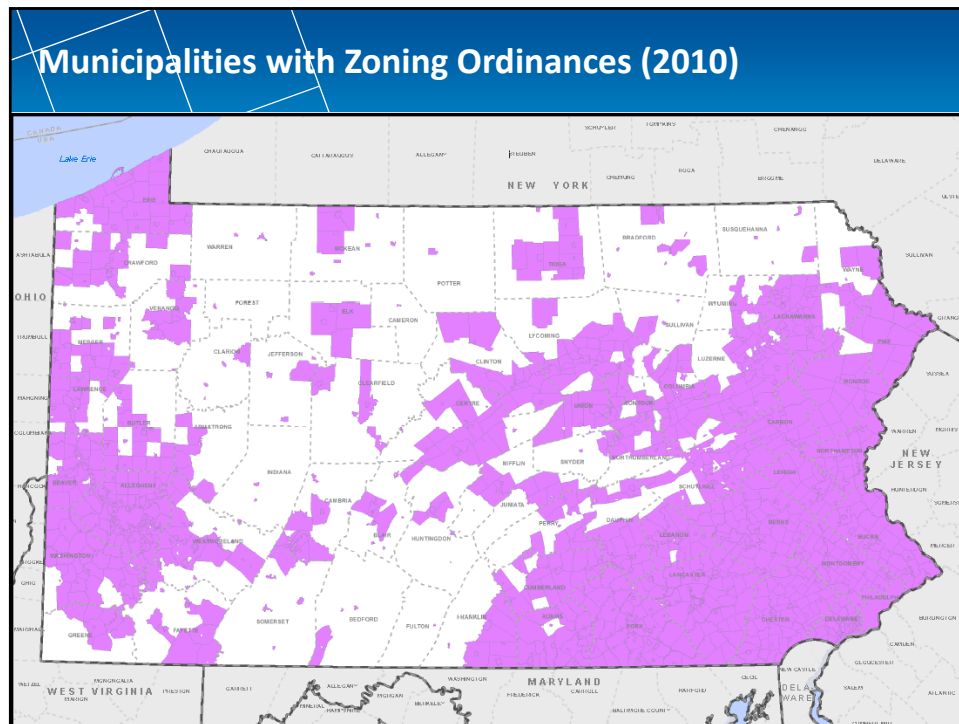
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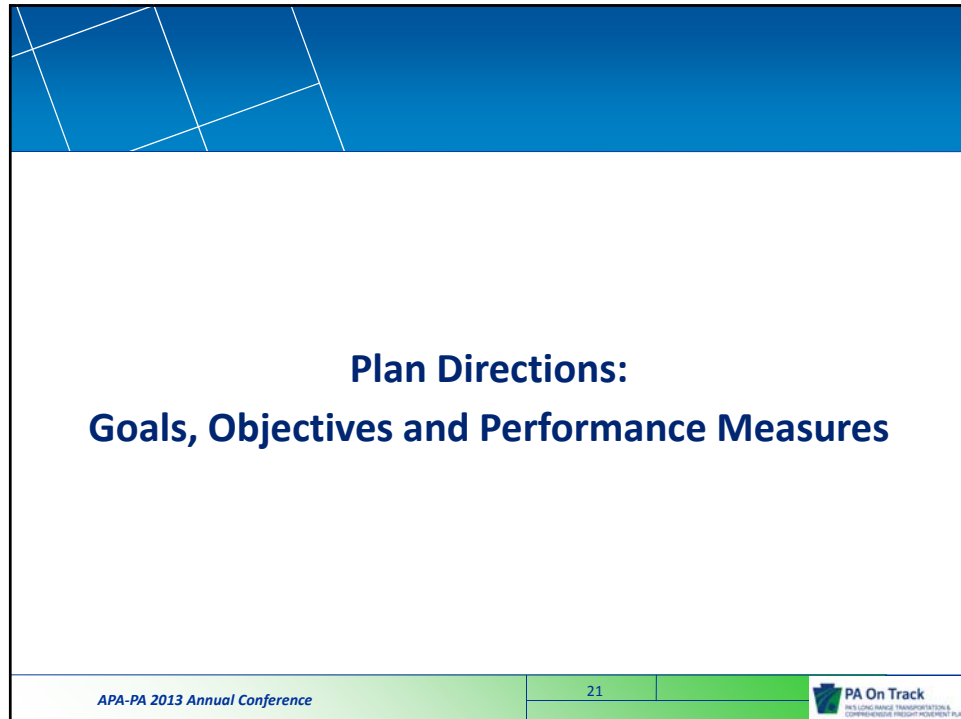
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COMPREHENSIVE FREIGHT MOVEMENT PLAN







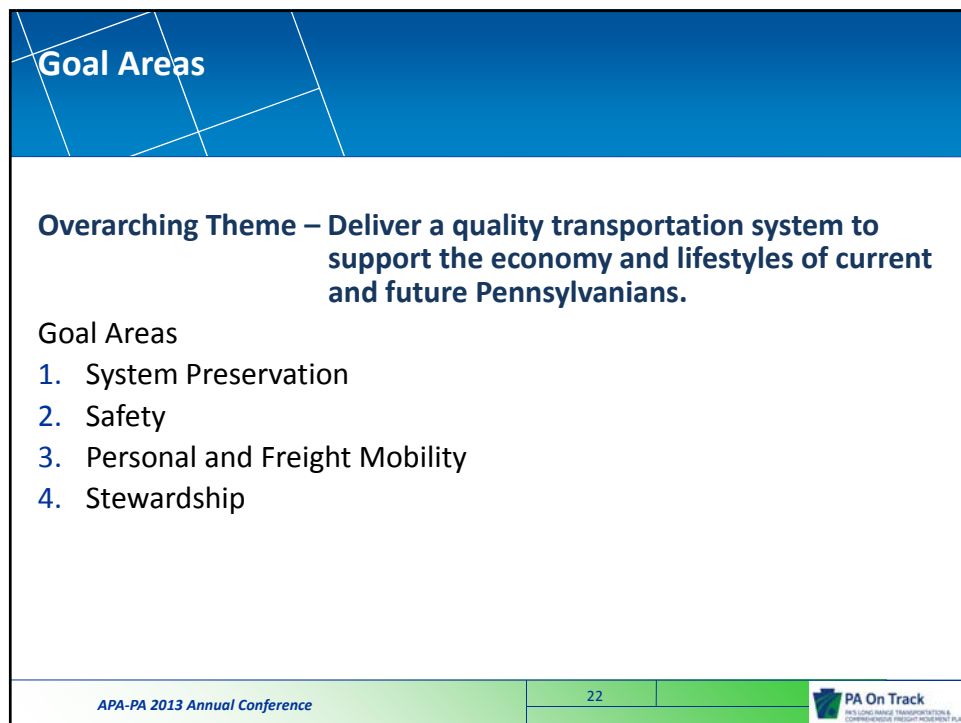


**Plan Directions:
Goals, Objectives and Performance Measures**

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21

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Goal Areas

Overarching Theme – Deliver a quality transportation system to support the economy and lifestyles of current and future Pennsylvanians.


Goal Areas


1. System Preservation
2. Safety
3. Personal and Freight Mobility
4. Stewardship


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22

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COMPREHENSIVE FREIGHT MOVEMENT PLAN

Goal: System Preservation		
Preserve transportation assets using sound asset management practices within the limitations of available resources.		
Final Draft Objectives:		
<ul style="list-style-type: none">✓ Optimize pavement conditions✓ Reduce the number of structurally deficient bridges✓ Encourage state-of-good repair initiatives for all modes✓ Limit the number of load restricted bridges		
Draft Plan Performance Measures:		
<ul style="list-style-type: none">• Percent of pavements in excellent, good, fair, and poor condition• Pavement structure index• Percent of structurally deficient bridges (by deck area)• Number of “weak bridges” and load restricted bridges• Average life of bus fleet (as a % of design life)		
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Goal: Safety		
Improve statewide safety for all modes and all users.		
Final Draft Objectives:		
<ul style="list-style-type: none">✓ Reduce statewide transportation system fatalities✓ Reduce serious injury crashes statewide✓ Invest in cost-beneficial approaches and technologies that enhance the safety of the transportation system and improve public understanding of high-risk traveling behaviors✓ Reduce crashes, injuries, fatalities in work zone areas✓ Promote, develop, and sustain multijurisdictional traffic incident management programs to achieve enhanced responder safety and safe and quick traffic incident clearance		
Draft Plan Performance Measures:		
<ul style="list-style-type: none">• Number of fatalities and serious injuries• Number of fatalities and serious injuries in work zones• Number of roadway-related bicycle and pedestrian fatalities and serious injuries• Number of rail-crossing fatalities, serious injuries and incidents		
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<h2>Goal: Personal and Freight Mobility</h2> <p>Expand and improve system mobility and integrate modal connections.</p>		
<p>Final Draft Objectives:</p> <ul style="list-style-type: none"> ✓ Improve system efficiency, trip predictability, and eliminate bottlenecks by providing modal infrastructure and technological advancements. ✓ Increase access to jobs/labor/transportation choices in urban, suburban, and rural communities ✓ Support local communities through appropriate and equitable transportation modal options and investments ✓ Enhance multimodal access, with a focus on seniors, persons with disabilities and other disadvantaged populations. ✓ Improve first and last mile intermodal access and connections ✓ Support pedestrian and bicycle facility development ✓ Improve bridge underclearances and intersection geometry <p>Draft Plan Performance Measures:</p> <ul style="list-style-type: none"> • Annual hours of truck/auto delays (cost of delays) • Annual transit ridership • Percent/number of freight bottlenecks eliminated 		
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<h2>Goal: Stewardship</h2> <p>Increase efficiency through modernization of assets and streamlining of processes</p>		
<p>Final Draft Objectives:</p> <ul style="list-style-type: none"> ✓ Ensure a high standard of quality and maximize effectiveness of agency and user investments ✓ Enhance the performance of the transportation system while protecting the state's natural, cultural, and historic resources ✓ Encourage the development and use of innovative technologies ✓ Support transportation investments to reflect the diversity of Pennsylvanians and their needs ✓ Support coordination of land use and transportation planning ✓ Support economic development ✓ Support technical assistance/training courses offered to municipalities ✓ Support the creation of safe and attractive walking/cycling environments in destination centers ✓ Support clean air initiatives ✓ Promote initiatives aimed at improving system operations and energy efficiency <p>Draft Plan Performance Measures:</p> <ul style="list-style-type: none"> • Annual savings through PennDOT Next Generation implementation • Timely delivery of approved local projects • Timely delivery of HOP permits 		
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Comprehensive Freight Movement Plan

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27



Why do a freight plan?

- Freight shares Pennsylvania's transportation infrastructure with passengers
 - As stewards of the system – we are responsible for accommodating all users
- Freight
 - Supports the economy of the region and state
 - Supports manufacturing
 - Provides jobs
 - Is the economy in motion
 - Impacts public and private infrastructure




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28



Comprehensive Freight Movement Plan

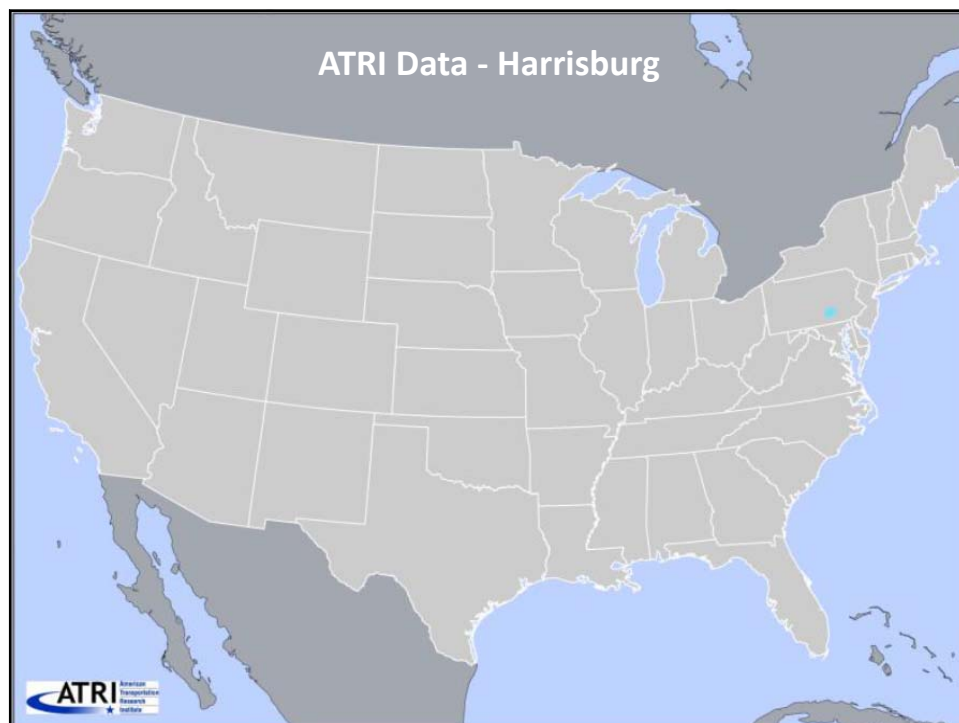
- Pennsylvania's FIRST Freight Plan
 - Integrated with LRTP
- Focus
 - Economic development
 - Improve freight efficiency
- Initiated prior to, yet will meet MAP-21 Guidance
 - Qualify for incentives
 - Projects identified and prioritized

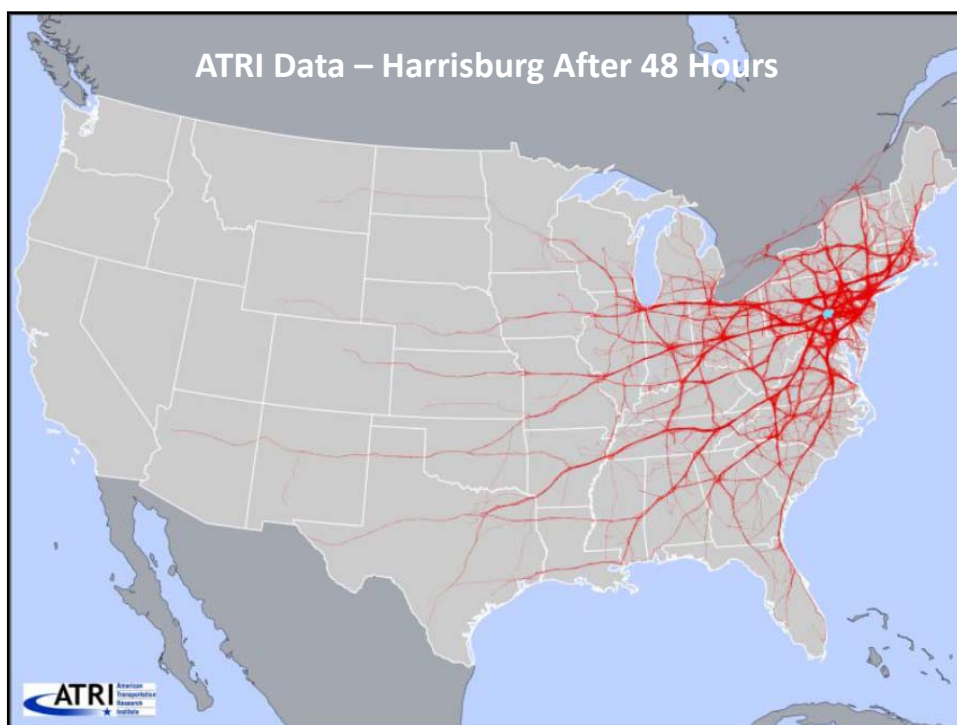
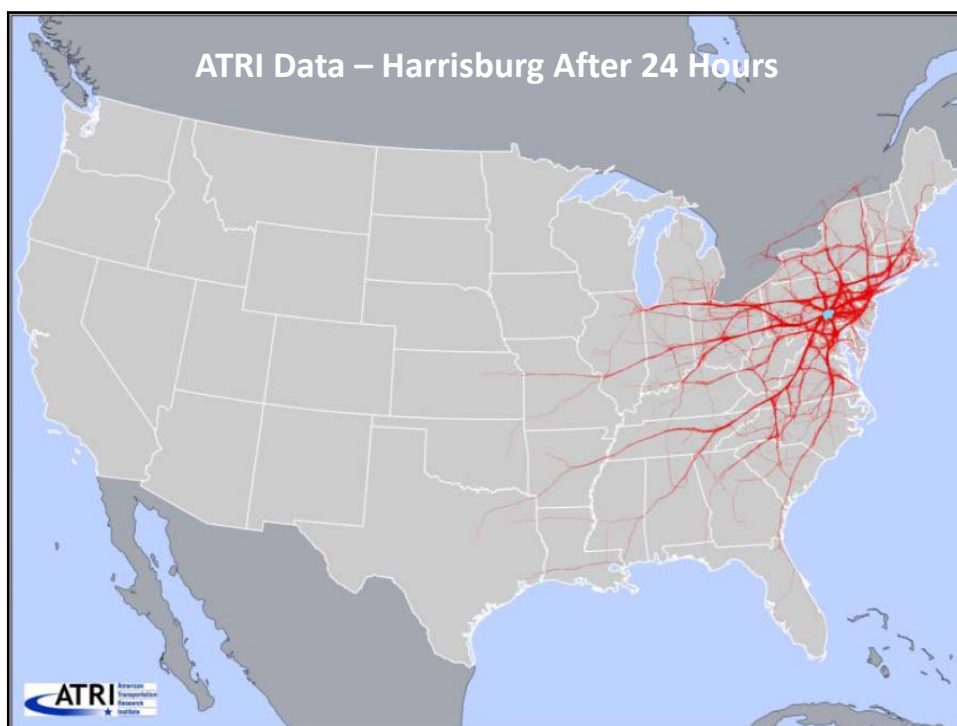


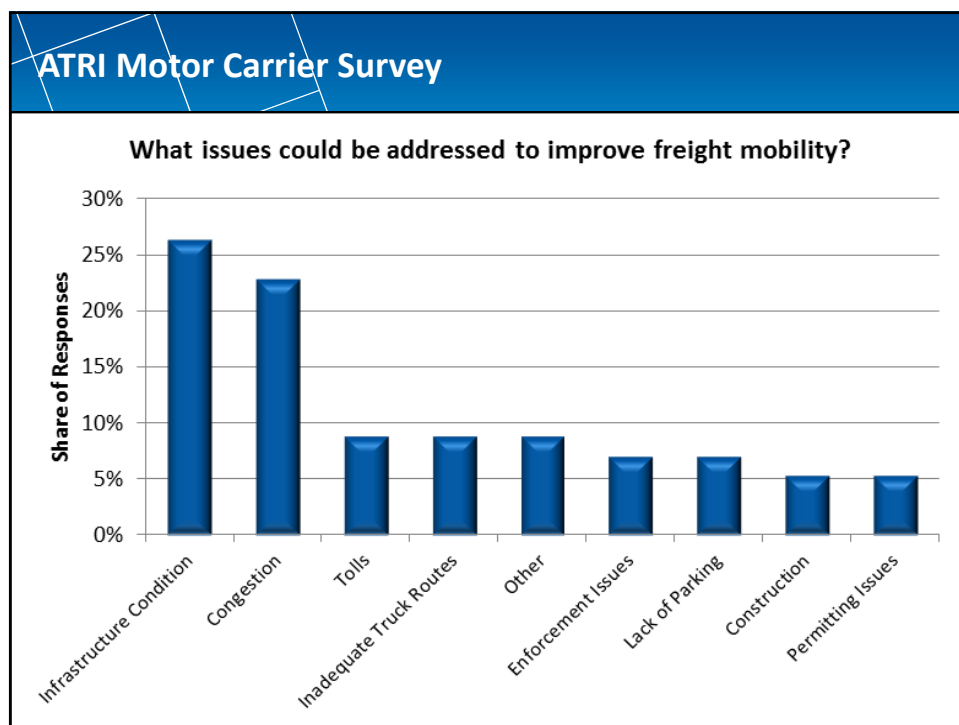
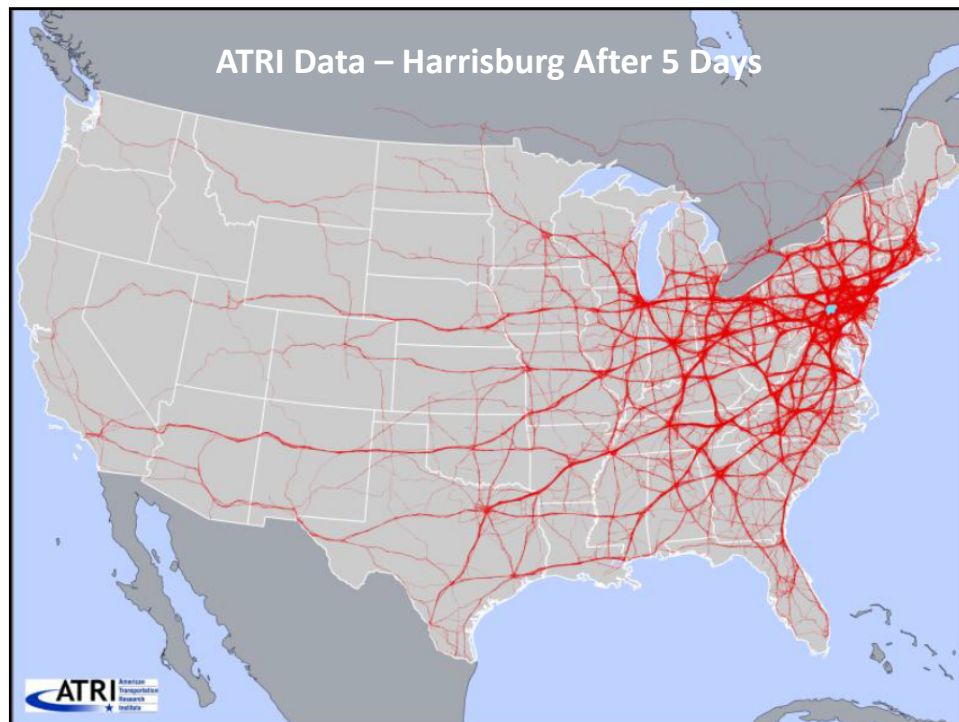
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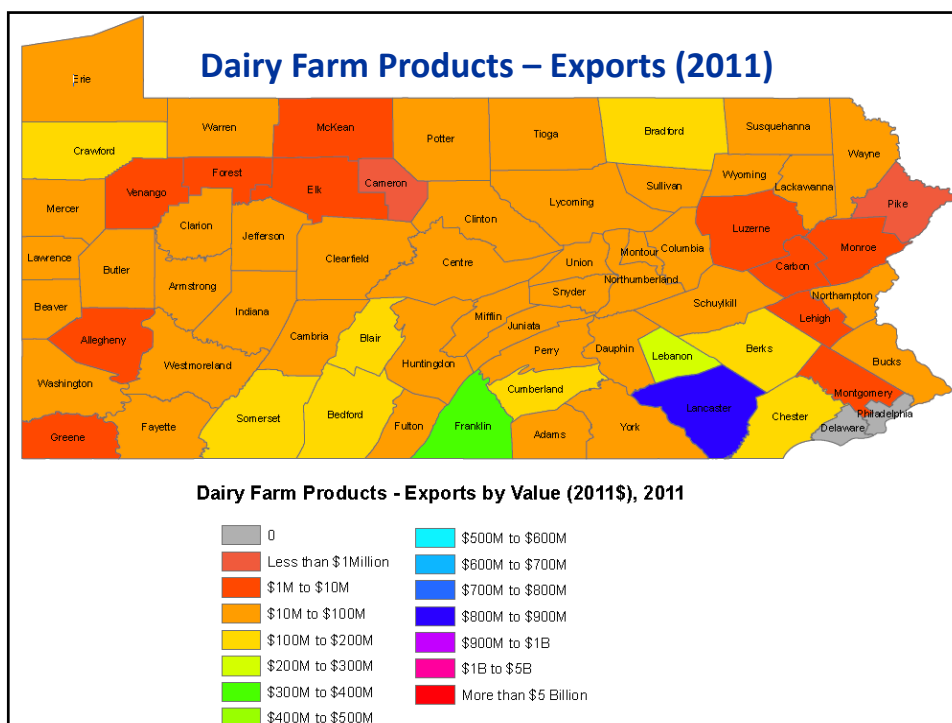
29

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NEW JERSEY TRANSPORTATION
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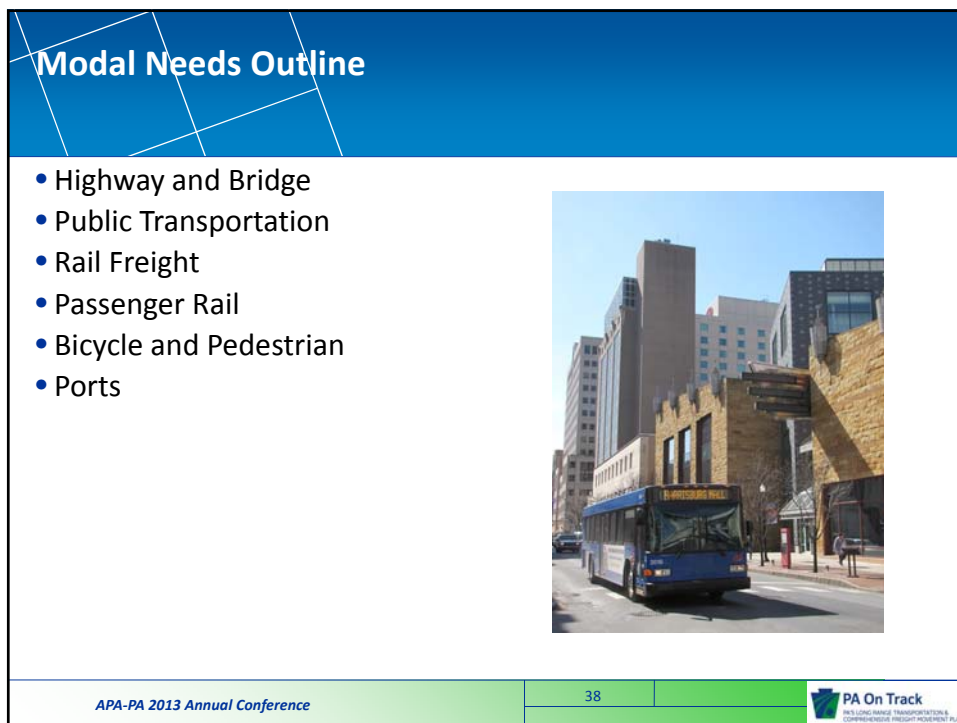
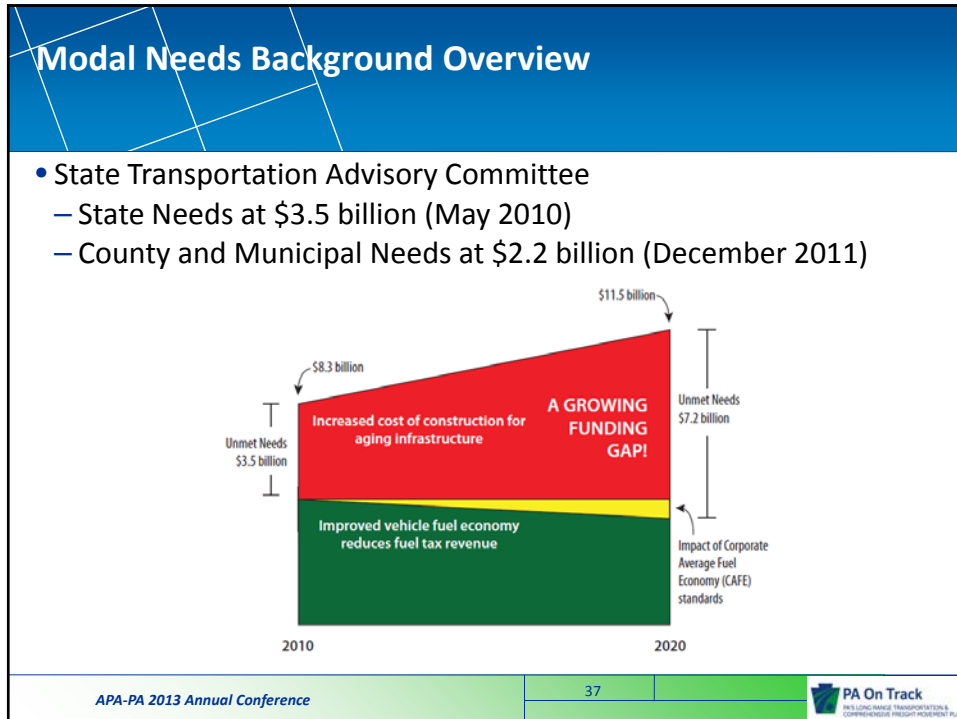


Draft Modal Needs

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36

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COMPREHENSIVE FUTURE MOVEMENT PLAN



Highway Needs Identification

- Needs will include the entire system:

System	Miles
Federal-Aid Eligible Highways	28,113
Other PennDOT roadways	11,679
Other State Agencies	1,366
State Maintained Roads	41,158
Non PennDOT Roadways	78,612
All Public Roadways	119,770

- Data: PennDOT data sets (HPMS; RMS)
- Tools: HERS-ST; TAM needs
- Needs: work in progress

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Bridge Needs Identification

- Needs will include the entire system
 - State-maintained system is approximately 25,000 bridges
 - Locally-maintained system is approximately 7,000 bridges
 - Bridge is defined as a structure greater than 8 feet in length
- Data: national and state data sets (NBI; BMS)
- Tools: NBIAS; TAM needs
 - Interstate (preliminary, unconstrained, cumulative)
 - 2040: \$8.13 billion
 - Non-Interstate
 - Work in progress

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Appurtenances Needs Identification



- Needs for other infrastructure assets:
 - Culverts (tbd)
 - Tunnels (\$340M)
 - Retaining Walls (\$408M)
 - Signals (\$8.5B)
 - Signs (\$534M)
 - ITS (\$2.2B)
 - Guiderails (\$1.2B)
- Source: TFAC Report
- Tools: sketch planning tools



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41

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COMPREHENSIVE FREIGHT MOVEMENT PLAN

Public Transportation Needs Identification

- Needs include capital and operating expenses for urban, rural, and shared ride providers
- Source: TAC, TFAC reports
- Tools: Agency coordination
- Needs: 2040: \$4.96 billion



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42

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Rail Freight Class I Railroad Needs Identification

- Needs include all four Class 1 railroads (e.g., CN, CPR, CSX, NS, etc.)
- Source: Intercity Passenger Rail and Rail Freight System Plan for 2035
- Tools: Agency coordination
- Needs: 2040: \$1.5 billion
 - Network efficiency improvements
 - Improved terminals or facilities
 - Line upgrade needs
 - Safety enhancement improvements



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43



Rail Freight Class II and III Railroad Needs

- Needs include all Class II and III railroads (e.g., regional, short lines)
- Source: Intercity Passenger Rail and Rail Freight System Plan for 2035
- Tools: Agency coordination
- Needs: 2040: \$315 million
 - Rail Line Upgrade and/or Rehabilitation
 - Terminal or Yard Construction/Expansion
 - Safety Enhancement Improvements
 - Green Locomotive Retrofit



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44



Rail Freight Public Agency and Private Industry Needs Identification

- Needs include industrial sites/private industry
- Source: Intercity Passenger Rail and Rail Freight System Plan for 2035
- Tools: Agency coordination
- Needs: 2040: \$91 million
 - Public agency capital needs (port authorities)
 - Private industry needs (rail-served industries/businesses)

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45



Passenger Rail Needs Identification

Needs include Amtrak's *Keystone* and *Pennsylvanian* service

Source: Amtrak website; PennDOT coordination

Needs: 2040: \$463 million

- Station improvements - \$242.1 million
- Interlockings - \$220.0 million
- Operating assistance - \$15 million



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46



Bicycle/Pedestrian Needs Identification

- Needs include ADA curb ramps; education/guidance/publications; Incorporating bike/ped improvements in highway design, etc.
- Source: Survey of MPOs/RPOs/districts, planning partners, Philadelphia/Pittsburgh
 - “How much funding do you need on an annual basis to support the development of pedestrian and bicycle programs and facilities?”
- Needs: 2040: \$405 million
 - Includes funded and unfunded projects

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47



Baseline Revenue and Projections

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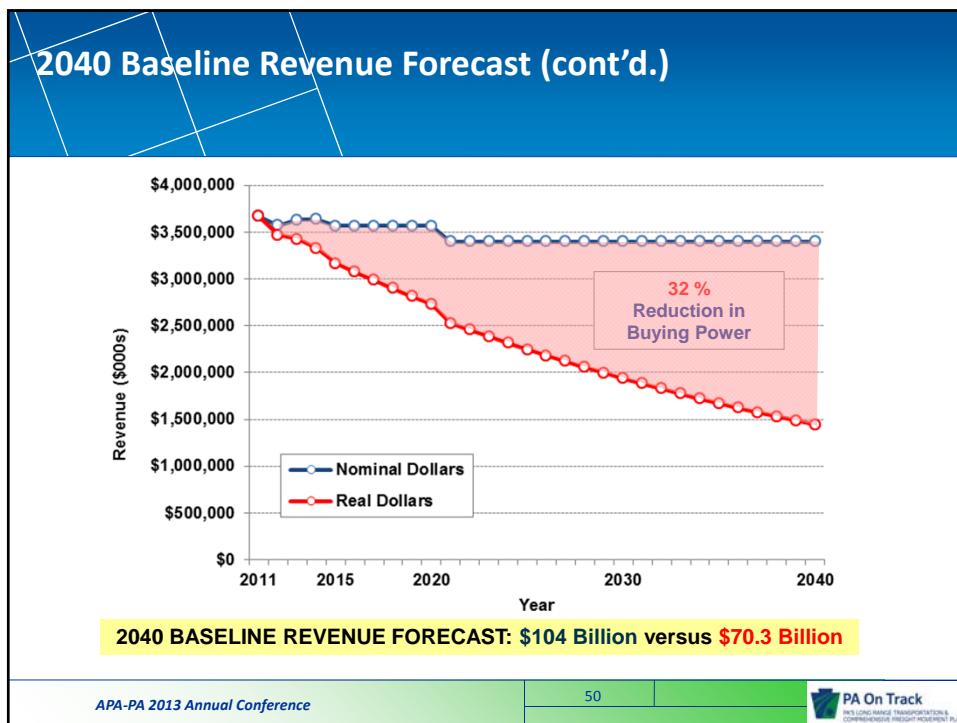
48



2040 Baseline Revenue Forecast

- Provides an estimate of federal and state revenues expected to be available for capital improvements to 2040
- No new revenue included in estimate
- Projection of baseline revenues by mode
 - Highway
 - Bridge
 - Transit
 - Rail
 - Aviation
- Based on business as usual, conservative estimating
- Used to compare against modal needs estimates to identify likely funding gap
- Converted to “real” dollars to account for inflation

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Project Prioritization Process

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51



Project Prioritization Framework

- Introducing the Multimodal Economic Competitiveness Network
 - Step 1: Determine Pennsylvania's economic drivers
 - Step 2: Define the transportation network
 - Step 3: Identify screening filters
 - Step 4: Identify goals and measures
 - Step 5: Apply economic benefit factors
 - Step 6: Apply scoring and weighting process



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52



Project Prioritization Framework Multimodal Economic Competitiveness Network

- Critical multimodal transportation corridors and facilities connecting major economic drivers and regions to centers of commerce in PA and national and global markets
- Network includes interstate highways, major highway facilities, intermodal, freight rail, public transit, airports, and ports
- Failure within this network would have serious impacts on movement of goods and people, state's economy, and jobs

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53



Project Prioritization Framework Multimodal Economic Competitiveness Network

Step 1: Identify Economic Drivers

- Cities with largest population in 10 PREP regions
- Major regional tourist destinations
- Commodity network for top agricultural products by market value
- Primary highway and freight rail corridors connecting oil and gas production to strategic destination points
- Concentrations of targeted industries by employment
- Concentrations of manufacturing exports

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54



Project Prioritization Process Multimodal Economic Competitiveness Network

Step 2: Defining the Multimodal Economic Competitiveness Network

- Network designation criteria for each mode
 - Highways
 - Airports
 - Intermodal Facilities
 - Public Transit
 - Ports and Waterways
 - Freight Rail

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55



Project Prioritization Process Multimodal Economic Competitiveness Network

Step 3: Project Screening Filters

- Must be on designated MEC network or provide best connection to node or intermodal facility that is part of MEC
- Eligible for federal or state funding or public-private partnership
- Supports LRTP/CFMP goals
- Project listed in LRTP, CFMP, state modal plans, or MPO or RPO LRTP
- Projects of statewide significance or multi-regional importance nominated by PennDOT

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56



Project Prioritization Process Multimodal Economic Competitiveness Network

Step 4: Linking Goals and Measures

- Developing measures for modes

Step 5: Apply Economic Benefit Factors

- Projects scored on technical merit initially
- Propose use of economic benefits factor for projects
- Additional evaluation on certain modal projects using cross-modal quantitative measure
- Process will be vetted with PennDOT and planning partners before implementation

Step 6: Final Scoring and Weighting Process

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57



Alternative Investment Scenarios


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58




Alternative Investment Scenarios

- Goal = cohesive investment strategy
- Investment Scenarios combine essential elements
 - Goals & objectives
 - Needs
 - Funding
 - Priorities
- Alternative Investment Scenarios – aligned with TFAC
 - Based on available funding
 - Menu of strategic investment choices
 - Different emphasis (e.g., system preservation, etc.)
 - Portray alternatives/explain outcomes
 - Understand consequences

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Illustrative Examples

- **Scenario 1:** Preservation
 - Focus on existing system: all modes maintained at a high level of reliability; raise preservation and reliability performance for all modes
- **Scenario 2:** Emphasis on MEC Network
 - Emphasis on strategic assets and services...the Multimodal Economic Competitiveness Network
 - Well maintained, congestion addressed, high access maintained to key areas and within cities
- **Scenario 3:** Serve the Economic Drivers
 - Investments to spur business attraction and retention
 - Ports, distribution facilities, airports, leisure destinations, and transit connections to these drivers

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Illustrative Examples (cont'd.)

- **Scenario 4:** Multi-modal System Expansion
 - Maintain and expand highway, transit, rail and non-motorized system linking cities and towns
- **Scenario 5:** Balanced Distribution
 - Spread dollars across existing functional elements and across expansion, preservation and modernization

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61



Schedule – Key Milestones

- Spring 2013 - Goals and Objectives
- Summer 2013 - Performance Measures
- Fall 2013 - Multimodal Needs
- Fall 2013 - Revenue/Funding
- November 14 - Webinar #4
- December 10 - Executive Committee Meeting
- Winter 2014 - Alternative Investment Scenarios
- Spring 2014 - Project Prioritization
- Spring 2014 - Draft LRTP and Comprehensive Freight Plan
- Summer 2014 - Final LRTP and Comprehensive Freight Plan




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62



Ongoing Involvement

- www.PAOnTrack.com
- Project Webinar #4: “Project Prioritization” –
Thursday, November 14, 1:00 to 3:00 p.m.
- Brian Wall, PennDOT
– (717) 772-0827; bwall@pa.gov
- Erin Dean, P.E., AICP, CDM Smith
– (412) 208-2480; deanem@cdmsmith.com
- Brian Funkhouser, AICP, CDM Smith
– (717) 541-4023; funkhouserbt@cdmsmith.com



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63

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INTEGRATING TRANSPORTATION
COMPREHENSIVE FREIGHT MOVEMENT PLAN

QUESTIONS AND COMMENTS

Email comments to:
RA-PennDOTLRTP@pa.gov

