



UPDATE ON THE DEVELOPMENT OF MAP-21 PERFORMANCE MEASURES

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TPB Technical Committee
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Presentation Items

- Performance Provisions Rulemaking Schedule
 - The “Fixing America’s Surface Transportation” (FAST) Act retains the MAP-21 performance-based planning requirements with no changes
- Performance Provisions and Regional Coordination
- AASHTO TheWorks Products
 - PlanWorks
 - Travel Works
 - EconWorks



Performance Provisions Rulemaking Schedule

	Planning Rules <i>USDOT Significant Rulemaking Report, as of January 19, 2016</i>	Proposed Rulemaking	Final Rulemaking
Planning	<ul style="list-style-type: none"> Statewide and Metropolitan Planning Rule 	June 2014	July 2016
Highway Safety	<ul style="list-style-type: none"> Safety Performance Measure Rule Highway Safety Improvement Program (HSIP) 	March 2014	<i>January 29, 2016 (HSIP)</i> <i>February 12, 2016 (Safety Perf Rule)</i>
Highway Conditions	<ul style="list-style-type: none"> Pavement and Bridges Performance Measurement Asset Management Plan 	January/February 2015	July 2016
Congestion / System performance	<ul style="list-style-type: none"> System Performance Measures Rule (Congestion, Air Quality, and Freight) 	<i>January 29, 2016</i>	?
Transit	<ul style="list-style-type: none"> Transit Asset Management National Public Transportation Safety Plan Public Transportation Agency Safety Plan 	September 2015 (Transit Asset) <i>February 5, 2016 (Transit Safety)</i>	?



Performance Provisions Regional Coordination

- TPB staff are continuing to refine data for the performance measures for the TPB metropolitan planning area in:
 - Highway Safety: Number and Rate of Fatalities and of Serious Injuries
 - Highway Condition: Percentage of Pavement and of Bridges in Good condition and in Poor condition
- Preliminary analysis shared with State DOTs and Technical Committee in December
- Next step is to discuss forecasting and target setting methodology.
 - Technical consistency desired across different methodologies.



AASHTO TheWorks Products

<https://planningtools.transportation.org/>

Portfolio of three efforts from the SHRP2 (Strategic Highway Research Program): **PlanWorks, Travel Works, EconWorks.**

- Capacity research to develop tools to systematically integrate environmental, economic, and community requirements into the analysis, planning, and design of new highway capacity.
- Collaborative Decision-Making Framework using web-based tools that can be used as a troubleshooting guide or a roadmap for changing a transportation agency's process when planning and developing highway projects.
- Help navigate critical decision points for long-range transportation planning, corridor planning, programming, and environmental review and permitting.
- Make use of case studies to provide examples and quantitative support for decisions.





Collaborative decision making in transportation planning and project development



A collection of tools to improve modeling and transportation analysis



Case studies and predictive tools to support analysis of economic benefits

SHRP2 Planning Tools

The second Strategic Highway Research Program (SHRP2) included more than 100 research products designed to improve the way transportation professionals plan, operate, maintain and ensure safety on America's roadways. PlanWorks, TravelWorks and EconWorks will help transportation planners conduct better collaborative processes, produce better modeling and transportation analysis, and introduce economic benefit analysis into early project decision making.

What's New

The Rapid Policy Assessment Tool (RPAT) open source code is now available. Check TravelWorks' Resource Page to download the code.

[PlanWorks](#)

[TravelWorks](#)

[EconWorks](#)

[Question?](#)

[Modeling Tools](#)
[Resources](#)
[Forum](#)

[Project Tools](#)
[Submit A Case Study](#)
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SHRP2 SOLUTIONS

AASHTO
THE VOICE OF TRANSPORTATION



PlanWorks

The screenshot shows the PlanWorks website interface. At the top, there is a dark blue header with the U.S. Department of Transportation Federal Highway Administration logo and navigation links: About, Programs, Resources, Briefing Room, Contact, and Search FHWA. Social media icons for Facebook, Twitter, YouTube, and LinkedIn are also present. Below the header is a large banner image of a winding road through a mountainous landscape. The PlanWorks logo and tagline "Better planning. Better projects." are displayed on the right side of the banner. Underneath the banner is a navigation bar with green buttons for Home, Decision Guide, Assessment, User Portals, Applications, Library, and Glossary. The main content area is divided into three columns. The first column, titled "Decision Guide", contains three items: "Long Range Transportation Planning" with a pencil icon, "Programming" with a book icon, and "Corridor Planning" with a road icon. The second column, titled "Applications", features a large green "P3" icon with an arrow pointing to a circular graphic containing four smaller icons representing different planning stages. The third column, titled "How do I get started?", contains a text prompt: "Please answer a few questions to help us guide you to the information most applicable to your needs." and a green "Go »" button.

<https://fhwaapps.fhwa.dot.gov/planworks/>

What is PlanWorks?

- Web Resource
- Supports Collaborative Decision Making
- Built Around Key Decision Points
 - Long-range Planning
 - Programming
 - Corridor Planning
 - Environmental Review
- Four Major Components
 - Decision Guide
 - Assessments
 - Applications
 - Library

Decision Guide

Long Range Transportation Planning									
LRP-1 Approve Scope of L RTP Process	LRP-2 Approve Vision and Goals	LRP-3 Approve Evaluation Criteria, Methods and Measures	LRP-4 Approve Transportation Deficiencies	LRP-5 Approve Financial Assumptions	LRP-6 Approve Strategies	LRP-7 Approve Plan Scenarios	LRP-8 Adopt Preferred Plan Scenario	LRP-9 Make Conformity Determination by MPO	LRP-10 Adopt L RTP by MPO
LRP-11 Make Conformity Determination									

Programming									
PRO-1 Approve Revenue Sources	PRO-2 Approve Methodology for Identifying Project Costs and Criteria for Allocating Revenue	PRO-3 Approve Project List Drawn from Adopted Plan Scenario or Solution Set	PRO-4 Approve Project Prioritization	PRO-5 Reach Consensus on Draft TIP	PRO-6 Adopt TIP by MPO	PRO-7 Approve TIP by Governor and Incorporate into Draft STIP	PRO-8 Reach Consensus on Draft STIP	PRO-9 Approve STIP with respect to Fiscal Constraints	

Corridor Planning									
COR-1 Approve Scope of Corridor Planning Process	COR-2 Approve Problem Statements and Opportunities	COR-3 Approve Goals for the Corridor	COR-4 Reach Consensus on Scope of Environmental Review and Analysis	COR-5 Approve Evaluation Criteria, Methods and Measures	COR-6 Approve Range of Solution Sets	COR-7 Adopt Preferred Solution Set	COR-8 Approve Evaluation Criteria, Methods and Measures for Prioritization of Projects	COR-9 Adopt Priorities for Implementation	

Environmental Review/NEPA Merged with Permitting									
ENV-1 Reach Consensus on Scope of Environmental Review	ENV-2 Approve Notice of Intent	ENV-3 Approve Purpose and Need/Reach Consensus on Project Purpose	ENV-4 Reach Consensus on Study Area	ENV-5 Approve Evaluation Criteria, Methods and Measures	ENV-6 Approve Full Range of Alternatives	ENV-7 Approve Alternatives to be Carried Forward	ENV-8 Approve Draft EIS with Conceptual Mitigation	ENV-9 Approve Resource Agency Public Notice	ENV-10 Approve Preferred Alternative / LEDPA
ENV-11 Approve Final Jurisdictional Determination	ENV-12 Reach Consensus on Avoidance and Minimization for the LEDPA	ENV-13 Approve Final EIS	ENV-14 Approve the Record of Decision	ENV-15 Render Permit Decision and Approve Avoidance and Minimization					

Decision Guide



Long Range Transportation Planning



Programming



Corridor Planning



Environmental Review/NEPA Merged with Permitting

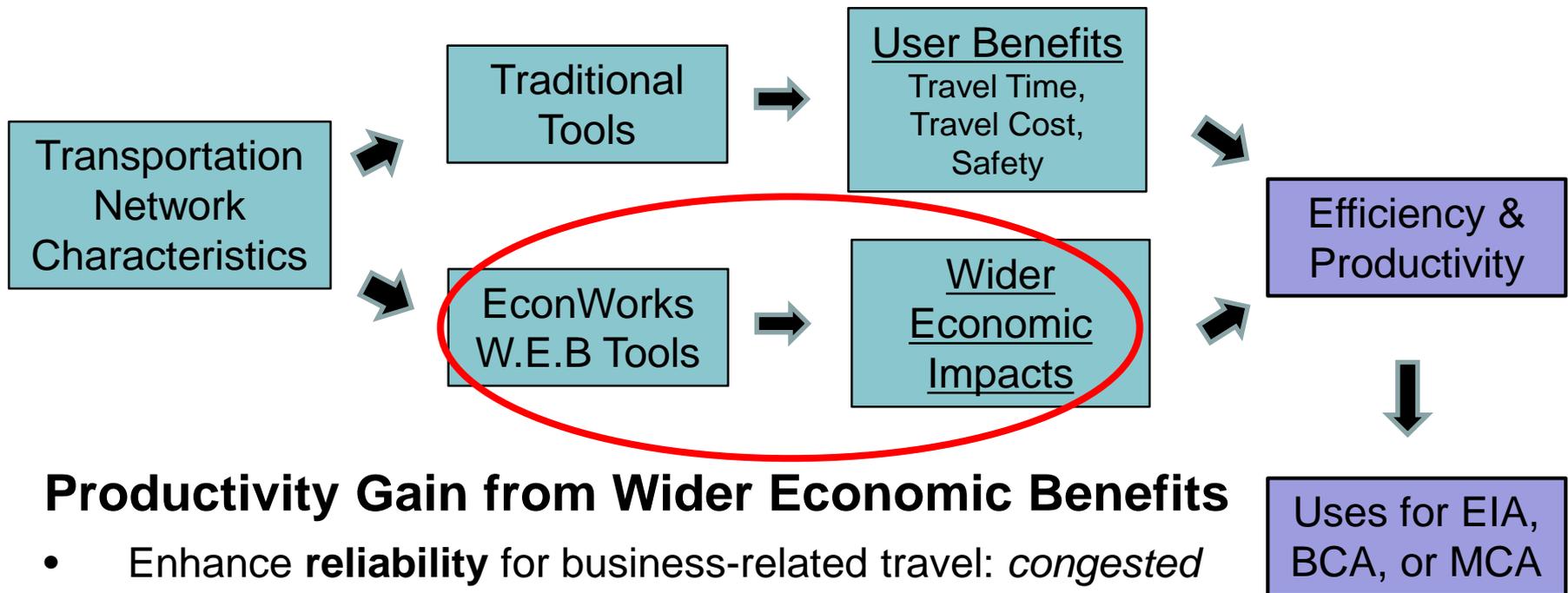


Tool expands range of economic benefit analysis for transportation (primarily highway) investments, using:

- **Case Studies** A web tool that planners can use to quickly see the range of economic development impacts that occur as a result of different types of projects in different settings
- **Tools for Assessing Wider Economic Benefits of Transportation** A suite of new spreadsheet-based analysis tools that estimate 'wider benefit' measures for proposed projects.

- Identify LONG-TERM Economic Impacts from New/Capacity-Enhancing Highway Investments
 - Justification for Funding
- Illustrate the Interaction between Highway Infrastructure and Non-Highway Investments and Initiatives
 - Development Insights, Outcomes of Complementary Factors
- Develop Preliminary Assessment Guidance for Policy-makers and Practitioners
 - Foundation for Ex-Post Evaluation, Observations vs. Modeling
- Design Case-Based Web-Based Tool for Illustrating and Communicating Economic Impacts
- Create Flexible System for Adding New Cases

Enable Wider Economic Benefits (W.E.B.) Analysis



Productivity Gain from Wider Economic Benefits

- Enhance **reliability** for business-related travel: *congested bottlenecks, product inventory & delivery*
- Enhance **accessibility** for business-related travel: *labor market, material supplier market, customer market routes between clusters or communities in a region*
- Enhance **intermodal connectivity** for business-related travel: *ground access to, or service at, intermodal terminals*

- Estimating the impact of congestion reduction on reducing “non-recurring” incident delays that leads to wide variability in travel times.
- Calculate the value of improving predictability and **reducing** “buffer-time”.

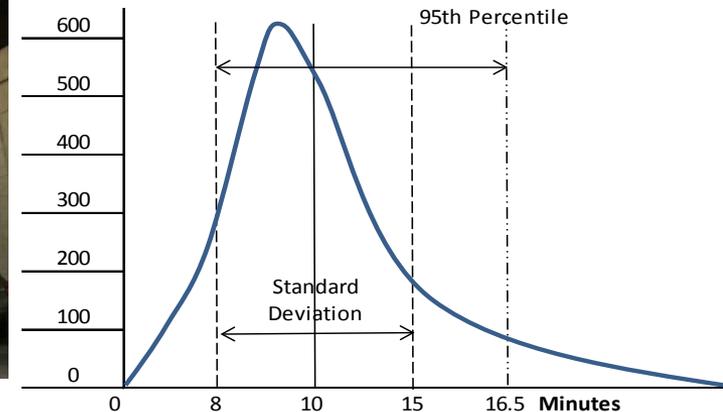
Before



After



Trips (in 000's)



Advanced Travel Analysis Tools to address transportation planning and modeling challenges.

- Quickly compare the broad impacts of various land use, investment and policy scenarios on travel demand using a Rapid Policy Analysis Tool (RPAT)
- Improve the sensitivity of my travel demand model to congestion, travel time reliability and pricing
- Understand how operational improvement strategies affect highway capacity
- Build an activity-based model integrated with dynamic traffic/transit assignment (Integrated Dynamic Travel Model)

1. What is scenario planning?
2. How does it help me evaluate land use and transportation policies?
3. What are strategic models and how can they help?
4. How do I communicate results?

RPAT is a strategic model that conducts scenario planning to evaluate land use and transportation policies.



1. Household Synthesis
2. Firm Synthesis
3. Urban Form
4. Accessibility
5. Vehicles
6. Auto Travel Demand
7. Truck and Bus Travel Demand
8. Congestion
9. Induced Demand
10. Policy Benefits

- Captures individual household and firm characteristics
- Captures interactions between policies
- Spatial results are by place type



Direct Travel Impacts

- Daily VMT
- Daily Vehicle Trips
- Daily Transit Trips
- Peak Travel Speeds by Facility Type
- Vehicle Hours of Travel
- Vehicle Hours of Delay

Community Impacts

- Public Health Impacts and Costs
- Equity Impacts

Environment and Energy Impacts

- Fuel Consumption
- Greenhouse Gas Emissions
- Criteria Emissions

Financial and Economic Impacts

- Regional Highway Infrastructure Costs
- Regional Transit Infrastructure and Operating Costs
- Annual Traveler Cost

Land Market and Location Impacts

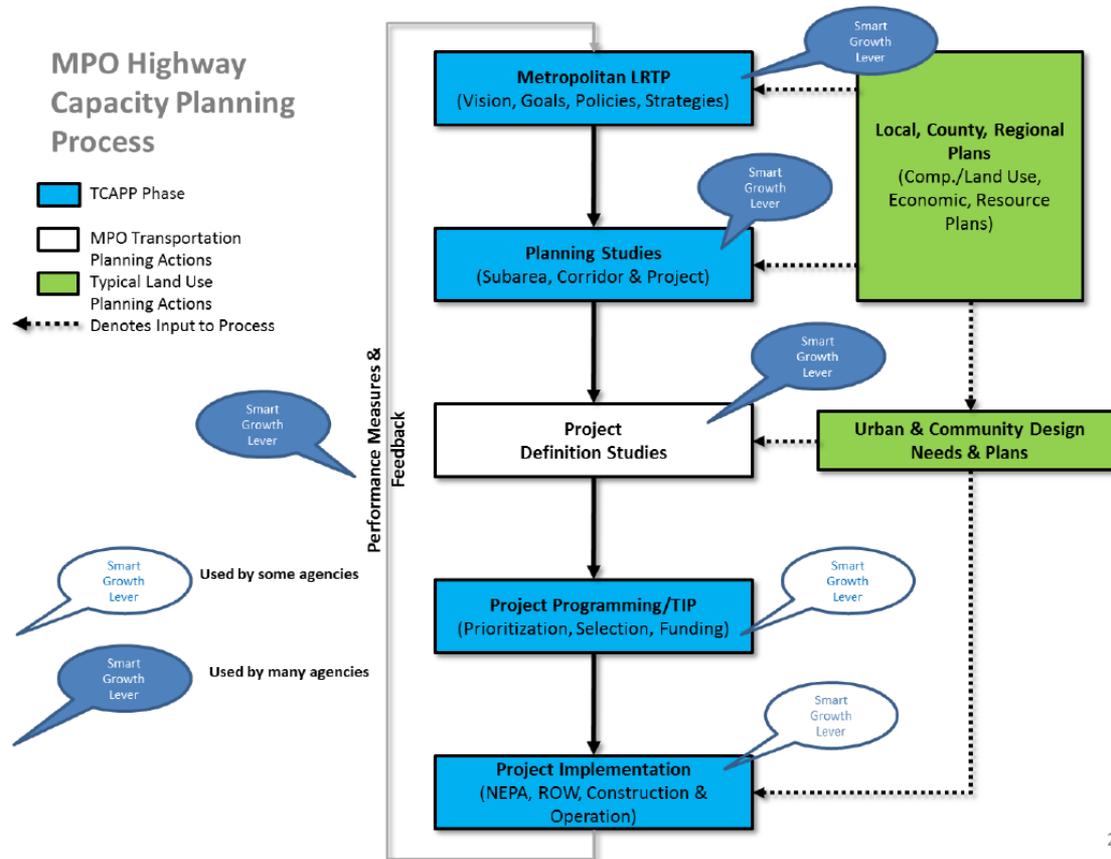
- Regional Accessibility



Decision Points for Smart Growth in Planning Process

MPO Highway Capacity Planning Process

- TCAPP Phase
- MPO Transportation Planning Actions
- Typical Land Use Planning Actions
- Denotes Input to Process



- Process maps for State DOTs and MPOs
- Areas where smart growth levers can be used
 - Policy Studies
 - Planning studies
 - Programming
 - Implementation



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