



*UNITED STATES*  
**DEPARTMENT OF TRANSPORTATION**

# **Freight Planning, Performance, and Analysis**

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**Building Paths to Prosperity – The Role of Regional Corridors**

**March 11, 2013**

# State Freight Plans in MAP-21



- MAP-21 directs USDOT to “encourage” states to develop State Freight Plans
- State Freight Plans are not required
- But states that wish to use “freight prioritization” provision must develop State Freight Plans
- USDOT issued guidance on October 15, 2012 laying out required and recommended elements of State Freight Plans
- Recommended elements are NOT required



# Elements of State Freight Plans

- We relied on several sources for recommending elements of State Freight Plans
- MAP-21 lists required elements of State Freight Plans
- These elements are required “at a minimum”
- MAP-21 also requires USDOT to develop a National Freight Strategic Plan
  - National Freight Plan also has required elements – not the same as those for State Freight Plans
- We also reviewed 19 existing State Freight Plans
- And the FHWA 2011 State Freight Plan Template and FRA State Rail Plan Guidance

# Elements of State Freight Plans



- Our Guidance requires only the elements that are required in MAP-21
- We also want to achieve consistency between State Freight Plans and the National Freight Strategic Plan
  - So we recommend some elements of the National Freight Strategic Plan
- We also recommend some elements of the 19 State Freight Plans that have already been developed
- And some elements from the FHWA Template and FRA State Rail Plan Guidance

# We Don't Have All the Answers



- I want to emphasize that we at USDOT don't have all the answers on State Freight Plans
- I personally have never actually written a State Freight Plan
- But the Congress told us to encourage states to adopt State Freight Plans
- So we tried to pull together what seemed to be the best and most useful elements of the State Freight Plans that had been done
- While MAP-21 sets out the minimum requirements for State Freight Plans
  - We encourage states to expand and improve their plans over time
- We welcome your ideas and unique approaches

# State and National Freight Plans



- We plan to draw upon State Freight Plans in developing the National Freight Strategic Plan
- States know best what industries are the economic drivers in their states
- And what supply chains are key to those industries
- And what infrastructure can help streamline those supply chains
- We plan to draw upon that knowledge



# Strategic Goals

- Not a required element in MAP-21
- But national freight goals are specified in section 1115
- And most existing state freight plans identify freight goals
- It's hard to see how a state can develop a plan without having freight goals (at least implicitly)
- We encourage states to identify their own goals in addition to the national goals
- And to set out which goals are most important

# Economic Context of Freight Transportation Planning



- Not required in MAP-21
- Not required in National Freight Strategic Plan
- But included in several existing state plans
- We recommend this element because it helps to focus attention on
  - What industries are important to the state and
  - How freight transportation and supply chains are important to those industries
- We also encourage states to focus on what industries and supply chains are important to exports



# Freight Policies, Strategies, and Institutions



- Policies and strategies are required in MAP-21
- National Plan is required to assess “institutional barriers” to improved freight transportation performance
- Several of the existing state freight plans discuss the institutions that are important to the freight system
  - Infrastructure owners, regulatory authorities, etc.
- So we recommend discussion of institutions as well as policies and strategies

# State Freight Transportation Assets



- MAP-21 requires an inventory of freight transportation facilities
- Most existing state freight plans already include such an inventory
- We recommend that this include facilities such as
  - Major warehousing facilities
  - Intermodal facilities
  - Freight gateways and corridors
- MAP-21 puts particular emphasis on facilities used for energy development, mining, agriculture, and timber production

# Conditions and Performance of State's Freight System



- Not required by MAP-21
  - But MAP-21 does require freight performance measures in National Freight Strategic Plan
- Several existing state freight plans discuss how performance of the state's freight transportation system fails to meet state's goals
- We recommend this discussion to
  - Focus the plan on improving conditions and performance and
  - Help to support conditions and performance analysis in National Plan

# Freight Forecast



- Not required by MAP-21 for State Freight Plans
- But required for National Freight Strategic Plan
- Several existing State Freight Plans include a freight forecast
- We believe that a forecast of freight traffic is important to anticipate where the demands on the freight transportation system will grow
- USDOT's Freight Analysis Framework provides the starting point for a state freight forecast
- States are encouraged to prepare more detailed forecasts for their particular states

# Overview of Trends, Needs, and Issues



- Required by MAP-21
- USDOT recommends that this discussion focus on how emerging trends increase the significance of certain needs and issues
- And how emerging trends affect how needs and issues can be addressed

# Strengths and Problems of the State Freight System



- Not required by MAP-21
- But included in several existing State Freight Plans
- This discussion is recommended to focus the discussion of conditions and performance on
  - The problems that are most important for the state to address and
  - The strengths of the state's freight system that are important to preserve
- Some of these problems may emerge in the future as a result of anticipated growth or other trends

# The State's Freight Decision-making Process



- Not required by MAP-21
- But MAP-21 encourages states to establish Freight Advisory Committees
- We recommend that states
  - Establish a formal freight advisory committee
  - Or conduct an active outreach effort as part of developing its state freight plan
- We also recommend that states
  - Expand their use of economic analysis
  - Consider improvements in alternative modes
  - Coordinate with other states in the region (and with Canada and Mexico, if applicable)
  - Consider operational strategies and innovative technologies as well as capital investments (required by MAP-21)

# The State's Freight Improvement Strategy



- Required by MAP-21
- Focus on how strategy will help state to meet its strategic goals
- Strategy should include
  - Capital investments
  - Operational improvements
  - Policy changes
  - Expanded use of ITS and other innovative technologies
  - How the strategy would affect infrastructure used for energy development, mining, agriculture, and timber





# Implementation Plan

- Not required by MAP-21
- But included in several existing State Freight Plans
- Should include both short-term and long-term plans
- Funding options for implementing plan are important to consider (grants vs. loans or PPPs)
- Partnerships with infrastructure owners are important

# Condition and Performance Measures



- USDOT is required by MAP-21 to develop measures of freight condition and performance
- And report on them by September 2014
- We expect this will be a gradual process of developing better measures over time
- We welcome ideas from the States and Cities about what measures of performance and Condition are most useful to you
- We intend to develop measures for each of the key freight goals in MAP-21

# Freight Planning and Project Selection



- The Freight Planning Process we've described is fairly high-level – at the 30,000-foot level
- While it identifies particular corridors and bottlenecks that need fixing
  - It doesn't develop detailed project plans
- Detailed project planning requires more detailed analysis

# Project Planning and Economic Analysis



- It's when you start focusing on particular projects that the cost estimates become more refined
- And that it's possible to define the benefits of the project more precisely
- And that economic analysis becomes more appropriate
- We encourage states to include in State Freight Plans any economic analysis that they have done
  - But we don't really expect economic analysis at the statewide planning stage



# Benefit-Cost Analysis

- We use benefit-cost analysis every day in deciding what to do
- Benjamin Franklin used benefit-cost analysis
  - Pros and Cons
- It's just a systematic way of comparing the pros and cons of any decision
- We quantify the benefits and costs to the extent we can
- And express them in dollar terms so we can compare them to one another
- If we can't quantify or monetize them
  - We just express them qualitatively
  - E.g., preventing species from going extinct



# BCA vs. EIA

- Economic Impact Analysis (EIA) is very different from Benefit-Cost Analysis (BCA)
- EIA measures “impacts” like
  - Jobs created
  - Real Estate Investment
  - Tax Revenues Generated
- Not the same thing as “benefits”
- Not comparable to each other
  - You can’t add them up or compare them to the costs



# Basics of BCA

- Costs of Freight projects are fairly straightforward
- Benefits are typically
  - Cost savings from more direct routes
  - Savings from reduced congestion
  - Public benefits from modal diversion
    - More safety
    - Fewer emissions
    - Reduced infrastructure wear and tear



# Sources of Error

- Exaggerated diversion scenarios
  - A 2-mile rail connector saves 2000 miles in trucking costs
  - Lack of small improvement shifts all traffic to truck
- Exaggerated growth forecasts
  - Build it and they will come





# Sources of Error

- Incorrect baseline
  - Some of the project would have been built anyway
  - Comparing costs of Phase 3 with Benefits of Phases 1-3
  - Does Phase 1 have independent utility?
- Incorrect adjustments for inflation
- Assigning 2030 benefits to all intermediate years



- Questions?