Arizona State Freight Plan:
Enabling Economic Competitiveness and Growth

Project Kick-Off Meeting
May 21, 2015

Team led by: CPCS

In association with:

And specialty sub-consultants:

Elliott D. Pollack & Company

ATRI American Transportation Research Institute

PLANet

Gill V. Hicks & Associates

Chris Caplice Ph.D. (MIT)

Agenda

Welcome and Introductions

Arizona's State Freight Plan Overview

Arizona's Freight Vision, Goals and Objectives

Arizona Freight System Performance Approach and Discussion

Top Economic Sectors Approach

Closing Thoughts

Overview of CPCS Team

Team combines CPCS's multimodal freight strategy, economics and related analytical expertise, with regional knowledge of the economic context and transportation system in, and connected to, Arizona.

CPCS: Project leadership, sector transportation needs analysis, strategy, goals and objectives, GIS analysis and mapping, improvement strategy, plan

HDR: Arizona transportation systems and conditions analysis (modal expertise), modeling, forecasting, Mexico border and trade expertise, prioritization

American Transportation Research Institute: GPS truck data and analysis

Elliott D. Pollack & Company: Arizona economic research and analysis

Dr. Chris Caplice (MIT): Scenario planning expertise

Plan*ET Communities: Outreach

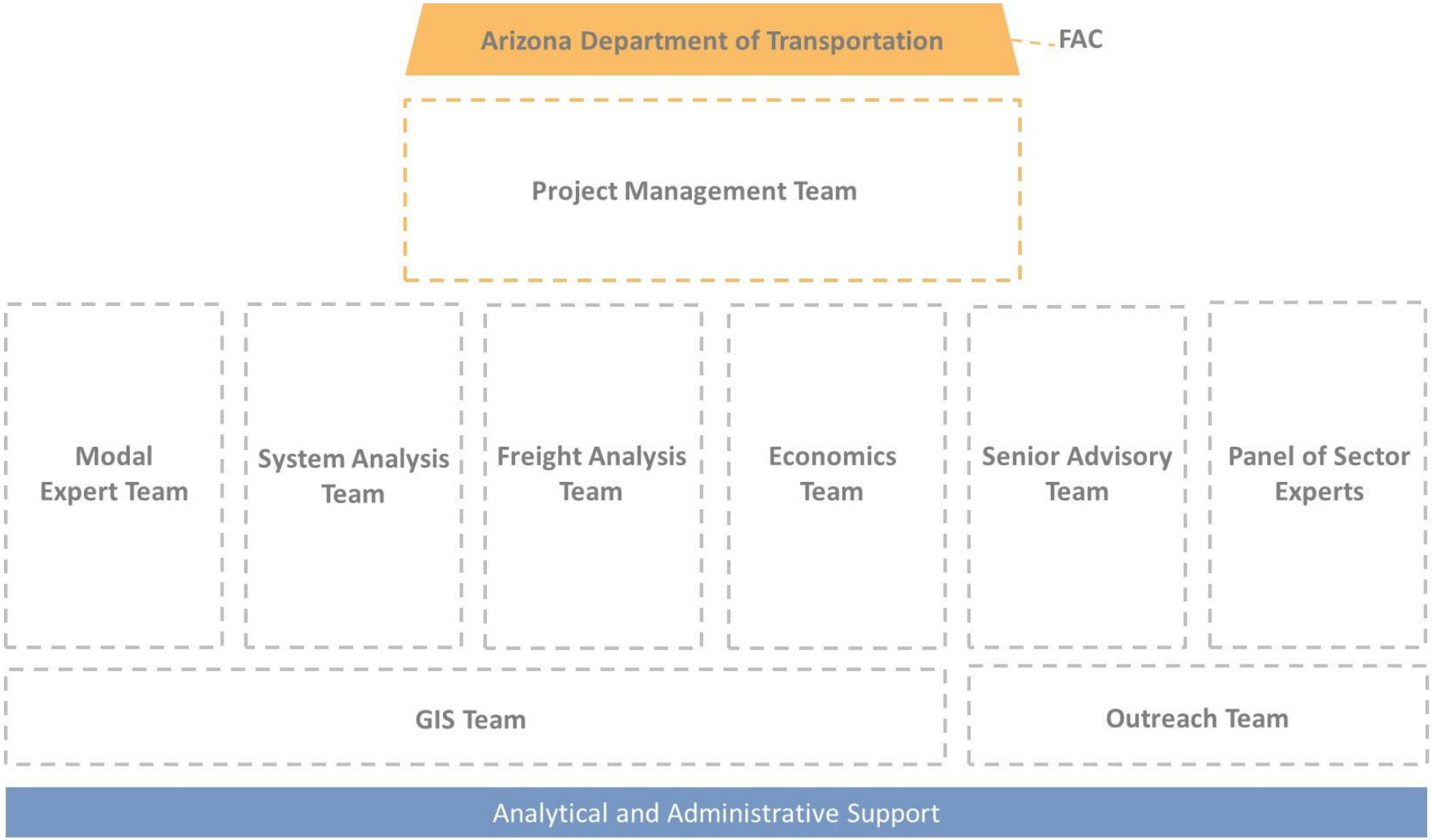
Gill V. Hicks & Associates: Regional marine ports and freight flows expertise

Sector Experts: Knowledge and expertise in key Arizona economics sectors

CPCS Team

CPCS Solutions for growing economies

Team Structure



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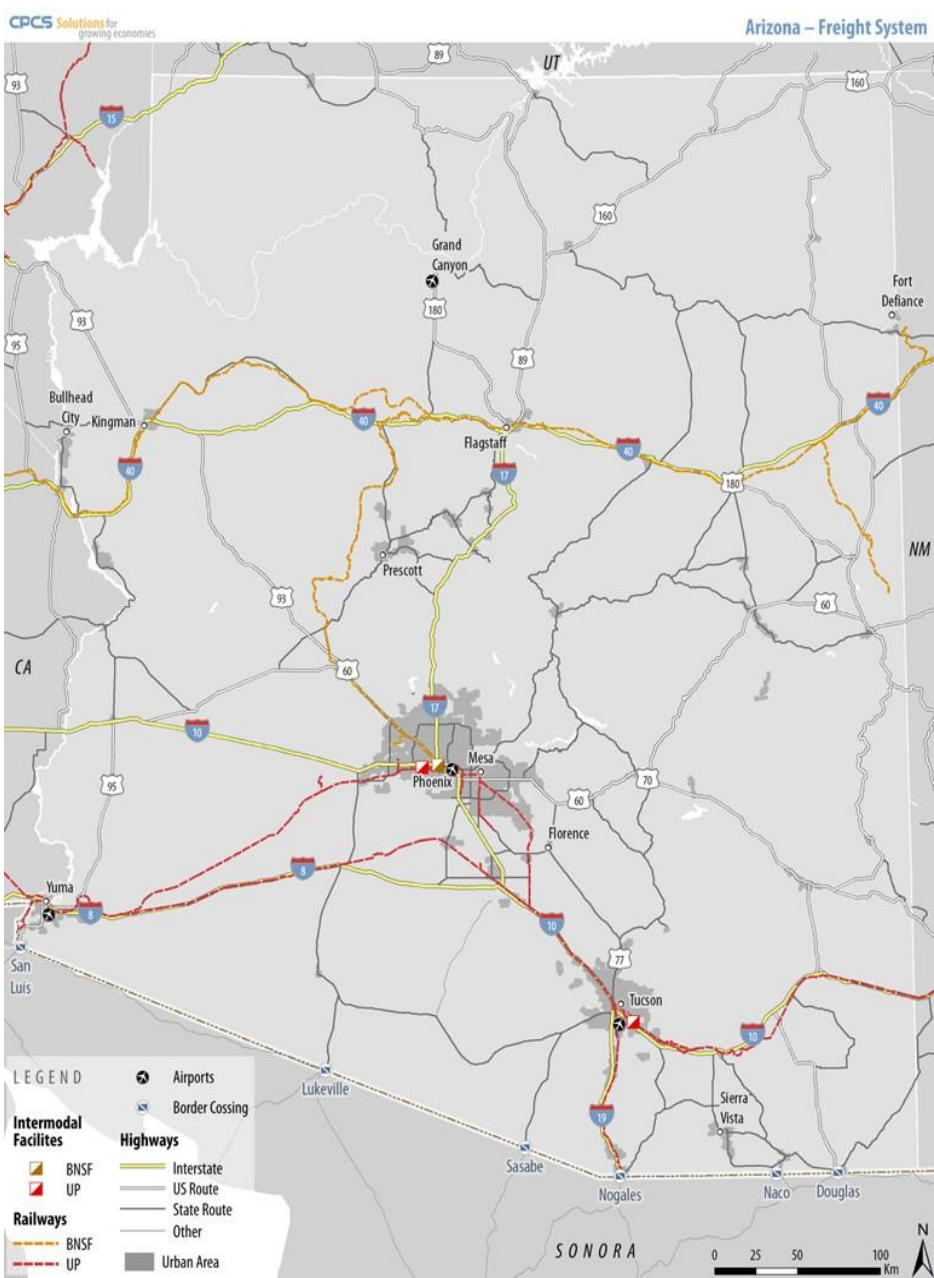
Key Issues for Arizona State Freight Plan

- Population growth driving demand
  - 45% increase in state population from 2013 to 2035
- Significance of transit (flow through) traffic
- Arizona's role in international trade
  - Ports of Los Angeles / Long Beach
  - Trade with Mexico / Sonora
- Economic competitiveness
  - Transportation investments that support key sectors
- Coordination with other transportation planning initiatives
- Achieving stakeholder buy-in



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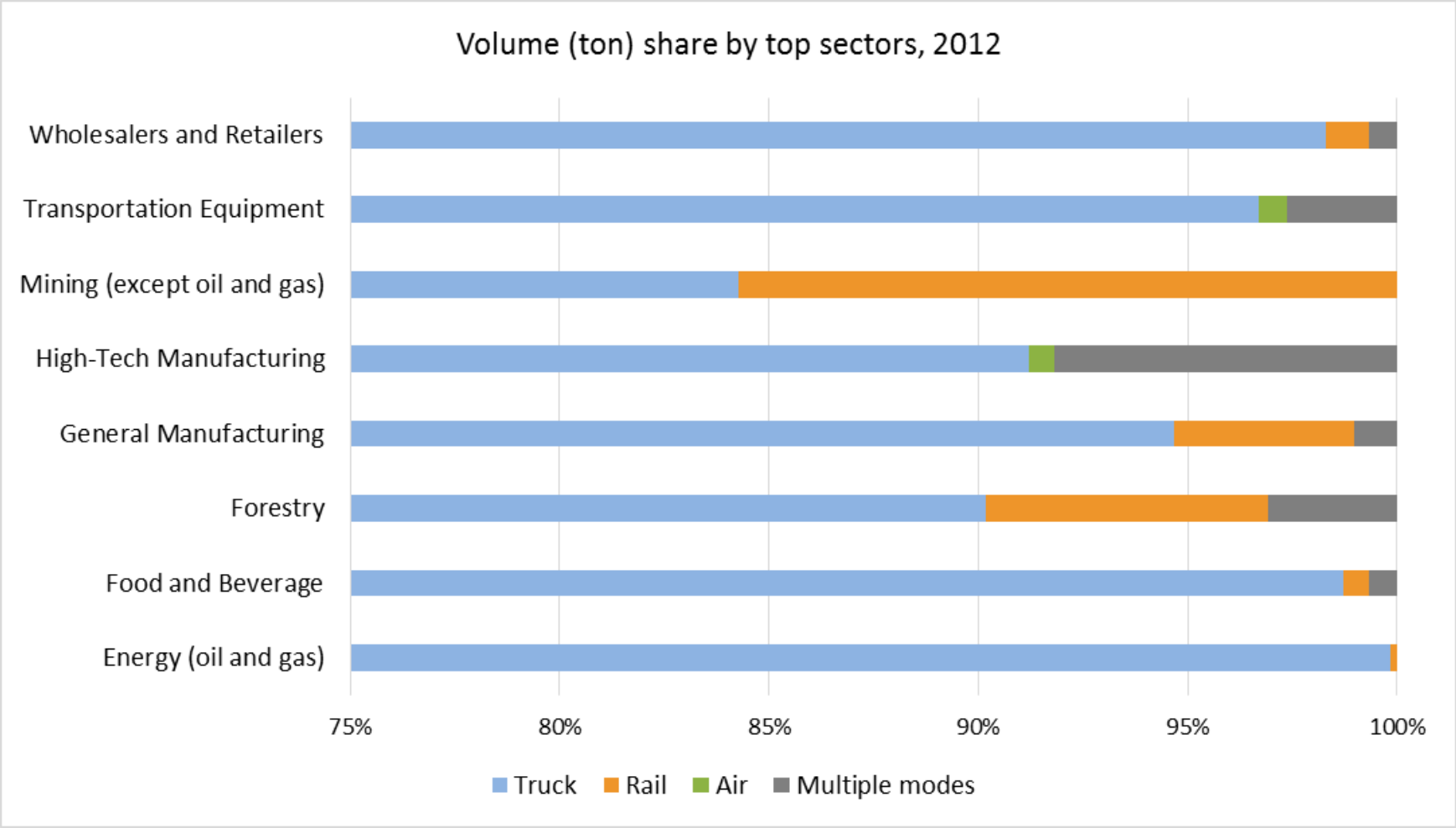
Key Issues for Arizona State Freight Plan



Work Plan Focused on Economic Competitiveness

Jurisdictions with access to competitive transportation infrastructure and services are at a competitive advantage in attracting investment, creating jobs and realizing economic growth. Arizona's State Freight Plan can help enable this outcome.

Optimizing Freight Transportation System Means Different Things to Different People

Freight Shippers: Faster, cheaper, more reliable

Consumers: Right price, right place, right time

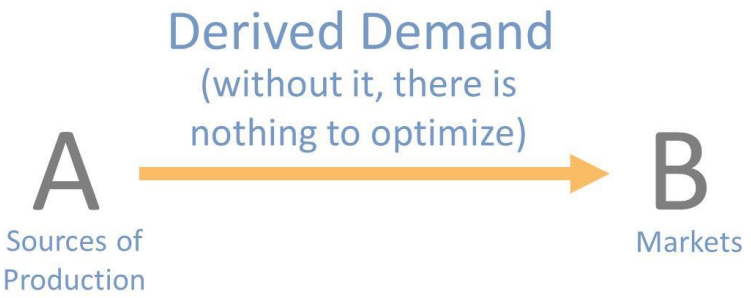
Carriers: Maximize utilization of assets, profits

Society: Maximize benefits, minimize impacts

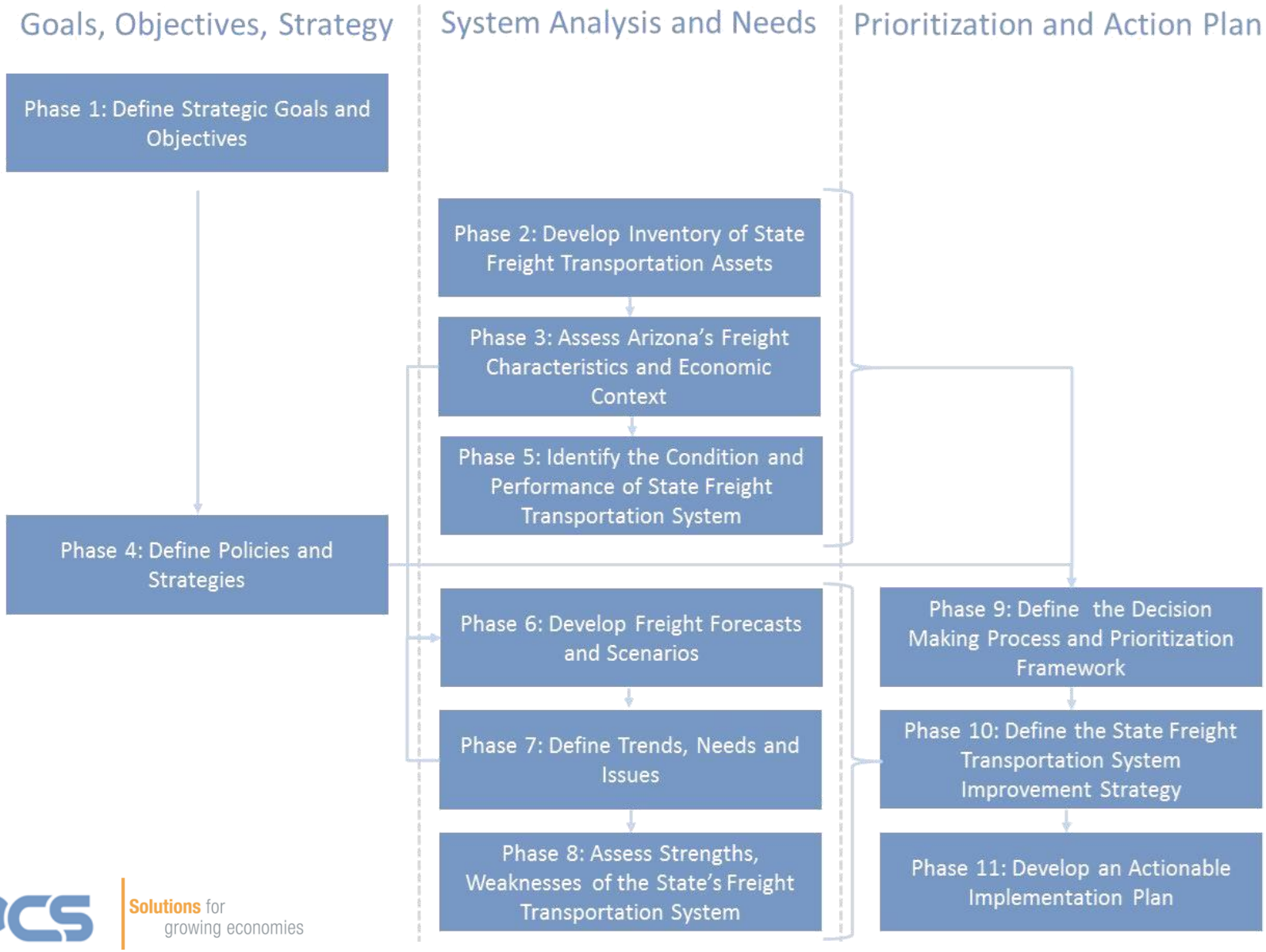
Government: Enable all of the above

(With scare resources, competing priorities)

So where to begin to optimize freight transportation system performance?



Stepped Approach to the Project



Overview of Work Plan and Deliverables

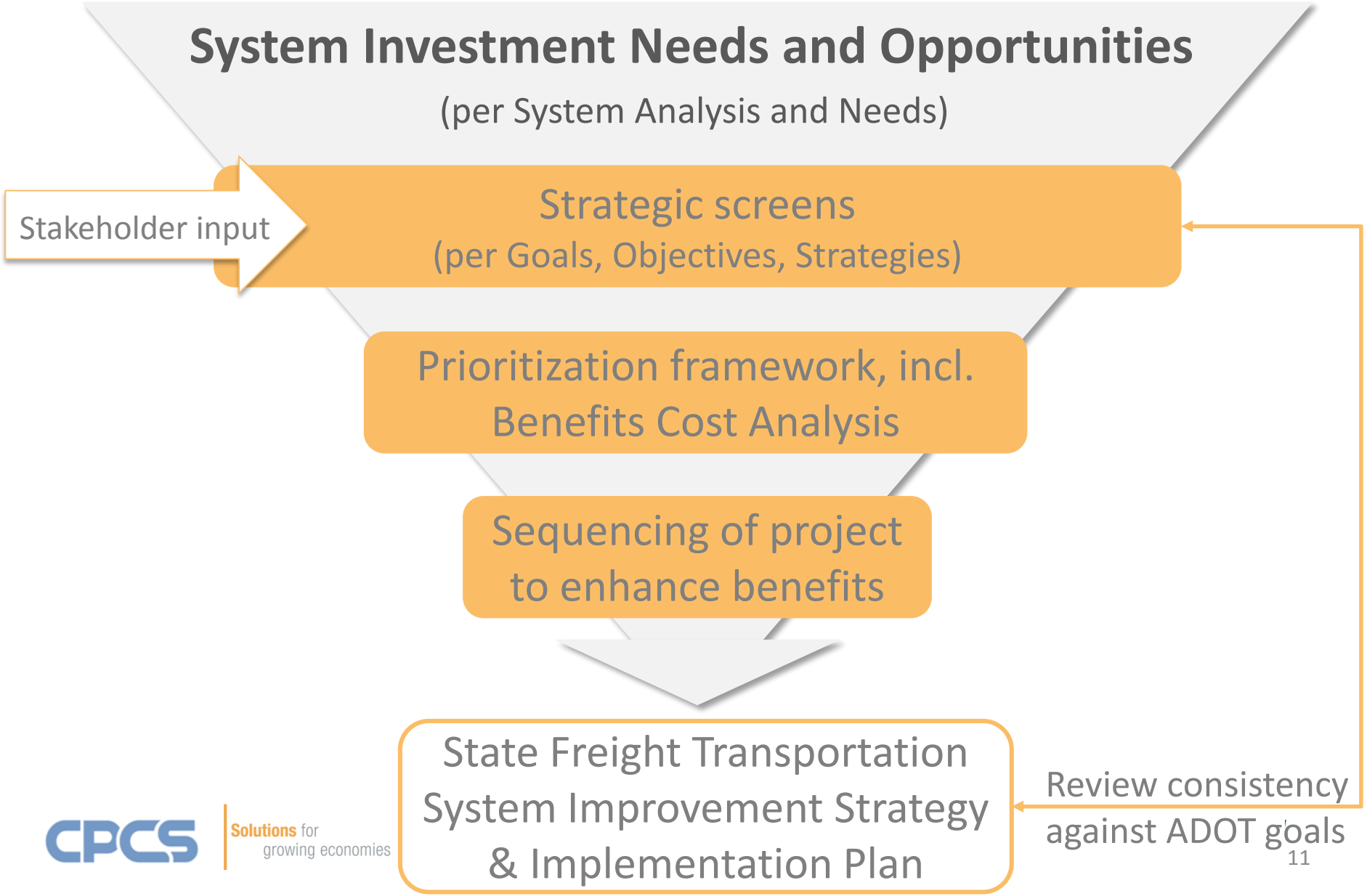
22: Working Papers

6: Reports

+: GIS database, project website

1: Leading State Freight Plan

State Freight Plan will Yield a Strategy and Implementation Plan



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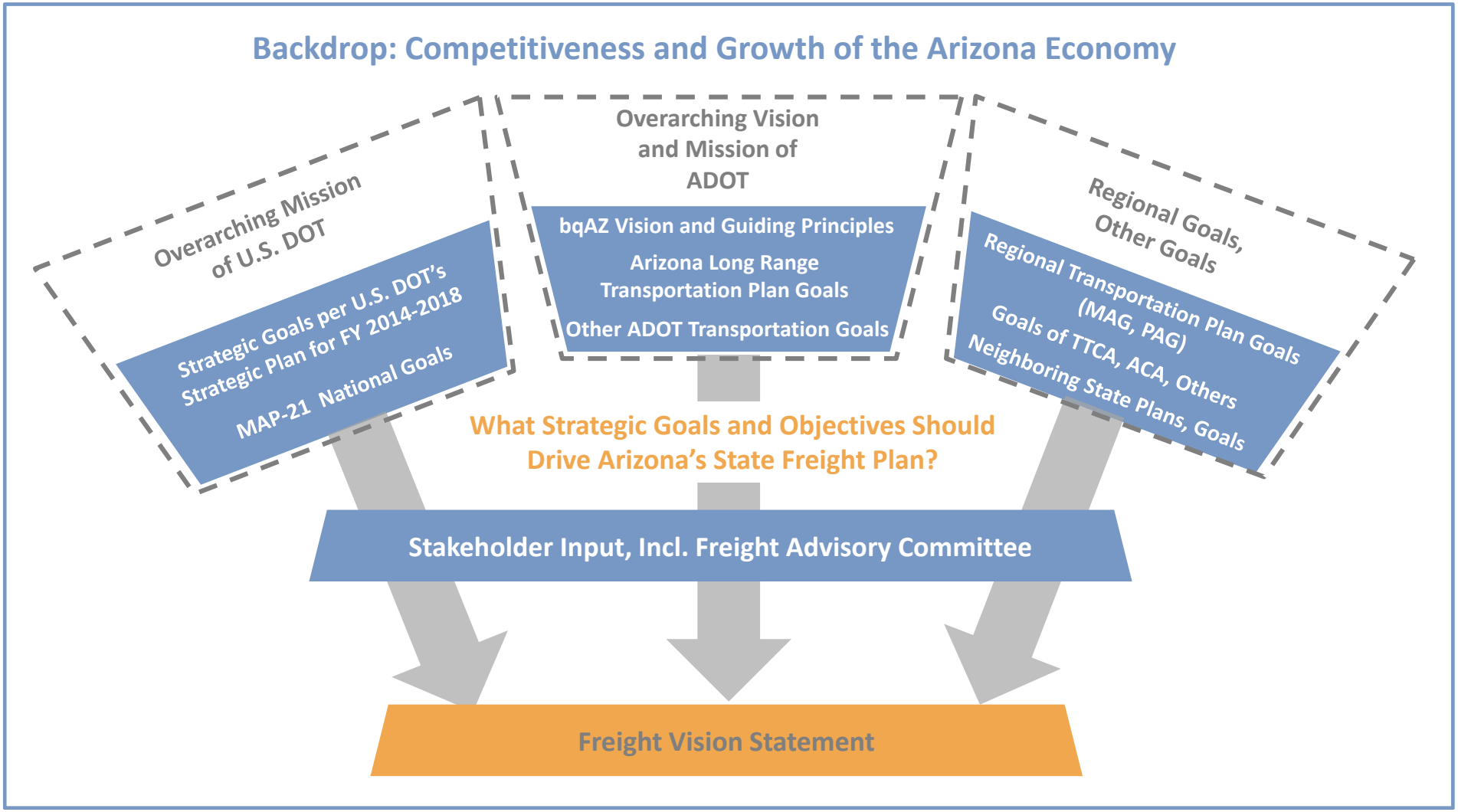
Phase 1: Vision, Goals, Objectives



Phase 1: Vision, Goals, Objectives

Vision: Arizona's freight transportation system enhances economic competitiveness and growth through effective system performance and management.

Goal 1 - Enhance Economic Competitiveness: Arizona's freight transportation system to enhance economic competitiveness and growth of Arizona's key goods movement sectors, leading to an increase in the State's economic activity and outputs.

Goal 2 - Increase System Performance: To reduce freight transportation cost, travel time and improve system reliability from the perspective of shippers and carriers, while minimizing negative externalities, such as emissions, congestion, and noise relating to freight transportation in the State.

Goal 3 - Improve System Management: To increase the effectiveness of system planning, investment and management, including through the use of innovative technologies.

Phase 1: Vision, Goals, Objectives

Each goal supported by set of objectives

Economic Competitiveness

- Increase Economic Activity, Investment and High Paying Jobs
- Increase Trade

Increase System Performance

- Increase Mobility and Multimodal Accessibility
- Increase Safety and Security
- Increase System Efficiency and Reliability
- Minimize Negative Social and Environmental Impacts

Improve System Management

- Ensure System Preservation and Maintenance
- Ensure Good Fiscal Stewardship
- Link Transportation and Land-Use
- Work in Partnership
- Increase Effective Performance Monitoring
- Increase Smart Network Expansion

Phase 1: Vision, Goals, Objectives

Vision, goals and supporting objectives to guide project

Vision Statement, Goals and Objectives (Phase 1)

Policies and Strategies (Phase 4)

Decision Making Process and Prioritization Framework (Phase 9)

Phase 1: Discussion and Validation

Does the Vision capture where we want to be going?

Did we hit the right goals and objectives?

Other reactions which should be captured?

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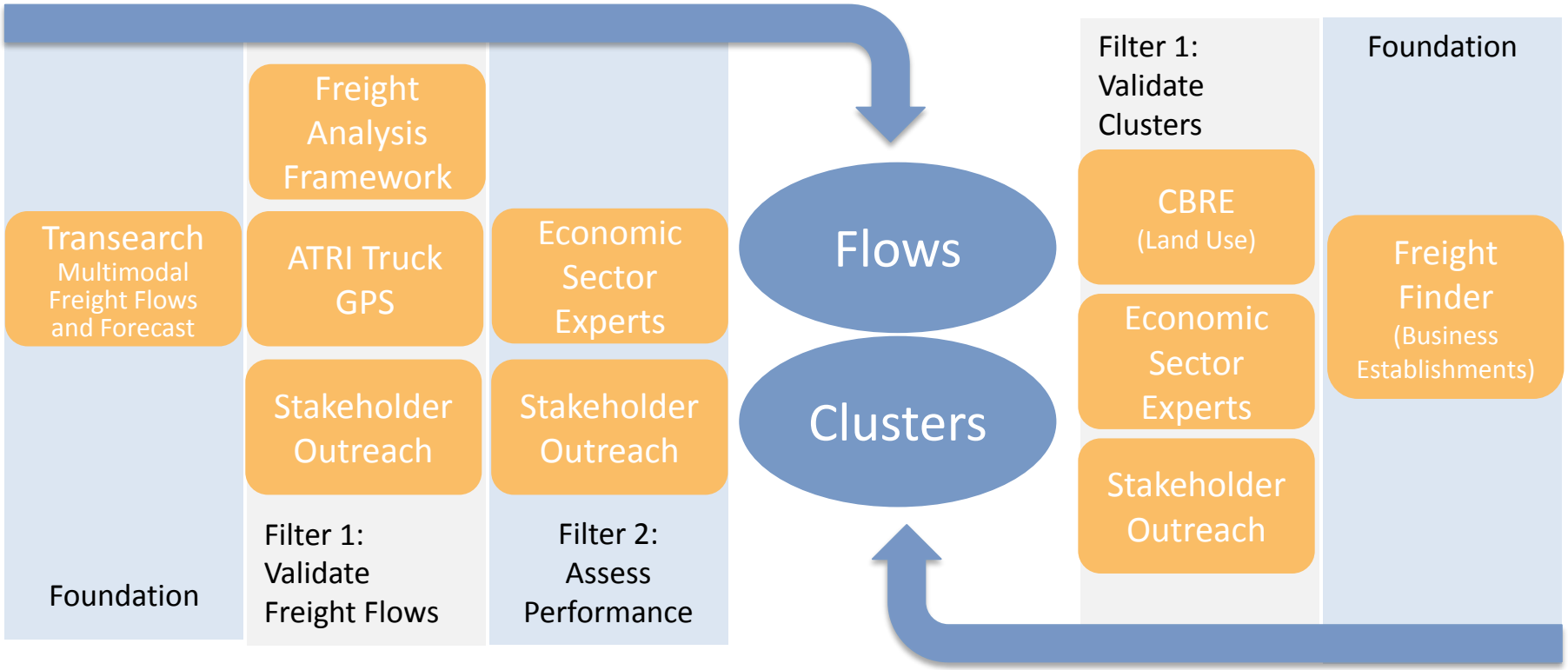
Phase 2: System Analysis and Needs: Evidence Based Approach

Our approach will triangulate between traditional and new data sources and expertise to provide Arizona with new perspectives on transportation and economic competitiveness.



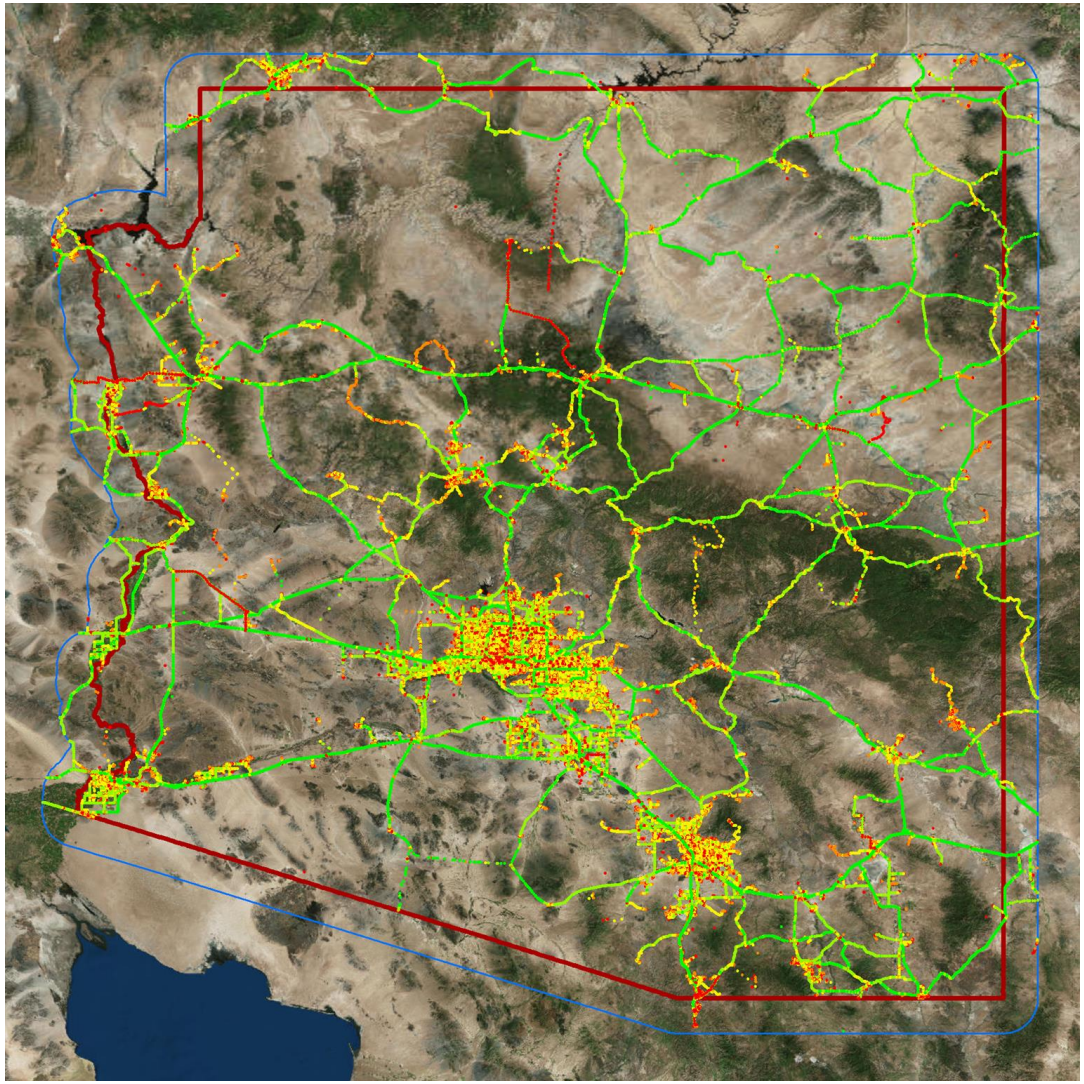
Current and future freight flows and clusters of activity, organized by industry sector and assigned to GIS.

Phase 2: Develop Inventory Transportation Assets

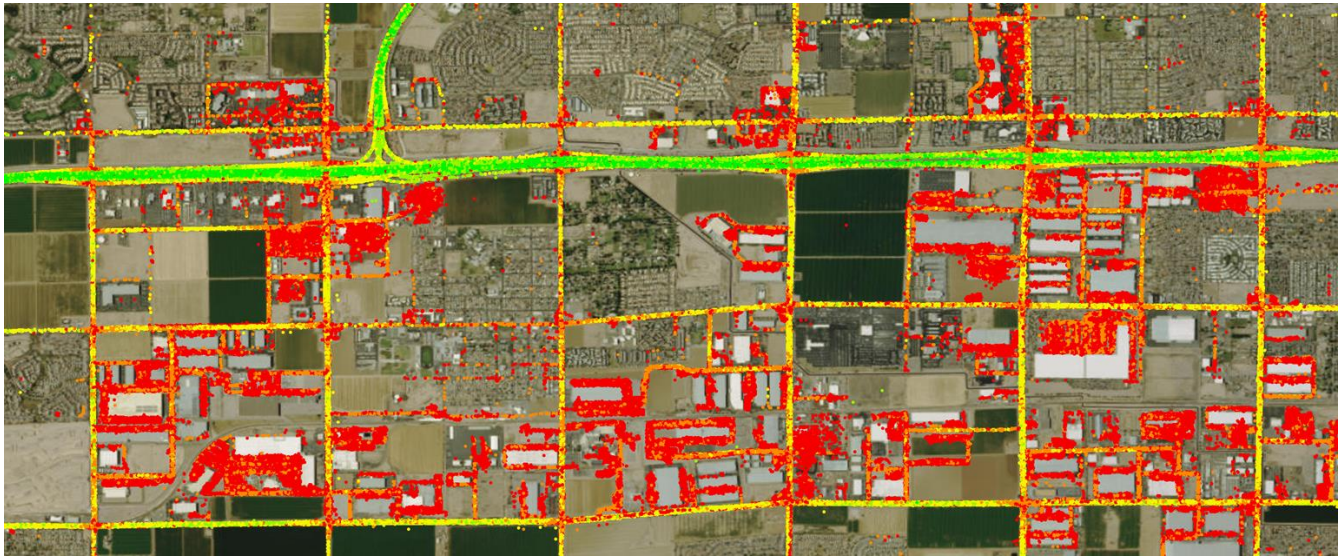
- Multimodal asset inventory
  - Highway
  - Rail
  - Pipeline
  - Aviation
- Data collection focused on
  - Existing studies
  - Performance data (truck GPS)
  - Consultations with stakeholders

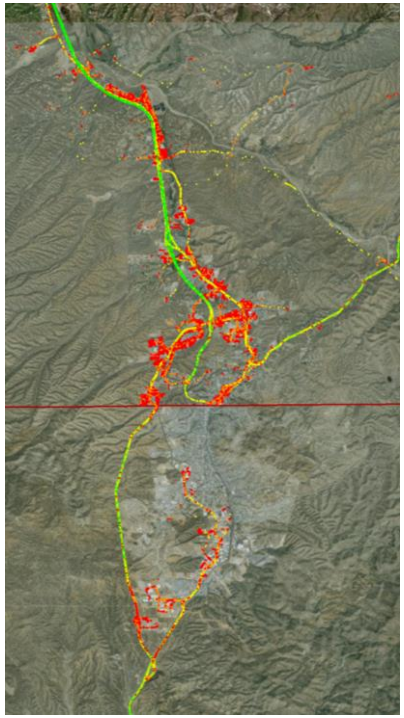
Phase 2: Early Performance Analysis

- ATRI Truck GPS Data
  - Raw data
  - April 2015
- Analysis will identify
  - Corridor performance
  - Recurring congestion
  - Emerging bottlenecks



Phase 2: Early Performance Analysis





- ATRI Truck GPS Data
  - Provides local/regional snapshots of truck speeds
  - Major truck gateways (e.g. Nogales)
  - Major warehouse / distribution centers (e.g. Tolleson)

Phase 2: Discussion and "Freight Facilities Stories"

What are the key freight facilities (nodes and corridors) in AZ?

Which characteristics define these facilities or make them unique?

- Identifying "Freight Facilities Stories"
  - Sidebars in reports
  - Key role of facilities / linkages to Arizona economic sectors
  - Potential examples:
    - Port of Tucson
    - West Side (Tolleson) Distribution Center Cluster

Port of Tucson

- Inland port with FTZ
- Key intermodal center
- Direct rail service to move produce to Midwest

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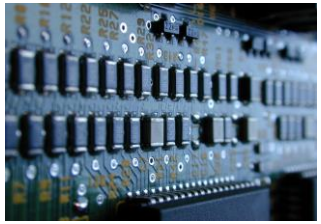
Phase 3: Focus on Key Economic Sectors

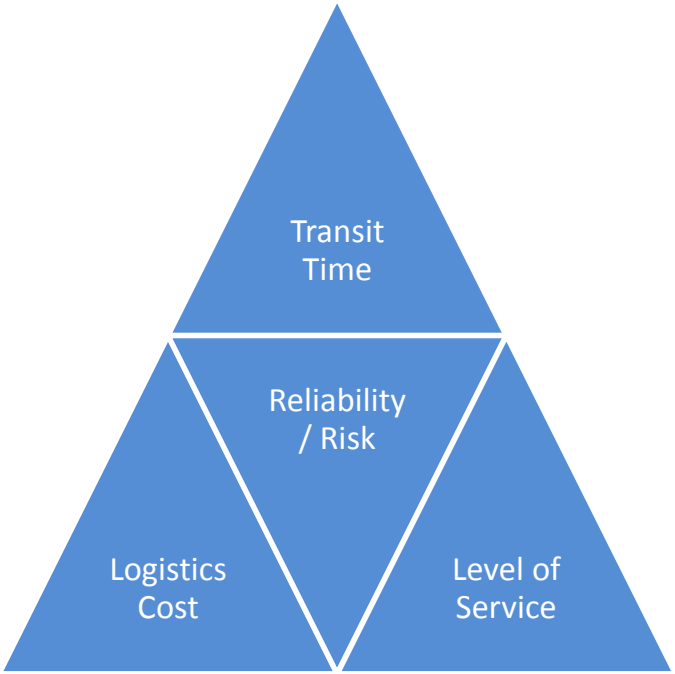
But: Different economic sectors have different transportation performance needs



Favors high reliability, speed

Favors lowest transportation cost

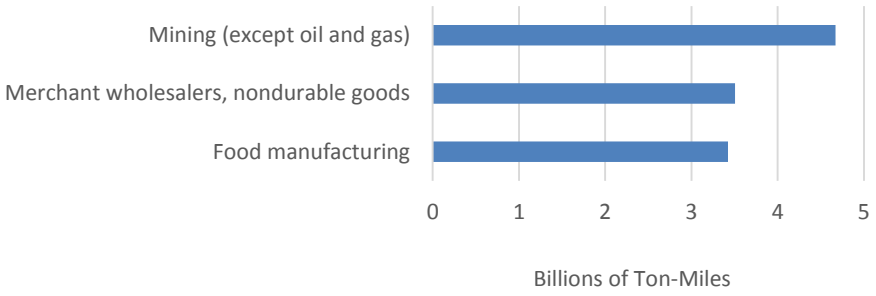
Favors high levels of service (e.g. climate control)



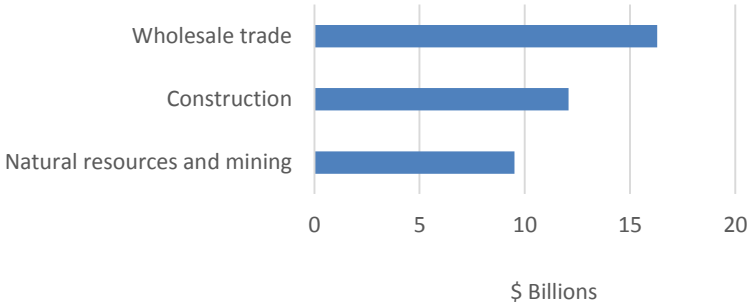
Performance is supply chain specific

Phase 3: Top Economic Sectors by Different Metrics

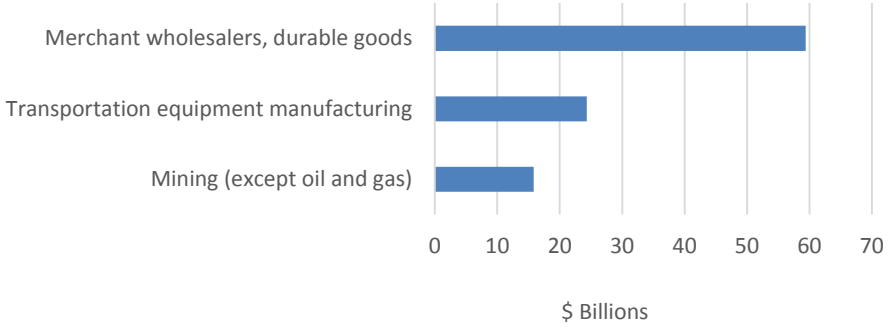
By Volume of Flows



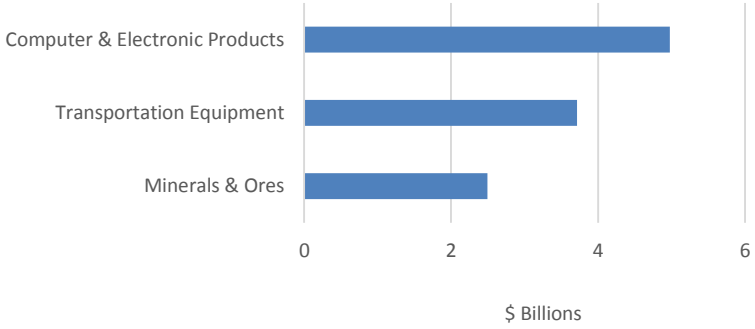
By GDP



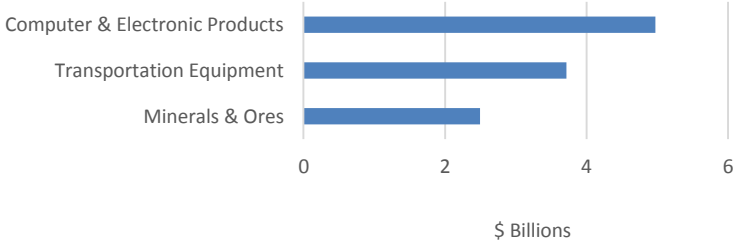
By Value of Flows



By Value of Exports



By Number of Jobs



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Process for Defining "Top Economic Sectors for Focus"

Top Goods Movement Sectors/ Commodity Groups	Significance for Arizona's State Freight Plan
By Value of Flows ($)	Importance to Arizona economy, shippers, receivers
By Volume of Flows (Ton-Miles)	Capacity utilization and pressure on state freight transportation system
By Contribution to GDP ($)	Importance to overall GDP in Arizona's economy
By Export Value ($)	Importance to Arizona trade (exports to other states, international)
By Employment (Jobs)	Importance to Arizona economy and employment

Criteria to Identify Top Freight Sectors for Focus

- Values of regional significance
- Significant use of system capacity
- Importance to Arizona economy
- Export potential
- Importance to employment in Arizona (particularly high value, high paying jobs)
- Role of transportation in sector competitiveness

Source: CPCS

Phase 3: Focus Sectors

Top 10 Sectors for Focus	Related NAICS Codes
Wholesalers and Retailers	42, 44, 45
Food and Beverage	311, 312, 722
High-Tech Manufacturing	334-335
General Manufacturing	313-315, 325-327, 331-333, 337, 339
Transportation Equipment	336
Transportation and Logistics	48, 49
Mining (except oil and gas)*	212, 213
Energy (oil and gas)*	211, 324
Agriculture*	111, 112, 115
Forestry*	113, 321, 322

*Also included are the focus sectors identified in MAP-21 and FHWA Guidance.

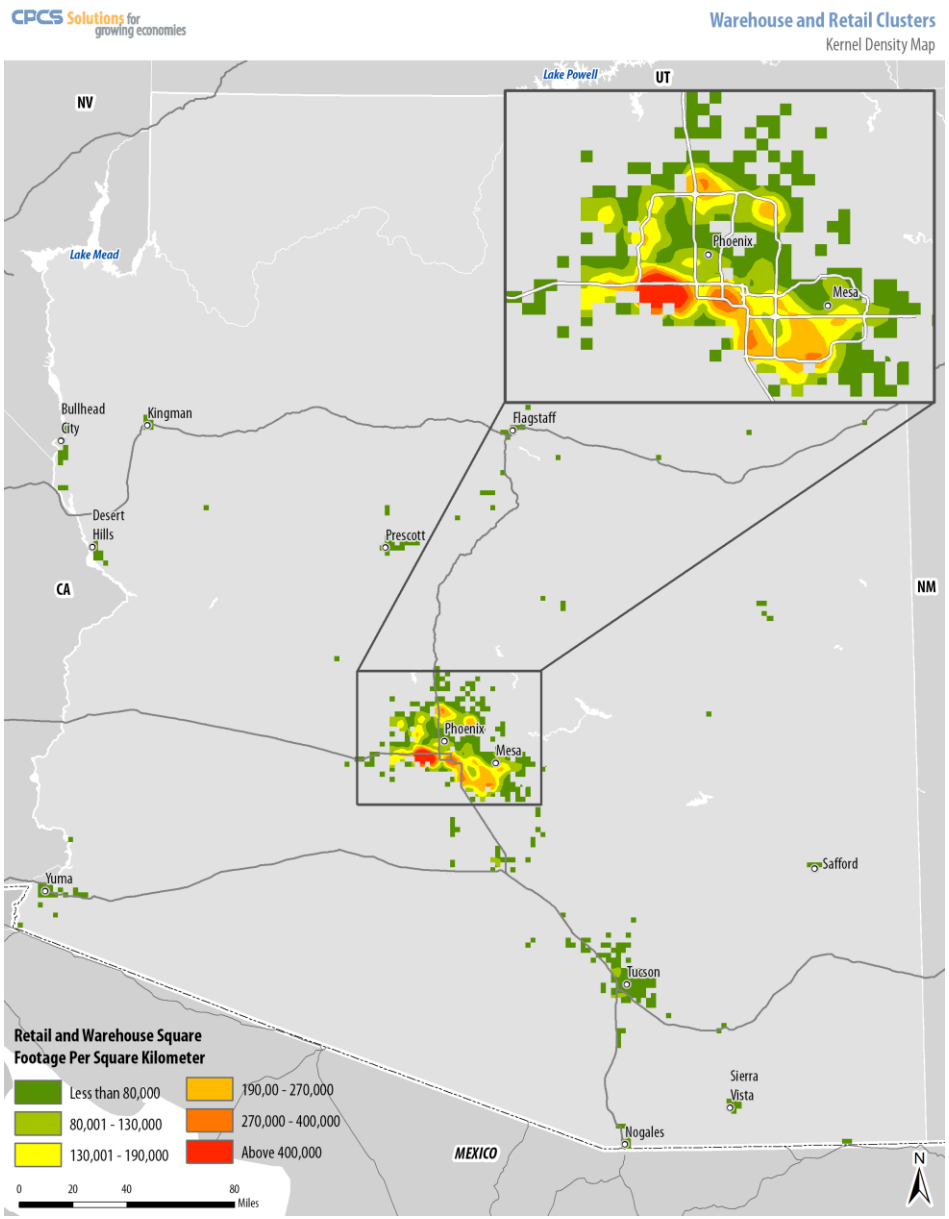
Phase 3: Sector-Based Transportation Performance Needs

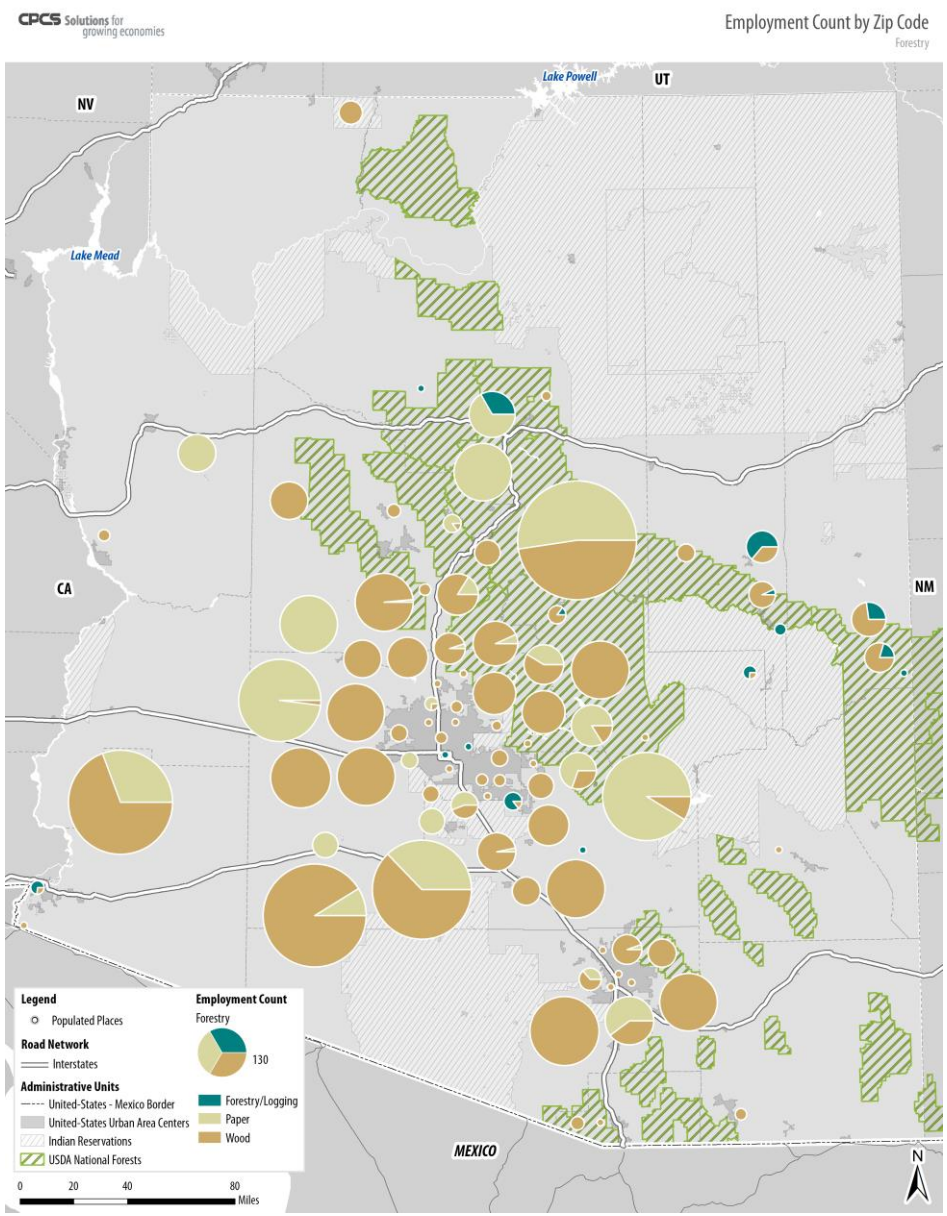
For each sector, we are addressing:

- How supply chains are structured, managed, and related trends
- Transportation performance requirements and decision drivers
- Top three transportation issues in Arizona
- Top three transportation system improvements

Analysis largely informed through consultations (which are ongoing)

Example Sector-Specific Maps:
Warehousing and Retail Clusters (Left), Forestry Sector Employment (Right)





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Next Steps and Upcoming Meetings

Proposed Meeting Date	Planned Activity
August 19, 2015	• Identify Drivers of Future Scenarios • Validate System Assessment and Economic Sector Needs
November 5, 2015	• Define Future Scenarios • Validate System Performance
February 17, 2016	Scenario Results and Implications • Validate Scenario Forecasts and Implications for the System

Questions and Discussion

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