



Arizona State Freight Plan: Enabling Economic Competitiveness and Growth

Arizona Transportation Board Study Session

January 31, 2017

Mike Kies, Multimodal Planning Division

Presentation Overview

What is the Arizona State Freight Plan?

Approach to Develop the State Freight Plan

Arizona Freight Transportation Needs

FAST Act Network Definitions

Implementation Strategy and Next Steps

Arizona State Freight Plan Will be FAST Act Compliant

State Freight Planning Considerations

- ▶ FAST Act requires State Freight Plan every 5 years
 - *Project investment plan, prioritized and financially constrained*
 - *National Highway Freight Program Funds \$21.3M annually*
 - *Address reliability and resiliency of system*
 - *Performance based planning*
- ▶ **State Freight Advisory Committees (FAC)**
 - Membership representative of state freight stakeholders
 - Arizona FAC advised development of Freight Plan

Who Makes up the Freight Advisory Committee?

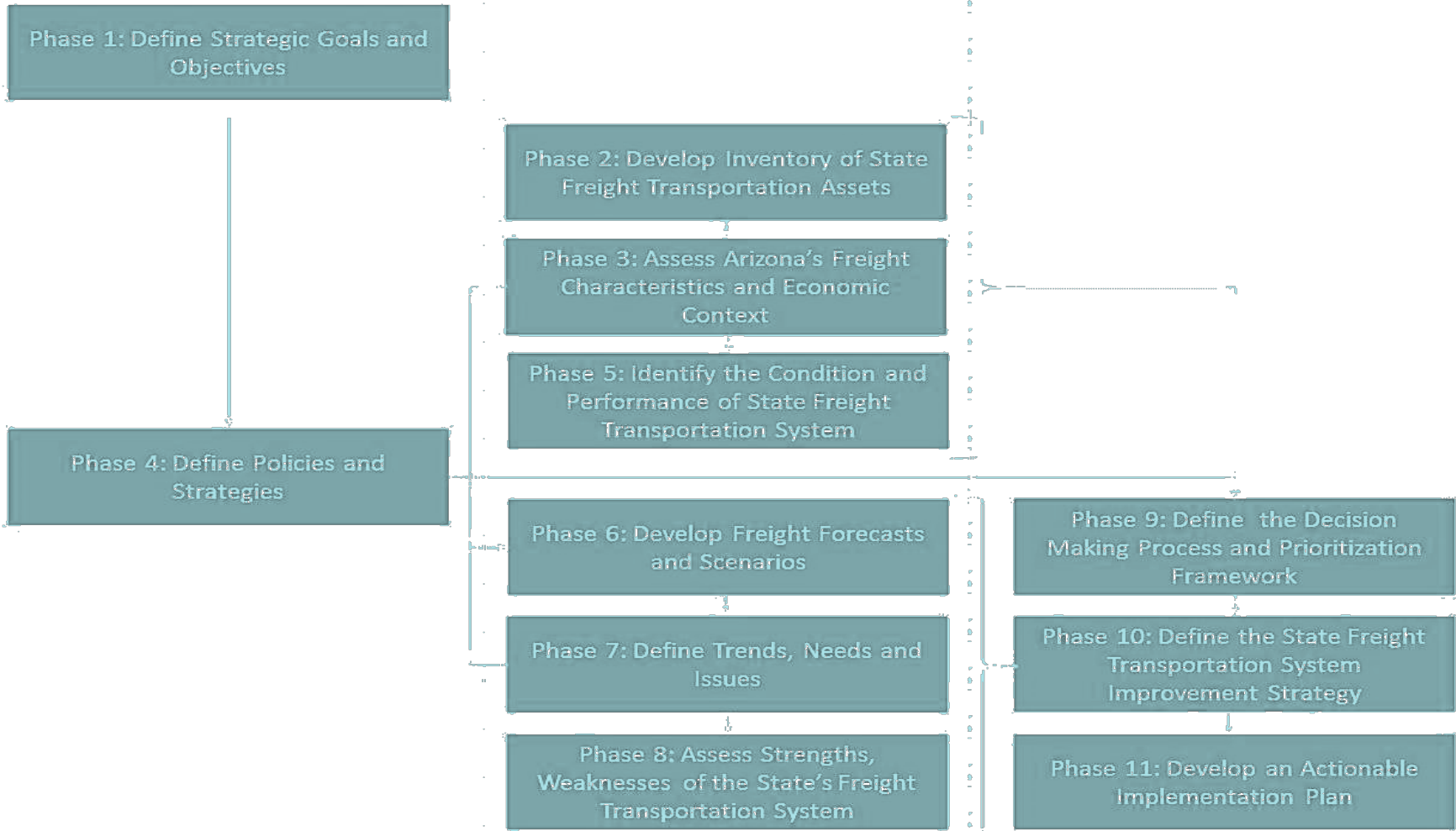
- ▶ City of Mesa
- ▶ United Parcel Service (UPS)
- ▶ Knight Transportation
- ▶ Greater Yuma Port Authority
- ▶ Genesee & Wyoming Railroad
- ▶ FHWA
- ▶ City of Phoenix (Aviation Dept)
- ▶ Arizona Trucking Association
- ▶ Rural Transportation Advocacy Council
- ▶ Eastern Arizona Counties Organization
- ▶ TTX Company (railcar leasing firm)
- ▶ Freeport McMoRan Copper and Gold
- ▶ Port of Los Angeles
- ▶ All COGs and MPOs
- ▶ APL Logistics
- ▶ Tucson Airport
- ▶ Federal Express (FedEx)
- ▶ Swift Transportation
- ▶ Union Pacific (UP)
- ▶ BNSF Railway
- ▶ Arizona State University
- ▶ Pacific Brokerage, Inc.
- ▶ ProLogis, Inc.
- ▶ HELP, Inc.
- ▶ City of Tucson

Stepped Approach to the Project

Goals, Objectives, Strategy

System Analysis and Needs

Prioritization and Action Plan



Stepped Approach to the Project

Goals, Objectives, Strategy

Phase 1: Define Strategic Goals and Objectives

Phase 4: Define Policies and Strategies

System Analysis and Needs

Phase 2: Develop Inventory of State Freight Transportation Assets

Phase 3: Assess Arizona's Freight Characteristics and Economic Context

Phase 5: Identify the Condition and Performance of State Freight Transportation System

Phase 6: Develop Freight Forecasts and Scenarios

Phase 7: Define Trends, Needs and Issues

Phase 8: Assess Strengths, Weaknesses of the State's Freight Transportation System

Prioritization and Action Plan

Phase 9: Define the Decision Making Process and Prioritization Framework

Phase 10: Define the State Freight Transportation System Improvement Strategy

Phase 11: Develop an Actionable Implementation Plan

Each Goal Supported by a 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

Six Strategies to Develop Policy

Policy

Increase Prominence of Freight in ADOT Planning and Programming
to better reflect the role of freight in enhancing the competitiveness and growth of Arizona's economy

Strategies

1

Merit-Based Prioritization

Freight transportation system improvements to be prioritized on the basis of merit, in line with the goals and objectives of the Arizona State Freight Plan

2

Preservation, Modernization, Expansion

Freight transportation system investments to prioritize asset preservation first, modernization to optimize the existing system second, and network expansion third

3

Key Commerce Corridors

Freight transportation system improvements to bolster the performance of Key Commerce Corridors

4

Improve Freight Information

Freight transportation system management to be informed on the basis of solid research, data and system performance monitoring

5

Coordination, Partnerships, Communication

System planning and improvements to be coordinated with all stakeholders that have a role in enabling the goals and objectives of the Arizona State Freight Plan

6

Sustainable Freight Funding

Priority freight projects to have access to a dedicated and sustainable source of funding and seek to leverage partner funding and private capital, where appropriate

Stepped Approach to the Project

Goals, Objectives, Strategy

Phase 1: Define Strategic Goals and Objectives



Phase 4: Define Policies and Strategies

System Analysis and Needs

Phase 2: Develop Inventory of State Freight Transportation Assets

Phase 3: Assess Arizona's Freight Characteristics and Economic Context

Phase 5: Identify the Condition and Performance of State Freight Transportation System

Phase 6: Develop Freight Forecasts and Scenarios

Phase 7: Define Trends, Needs and Issues

Phase 8: Assess Strengths, Weaknesses of the State's Freight Transportation System

Prioritization and Action Plan

Phase 9: Define the Decision Making Process and Prioritization Framework

Phase 10: Define the State Freight Transportation System Improvement Strategy

Phase 11: Develop an Actionable Implementation Plan

National Freight Movement – Trade Flows



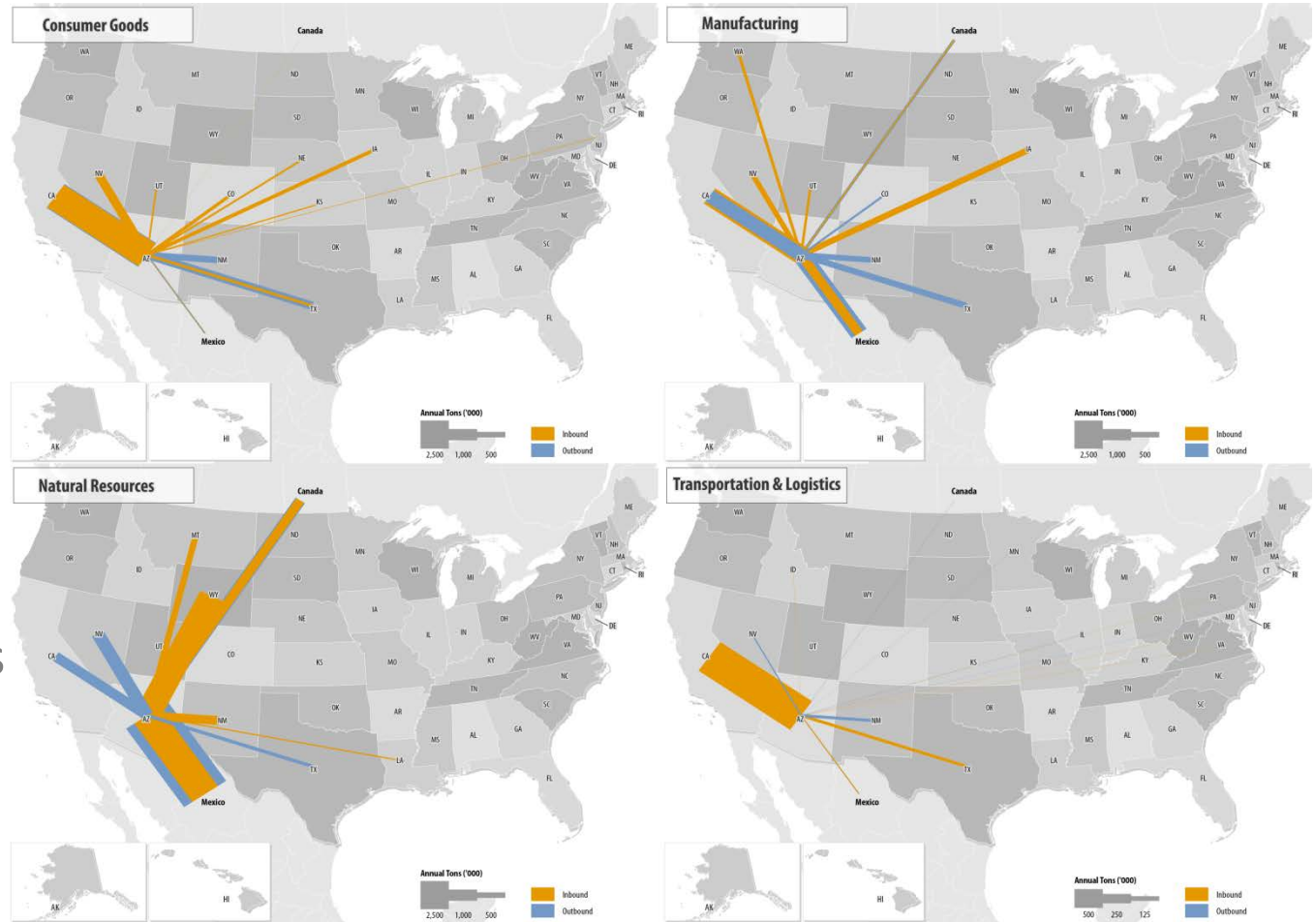
Economic Sector Analysis – AZ Freight Needs

The image displays ten document covers for the Arizona State Freight Plan, arranged in two rows of five. Each cover features the CPCS logo at the top left and a title for a specific economic sector. The covers are as follows:

- Food & Beverage:** Arizona State Freight Plan (ADOT MPO 085-14), Phase 3 Working Paper Food and Beverage Sector Profile and Transportation Performance Needs. Prepared for: Arizona Department of Transportation. CPCS Ref: 14325, August 8, 2015.
- Agriculture:** Arizona State Freight Plan (ADOT MPO 085-14), Phase 3 Working Paper Agriculture Sector Profile and Transportation Performance Needs. Prepared for: Arizona Department of Transportation. CPCS Ref: 14325, October 2, 2015.
- Manufacturing:** Arizona State Freight Plan (ADOT MPO 085-14), Phase 3 Working Paper General Manufacturing Sector Profile and Transportation Performance Needs. Prepared for: Arizona Department of Transportation. CPCS Ref: 14325, October 9, 2015.
- Transportation Equipment Manufacturing:** Arizona State Freight Plan (ADOT MPO 085-14), Phase 3 Working Paper Transportation Equipment Manufacturing Profile and Transportation Performance Needs. Prepared for: Arizona Department of Transportation. CPCS Ref: 14325, October 6, 2015.
- Transportation & Logistics:** Arizona State Freight Plan (ADOT MPO 085-14), Phase 3 Working Paper Transportation and Logistics Profile and Transportation Performance Needs. Prepared for: Arizona Department of Transportation. CPCS Ref: 14325, August 12, 2015.
- Mining:** Arizona State Freight Plan (ADOT MPO 085-14), Phase 3 Working Paper Mining Sector Profile and Transportation Performance Needs. Prepared for: Arizona Department of Transportation. CPCS Ref: 14325, September 23, 2015.
- Forestry:** Arizona State Freight Plan (ADOT MPO 085-14), Phase 3 Working Paper Forestry Sector Profile and Transportation Performance Needs. Prepared for: Arizona Department of Transportation. CPCS Ref: 14325, September 15, 2015.
- Energy:** Arizona State Freight Plan (ADOT MPO 085-14), Phase 3 Working Paper Energy Sector Profile and Transportation Performance Needs. Prepared for: Arizona Department of Transportation. CPCS Ref: 14325, August 18, 2015.
- Wholesaler & Retail:** Arizona State Freight Plan (ADOT MPO 085-14), Phase 3 Working Paper Wholesalers and Retailers Sector Profile and Transportation Performance Needs. Prepared for: Arizona Department of Transportation. CPCS Ref: 14325, August 6, 2015.
- High Tech Manufacturing:** Arizona State Freight Plan (ADOT MPO 085-14), Phase 3 Working Paper High-Tech Manufacturing Sector Profile and Transportation Performance Needs. Prepared for: Arizona Department of Transportation. CPCS Ref: 14325, August 6, 2015.

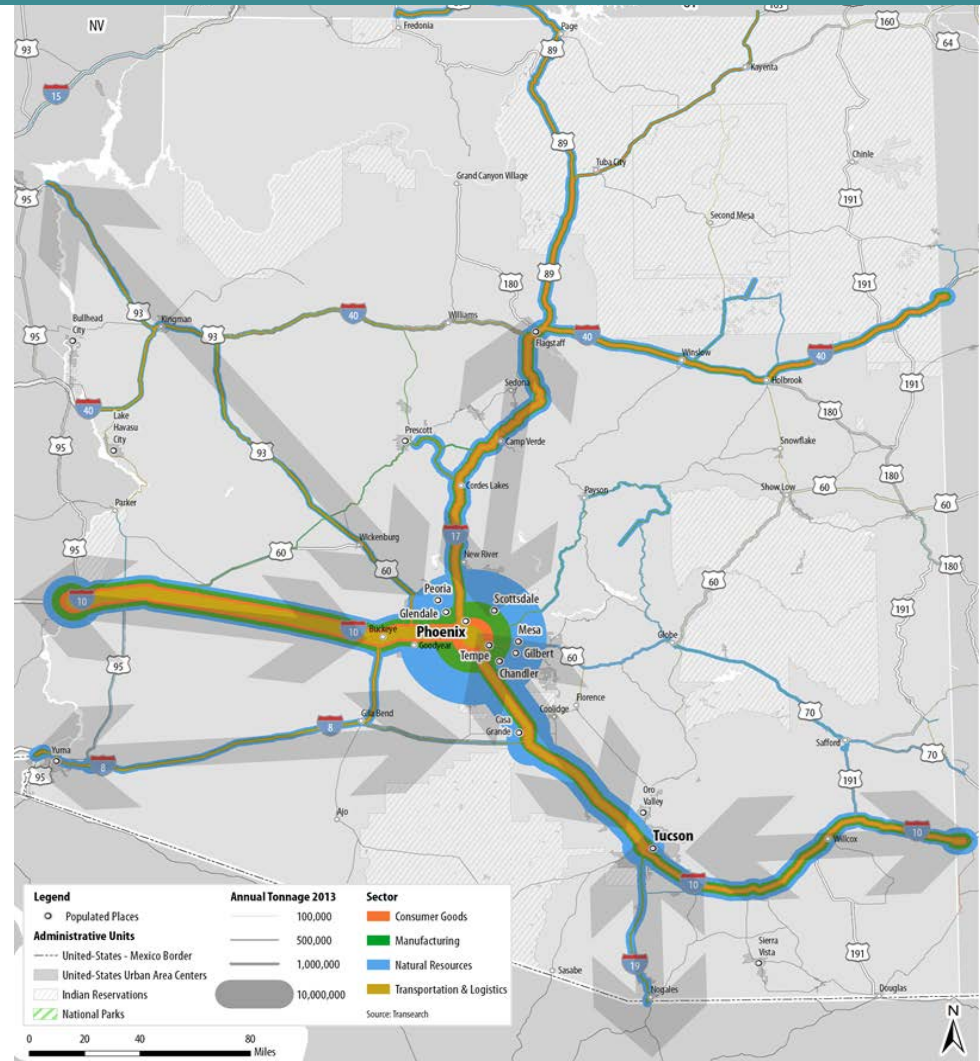
Economic Context of Freight Movement in Arizona – Trade Flows

- California/Asia, and Mexico are the predominant inbound and outbound freight markets, by volume
- I-10 is Arizona's most heavily used freight corridor



Freight Movement in Arizona – Originating or Destined for Arizona

- I-10 West connects to largest trading partner; California
- I-10 between Phoenix and Tucson is an important Intrastate Freight Corridor
- I-17 is primary N-S Freight Corridor connecting to I-40 and beyond (Utah)



Stepped Approach to the Project

Goals, Objectives, Strategy

Phase 1: Define Strategic Goals and Objectives



Phase 4: Define Policies and Strategies

System Analysis and Needs

Phase 2: Develop Inventory of State Freight Transportation Assets

Phase 3: Assess Arizona's Freight Characteristics and Economic Context

Phase 5: Identify the Condition and Performance of State Freight Transportation System

Phase 6: Develop Freight Forecasts and Scenarios

Phase 7: Define Trends, Needs and Issues

Phase 8: Assess Strengths, Weaknesses of the State's Freight Transportation System

Prioritization and Action Plan

Phase 9: Define the Decision Making Process and Prioritization Framework

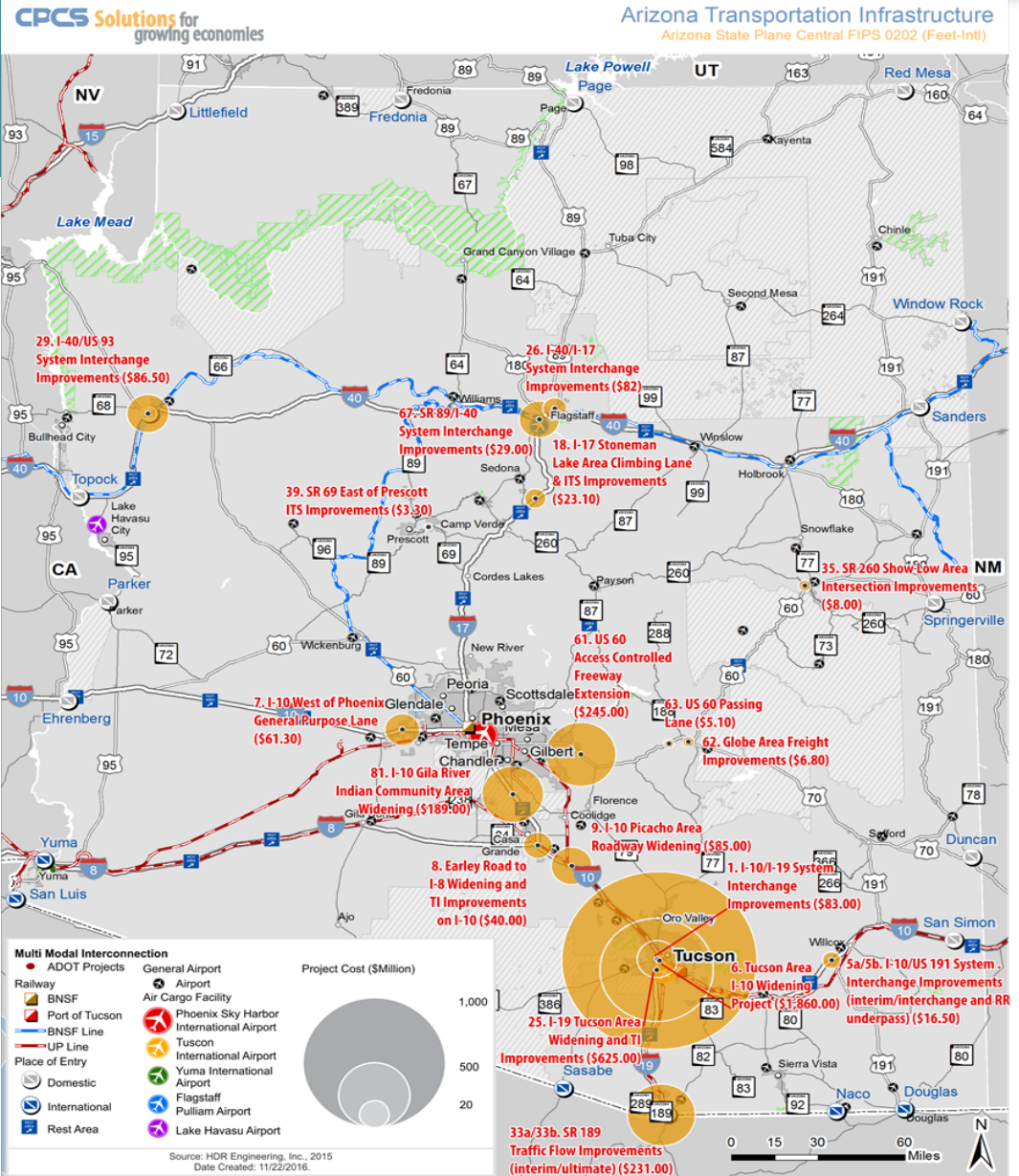
Phase 10: Define the State Freight Transportation System Improvement Strategy

Phase 11: Develop an Actionable Implementation Plan

Priorities...

Top 20 Identified Freight Improvement Projects and their Estimated Planning Level Cost

(Note: identified priorities exclude projects currently under study in MAG region)



Top 12 Arizona Freight Improvement Priorities

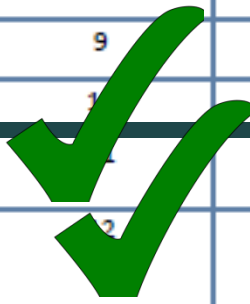
Prioritization Rank	Ref.	Route	Issue Segment	Project Option(s)	Planning-level Project Cost \$ million
1	7	I-10	I-10 between SR 85 to Loop 303	I-10 West of Phoenix General Purpose Lane	\$61.3
2	81	I-10	From SR 202L to east of SR 387	I-10 Gila River Indian Community Area Widening	\$189.0
3	1	I-10	I-10 at I-19 Traffic System Interchange	I-10/I-19 System Interchange Improvements	\$83.0
4	6	I-10	East of I-19	Tucson Area I-10 Widening Project	\$1,860.0
5	5a	I-10	I-10 at US 191 (Cochise Traffic Interchange)	I-10/US 191 System Interchange Improvements (interim)	\$2.7**
6	9*	I-10	East of Phoenix	I-10 Picacho Area Roadway Widening	\$85.0
7	8*	I-10	I-10 Main Line and Traffic Interchange at I-8	Earley Road to I-8 Widening and Traffic Interchange Improvements on I-10	\$40.0
8	25	I-19	I-19 between I-10 and Valencia Road (south of Tucson)	I-19 Tucson Area Widening and Traffic Interchange Improvements	\$625.0
9	67	US 89	US 89 in Flagstaff, north of I-40	SR 89/I-40 System Interchange Improvements	\$29.0
10	39	SR 69	SR 69, East of Prescott area	SR 69 East of Prescott ITS Improvements	\$3.3
11	29	I-40	I-40 at US 93 Junction in Kingman area	I-40/US 93 System Interchange Improvements	\$86.5
12	5b	I-10	I-10 at US 191 (Cochise Traffic Interchange)	I-10/US 191 System Interchange Improvements (interchange and railroad underpass)	\$15.6**

Top 12 Arizona Freight Improvement Priorities

Prioritization Rank	Ref.	Route	Issue Segment	Project Option(s)	Planning-level Project Cost \$ million
28%	7	I-10	I-10 between SR 85 to Loop 303	I-10 West of Phoenix General Purpose Lane	\$61.3
21%	81	I-10	From SR 202L to east of SR 387	I-10 Gila River Indian Community Area Widening	\$189.0
3	1	I-10	I-10 at I-19 Traffic System Interchange	I-10/I-19 System Interchange Improvements	\$83.0
4	6	I-10	East of I-19	Tucson Area I-10 Widening Project	\$1,860.0
5	5a	I-10	I-10 at US 191 (Cochise Traffic Interchange)	I-10/US 191 System Interchange Improvements (interim)	\$2.7**
30%	9*	I-10	East of Phoenix	I-10 Picacho Area Roadway Widening	\$85.0
	8*	I-10	I-10 Main Line and Traffic Interchange at I-8	Earley Road to I-8 Widening and Traffic Interchange Improvements on I-10	\$40.0
8	25	I-19	I-19 between I-10 and Valencia Road (south of Tucson)	I-19 Tucson Area Widening and Traffic Interchange Improvements	\$625.0
9	67	US 89	US 89 in Flagstaff, north of I-40	SR 89/I-40 System Interchange Improvements	\$29.0
10	39	SR 69	SR 69, East of Prescott area	SR 69 East of Prescott ITS Improvements	\$3.3
55%	29	I-40	I-40 at US 93 Junction in Kingman area	I-40/US 93 System Interchange Improvements	\$86.5
54%	5b	I-10	I-10 at US 191 (Cochise Traffic Interchange)	I-10/US 191 System Interchange Improvements (interchange and railroad underpass)	\$15.6**

Top 12 Arizona Freight Improvement Priorities

Prioritization Rank	Ref.	Route	Issue Segment	Project Option(s)	Planning-level Project Cost \$ million
1	7	I-10	I-10 between SR 85 to Loop 303	I-10 West of Phoenix General Purpose Lane	\$61.3
2	81	I-10	From SR 202L to east of SR 387	I-10 Gila River Indian Community Area Widening	\$189.0
3	1	I-10	I-10 at I-19 Traffic System Interchange	I-10/I-19 System Interchange Improvements	\$83.0
4	6	I-10	East of I-19	Tucson Area I-10 Widening Project	\$1,860.0
5	5a	I-10	I-10 at US 191 (Cochise Traffic Interchange)	I-10/US 191 System Interchange Improvements (interim)	\$2.7**
6	9*	I-10	East of Phoenix	I-10 Picacho Area Roadway Widening	\$85.0
7	8*	I-10	I-10 Main Line and Traffic Interchange at I-8	Earley Road to I-8 Widening and Traffic Interchange Improvements on I-10	\$40.0
8	25	I-19	I-19 between I-10 and Valencia Road (south of Tucson)	I-19 Tucson Area Widening and Traffic Interchange Improvements	\$625.0
9	67	US 89	US 89 in Flagstaff, north of I-40	SR 89/I-40 System Interchange Improvements	\$29.0
10	39	SR 69	SR 69, East of Prescott area	SR 69 East of Prescott ITS Improvements	\$3.3
11	29	I-40	I-40 at US 93 Junction in Kingman area	I-40/US 93 System Interchange Improvements	\$86.5
12	5b	I-10	I-10 at US 191 (Cochise Traffic Interchange)	I-10/US 191 System Interchange Improvements (interchange and railroad underpass)	\$15.6**



State Freight Plan Will Inform Freight Network

National Highway Freight Network

Primary Highway Freight Network (PHFN)

- US DOT defined
- 41,518 total miles
- AZ-1,025 miles

All interstates not on the PFN

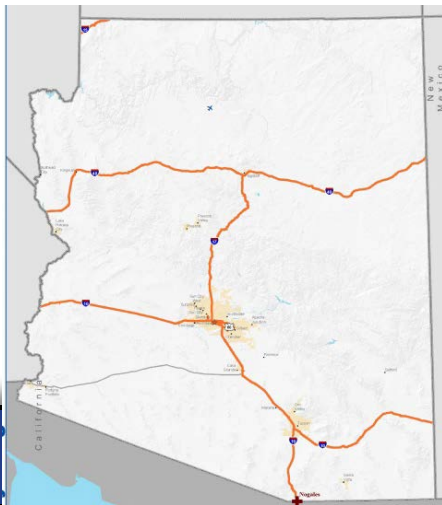
- Automatic
- I-8 adds 179 miles

Critical Urban Freight Corridors

- State & MPO defined
- 75 miles or 10% of PHFN
- AZ-102.5 miles
 - MAG
 - PAG
 - Greater AZ
- Must be urban roadway

Critical Rural Freight Corridors

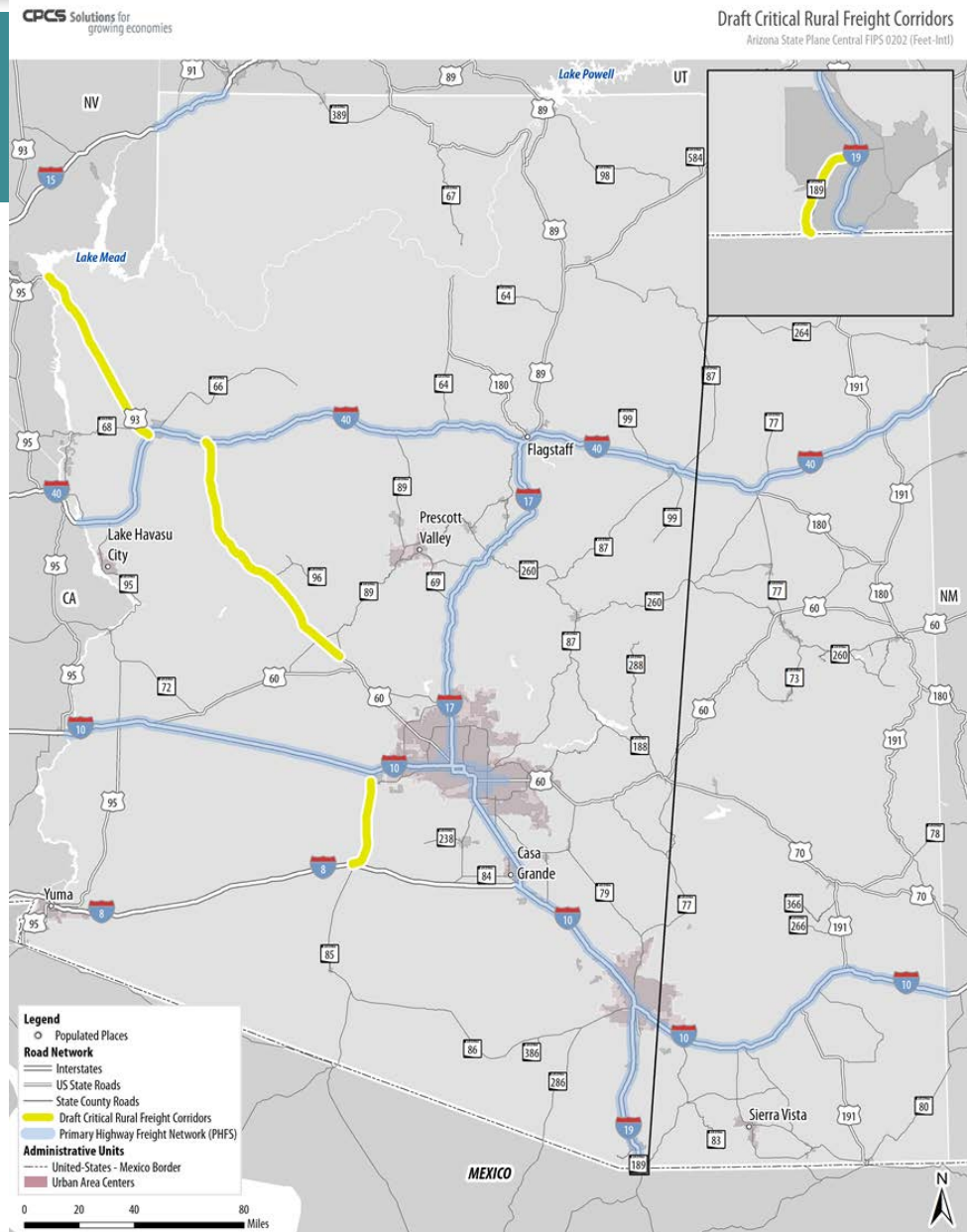
- State defined
- 150 miles or 20% of PHFN
- AZ-205 miles
- Must be rural roadway



FAST Act Corridor Designations

Critical Rural Freight Corridors
20% of the Primary Highway Freight System (AZ has 1,025 mi. of PHFS, therefore the CRFC is 205 mi.)

Critical Urban Freight Corridors
20% of the PHFS (AZ has 1,025 of PHFS, therefore 102 mi.)



Next Steps

- ▶ Development of *Arizona Freight Plan Report*
Report will be completed in June 2017
Finalize Critical Rural and Urban Freight Corridors
- ▶ Integrate MAG freight projects
Spine Study and US60 COMPASS Study findings listed
- ▶ Review findings with Freight Advisory Committee (FAC)
FAC Meeting scheduled in March 2017
- ▶ Submit to FHWA for acceptance before December 2017
Deadline.