



Working Paper

Arizona State Freight Plan

(ADOT MPD 085-14)

Phase 11 Implementation Plan

Prepared for:

Arizona Department of Transportation

Prepared by:

CPCS

In association with:

HDR Engineering, Inc.

American Transportation Research Institute, Inc.

Elliott D. Pollack & Company

Dr. Chris Caplice (MIT)

Plan*ET Communities PLLC (Leslie Dornfeld, FAICP)

Gill V. Hicks and Associates, Inc.

Working Paper

This working paper presents a practical implementation plan for the Arizona freight improvement strategy.

Acknowledgements

The CPCS team thanks the Arizona Department of Transportation (ADOT) for its guidance and input in developing this working paper, as well as the input and comments of those consulted in its development. Further input from the Technical Advisory Committee (TAC) and Freight Advisory Committee (FAC) is welcome.

Opinions

Unless otherwise indicated, the opinions herein are those of the author and do not necessarily reflect the views of ADOT, the TAC, FAC, or the State of Arizona.

Contact

Questions and comments on this working paper can be directed to:

Marc-André Roy
Project Director
T: +1.613.237.2500 x 306
mroy@cpcstrans.com

Donald Ludlow
Project Manager
T: +1.202.772.3368
dludlow@cpcstrans.com

Table of Contents

EXECUTIVE SUMMARY	I
ACRONYMS AND ABBREVIATIONS	III
INTRODUCTION.....	4
CONTEXT	4
PROJECT OBJECTIVES	4
PURPOSE OF THIS WORKING PAPER	4
ORGANIZATION OF THIS WORKING PAPER	5
1 STRATEGY 1: IMPLEMENT PRIORITY FREIGHT PROJECTS WITH DEDICATED FAST ACT FREIGHT FUNDS	6
1.1 OBJECTIVE(S)	7
1.2 IMPLEMENTATION CONSIDERATIONS	7
1.3 ACTION PLAN	11
2 STRATEGY 2: UNDERTAKE SMALLER SCALE INITIATIVES THAT CAN DIRECTLY BENEFIT FREIGHT .	13
2.1 OBJECTIVE	14
2.2 IMPLEMENTATION CONSIDERATIONS	14
2.3 ACTION PLAN	17
3 STRATEGY 3: IMPLEMENT PROCESS TO INCREASE PROMINENCE OF FREIGHT IN ADOT PLANNING AND PROGRAMMING	18
3.1 OBJECTIVE(S)	19
3.2 IMPLEMENTATION CONSIDERATIONS	19
3.3 ACTION PLAN	20
4 STRATEGY 4: COORDINATE FREIGHT IMPROVEMENT ISSUES AND PROJECTS FALLING WITHIN MPO JURISDICTION	22
4.1 OBJECTIVE	23
4.2 IMPLEMENTATION CONSIDERATIONS	23
4.3 ACTION PLAN	26
5 NEXT STEPS	27

Executive Summary

The Arizona freight improvement strategy (Phase 10) defined four specific and actionable strategies. This working paper puts forward an implementation plan and associated considerations and actions specific to each of these strategies.

Strategy 1: Implement Priority Freight Projects with Dedicated FAST Act Freight Funds

Arizona's apportionment of dedicated federal Fixing America's Surface Transportation Act (FAST) Act freight funds (\$117 million over five years) could be used to fund freight improvement projects that would disproportionately benefit freight. Three identified freight improvement projects (total estimated cost of \$105 million), have been recommended for consideration and could be funded with Arizona's apportionment of FAST Act dedicated freight funds (i.e. fiscally constrained project priorities):

1. I-10/US 191 System Interchange Improvements: Interchange (\$2.7 million)
2. I-10/US 191 System Interchange Improvements: Railroad underpass (\$15.6 million)
3. I-40/US 93 System Interchange Improvements (\$86.5 million)

Specific steps to advance these projects in the short-term and to take advantage of these dedicated freight funds are identified in this Working Paper.

Strategy 2: Undertake Smaller Scale Initiatives that can Directly Benefit Freight

ADOT can establish a Freight Program that would have as its objective the advancement of small-scale projects that directly benefit freight.

Through this Freight Program, ADOT can help advance projects such as small-scale ITS projects, improve truck signage as well as truck parking among other initiatives which would otherwise be unlikely to receive funding.

Such a Freight Program could also help advance specific strategies of the Freight Plan, including but not limited to improving freight stakeholder outreach and communication, and improving freight-specific performance monitoring and evaluation. It is recommended that the Freight Advisory Committee (FAC) have a formal role in this freight program to continue to promote regular freight stakeholder engagement and input.

Strategy 3: Implement Process to Increase Prominence of Freight in ADOT Planning and Programming

Beyond leveraging Arizona's apportionment of FAST Act dedicated freight funds, ADOT should leverage the research, analysis, working papers and reports of the Arizona State Freight Plan with the aim of disseminating and promoting the findings to others within the Multimodal Planning Department and Arizona's Department of Transportation more broadly.

The ongoing update of the Arizona Long-Range Transportation Plan (LRTP) provides a practical opportunity to increase the prominence of freight in planning and programming as this guiding document will also serve to inform Arizona planning and programming for the next five years.

The Freight Plan team has been engaging with ADOT and the consultant team charged with the LRTP update to make sure that they leverage and fully recognize the findings in the Arizona State Freight Plan, and seek, as much as possible, to build freight considerations into the LRTP.

Since the LRTP also guides project prioritization (i.e. merit based prioritization criteria), little would better help increase the prominence of freight in ADOT planning and programming than building a more expansive set of freight criteria within the policy evaluation criteria of ADOT's prioritization process.

Strategy 4: Coordinate Freight Improvement Issues and Projects Falling within MPO Jurisdiction

ADOT should continue to coordinate with the State's regional transportation planning agencies to advance projects for programming into the State Transportation Improvement Program (STIP).

Coordination between ADOT and the MPOs on freight planning initiatives, such as the State Freight Plan, and regional efforts such as the 'SPINE' study addressing freight in the Phoenix metropolitan area can help define freight priorities and implement freight improvement projects.

Next Steps

This implementation plan should be reviewed and validated with ADOT, the Technical Advisory Committee (TAC) and the FAC. Once there is broad agreement on the way forward, the overall Arizona Freight Plan report will be prepared for comment.

Acronyms and Abbreviations

ADOT	Arizona Department of Transportation
AZPES	Arizona Pollutant Discharge Elimination System
AZTDM	Arizona Transportation Demand Model
COGs	Councils of Governments
DCR	Design Concept Report
FAC	Freight Advisory Committee
FAST Act	Fixing America's Surface Transportation Act
FASTLANE	Fostering Advancements in Shipping and Transportation for the Long-term Achievement of National Efficiencies
FHWA	Federal Highway Administration
FY	Fiscal Year
ITS	Intelligent Transportation System
LRTP	Long Range Transportation Plan
MAG	Maricopa Association of Governments
MPD	Multimodal Planning Division
MPO	Metropolitan Planning Organization
NEPA	National Environmental Policy Act
NPDES	National Pollutant Discharge Elimination System
P2P	Planning to Programming
PA	Project Assessment
PAG	Pima Association of Governments
POE	Port of Entry
SEAGO	Southeast Arizona Governments Organization
SPINE	Interstate-10/Interstate-17 Corridor Master Plan in (Phoenix and vicinity)
STIP	State Transportation Improvement Program
SWPPP	Stormwater Pollution Prevention Plan
TAC	Technical Advisory Committee
TIPs	Transportation Improvement Programs
TMA	Transportation Management Areas
US	United States

Introduction

Context

Arizona's economic potential is supported by the State's transportation infrastructure, which connects sources of production to markets.

When transportation infrastructure and related services are efficiently designed and competitively positioned, businesses benefit from lower transport costs, faster and better transportation services, and increased reliability; which in turn contribute to their own competitiveness and growth, and that of the broader region.

Effective freight planning and programming can help achieve these ends. Yet, fiscal realities are such that Arizona's Department of Transportation (ADOT) cannot address all transportation system needs and constraints. Rather, it must be strategic in defining and prioritizing its investments and system improvements.

To this end, ADOT's Multimodal Planning Division (MPD), is developing Arizona's State Freight Plan (Freight Plan, or Plan) which will guide freight improvements in the State.

Project Objectives

The Freight Plan will define immediate and long-range investment priorities and policies that will generate the greatest return for Arizona's economy, while also advancing other key transportation system goals, including national goals outlined in the FAST Act. It will identify freight transportation facilities in Arizona that are critical to the State's economic growth and give appropriate priority to investments in such facilities, given fiscal constraints.

The State Freight Plan will ultimately provide Arizona with a guide for assessing and making sound investment and policy decisions that will yield outcomes consistent with the State's vision, goals, and objectives, and notably, promote regional competitiveness and economic growth.

Purpose of this Working Paper

This Working Paper is the second output of Phase 11 in the development of the Arizona State Freight Plan. It presents a practical implementation plan for the Arizona freight transportation improvement strategy. It also builds on the previous Phase 11 deliverable on funding and financing options for implementing the Arizona's freight improvement strategy.

Organization of this Working Paper

The subsequent chapters of this Working Paper present, in sequence, the implementation plans with respect to each of the freight improvement strategies put forth in Phase 10 in the development of the Arizona State Freight Plan:

- **Strategy 1:** Implement Priority Freight Projects with Dedicated FAST Act Freight Funds
- **Strategy 2:** Undertake Smaller Scale Initiatives that can Directly and Incrementally Benefit Freight
- **Strategy 3:** Implement Process to Increase Prominence of Freight in ADOT Planning and Programming
- **Strategy 4:** Coordinate Freight Improvement Issues and Projects Falling within MPO Jurisdiction

1

Strategy 1: Implement Priority Freight Projects with Dedicated FAST Act Freight Funds

Key Messages

Arizona's apportionment of dedicated federal FAST Act freight funds (\$117 million over 5 years) could be used to fund several freight improvement projects.

Three identified freight improvement projects (total estimated cost of \$105 million), have been recommended for consideration:

1. I-10/US 191 System Interchange Improvements: Interchange (\$2.7 million)
2. I-10/US 191 System Interchange Improvements: Railroad underpass (\$15.6 million)
3. I-40/US 93 System Interchange Improvements (\$86.5 million)

Specific steps to advance these projects in the short-term, to take advantage of these dedicated freight funds are identified in this section.

1.1 Objective(s)

The objective of this first strategy is to realize the fiscally constrained set of priority freight improvement projects that disproportionately benefit freight, using Arizona's apportionment of dedicated federal FAST Act funds over the next five years, together with ADOT's 5.7% matching contribution. This strategy focuses on the following three projects¹:

- I-10/US 191 System Interchange Improvements: Interchange (Total: \$2.7 million²)
- I-10/US 191 System Interchange Improvements: Railroad underpass (Total: \$15.6 million¹)
- I-40/US93 System Interchange Improvements (Total: \$86.5 million)

1.2 Implementation Considerations

ADOT is mandated by state law to be responsible for constructing and maintaining all interstate and state highways in Arizona. Fulfilling this responsibility includes extensive public participation and sophisticated technical evaluation through a merit-based prioritization approach. The process culminates in the Five-Year Transportation Facilities Construction Program for Highways and Airports.

For projects to be implemented, they need to be represented in the Five-Year Transportation Facilities Construction Program, and none of the priority freight projects are currently listed (although it is worth noting that the *I-10/US 191 System Interchange Improvements: Interchange* project was previously listed in the program and was then de-listed as a result of changing priorities).

1.2.1 Approach to Scoping

Before projects are included in the Five-Year Transportation Facilities Construction Program, they typically undergo project scoping. Projects require a level of scoping commensurate with the type of proposed work. Several types of project scoping documents may be prepared during project development: Scoping Letter,³ Project Assessment (PA), Design Concept Report (DCR), Feasibility Report, Corridor Location Report, and Alternatives Selection Report.

Project Assessment

A Project Assessment (PA) describes the scope, schedule, and cost of a project. Projects scoped with a PA usually involve a single or limited number of project alternatives. Examples

¹ The process used for selecting these projects is defined in the Phase 9 prioritization report, and the Phase 10 freight improvement strategy working paper.

² Adjusted for inflation to 2016 dollars.

³ ADOT's Scoping Letter is a document that describes the scope, schedule, and cost of a project. This is the simplest form of project scoping documentation. Examples of projects that could be scoped with a Scoping Letter include simple pavement overlay projects or installation of a roadside barrier or turn lane.

of projects that could be scoped with a PA include standard pavement preservation projects, passing/climbing lanes, and certain capacity improvement projects (limited widening).

Design Concept Report

ADOT's Design Concept Report (DCR) is the primary report for scoping major projects⁴ such as existing highway corridor expansion, highways on a new alignment, two-lane to four-lane highway conversion, and new or reconstructed highway interchanges. A DCR documents the project parameters such as design criteria, project location, design concept (15% plans), and construction cost. A DCR is typically prepared in conjunction with an environmental document that is prepared in conformance to the National Environmental Policy Act (NEPA). After completion of a DCR, a project can be programmed for design and construction.

Feasibility Report

A Feasibility Report is prepared for major projects where design concept is an issue. Feasibility Reports may be similar to DCRs but may require fewer technical reports and are not prepared in conjunction with an environmental document. Feasibility Reports evaluate alternatives for major projects in a manner consistent with the principles of "Linking Planning and NEPA" (23 Code of Federal Regulations 450.212) and "Planning and Environmental Linkages." An Environmental Overview will be prepared in conjunction with the Feasibility Report and will be included as a chapter in the report. The Environmental Overview is not a stand-alone document.

Examples of projects for which a Feasibility Report could be prepared include evaluation of highway interchange upgrade options, right-of-way definition for corridor protection, and ultimate long-range corridor concept planning with the identification of interim improvements such as passing lanes. The recommendations of a Feasibility Report may need to be further studied in a DCR. The required environmental documentation for a project scoped with a Feasibility Report will typically be prepared during a future Design Concept Study or during future individual design projects. Some Feasibility Reports, such as one that identifies multiple passing lane projects or studies an alternative within existing right-of-way, may not require a DCR and may be programmed for design after the document is approved. Environmental documentation for such projects will be completed during design.

1.2.2 Implementation Status of Priority Freight Projects with Dedicated FAST Act Freight Funds

The priority freight improvement projects are not currently listed in the Five-Year Transportation Facilities Construction Program. The projects are in various stages of development. The planning status and for each project is noted below.

⁴ Other documents may be produced in support of DCRs that outline planning efforts to date and future scoping requirements to further develop a project.

Interstate 10 (I-10)/US 191 System Interchange Improvements: Interchange

Planning to date has advanced to a Final PA (ADOT TRAC H8534 01L [2014]).

The current interchange trumpet configuration in conjunction with the deficient clearance under the (US 191) bridge structure requires permitted over-dimensional vehicles to detour around this site using local roadways that are not designed to handle these vehicles. The Arizona Department of Public Safety and other regional resources are required to facilitate these vehicle movements and, in some instances, sections of the Interstate require extended closures to allow traffic movements in the opposite direction of the normal flow.

The project will reconstruct the traffic interchange into a spread diamond-style traffic interchange using the ADOT Roadway Design Guidelines parallel ramp configuration and construct the new two-span bridge just west of the existing four-span bridge. The design and construction will be done in phases as funding permits. It is expected that the project will be designed and constructed in three distinct phases.

Phase I:

- Extend the US 191 alignment north of I-10
- Construct new interim I-10 westbound on ramp
- Partially realign existing I-10 westbound off ramp
- Reconstruct Davenport Ranch Road intersection
- Construct lighting for the I-10 westbound ramp gores and US 191/westbound ramps intersection
- Install new signs as needed
- Construct new drainage structure(s) under US 191
- Construct new dikes

Phase II:

- Construct new interim I-10 eastbound on and off ramps
- Install new signs as needed
- Construct lighting for I-10 eastbound ramp gores and US 191/eastbound ramps intersection

Phase III:

- Construct new US 191 bridge over I-10 (west of existing bridge)
- Realign US 191 from approximately ½ mile south of I-10 to 600 feet north of I-10
- Reconstruct all I-10 ramps to match new US 191 alignment
- Re-profile Davenport Ranch Road to tie into new US 191 alignment

- Install new signs as needed
- Reconstruct the ramp/US 191 intersection lighting

This project (Phase I only) had funding identified in the 2014–2018 Five-Year Transportation Facilities Construction Program, but was subsequently de-programmed. It is assumed that this project qualifies as an ADOT Group II Non-Programmatic Categorical Exclusion. Once funding is available, ADOT could begin preliminary design and complete the construction of Phase I (Phase II and III are not considered at this time). A change of access report will likely be required, necessitating coordination and approval from FHWA.

I-10/US 191 System Interchange Improvements: Railroad underpass

This project was identified in the SR 80 and US 191 Oversize Load Study (2013). Project design needs to be confirmed with further scoping and design analysis (that is, additional planning work is necessary to advance this project). Depending on the scope of the work identified, considerable additional effort may be involved in advancing this project to construction.

The SR 80 and US 191 Oversize Load Study (2013) recommended the Cochise railroad crossing bridge be replaced, with a new approach roadway and drainage improvements. The report recommended that the issue be further evaluated through additional scoping and design analysis. Before advancing, *it is suggested that a Feasibility Report be prepared for the project to evaluate options* (including a realignment of the corridor through this area).

Interstate 40 (I-40)/US 93 System Interchange Improvements

During peak demand periods, the existing traffic interchange at Beale Street cannot handle the predominant flow of traffic from westbound I-40 to northbound US 93. The traffic backs up on westbound I-40. The Beale Street interchange does not have the capacity to handle traffic volumes at crucial times. A direct access route between I-40 and US 93 would improve regional traffic flow efficiency and enhance safe travel. As traffic volumes increase in future years, the operational issues and safety concerns associated with the traffic interchange will only increase in severity and complexity without improvements to the interchange.

The vision for the new free-flow system interchange and connecting corridor is to develop the most feasible, access-controlled route that allows through traffic between I-40 and US 93 to flow without hindrance or delay, making travel safer and easier while at the same time minimizing impacts on local businesses, residences, and recreation areas. The new system interchange and connecting corridor would better facilitate regional traffic flow by reducing traffic congestion and would enhance safety for the traveling public.

A more detailed Design Concept Study and environmental study will be required to evaluate design-level alignments of the preferred corridor alternatives and will narrow the recommended alignment down to one for the ultimate design and construction. The class of NEPA document will be determined in the environmental process in consultation with the Federal Highway Administration (FHWA).

These subsequent design and environmental clearance documents will define the specific implementation steps necessary to advance the project to construction. A change of access report will likely be required, necessitating coordination and approval from FHWA.

1.3 Action Plan

1.3.1 I-10/US 191 System Interchange Improvements: Interchange

In 2004, a Final PA (H8534 01L) was prepared for the I-10/US 191 System Interchange Improvements. That assessment identified three phases of work. At this time, the first phase of work (which includes extending the US 191 alignment to the north and constructing an interim westbound on-ramp and realigning an existing westbound off-ramp) is recommended for implementation.

The PA notes a number of items necessary for the construction of the Phase I improvements.

- Hazardous material assessment. A Preliminary Initial Site Assessment report and a hazardous materials sampling report will be prepared for the entire project area.
- Stormwater permit. A National Pollutant Discharge Elimination System (NPDES)/Arizona Pollutant Discharge Elimination System (AZPES) permit authorization and a Stormwater Pollution Prevention Plan (SWPPP) will be required.
- Cultural resource investigation. A Class III survey of those areas in the Phase I area of potential effects not previously investigated for cultural resources is recommended to be implemented early in the design and planning process for the purpose of identifying any additional potential historic properties that may be affected by the project.
- FHWA Change of Access request will likely be required, necessitating coordination and approval from FHWA.
- New right-of-way and drainage easement will be required.
- A drainage report and biological evaluation will be required.
- ADOT's Program Project Management Section and the design team have developed the milestone schedule for Phase I preconstruction activities:
 - Project tentative schedule:
 - Estimated preconstruction duration: 270 calendar days
 - Estimated construction duration: 180 calendar days

1.3.2 I-10/US 191 System Interchange Improvements: Railroad Underpass

The 2013 SR 80 and US 191 Oversize Load Study recommended that a Feasibility Report be prepared to evaluate the various alternatives for reconstructing the Cochise railroad overpass. The Feasibility Report should include an environmental overview as part of the

evaluation. The results of the Feasibility Report will include an assessment of the steps necessary to bring this project to completion. ADOT's Multimodal Planning Division would initiate this study, in collaboration with Cochise County in coordination with ADOT Southeast District and the SouthEastern Arizona Governments Organization.

1.3.3 I-40/US 93 System Interchange Improvements

The 2009 I-40/US 93 West Kingman Traffic Interchange Final Feasibility Report recommended that a more detailed DCR and environmental study (following the NEPA process) be conducted to evaluate design-level alignments of the preferred corridor alternatives and to narrow the recommended alignment down to one for the ultimate design and construction. The DCR and environmental study should include an assessment of the steps necessary to bring this project to completion. ADOT's Multimodal Planning Division (MPD) would initiate this study, in collaboration with the City of Kingman and Mohave County, in coordination with ADOT Northwest District and the Western Arizona Council of Governments.

2

Strategy 2: Undertake Smaller Scale Initiatives that can Directly Benefit Freight

Key Messages

ADOT can establish a freight program that would have as its objective the advancement of small scale projects that directly benefit freight. To do this, ADOT will need to establish a governance structure, mandate and terms and conditions for this program. Related suggestions have been included herein.

Through this program, ADOT can help advance projects, such as small scale ITS projects, improve truck signage and truck parking among others, which would otherwise be unlikely to receive funding.

Such a freight program could also help advance specific strategies of the Freight Plan, including but not limited to improving freight stakeholder outreach and communication, and improving freight-specific performance monitoring and evaluation. It is recommended that the FAC have a formal role in this freight program to continue to promote regular freight stakeholder engagement and input.

2.1 Objective

Undertake smaller scale initiatives that can directly and incrementally benefit freight.

2.2 Implementation Considerations

Strategy Link: Although these funding levels are modest, they directly link to the Freight Plan Strategy: *Sustainable Freight Funding* which calls for access to a dedicated and sustainable source of funding.

2.2.1 Freight Program Development

A Freight Program, as opposed to a more ad hoc approach to identifying and funding small-scale freight initiatives, has several benefits, including:

- Providing an institutional mechanism and structure for advancing smaller scale freight priorities.
- Providing a strategic frame for decision making as well as greater transparency on how small-scale freight initiatives are identified, prioritized and funded.
- Providing a more formal and sustainable freight link to broader transportation planning and performance monitoring and evaluation within ADOT.
- Providing clearer point of interface for engagement with the Freight Advisory Committee (FAC)

These benefits also have the overarching benefit of increasing the prominence of freight in ADOT planning and programming.

Link to overarching policy of Freight Plan⁵

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

⁵ Per Phase 4 Working Paper on the Policy and Strategies of the Freight Plan

2.2.2 Freight Program Mandate

The mandate for the Freight Program could be defined jointly between MPD and the FAC (given a greater voice to the FAC). Options for consideration for the program's mandate include:

- Establishing a Freight Program governance and management structure.
- Defining the specific terms and conditions for the use of funds available through the program.
- Developing a strategic framework for identifying, prioritizing and funding small-scale freight initiatives in Arizona.
- Evaluating priorities and making funding decisions on small-scale freight priorities, in line with the Freight Plan strategy.
- Regularly engaging with the FAC, the Transportation and Trade Corridor Alliance, and leading outreach with broader freight stakeholders in Arizona to regularly review freight issues and opportunities.

Strategy Link: This directly links to *Freight Plan Strategy: 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.*

- Overseeing the Freight Program to advance performance monitoring and evaluation of freight transportation in the State.

Strategy Link: This directly links to *Freight Plan Strategy: Improve Freight Information - Freight transportation system management to be informed on the basis of solid research, data and system performance monitoring).* The proposed freight performance metrics proposed in Phase 5 of the Freight Plan would provide a natural foundation for this work.

2.2.1 Small-Scale Initiatives that Could be Advanced through Freight Program

The priorities under the Freight Program should be guided by a strategic framework. Nevertheless, the types of small-scale initiatives (i.e. excluding major infrastructure capital projects) that have been identified in the development of the Freight Plan as worthy of consideration include the following:

- **Evaluate truck weight and size limits.** The issue of truck weight and size issues is especially prominent along the rural corridors where forestry and other bulk goods are being carried through. This issue was raised by a number of stakeholders and warrants further investigation as to the system cost and benefits.

- **Transportation System (ITS) initiatives that improve the communication and dissemination of information to freight stakeholders along key commerce corridors.** Specific examples include:
 - Real-time freight travel data
 - Alternative route travel time in an event of road closure/accident
 - Smart parking system with expanded amenities – WiFi, restrooms
 - Pre-pass to reduce on-site vehicle inspection time

(Note: ADOT is advancing several of these concepts related to safe truck rest areas as a result of a FY 2017 FASTLANE grant application.)

 - Web-based apps that provide truck drivers with better information about system performance issues, available truck parking facilities, dust storm notifications.⁶
- **Improved truck signage**, for example for truck parking facilities, axle load restrictions, and border crossing wait times.
- **Weather warning signs related to dust storms and snow events.** ADOT's 2016 FASTLANE grant award includes installing dust-storm detection and crash mitigation equipment along I-10 in one of the most dangerous dust-storm areas. Monitoring of this pilot system will help determine its effectiveness in addressing other problem areas in the State.
- **Some key freight corridors lack turn around (bridge height restrictions, no access road).** An example of this is for trucks heading eastbound on I-10; once trucks pass US 191, if the road ahead is closed there is no opportunity for them to turn-around or access detour routes.
- **Improving / increasing truck parking facilities:** Developing or improving rest stops and parking facilities where currently limited or inadequate. Prepare a truck parking feasibility assessment to update and augment the 2006 truck parking inventory and assessment.
- **Addressing at grade road/rail crossings issues that are problematic for trucks.**
- **Undertaking studies and data collection that would bolster freight transportation system performance monitoring and evaluation.** Ideally, these initiatives would build from the Phase 5 work on the conditions and performance of the system and associated freight-specific performance metrics. This initiative should also be multi-year, allowing for continuity and time-series based data on the performance of the freight system.
- **Filling the gaps of existing HERE data.** Installing a probe data system to cover the entire state with the ability to transmit real-time travel data would provide greater real-time data for performance management and real-time traffic reporting.

⁶ In the interest of keeping costs low, it may be advantageous to look to existing ITS applications that could be adapted to Arizona, rather than developing new applications.

- **Safety enhancement.** Addressing key determinants in truck crashes may result in improved truck safety. Factors to consider include:
 - Enforcement on fatigue driving, not meeting the safety requirements
 - Fitness of drivers and vehicles
 - Not meeting Federal Motor Carrier Safety Administration compliance
- **Improving accessibility and capacity of ports-of-entry and intermodal centers.**
- **State policy to identify and comply with federal regulations regarding Critical Urban Freight Corridors and Critical Rural Freight Corridors** (this effort is advancing as part of the Freight Plan)
- **Update Arizona's Transportation Demand Model (AZTDM) with the enhancement of freight component for short- and long-distance freight units**
- **Bolstering commitment to Arizona's Transportation and Trade Corridor Alliance and regular freight stakeholder engagement.**

2.2.2 Role for FAC

Involving the FAC in the development and governance of the proposed Freight Program could help bolster the linkage between ADOT freight planning and freight system stakeholders. Having funding available would likely create greater interest for the FAC to remain involved in State freight planning initiatives.

2.3 Action Plan

Specific steps to move this strategy forward include:

- Organizing the FAC to provide input and guidance on the prioritization of initiatives and actions to support the freight system in Arizona is one way to recommend projects or actions to undertake.

3

Strategy 3: Implement Process to Increase Prominence of Freight in ADOT Planning and Programming

Key Messages

The ongoing update of the Arizona Long Range Transportation Plan (LRTP) provides a practical opportunity to increase the prominence of freight in planning and programming as this guiding document will also serve to inform Arizona planning and programming for the next five years.

The Freight Plan team has been engaging with the ADOT and the consultant team charged with the LRTP update to make sure that they leverage and fully recognize the findings in the Arizona State Freight Plan, and seek, as much as possible, to build freight considerations into the LRTP.

Since the LRTP also guides project prioritization (i.e. merit based evaluation criteria), little would better help increase the prominence of freight in ADOT planning and programming than building a more expansive set of freight criteria within the policy evaluation criteria of ADOT's prioritization process.

3.1 Objective(s)

Increase prominence for freight in ADOT planning and programming to better reflect the role of freight in enhancing the competitiveness and growth of Arizona's economy.

3.2 Implementation Considerations

3.2.1 Funding

Arizona's apportionment of FAST Act dedicated freight funds in and of itself increases the prominence of freight in ADOT planning and programming. Simply put, dedicating funds to freight creates an imperative to focus on freight issues.

Key to effectively leveraging these funds to increase the prominence of freight in ADOT planning and programming is to use these funds for freight, specifically.

The proposed use of these funds for the three projects that disproportionately benefit freight (as outlined in Chapter 1) accomplishes this, as does establishing a formal Freight Program, as outlined in Chapter 3.

3.2.2 Better Reflecting Freight Considerations in ADOT Planning and Programming

ADOT's current planning and programming process, and the resulting Five-Year Transportation Facilities Construction Program, does not reflect the full importance of freight to Arizona's economic competitiveness and growth. A case in point is the limited number of freight criteria in the former Planning to Programming (P2P) Link prioritization process.

Freight Projects not Currently being Selected in Current Prioritization Processes

Identified freight priorities are typically not being advanced in the Five-Year Transportation Facilities Construction Program. For example, of the identified top 20 freight improvement projects, only three have been included in the latest Five-Year Transportation Facilities Construction Program (Ref #8, #9, and #33a)

Leveraging Arizona State Freight Plan

The Arizona State Freight Plan, and the components of the Freight Plan - notably the [Phase 3 Working Paper on the Economic Context of Freight Movement in Arizona](#), provide useful material to build the case for increasing the prominence of freight in ADOT planning and programming. ADOT should leverage the research, analysis, working papers and reports of the Arizona State Freight Plan. All material is publicly available on [ADOT's website](#). What may be lacking is a concerted effort to disseminate and promote the findings of the Freight Plan to others within MPD and ADOT more broadly.

Reflecting Importance of Freight in Arizona's Long-Range Transportation Plan Update

An important step in increasing the prominence of freight in Arizona planning and programming is to make sure that Arizona's guiding planning documents appropriately reflect the importance of freight.

The ongoing update of the Arizona Long-Range Transportation Plan (LRTP) provides a practical opportunity to increase the prominence of freight in planning and programming. This guiding document will also serve to inform Arizona planning and programming for the next five years.

The Freight Plan team has been engaging with ADOT and the consultant team charged with the LRTP update to make sure that they leverage and fully recognize the findings in the Arizona State Freight Plan, and seek, as much as possible, to build freight considerations into the LRTP. These discussions are ongoing.

Since the LRTP also guides project prioritization (i.e. the successor processes and criteria to P2P Link), little would better help increase the prominence of freight in ADOT planning and programming than building a more expansive set of freight criteria within the policy evaluation criteria of ADOT's prioritization process. Of note, the LRTP team is looking to simplify the prioritization framework. As part of this process, ADOT will be migrating its prioritization to a Decision Lens platform. The Freight Plan team is available to help ADOT and the LRTP team integrate additional freight measures into the Decision Lens platform.

3.2.3 Giving a Greater Voice to the Freight Stakeholder Community

FAC engagement as part of the development of the Arizona State Freight Plan has been useful in soliciting and validating the findings and direction of the Freight Plan. Once the Freight Plan is complete and submitted, the voice of the freight community risks being diminished within ADOT. The development of a freight program, as described in the previous chapter, could go some way in maintaining the freight community voice within ADOT, and by extension, increasing the prominence of freight in ADOT planning and programming.

However, to ensure the sustained interest of freight stakeholders, ADOT will need to demonstrate that it is taking concrete actions to improve freight transportation in Arizona. Simply put, freight stakeholders want to feel heard, and want their input to translate into action. Otherwise, they are likely to become disengaged, which would work to lower the prominence of freight in ADOT planning and programming.

3.3 Action Plan

Specific steps to move this strategy forward include:

- Continued and regular engagement with ADOT and the LRTP update consultant team to ensure that freight considerations are appropriately reflected in the LRTP and project prioritization processes. This includes the identification of freight performance measures from the Freight Plan that could be integrated into the Decision Lens platform to elevate the prominence and weight of freight-beneficial

projects in ADOT's planning and programming. The freight plan team will accomplish this through continued coordination with ADOT during the course of the Freight Plan contract in Winter / Spring 2017 concurrent with the LRTP team's efforts to finalize the new prioritization approach. The schedules for both efforts coincide in a mutually beneficial way—with both projects coming to a conclusion in early 2017.

- Continued engagement with the freight stakeholder committee, and communications demonstrating that their input in the context of the Freight Plan's development is leading to concrete actions.

4

Strategy 4: Coordinate Freight Improvement Issues and Projects Falling within MPO Jurisdiction

Key Messages

ADOT should continue to coordinate with the State's eight Metropolitan Planning Organizations (MPOs) and four Councils of Governments to advance freight improvement projects throughout the State.

4.1 Objective

Freight improvement issues and projects falling within other Arizona jurisdictions should be closely coordinated.

Related options for ADOT could include but are not necessarily limited to undertaking joint studies, jointly funding priorities, and working collaboratively to advocate for funding for the highest-priority improvement projects.

4.2 Implementation Considerations

Arizona's regional transportation planning agencies include Councils of Governments (COGs), MPOs, and Transportation Management Areas (TMAs). Throughout Arizona, the regional planning agencies, in cooperation with ADOT, play an important role in the planning and coordination of freight transportation projects. ADOT's planning partners often are responsible for facilitating the project process between local communities and ADOT. The figure below shows Arizona's TMAs, MPOs and COGs.

Figure 4-1: Arizona TMAs, MPOs, and COGs

Acronym	Entity Name	Location	TMA	MPO	COG
MAG	Maricopa Association of Governments	Phoenix	✓	✓	
PAG	Pima Association of Governments	Tucson	✓	✓	
SCMPO	Sun Corridor Metropolitan Planning Organization	Casa Grande		✓	
CYMPO	Central Yavapai Metropolitan Planning Organization	Prescott		✓	
FMPO	Flagstaff Metropolitan Planning Organization	Flagstaff		✓	
LHMPO	Lake Havasu City Metropolitan Planning Organization	Lake Havasu City		✓	
SVMPO	Sierra Vista Metropolitan Planning Organization	Sierra Vista		✓	
YMPO	Yuma Metropolitan Planning Organization	Yuma		✓	
CAG 5	Central Arizona Governments	Apache Junction			✓
NACOG	Northern Arizona Council of Government	Flagstaff			✓
SEAGO	SouthEastern Arizona Governments Organization	Bisbee			✓
WACOG	Western Arizona Council of Governments	Kingman			✓

Source: HDR

Arizona COGs and MPOs



ADOT regularly involves the regional transportation planning agencies in their freight planning efforts. For example, the TAC for this Freight Plan includes representatives of the State's regional transportation planning agencies.

Since 2005, federal law has identified eight planning factors to be considered in the MPO planning process, including in the RTP planning process⁷, several of which are specific to freight. In addition, MAP-21 added the requirement for MPOs to establish performance measures addressing seven national goals of the Federal-Aid Highway Program, one of which specifically addresses "freight movement and economic vitality". At present, both the Maricopa Association of Governments (MAG) and the Pima Association of Governments (PAG) are preparing freight plans.

ADOT's MPD develops and produces the State Transportation Improvement Program (STIP) through a list of projects compiled by ADOT's Planning and Programming Section. Projects in the STIP must be consistent with the Statewide LRTP and metropolitan transportation improvement programs (TIPs); the program must reflect expected funding and priorities for the programming of all federal funding; and, there must be an opportunity for public comment.

The MPOs work with the ADOT District Engineers, Planners and the Local Government Section to establish the priorities of the regional transportation projects. A number of the priority freight projects identified in the Freight Plan are being advanced by the MPOs through their regional planning efforts.

The SPINE study in the Phoenix metropolitan area is one such example that is addressing several of the highest ranking freight priority issue segments in the State. In this case, MAG entered into a formal agreement with ADOT and FHWA in the management of the project. For the SPINE project: near-term improvements that can move forward while the plan is developed for the long-term vision of the corridor are led by ADOT; the plan (identifying overall vision for the corridor and developing a prioritized list of improvements) which will make recommendations proposed for incorporation into the MAG RTP is led by MAG; and the specific corridor plans, environmental Clearance and Construction Projects.

In other instances, the MPO may act as an advocate for a project with ADOT, such as the role PAG and SEAGO have taken on the freight improvements identified for SR 189 and I-19.

There is no standard approach to the Department's coordination with the State's MPOs; engagement varies according to geographic region, the scope and complexity of the project. ADOT typically recommends projects to MPOs in the State. The MPOs review and edit the list to account for differences in priorities, and these are addressed and resolved with ADOT. The MPOs may incorporate the list into their TIPs, and once finalized, the TIPs are integrated **as-is** into the STIP.

⁷ 23 U.S.C. § 134(h)(1) Metropolitan transportation planning.

4.3 Action Plan

ADOT should continue to work with its regional partners in advancing freight planning throughout the State, and involve them in the planning and implementation of the freight priority projects as identified in the Freight Plan.

5

Next Steps

Key Messages

This implementation plan should be reviewed and validated with ADOT, the TAC and the FAC. Once there is broad agreement on the way forward, the overall Arizona Freight Plan report will be prepared for comment.