ARIZONA'S KEY COMMERCE CORRIDORS

LOCAL JOBS, GLOBAL MARKETS

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Arizona Department of Transportation
Multimodal Planning Division

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In association with
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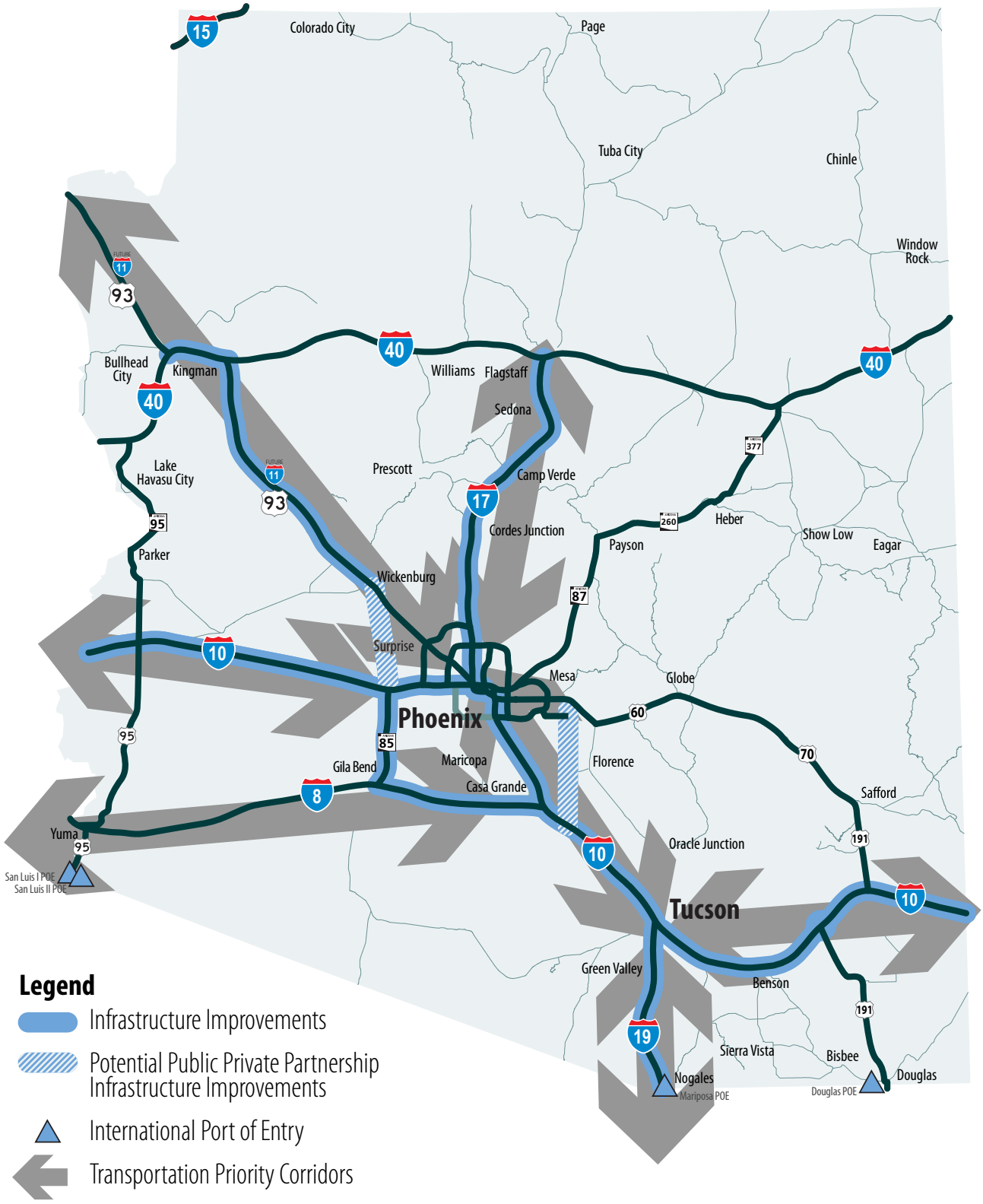
Arizona Infrastructure Improvements: Key Commerce Corridors



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Summary

The Multimodal Planning Division (MPD) of the Arizona Department of Transportation has been tasked with identifying corridors throughout the state where improvements to the transportation infrastructure supports the greatest potential commercial and economic benefits. These "Key Commerce Corridors" represent a strategic statewide approach to leverage infrastructure improvements to enhance Arizona's competitive economic position. This document presents the basis for the identification and evaluation of the Key Commerce Corridors.

ADOT's Responsibilities for Statewide Transportation

Arizona's transportation infrastructure is the foundation that connects the state's businesses to international, national, and regional markets; joins people to friends and families; and moves trade and commerce. The state economy depends on its transportation infrastructure, which underpins Arizonans' quality of life. To remain competitive in the global marketplace, Arizona's transportation infrastructure must efficiently move people and goods safely, reliably, and at a competitive cost.

Citizens, community leaders, and businesses consistently support improvements to Arizona's transportation infrastructure. The Arizona Department of Transportation (ADOT) is responsible for identifying future infrastructure development through long-range planning that ensures Arizona's transportation system will meet future (mobility) needs. By implementing the statewide transportation plan, the Department develops and maintains Arizona's transportation system so the entire state can compete effectively in the global marketplace, respond to pressures from population growth, and facilitate future economic and quality of life improvements.

ADOT's responsibilities include advancing transportation projects from concept to construction, operations, and maintenance through a holistic approach and priority programming process. This process begins with the Five-Year Transportation Facilities and Construction Program for Highways and Airports that is reviewed by the public and adopted by the State Transportation Board each year. However, a review of ADOT's current long term revenue outlook of the program identifies a significant and expanding gap between available funding and the overall transportation needs of the state. After accounting for required maintenance and other mandatory spending programs, about $25 million is available each year for expansion of the existing highway

infrastructure outside of Maricopa and Pima counties. For context, one mile of new freeway with four travel lanes is estimated to cost approximately $30 million per mile including operations and maintenance under average conditions. Average annual dedicated revenues continue to fall short of prior expectations resulting in further uncertainty for efforts to maintain and preserve Arizona's transportation system.

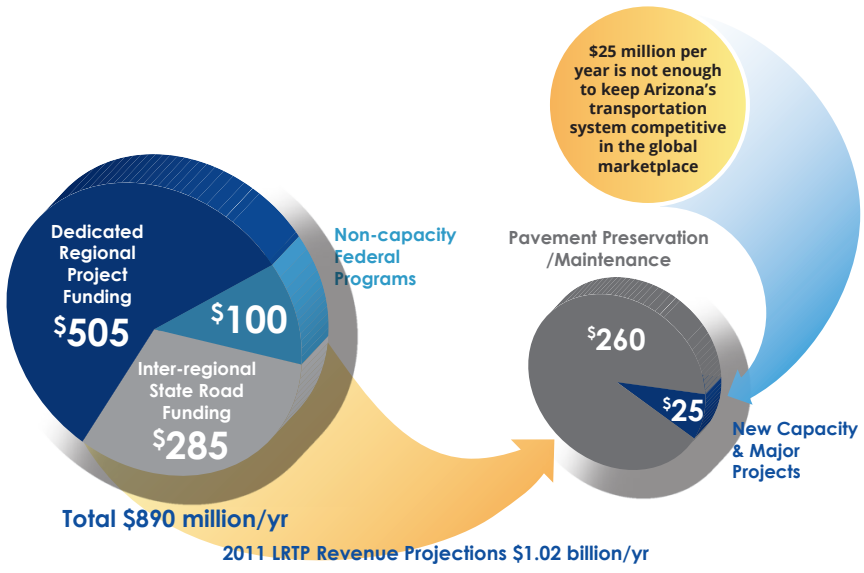
A targeted and strategic approach is required to meet the resulting challenge. Focusing on the Key Commerce Corridors will facilitate the largest economic return for the entire state. However, supplemental funding will be required for these strategic transportation improvements that are focused to maximize the potential economic benefits.

Arizona's Transportation Outlook

The overall transportation system must be examined at the international, national, statewide, and local levels. Over the last several years, ADOT, in cooperation with federal and regional planning partners, has completed an effort to develop a transparent, logical, and defensible methodology to preserve and improve the statewide transportation system. The effort started with the multimodal visioning of *Building a Quality Arizona* (bqAZ), the 2010 Statewide Transportation Planning Framework Study that developed a fiscally-unconstrained vision for the state's transportation system at all levels through 2050. BqAZ's 2050 Vision identified a cost of approximately $250 billion in needed infrastructure improvements to meet Arizona's future transportation needs. The needs identified in bqAZ include infrastructure improvements for the local, regional, and national movements of people and goods, and were not limited to those improvements that provided the largest return on investment to Arizona's economy. BqAZ led to *What Moves You Arizona*, the state's Long-Range Transportation Plan (LRTP) 2010-2035. Unlike bqAZ, *What Moves You Arizona* focused exclusively on the state highway system and identified anticipated available funding, thereby imposing a financial constraint on the

AVERAGE ANNUAL FUNDING ALLOCATION (MILLIONS OF DOLLARS FY 2014-18)

About $25 million is available each year for expansion of the existing infrastructure outside of the Maricopa Association of Governments (MAG) and Pima Association of Governments (PAG) regions.



bqAZ vision. *What Moves You Arizona* identified $89 billion in transportation facilities needs over 25 years to meet the statewide mobility issues. Anticipated available funding totaled $26 billion over the same period. In order to resolve funding differences, ADOT and the Arizona State Transportation Board work in close cooperation with metropolitan planning organizations such as MAG and PAG in planning and funding for state routes and highways in their regions, Maricopa and Pima Counties respectively. County voters in these regions have supplemented these available transportation infrastructure funding dollars with regional transportation tax initiatives: the 20-year half-cent sales tax in Maricopa County and the Regional Transportation Authority (RTA) 20-year half-cent sales tax in Pima County. Current economic conditions have resulted in revenue shortfalls compared to original projections in the regional plans, forcing deferral of some corridor improvements into later years, when additional funding is identified.

Currently the anticipated available funding is insufficient to maintain the state's transportation system and to make necessary future improvements. The gap between available funding and needs continues to widen making solutions more and more difficult to realize. A focused strategy, centered on the highest value projects and increasing available funding, is essential to obtain the greatest benefit for Arizona

Process to Prioritize Infrastructure Improvements

Key Commerce Corridors connect the major economic centers of Arizona with their major markets. As such, these inter-regional routes are the most essential for future, quality economic growth in Arizona and supporting high quality job growth. The Key Commerce Corridors were identified based upon their *potential* statewide benefits for high quality job creation, economic growth, and mobility enhancement. Efficient movement of supplies and goods support growth and expansion of base industries and the state's overall economy.

Arizona's two largest domestic trading partners are California and Texas and its largest international trading partner is Mexico. These nearby, major domestic markets include 16+ million consumers in Southern California and 13+ million in metropolitan Texas. Arizona is uniquely positioned to connect its base industries to three of the six largest cities in the United States (four if Phoenix is included) and the emerging market of northwestern Mexico. When combined with Arizona's metropolitan areas, the combined regional production of the Phoenix, Tucson, Los Angeles, San Diego, Dallas, and Houston regions would be the 10th largest national economy in the world – larger than Mexico, South Korea, Canada, Russia, and many others.

Since the 1970s the basic carrying capacity of I-10 and I-8 has remained virtually unchanged at the state's western boundaries, but the greater Southern California area has grown from approximately 10 million people in 1970 to over 16 million today, according to the California Local Government Commission. Similarly, Arizona has grown from less than 2 million in 1970 to well over 6 million today. Comparable growth has also occurred in Texas along eastbound I-10.

CALIFORNIA, TEXAS, AND MEXICO ARE ARIZONA'S LARGEST EXPORT TRADE PARTNERS

California and Texas represent over a third of all of Arizona's exports to all U.S. states.

ARIZONA EXPORTS BILLIONS TO KEY TRADE PARTNERS

Arizona's prime location between two existing major domestic markets in Texas and California and adjacent to the growing international market in Mexico is a key competitive advantage for our state.

Arizona Exports ($ Billions)	2011	2035	Change
Locations			
California	$21.1	$58.9	280%
Texas	$10.3	$34.5	330%
Mexico	$8.6	$35.6	410%

Source: Freight Analysis Framework Version 3 (FAF3), FHWA Office of Freight Management, U.S. Department of Transportation Federal Highway Administration. Data presented in 2007 dollars.

In addition, there are 10+ million consumers in the emerging markets of northwestern Mexico. Strengthening connections to these major domestic and international markets aligns with the economic development priorities of the Arizona Commerce Authority.

Over the last ten years, truck travel between the State of Arizona and State of Sonora, Mexico across the international border has substantially increased. Further, each of the land ports of entry (LPOE) expects continuing increases in the movement of people and goods with population and economic growth in the border region. The *Arizona-Sonora Border Master Plan* identified needed improvements to the capacity and operational efficiency of LPOEs and supporting transportation infrastructure essential to relieving traffic congestion, reducing delays, enhancing safety and security, promoting international trade, and improving the quality of life for residents in the border region. The *Arizona Port of Entry Study* focused on the ports of entry at the interstate borders with our neighboring U.S. States to address the future organization and infrastructure needs. Many studies have indicated that infrastructure improvements at our international and domestic ports of entry will support the overall State economy.

For each Key Commerce Corridor, this document describes the potential benefits to the Arizona economy and the improvements required to provide the reliable transportation needed to facilitate those benefits. Potential improvements evaluated included roadway, freight, transit, and aviation access projects. Each project identified from existing planning documentation was evaluated for the performance and contribution of the corridor towards the greatest commerce benefit. Every Key Commerce Corridor positively facilitates economic benefits to the entire state.

The associated cost estimates were combined to quantify the long-term (20 years) transportation funding needs for these corridors. Infrastructure improvement cost estimates are predicated on various existing planning level studies that were used as source documents. The cost estimates presented in this report should be considered preliminary in nature. Benefits from improvements in each of the Key Commerce Corridors are expressed in terms of three variables: mobility and efficiency; economic development potential; and project related job creation. The benefits are summarized for each major project and the Key Commerce Corridors as a whole. Further detailed economic analysis and project scoping is required in order to achieve more developed estimates of project costs and benefits. The following sections describe the process to derive these costs and benefits.

Infrastructure Cost Estimates

Cost estimates were derived from existing sources and applied to the individual projects based on available information.

- Total project costs were obtained from prior planning documents, including *What Moves You Arizona*, the *Arizona-Sonora Border Master Plan*, *Arizona Port of Entry Study*, and regional transportation plans.
- Costs were based on the November 2010 bqAZ memorandum that determined planning level cost estimates for infrastructure improvements. These estimates were updated to 2013 dollars, through adjustments for current bid climate and construction costs.

Total costs also include the following:

- The annual Operations & Maintenance (O & M) cost at an assumed value equal to one-half of one percent (0.5 percent) of the project capital cost. Twenty years of O & M, equivalent to 10% of capital costs are added to each Roadway, Freight, and Aviation project.

Total needs include associated project development costs provided from the referenced documentation. Project development costs vary by project and economic activity and will require future analysis to ensure a consistent accounting of costs associated with planning, design, utility, environmental requirements, construction, right-of-way acquisition, operations, and maintenance.

Mobility and Efficiency Benefits

Major transportation infrastructure upgrades improve the effectiveness of the transportation system supporting movement of people and goods throughout the state and beyond. The most beneficial projects are those which improve reliability for users through reduced transportation costs, time savings, lower vehicle maintenance costs, and decreased fuel usage. When the system's physical qualities do not efficiently accommodate the movement of goods and people, performance deteriorates, and imposes a severe cost-penalty on Arizona's economy. Facilities that are not in a state of good repair lead to increases in operating costs for cars, trucks and heighten the likelihood of crashes—translating into costs associated with property damage, injury and loss of life. Increased congestion translates into longer travel times, diverting valuable time from productive work or the non-work activities that support a high quality of life.

Economic Development Benefits

The Key Commerce Corridors were identified based on their potential to facilitate future, high quality job creation and high-value economic growth, especially base industry jobs. The general size of the major markets served by that corridor were quantified and reviewed. The economic scale of those markets for Arizona produced goods and services was the principal measure. Regional gross domestic product (GDP) was the key measure of the market's potential consumption base. Published GDP for US Metropolitan Statistical Areas (MSA) was the specific data used. GDP inherently reflects the size and

DEFINITIONS

Improvements

Roadway
Capacity and access related roadway projects

Freight
Projects which enhance freight flow

Transit
Commuter rail, intercity rail, light rail, street car, and local bus

Aviation
Projects which enhance aviation access and operations

Benefits

Mobility and Efficiency
Improves effectiveness of transportation system supporting movement of people and goods throughout the state

Economic Development
Enhances viability of the state, encouraging investments in development, community advancement of viable land uses, and facilitating tourism

Construction Jobs
Direct and indirect jobs created related to infrastructure improvement, expressed as full time equivalent job years

	Index of Export Market Access	Major Export Markets
Arizona Corridors		
I-19 Nogales to Tucson Corridor	3	Mexico, Tucson
I-10/I-8 Tucson to Phoenix Corridor	10	Phoenix, Tucson, Dallas, Houston, El Paso, San Antonio, Los Angeles, San Diego
I-11 (US 93) Phoenix to Las Vegas Corridor	5	Phoenix, Las Vegas, Reno, Salt Lake
I-17 Phoenix to Flagstaff Corridor	3	Phoenix, Albuquerque, Denver
I-10 California to Phoenix Corridor	7	Los Angeles, San Diego, Phoenix, Tucson
I-10 Tucson to New Mexico Corridor	7	Phoenix, Tucson, Dallas, Houston, El Paso, San Antonio

TARGET MARKETS SERVED BY KEY COMMERCE CORRIDOR

Corridor connections to large regional markets serves as a proxy for Arizona export potential.

"wealth" of a regional economy. Larger population tends to increase regional GDP as does greater economic output and, implicitly, higher income.

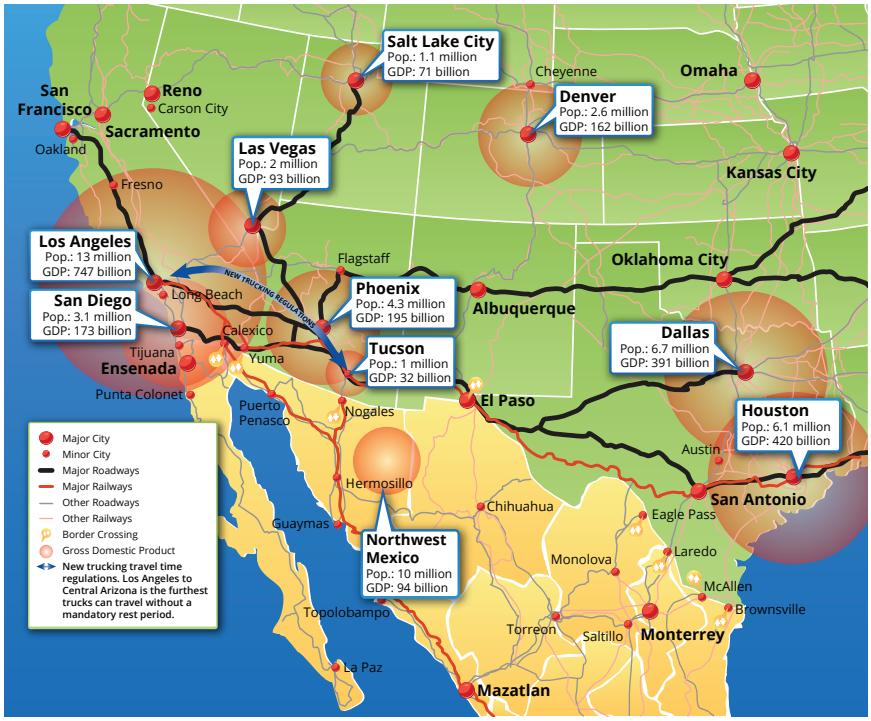
Based on that data, various routes that connect Arizona to major markets were evaluated. The results were then further analyzed based on each market's proximity to Arizona. Proximity serves as a proxy measure for the propensity of Arizona-produced "export" goods to be exported to those out-of-state markets. The closer a market, the more likely goods and services can be routinely produced in Arizona and sold in that market. Because the Key Commerce Corridor analysis focuses on surface transportation, the metric for proximity was "truck-days", meaning the distance a truck may reasonably travel in one day (including loading and unloading time), based on the US Department of Transportation Federal Motor Carrier Safety Administration Hours of Service (HOS) Regulations. A market that can be reached in one or two truck days has a substantially greater potential impact on jobs and economic development than a market that requires more than two truck-days.

In summary, potential markets for Arizona produced goods were evaluated on their generalized capability to purchase Arizona goods adjusted to reflect their distance from Arizona. For example, connections to the mega-market of the Los Angeles metropolitan area is highly valued due to its size, wealth, and proximity. By contrast, markets that are at a greater distance or that are smaller or less wealthy are less highly valued.

Construction Job Benefits

Spending on major transportation projects has a significant impact on the economy and the job market. These major projects directly increase economic output and indirect benefits accrue due to the multiplier effects. Such major projects support *direct*, *indirect*, and *induced* economic activity, employment, and earnings. This analysis assesses construction job impacts associated with the Key Commerce Corridors projects in two categories: direct impacts from construction of the project, and the combination of indirect and induced impacts, while the project is under construction. Each of the impact categories relates to a different stage in economic activity. The stages are:

- *Direct* impacts measure the impact of the original expenditures (such as direct construction spending);



- *Indirect* impacts measure secondary purchases (such as purchases of secondary materials, legal services, real estate services, and other secondary project-related activity); and
- *Induced* impacts measure employee expenditures on household and other economic activity (such as construction employees buying consumer goods and services).

To develop the job estimates, employment figures are best described as "job-years." A job-year is equivalent to one person being employed for one year. This should be stated clearly in order to not confuse the concept with the total number of individuals employed, or total number of positions available created. For example, one individual employed as an electrician for 20 years would equate to 20 job-years in these statistics. Similarly, 20 electricians employed for one year would equal 20 job-years. One job-year refers to a one year, full-time equivalent position.

Other Benefits to Transportation Improvement

Additional benefits such as changes in travel cost, quality of life, incident management, or healthcare that result from transportation improvements, are more specific than this broad analysis. However, it should be noted that these savings—or potential costs—occur with each transportation project. Further, deferred maintenance on the system will also impact the cost and near term improvements in the Key Commerce Corridors can help avoid cost growth in the future.

ARIZONA MARKET CONNECTIONS

Producing goods for customers in major markets creates quality jobs.

Financial Constraints

Every public expenditure proposal must balance the benefits that will result from the expenditure and the cost of the proposal. Additionally, whether the proposed expenditure can be accomplished from existing revenue or will require additional revenues is a key consideration.

Future funding for the expansion of capacity along Arizona's major interstate and inter-regional corridors is extremely limited. Based on the current funding structure for Arizona's highways, the vast preponderance of expected revenue must be dedicated to the maintenance and preservation of the existing highway systems and protection of the Arizona public's massive prior investment in those roadways. In fact, current projections indicate that outside of the major metropolitan areas of Phoenix and Tucson, as little as $25 million per year is expected to be available for statewide system expansion for the foreseeable future. It is worthy to note that $25 million is not sufficient to construct one mile of new standard freeway and expansion of an existing four lane to add two lanes is approximately $15 million per mile in each direction. Given Arizona's long history of economic and population growth it is clear that "less than one mile" of transportation expansion per year is not sufficient to meet the state's growing needs. Thus, any proposal to improve the state's Key Commerce Corridors, by increasing the roadway capacity to connect Arizona producers to their most valuable markets, will require additional, dedicated funding.

In reviewing, analyzing, and evaluating potential Key Commerce Corridors, a significant effort has been made to properly measure and balance the benefits of any proposed expenditure and its costs as measured in terms of the potential dedicated tax increases.

The Key Commerce Corridor improvements costs are estimated to total approximately $20 billion over 20 years. While this is a substantial amount, the improvements and associated funding will extend over two decades and consequently, the immediate impacts can be lessened.

Potential Revenue Sources

A wide range of potential revenue sources were reviewed and evaluated ranging all the way from fuel taxes to corporate income taxes. Virtually any tax, or combination of taxes and fees, can generate the target $1 billion per year if the tax rate(s) is sufficiently increased.

Of the various tax sources reviewed four broad tax categories initially appear to hold the greatest revenue potential. These are:

- significant rate increases in existing user-based taxes and fees, including a combination higher fuel taxes and license and registration fees;
- a new vehicle miles of travel (VMT) fee, although such a new revenue source could pose administrative challenges;
- imposition of the state transaction privilege (sales) tax on sales of motor fuel; or
- an increase in the general state transaction privilege (sales) tax.

It is likely that a combination of one or more of these sources, potentially with

even others, may be the most acceptable approach. Any proposed tax or fee rate increase would likely be phased in over a period of years, thereby minimizing impact at any one time. Any new revenues would be dedicated exclusively to the funding of the projects identified in the Key Commerce Corridor proposal.

The identification and recommendation of a specific tax source and specific tax rate(s) to meet the costs of the Key Commerce Corridor proposal is beyond the scope of this analysis.

Finally, it is important to note that the enhancement of the Key Commerce Corridors has the potential to significantly enhance the economic vitality of Arizona by supporting the creation of high-value, export focused jobs. Significantly increasing the state's high value overall economic growth would result in higher revenues for both the state and local governments.

Key Commerce Corridors Prioritize Infrastructure Improvements

The findings of this review of existing statewide planning documents and project needs, assembled along Key Commerce Corridors is displayed in the following table. The resultant transportation infrastructure projects are categorized as Arizona Corridors, Arizona Borders, and Arizona Bridges. The estimated Key Commerce Corridors projects costs total nearly $20.0 billion distributed at $18.8 billion to Corridors, $0.8 billion to border infrastructure improvements, and $0.4 billion to replace critical bridges throughout the state. (This amount allows for the reconstruction of 151 bridges with immediate needs.) That funding level would also provide nearly $1.8 billion for 20 years of operations and maintenance of these infrastructure projects.

If average annual infrastructure improvement spending is equivalent each year for the twenty-year period, this effort will sustain 23,000 full-time jobs per year.

Infrastructure Improvements	Capital Costs & 20– Year O&M (Billions)	Total Jobs for 20 Years
Arizona Corridors	$ 18.8	21,700
I-19 Nogales to Tucson	$ 2.4	2,700
I-10/I-8 Tucson to Phoenix	$ 6.4	7,400
I-11 (US 93) Phoenix to Las Vegas	$ 2.5	2,900
I-17 Phoenix to Flagstaff	$ 3.0	3,500
I-10 California to Phoenix	$ 2.3	2,600
I-10 Tucson to New Mexico	$ 2.2	2,600
Arizona Borders	$ 0.8	900
Arizona Bridges	$ 0.4	400
Total Improvements and Jobs	**$ 20.0**	**23,000**

KEY COMMERCE CORRIDOR IMPROVEMENTS SUMMARY

Investment costs total nearly $20.0 billon distributed at $18.8 billion to Corridors, $0.8 billion to border infrastructure improvements, and $0.4 billion to replace critical bridges throughout the State.

Arizona Corridors

Infrastructure Improvements

$18.8 Billion

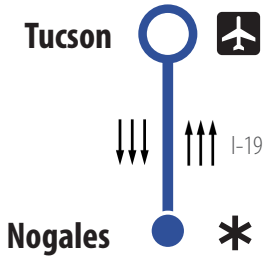
I-19 Nogales to Tucson Corridor

Infrastructure Improvements

$2.4 Billion

I-19 Nogales to Tucson

Nogales is Arizona's most important land port-of-entry and a major economic engine for the state. Improvements to the border crossing and transportation facilities between Nogales and Tucson will greatly increase economic development potential and job creation related to freight and logistics. Improving reliability to the access point from Mexico's commercial centers into southern Arizona will leverage the region's strategic position. Recommendations in this segment include roadway improvements north of the port-of-entry, improvements to the rail crossing, and enhanced rail inspection facilities. New track along the Nogales Branch will improve system reliability and performance in this area. Capacity improvements to the roadway network on both I-19 and SR 189 will facilitate freight movement and economic development potential between Nogales and Tucson and for Greater Arizona.



BENEFITS

Mobility and Efficiency

8 of 10

(scale of ten)

Economic Development Potential

3 of 10

(scale of ten)

Construction Jobs

2,700 Jobs

(1 unit =1,000 jobs for 20 years)

INVESTMENT

Costs

$2.4 Billion

(1 unit = $1,000,000,000)

Number of Travel Lanes Airport Port-of-Entry

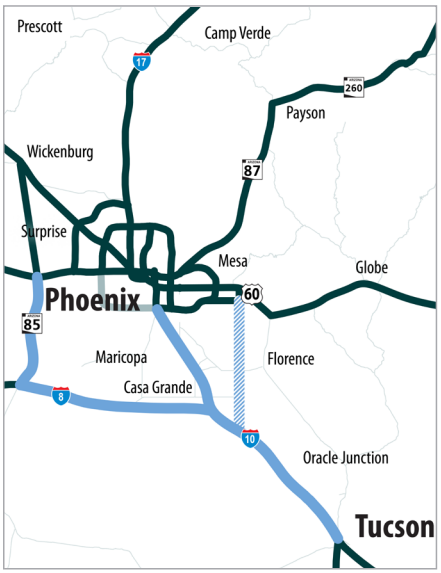
	Benefits			Improvements			
	Mobility & Efficiency	Economic Development	Job Creation	Roadway	Freight	Transit	Aviation
Nogales to Tucson							
I-19 Improvements							
I-19 Interchanges (at Rio Rico Drive)—Interchange upgrades	◑	◑	○	✓	✓		
I-19 Interchanges (at SR 289/Ruby Road)—Interchange upgrades (Roundabout)	●	●	○	✓	✓		
I-19 (Tumacacori TI to SR 189/Mariposa Road)—Capacity improvements	●	◑	◑	✓	✓		
I-19 Interchanges (at Western Avenue)—Interchange upgrades	◑	◑	○	✓	✓		
I-19 Frontage Roads (Grand Avenue TI to Rio Rico Drive TI)	◑	◑	○	✓	✓		
I-19 (at Grand Avenue Interchange)—Capacity improvements	◑	◑	○	✓	✓		
I-19 (Border to Ajo Way)—Roadway widening to 6 lanes	●	◑	◑	✓	✓		✓
Upgrade Nogales Branch							
Build Second Line (track) (MP 65 to border)	●	●	◑		✓	✓	
Upgrade Nogales Branch (to accommodate heavier vehicles and future passenger rail service)	●	●	◑		✓	✓	
SR 189 Improvements							
SR 189/Mariposa Road (Grand Avenue Intersection)—Capacity improvements	●	◑	○	✓	✓		
SR 189/Mariposa Road (Grand Avenue to I-19)—Design and reconstruct to 6-lane roadway	●	◑	○	✓	✓		
SR 189/Mariposa Road (I-19 Interchange; flyover)—Capacity improvements	●	◑	○	✓	✓		
SR 189/Mariposa Road (Frank Reed Road Intersection)—Capacity Improvements	●	◑	○	✓	✓		
SR 189/Mariposa Road (Mariposa LPOE to I-19)—Roadway widening to 6 lanes and improve intersections	●	◑	○	✓	✓		

Most Benefit ● ◑ ○ Least Benefit

I-10/I-8 Tucson to Phoenix Corridor

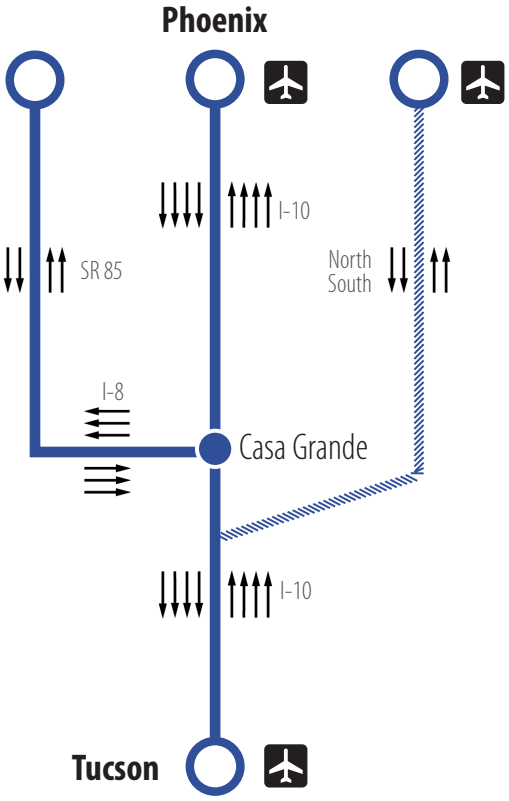
Infrastructure Improvements

$6.4 Billion



I-10 Tucson Area to Phoenix Area

The corridor between Tucson and Phoenix is the heart of the state, providing access and mobility to the core of population, employment, and commerce. Infrastructure improvements to this corridor would provide mobility options for residents and visitors, as well as facilitate safe and efficient goods movement. Specific projects include capacity improvements to I-10, which would reduce congestion and create a safer transportation corridor. Improvements to SR 85 and the new North-South roadway corridor would improve transportation options for movement of goods and people in the fast growing Pinal County region.



BENEFITS

Mobility and Efficiency

10 of 10

(scale of ten)

Economic Development Potential

10 of 10

(scale of ten)

Construction Jobs

7,400 Jobs

(1 unit =1,000 jobs for 20 years)

INVESTMENT

Costs

$6.4 Billion

(1 unit = $1,000,000,000)

Potential Public Private Partnership

Number of Travel Lanes Airport Port-of-Entry

	Benefits			Improvements			
	Mobility & Efficiency	Economic Development	Job Creation	Roadway	Freight	Transit	Aviation
Tucson Area to Phoenix Area							
SR 85 (I-8 to I-10)							
SR 85: Upgrade4-lane to Freeway Standards	◑	◑	◑	✓	✓		
SR 85: Widen to 6-lane from I-10 to I-8 (MP 120 to MP 155)	●	◑	◑	✓	✓		
SR 85/I-10 System Interchange	●	●	◑	✓	✓		
SR 85/I-8 System Interchange	●	●	◑	✓	✓		
I-8 (SR 85 to I-10)							
I-8/I-10 System Interchange	●	●	◑	✓	✓		
I-8: Widen to 6-lane (SR 85 to I-10)	●	◑	●	✓	✓		
North-South							
North-South (US 60 to I-10) New 4-lane highway (Potential Public Private Partnership)	●	●	●	✓	✓		✓
I-10 (Tangerine Road to SR 51 Piestewa)							
I-10: SR51 (Piestewa) to 32nd Street	●	◑	◑	✓	✓		✓
I-10: Widen to 8-lane (I-8 to L202)	●	◑	◑	✓	✓		
I-10: Widen to 8-lanes and Reconstruction of Cortaro Interchange	●	◑	○	✓	✓		
I-10: Widen to 8-lanes and Reconstruction of Avra Valley Interchange	●	◑	○	✓	✓		
I-10: Widen to 8-lane (Tangerine Road to I-8)	●	◑	◑	✓	✓		

Most Benefit ● ◑ ○ Least Benefit

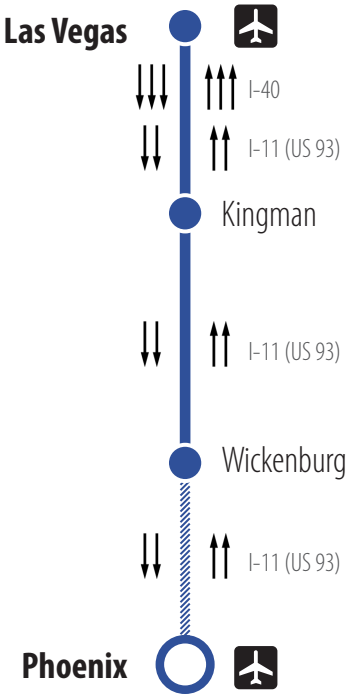
I-11 (US 93) Phoenix to Las Vegas Corridor

Infrastructure Improvements

$2.5 Billion

I-11 (US 93) Phoenix to Las Vegas

The corridor between Phoenix and Las Vegas creates the backbone of the future I-11 corridor, connecting Arizona to the intermountain west. This linkage is key for the advancement of commerce within Arizona as it provides key upgrades to transportation facilities, aiding in goods movements. Projects in this corridor can occur in phases, preliminary improvements being capacity upgrades along the facility and subsequent improvements being access control and upgrade to interstate standards. Additionally, capacity improvements along the existing I-40 would be required near Kingman as well as interchange improvements. These improvements would connect the two largest US metropolitan regions without an interstate connection.



BENEFITS

Mobility and Efficiency

8 of 10

(scale of ten)

Economic Development Potential

5 of 10

(scale of ten)

Construction Jobs

2,900 Jobs

(1 unit =1,000 jobs for 20 years)

INVESTMENT

Costs

$2.5 Billion

(1 unit = $1,000,000,000)

Potential Public Private Partnership

Number of Travel Lanes Airport Port-of-Entry

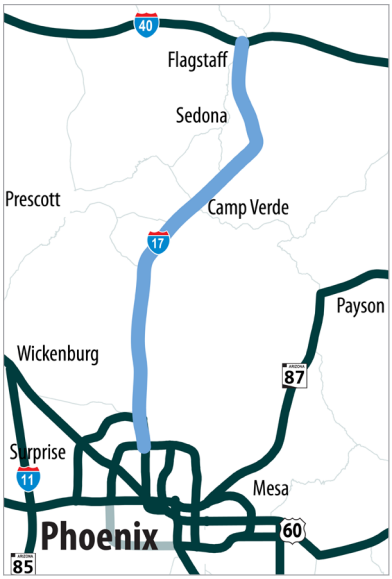
	Benefits			Improvements			
	Mobility & Efficiency	Economic Development	Job Creation	Roadway	Freight	Transit	Aviation
Phoenix to Las Vegas							
I-40 (US 93 to Kingman)							
I-40 (I-11): Widen to 6-lanes from Kingman to US 93	●	◑	◑	✓	✓		
I-40: Upgrade East Kingman US 93 Interchange	●	◑	◑	✓	✓		
I-40: Upgrade West Kingman US 93 Interchange	●	◑	◑	✓	✓		
I-40 Rattlesnake TI (New)	●	●	○	✓	✓		✓
I-11 (US 93) (Phoenix to I-40							
I-11 (US 93) Cane Springs (MP 106 to MP 108) (Widen to 4-lane non-interstate)	●	◑	○	✓	✓		
I-11 (US 93) Carrow Stephens (MP 116.3 to MP 119.7) (Widen to 4-Lane non-interstate)	●	◑	○	✓	✓		
I-11 (US 93) Wickenburg to the Santa Maria River (Upgrade to 4-lane non-interstate) (MP 160 to MP 198)	●	◑	◑	✓	✓		
I-11 (I-10 West to US 93)							
I-11 (I-10 West to US 93) New 4-lane Interstate and Interchange (Potential Public Private Partnership)	●	●	●	✓	✓		

Most Benefit ● ◑ ○ Least Benefit

I-17 Phoenix to Flagstaff Corridor

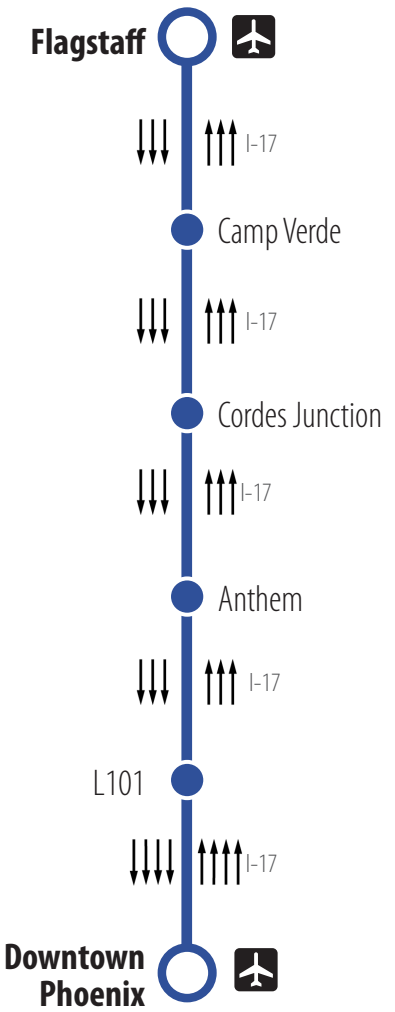
Infrastructure Improvements

$3.0 Billion



I-17 Phoenix to Flagstaff

The I-17 corridor is an important commerce and tourism corridor, connecting southern Arizona to northern Arizona. This connects the major east-west corridors of I-10 and I-40, facilitating goods movement and economic development, as well as tourism. Improvements in this corridor include capacity enhancements and bridge improvements.



Number of Travel Lanes Airport Port-of-Entry

BENEFITS

Mobility and Efficiency

(scale of ten) — 10 of 10

Economic Development Potential

(scale of ten) — 3 of 10

Construction Jobs

(1 unit =1,000 jobs for 20 years) — 3,500 Jobs

INVESTMENT

Costs

(1 unit = $1,000,000,000) — $3.0 Billion

	Benefits			Improvements			
	Mobility & Efficiency	Economic Development	Job Creation	Roadway	Freight	Transit	Aviation
Phoenix to Flagstaff							
I-17: Widen to 6-lane from Cordes Junction to Flagstaff (MP 263 to MP 340)	●	◑	●	✓	✓		
I-17: Widen to 6-lane from Anthem Way to Cordes Junction (MP 228 to MP 263)	●	◑	◑	✓	✓		
Phoenix Area							
I-17: Anthem Way to New River (GPL)	●	◑	○	✓	✓		
Arizona Canal to 101L Agua Fria – Add General Purpose Lane	●	◑	○	✓	✓		

Most Benefit ● ◑ ○ Least Benefit

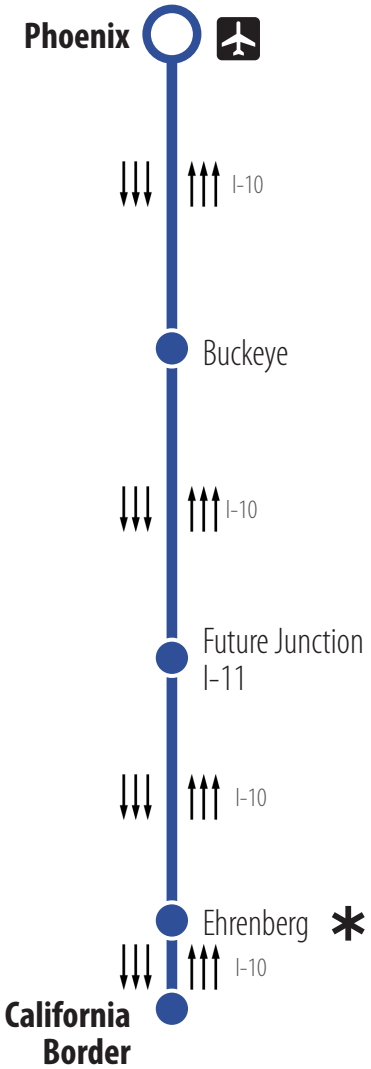
I-10 California to Phoenix Corridor

Infrastructure Improvements

$2.3 Billion

I-10 California to Phoenix

The I-10 corridor provides major east-west connectivity from Arizona to the economic opportunities in southern California including the Inland Empire. Arizona's geographic proximity to the nation's largest seaports, Port of Los Angeles and Port of Long Beach, provides a foundation of infrastructure to support reliable a trade relationship between the two states. Today, nearly 40% of vehicles in the corridor are commercial trucks moving goods and people to/from Phoenix and points east. Trends show the number of trucks will more than double by the year 2025. Improvements in the corridor will remove congestion points and provide the capacity improvements to support movement of all people and goods who travel this busy Commerce Corridor.



BENEFITS

Mobility and Efficiency

7 of 10

(scale of ten)

Economic Development Potential

7 of 10

(scale of ten)

Construction Jobs

2,600 Jobs

(1 unit =1,000 jobs for 20 years)

INVESTMENT

Costs

$2.3 Billion

(1 unit = $1,000,000,000)

Number of Travel Lanes Airport Port of Entry

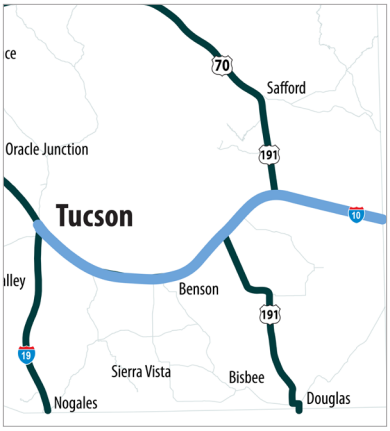
	Benefits			Improvements			
	Mobility & Efficiency	Economic Development	Job Creation	Roadway	Freight	Transit	Aviation
California to Phoenix Area							
I-10: Widen to 6-lane from Ehrenberg to Verrado Way (MP 0 to MP 120)	●	◑	●	✓	✓		
I-10: SR L101 (Agua Fria) to I-17 Phase 2 GPL	●	◑	◑	✓	✓		

Most Benefit ● ◑ ○ Least Benefit

I-10 Tucson to New Mexico Corridor

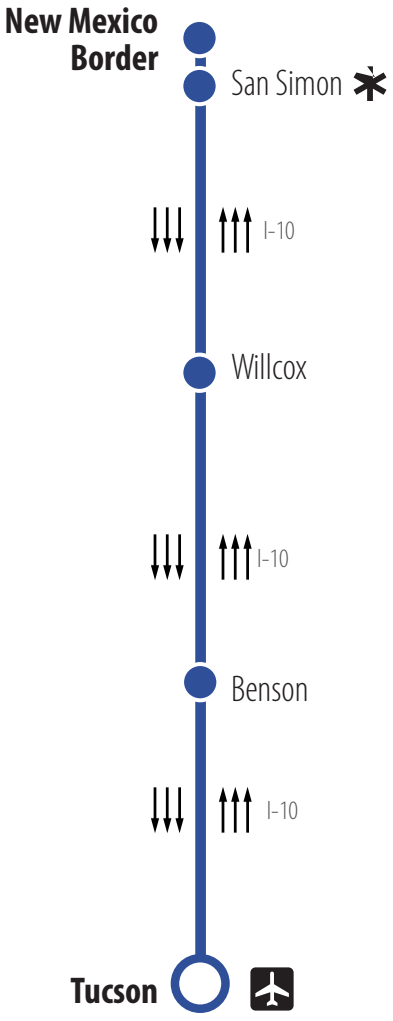
Infrastructure Improvements

$2.2 Billion



I-10 Tucson to New Mexico

Like the I-10 corridor from California to Phoenix, the Tucson to New Mexico corridor connects major east-west connectivity from Arizona to the markets of Dallas, Houston, and Gulf Coast seaports. The major markets of Texas have an established and expanding trade relationship to the benefit of Arizona trade and commerce. Improvements here enhance reliability for all vehicles who on a daily basis share the road with nearly 6,000 commercial trucks. Through the year 2025, truck traffic will increase to more than 25,000 average daily vehicles. The reconstruction of the US-191/I-10 Interchange will improve connections for vehicles on their trip from the Douglas port of entry north to the corridor. The enhanced corridor capacity improvements supports our state's tourism industry as well as the movement of people and goods.



BENEFITS

Mobility and Efficiency

7 of 10

(scale of ten)

Economic Development Potential

7 of 10

(scale of ten)

Construction Jobs

2,600 Jobs

(1 unit =1,000 jobs for 20 years)

INVESTMENT

Costs

$2.2 Billion

(1 unit = $1,000,000,000)

Number of Travel Lanes Airport Port-of-Entry

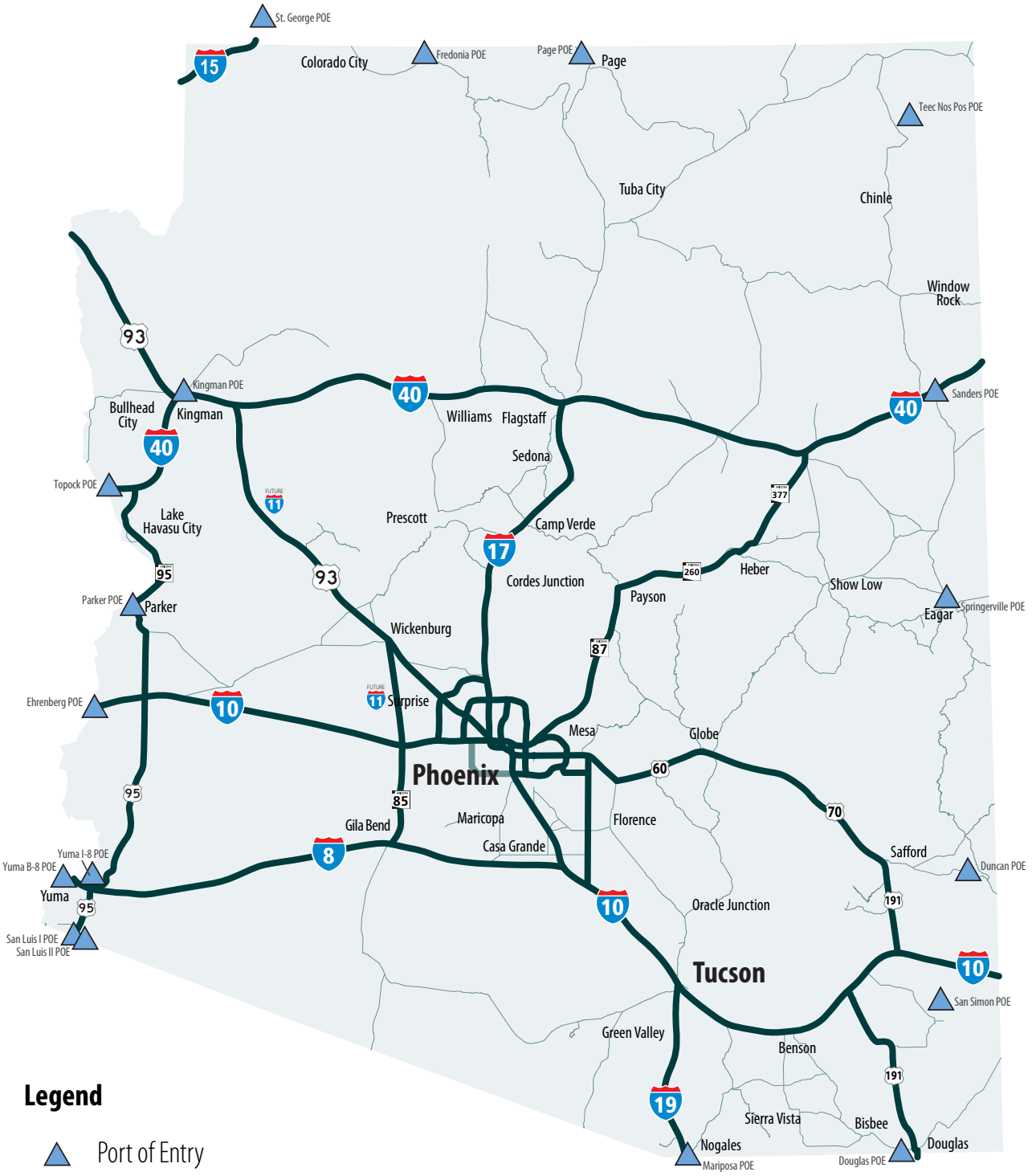
	Benefits			Improvements			
	Mobility & Efficiency	Economic Development	Job Creation	Roadway	Freight	Transit	Aviation
Tucson to New Mexico							
I-10: Widen to 6-lanes from Houghton Road to New Mexico Border (MP 275 to MP 392)	●	◑	●	✓	✓		
I-10: Widen to 6-lane from I-19 to Houghton Road (MP 262 to MP 275)	●	◑	◑	✓	✓		
US 191/I-10 Interchange Reconstructed	●	●	○	✓	✓		

Most Benefit ● ◑ ○ Least Benefit

Arizona Borders

Infrastructure Improvements

$0.8 Billion


St. George POE
15
Colorado City
Fredonia POE
Page POE
Page
Teec Nos Pos POE
Tuba City
Chinle
Window Rock
93
Kingman POE
Bullhead City
Kingman
40
Williams
Flagstaff
Sedona
Sanders POE
Topock POE
Lake Havasu City
FUTURE 11
Prescott
Camp Verde
17
377
95
93
Cordes Junction
260
Heber
Show Low
Parker POE
Parker
Wickenburg
Payson
Springerville POE
Eagar
87
Ehrenberg POE
10
FUTURE 11 Surprise
Mesa
Globe
Phoenix
60
95
85
Maricopa
Florence
70
Gila Bend
Casa Grande
Safford
Duncan POE
Yuma I-8 POE
Yuma B-8 POE
8
Yuma
95
Oracle Junction
191
10
San Luis I POE
San Luis II POE
Tucson
10
San Simon POE
Green Valley
Benson
191
19
Sierra Vista
Bisbee
Nogales
Mariposa POE
Douglas
Douglas POE
Legend
Port of Entry

Border Infrastructure

Arizona is uniquely positioned to serve the needs of our regional border states and Mexico. Over the last ten years travel between states has increased significantly and each individual Land Port of Entry (LPOE) has experienced an increase in the overland movement of goods. This increase has resulted in operational constraints related to congestion, security and commercial traffic at the 19 LPOEs in the state including 6 that are international ports of entry along our border with Mexico. In 2010, more than 23 million people passed through Arizona's international ports. The Arizona Border Master Plan was a collaborative effort between Arizona and the Mexico State of Sonora to improve the efficiency and effectiveness of cross border traffic. The improvements at the port of entries monitors commercial traffic entering Arizona for registration, taxes, size and weight restrictions, commercial drivers license requirements, insurance requirements and equipment safety requirements, and issue permits as required. Our improvements here will promote safety, compliance, and protect investment on our heavily traveled commerce corridors. Improvements include inbound and outbound in addition to mainline screening technology, port technology and physical enhancements.

BENEFITS

Mobility and Efficiency

9 of10

(scale of ten)

Economic Development Potential

8 of10

(scale of ten)

Construction Jobs

900 Jobs

(1 unit =1,000 jobs for 20 years)

INVESTMENT

Costs

$0.8 Billion

(1 unit = $1,000,000,000)

Border Infrastructure Benefits and Key Improvements

Location	Needs Summary	Benefits			Improvements			
		Mobility & Efficiency	Economic Development	Job Creation	Roadway	Freight	Transit	Aviation
Arizona-Mexico Border								
Douglas	Border Crossing Improvements (Expansion, Modernization, and Access)	●	●	○	✓	✓		
Yuma	Area access roads improvements to port of entry	◑	◑	○	✓	✓		
San Luis I & II	Modernization and Pedestrian Improvements	◑	◑	○	✓	✓		
Mariposa (Nogales)	Port of Entry Improvements and roadway access improvements	●	●	◑	✓	✓		
US Border States								
Ehrenberg	Mainline Screening, Port Technology, Physical Improvement	●	◑	○	✓	✓		
Sanders	Mainline Screening, Port Technology, Physical Improvement	●	◑	○	✓	✓		
San Simon	Mainline Screening, Port Technology, Physical Improvement	●	◑	○	✓	✓		
Topock	Mainline Screening, Port Technology, Physical Improvement	●	◑	○	✓	✓		
Yuma I-8	Mainline Screening, Port Technology, Physical Improvement	●	◑	○	✓	✓		
Kingman	Mainline Screening, Port Technology, Physical Improvement	●	◑	○	✓	✓		
St. George	Mainline Screening, Port Technology, Physical Improvement	●	◑	○	✓	✓		
Yuma B-8	Mainline Screening, Port Technology, Physical Improvement	●	◑	○	✓	✓		
Fredonia	Mainline Screening, Port Technology, Physical Improvement	●	◑	○	✓	✓		
Parker	Mainline Screening, Port Technology, Physical Improvement	●	◑	○	✓	✓		
Page	Mainline Screening	●	◑	○	✓	✓		
Teec Nos Pos	Mainline Screening	●	◑	○	✓	✓		
Duncan	Mainline Screening, Port Technology, Physical Improvement	●	◑	○	✓	✓		
Springerville	Mainline Screening, Port Technology, Physical Improvement	●	◑	○	✓	✓		

Most Benefit ● ◑ ○ Least Benefit

Arizona Bridges

Infrastructure Improvements

$0.4 Billion


Colorado City
Page
Tuba City
Chinle
Window Rock
Bullhead City
Kingman
Williams
Flagstaff
Sedona
Lake Havasu City
Prescott
Camp Verde
Cordes Junction
Heber
Show Low
Payson
Eagar
Parker
Wickenburg
Surprise
Mesa
Globe
Phoenix
Maricopa
Florence
Gila Bend
Casa Grande
Safford
Yuma
Oracle Junction
Tucson
Green Valley
Benson
Sierra Vista
Bisbee
Nogales
Douglas
15
93
40
11
17
95
260
377
87
10
60
85
8
70
191
19
Bridges with Immediate Needs

Bridges

The state's bridges have annually rated among the best in the nation in part due to the state's dry climate and robust bridge inspection and preservation program. Bridges built in the past few decades are cast-in-place, post-tensioned concrete box girder bridges or pre-cast, pre-stressed concrete girder bridges lending to their durability and structural efficiency. However, there are structures in the commerce corridors identified to be structurally deficient, functionally obsolete or at a reduced level of sufficiency rating. These terms identify a wide array of bridge issues, some serious and others minor. Identifying and performing rehabilitation, modernization to current design standards or monitoring a bridge's sufficiency to remain in service is prudent to the continuity of our transportation network function.

BENEFITS

Mobility and Efficiency

(scale of ten)

9 of 10

Economic Development Potential

(scale of ten)

2 of 10

Construction Jobs

(1 unit =1,000 jobs for 20 years)

800 Jobs

INVESTMENT

Costs

(1 unit = $1,000,000,000)

$0.4 Billion

Bridges Benefits and Key Improvements

		Benefits			Improvements			
		Mobility & Efficiency	Economic Development	Job Creation	Roadway	Freight	Transit	Aviation
Commerce Corridor	**Reconstructed Bridges**							
I-19 Nogales to Tucson	7	●	○	○	✓			
I-10/I-8 Tucson to Phoenix	25	●	○	○	✓			
I-11 (US 93) Phoenix to Las Vegas	1	●	○	○	✓			
I-17 Phoenix to Flagstaff	14	●	○	○	✓			
I-10 California to Phoenix	4	●	○	○	✓			
I-10 Tucson to New Mexico	19	●	○	○	✓			
Other Corridors								
I-40 California to New Mexico	27	●	○	○	✓			
I-8 Yuma to SR 85	6	●	○	○	✓			
US 60/ US 70/ US 191 Phoenix Area to Safford	6	●	○	○	✓			
US 191 Douglas to I-10	2	●	○	○	✓			
Statewide Locations								
Additional bridges with immediate needs	40	●	○	○	✓			

Most Benefit ● ◑ ○ Least Benefit

Arizona's Key Commerce Corridors

Local Jobs, Global Market

ADOT