Building a Quality Arizona: Statewide Intrastate Mobility Reconnaissance Study

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The *Building a Quality Arizona: Statewide Intrastate Mobility Reconnaissance Study* was initiated by the Arizona Council of Governments (COG)/Metropolitan Planning Organization (MPO) Association, in cooperation with the Arizona Business Coalition, the Arizona Department of Transportation (ADOT), the State Legislature, and the Governor's Office, focusing on Arizona's growth and transportation challenges. The purpose of the *Statewide Intrastate Mobility Reconnaissance Study* is to develop a long-range vision, driven by sustainable community and economic development, that links land use, the economy, and transportation infrastructure in the state of Arizona.

In an effort to learn about strategic issues confronting Arizona, the bqAZ team visited each COG/MPO, as well as other key stakeholders and state departments. These day-long workshops brought together local experts in community development, economic development, transportation, and finance to gain an understanding of the existing conditions, issues, ideas, and possibilities.

The findings of these visits are summarized in *Working Paper #1: Data Collection Summary*. The purpose of this paper is to prepare for the Focus Group process to be held in October. The bqAZ process is intended to develop a long-range blueprint for Arizona's infrastructure that must take into consideration not only current known trends but the many possibilities of how the world, nation, and state will change over the next 40 or 50 years.

This type of future thinking is difficult in a state that has seen such explosive growth and that in many areas is just trying to keep its head above water – but this type of approach is imperative now more than ever. For example, the initial concepts of the Phoenix Metropolitan Area's freeway system were developed by Wilbur Smith in the early 1960s. Many of those early concepts can be seen in the Valley's freeway system today and this system is still under development over four decades later.

The lesson to be learned is that it takes a long time to do big things and without the development of the vision and the initial concepts to implement it, big things rarely happen at all or they are forced to occur at an exorbitant cost.

CURRENT CRITICAL COMMUNITY AND ECONOMIC DEVELOPMENT ISSUES AND TRENDS

In order to develop a long-range plan, it is important to identify current conditions, challenges, and opportunities and discuss how internal and external trends will impact them.

While it is not practical to assume that the future can be predicted, it is imperative that some "educated guesses" be made about what the coming decades will bring, or need to bring, to build a quality Arizona.

While this is certainly not an exhaustive list, some of the major issues that need to be part of the discussion follow.

State Lands and Policy

The mission of the Arizona State Land Department is "to manage State Trust lands and resources to enhance value and optimize economic return for the Trust beneficiaries, consistent with sound stewardship, conservation, and business management principles supporting socioeconomic goals for citizens here today and generations to come. To manage and provide support for resource conservation programs for the well-being of the public and the State's natural environment."

In total, over 10 million acres of land were designated at State Trust lands in Arizona at statehood. As of today, the State Land Department has disposed of, or exchanged, about 1,628,079 acres of State Trust lands. A total of 9,228,787 acres (14,420 square miles) of State Trust land remains. This land area is **twice** the size of the state of New Jersey.

The proceeds of the sale or lease of State Trust lands go to fourteen beneficiaries, with the bulk of proceeds benefiting the K-12 school system.

The impact of State Trust land on Arizona's future can be illustrated in Pinal County. Approximately 38% of Pinal County's land base is in the State Land Trust. When subtracting out National Forests, federally designated wilderness areas, and Native American lands, nearly two-thirds of the developable land in Pinal County is State Trust land. The disposition of this land and the policies to do so will have a significant impact not only on central Arizona but the entire state.

The State Land Department operates through authority outlined in the state Constitution. In recent years, there has been pressure to change how the Department operates and several ballot initiatives to reform the process have been voted down. One of the major wild cards in preparing for the future will be how and when this vast resource is developed.

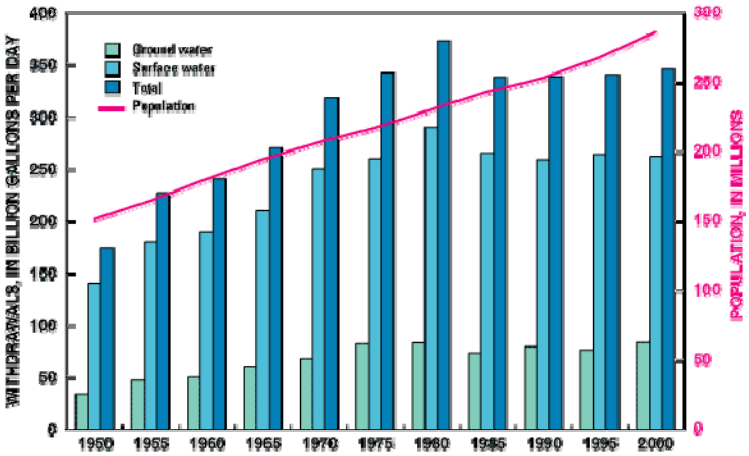
Water

It has long been thought that as Arizona's water supply goes, so goes Arizona. Fortunately, Arizona has been a leader and innovator in managing its water supply but what will the future bring?

The phrase "water follows money" has been used in the discussion about water supplies in the western United States but is this accurate? How will continued drought impact Arizona's water supply? There are many questions but one certainty is that water will impact the type, amount, and location of Arizona's future growth.

As Figure 1 below indicates, conservation efforts beginning in the 1970s have resulted in a decrease in per capital water uses over the past two decades as our population has grown but water usage has remained fairly stable. But, how much can conservation do?

Figure 1



Source: U.S. Geological Survey Circular 1268, "Estimated Use of Water in the United States in 2000."

Arizona Active Management Areas (AMAs)

The State's Active Management Areas were established to provide long-term management and conservation of their limited groundwater supplies. In order to accomplish this, the AMAs administer state laws, explore ways of augmenting water supplies to meet future needs, and routinely work to develop public policy in order to promote efficient use and an equitable allocation of available water supplies. In addition to the AMAs, there are many other communities and regions dealing with water issues and challenges.

Prescott AMA
- Over 485 square miles
- Consists of 2 sub-basins
- 3 million acre-feet of groundwater in storage
- 20,000 acre-feet of annual use

Phoenix AMA
- Over 5600 square miles
- Consists of 7 sub-basins
- 287,000 acres of farmland
- Over 2 million acre-feet of annual water use

Pinal AMA
- Over 4,000 square miles
- Consists of 5 sub-basins
- 275,000 acres of farmland
- Over 800,000 acre-feet of annual water use

Tucson AMA
- Over 3,800 square miles
- Consists of 2 sub-basins
- Over 300,000 acre-feet of annual water use

Santa Cruz AMA
- Over 750 square miles
- Consists of 1 sub-basin
- Over 20,000 acre-feet of annual water use

Source: Arizona Department of Water Resources

Population Growth

According to the National Intelligence Council (Global Trends 2015), the world will be populated by 7.2 billion people by 2015. The Phoenix/Tucson region is expected to be one of ten "megapolitan" areas to see the most growth in the United States; this area is known to be the "Sun Corridor Megapolitan." The combined population, according to the Greater Phoenix Economic Council, is expected to be 9.3 million by 2040. Between 2000 and 2006, Arizona's population increased by 23%, exceeding a total of 6 million people.

The big question is where will the growth occur in the coming decades? It is pretty easy to predict that the vast areas of State Trust and agricultural land in Pinal County and the Phoenix West Valley are in the cross hairs of the next wave of growth. But what is next?

Based on an analysis of available land (privately held and State Trust land) will this area be on the I-40 corridor east of Flagstaff in the Winslow/Holbrook region, or west of Ash Fork to Kingman? Cochise County? The State Trust land west of the Prescott area? Yuma County?

Open Space Preservation

Many citizens in Arizona are concerned about preserving open space in and around communities. Arizona is already fortunate to have significant open space that exists in the vast public lands within the state and with only about 17% of the state being privately held land, what is the practicality of preserving these lands?

Planning and Regulatory Environment

Arizona, like most western states, has historically had very strong private property rights. What does the future hold for the ability to develop future infrastructure in regard to private property and eminent domain? The passage of Proposition 207 has clouded this issue even further.

In addition, Arizona's referendum system makes it very easy to place issues on the ballot. These issues can make planning for the future a moving target.

Housing Costs

According to the Arizona Department of Commerce, the value of all building permits in the State has increased by 83% between 2000 and 2006; the total net assessed valuation of property has increased by 71% over that same time period.

In terms of housing costs, the Phoenix cost of living index for housing is 105.8 and for Tucson 97.3 for the first quarter of 2007, according to the Arizona Department of Commerce.

The metropolitan areas are seeing more and more people moving further and further away from their employment in search of lower priced housing but even some of the state's rural communities are facing escalating housing costs and lack of availability. For example, the rebirth of mining operations in Pinal and Gila counties has caused the doubling of home prices in small towns like Kearny in just the past few years.

Economy

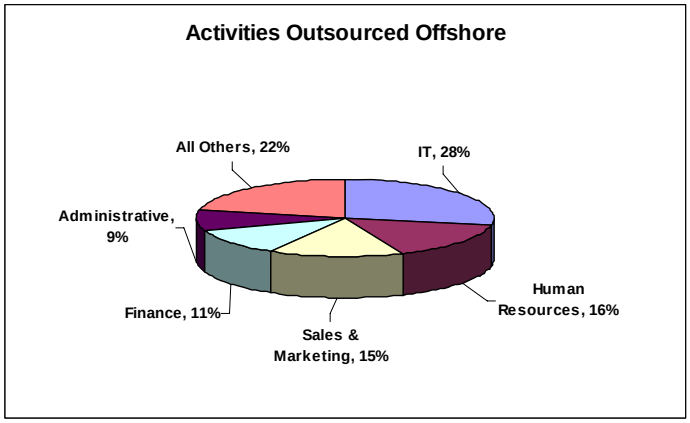
In 2001 approximately 72% of the economic activity in developed countries was in the service sector with a decline of industrial activities occurring in most developed countries. While this is not news for most, what are the impacts on Arizona's economic future?

Economic Trends

- Vast majority of American manufacturers are experiencing a serious shortage of qualified employees
- Offshore outsourcing is estimated to grow 20% annually
- U.S. is facing a declining share in world population
- Movement towards a services based economy

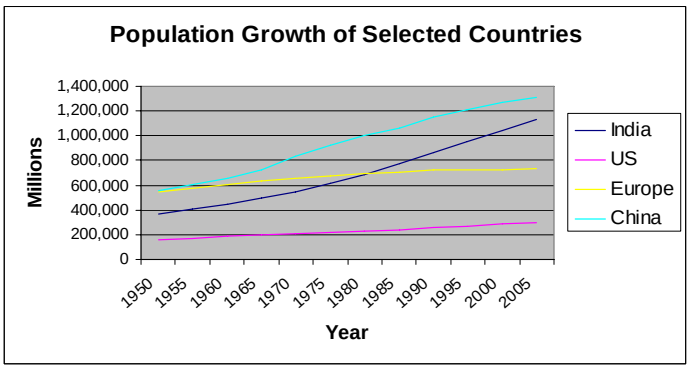
Many of the traditional non-manufacturing business activities that were typically maintained in the United States are now beginning to move to other countries (Figure 1).

Figure 1



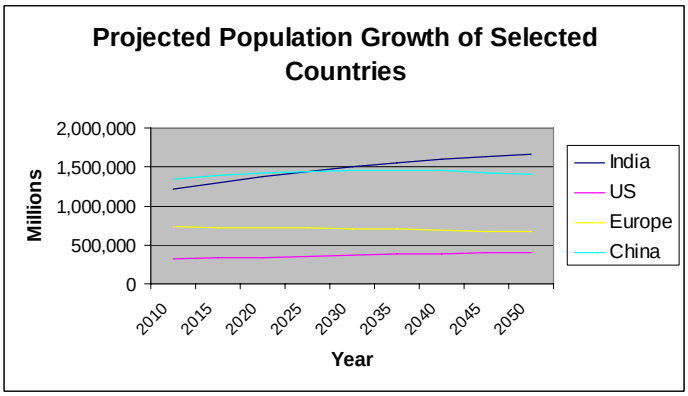
Compared to India and China, the United States and Europe have experienced very low population growth since 1960 (Figure 2).

Figure 2



Population projections continue to show the United States and Europe decreasing as a percentage of the population compared to Asia (Figure 3).

Figure 3



Industries and Occupations Trends

Industries and occupations trends projected to grow in the short-term and over the next five years are:

- Trade, Transportation, and Utilities;
- Professional and Business Services;
- Government; and
- Education and Health Services.

What will be the industry and occupation trends in the coming decades?

Arizona's Key Growth Indicators – 2000 to 2006

State Population	+23.0%
Gross State Product	+36.6%
Personal Income	+37.2%
Per Capita Income	+22.6%
Retail Sales	+48.1%
Value of All Building Permits*	+82.7%
Total Net Assessed Valuation	+71.1%

*Still 2005 number

Sources: Arizona Department of Economic Security, U.S. Census, Arizona Department of Revenue, Arizona Real Estate Center - Arizona State University, Bureau of Economic Analysis.

Growth and development has fueled Arizona's economy for decades as the "Five C's" (cattle, citrus, climate, copper, and cotton) have become less and less of the state's historic economic base. There has been the comforting assumption that people will always want to come to live in Arizona but what if that stops? Are we prepared economically for a no-growth scenario? Will depleting resources cause this to happen (e.g., water, land)?

Mobility

Arizona's transportation system is facing many challenges:

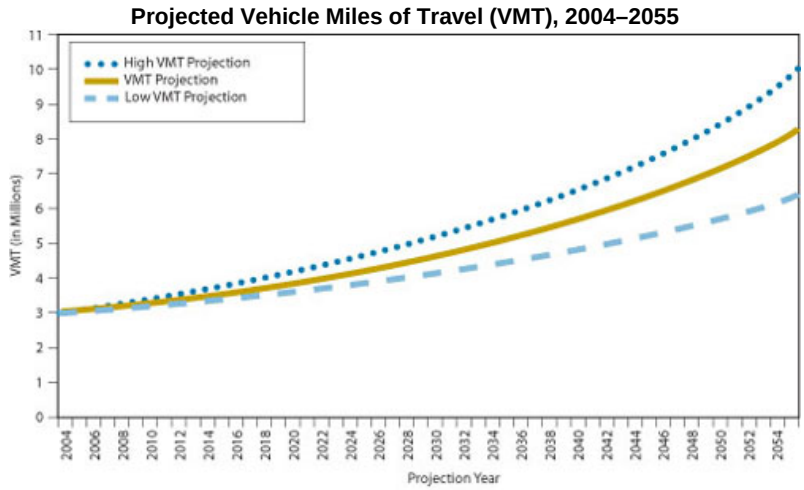
- Getting people to and from their homes and workplaces, schools, and healthcare
- Mobility between communities
- Moving goods and products in and out of the state
- Moving people and goods through the state

Arizona is focusing on building a multimodal system to meet these challenges. What does this mean and how can it be done in such a large area?

The growth trends for vehicles and freight add to these challenges. The following graphics from American Association of State Highway and Transportation Officials, *Demographic Trends Affecting Transportation* were accessed at http://www.transportation1.org/tif1report/demographic.html on September 14, 2007.

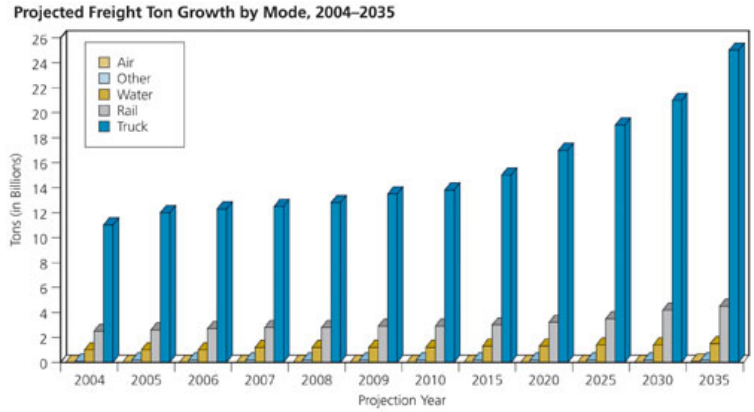
Projected vehicle miles of travel (VMT) are expected to increase significantly even at the low range of estimates. Arizona's growth will only compound this challenge of providing adequate facilities (Figure 4).

Figure 4



While the capacity for rail freight movement is increasing with new tracks being installed, it is anticipated that trucks will still be the key mode for freight movement (Figure 5). This has major impacts on the maintenance and upkeep of Arizona's Highway system.

Figure 5

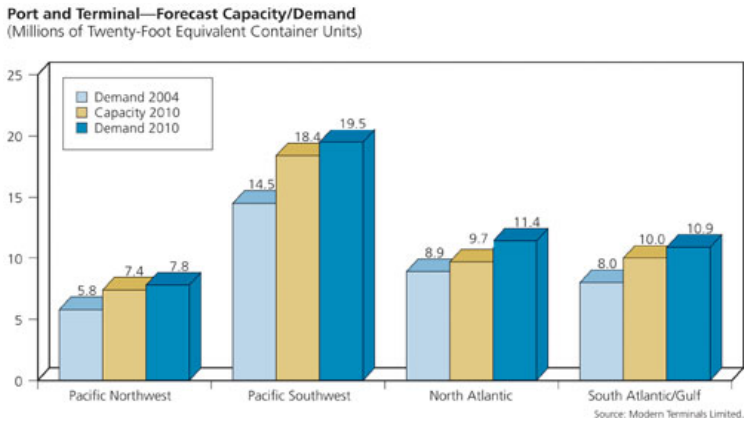


Shipping activities in the Pacific Southwest are projected to continue to grow significantly placing tremendous strain on Arizona's highways and railroad system as much of these inbound and outbound goods will be traveling through Arizona to get to and from Pacific ports (Figure 6).

Transportation Financing

Arizona's transportation funding is heavily based on fuel taxes. While this user fee based financing mechanism makes a great deal of sense (the more you drive on the roads the more you pay), it is not keeping up with the times. While revenues have increased based on population growth, actual per vehicle revenues have declined due to increases fuel mileage (since the tax is a per gallon levy). This funding shortage will only be exacerbated as new technologies that significantly increase fuel mileage (e.g., hybrid vehicles) or alternate energy sources (e.g., hydrogen fuel cells) are developed.

Figure 6



Education

The quality of Arizona's education system has been much debated. What cannot be debated is the importance of education and training in a highly competitive world economy.

Arizona has similar educational attainment levels to two competitor states, California and Texas, based on the 2000 Census (Table 1). Whether Arizona residents received their education in the state or "brought it with them" is a debate for another day. However, does measuring how Arizona stacks up with other states make for a good yardstick when a high percentage of technical and professional workers are coming from other countries?

Table 1

EDUCATIONAL ATTAINMENT	CA	AZ	TX
Population 25 years and over	**100.0**	**100.0**	**100.0**
Less than 9th grade	11.5	7.8	11.5
9th to 12th grade, no diploma	11.7	11.2	12.9
High school graduate (includes equivalency)	20.1	24.3	24.8
Some college, no degree	22.9	26.4	22.4
Associate degree	7.1	6.7	5.2
Bachelor's degree	17.1	15.2	15.6
Graduate or professional degree	9.5	8.4	7.6

As the state grows and education and training needs escalate, how will these services be delivered? Will facilities be centralized, in a satellite system, electronic, or some other method and how will people access these facilities and services?

DISCUSSION GUIDE

- Will Arizona communities build up and not out? How will this impact the transportation system?
- Will congestion decrease the attractiveness of Arizona as a place to live?
- What is Arizona's "real" water future and how will it impact growth?
- Where are our next high growth areas?

- How can communities and regions be better connected?
- What will be Arizona's "land inventory" based on factors such as state land policy and transportation linkages?
- Will congestion and travel times cause changes in behavior? How will this impact our communities?
- What is the future of alternate modes of travel in Arizona?