Creating Data Partnerships to Support Transportation Planning and Economic Development

AMPO Annual Conference
October 17-20, 2017
27 cities and towns, 3 Indian communities, 2 counties
10,650 sq. mile
4.4 Million Population
1.8 Million Jobs
March 2010
63,182 Properties
Distressed
(Foreclosed & Pending)
Residential Properties

Source: Information Market
Map Prepared by Maricopa Association of Governments (MAG), April 2017
While every effort has been made to ensure the accuracy of this information, the Maricopa Association of Governments makes no warranty, expressed or implied, as to its accuracy and expressly disclaims liability for the accuracy thereof.
MAG Economic Development Committee

- **Transportation: To What End?**
- **Formed in October 2010**
- **Role**
  Advance infrastructure in the MAG Region, especially transportation infrastructure that would further economic development opportunities.
- **Membership – 35 Total Members**
  - 20 government agencies
  - 15 business representatives
Beyond traditional data and models

- Continuous care and feeding of:
  - Socioeconomic models
  - Transportation models

- Engaged primarily with Planning/Engineering:

- Downturn required rethinking:
  - Visited Economic Development teams
  - Other public/private entities
    - Workforce
    - Education
    - Real Estate
C19: Expediting Project Delivery

PROJECT OVERVIEW
America’s Trade Corridor
Connecting Canada, the United States, and Mexico
Quick Facts

- 9 states
- 934,905 square miles
- Population:
  - 2010: 29 million
  - 2050: 48 million
- 9.5% of the U.S. population
- 26% of the U.S. land mass
- 13.3% of public road miles
- 46.4% federally managed
- Includes 6 of the top 10 largest states in the nation
FHWA awarded a grant to MAG to advance deployment of multi-objective solutions that expedite transportation project delivery in the broader Intermountain West Region.
Ongoing Outreach

Connect and communicate with staff and stakeholders from partner agencies

- Webinars
- Partner Survey
- Data Collection
- Denver Meeting
Aligning Expectations

Tiered approach

Technical

Executive

Policy
Report with Risk Register

- Vision: *Intermountain Transportation vision that will focus on moving people and freight efficiently*
- Constraints and Opportunities
- Stakeholder expectations
- GIS data layers
- Public engagement and communication best practices
- Lessons Learned
GIS Common Operating Platform

• Input from Stakeholders
  o Assessed relevant available data
  o Identified data gaps
  o Potential users & political realities
  o Provided input on story map

Goal: Provide decision makers with better situational awareness of the region and be able to make more fully informed decisions
Putting it all Together

Regional Geospatial Information for Transportation Planning Efforts in the Intermountain West

As part of the Strategic Highway Research Program (SHRP2), the Maricopa Association of Governments (MAG) has compiled data from agencies across the Intermountain West. These data are the basis for expediting planning and environmental review of transportation projects in the Intermountain West.

While there are a multitude of factors involved in planning for transportation projects, these data allow for a high-level review of information that may affect certain transportation projects.

For this project, the Intermountain West is the area comprising nine (9) states: Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, Washington, and Wyoming.

This Story Map highlights the GIS data that were collected for the SHRP2 project. Five separate themes have been identified, as shown in the tabs across the top of the page.

Each map contains layers specific to its theme, but the navigation and interaction with the map are the same.

Tips for Navigating the Maps

Each map on the subsequent tabs has navigation icons in the upper left corner that allow you to zoom in/out or return back to the original view (zoom level) using the “home” button.

The other icons provide additional information about the map; display the map legend, show the attribute data table, and give a list of map layers.

http://arcg.is/1MThxpp
Existing Transportation Infrastructure

Existing transportation infrastructure is used as a baseline for transportation projects. Statewide transportation networks are modeled for capacity to determine if expanding future volumes need to be addressed. Locations of border crossings and airports also need to be analyzed for volume trends to determine if these pose a risk or opportunity for a transportation project.

As a baseline, this map shows the existing transportation network base along with International border ports of entry and International airports. As you zoom in on the map, additional data layers become available including bridges and traffic volumes.

Transportation departments report measured traffic volumes in terms of Average Annual Daily Traffic (AADT). These values vary significantly across the Intermountain West region. For example, the largest reported AADT for 2013 (the most recent year for which data are available) was in the Phoenix, Arizona region along Interstate 10. This segment of roadway reported an average annual daily traffic count of 281,092 vehicles. On the end, Wyoming’s highest reported AADT was just 33,691 on a segment of Del Range Blvd, just north of the Cheyenne Regional Airport. (See table below).

| Highest Average Annual Daily Traffic (AADT) for Intermountain West States (2013) |
|----------------------|------------------|-----------------|
| Location             | 2013 AADT (Vehicles per Day) |
| Phoenix              | 281,092           |
| Del Range Blvd       | 33,691            |

Projected truck traffic can highlight potential areas of concern for capacity along freight corridors. Planners can use this information for a variety of tasks including scenario modeling, alternate route development, and more. To see the projected average annual daily truck traffic data show in the static map below, zoom in on the interactive map on the left.
InterMountain West Regional Geospatial Information for Transportation Plann

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<table>
<thead>
<tr>
<th>State</th>
<th>Highest Average Annual Daily Traffic (AADT) for Intermountain West States (2013)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arizona</td>
<td>281,092</td>
</tr>
<tr>
<td>Idaho</td>
<td>73,920</td>
</tr>
<tr>
<td>Montana</td>
<td>58,380</td>
</tr>
<tr>
<td>Nevada</td>
<td>52,680</td>
</tr>
<tr>
<td>New Mexico</td>
<td>51,530</td>
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<tr>
<td>Utah</td>
<td>48,240</td>
</tr>
<tr>
<td>Wyoming</td>
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Demographics of the Intermountain West

Transportation departments across the United States are tasked with planning and building projects that allow for the safe and efficient movement of people and goods. As population grows and concentrates within certain regions, how does this affect planning for transportation projects?

According to the 2010 Decennial Census, 9.3% of the U.S. population lives in this 9-state region. That’s 28.8 million people. Ten years prior, in 2000, these same 9 states were home to just 8.6% of the U.S. population. It is a growing part of the nation, and indications are that it will continue to be. By 2050 it’s projected that this region will be home to almost 10.5% of the nation’s population. In addition, it is projected that the Intermountain West will grow by just over 30%, almost twice the projected growth for the nation.

The map to the left depicts the concentration of the population in 2010. As you zoom in, denser areas can be seen formed around urban areas with the most densely populated areas showing in shades of purple and pink.

Projected Population Growth for the U.S. and Intermountain West

Future growth by county can also be seen by turning on the “County Population Growth 2010-2050” layer on the map. The counties expected to gain the most people by 2050 are shown in darker green. Click on any county to get the population counts and growth rates for that county.
Economic Influences on Transportation

Transportation and economic development often go hand in hand. Businesses often choose to locate in accessible locations that combine efficient transportation with housing options, good schools, community activities, and natural amenities. Transportation projects can have a significant impact on the economy as businesses and workers consider commute options when selecting a place to locate. The transportation of goods, or freight movement, is often another consideration that businesses have when locating. Additionally, businesses within the same or complimentary sectors often cluster together.

With this in mind, transportation planners may need to consider the effect that employment clusters have on roadway demands. For example, a growing warehouse and distribution sector will have much different demands for roadway use than an expanding financial services sector. And what about the sudden growth in jobs and businesses after the completion of a roadway project? With these types of questions in mind, a review of job trends in a region could be beneficial in evaluating transportation needs.
Project Resources

Story Map
GIS data sets & Common formats
http://arcg.is/1MThxpp
Interactive Tools

http://maps.azmag.gov

- 10 Live Applications
- Ongoing Data Updates
- Constant User Feedback
- Hands-on training sessions
- 55 Classes Held since 2014
- 702 People Trained

Demographic
Statewide
Employment
MapLIT
Land Use
Bikeways
Neighborhoods
Projections
RAD
Spine Study
MAG Interactive Map Viewers

MAG REGION DEMOGRAPHIC AND EMPLOYMENT VIEWERS
Staying Relevant & Reinventing

- Regional Agencies are repositories of big data
- Building trust as unbiased brokers of analytics & information
- Stretching beyond day to day transportation questions – connecting to the bigger picture
- Continued Collaboration:
  - AZ Statewide Tools
  - Las Vegas