



# Creating Data Partnerships

*to Support Transportation Planning and Economic Development*

AMPO Annual Conference  
October 17-20, 2017



# MAG Region

Maricopa Association of Governments

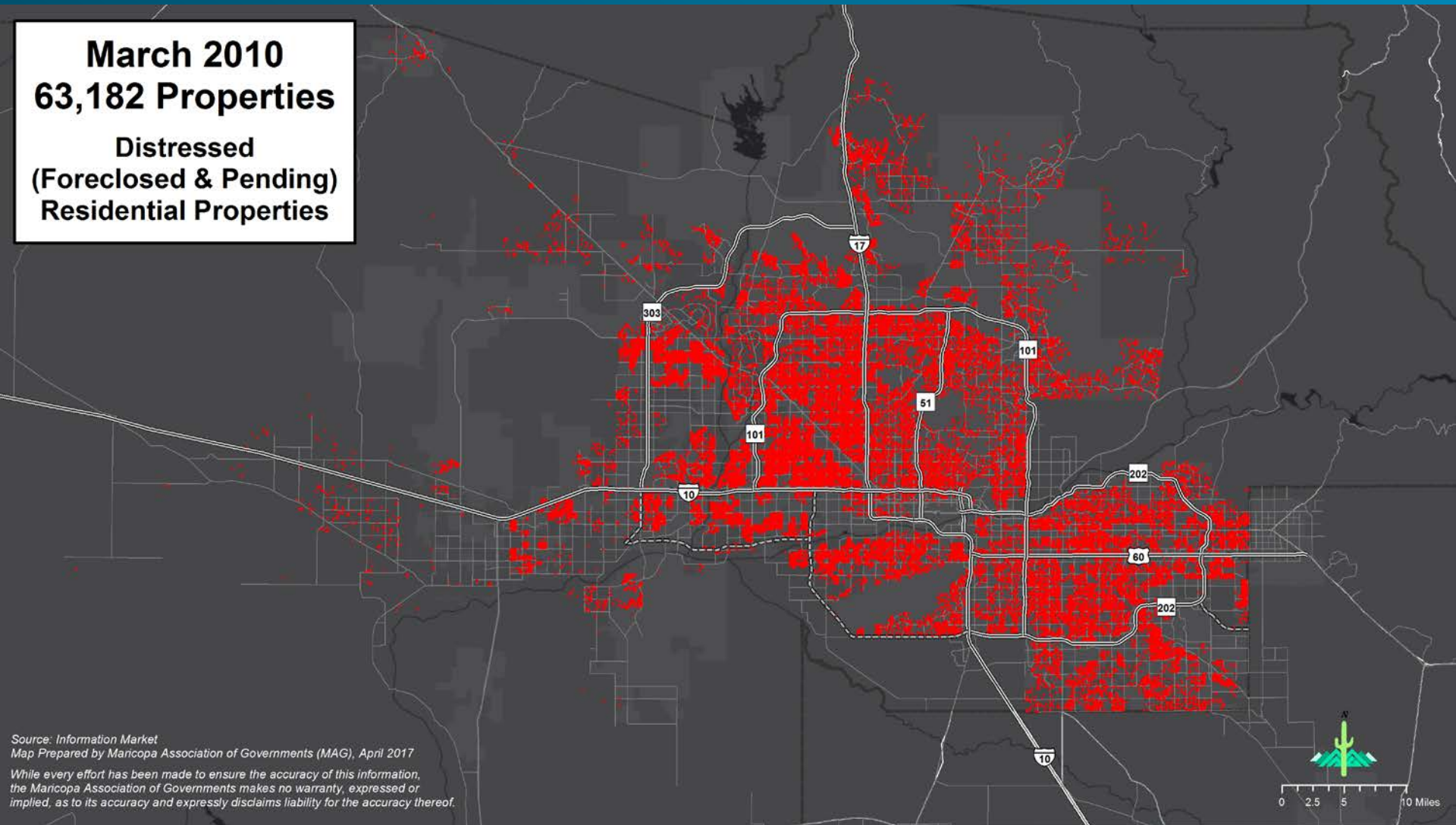


- ✓ 27 cities and towns, 3 Indian communities, 2 counties
- ✓ 10,650 sq. mile
- ✓ 4.4 Million Population
- ✓ 1.8 Million Jobs

# Wake-up Call

**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

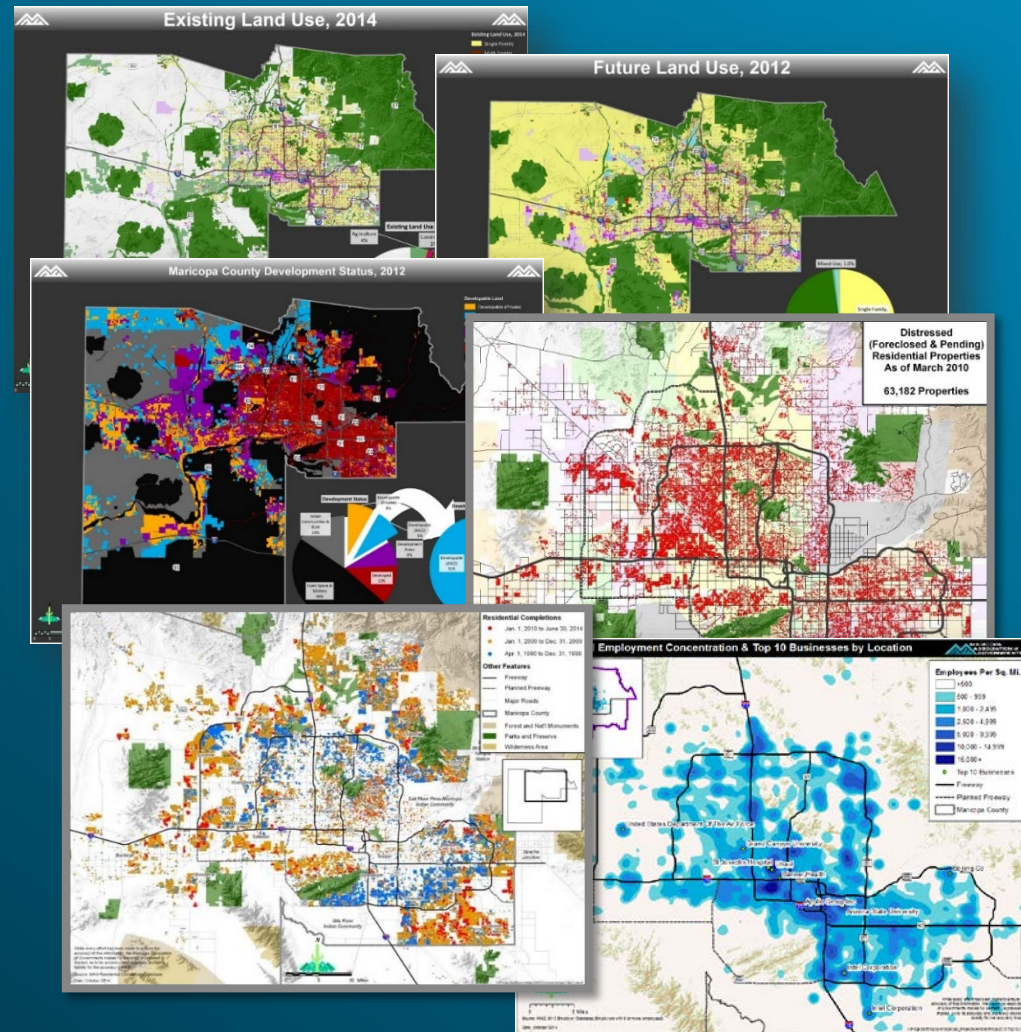
- **Transportation: To What End?**
- **Formed in October 2010**
- **Role**

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

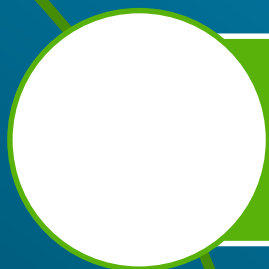
- Continuous care and feeding of:
  - Socioeconomic models
  - Transportation models
- Engaged primarily with Planning/Engineering:
- Downturn required rethinking:
  - Visited Economic Development teams
  - Other public/private entities
    - Workforce
    - Education
    - Real Estate





C19: Expediting Project Delivery

# PROJECT OVERVIEW



Safety



Renewal



Reliability



Capacity

# America's Trade Corridor

## Connecting Canada, the United States, and Mexico

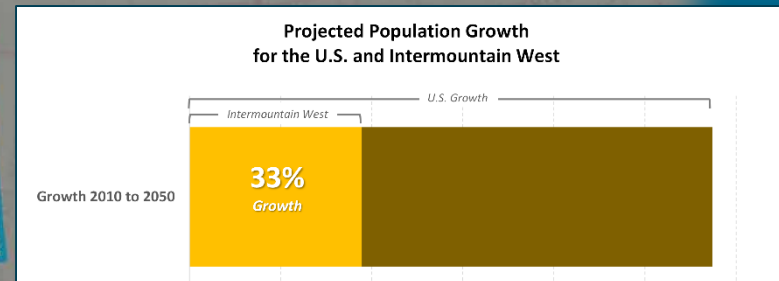




# Intermountain West

## 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



# Partners



# SHRP2 Project Goals

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

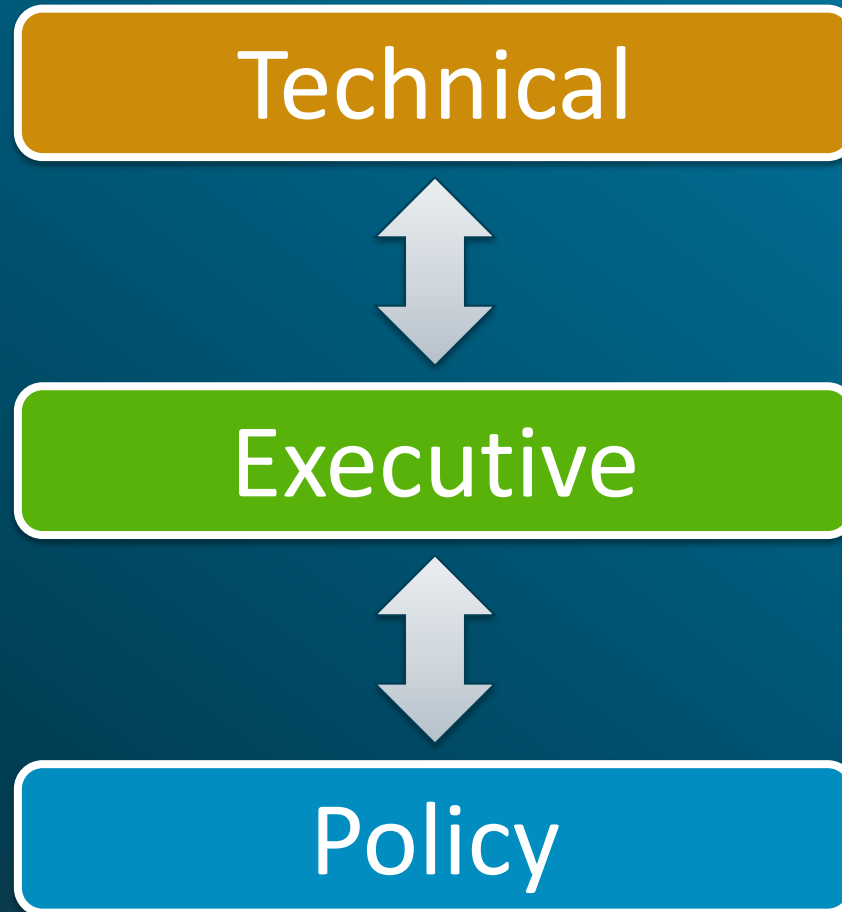
Connect and communicate with staff and stakeholders from partner agencies

- Webinars
- Partner Survey
- Data Collection
- Denver Meeting



# Aligning Expectations

Tiered approach



# 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

## Expediting Project Delivery of Key Transportation Projects in the Intermountain West Region



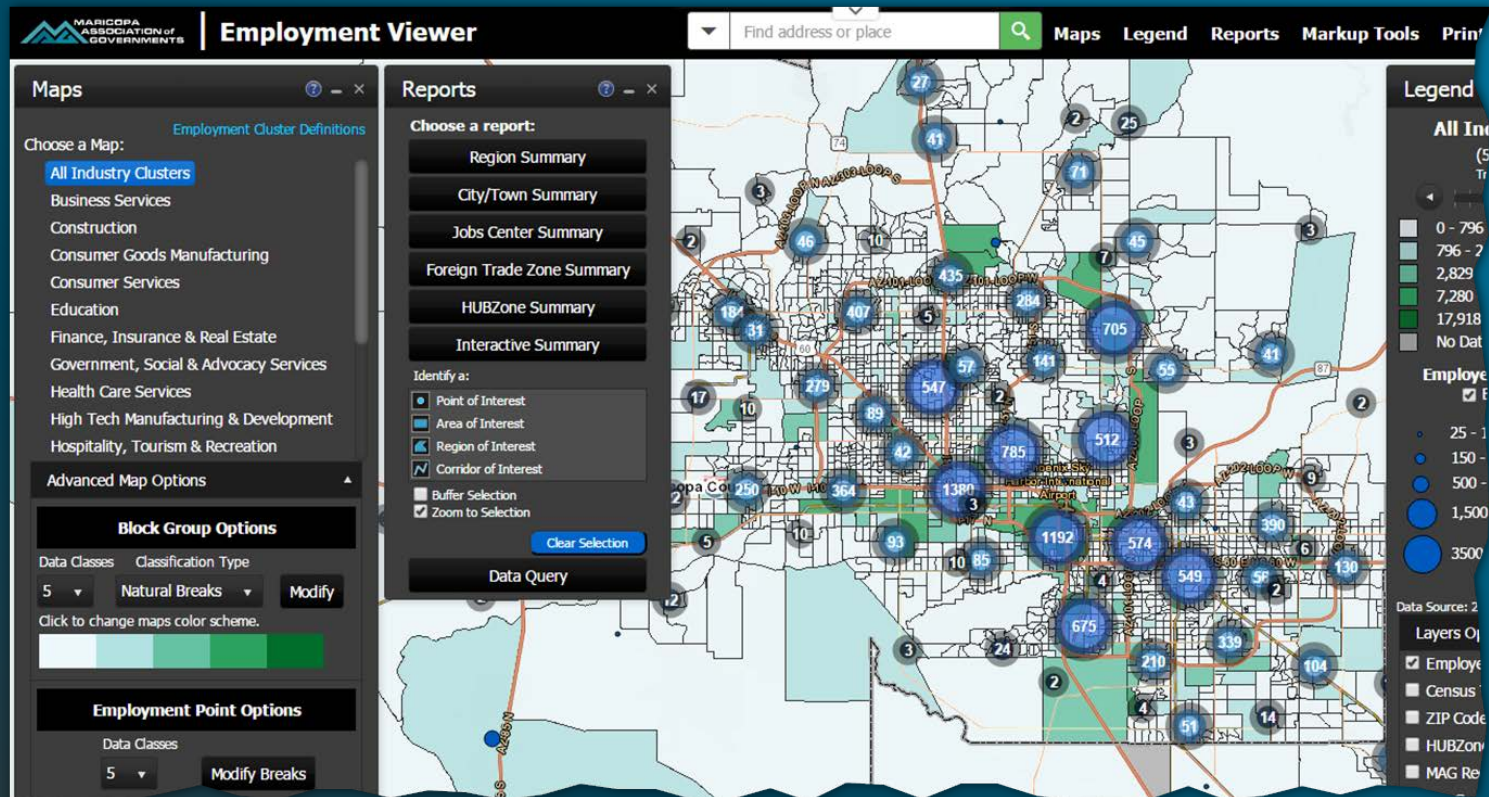
Prepared by



# GIS Common Operating Platform

- Input from Stakeholders
  - Assessed relevant available data
  - Identified data gaps
  - Potential users & political realities
  - 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

## InterMountain West Regional Geospatial Information for Transportation Planning

No issues detected x

Edit x

Created by Maricopa Association of Governments

Introduction

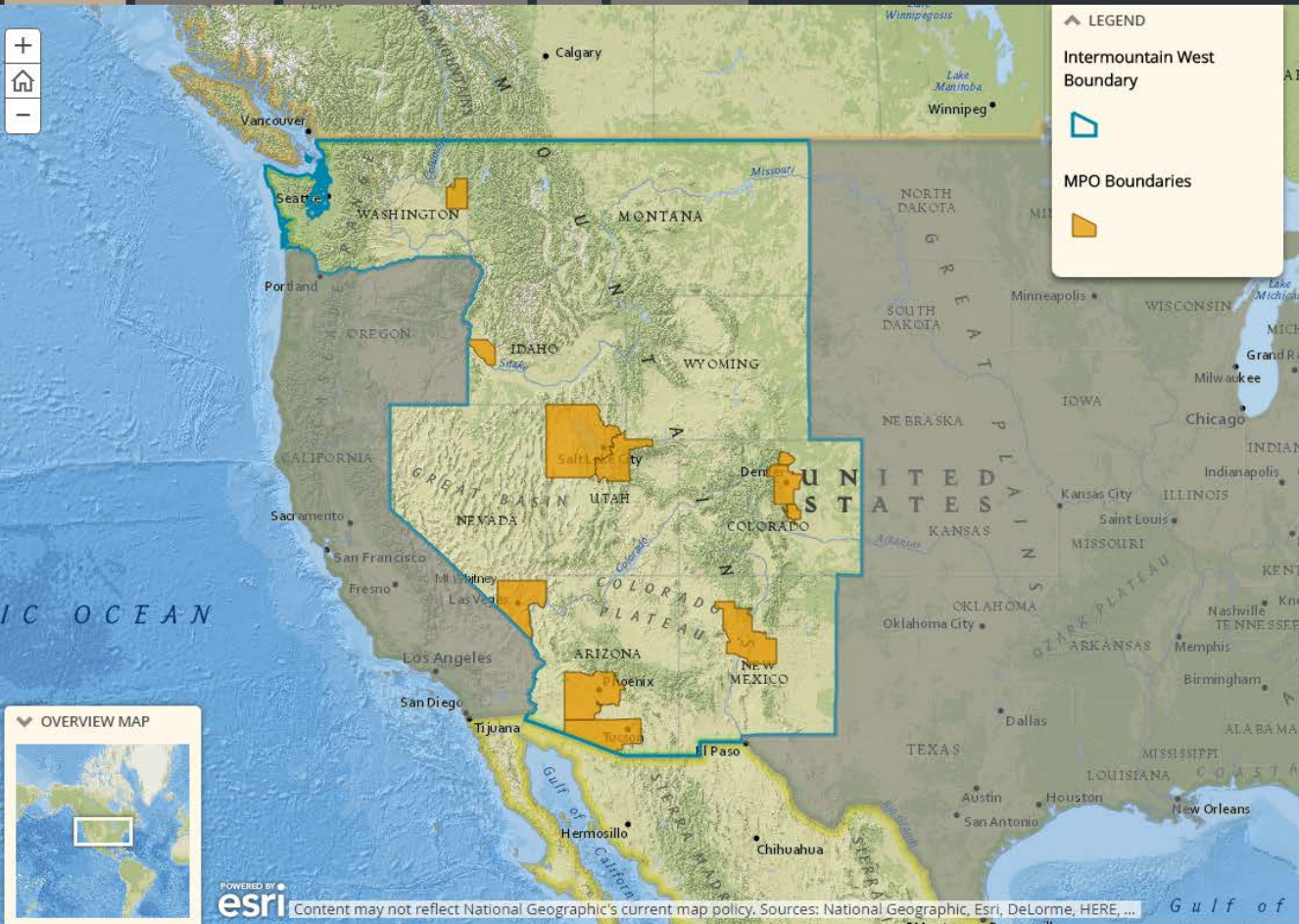
Transportation

Demographics

Economy

Land

Environmental



LEGEND

InterMountain West Boundary

MPO Boundaries

### 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



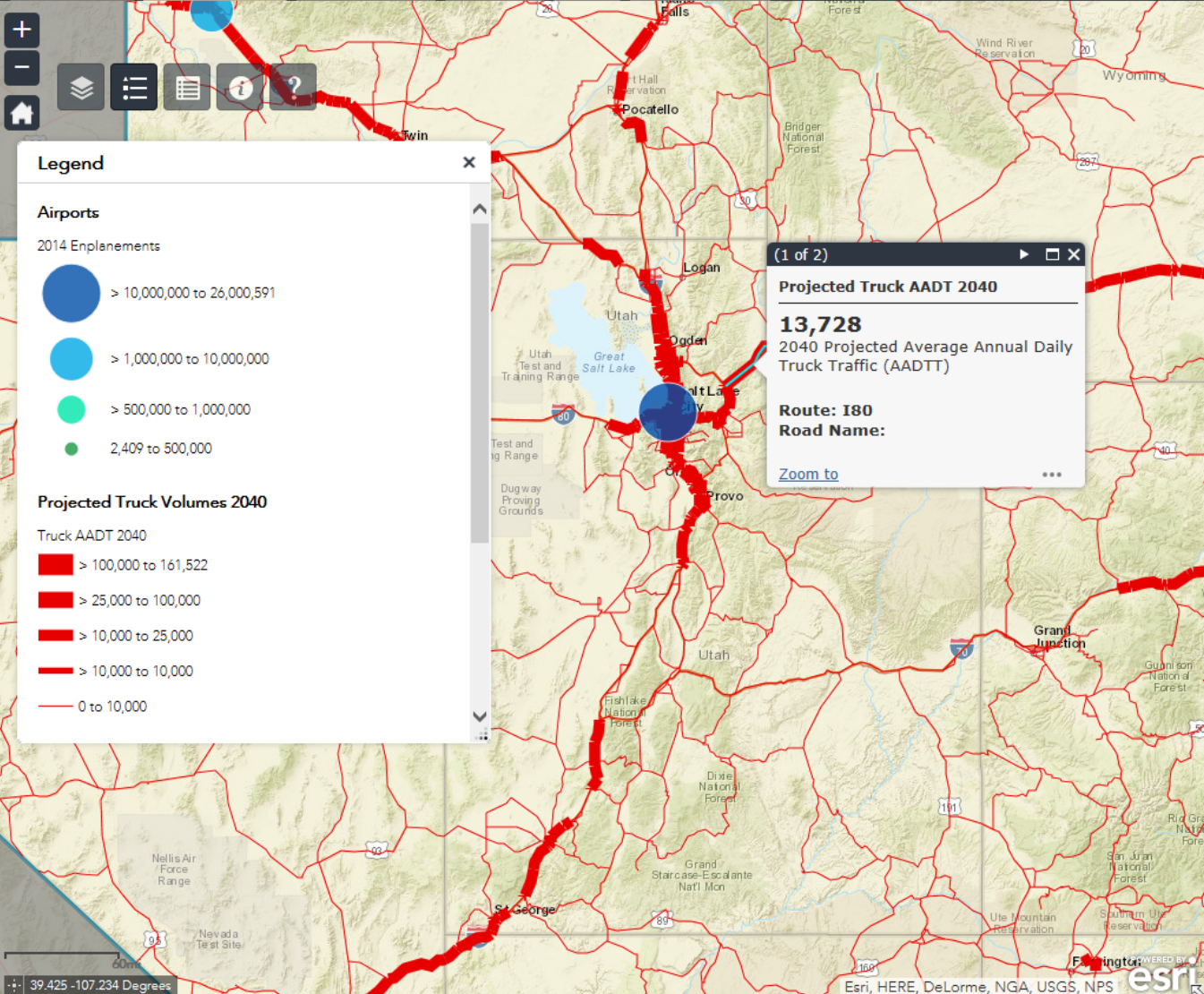
POWERED BY esri Content may not reflect National Geographic's current map policy. Sources: National Geographic, Esri, DeLorme, HERE, ...



# InterMountain West Regional Geospatial Information for Transportation Planning

Created by Maricopa Association of Governments

- Introduction
- Transportation
- Demographics
- Economy
- Land
- Environmental



### Legend

- Airports**
- 2014 Enplanements
- > 10,000,000 to 26,000,591
  - > 1,000,000 to 10,000,000
  - > 500,000 to 1,000,000
  - 2,409 to 500,000

### Projected Truck Volumes 2040

- Truck AADT 2040
- > 100,000 to 161,522
  - > 25,000 to 100,000
  - > 10,000 to 25,000
  - > 10,000 to 10,000
  - 0 to 10,000

(1 of 2)

**Projected Truck AADT 2040**

**13,728**

2040 Projected Average Annual Daily Truck Traffic (AADTT)

**Route: I80**

**Road Name:**

[Zoom to](#)

## 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).

State	2013 Max AADT	Location	Metric Miles
Arizona	281,092	I 10 between Southern Ave and Broadway Rd	Phoenix
California	257,000	I 75 between W 8th Ave and W 10th Ave	Denver
Idaho	116,400	I 84 between S Eagle Rd and S Maple Grove Rd	Boise
Montana	48,360	US 87 between Hilltop Rd and E Airport Rd	Billings
Nevada	269,000	I 15 between W Sunset Ave and W Desert Inn Rd	Las Vegas
New Mexico	206,418	I 25 between Landolani Rd NL and Comanche Rd NL	Albuquerque
Utah	260,552	I 26 between 2475 S and I 86	Salt Lake City
Washington	332,331	I 5 between I 90 and Bluff Underpass and Fall 158A	Seattle
Wyoming	33,691	Del Range Blvd between Converse Ave and Greenview Ave	Cheyenne

Source: Federal Highway Administration, Office of Highway Policy Information, Highway Performance Monitoring System (HPMS), 2013. Release Geospatial Data 2014

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.



Introduction

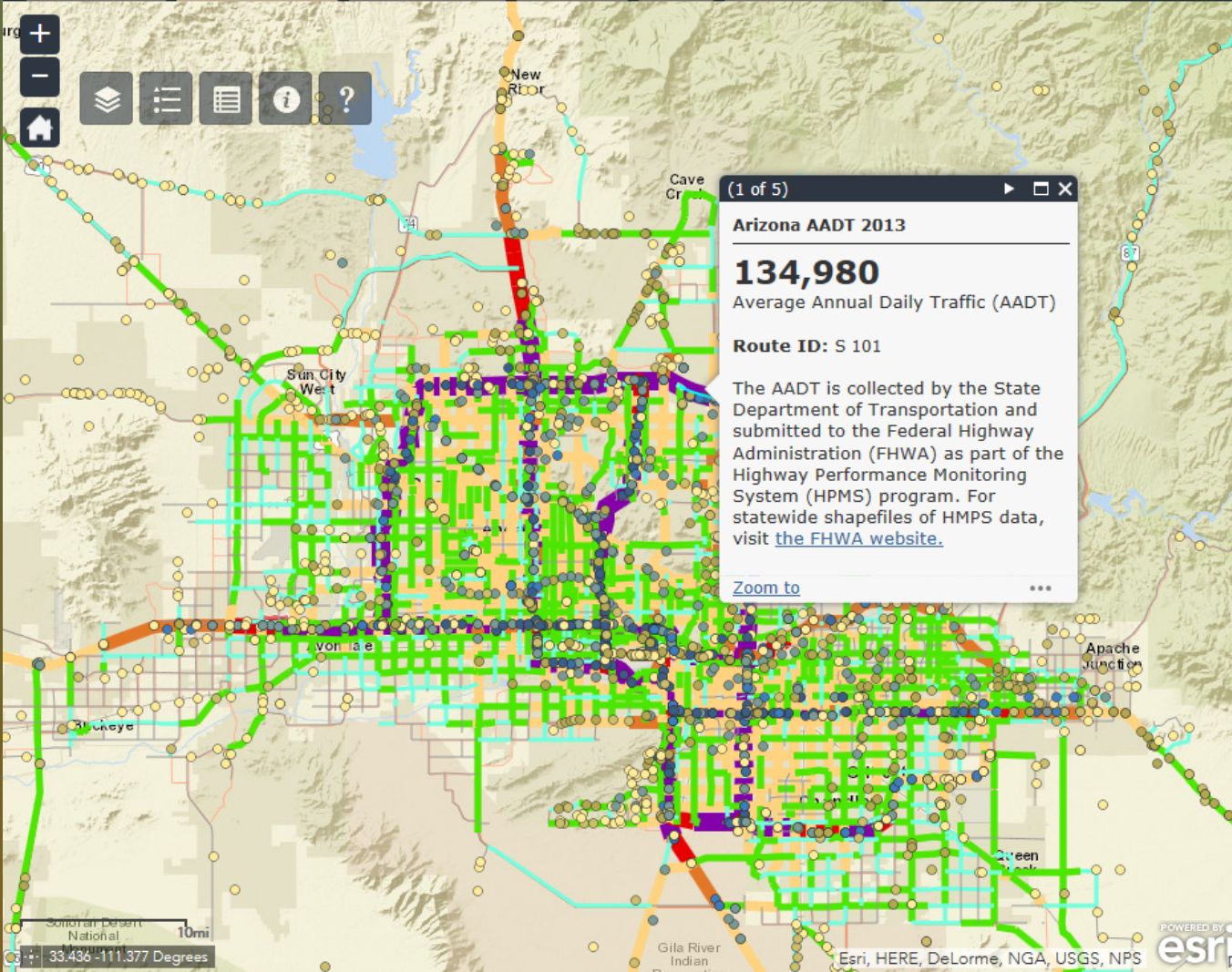
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Arizona	281,092	I-10 between Southern Ave and Broadway Blvd	Phoenix
Colorado	717,000	I-25 between W 13th Ave and W 15th Ave	Denver
Idaho	116,500	I-84 between S Eagle Rd and S Maple Grove Rd	Boise
Montana	46,360	US-87 between Hilltop Blvd and E Airport Rd	Billings
Nevada	262,000	I-15 between 245th Ave and W. Tropicana Blvd	Las Vegas
New Mexico	236,768	I-25 between Comrade Rd NE and Comrade Rd NE	Albuquerque
Utah	280,552	I-15 between 2200 S and I-89	Salt Lake City
Washington	712,321	I-5 between Lakewood West I (underpass) and I-5 at 124th	Seattle
Wyoming	33,691	Del Range Blvd between Converse Ave and Bradford Ave	Cheyenne

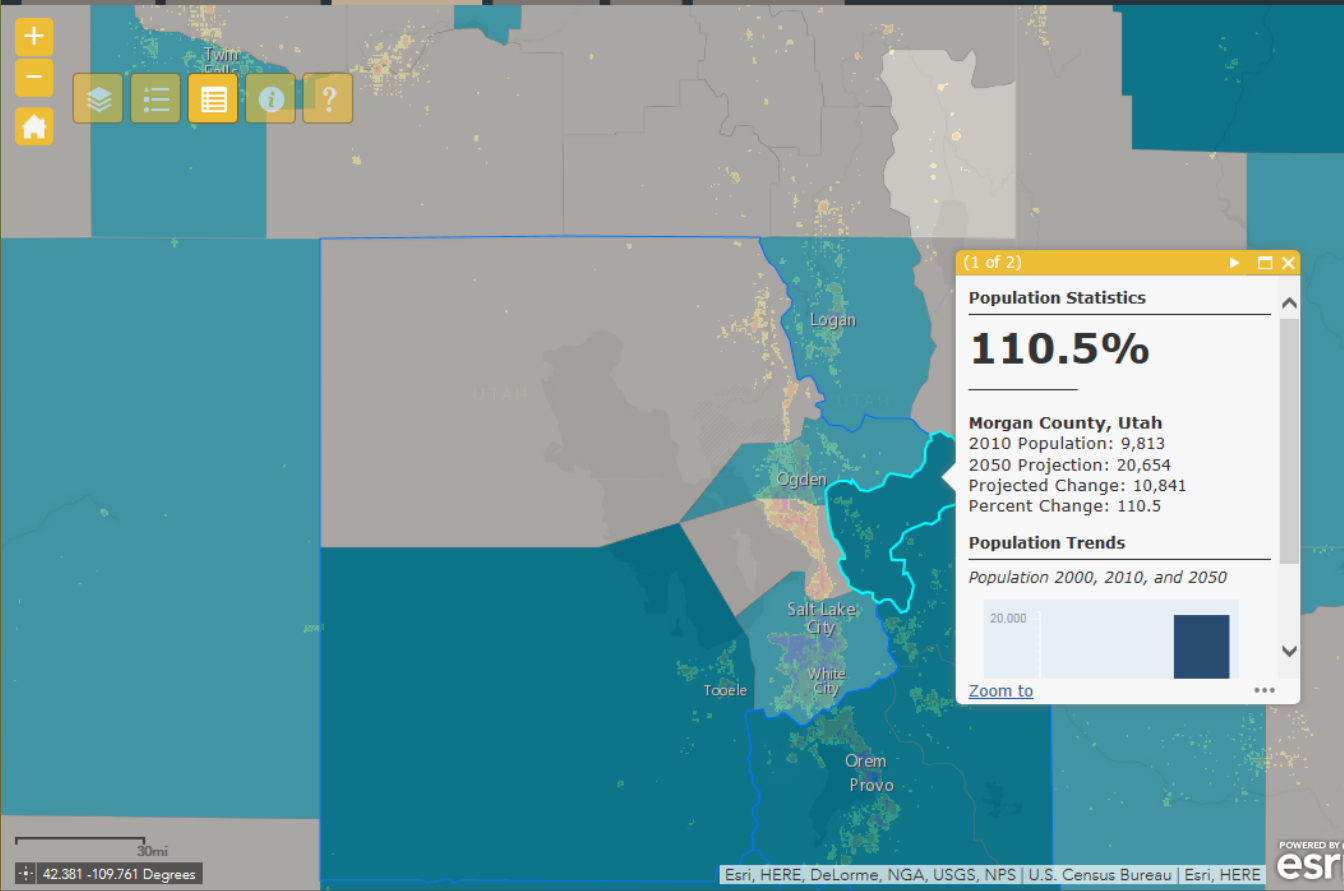
Source: Federal Highway Administration, Office of Highway Performance Information, Highway Performance Monitoring System (HPMS) Public Release Geospatial Data 2013

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# InterMountain West Regional Geospatial Information for Transportation Planning

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(1 of 2)

### Population Statistics

# 110.5%

**Morgan County, Utah**  
 2010 Population: 9,813  
 2050 Projection: 20,654  
 Projected Change: 10,841  
 Percent Change: 110.5

### Population Trends

Population 2000, 2010, and 2050

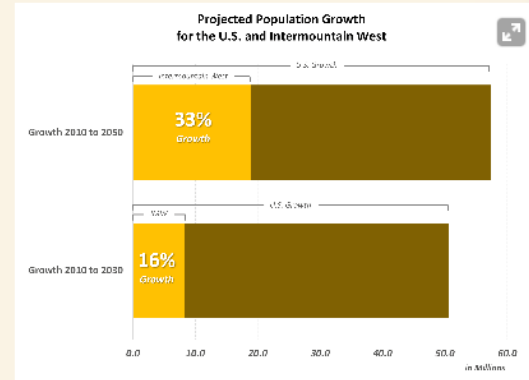
[Zoom to](#)

## 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 2030 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.



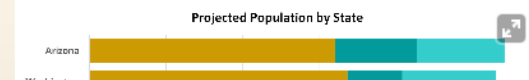
- MPO Boundary
- Population Growth 2010-2050
- Poverty by Block Group
- Minority by Block
- State Boundary

Options Filter by Map Extent Zoom to Clear Selection Refresh

GEOID	County FIPS	Tract	Block Group	2010 Population	2010 Housing Units	Population for Whom Poverty Status is Determined	Persons with Income Below Poverty	Percent Below Poverty
040130610111	013	061011	1	1,407	479	1,023	161	15.74

9450 features 0 selected

Future growth by county can also be seen by turning on the "County Population Growth 2010-30" layer on the map. The counties expected to gain the most people by 2030 are shown in darker green. Click on any county to get the population counts and growth rates for that county.

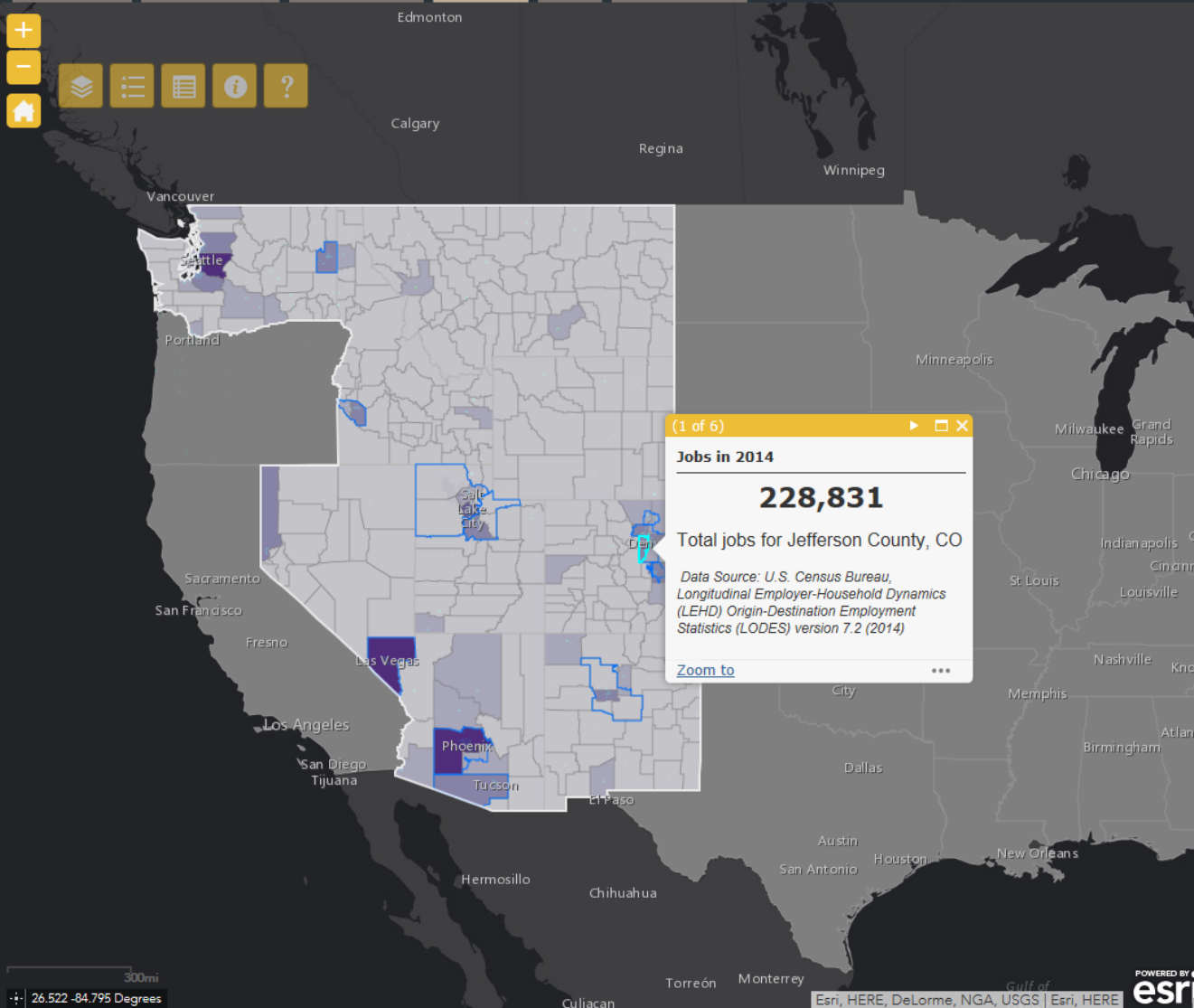


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Map navigation controls including zoom in (+), zoom out (-), home, layers, list, info, and help icons.

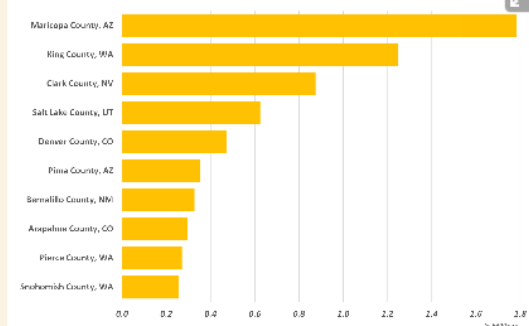


## Economic Influences on Transportation

Transportation and economic development often go hand in hand. Businesses often choose to locate in accessible locations that combine efficient transportation with housing selections, 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.

Top 10 Counties - Total Jobs in 2014



Data Source: Longitudinal Employer-Household Dynamics (LEHD), Origin-Destination Employment Statistics (LODES)

# Project Resources

www.azmag.gov/Programs/Economic-Development/SHRP2-Expediting-Project-Delivery-Grant

MARICOPA ASSOCIATION of GOVERNMENTS

HOME ABOUT US COMMITTEES PROGRAMS NEWSROOM JOBS / RFPS & RFQS

Programs / Economic Development / SHRP2 Expediting Project Delivery Grant

## SHRP2 Expediting Project Delivery Grant

Federal Highway Administration Strategic Highway Research Program (SHRP2): Expediting Project Delivery Grant

The Strategic Highway Research Program (SHRP2) Expediting Project Delivery Grant (C19) is awarded by the Federal Highway Administration (FHWA) to the Maricopa Association of Governments (MAG). The grant enables MAG to work with other agencies in the Intermountain West region. Together, they conduct outreach and develop strategies for sharing information with the goal of expediting key global transportation projects in the Intermountain West.

The Intermountain West Region is critical to the long-term economic vitality of this nation. The purpose of the grant is to enable agencies in the region to conduct outreach to transportation management areas and state departments of transportation to identify needs and potential gaps in transportation and data resources. It also seeks to develop a common operating vision and platform for easier data information sharing. Another goal is to develop a risk register; a method of documenting various levels of risks that can prevent successfully achieving the goals and objectives of an activity. Risks may include cost increases, unexpected archeological findings, and insufficient funding.

Now is the time to address the transportation network and other infrastructure in the region to enhance global competitiveness. Once they are developed, nationally significant corridors within the region will strategically link the movement of people and freight.

- Materials
- Maps
- Presentations
- Surveys
- Webinars

Contacts Related Projects

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Anubhav Bagley

**Regional Program Manager**  
Denise McClafferty

**Regional Research Analyst II**  
Natalia Cuneo

SHRP2 Final Report

SHRP2: Tools for the Road Ahead Video

Intermountain West Interactive Story Map

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



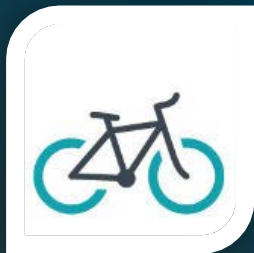
Employment



MapLIT



Land Use



Bikeways



Neighborhoods



Projections



RAD



Spine Study

[maps.azmag.gov](https://maps.azmag.gov)

# 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







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