



# Arizona DOT and GIS

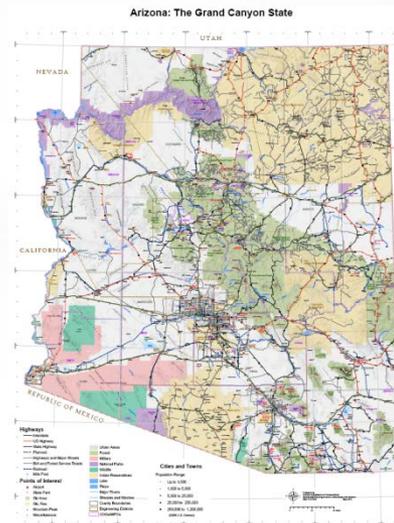
SHRP2 Technical Meeting  
August 27<sup>th</sup>, 2015

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Senior GIS Analyst



# Arizona Department of Transportation

- ❑ Maintain the roadway network and its facilities
- ❑ No centralized GIS Group
- ❑ Multimodal Planning Division
  - ❑ Maintain the Linear Referencing System
  - ❑ Roadway Characteristics
  - ❑ Data Requests – Geocoding/Reverse Geocoding
  - ❑ Mapping Requests
  - ❑ Online Mapping (APLAN)



Geocoding

Drag and drop CSV file on the map (HTML5) or select the file on disk.

Event Type:  Point  Line

Geocoding Method:  Measures  Referent/Offset  Coords

Route Selection:

Route Column:

Cardinality Column:

From Location:

Crossing Feature Column:

Crossing Cardinality Column:

Crossing Type Column:

Offset Column:

Units Column:

To Location:

Crossing Feature Column:

Crossing Cardinality Column:

Crossing Type Column:

Offset Column:

Units Column:

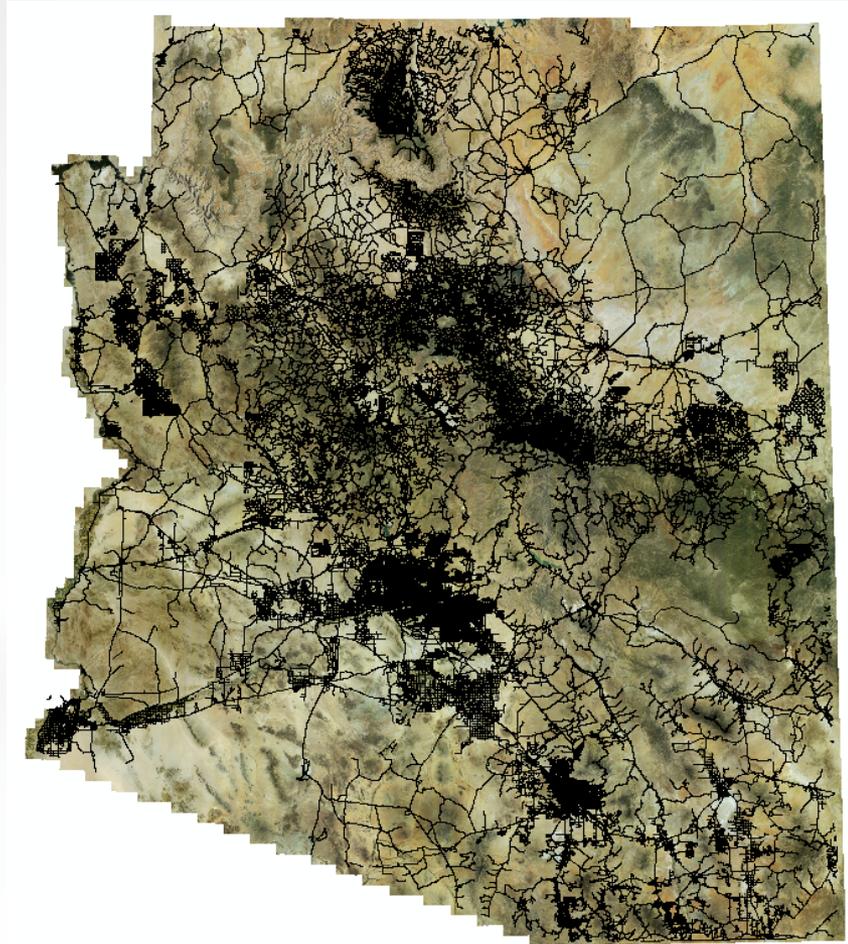
# Regional Overview

- ❑ Joined the union in 1912
- ❑ The 5 C's of Arizona
- ❑ More than half of the state's population resides in the Phoenix Metro Area
- ❑ Landscapes include desert, mountains, forest, and canyons
- ❑ 18,712 of roadway lane miles
- ❑ 67% of State are Federal Lands (Tribal and Forest)



# GIS Data and Projects

- ATIS – Linear Referencing System (Roads and Highways)



# GIS Data and Projects

- ❑ ATIS – Linear Referencing System (Roads and Highways)
- ❑ RCI – 98 Event Feature Classes
  - ❑ Through Lanes, Functional Classification, etc.

ADOT Roads & Highways RCI Data Model (v 7.0) Enterprise GIS / LRS  
Roadway Characteristics Inventory (RCI) Data Enhancement & Cleanup

**Overview** **Event Classes** **Domains**

**Event ThroughLane** Roll-up to LaneWidth  
Aggregation of appropriate discrete-level data into [LaneWidth]

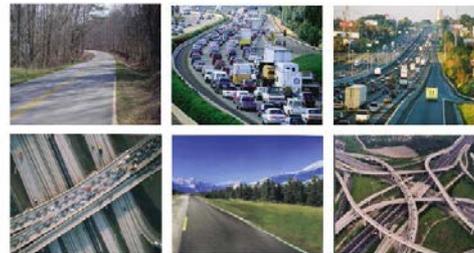
Field name	Data type	Allow nulls	Default value	Domain	Prec-ision Scale Length
OBJECTID	Object ID				
FromDate	Date	Yes			0 0 8
ToDate	Date	Yes			0 0 8
EventId	Guid	Yes			0 0 38
RouteId	String	Yes			0 0 32
FromMeasure	Double	Yes			0 0
ToMeasure	Double	Yes			0 0
NumberOfLanes	Short integer	Yes			0 0
AvgLaneWidthFt	Double	Yes			0 0
LanesComment	String	Yes			100
FromReferentLocation	String	Yes			50
FromReferentMethod	Short integer	Yes	0		50
FromReferentOffset	String	Yes			50
ToReferentLocation	String	Yes			50
ToReferentMethod	Short integer	Yes	0		50
ToReferentOffset	String	Yes			50
SourceDataset	String	Yes			255
OnRoadError	String	Yes			60

# GIS Data and Projects

- ❑ ATIS – Linear Referencing System (Roads and Highways)
- ❑ RCI – 98 Event Feature Classes
  - ❑ Through Lanes, Functional Classification, etc.
- ❑ HPMS – Annual Federal Submittal

## Highway Performance Monitoring System

### Field Manual

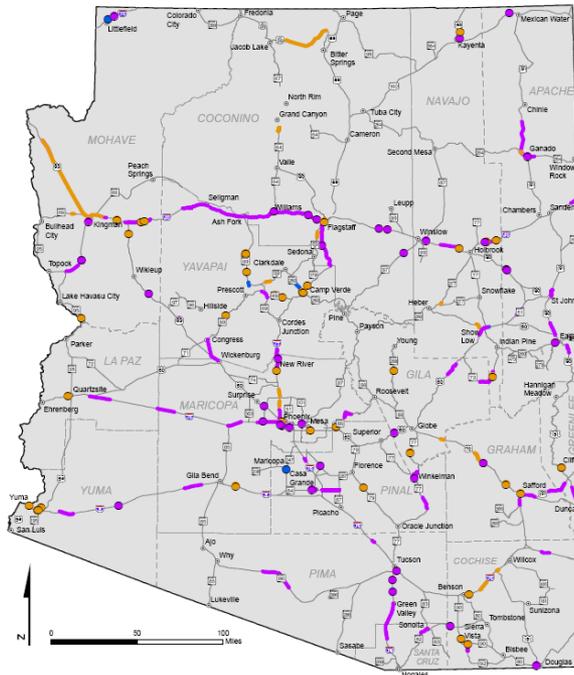


Office of Highway Policy Information

March 2012

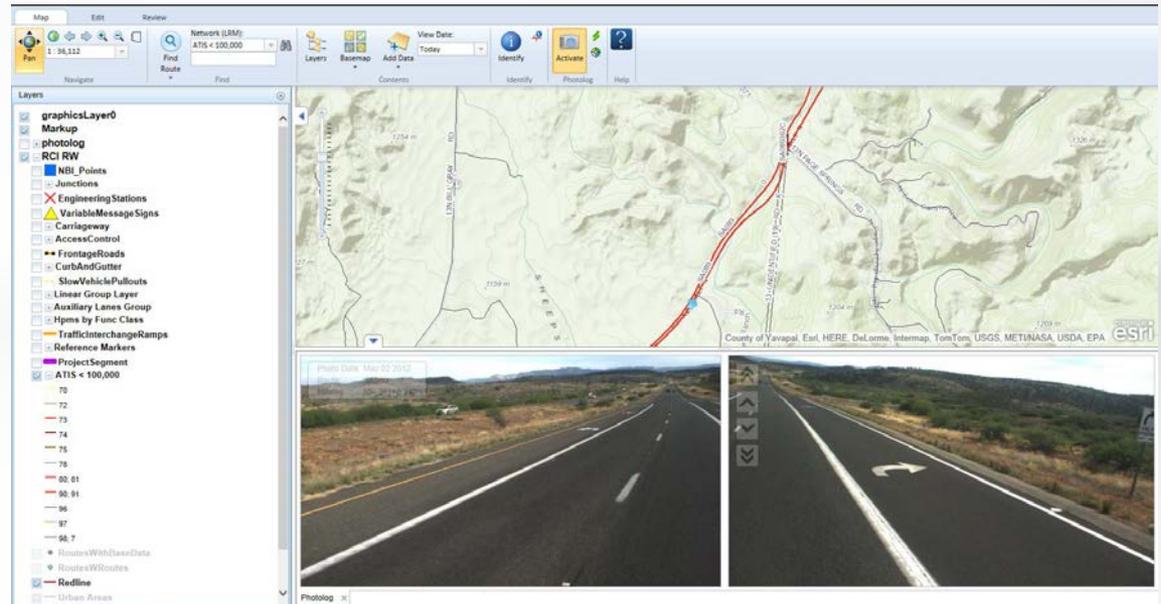
# GIS Data and Projects

- ❑ ATIS – Linear Referencing System (Roads and Highways)
- ❑ RCI – 98 Event Feature Classes
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- ❑ HPMS – Annual Federal Submittal
- ❑ 5-Year Program



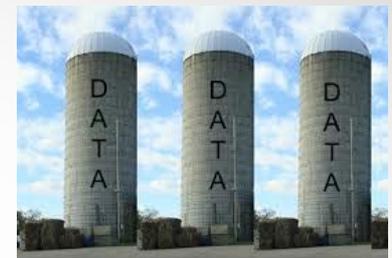
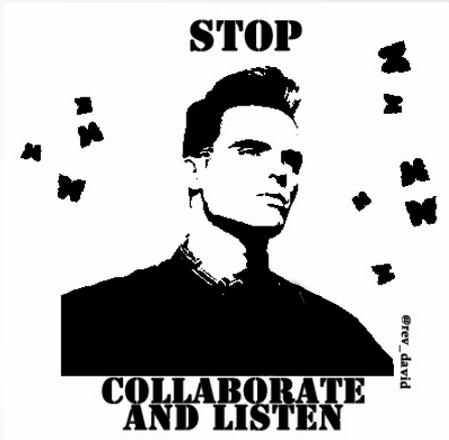
# GIS Data and Projects

- ❑ ATIS – Linear Referencing System (Roads and Highways)
- ❑ RCI – 98 Event Feature Classes
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- ❑ HPMS – Annual Federal Submittal
- ❑ 5-Year Program
- ❑ Photo log



# Challenges and Opportunities

- ❑ Working with local agencies
  - ❑ ARNOLD
  - ❑ E911
- ❑ Implementing an agency wide LRS
- ❑ Breaking down data silos
- ❑ Public Safety – Wrong Way Drivers



Data Strong – Information Weak

# Any Questions?

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