

# Functional Classification



Information



# What is Func Class?

- ▶ The 1991 Intermodal Surface Transportation Act required every state to Functionally classify their roadways.
- ▶ The Functional Classification of a road is based primarily on the character of that road.
- ▶ 2010 Classifications include:
  - 1 – Interstates
  - 2 – Freeways
  - 3 – Principal Arterials
  - 4 – Minor Arterials
  - 5 – Major Collectors
  - 6 – Minor Collectors
  - 7 – Local Roads



# Why is Func Class important cont'd



- ▶ Funding - In general, a road must be classified as a Major Collector or above to receive funding.
- ▶ 15% of STP funds can be used for Minor Collectors
- ▶ All data collected in HPMS is based on the Functional Classification of a roadway.  
For example: HPMS requires more data to be collected on roadways that are classified above Minor Collector.

# How to Functionally Classify your Roads



- ▶ Making changes to the functional classification system is a collaborative effort between local, county, COG/MPO, state, and FHWA officials.
- ▶ Most of SEAGO's functionally classified roads were reviewed and set in 2004/2005.
- ▶ Some minor adjustments may be needed, such as Major Collectors and Minor Arterials where urban sprawl has occurred. We will come back to this later.

# How to Functionally Classify your Roads cont'd



- ▶ Traffic counts are a useful tool in determining the functional classification of a roadway. But not always.
- ▶ Schools, hospitals, sporting facilities, transportation depots, etc. can warrant a higher classification.
- ▶ The system should maintain connectivity and exist in a hierarchical order.
- ▶ Principal Arterials should connect cities with cities. In most cases these are state highways.
- ▶ The functional class system should make logical sense.



# How to Functionally Classify your Roads cont'd



- ▶ Urban boundaries are no longer a factor in determining the functional classification of your roadways. Although you can use them as a guide.
- ▶ FHWA guidelines (2010)

Local roads (Code 7) should account for no less than 65% of all your roadway mileage.

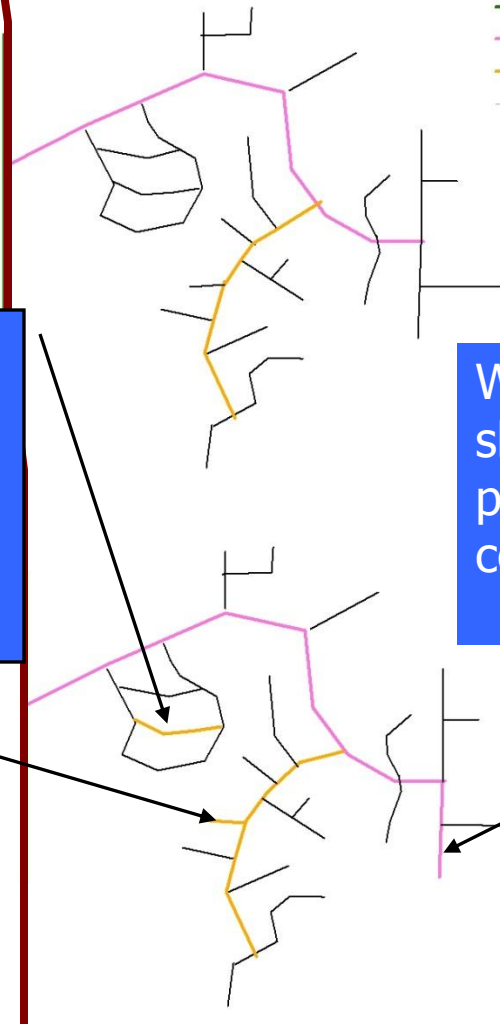
Collectors and Arterials combined (Codes 1,2,3,4,5,6) should account for no more than 35% of all your roadway mileage.

Connectivity examples

**FUNCCODE2010**

- 1 - Interstate
- 2 - Principal Arterial Freeways
- 3 - Principal Arterial
- 4 - Minor Arterial
- 5 - Major Collector
- 6 - Minor Collector
- 7 - Local

Proper connectivity



This Minor Collector does not connect to a Major Collector or above, this is also a hierarchal issue.

Which map shows proper connectivity?

This Minor Collector should not terminate at a dead end, where no traffic is generated

This Major Collector should not terminate at a dead end, where no traffic is generated

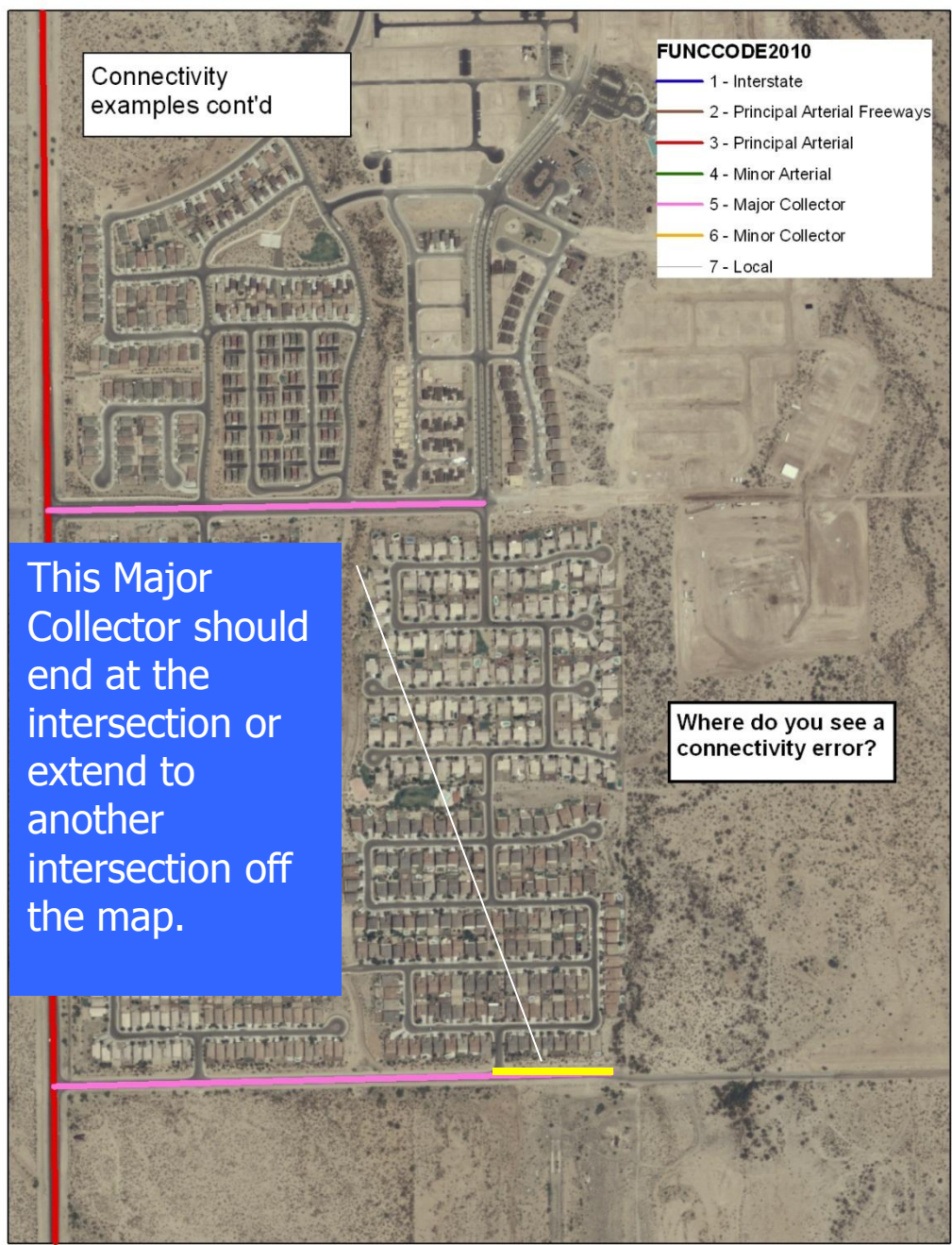


Connectivity examples cont'd

- FUNCCODE2010**
- 1 - Interstate
  - 2 - Principal Arterial Freeways
  - 3 - Principal Arterial
  - 4 - Minor Arterial
  - 5 - Major Collector
  - 6 - Minor Collector
  - 7 - Local

This Major Collector should end at the intersection or extend to another intersection off the map.

Where do you see a connectivity error?



Connectivity  
examples cont'd

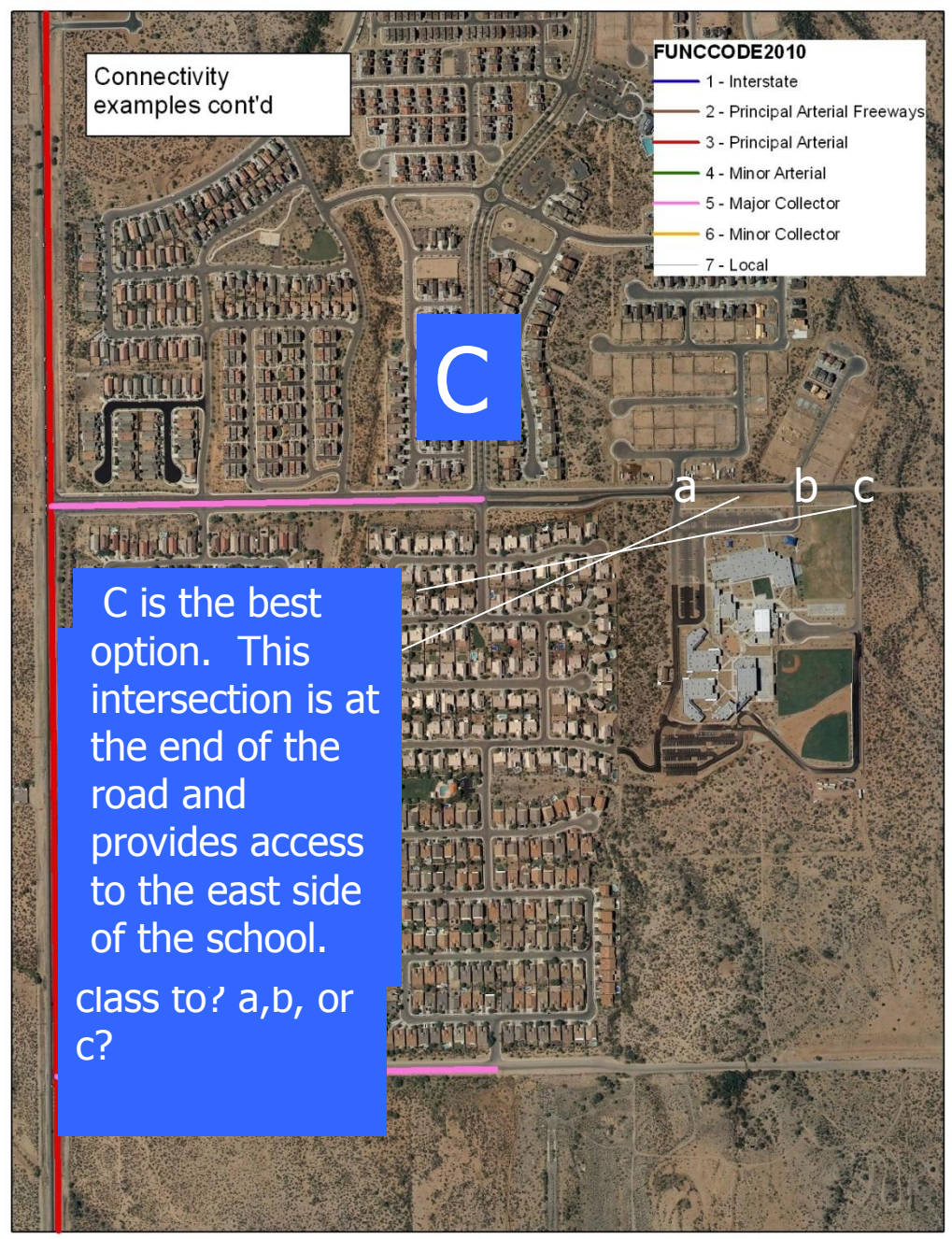
- FUNCCODE2010**
- 1 - Interstate
  - 2 - Principal Arterial Freeways
  - 3 - Principal Arterial
  - 4 - Minor Arterial
  - 5 - Major Collector
  - 6 - Minor Collector
  - 7 - Local

C

a b c

C is the best option. This intersection is at the end of the road and provides access to the east side of the school.

class to? a,b, or c?

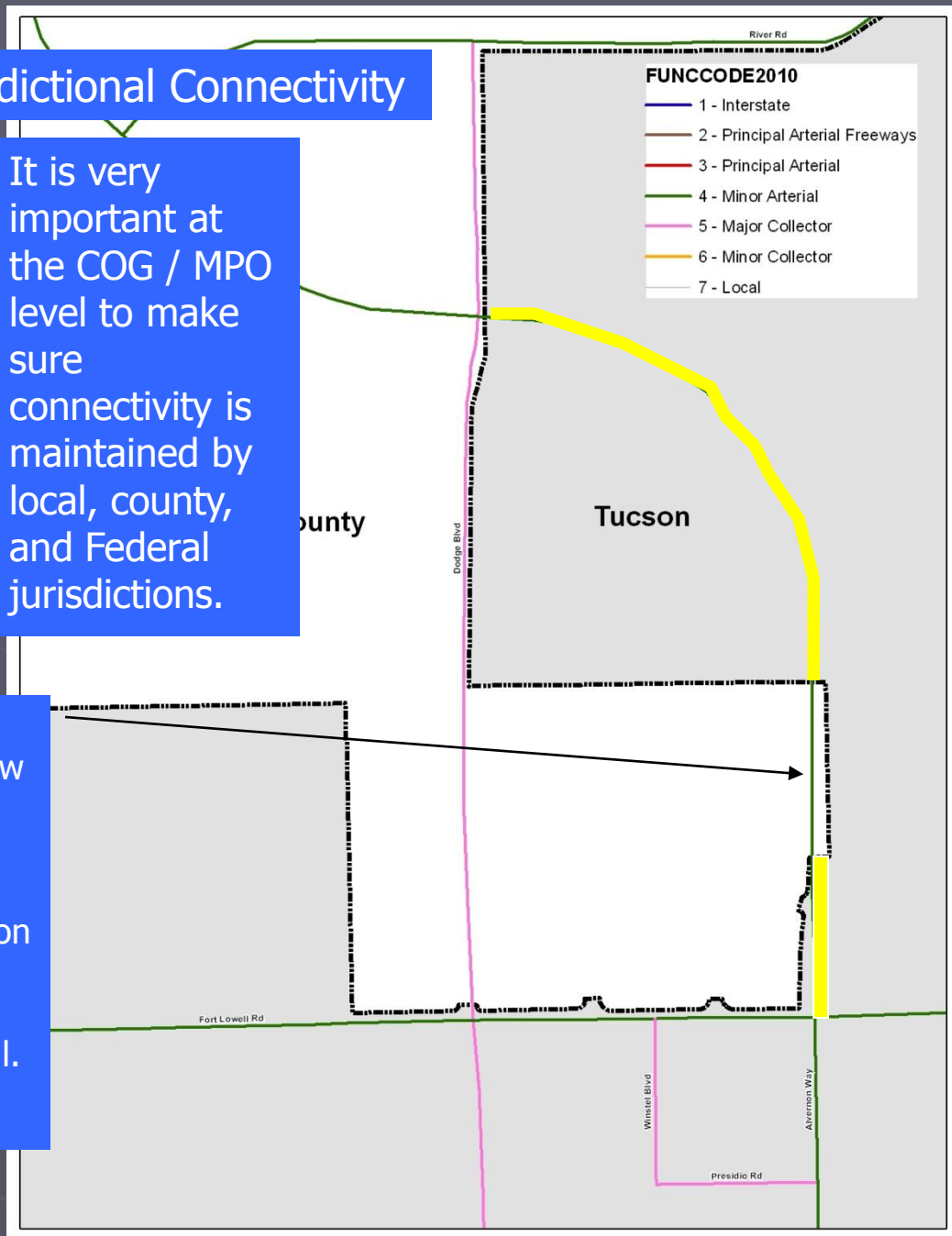




# Jurisdictional Connectivity

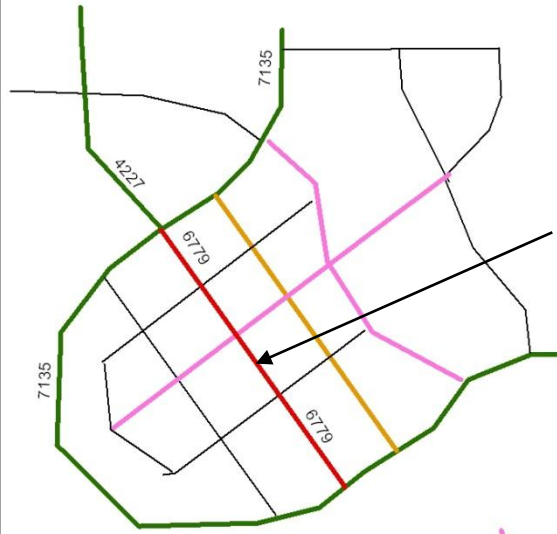
It is very important at the COG / MPO level to make sure connectivity is maintained by local, county, and Federal jurisdictions.

Both of these sections in yellow can not be approved for classification unless the portion in between is requested to be classified as well.



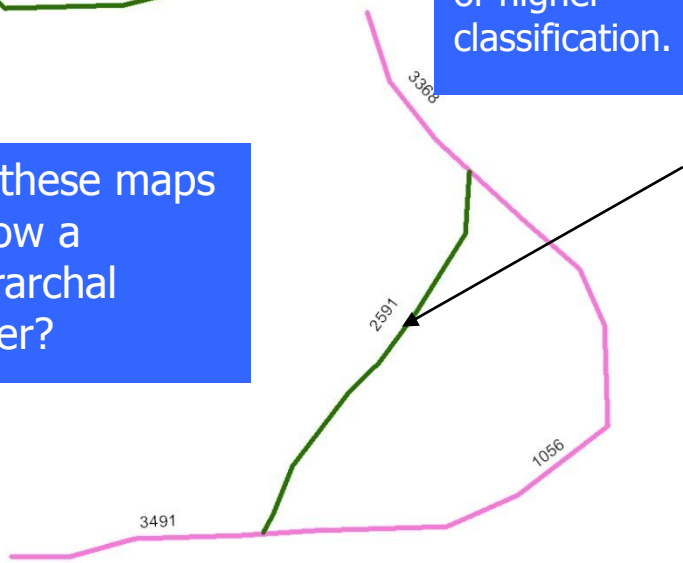
Hierarchal example

- FUNCCODE2010**
- 1 - Interstate
  - 2 - Principal Arterial Freeways
  - 3 - Principal Arterial
  - 4 - Minor Arterial
  - 5 - Major Collector
  - 6 - Minor Collector
  - 7 - Local



This road should not be a Principal Arterial because both ends do not connect with a road of the same or higher classification.

Do these maps follow a hierarchal order?



No traffic is generated on this road, so how could it be classified above the 2 roads that feed it ?

# Current SEAGO percentages



Collector and above 1604.2 miles = 26 %  
Locals 4517.1 miles = 74 %

## FHWA 2010 guidelines:

Collector and above < 35 % 26 % = Good  
Locals > 65 % 74 % = Good

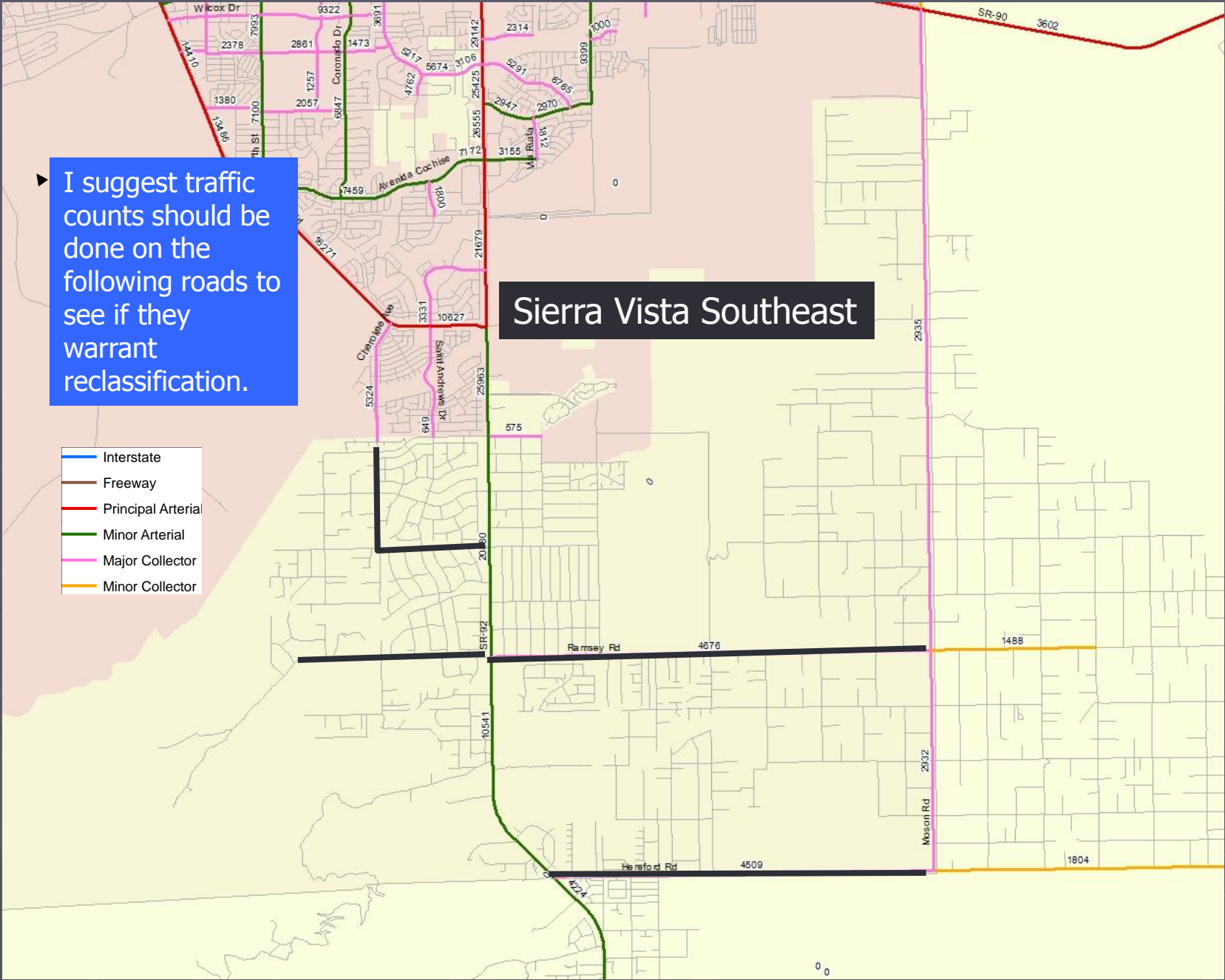
## FHWA pre 2010 guidelines:

	Mileage	FHWA
Urban principal & minor arterials	105.5 = 13 %	15 – 25 %
Urban collectors	117.3 = 14 %	5 – 10 %
Urban locals	589.4 = 73 %	65 – 80 %
Rural principal & minor arterials	354.0 = 7 %	6 – 12 %
Rural collectors	1027.4 = 19 %	20 – 25 %
Rural locals	3927.7 = 74 %	65 – 75 %

I suggest traffic counts should be done on the following roads to see if they warrant reclassification.

# Sierra Vista Southeast

- Interstate
- Freeway
- Principal Arterial
- Minor Arterial
- Major Collector
- Minor Collector





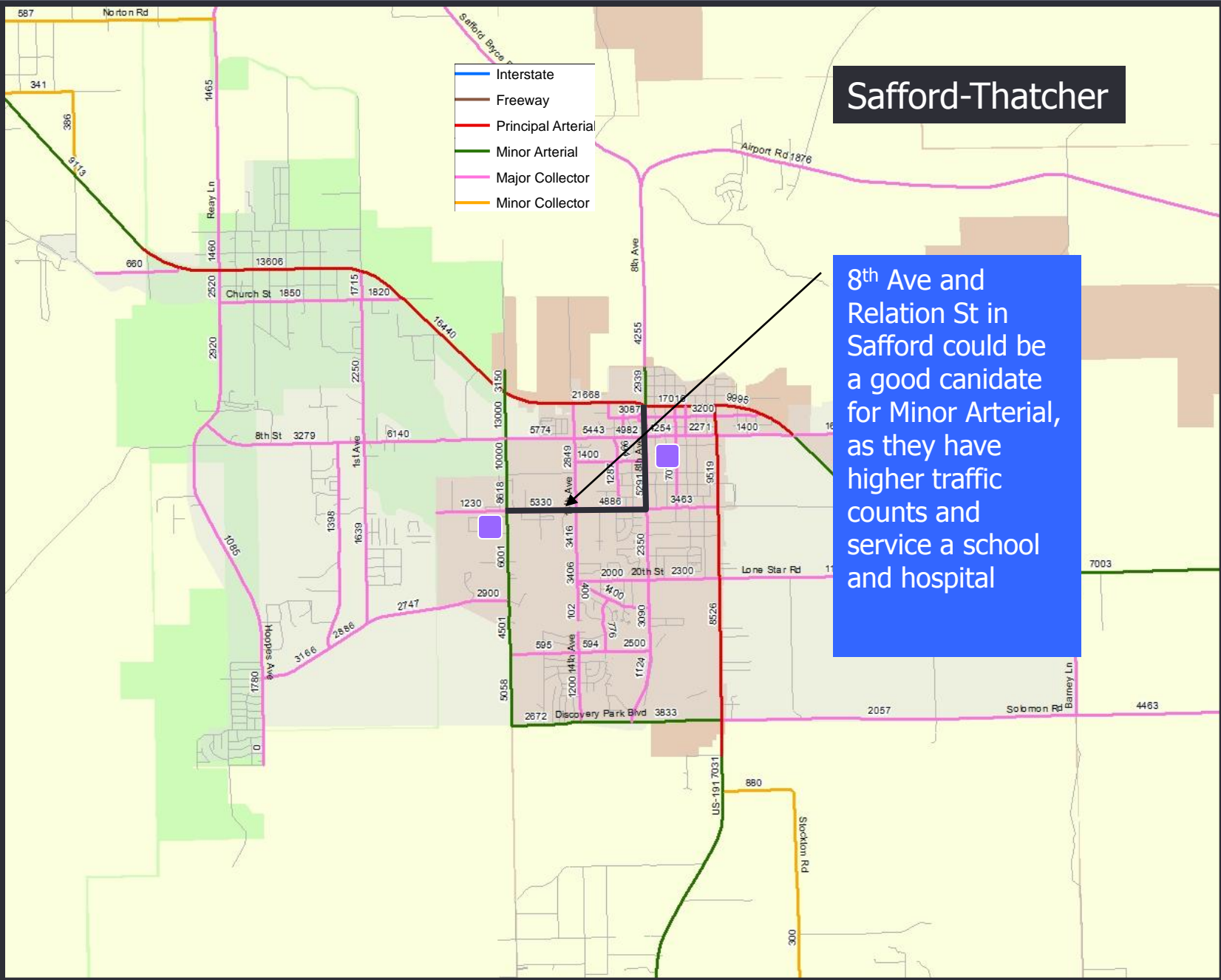




# Safford-Thatcher

- Interstate
- Freeway
- Principal Arterial
- Minor Arterial
- Major Collector
- Minor Collector

8th Ave and Relation St in Safford could be a good candidate for Minor Arterial, as they have higher traffic counts and service a school and hospital

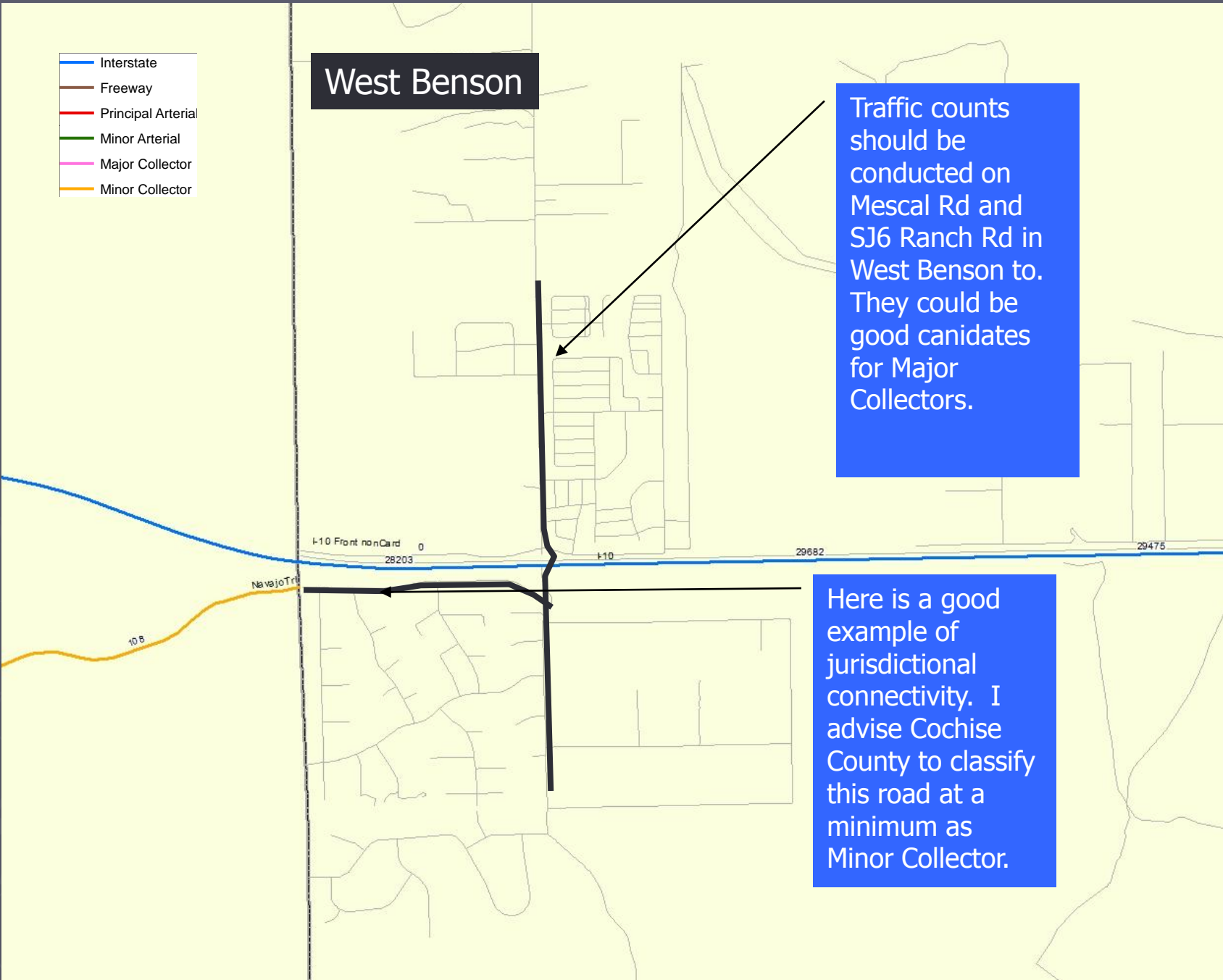


- Interstate
- Freeway
- Principal Arterial
- Minor Arterial
- Major Collector
- Minor Collector

# West Benson

Traffic counts should be conducted on Mescal Rd and SJ6 Ranch Rd in West Benson to. They could be good candidates for Major Collectors.

Here is a good example of jurisdictional connectivity. I advise Cochise County to classify this road at a minimum as Minor Collector.

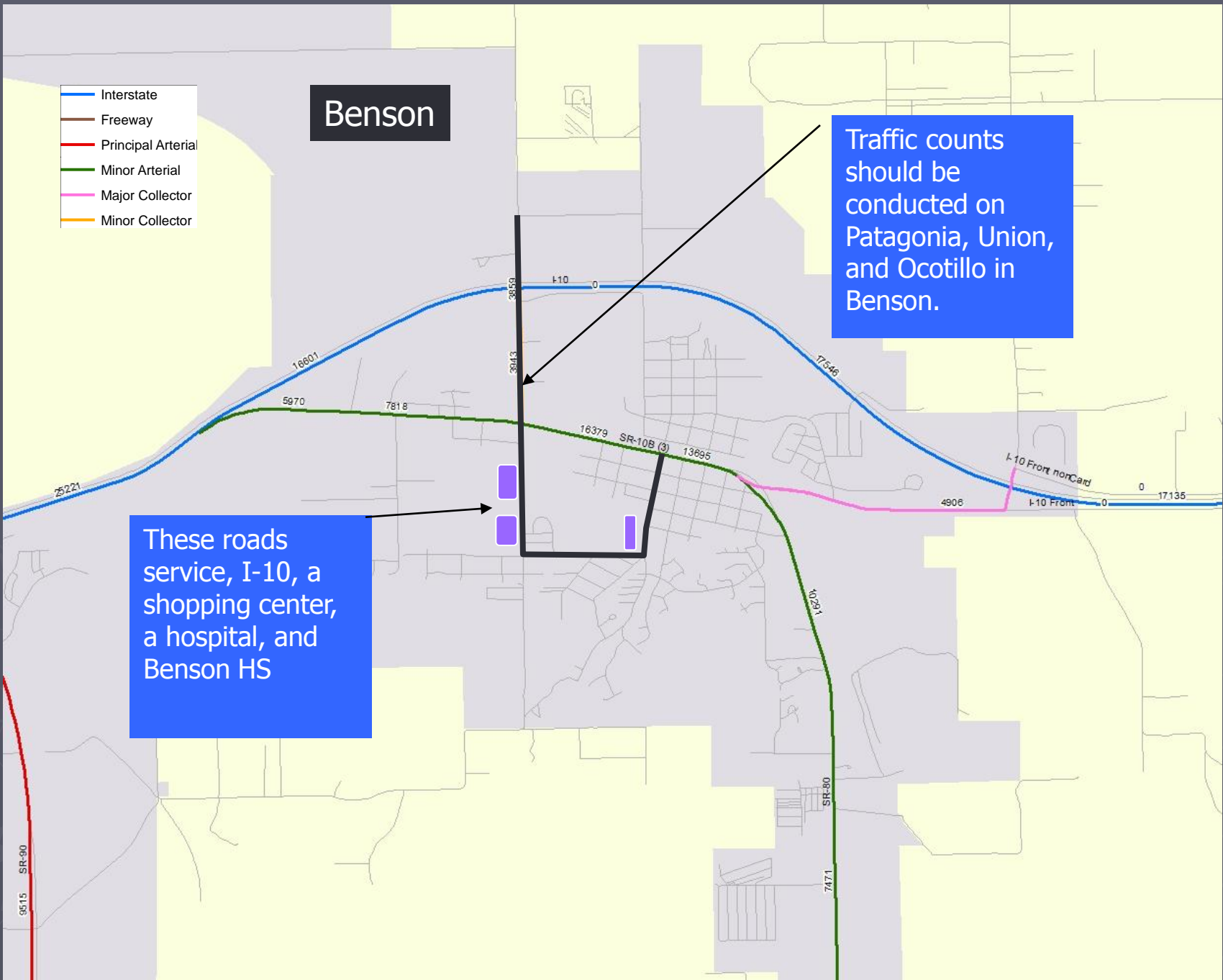


# Benson

- Interstate
- Freeway
- Principal Arterial
- Minor Arterial
- Major Collector
- Minor Collector

Traffic counts should be conducted on Patagonia, Union, and Ocotillo in Benson.

These roads service, I-10, a shopping center, a hospital, and Benson HS



# Preparing your reclassification request



- ▶ 1. Go to the ADOT homepage and click on “Maps” in the left menu. [www.azdot.gov](http://www.azdot.gov)
- ▶ 2. Click on “Functional Classification” in the right menu.
- ▶ 3. On this page there is some useful info. Click on “Worksheet for submitting a Reclassification Request” Also review ADOT or FHWA Func class manuals provided.
- ▶ 4. Use the maps on the ADOT functional classification website to view your current func class schema.





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- Highways
- Inside ADOT
- Motor Vehicle Division
- Planning & Transit
- State Transportation Board
- Maps
- Contact ADOT

### Maps Link

Arizona's highways rank among nation's 'smoothest' [read more...](#)



Travel the state with *Arizona Highways*

#### Driver and Vehicle Services

- Online Services
- Office Hours & Locations
- Driver Services
- Vehicle Services
- Special Plates
- Aircraft Registration

[more...](#)

#### Doing Business with ADOT

- Contract Compliance (DBE & Labor)
- Contractors & Consultants Info
- Electronic Bidding
- Employment
- Investor Information and Financial Program Data
- Public Private Partnerships (P3)
- Properties for Sale or Rent

[more...](#)

#### Travel Information and Projects

- AZ511 (Travel Info)
- Statewide Projects
- Valley Freeways
- Arizona Highways Magazine
- Building a Quality Arizona
- What Moves You Arizona
- Recovery Act (ARRA)
- Rest Area Map

[more...](#)

#### ADOT IN THE NEWS

Alerts > Traffic Alerts for Statewide Projects

- 01/19/11 ADOT launching Loop 101 HOV lanes project between SR 51 and I-10 in West Valley
- 12/31/10 Major Highways Open: Travelers Warned of Congestion, Travel Delays Near Snow Play Areas
- 12/29/10 Moving Into 2011, ADOT Reflects on Accomplishments of 2010
- 12/08/10 Statement regarding Mesa Police Department's criminal investigation
- 12/07/10 I-10 narrowed to one lane in both directions Sunday - Thursday nights near Casa Grande
- 12/02/10 Travel Alert: Winter season brings annual highway closures

[more...](#)

Governor's Web Site

Arizona OpenBooks  
OpenBooks.az.gov  
Arizona's Official Transparency Website  
GAO Open Books Web Site



Arizona Department of Transportation



Arizona Department of Transportation

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MPD - Multimodal Planning Home Page

Home Page

- Systems and Regional Planning
- Community and Grant Services
- Transportation Programming
- Traffic Data
- Air Quality
- Airport Development
- Geographic Information Systems (Maps)
- Research Center
- Administration
- Contact Us

### Maps

**Interactive Mapping Temporarily Unavailable**

All of our maps were created using ESRI's Arc/Info and ArcView software. Below is a collection of our most requested maps.

Are you looking for a *State Highway Tourist map*?

**Notes:**

\* You will need to have *Adobe Reader* (a free product) installed on your system in order to print and/or read the maps.

Func Class Link



- About ADOT GIS
- GIS Projects
- GIS Maps
- Functional Classification

Map/Description	View PDF
<p><b>2009 Map Book</b> Contains our most popular maps. This is a large file, it's recommended that you have a high speed connection to download it. Alternatively, you may download it in sections.</p> <p>The sections are organized as follows:</p> <ol style="list-style-type: none"> <li>1. Arizona Highway System</li> <li>2. Transportation Board Districts</li> <li>3. Engineering and Maintenance Districts</li> <li>4. Statewide Boundaries</li> <li>5. ADOT Facilities</li> <li>6. Alternative Modes of Transportation</li> <li>7. Metropolitan Areas</li> <li>8. Tourism/Commerce</li> </ol>	<p>Full Book 10.1 MB</p>
<p><b>Transit Services</b></p> <p>Map showing locations of Elderly and Persons with Disabilities Programs, FTA Section 5310 Map showing locations of Rural Public Transportation Programs, FTA Section 5311</p>	<ul style="list-style-type: none"> <li>• 5310 302 KB</li> <li>• 5311 301 KB</li> </ul>
<p><b>Airports</b> Map showing Commercial and Military airports</p>	<p>Map 372 KB</p>
<p><b>Railroads</b> Map showing Arizona Railways</p>	<p>Map 201 KB</p>
<p><b>Transportation Board Districts (TBD)</b>, Map showing TBD Boundaries Board District 1 (Maricopa) Board District 2 (Pima) Board District 3 (Cochise, Greenlee, Santa Cruz) Board District 4 (Gila, Graham, Pinal) Board District 5 (Apache, Coconino, Navajo) Board District 6 (La Paz, Mohave, Yavapai, Yuma)</p>	<ul style="list-style-type: none"> <li>• Map 482 KB</li> <li>• District 1 134 KB</li> <li>• District 2 87 KB</li> <li>• District 3 116 KB</li> <li>• District 4 182 KB</li> <li>• District 5 190 KB</li> <li>• District 6 172 KB</li> </ul>







- Systems and Regional Planning
- Community and Grant Services
- Transportation Programming
- Traffic Data
- Air Quality
- Airport Development
- Geographic Information Systems (Maps)
- Research Center
- Administration
- Contact Us

### Functional Classification

The 1991 Intermodal Surface Transportation Act required each state to functionally reclassify its public roads and undertook the task of coordinating with federal, state and local jurisdictions in order to functionally classify Arizona's roads. Functional Classification process can be found in the following documents:

- [Process for Modifying Routes on Arizona's Functional Classification System](#)
- [Arizona Functional Classification Guidelines](#)
- [Worksheet for submitting a Reclassification Request](#)
- [FHWA Guidelines](#)  
From the March 1989 FHWA report "Highway Functional Classification: Concepts, Criteria and Procedures"
- [Updated Functional Classification Maps](#)
- [Approved Urban Area boundary maps](#)  
*"Smoothed" maps based on the 2000 Census*

Func Class manuals and guidelines

Func Class worksheet

Current Func Class maps

Documents are posted as they become available in PDF format, which requires Adobe Reader to view.



- About ADOT GIS
- GIS Projects
- GIS Maps
- Functional Classification





## Preparing your reclassification request cont'd

- ▶ 5. Fill out a worksheet for each individual func class change and attach a map showing the proposed change, or a single map showing all of the changes if they occur in the same area.
- ▶ 6. The COG or MPO needs to check the reclassifications and make sure that jurisdictional connectivity and hierarchy is maintained.
- ▶ 7. The COG or MPO needs to create a memo for ADOT that approves or disapproves of the func class requests.

This is an example of how to fill out a functional Classification worksheet.

## Functional Classification Worksheet

Road Name: Park Ave Length: 3.65 miles

Limits (termini): From 3rd St to Oak St

Current Functional Classification: Local Rd

Proposed Functional Classification: Major Collector

Most recent traffic count (ADT): 3,565 mm/dd/yyyy 02/23/2010

Is this a future road? Construction must begin within 4 years. (circle one)  Yes or  No

Has the local agency (owner) committed to funding any construction projects on this route (i.e. new construction, improvements, etc) , excluding or outside of any Federal funds?

(circle one)  Yes or  No

If yes, attach a copy of any documentation to this request

Has the regional planning body approved this request? (circle one)  Yes or  No

If yes, attach a copy of either a) an adopted resolution passed by the regional planning body; or (b) an approved motion shown in the minutes from an official meeting of the regional planning body.

**Request Criteria:** Describe the reason for this request below (attach additional pages as necessary).

If applicable, provide information on any specific traffic generators, population/housing changes (official Census or DES estimates), private or public development in the area, commercial/industrial activity and any other pertinent information that will help to justify this request. Please cite specific data and data sources for all figures used in the justification. Attach a map of the area with the route indicated on the map. Maps may be printed from the ADOT website at <http://tpd.az.gov>. Legible, handwritten notes on the map are acceptable.

All items should be filled out. If the road is not built yet, there will obviously be no traffic counts. However, you can give an estimated or projected traffic count.

Another example of a worksheet, this one has the map inserted into the space provided.

## Functional Classification Worksheet

Road Name: Patte Road Length: 1.14

Limits (termini): Haskell Avenue to Bisbee Avenue

Current Functional Classification: Rural Local Road

Proposed Functional Classification: Rural Minor Collector Road

Most recent traffic count (ADT): 335 (48 hrs) Year: 2009

Is this request consistent with the transportation plan? (circle one)  Yes or  No

Has the local agency (owner) committed to funding any construction projects on this route (i.e. new construction, improvements, etc) , excluding or outside of any Federal funds? (circle one)  Yes or  No

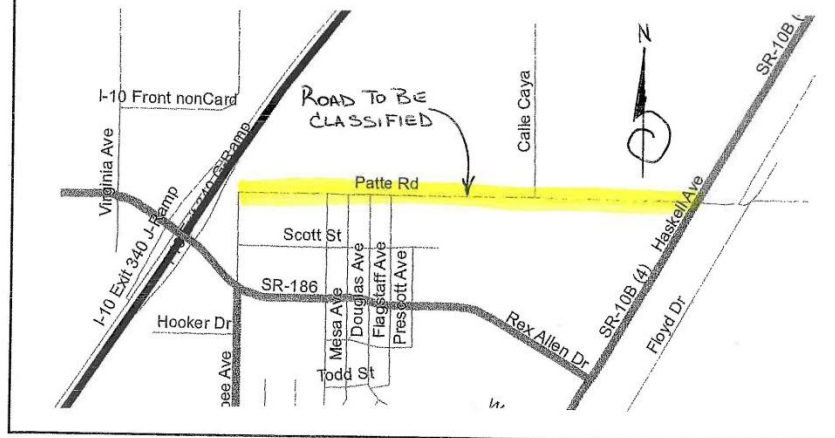
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Patte Road connects to Haskell Avenue and Bisbee Avenue which are Rural Major Collector Roads. It is a gravel road at this time but is budgeted for a road construction in fiscal year 2009-2010. It will be budgeted for double chip seal on budget year 2010-2011. It serves a predominant livestock yard which brings heavy semi traffic.



Example of Memo included with func class requests.



302 North 1st Avenue, Suite 300 ▲ Phoenix, Arizona 85003  
Phone (602) 254-6300 ▲ FAX (602) 254-6490  
E-mail: [meg@mag.maricopa.gov](mailto:meg@mag.maricopa.gov) ▲ Web site: [www.mag.maricopa.gov](http://www.mag.maricopa.gov)

July 29, 2009

Ms. Jennifer Toth, P.E.  
Division Director  
Multimodal Planning Division (MPD)  
Arizona Department of Transportation  
206 South 17th Avenue  
Phoenix, Arizona 85007-3213

Re: Federal Functional Classification of Roadways in the MAG Planning Area

Dear Ms. Toth:

On June 24, 2009 and July 22, 2009, the MAG Regional Council took action to recommend that the following roadways be classified as Rural Major Collector or Urban Minor Arterial as appropriate.

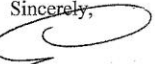
- Vulture Mine Rd, US 60 to Northern Town Limit of Wickenburg
- Pecos Road, 51st Avenue to East of Tashquith Drive
- Estrella Drive, 67<sup>th</sup> Avenue to San Juan Avenue
- Norterra Parkway, Happy Valley Road to North Valley Parkway
- Maricopa Road, Queen Creek Road to Wild Horse Pass Boulevard
- Fort McDowell Road, State Route 87 to Fort Loop Road
- Mojave Road, Pueblo Boulevard to Fort McDowell Road
- Yavapai Road, Pueblo Boulevard to Fort McDowell Road

It is requested that ADOT take appropriate action to review these requests and forward them to the Federal Highway Administration for their review and approval. All of these facilities are currently programmed to receive American Recovery and Reinvestment Act funding for Federal Fiscal Year 2009.

Application forms and maps for each of the reclassification requests are included with this letter.

If you have questions regarding this matter or need additional information, please contact me or Stephen Tate at (602) 254-6300.

Sincerely,

  
Eric Anderson  
Transportation Director

cc: Ed Stillings, FHWA  
Bill Vachon, FHWA  
John Dickson, ADOT  
Mark Hodges, ADOT

FHWA should not be courtesy copied





## Preparing your reclassification request cont'd

▶ All documents can be submitted via email or mailed. However, I do need to see a signature on the memo.

[MMcGill@azdot.gov](mailto:MMcGill@azdot.gov) p 602-712-7818

Questions?