

Determining Other Principle Arterial  
(OPA) base on model results

# List of Measures from the Functional Classification Manual

Measure	Scope	Description
Trip End Density	Principal Arterials	Used to determine roadway spacing – in downtowns allows for spacing as little as ½ mile; should generally be greater than one mile
Traffic volume	Principal Arterials	Used to select roadway
Percentage of intercity truck traffic	Principal Arterials	Used to select roadway – presumably for rural facilities
Percentage of intercity bus traffic	Principal Arterials	Used to select roadway – presumably for rural facilities
Share of traffic entering and leaving an urban area	Principal Arterials	
Share of through movements in an urban area	Principal Arterials	
Trip Length	Arterials	
Level of Access Control	Arterial	
Signal Priority – Percent Green Time	Other Principal Arterial	Arterials are given the majority of green time
Number of access points - driveways	Other Principal Arterial	Measure of access control
Number of intersecting roadways	Other Principal Arterial	Measure of access control
Speed Limit (presumably >35 mph)	Other Principal Arterial	
AADT	Other Principal Arterial	To be used as a “tie-breaker” when selecting between similar routes; discourages close parallel routes
AADT	Arterial	Carry highest traffic volumes
Number of thru lanes – 4 to 6	Arterial	
Continuity - Preserves continuity of freeways	Arterials	
Serves major activity centers	Urban OPA	
Lane width 11-12'	Urban OPA	
AADT – 2000-8500	Rural OPA	
AADT – 7000-27000	Urban OPA	

# List of Measures from the Functional Classification Manual – Urban OPA

Urban OPA - Qualitative Performance Description (pg. 15)	Possible Measures	Notes
Longest Trip Demands	<ul style="list-style-type: none"> <li>Average Trip Length</li> <li>Map of routes overlaying trip length data</li> </ul>	
Interconnect and provide continuity for major rural corridors to accommodate trips entering and leaving the Region	<ul style="list-style-type: none"> <li>Share of traffic moving through the region</li> <li>Map of routes and rural connectors</li> </ul>	Connection to Rural Principal Arterials (e.g. State Highways)
High share of traffic on minimal mileage	<ul style="list-style-type: none"> <li>ADT</li> <li>Mileage</li> <li>VMT</li> <li>Share VMT</li> </ul>	
Serve demand for intra-area travel between CBD and outlying residential routes	<ul style="list-style-type: none"> <li>Number of work trips</li> <li>Share of work trips</li> <li>Map of routes overlaying Employment Centers</li> <li>Map of routes overlaying trip end densities</li> </ul>	Proximity to major trip generators (p 27) <ul style="list-style-type: none"> <li>- CBD</li> <li>- Air, rail, bus, truck terminals</li> <li>- Regional shopping centers</li> <li>- Large colleges, medical complexes, military bases</li> <li>- Major industrial and commerce centers</li> <li>- Important recreational areas</li> </ul>
Highest Traffic Corridors	<ul style="list-style-type: none"> <li>ADT</li> <li>Map of routes overlaying traffic volume map</li> </ul>	

# Criteria Based on Network Characteristics and Model Results

- For all but rural streets:

<b>Criteria</b>	<b>Threshold (At least)</b>
Share of trips with length 9 miles and above <sup>1</sup>	50%
Average Daily Capacity per segment <sup>2</sup>	43,000
Average Daily VMT per segment <sup>3</sup>	5,000
Street length <sup>4</sup>	18 Miles

- For rural streets<sup>5</sup>:

<b>Criteria</b>	<b>Threshold (At least)</b>
Share of trips with length 9 miles and above <sup>1</sup>	50%
Average Daily VMT per segment <sup>3</sup>	5,000
Street length <sup>4</sup>	18 Miles

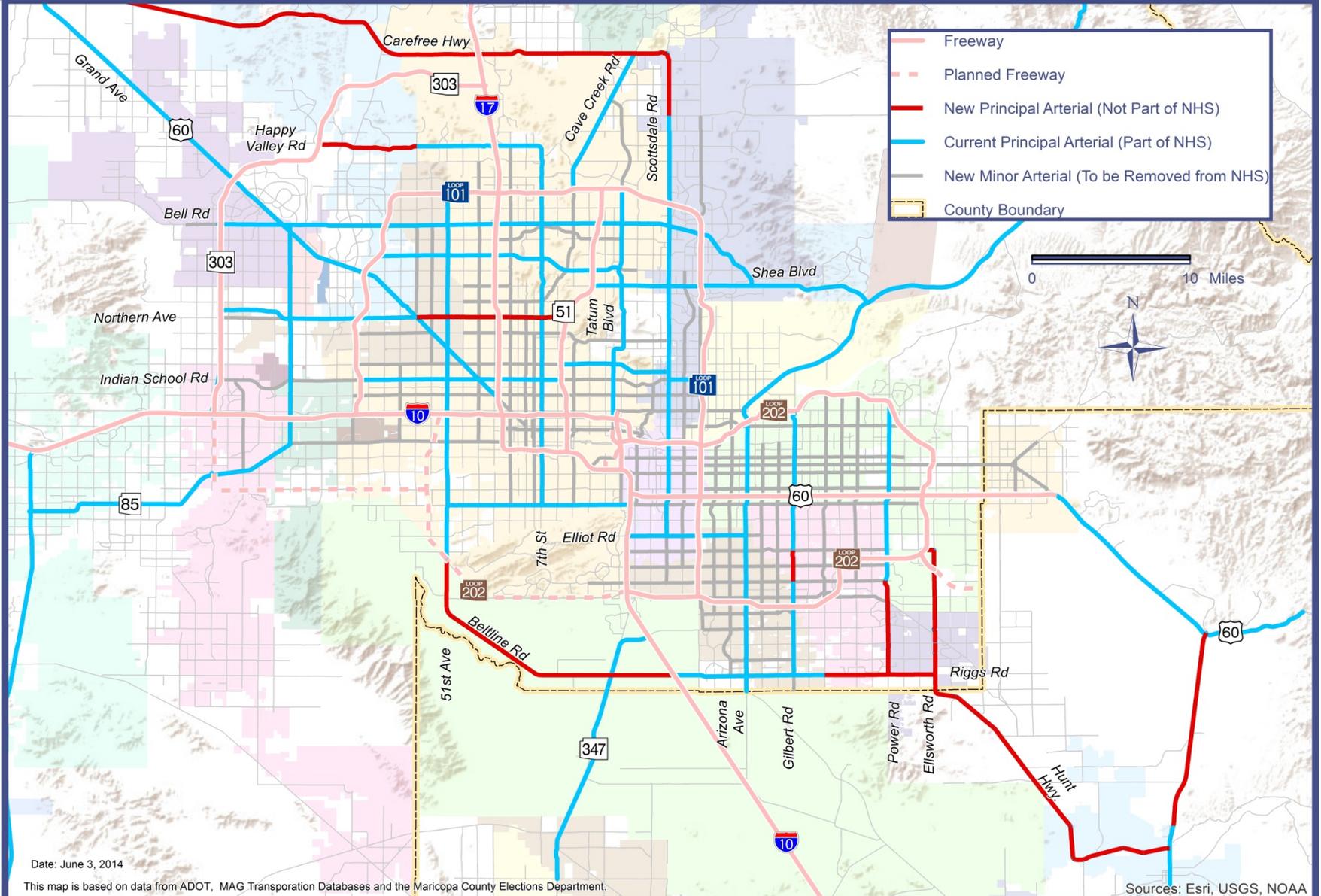
# Notes on the Criteria

1. The average trip length for passenger and commercial vehicles is 9.0 miles.
2. The Average Daily Capacity (2-way) per segment for all the arterial links is 43,000 vehicles.
3. The Average Daily VMT per segment for all the arterial links is 5,000.
4. The 80% percentile length for all the arterial streets with street name labelled in 2011 highway network is 18 miles.
5. US and state routes were excluded.

# Other Adjustments

- Removal of streets parallel and close to the freeways
- Removal of streets with insufficient number of lanes
- Removal of streets with less regional connectivity

# Map One: Approach 2B

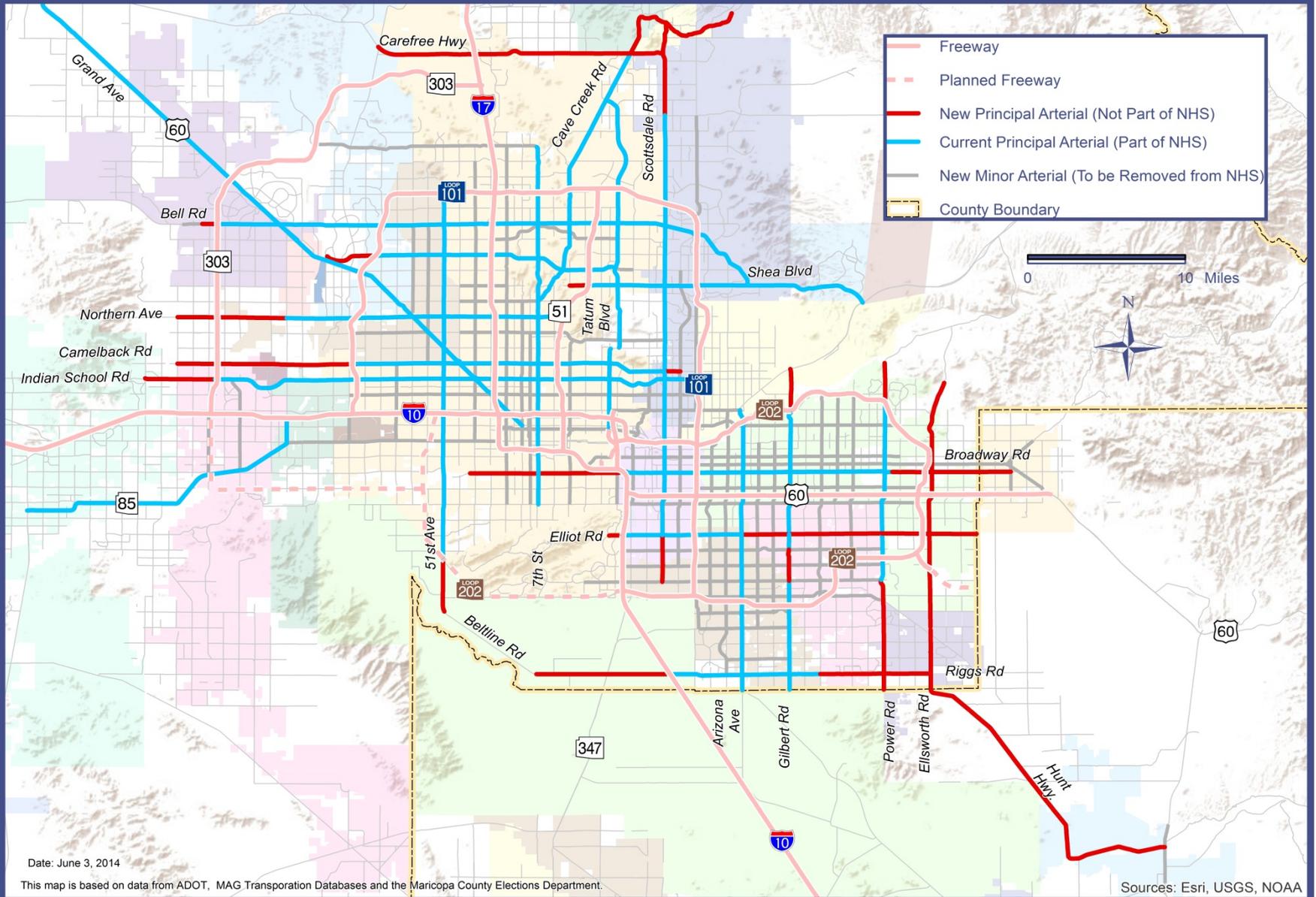


Date: June 3, 2014

This map is based on data from ADOT, MAG Transportation Databases and the Maricopa County Elections Department.

Sources: Esri, USGS, NOAA

# Map Two: MAG Model Selected Arterials

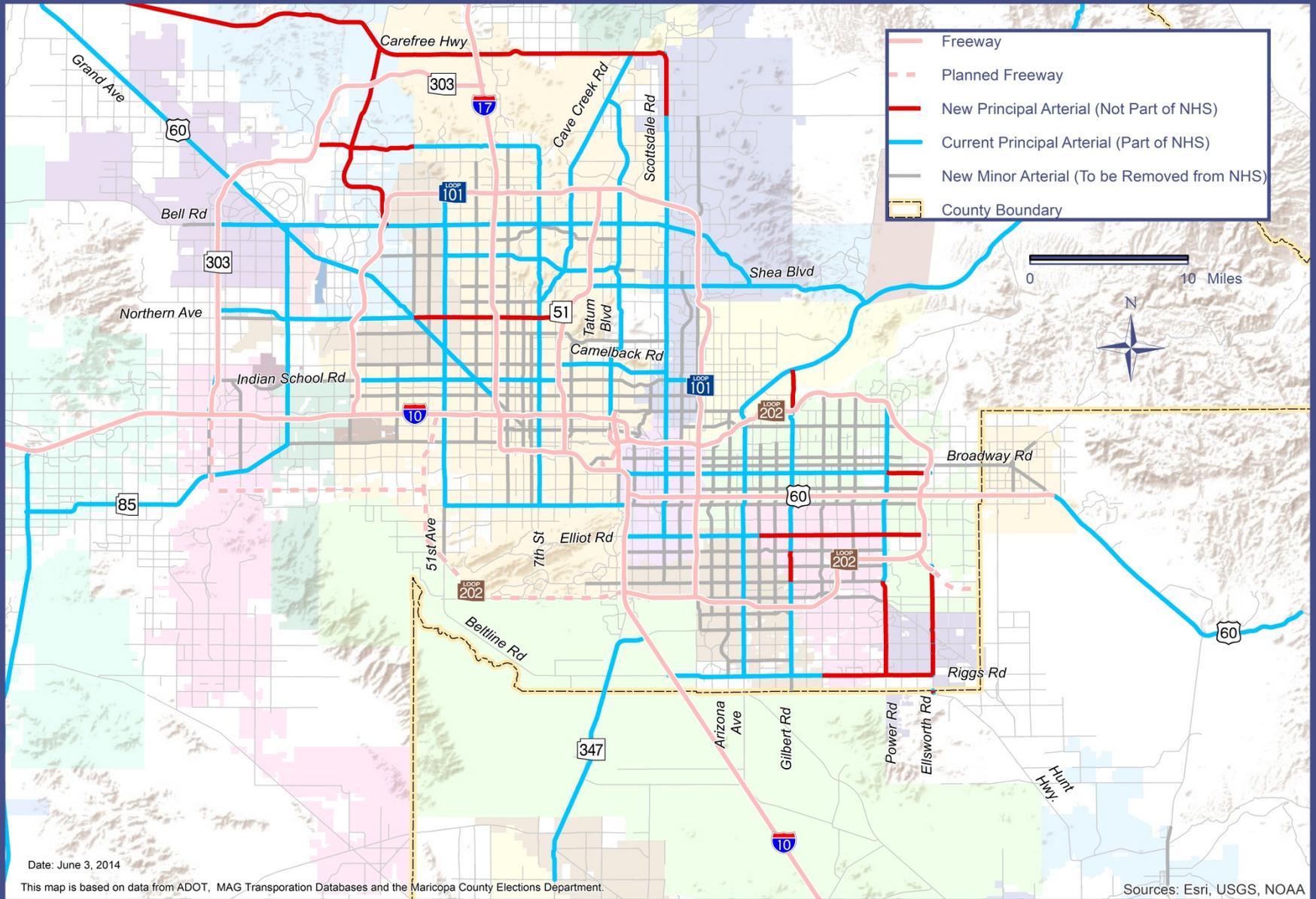


Date: June 3, 2014

This map is based on data from ADOT, MAG Transportation Databases and the Maricopa County Elections Department.

Sources: Esri, USGS, NOAA

# Map Three: Proposed Arterial Network



Date: June 3, 2014

This map is based on data from ADOT, MAG Transportation Databases and the Maricopa County Elections Department.

Sources: Esri, USGS, NOAA