



ACTIVE TRANSPORTATION PLAN

walk • bike • move • into the future

MARICOPA COUNTY ACTIVE TRANSPORTATION PLAN

presented by

Reed Kempton
Senior Transportation Planner

Supporting Healthy Communities
MAG Human Services Conference
December 4, 2018

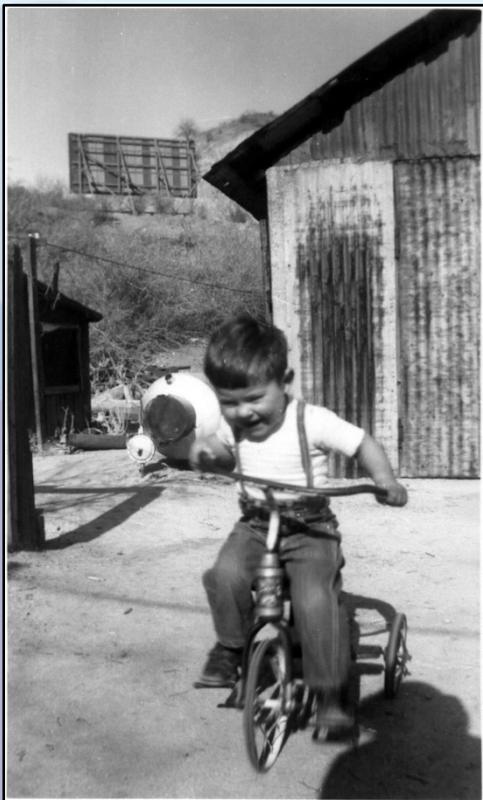


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Who am I?





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What is Active Transportation?

Walk
Bike
Bus





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Who is a Pedestrian?





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What is a Bicycle?





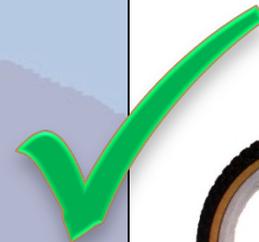
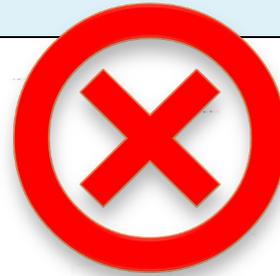
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What is a Bicycle?

Wheel \leq 16 inches



Wheel $>$ 16 inches





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How did we get here?





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walk



bike



move



into the future



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Process





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Inventory

- **1,286 miles of sidewalks**
- **12,163 curb ramps**
- **113 miles of bike lanes and routes**
- **81 miles of paved shoulders**





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Inventory - Sidewalks

- **Location of pedestrian crossings**
- **Sidewalks in poor condition**
- **Obstructions present**
- **Curb ramp conditions**
- **ADA passing zone present**
- **Driveway conditions**





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Stakeholder and Public Outreach

- Stakeholders meetings
- Bike Month – 11 rides
- Social media
- Presentations
 - Agencies and advisory committees
 - HOAs
 - Bicycle groups
- Interactive map (March – June 2017)
- 5 Public meetings (April – May 2017)
- Draft document & Needs map (July – August 2018)



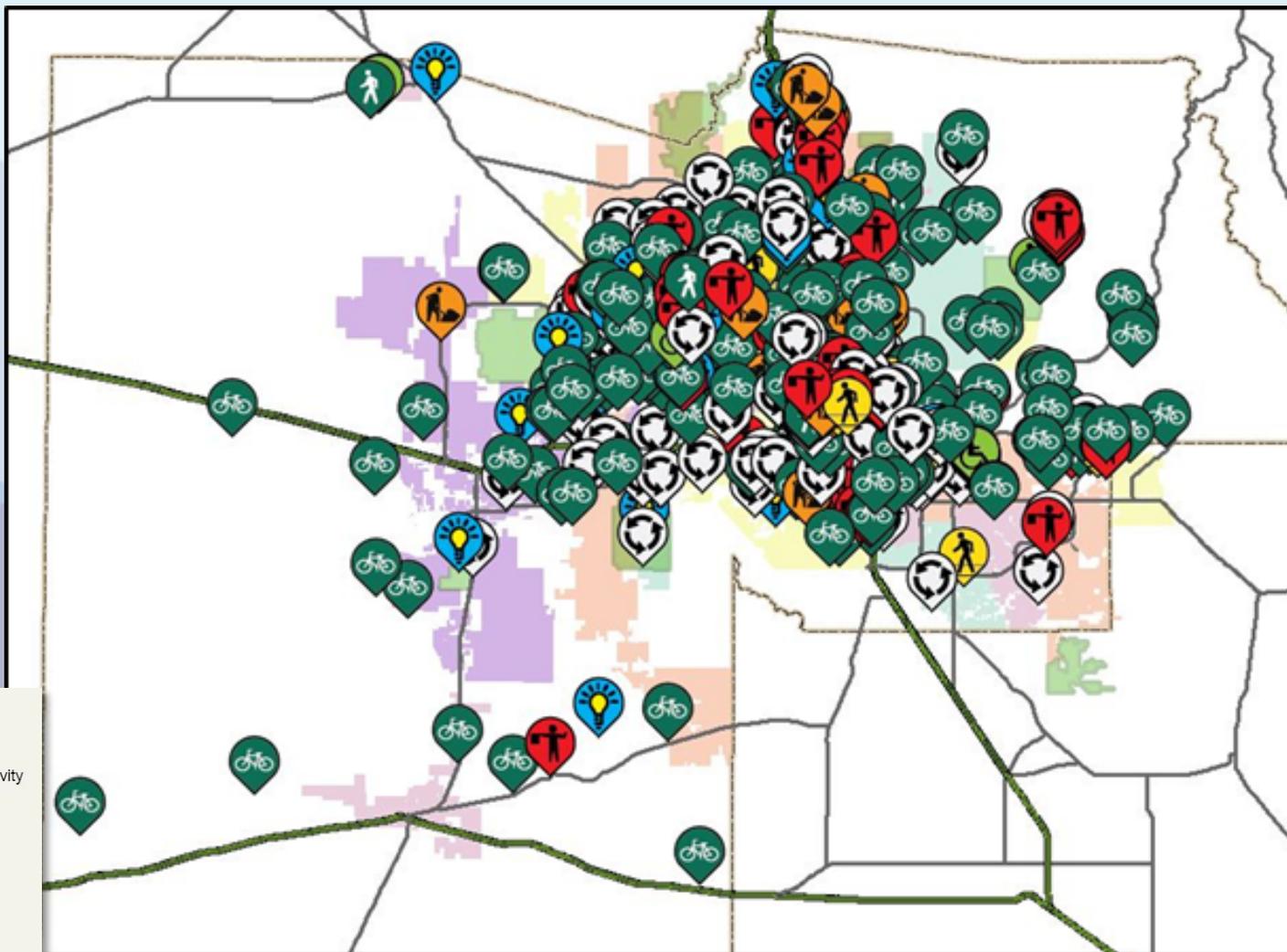


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Stakeholder and Public Outreach – Interactive Map



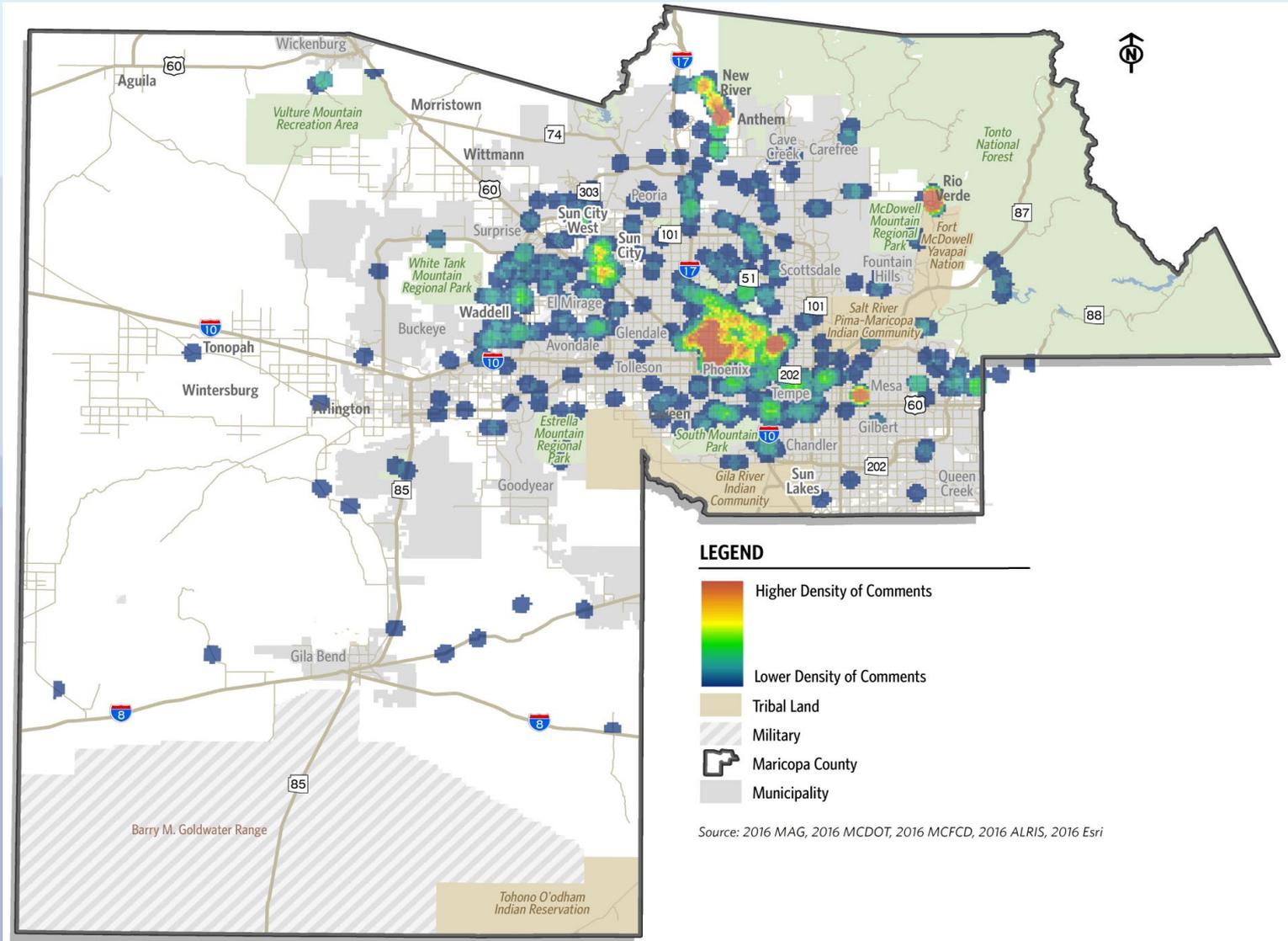


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Stakeholder and Public Outreach – Interactive Map





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Stakeholder and Public Outreach – Interactive Map Comments

- Unique ID
- Date submitted
- Date reviewed
- District
- Category
- Name
- Email
- Comment
- Location map
- Attached photo

ID 64869		Date Submitted 06/06/2017
Location Description		Date Reviewed 06/06/2017
Category	Walk	District 4 - Clint L. Hickman
Name	<input type="text"/>	
Email	<input type="text"/>	
Submittal		Meeting

Need sidewalk / shared use path along south side of Grand Avenue to connect existing sidewalk at 99th Avenue, Sun City, and existing sidewalk at City of Peoria boundary, which connects to the New River Path.






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Stakeholder and Public Outreach – Interactive Map Comments

- Rio Verde: Forest Road. Please study the increasing traffic on Forest Road and the increasing number of vehicles which ignore the posted speed limit. Please consider adding a SAFE Pedestrian Crossing area to the 1.15 miles of Forest Road running through Rio Verde.
- Need a safe overpass to walk across Grand at 107th - it feels very dangerous to stand at street level at this intersection and wait for the very short walk signal. Thank you.
- Would like a sidewalk along 99th Avenue between Pleasant Valley and Hutton
- Bike lanes on Brown Road from Meridian to Crismon. Two lane road with no shoulder and a 45 mph speed limit is very dangerous and heavily used by cyclists.
- Bikers on New River Road are an issue for safety reasons. Support wide shoulders.
- Add bike facility - route or paved shoulder to Painted Rock Dam Rd.



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WIC Recipient Survey Outreach

- **Surveyed 220 WIC recipients**
- **Mesa WIC** - several recipients noted they walked
- **Aguila WIC**
 - Primarily biked to the clinic or were given a ride because they do not own a car
 - Those who biked to the clinic all commented that they utilized US 60 (which lacks bike facilities) and noted they felt unsafe



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Commute and Travel Behavior

 **13.7%**
students walk to school

7.1%
students bike to school

 **6.8%** of households
do not have access
to a vehicle

VALLEY METRO
1.9 people living within
MILLION ¼ mile of a bus route

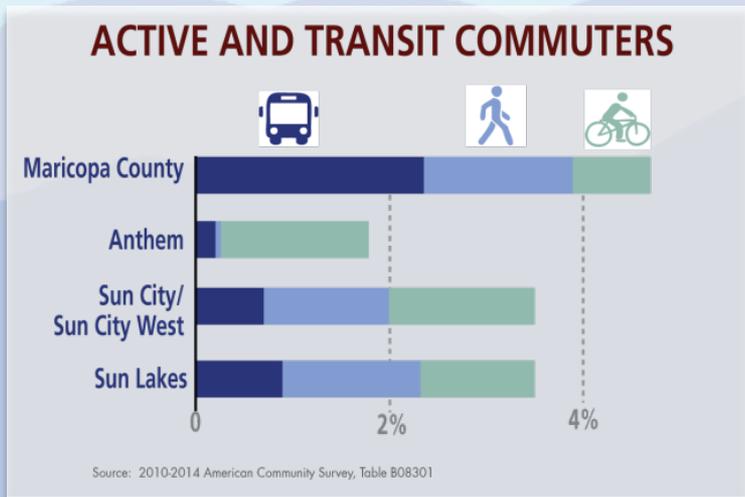
87% of transit
riders
begin their trip
by walking

1,445,525
annual bus-on-bike
ridership



83%
walk
<1/4 mile

 **30%** of riders that originated
in unincorporated
Maricopa County
utilized transit to travel
to their **place of work**



Source: MAG National Household Travel Survey; 2011-2015 American Community Survey; Valley Metro System Fact Sheet; Valley Metro 2014 Rider Satisfaction Survey; and Valley Metro 2015 Origin-Destination Survey

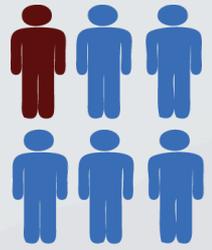


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Disadvantaged Population Groups



one in six persons are below poverty

24.4% of below poverty persons are under the age of 18



age 65 and older

13.4% Maricopa County residents

84% highest percentage of elderly persons in Sun City West



10.5% of Maricopa County residents are

DISABLED

Source: 2011-2015 American Community Survey
Data represents the entire Maricopa County region, including incorporated and unincorporated areas.

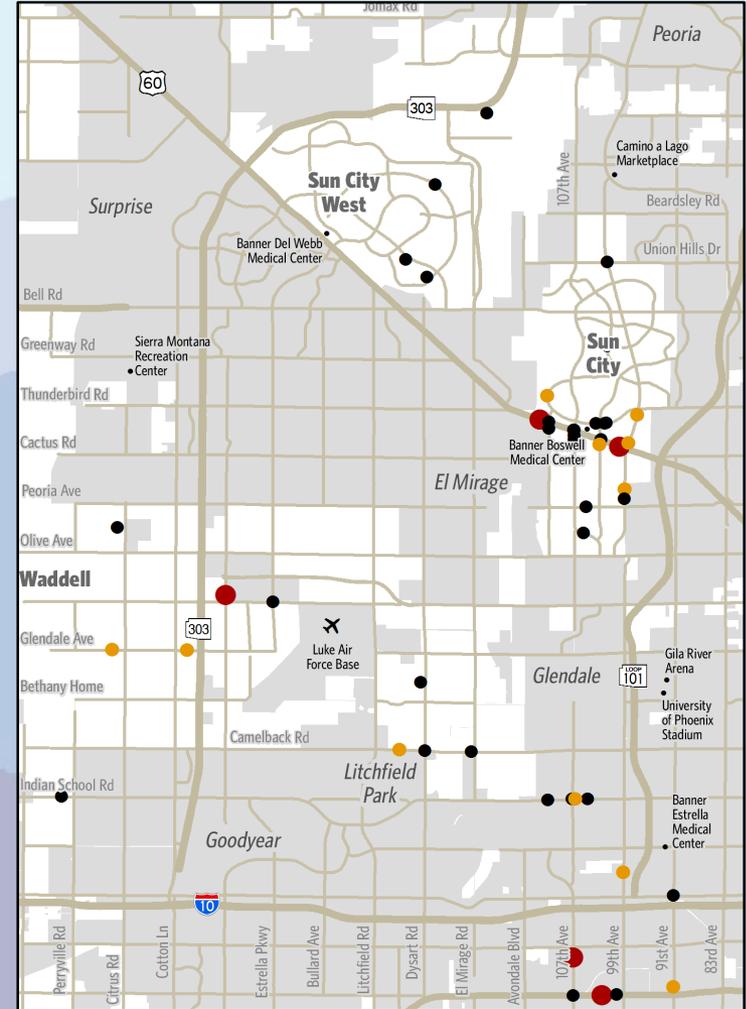
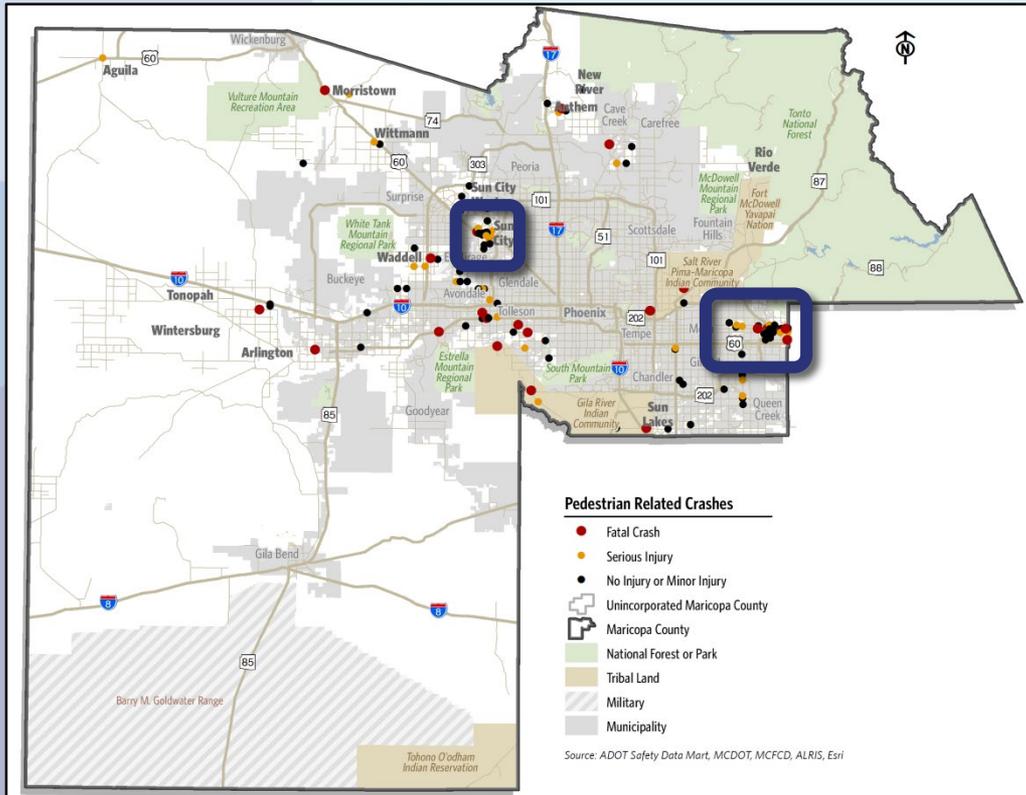


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Pedestrian Related Crashes

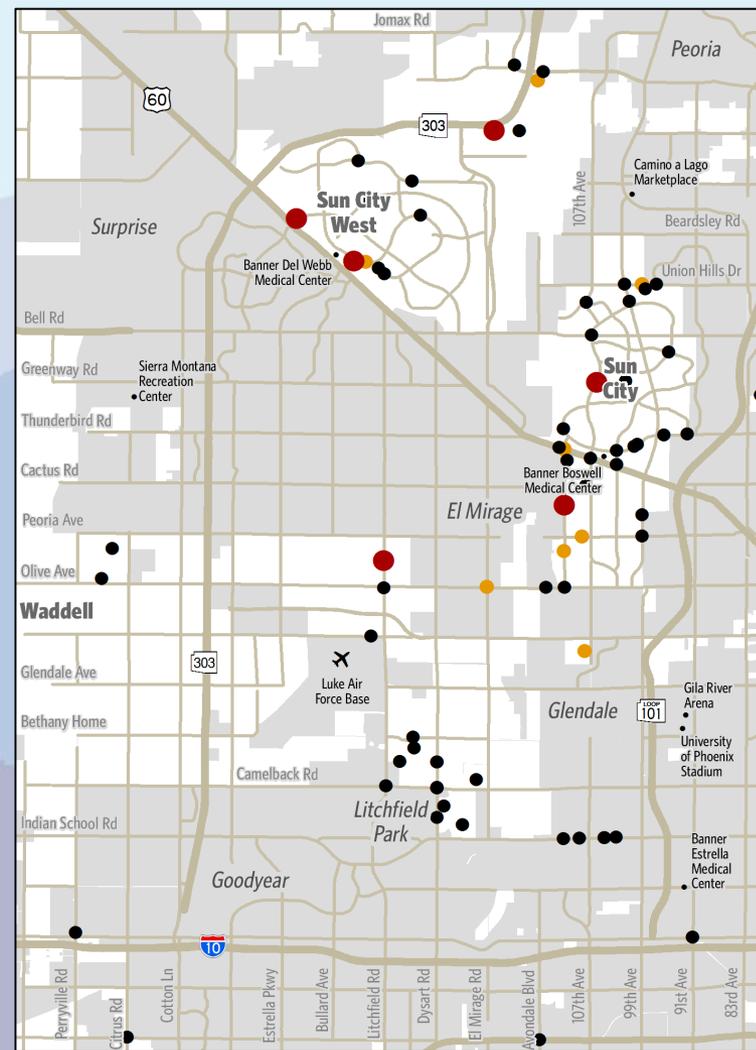
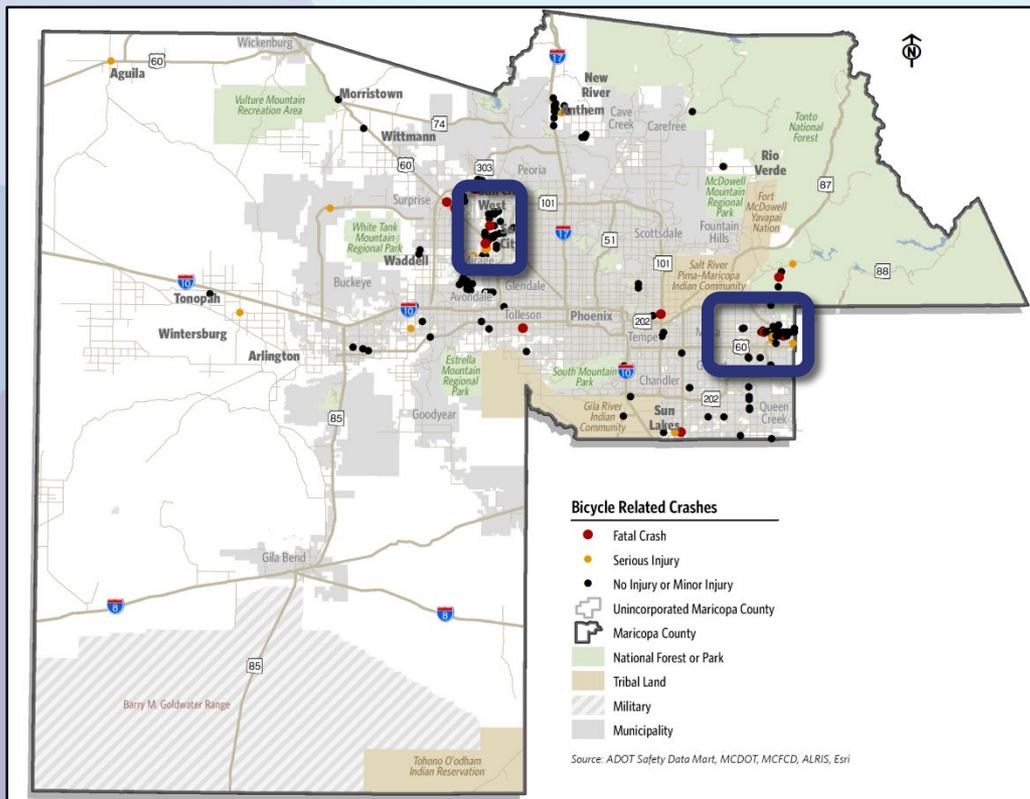




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Bicycle Related Crashes



Source: Arizona Safety Data Mart, MCDOT, MCFCF, ALRIS, Esri



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Latent Demand

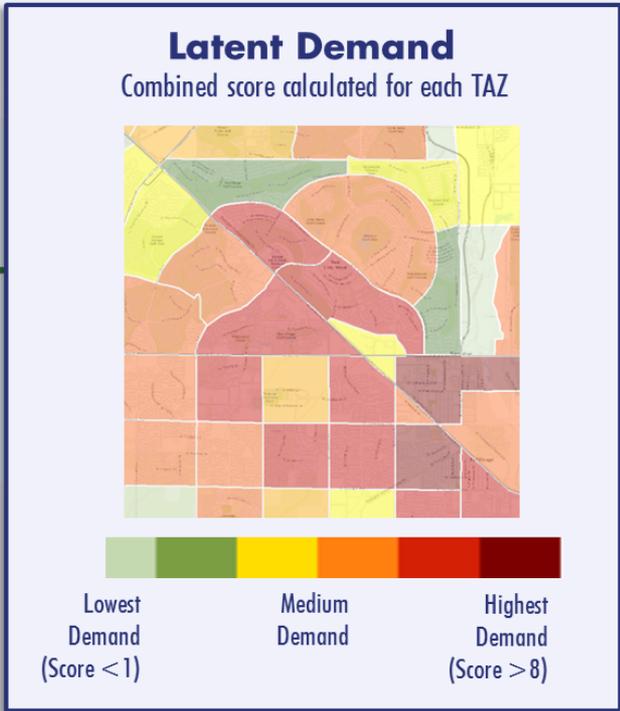
Input Factors

- Population Density
- Employer Density
- Presence of a Library
- Presence of a Hospital
- Presence of a Light Rail Station
- Presence of a Transit Center
- Presence of School (Primary or Second Grade)
- Presence of College or University
- Designation by MAG as a Job Center
- Designation by MAG as a Major Development

Scoring Method

Assigned to Traffic Analysis Zone (TAZ)

- 0: 10 person/sq mi
1: 10 to 100
2: 100 to 6,500
3: 6,500 to 56,000
- 0: 0 to 3 emp/TAZ
1: 4 to 10
2: 11 to 35
3: 35 to 210
- Present: 0.25
Not Present: 0
- Present: 0.50
Not Present: 0



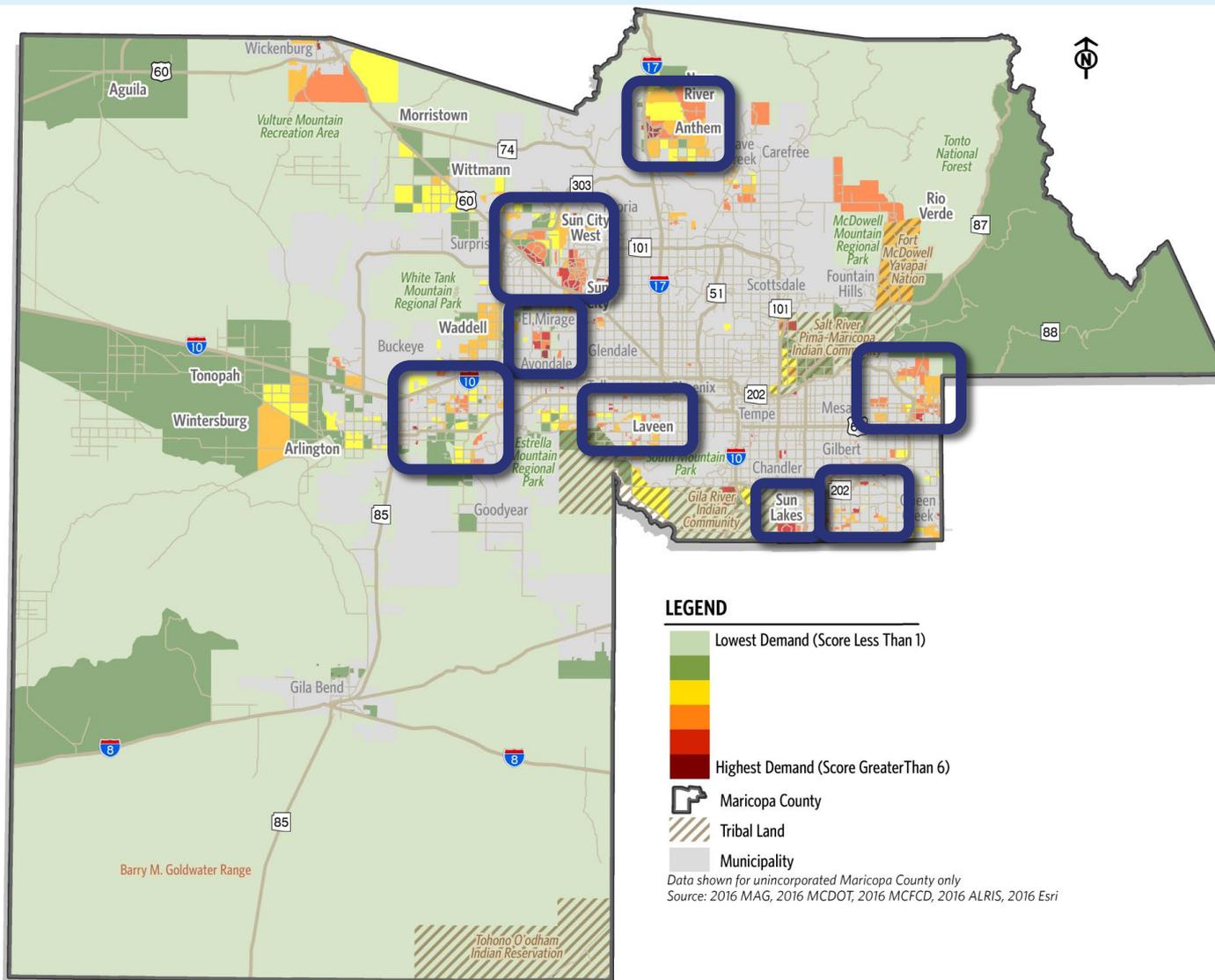


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Latent Demand





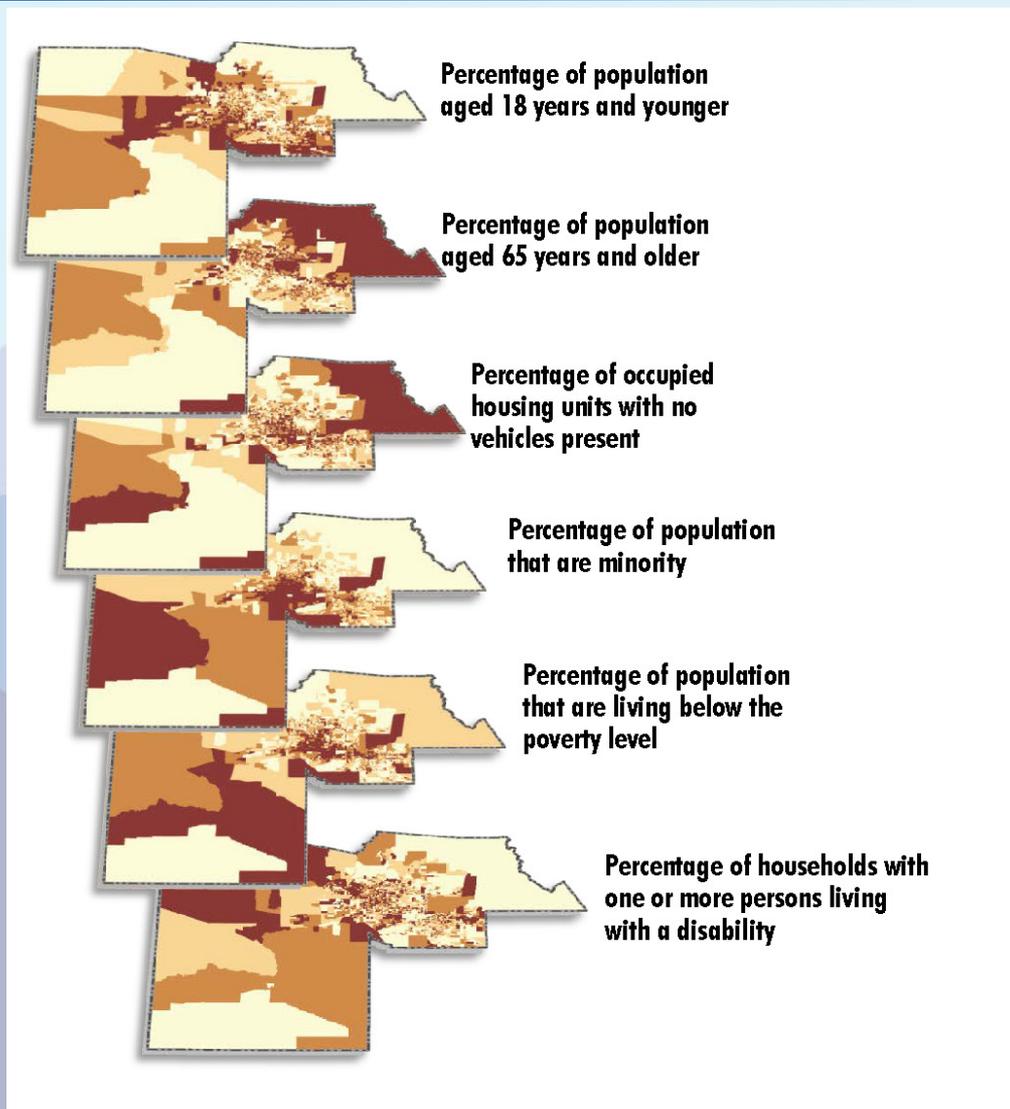
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Socioeconomic Equity Analysis

Block Group scored 1-4 based on percentage of disadvantage population

- 1 lowest percentage
- 4 highest percentage



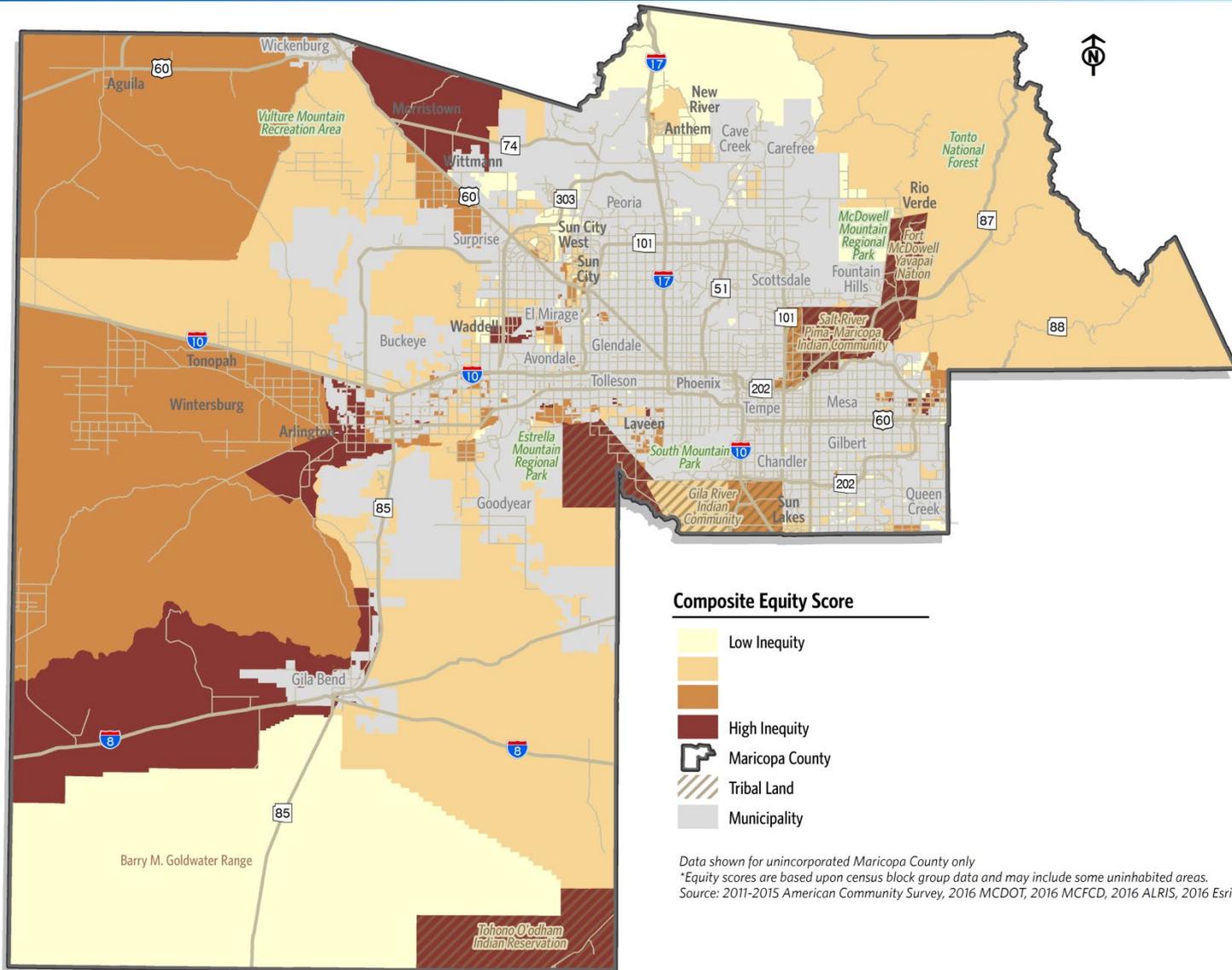


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Socioeconomic Equity Analysis





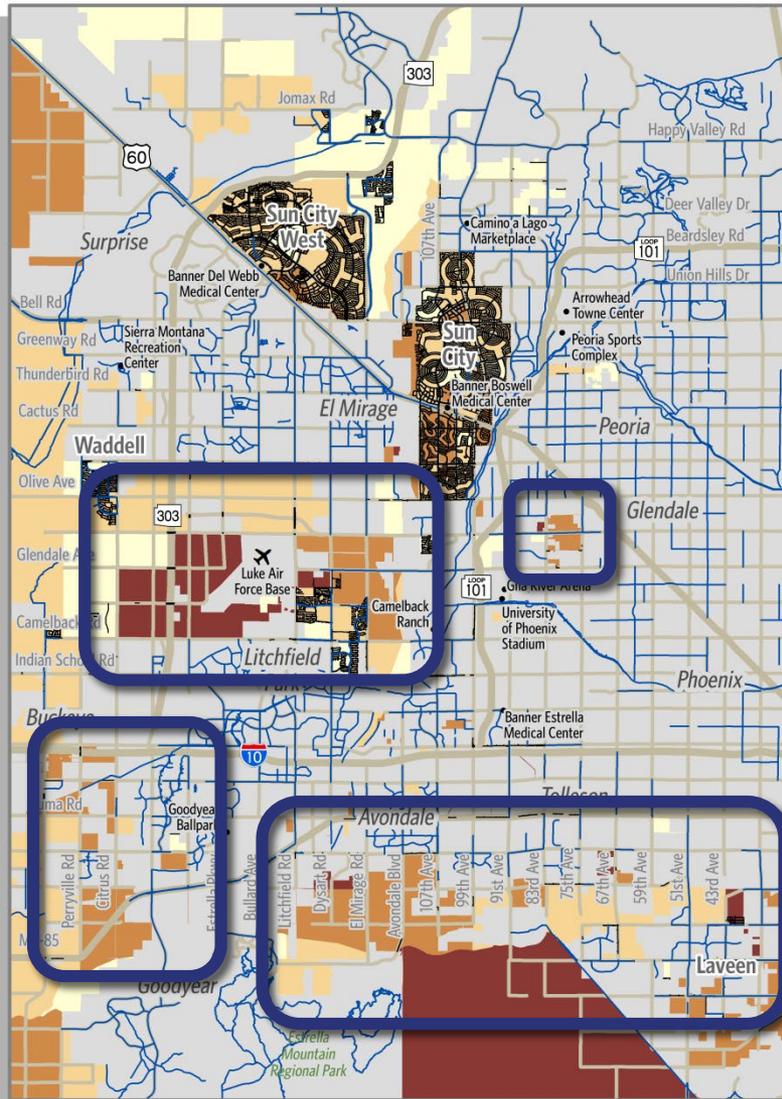
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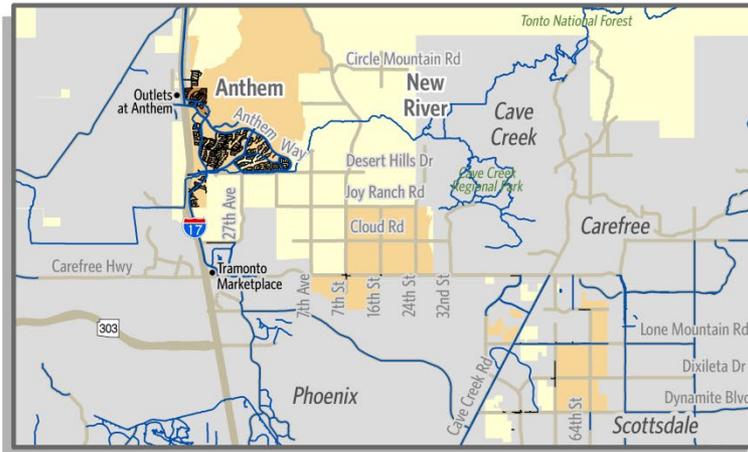


Socioeconomic Equity Analysis

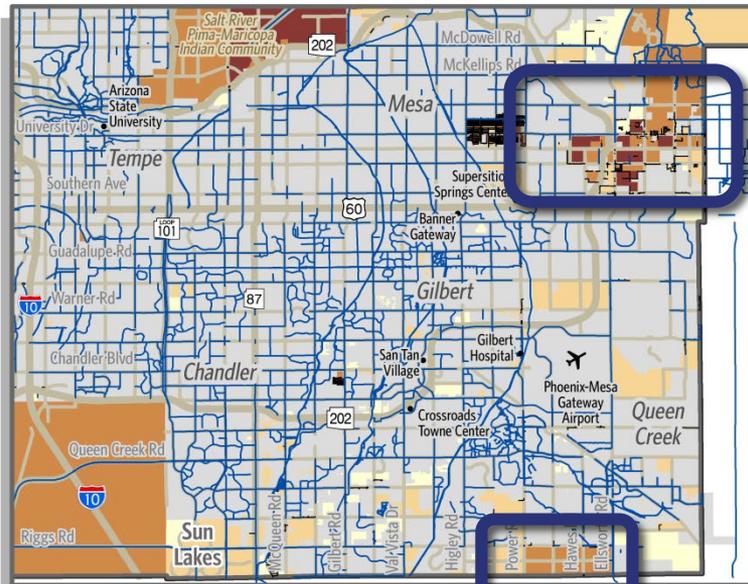
Western Portion of the Phoenix Metropolitan Area



Anthem and New River Area



Southeastern Portion of the Phoenix Metropolitan Area





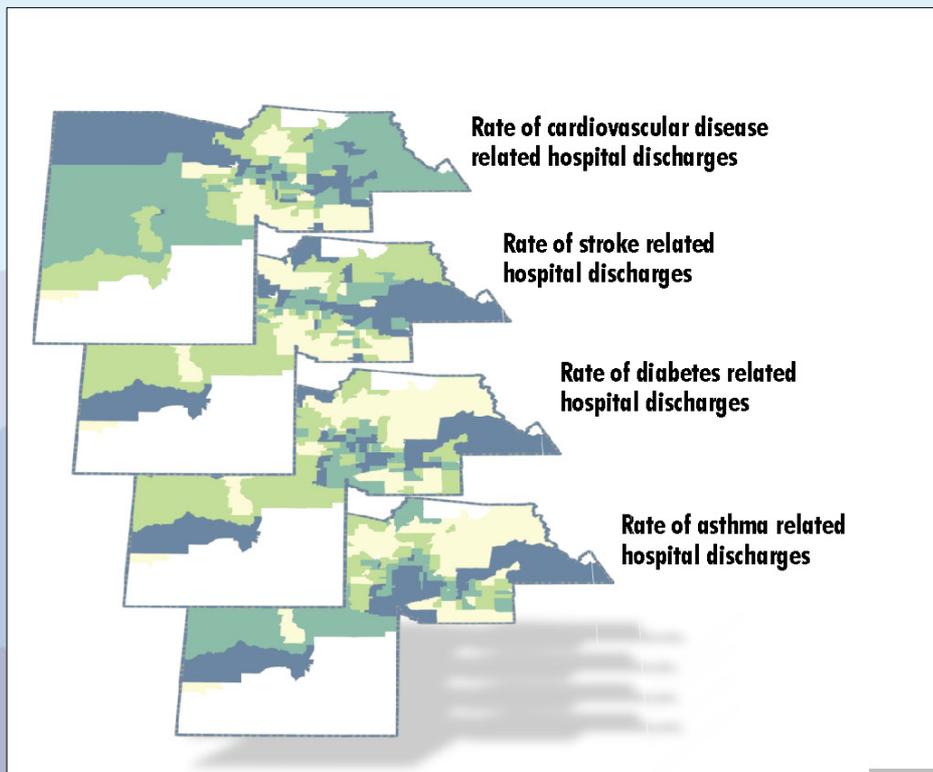
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Public Health

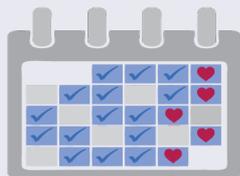
Zipcode scored 1-4 based on highest rate of hospital discharges

- 1 lowest rate
- 4 highest rate



People who walk or bike to work use fewer sick days

2.4
SICK DAYS



Adolescents who participate in physical activity more than 4 times a week are

48%

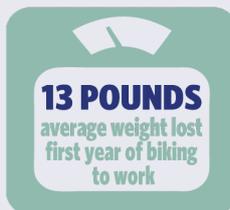
less likely to be overweight as adults

4.5
SICK DAYS



Cycling just 20 miles a week can reduce the risk of cardiovascular heart disease

50%



Source: US Department of Health and Human Services; Archives of Pediatrics & Adolescent Medicine; Washington DC Department of General Services

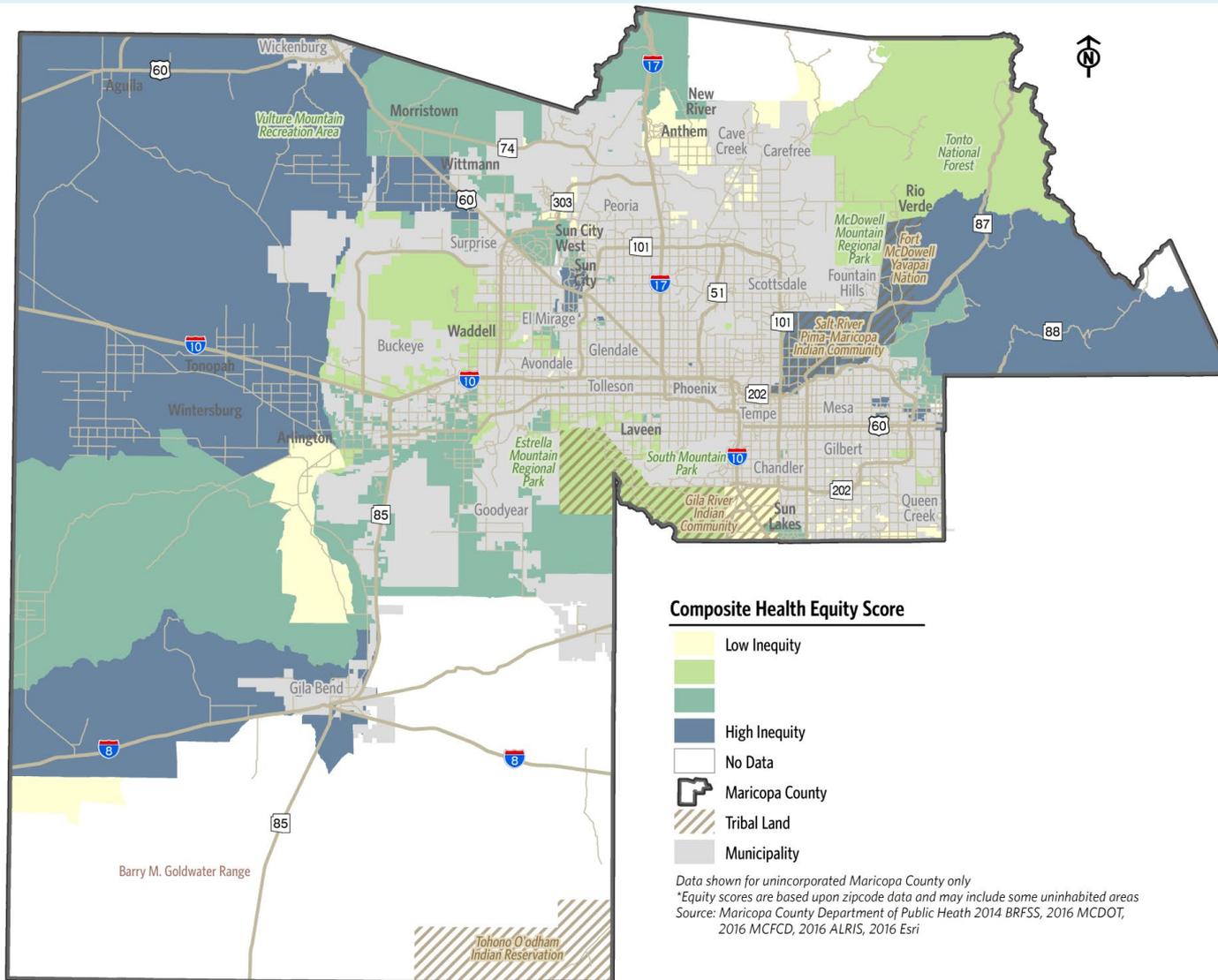


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Public Health





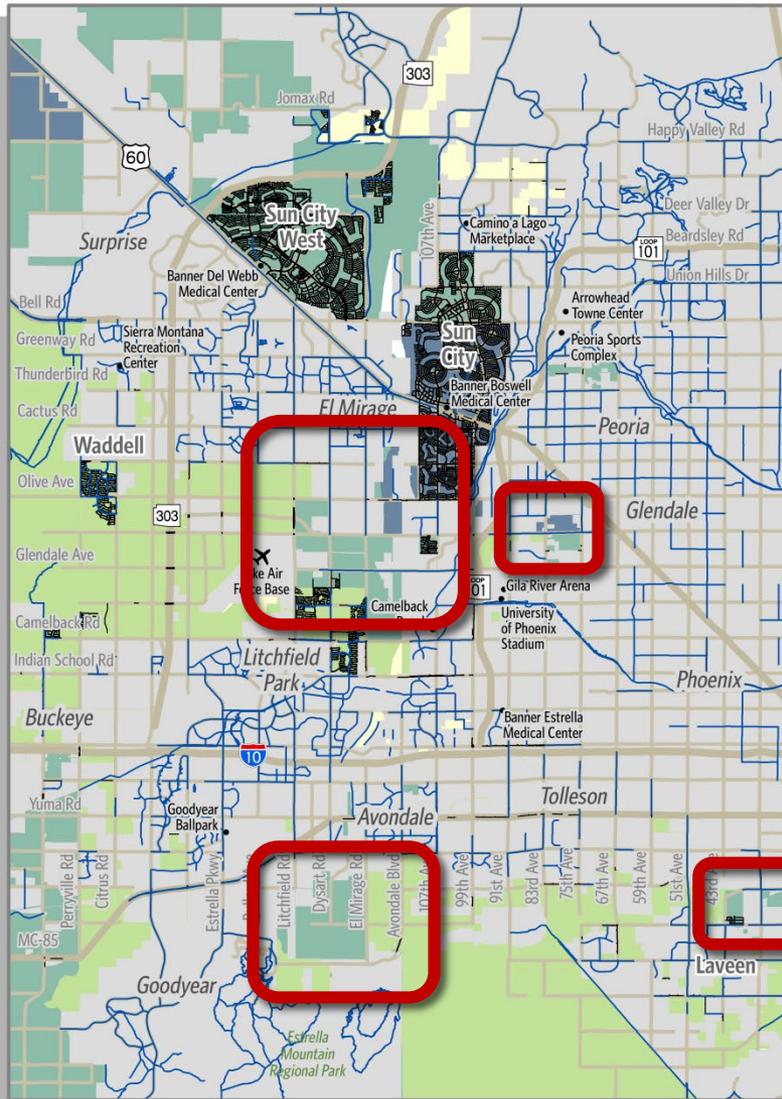
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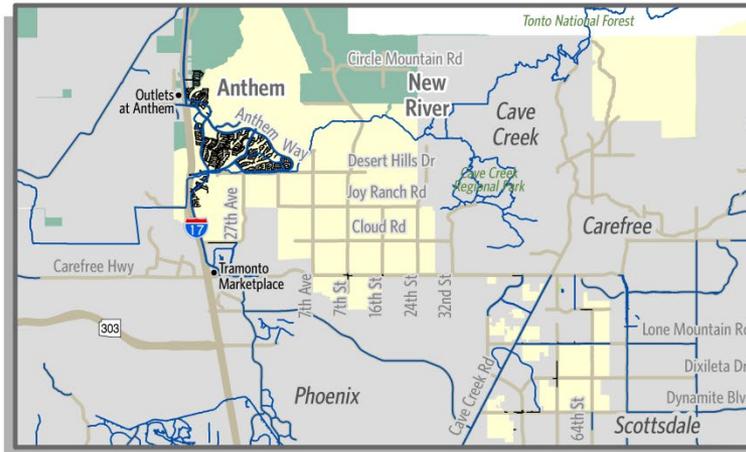


Public Health

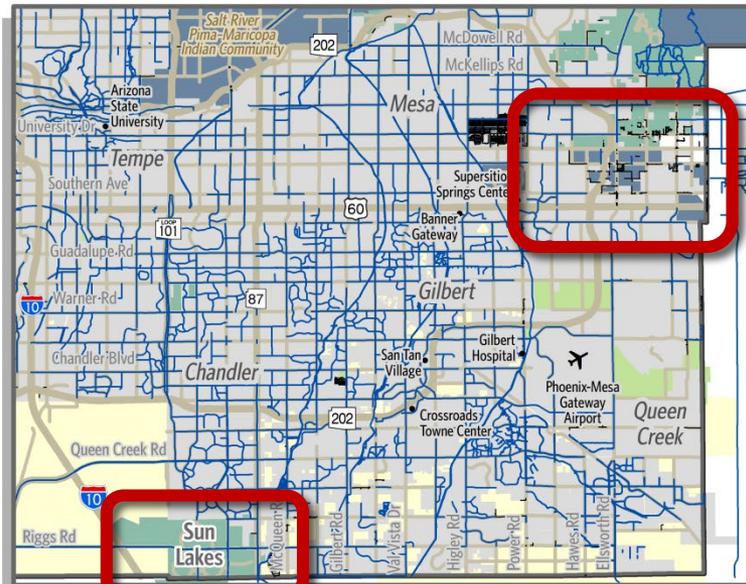
Western Portion of the Phoenix Metropolitan Area



Anthem and New River Area



Southeastern Portion of the Phoenix Metropolitan Area





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Level of Traffic Stress (LTS)

LTS5

LTS4

LTS3

LTS2

LTS1

LTS 5



Suitable for most experienced cyclists

LTS 1



Suitable for all cyclists, including children

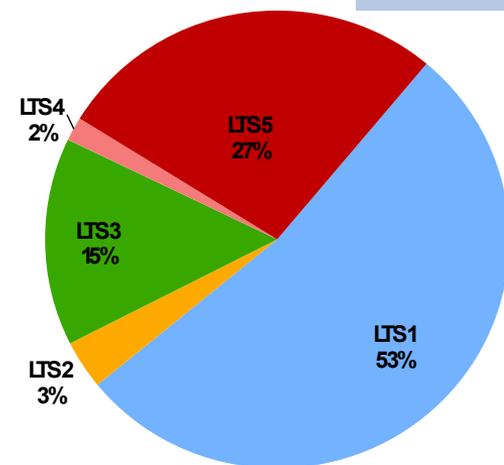
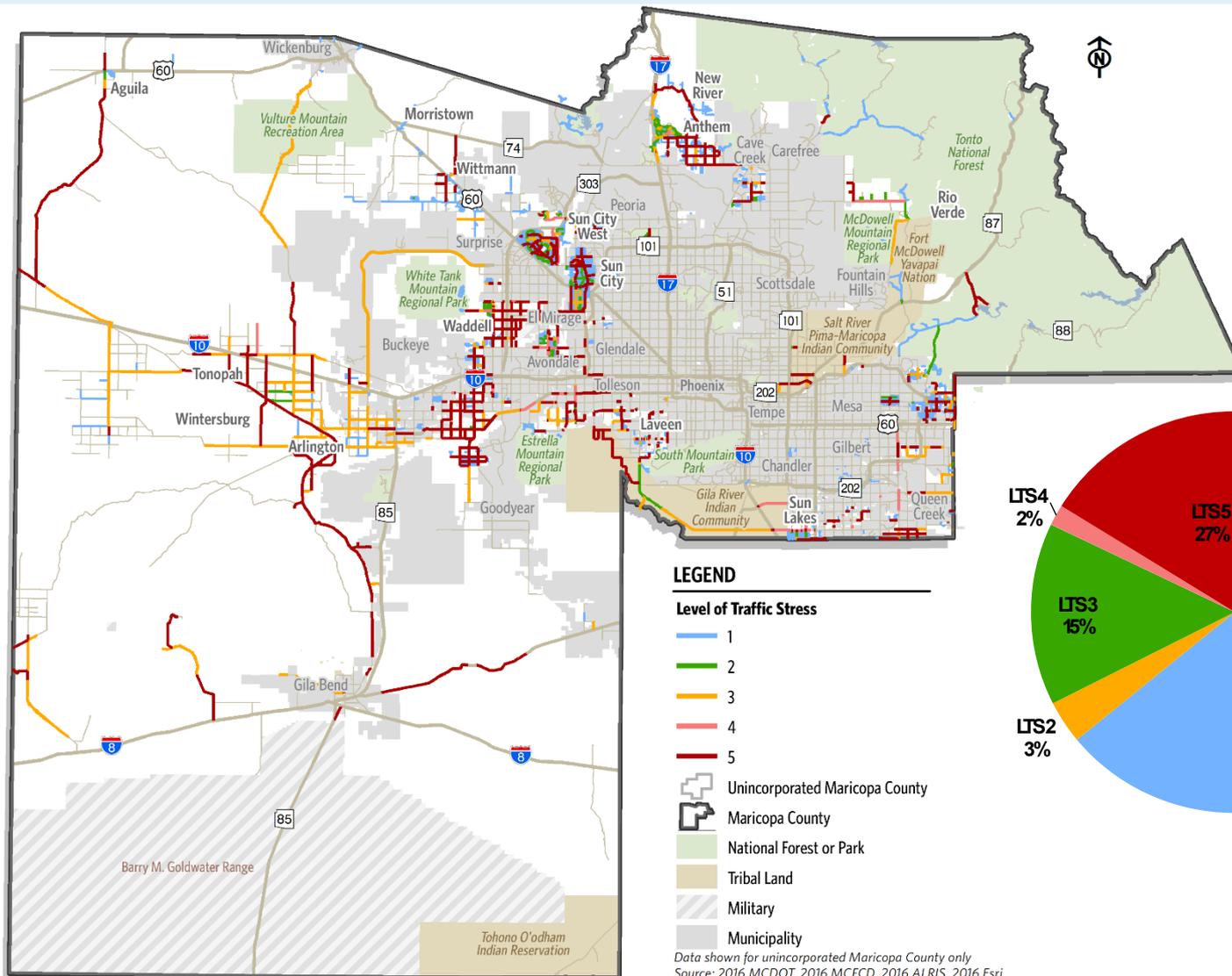


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Level of Traffic Stress (LTS)



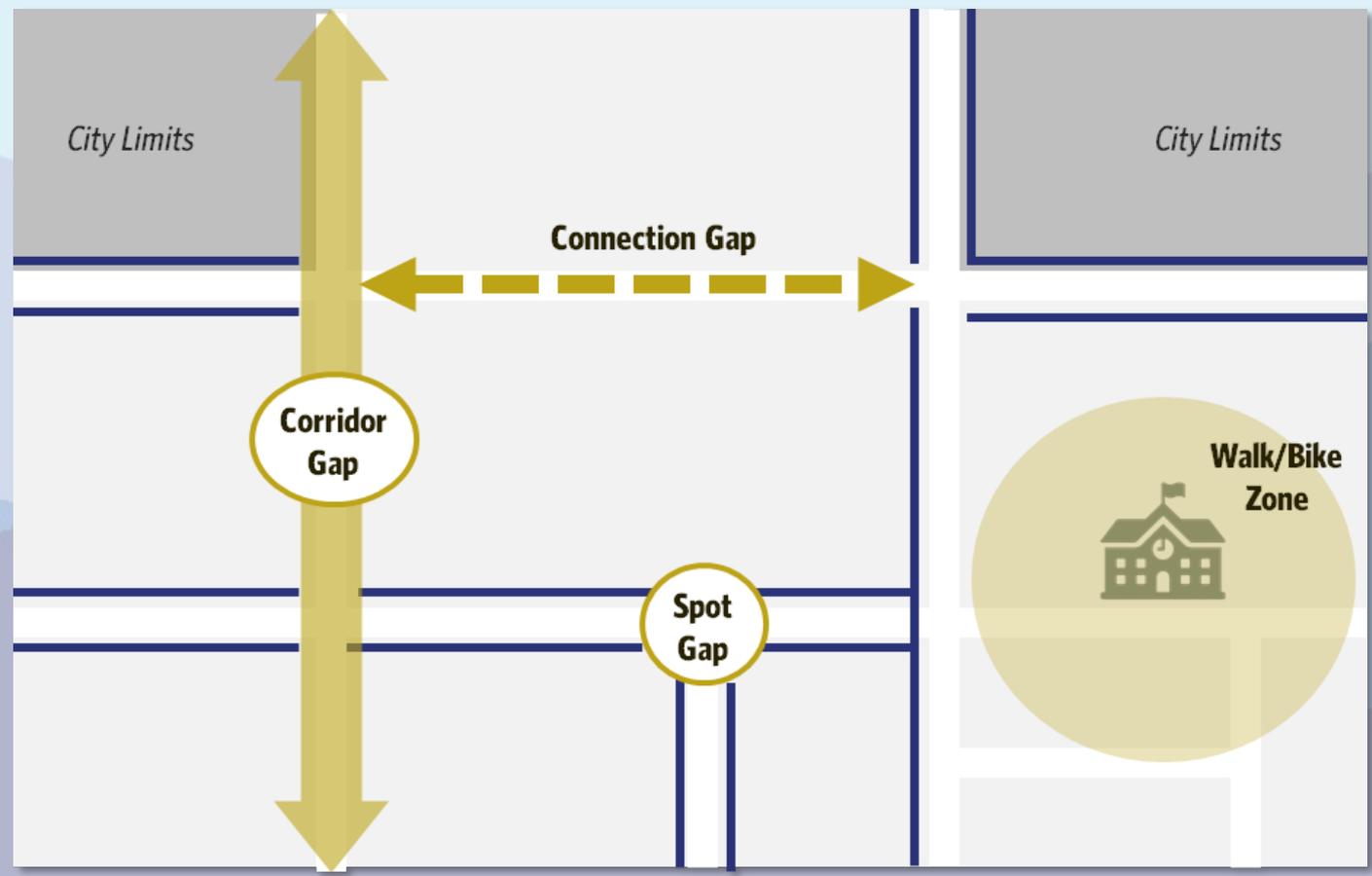


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Gaps in the System





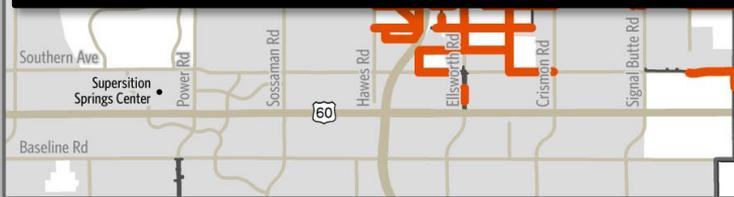
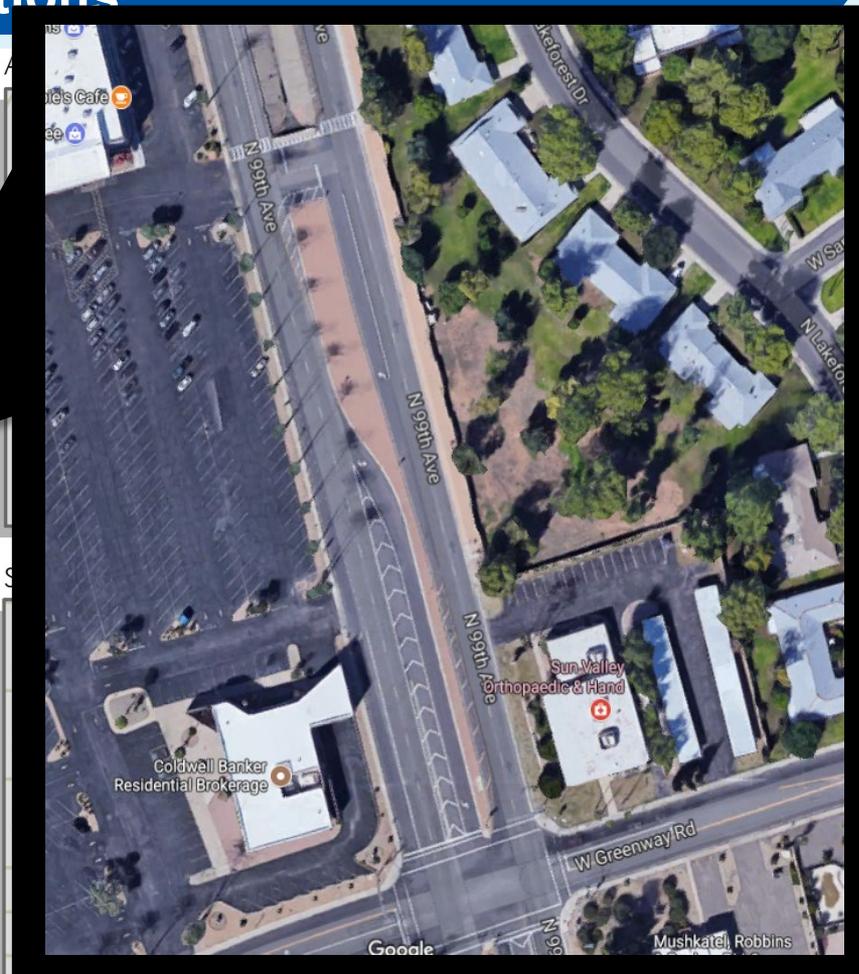
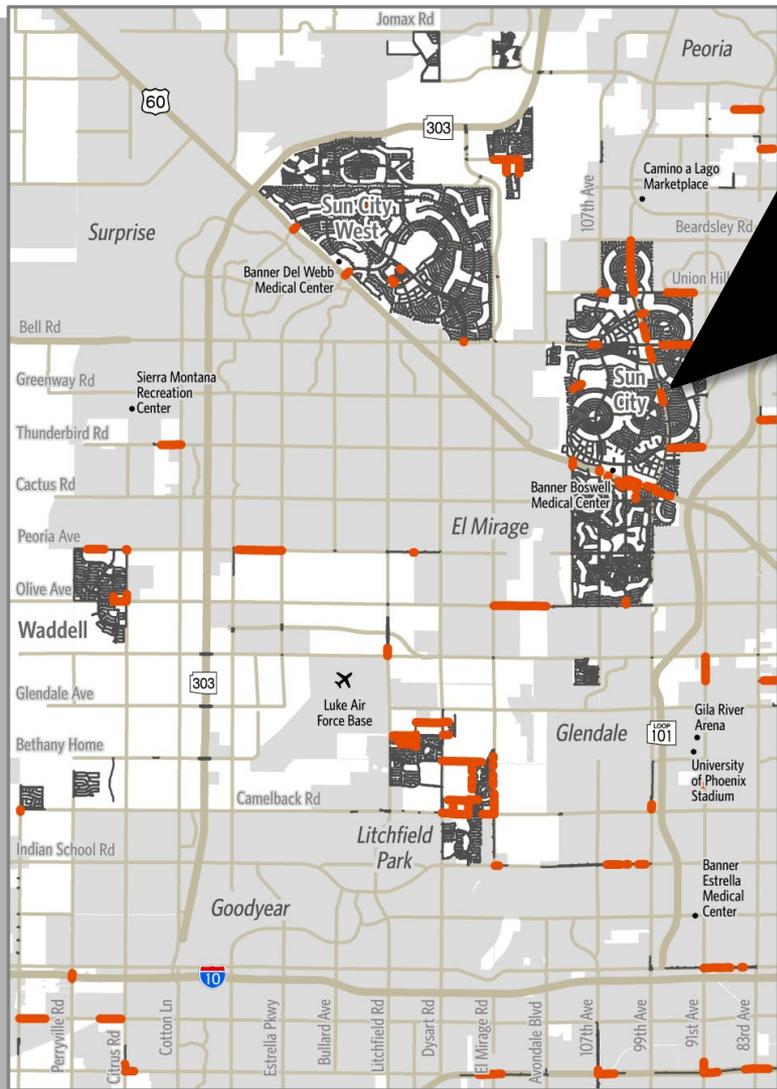
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Potential Projects - Sidewalk Connections

Western Portion of the Phoenix Metropolitan Area



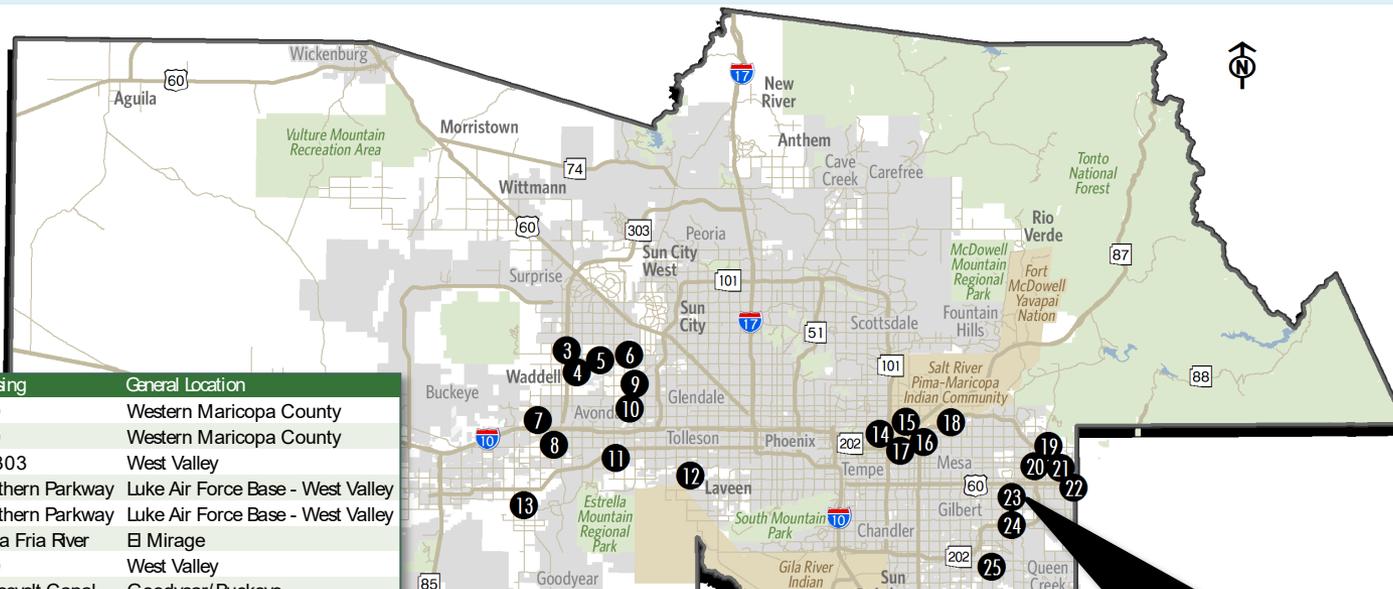


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Potential Projects – River, Canal, Freeway Crossings



ID	On Road	Crossing	General Location
1	Wintersburg Rd	I-10	Western Maricopa County
2	339th Ave	I-10	Western Maricopa County
3	Olive Ave	SR-303	West Valley
4	Sarival Ave	Northern Parkway	Luke Air Force Base - West Valley
5	Litchfield Rd	Northern Parkway	Luke Air Force Base - West Valley
6	Olive Ave	Agua Fria River	El Mirage
7	Perryville Rd	I-10	West Valley
8	Van Buren St	Roosevelt Canal	Goodyear/ Buckeye
9	Camelback Rd	Agua Fria River	West Phoenix/ Glendale
10	Indian School Rd	Agua Fria River	Avondale/ Phoenix
11	Lower Buckeye Rd	Agua Fria River	Avondale
12	67th Ave	Salt River	SW Phoenix Area
13	Tuthill Rd	Gila Rvr	Goodyear/ Buckeye
14	McKellips Rd	SR-101	Scottsdale/ Salt River Reservation
15	Alma School Rd	Salt River	SE Valley/ Salt River Reservation
16	McKellips Rd	Salt River	SE Valley/ Salt River Reservation
17	Alma School Rd	SR-202	SE Valley/ Salt River Reservation
18	Gilbert Rd	Salt River	SE Valley
19	University Dr	CAP Canal	SE Valley
20	Crismon Rd	CAP Canal	SE Valley
21	Broadway Rd	CAP Canal	SE Valley
22	Southern Ave	CAP Canal	SE Valley
23	Power Rd	Roosevelt Canal	SE Valley
24	Power Rd	SR-202	SE Valley
25	Higley Rd	Roosevelt Canal	SE Valley
26	Riggs Rd	I-10	Gila River Reservation



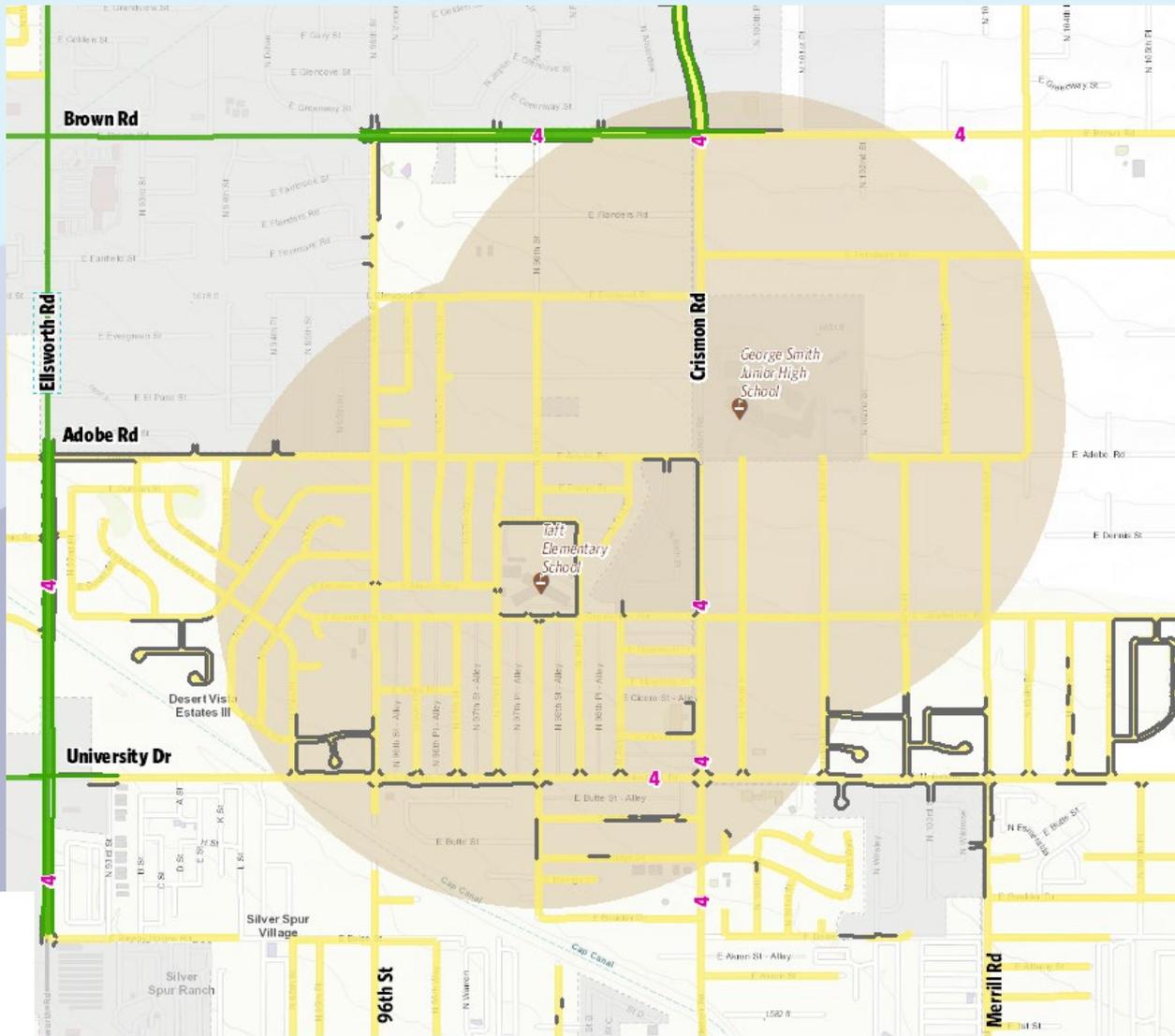


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Area Improvements - School Walk/Bike Zones



- Existing Sidewalk
- Existing Bicycle Facilities
- Existing Shared Use Path



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Areas of Opportunities – Low Stress Connections



Anthem

- High Latent Demand
- Major Routes LTS 3-4

Opportunities:

- Bike Route on Memorial Drive/River Rock Trail
- Restripe the roadway cross sections on Daisy Mountain Drive and Hastings Way to provide wider bike lanes.

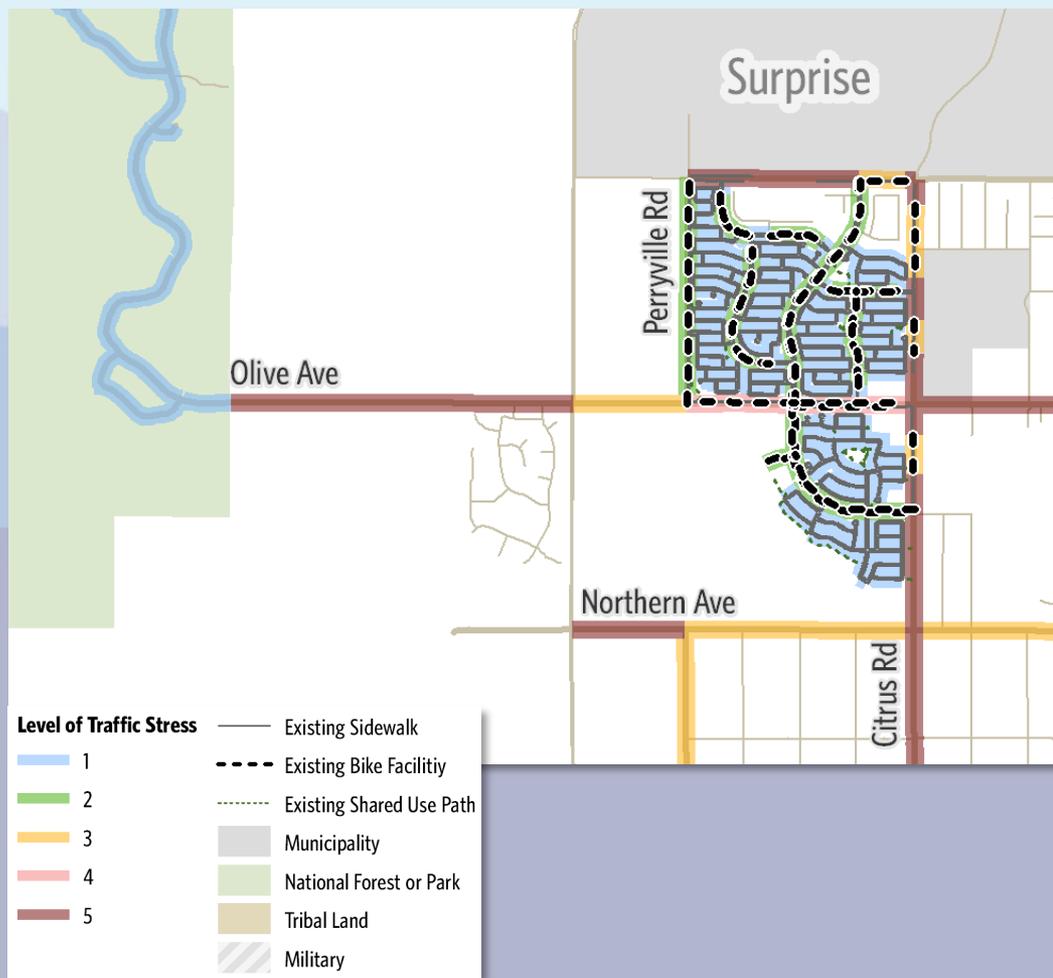


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Areas of Opportunities – Connections to Recreation Areas



White Tank Mountain Regional Park

Opportunities:

- Extend bicycle facilities to park entrance from Perryville Road

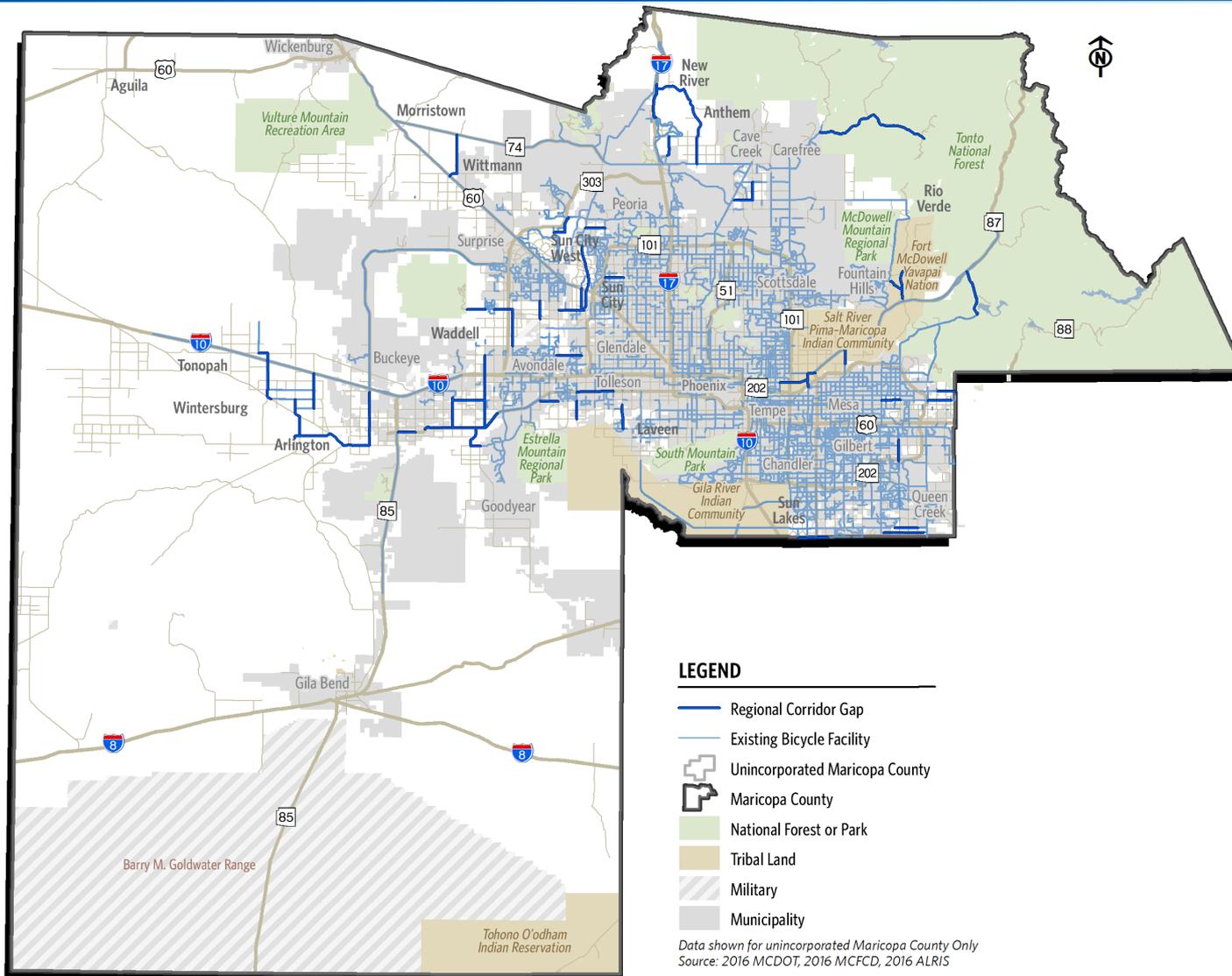


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Extending the Regional Network





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DRAFT

DRAFT Prioritization Criteria

Criteria		Weight
Safety	Improves safety and provides a comfortable facility for people of all ages and abilities	25
Access and Connectivity	Increases access and connectivity between a broad range of destinations	25
Demand	Provides active transportation facilities in areas with potential for high usage	20
Equity	Provides active transportation facilities for everyone regardless of physical, social, or economic abilities	20
Feasibility	Project has limited constraints for implementation	10



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DRAFT



DRAFT Prioritization Criteria

Criteria

Weight

Safety	Improves safety and provides a comfortable facility for people of all ages and abilities
---------------	--

25

Sub Criteria

Score

<p>Addresses pedestrian/bicycle safety issues Project may address corridors/intersections with a high number of bicyclist/pedestrian related crashes</p>	12
--	-----------

<p>Provides a less stressful facility Project provides a facility that appeals to users of all ages and abilities</p>	8
---	----------

<p>May address related safety issues at project location Project may contribute to reduction in overall number of crashes</p>	5
---	----------



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DRAFT



DRAFT Prioritization Criteria

Criteria

Weight

Access and Connectivity	Increases access and connectivity between a broad range of destinations	25
--------------------------------	---	-----------

Sub Criteria

Score

<p>Fills a gap in the existing system Project addresses system gap to create a continuous and interconnected active transportation network</p>	8
<p>Connects neighborhoods/parks/multiple jurisdictions Project connects people within neighborhoods, to recreational facilities, or across multiple jurisdictions</p>	6
<p>Provides access to critical facilities Project improves direct access to critical facilities such as schools and medical services</p>	6
<p>Addresses first mile/last mile connection Project improves first/last mile connections between transit stops and surrounding destinations</p>	5



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DRAFT



DRAFT Prioritization Criteria

Criteria

Weight

Demand	Provides active transportation facilities in areas with potential for high usage	20
---------------	--	-----------

Sub Criteria

Score

Serves an area with a high demand for active transportation Project located in a high activity area	9
Has public/agency support Project received public or agency support during public/stakeholder outreach	7
Provides facilities in an area with high density of access points Project located in an area with multiple activity centers	4



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DRAFT



DRAFT Prioritization Criteria

Criteria

Weight

Equity	<p>Provides active transportation facilities for everyone regardless of physical, social, or economic abilities</p>
---------------	--

20

Sub Criteria

Score

<p>Serves an area with high number of low income and zero car household population Provides transportation options for persons below the poverty level or without access to an automobile</p>	8
---	----------

<p>Serves an area with high number of individuals with disabilities Provides transportation options for persons living with limited mobility</p>	4
--	----------

<p>Serves areas with disproportionate rate of vulnerable users Provides transportation options for children, elderly, minorities, and other vulnerable population groups</p>	4
--	----------

<p>Provides active transportation facilities in an area with high levels of chronic health issues Project provides opportunities for areas with high rates of heart disease, diabetes, and stroke to engage in physical activity</p>	4
--	----------



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DRAFT



DRAFT Prioritization Criteria

Criteria

Weight

Feasibility	Project has limited constraints for implementation	10
--------------------	--	-----------

Sub Criteria

Score

Quick wins Project requires a modest investment, has few constraints, and can be constructed in a short time frame	5
Project cost Planning level cost estimate for construction	3
Physical constraints Major right-of-way or other physical constraints	2

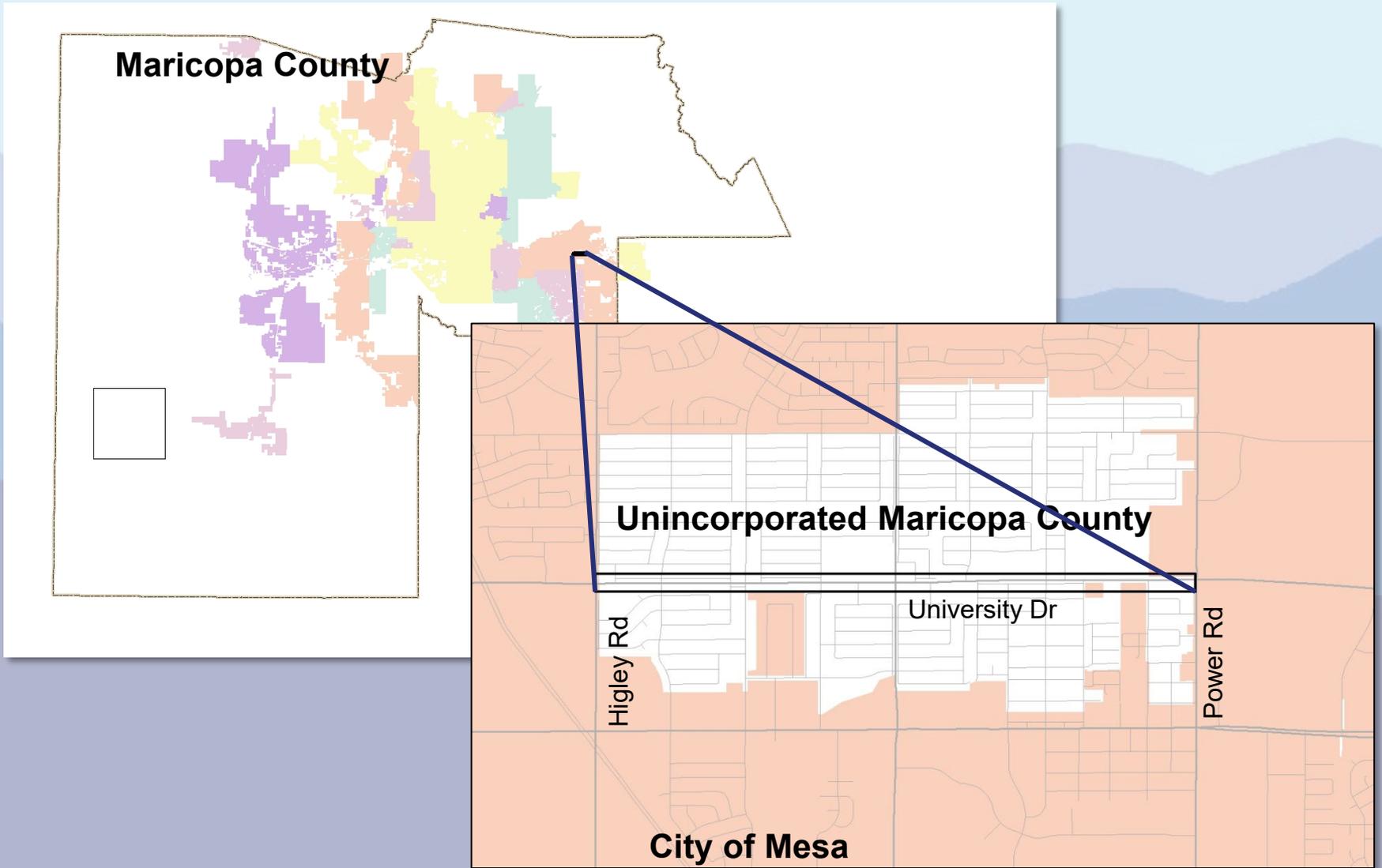


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University Drive – Higley Road to Power Road



Maricopa County

Unincorporated Maricopa County

Higley Rd

University Dr

Power Rd

City of Mesa

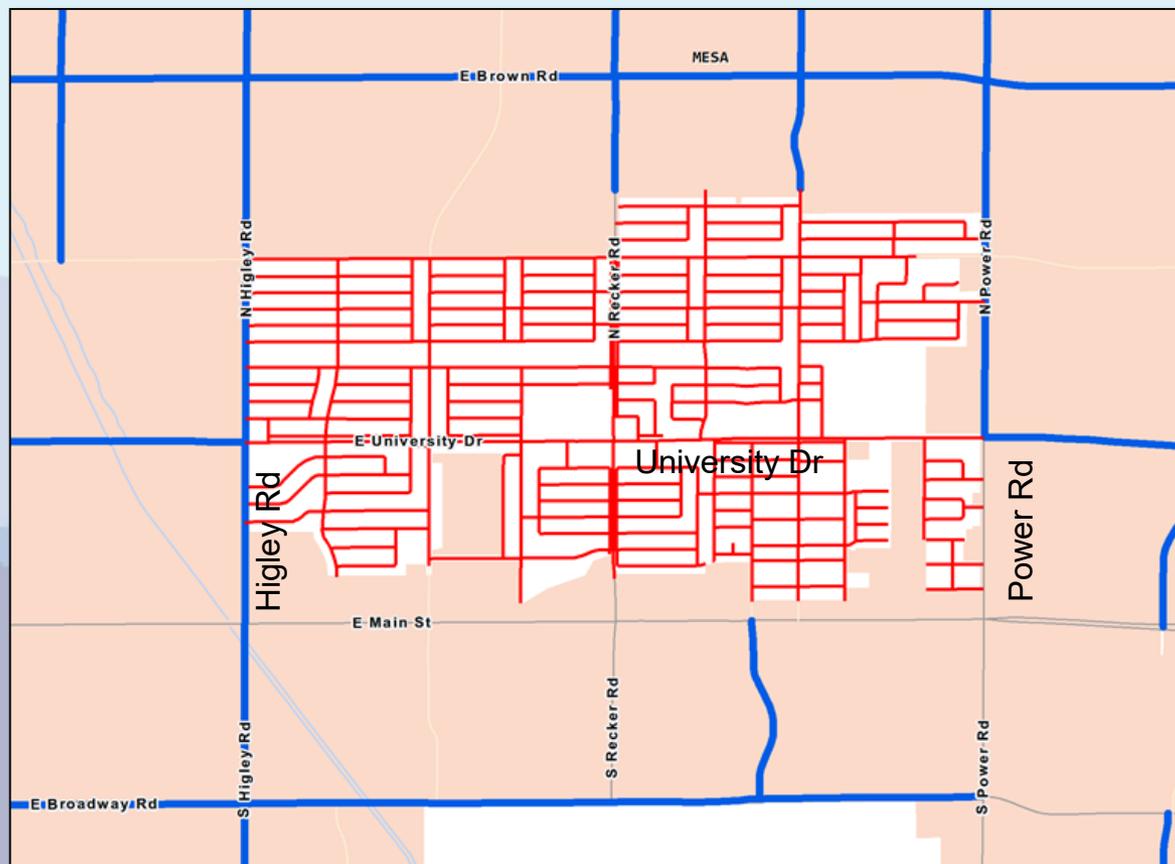


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University Drive – Higley Road to Power Road

- Gaps
- Roadway crossings
- Context sensitive facilities
- American with Disabilities Act conformance



Blue lines are bike lanes
 Red lines are MCDOT roads



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University Drive – Higley Road to Power Road

New Bike Lanes

University Dr



New Sidewalks

University Dr



New Bus Pads

University Dr



ADA Upgrades

University Dr



Bike/Ped Crashes

(2011-2016)

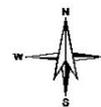
University Dr



Higley Rd

Recker Rd

Power Rd





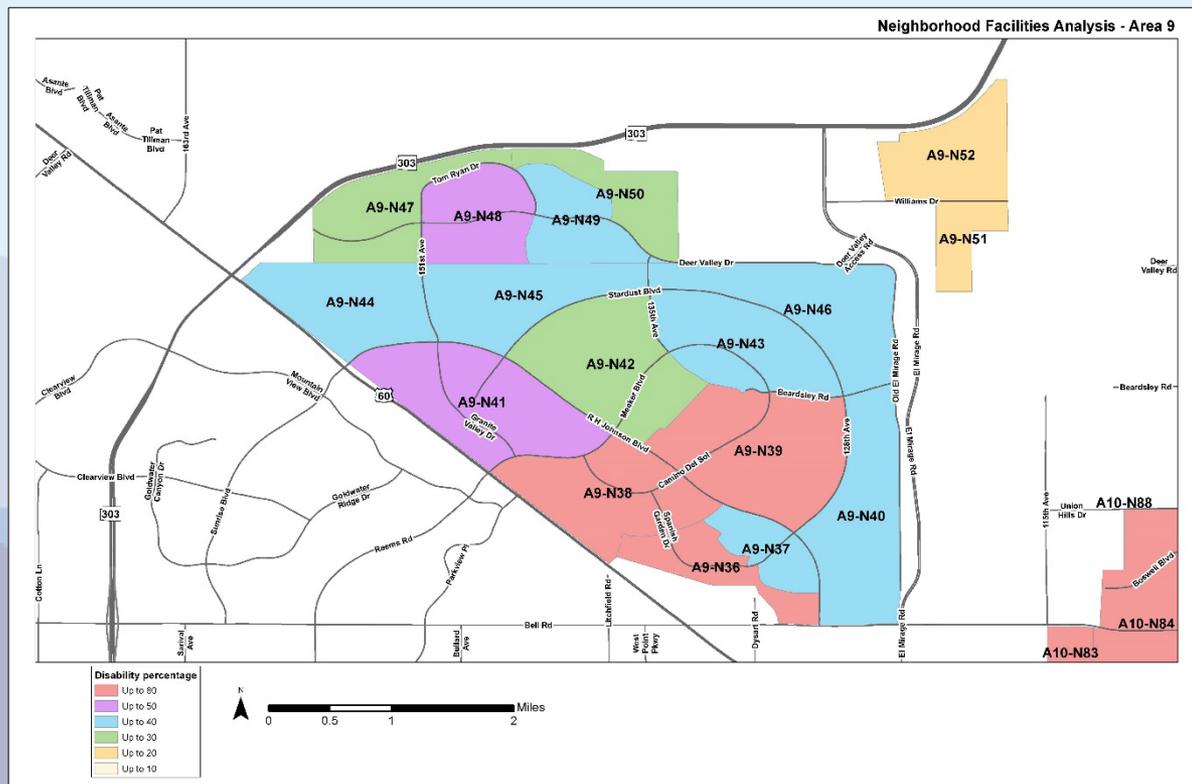
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Neighborhood Facilities Analysis

- 21 Areas
- 213 Neighborhoods
- Prioritized by percentage of homes with at least one disabled resident
- 20 Neighborhoods > 50% American with Disabilities Act conformance
- Bicycle facility recommendations



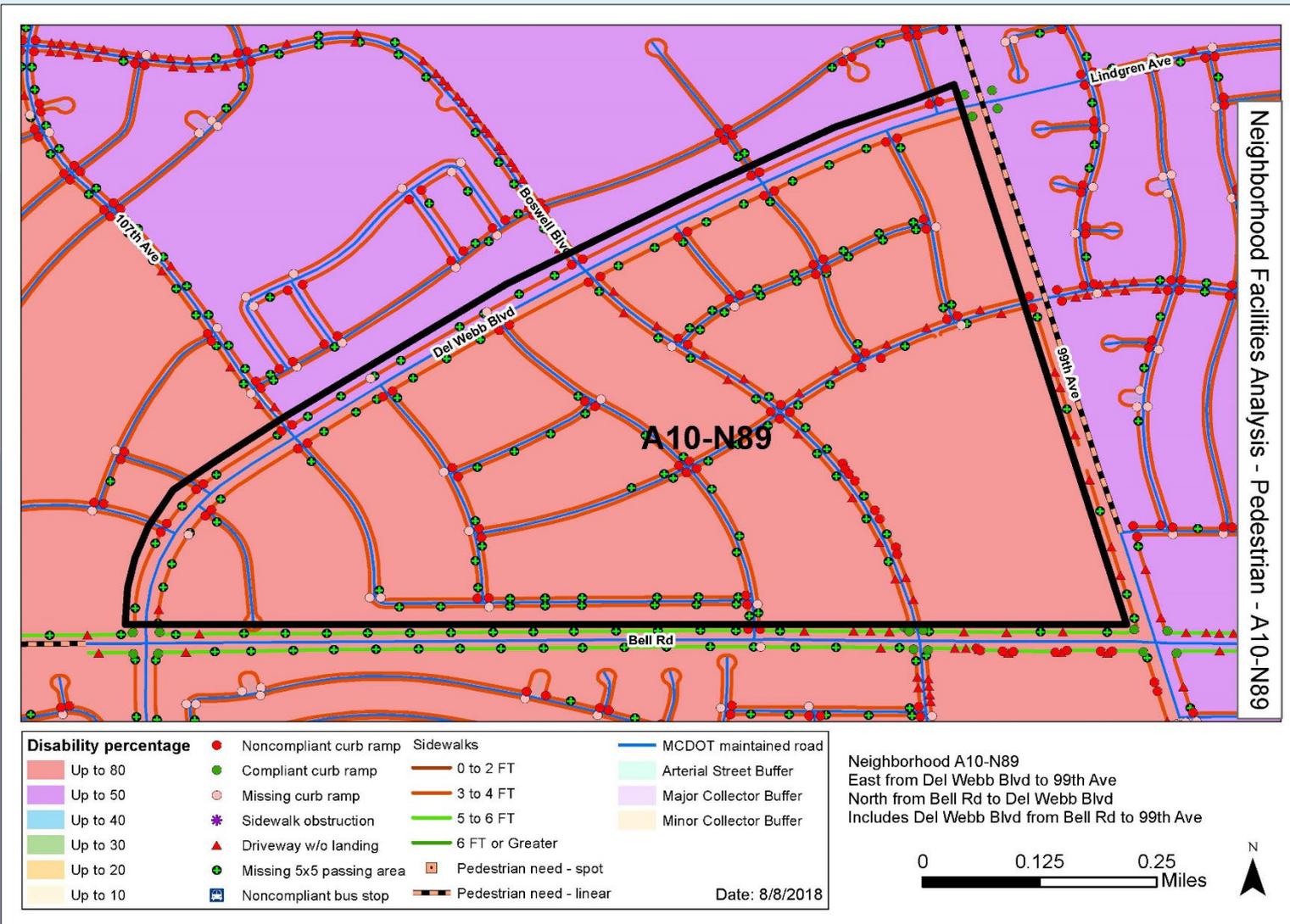


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Neighborhood Facilities Analysis: A10 - N89





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Recognition

Winner

Arizona Chapter of the American Planning Association

2018 Award

Best Transportation Plan



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Reed Kempton

Senior Transportation Planner

602-506-7742

reedkempton@mail.maricopa.gov

*Bicycling is a way of life
Music is a passion
Photography is a point of view
To live life fully, one should
Keep Pedaling
Turn up the Volume
And always capture the moment
Reed*