



# Public Works Subcommittee Project Discussion #3

Citizen Bond Exploratory Committee | October 29, 2024



# Public Works Project Meeting #3

## Agenda:

- McQueen Rd Project Review
- Collector Street Program Review
- Bond Project Budget Sheet
- Washington Street Project Discussion
- Ocotillo Road Shared Use Path
- Street Maintenance & Rehab Program Discussion



# McQueen Rd Project Review

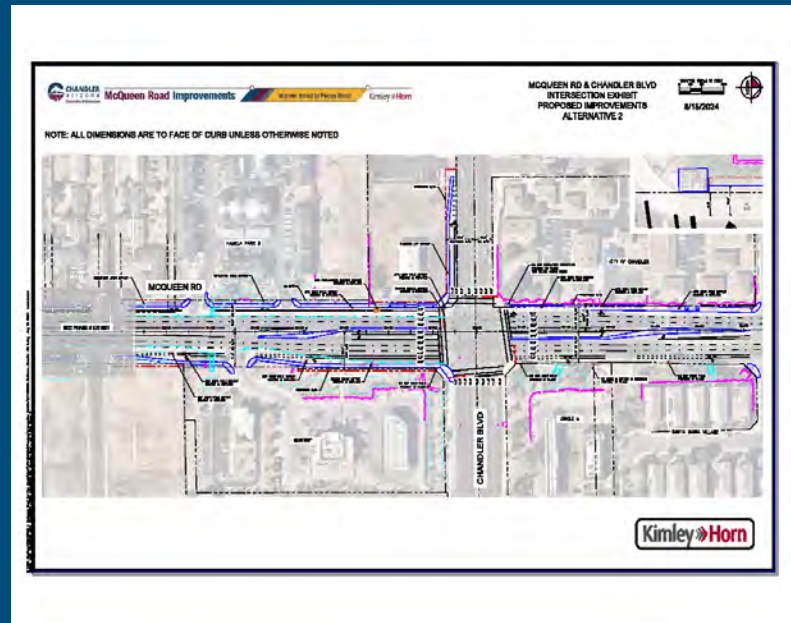




# McQueen Road Improvements (Warner to Pecos)

Program #	Program Name	Current 10 Year CIP	Bond Auth. Needed	Funding Source
6ST793	McQueen Road Improvements (Warner to Pecos)	\$84,885,000	\$26,631,000	Streets General Obligation Bonds, Capital Grants

McQueen Road improvements will consist of thru lanes, turn lanes, bike lanes, sidewalks, curbs and gutters, street lighting, ITS, traffic signals, storm drainage, landscaping, right-of-way acquisition, and utility relocation. A study began in FY 2023-24 to provide recommended intersection improvements, roadway alignment modifications, and inner/outer widening requirements.



# Project Goals

- Widening McQueen Road from four through lanes to six through lanes between Warner Road and Pecos Road
  - This project will provide capacity improvements to reduce congestion and improve intersection safety
  - Addition of one through lane in each direction
  - Addition of turn lanes and bike lanes
  - New sidewalks, curbs and gutters, street lighting, ITS, traffic signals, storm drainage, landscaping
  - Project will require right-of-way acquisition, 12KV Powerline undergrounding , water and wastewater system upgrades and possible outside utility relocations.

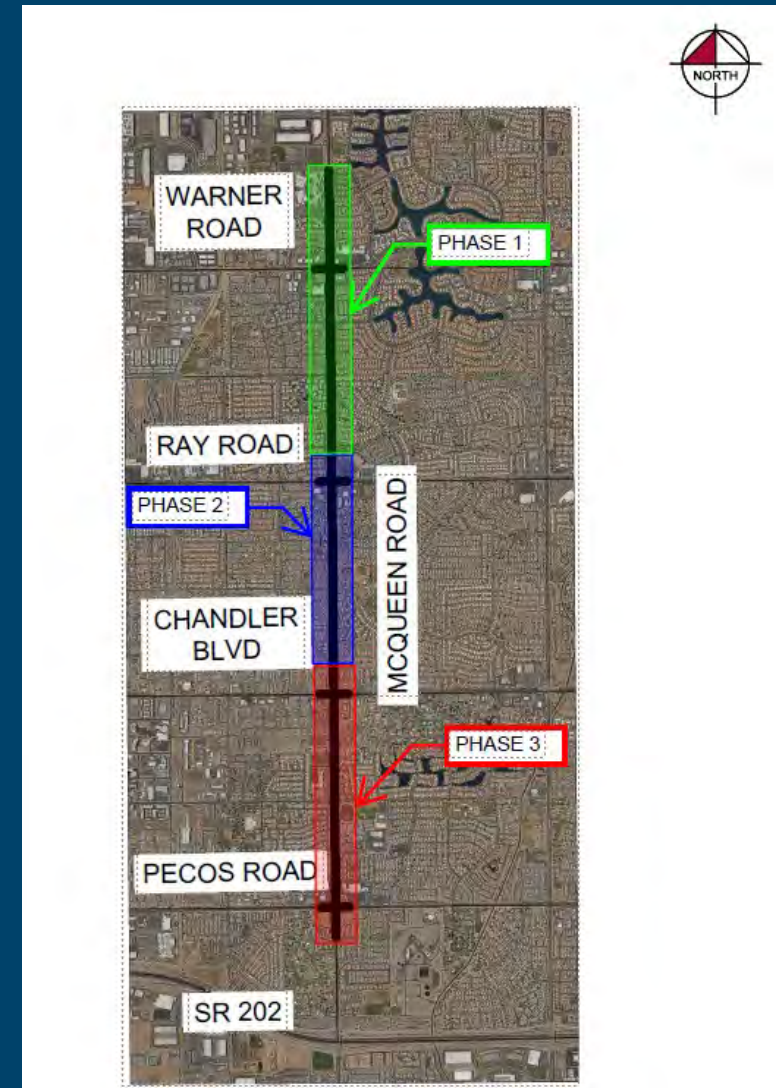
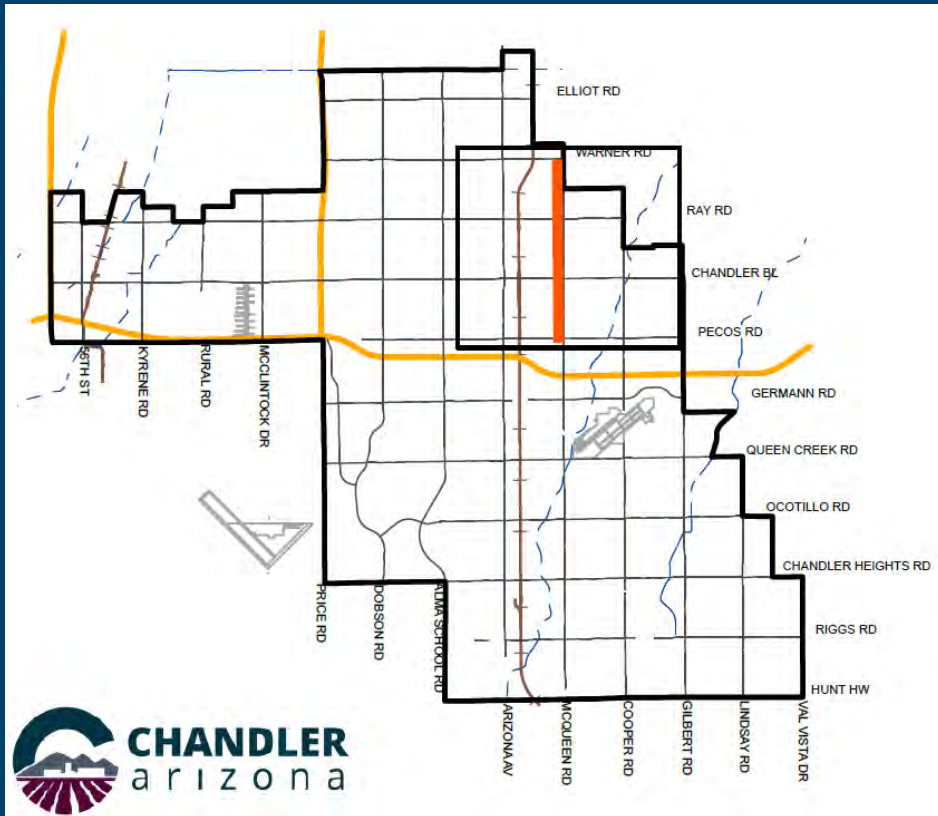


# McQueen Road Phases

Phase 1 – Warner Road to Ray Road

Phase 2 – Ray Road to Chandler Boulevard

Phase 3 – Pecos Road to Chandler Boulevard



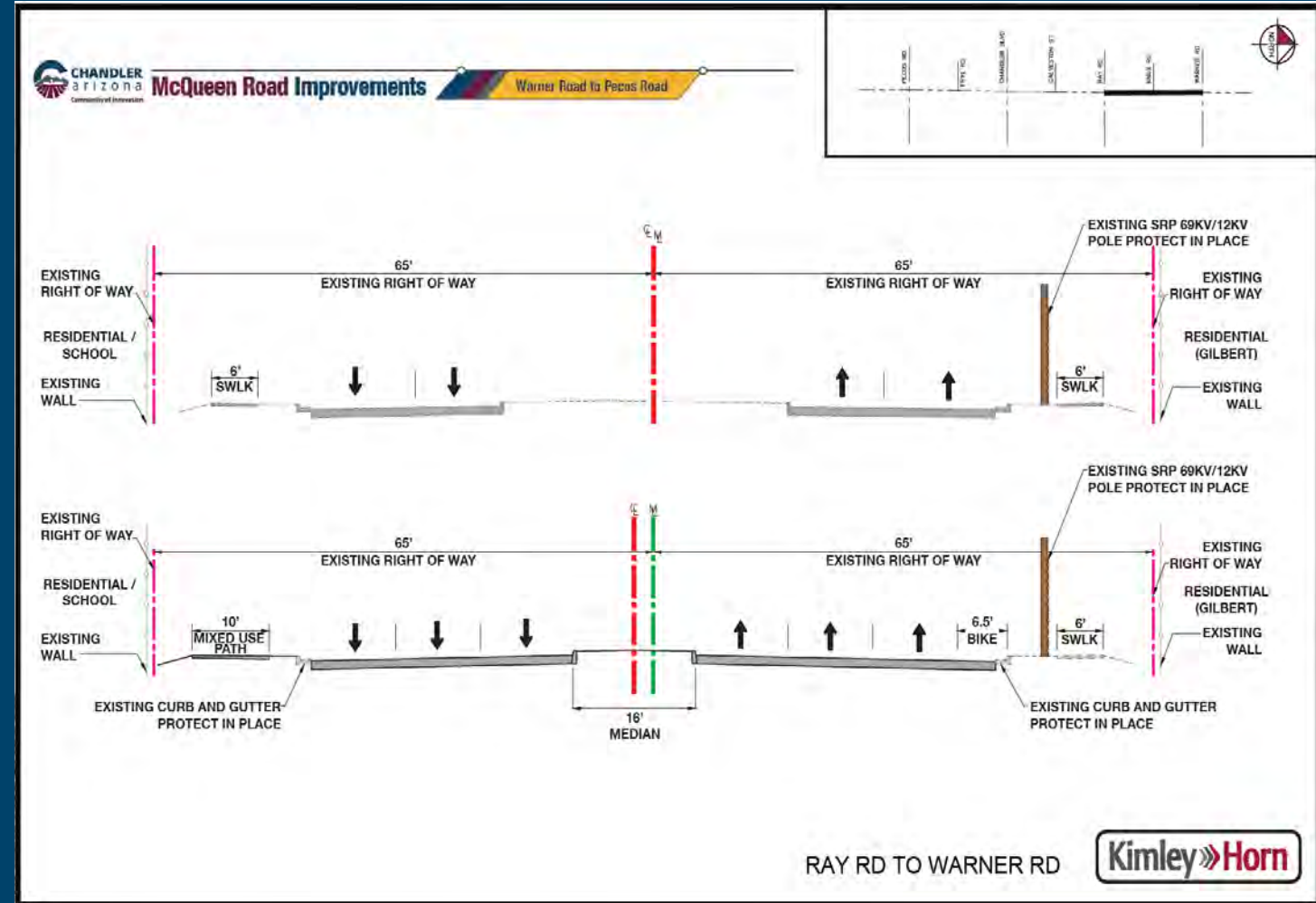


# Phase 1 – Warner Road to Ray Road



## Challenges

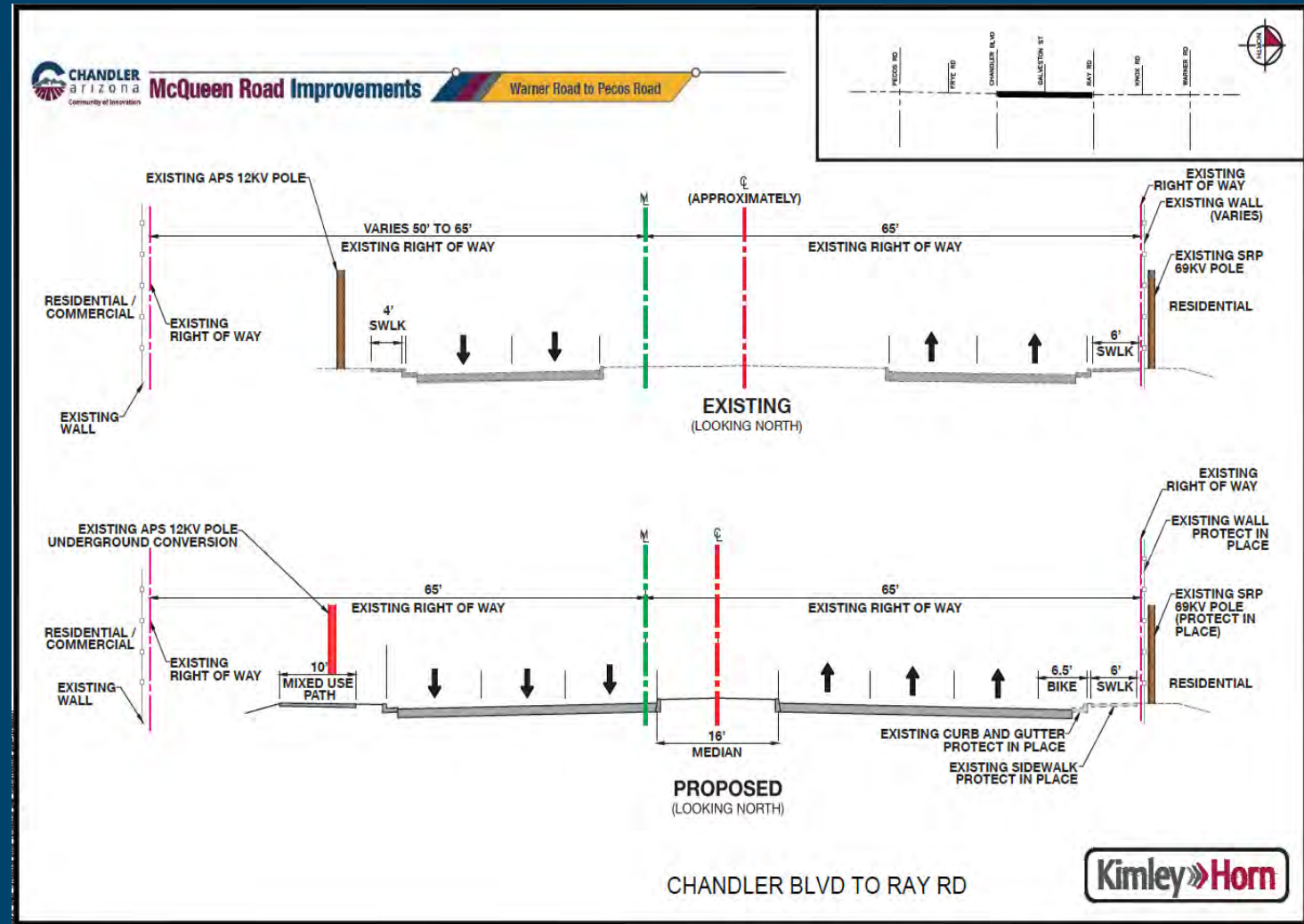
- Current roadway does not have bike lanes
- SRP 69 kV - east side of McQueen Rd
- SRP 12kV and APS 12kV overhead lines converted to underground
- SRP Irrigation line - west side of McQueen Rd
- Project will upgrade one intersection
- A school is located within project limits
- A school is located just outside project limits but is impacted by the project.
- Residents live adjacent to project
- Businesses are within project limits



# Phase 2 – Ray Road to Chandler Boulevard

## Challenges

- Current roadway does not have bike lanes
- SRP 69 kV - east side of McQueen Rd
- SRP 12kV and APS 12 kV overhead lines converted to underground
- SRP Irrigation line – west side of McQueen Rd
- Project will upgrade one intersection
- Residents live adjacent to project
- Businesses are within project limits

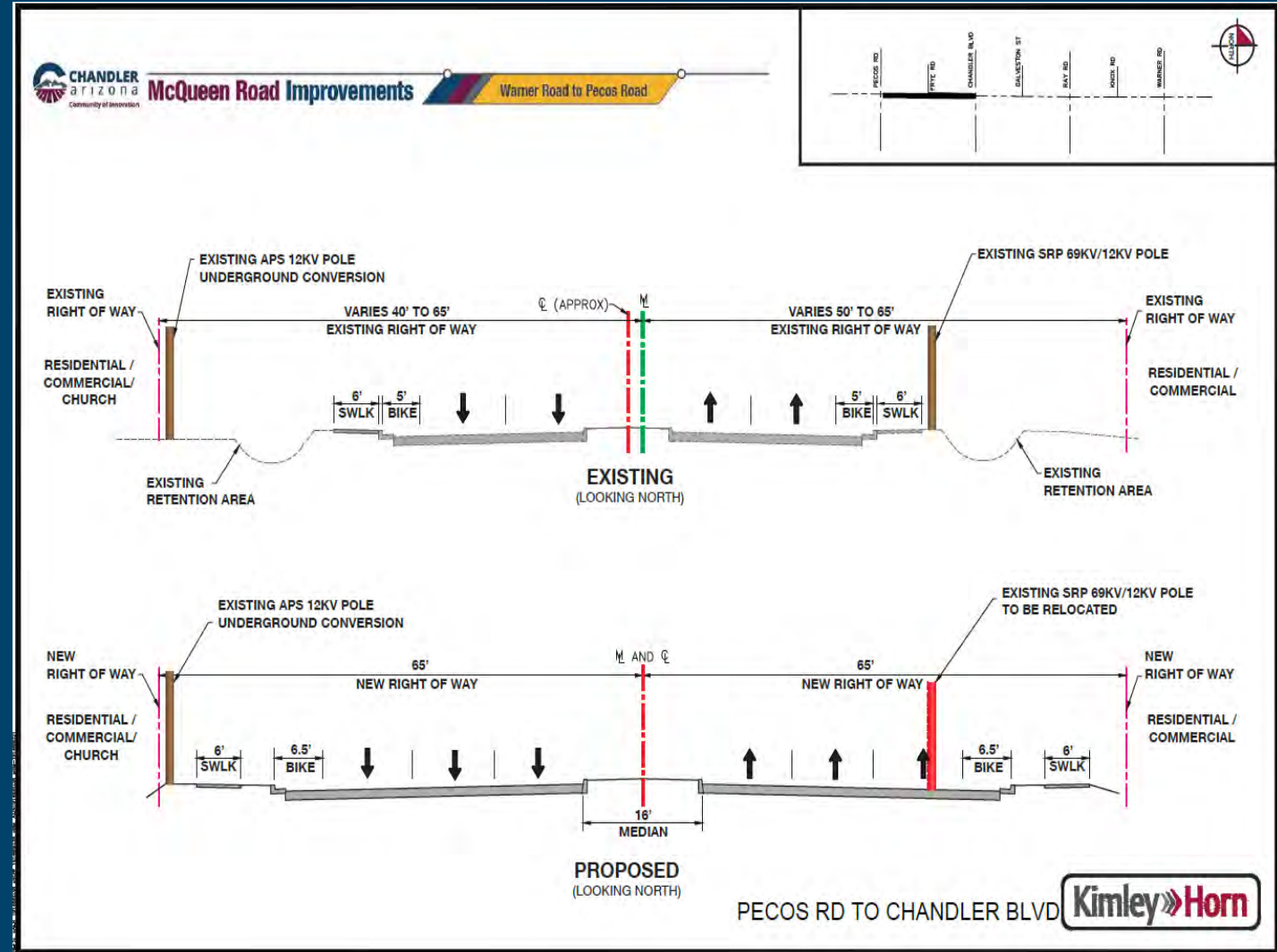




# Phase 3 – Chandler Boulevard to Pecos Road

## Challenges

- Current Roadway does not have bike lanes
- SRP 69 kV in future northbound travel lane
- SRP 12kV and APS 12 kV overhead lines converted to underground
- SRP Irrigation line – west side of McQueen Rd
- Project will upgrade two intersections
- Retention Basins need to be moved.
- Two schools are located within project limits
- Residents live adjacent to project
- Businesses are within project limits



# McQueen Road Cost Impacts

Full pavement replacement in widened areas only. Mill and overlay existing roadway areas. Relocate overhead power lines only when in conflict			Tier 1		
	Today's Dollars	Design	ROW	Construction	Total Project Cost
McQueen Rd (Warner Rd to Ray Rd)	\$ 22,400,000.00	\$ 1,500,000.00	\$ 2,200,000.00	\$ 24,000,000.00	\$ 27,700,000.00
McQueen Rd (Ray Rd to Chandler Blvd)	\$ 19,500,000.00	\$ 1,400,000.00	\$ 1,600,000.00	\$ 22,000,000.00	\$ 25,000,000.00
McQueen Rd (Chandler Blvd to Pecos Rd )	\$ 35,500,000.00	\$ 2,400,000.00	\$ 6,700,000.00	\$ 38,000,000.00	\$ 47,100,000.00
<b>Total</b>	<b>\$ 77,400,000.00</b>			<b>Total</b>	<b>\$ 99,800,000.00</b>

Full pavement replacement throughout project. Replace SRP irrigation pipes. Underground 12kV overhead lines.			Tier 2		
	Today's Dollars	Design	ROW	Construction	Total Project Cost
McQueen Rd (Warner Rd to Ray Rd)	\$ 30,000,000.00	\$ 2,000,000.00	\$ 2,200,000.00	\$ 32,100,000.00	\$ 36,300,000.00
McQueen Rd (Ray Rd to Chandler Blvd)	\$ 29,500,000.00	\$ 2,100,000.00	\$ 1,600,000.00	\$ 33,700,000.00	\$ 37,400,000.00
McQueen Rd (Chandler Blvd to Pecos Rd )	\$ 44,600,000.00	\$ 3,200,000.00	\$ 6,700,000.00	\$ 48,800,000.00	\$ 58,700,000.00
<b>Total</b>	<b>\$ 104,100,000.00</b>			<b>Total</b>	<b>\$ 132,400,000.00</b>

All items shown in Tier 2 Underground 69kV electrical lines.			Tier 3		
	Today's Dollars	Design	ROW	Construction	Total Project Cost
McQueen Rd (Warner Rd to Ray Rd)	\$ 47,200,000.00	\$ 3,300,000.00	\$ 2,200,000.00	\$ 52,200,000.00	\$ 57,700,000.00
McQueen Rd (Ray Rd to Chandler Blvd)	\$ 42,000,000.00	\$ 3,100,000.00	\$ 1,600,000.00	\$ 49,000,000.00	\$ 53,700,000.00
McQueen Rd (Chandler Blvd to Pecos Rd )	\$ 50,000,000.00	\$ 3,600,000.00	\$ 6,700,000.00	\$ 56,000,000.00	\$ 66,300,000.00
<b>Total</b>	<b>\$ 139,200,000.00</b>			<b>Total</b>	<b>\$ 177,700,000.00</b>

# Collector Street Program Review





# Collector Street Improvements

Program #	Program Name	Current 10 Year CIP	Bond Auth Needed	Funding Source
6ST719	Collector Street Improvements	\$7,270,000	\$1,425,000	Streets General Obligation Bonds

This request is to improve collector streets to city standards. Improvements will occur on the following collector streets: South half of Armstrong Way (from Hamilton Street to approximately 1,250 feet east) and the west half of Hamilton St (from Armstrong St to approximately 420 feet north) to collector roadway. This collector is included in the transportation plan. Willis Road (Vine Street to 1,700 feet east) El Monte Place (from Cheri Lynn Drive to 1,000 feet east)



# Willis Rd Collector





# Willis Road (Vine Street to 1,700 feet east)





# Armstrong Way and Hamilton Street



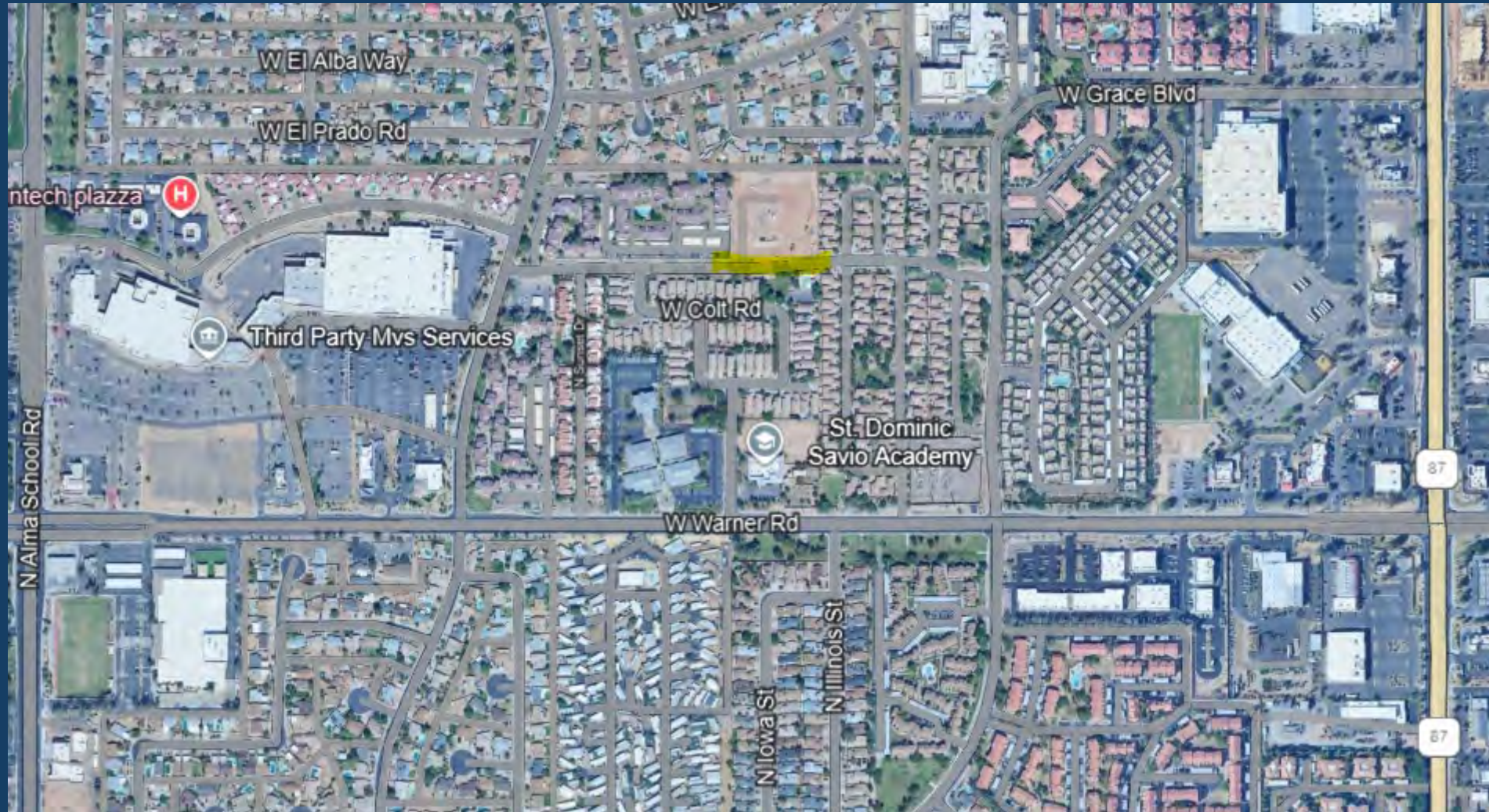


# Armstrong Way and Hamilton Street





# El Monte Place





# El Monte Place (from Cheri Lynn Drive to 1,000 feet east)



# PW Bond Project Worksheet









# Project Cost Increases Due to Design Evolution and Inflation

## McQueen Rd Project Cost Evolution

Tier 1 Proposed Funding Sources	Bond	Grant (Prop 479) Estimated 2024	McQueen Project Total FY 23/24 Budget	McQueen Project Total Current Estimate
McQueen Rd (Warner Rd to Ray Rd.)	\$ 7,889,500	\$ 17,257,100	\$ 25,146,600	\$ 27,700,000
McQueen Rd. (Ray Rd. to Chandler Blvd.)	\$ 8,781,000	\$ 18,184,100	\$ 26,965,100	\$ 25,000,000
McQueen Rd. (Chandler Blvd to Pecos Rd)	\$ 10,427,500	\$ 22,812,500	\$ 33,240,000	\$ 47,100,000
<b>Totals</b>	<b>\$ 27,098,000</b>	<b>\$ 58,253,700</b>	<b>\$ 85,351,700</b>	<b>\$ 99,800,000</b>



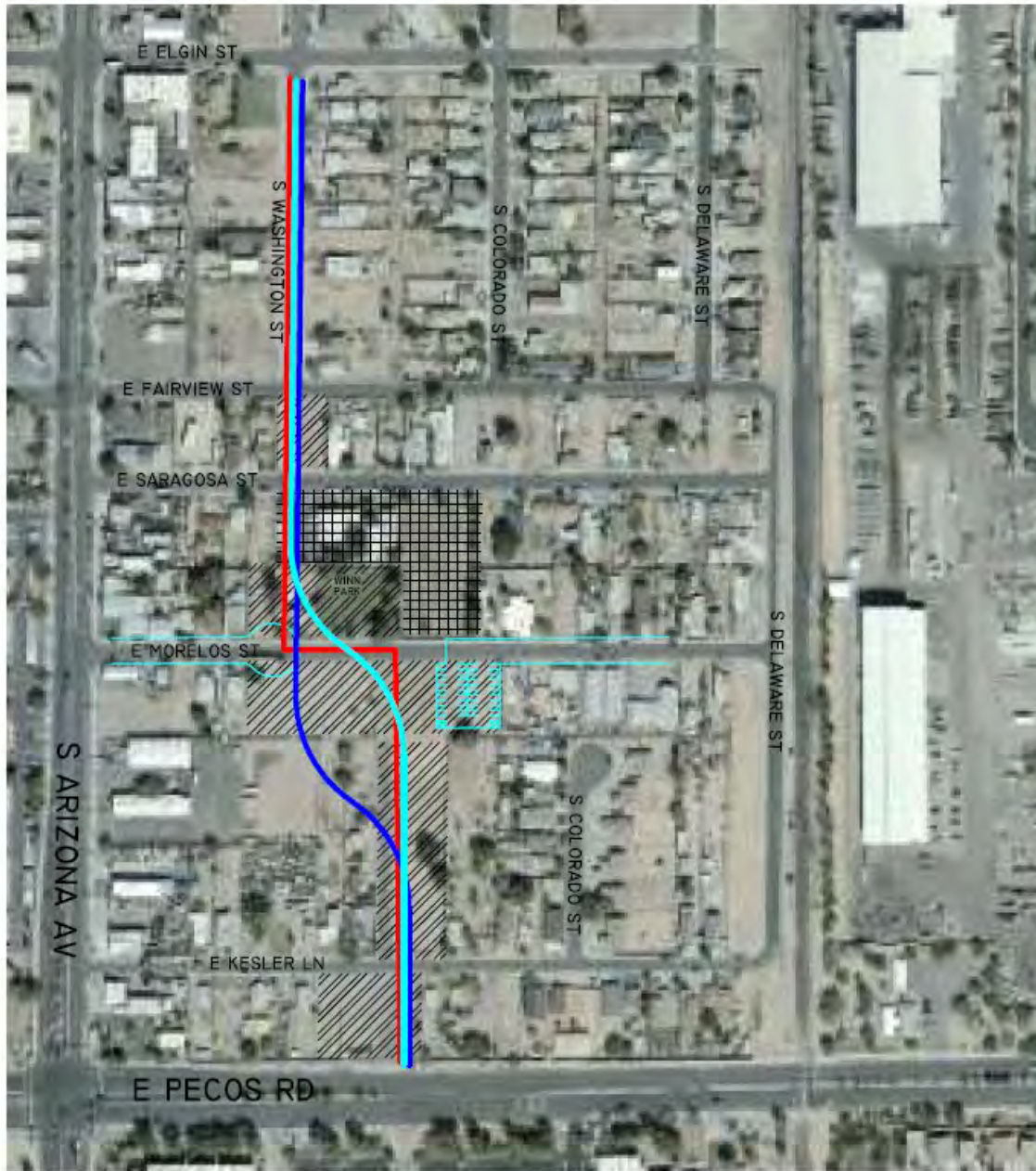
# Public Works Bond Sub Committee



Washington Street Alignment

October 29, 2024

# Washington Street Alignment



- OPTION 1
- OPTION 2
- OPTION 3
- CITY OWNED
- FUTURE CITY OWNED



# WASHINGTON STREET AREA VISION





# HISTORY

- Among the oldest and most diverse areas in the City
- Redevelopment migrating to the south of the Downtown
- 2022 - Urban Land Institute - Arizona Technical Assistance Program
- 2023 – Washington Street Alignment Study
- 2024 – Downtown Regional Area Update (anticipated completion in early 2025)



# Outreach – Community Involvement

## Public Outreach

### 23.12.01 Salvation Army meeting

Considering a new location - 3-5 years

Needs Assessment is currently underway

### 24.01.17 David Gonzalez – Light of Life Church

Project is an opportunity for residents to unite for a better community

Safety is primary concern - park

Supports a connection to Pecos Road

Minimize cut through traffic

Supports beautification – trees, enhanced paving, sidewalks, etc.

Change is beneficial for neighborhood and future development

## Public Outreach

### 23.11.28 Meeting with Southside Neighborhood – Mt. Olive Church

Parking visibility issues – Delaware and Frye

Traffic calming – Elgin and Colorado

Additional play equipment at park

Parking / visibility concerns – Washington and Frye

Food truck congestion in alley

Business parking concerns on Elgin, Morelos and Fairview at Arizona Avenue

Signal timing at Arizona Avenue and Fairview

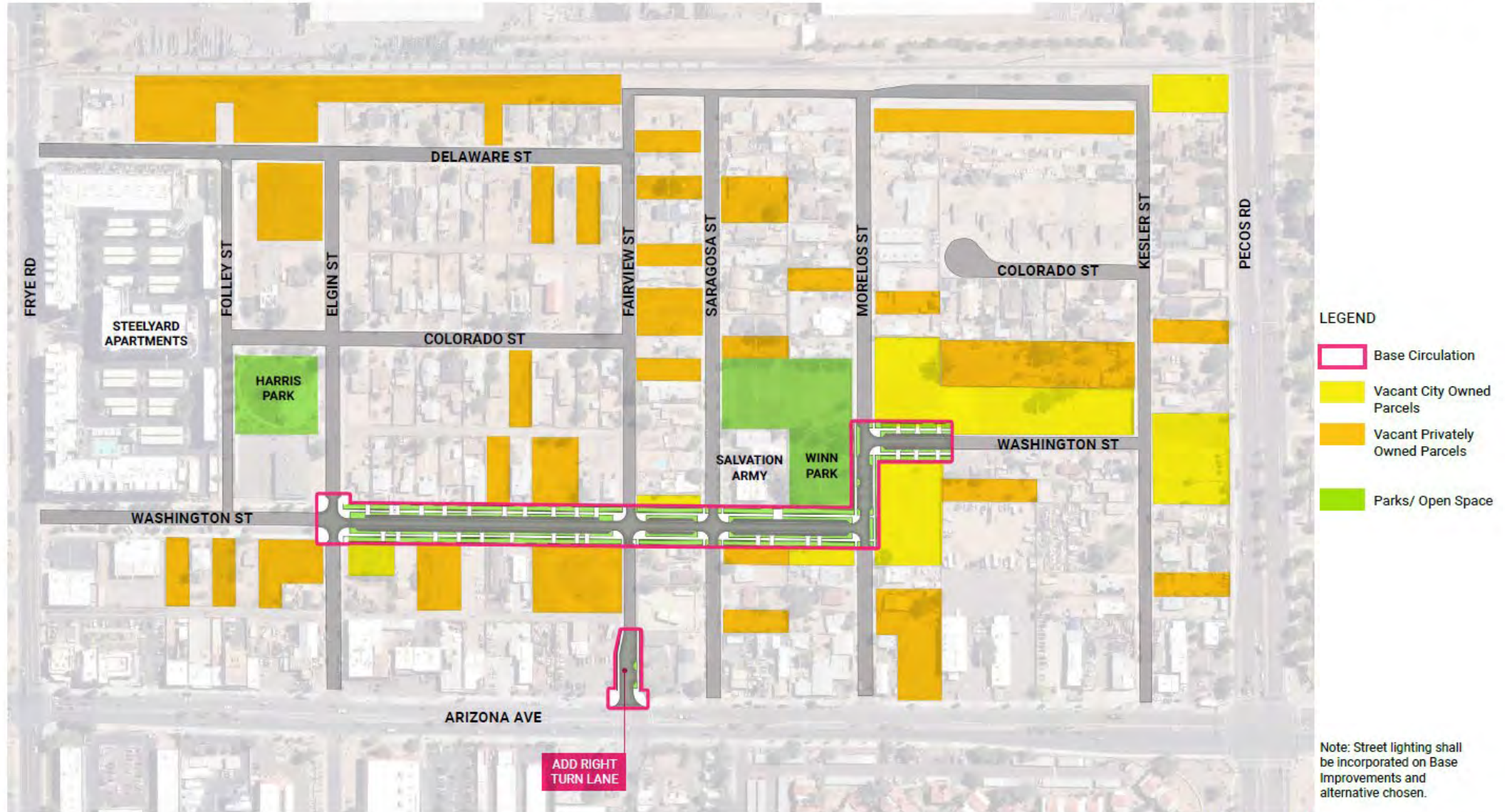
Street feels like a one-way street due to on-street parking

- Lokahi – Civil Engineering Consultant

- Internal Stakeholder Committee



# Washington St - Base Connection



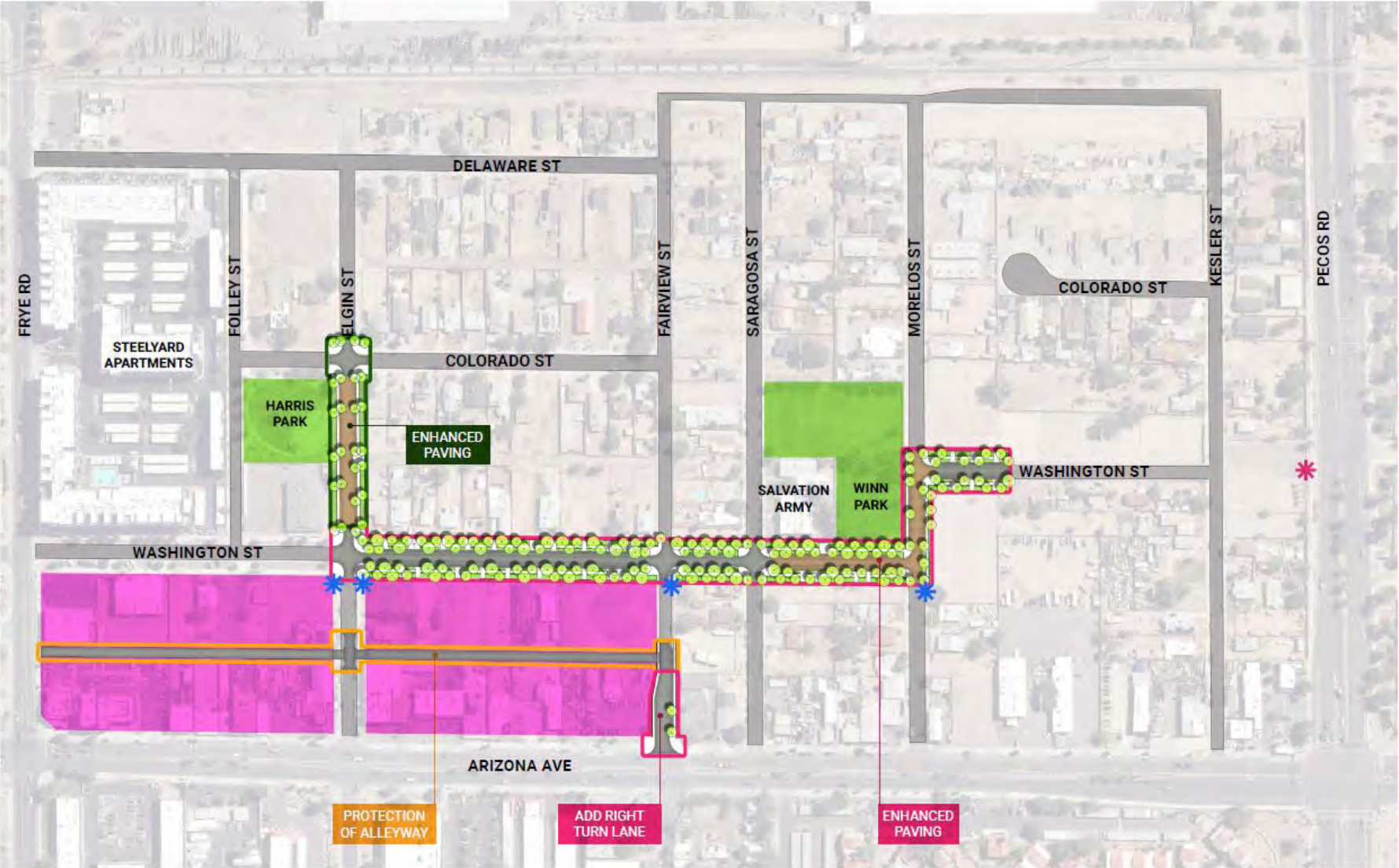
### LEGEND

- Base Circulation
- Vacant City Owned Parcels
- Vacant Privately Owned Parcels
- Parks/ Open Space

Note: Street lighting shall be incorporated on Base Improvements and alternative chosen.



# Washington St - Placemaking



### LEGEND

- Base Improvements
- New Pedestrian Connection to Pecos Rd
- Protection of Alleyway
- Placemaking Opportunity
- Parks/ Open Space
- Future Development
- \* Signage/ Wayfinding
- \* Signage/ Wayfinding for Washington St Alternative

Note: Street lighting shall be incorporated on Base Improvements and alternative chosen.

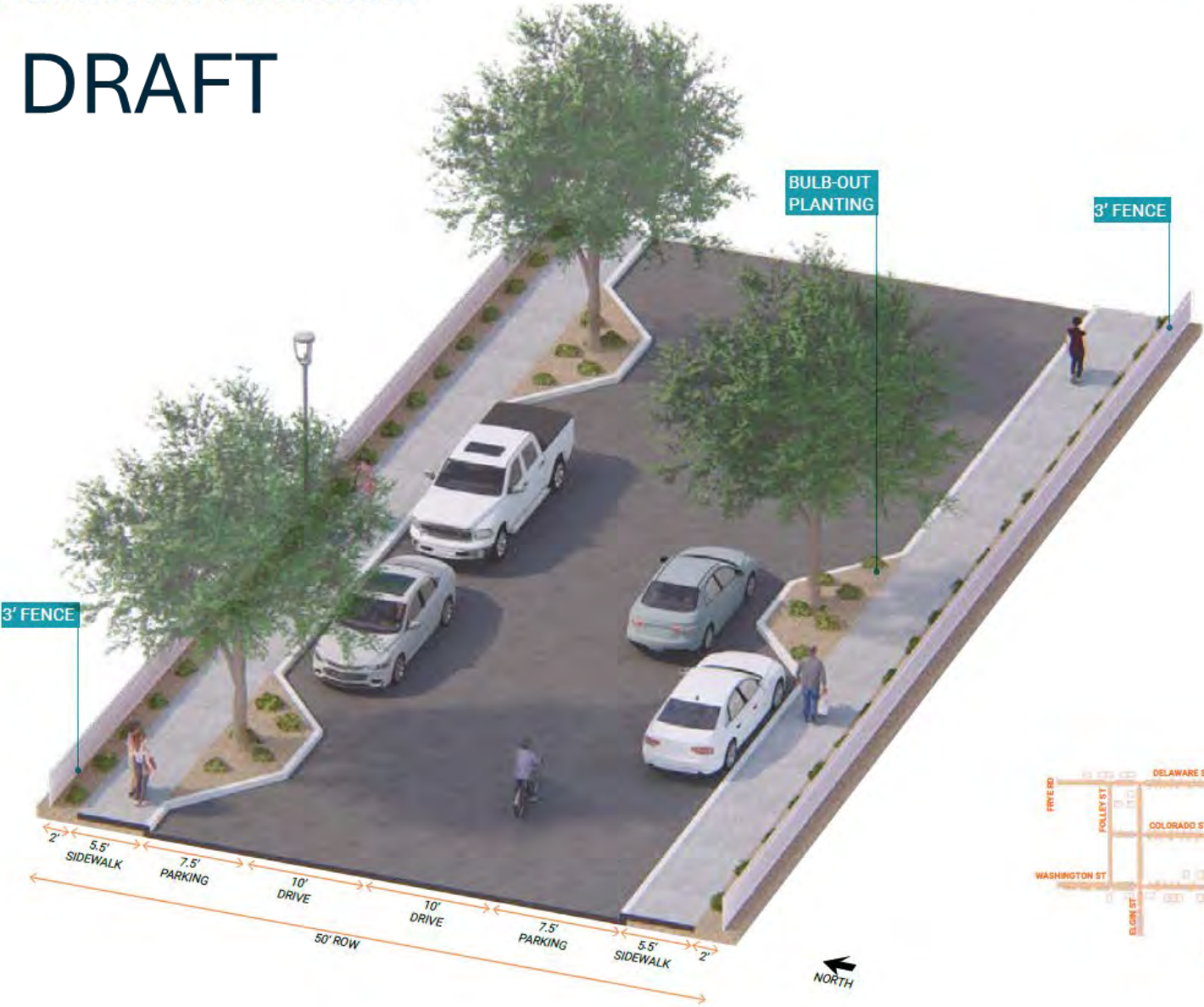






**SECTION TYP. B - SARAGOSA ST/ MORELOS ST**

# DRAFT



# Next Steps



Community feedback from Southside Neighborhood stakeholders



Presentation and direction from Chandler City Council



Completion of the Downtown Region Area Plan  
(anticipated 1<sup>st</sup> quarter of 2025)



Utility Evaluation



# QUESTIONS

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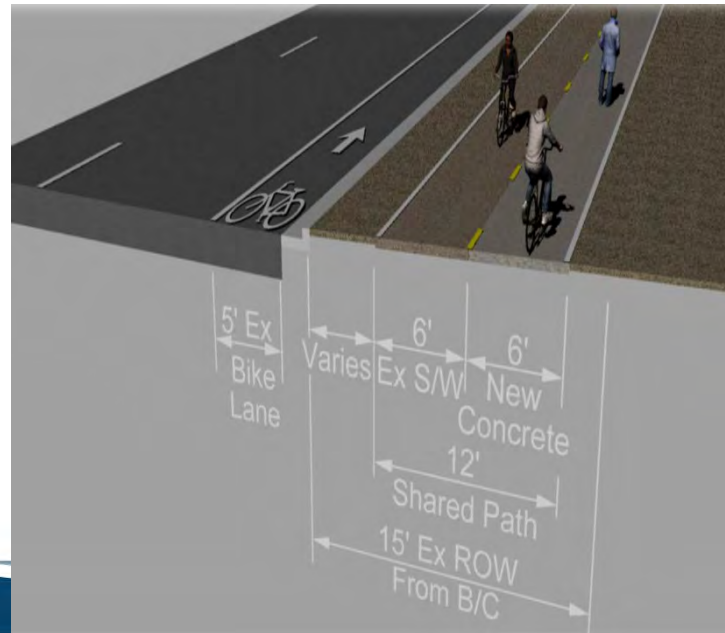
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# Ocotillo Road Shared Use Path

Public Works Bond Sub Committee

October 29, 2024

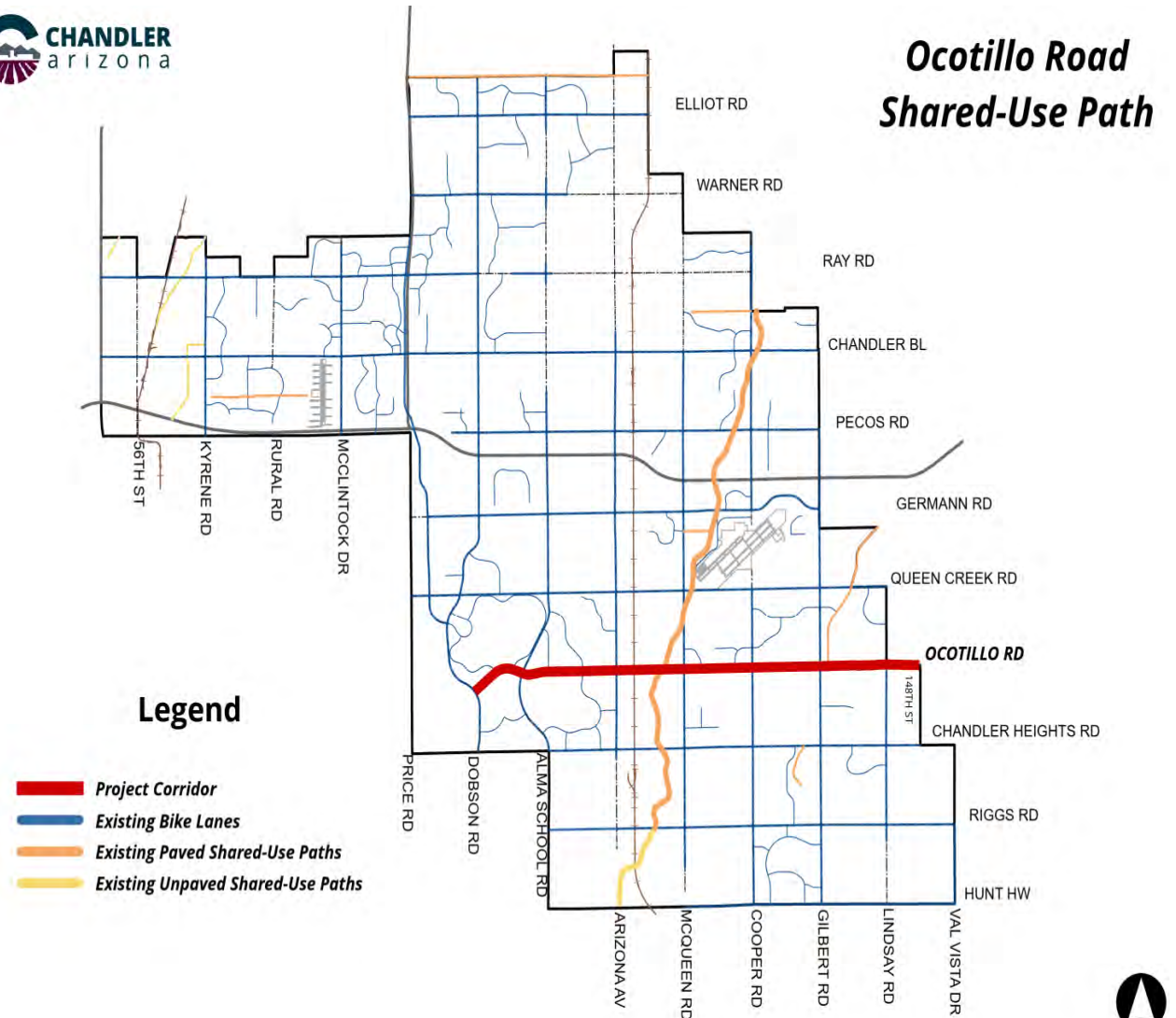






# Project Goals

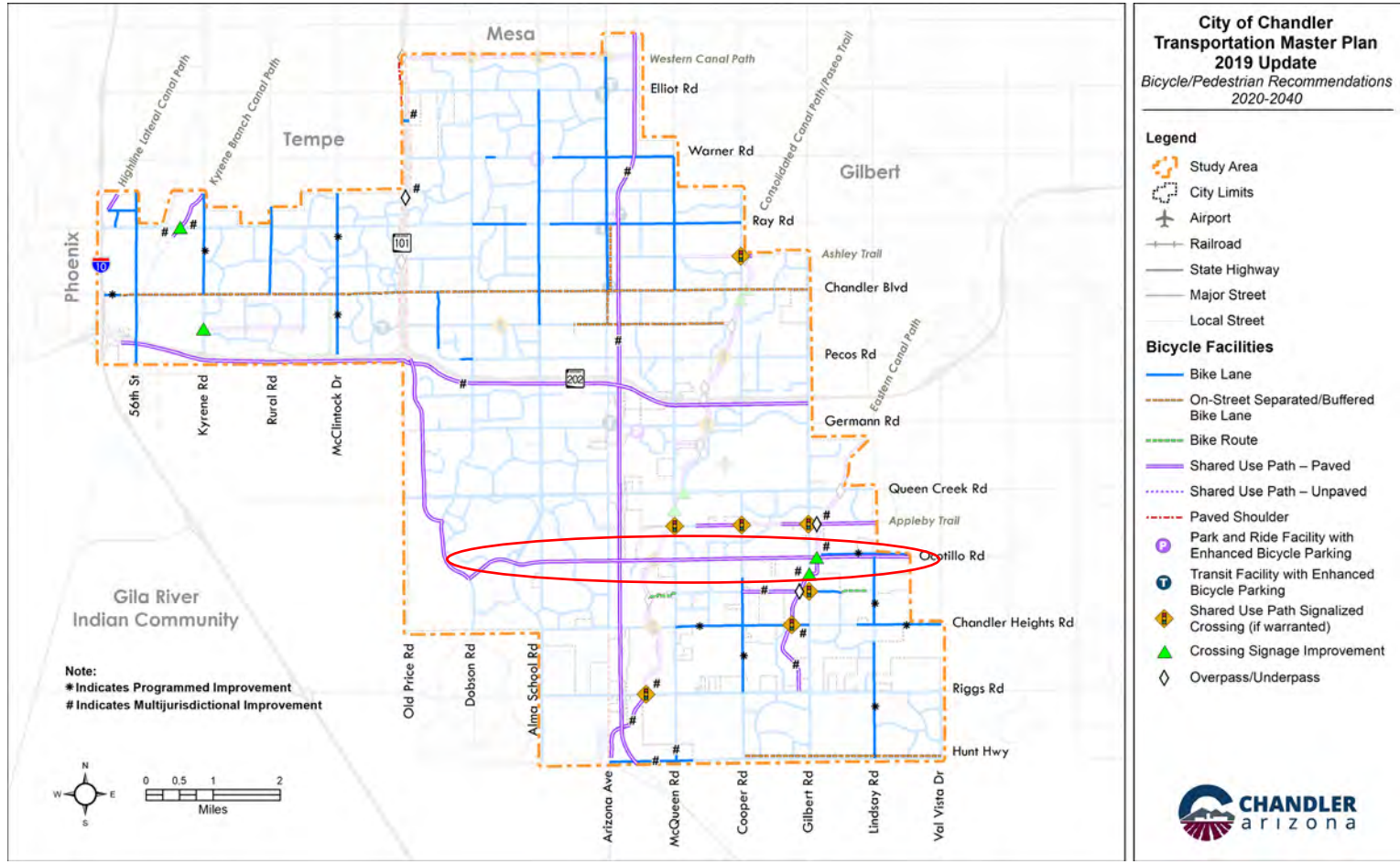
- Accommodate residents' requests to have separated facilities.
- Provide East-West Corridor in South Chandler
- Provide Southeast Chandler Residents with Connection to Paseo Trail





# Transportation Master Plan 2019 Update

- Public outreach showed that residents want to bike in Chandler.
- Most residents indicated they were not comfortable bicycling in a typical bike lane.
- Residents indicated they would feel safer/ more comfortable biking in separated facilities.



Source: Transportation Master Plan 2019 Update



# Transportation Master Plan Survey – Mode Types

- Current mode of travel?



92% Personal Vehicle



3% Bike



2% Transit

- What mode of travel should the City invest in?



44% Transit



35% Auto



10% Bike/Scooter

- Expected primary mode of travel in 20 years?



33% Auto, 28% Driverless Auto, 11% Shared Auto



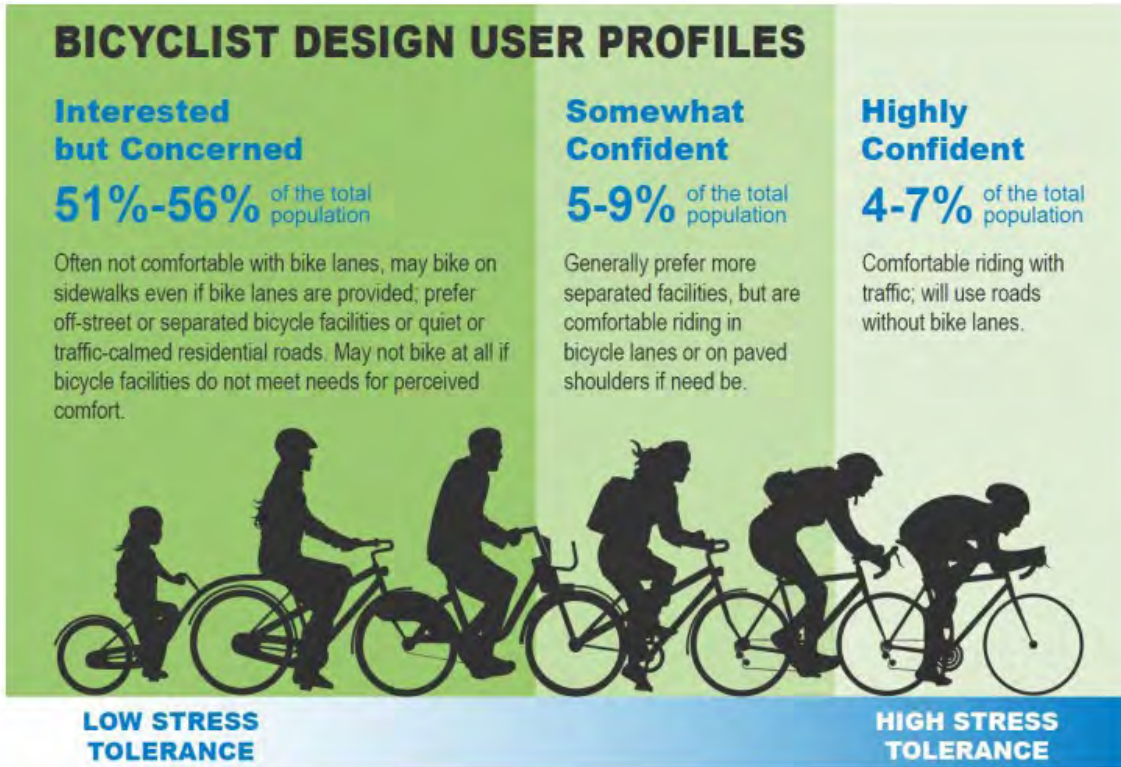
18% Transit



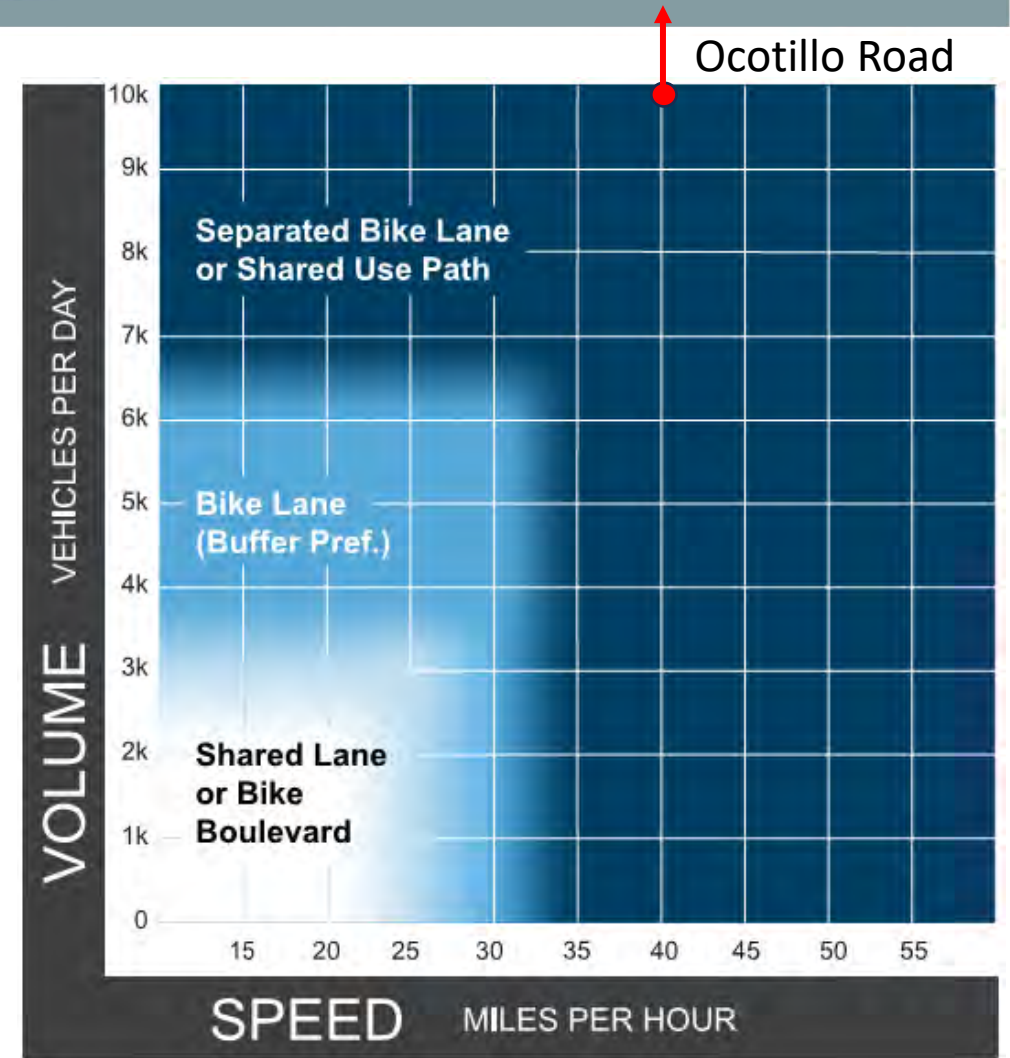
5% Bike



# “Interested but Concerned”



Source: Federal Highway Administration Bikeway Selection Guide, February 2019

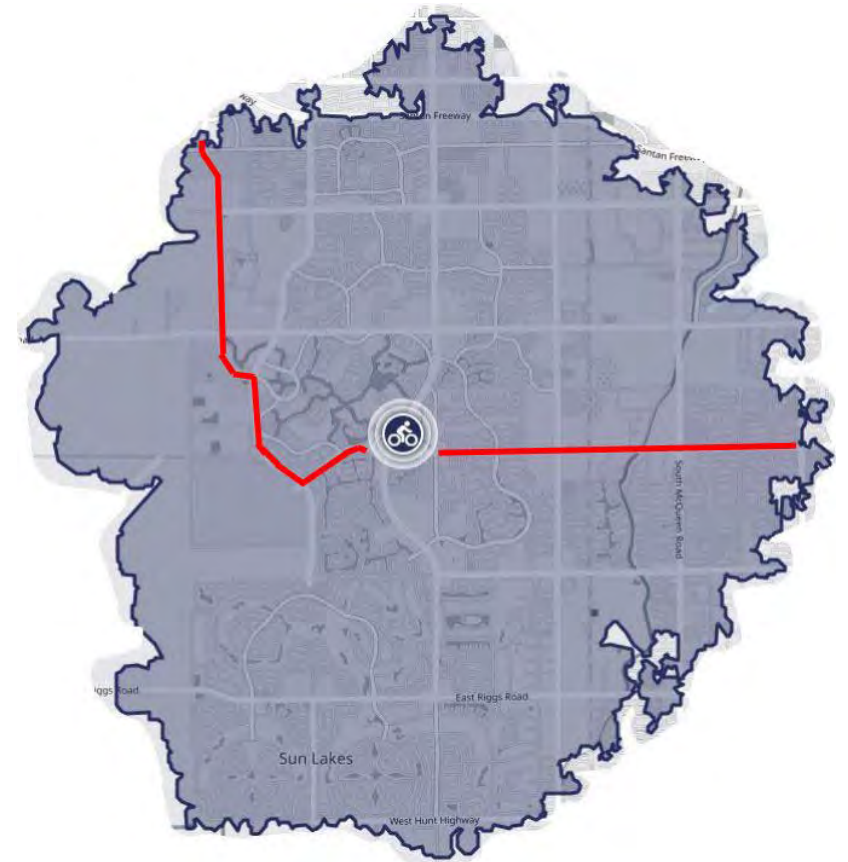


Source: Federal Highway Administration Bikeway Selection Guide, February 2019



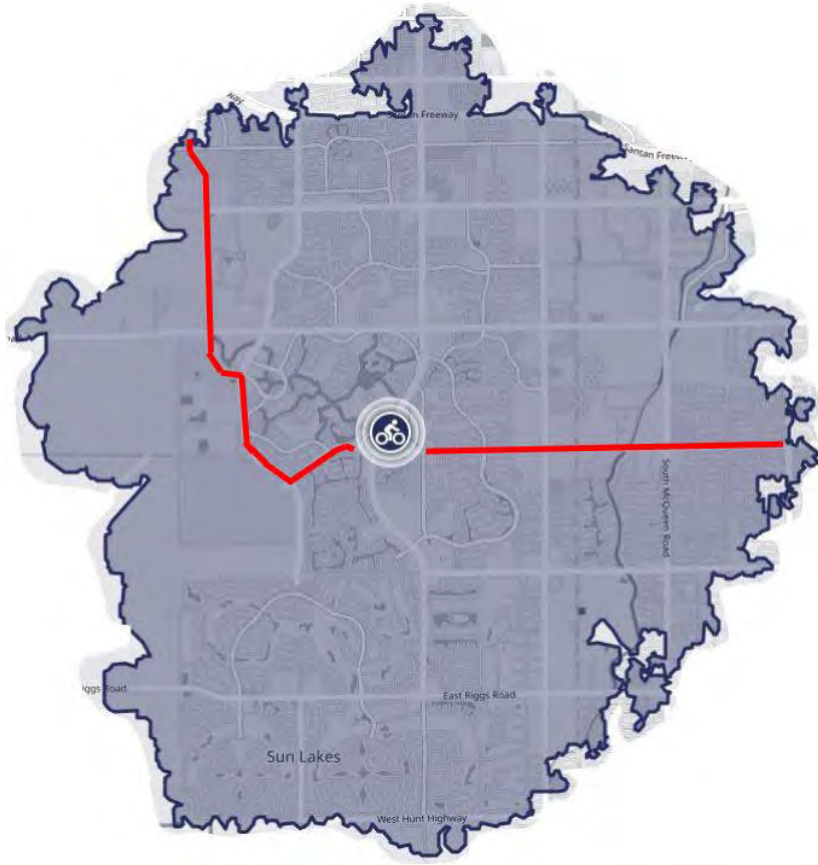
## Project Area Bicycle Travel Time Map

- Average Commute Time in Maricopa County – 26 minutes

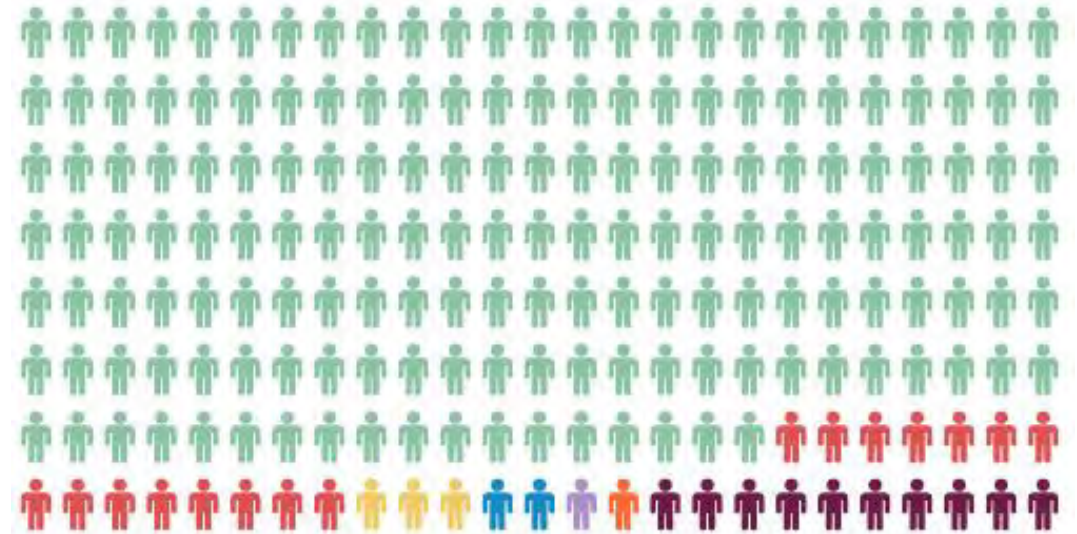




# Mode Usage within Bicycle Commute Shed



**0.8%** of people living in the project area commute to work by bicycle



- Drive Alone
- Carpool
- Bus
- Bicycle
- Vanpool
- Light Rail
- Walk/Run
- Telecommute

Source: 2019 Trip Reduction Program Survey Data







# Alternatives Analysis

- Corridors Considered:
  - Chandler Heights Road
  - Ocotillo Road
- Facility Types Considered
  - One-Way Shared Use Path (2 Sides of Road)
  - Two-Way Shared Use Path (1 Side of Road)
  - Separated Bike Lane

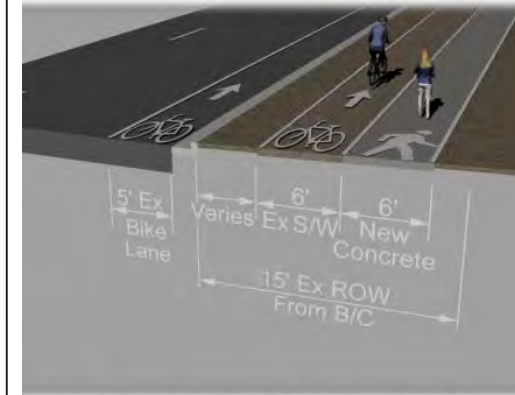
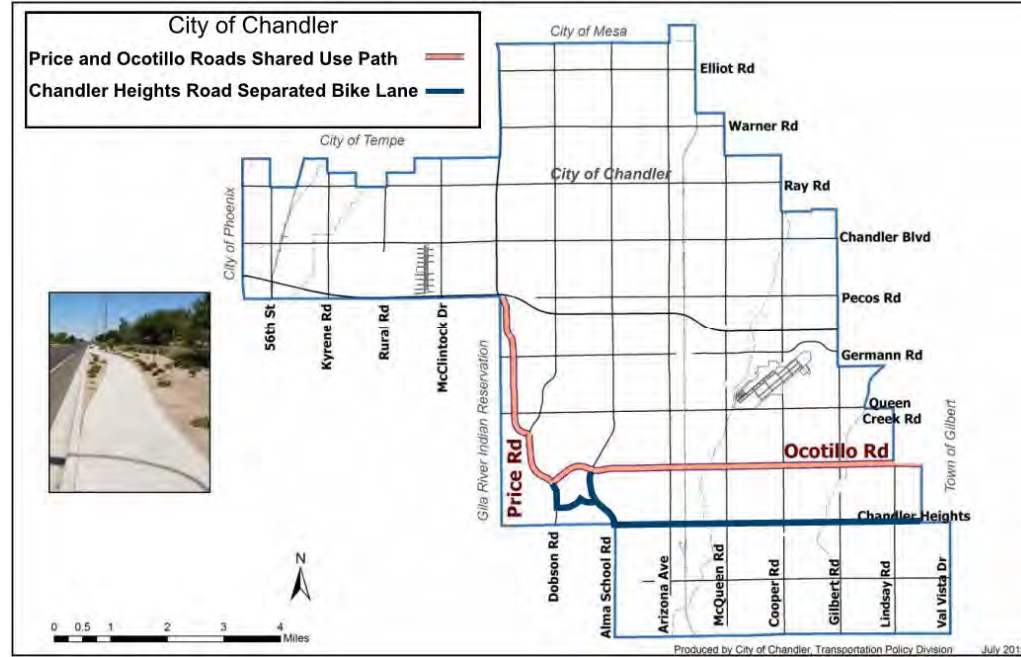


Figure 2 - One-Way Directional Path Typical Section/Rendering

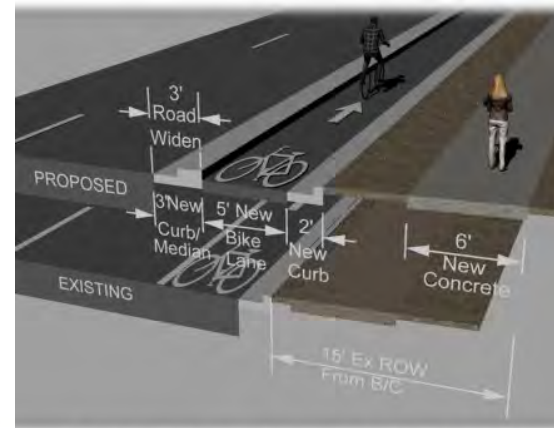


Figure 3 - Separated Bike Lane (median) Typical Section/Rendering

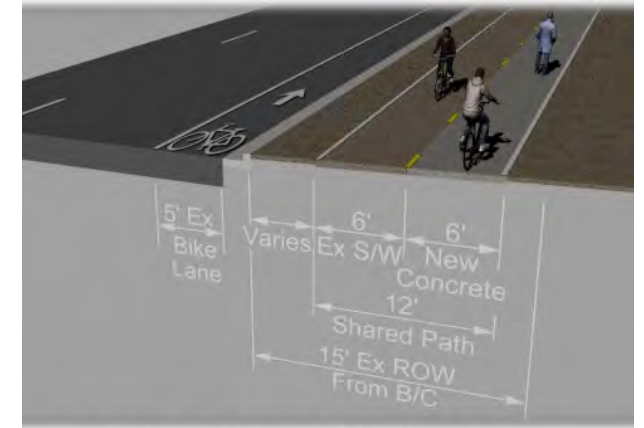


Figure 1 - Two-Way Shared Use Path Typical Section/Rendering





# Stakeholder Input

- Goals and Objectives
- Evaluation Matrix
- Visual Preference

1. On a scale of 1-5 (1-least to 5-most) how important are these factors to you?

[More Details](#)

1 2 3 4 5

Segment Safety

Intersection Safety

Comfort

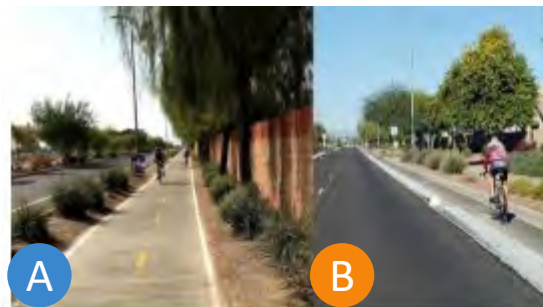
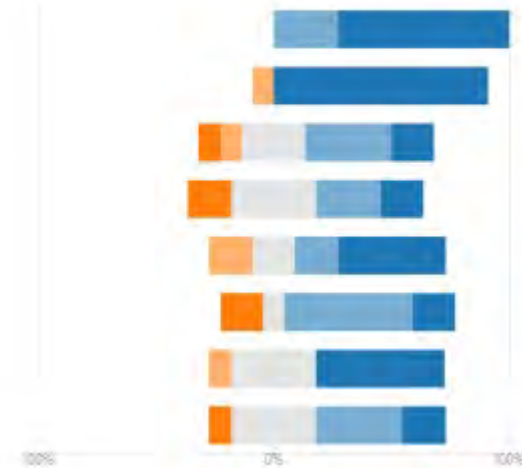
Adjacent Land Connectivity

Vehicular Travel Impacts

Utility Impacts

Right-of-Way Impacts

Cost



Which Bikeway do you Prefer?

- A 11
- B 2



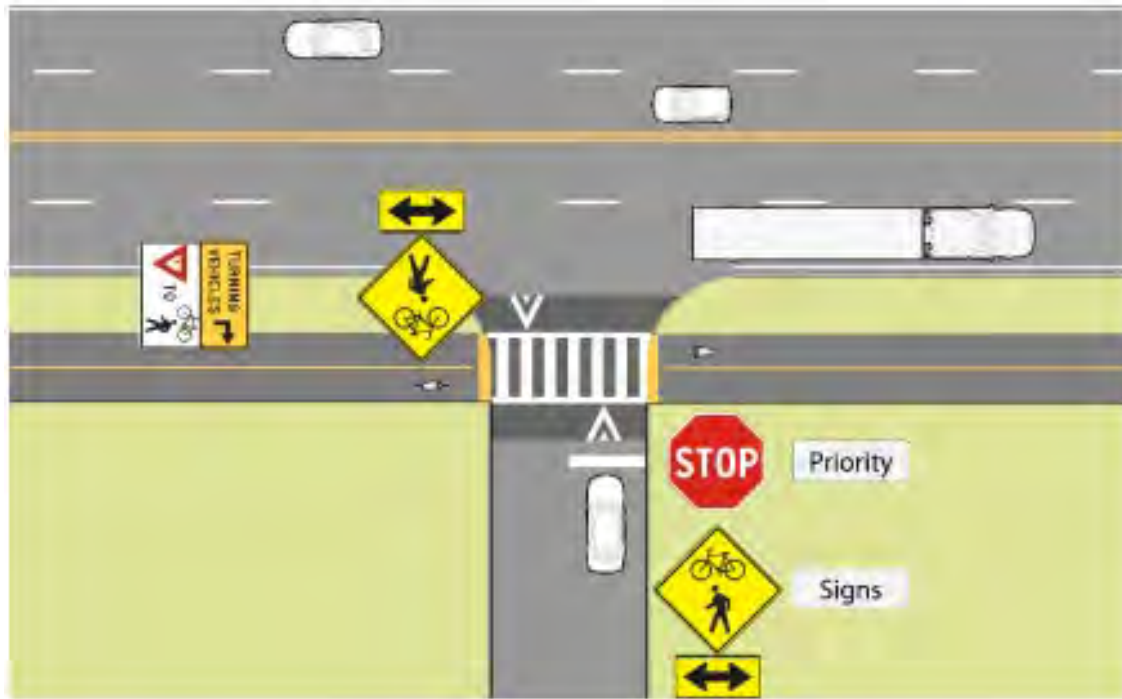
# City of Scottsdale Lessons Learned

- Street and Driveway Crossing
- Landscape buffers
- Pavement markings and Signage



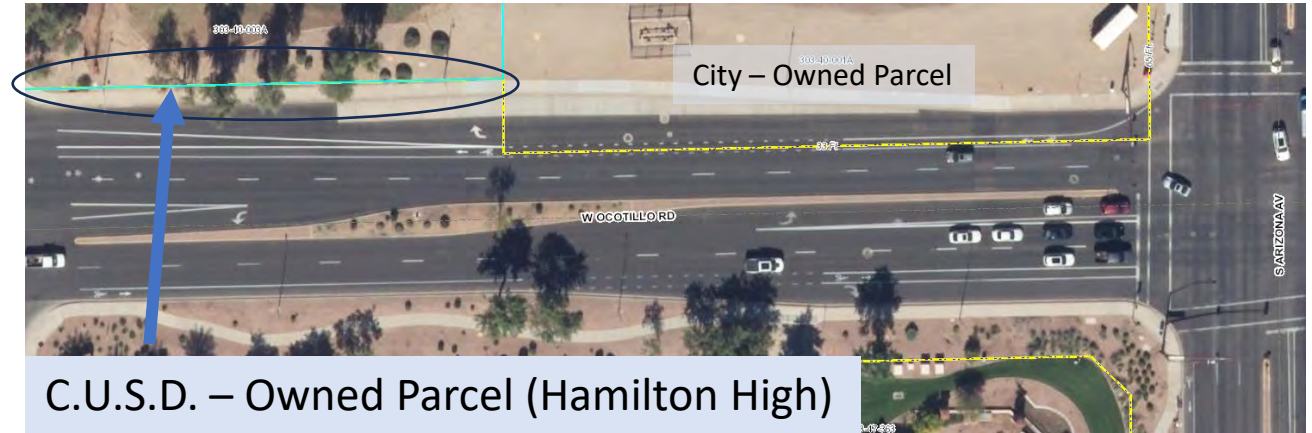
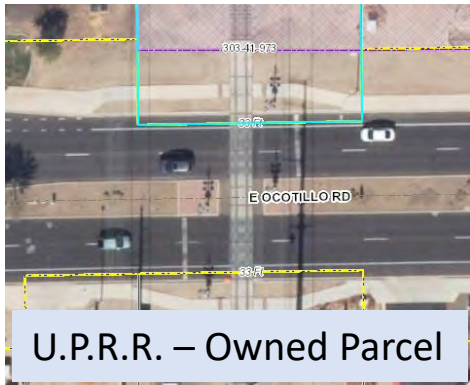


# Crossing Treatments – Additional Signing and Striping Needed





# Right-of-Way Issues







## Funding Opportunities

- **Regional Funds** – Proposition 479 includes competitive active transportation funds
- **Federal Funds** – Safe Streets for All and other



	Program #	Program Name	Current 10 Year CIP	Bond Auth. Needed	Funding Source
	6ST753	Ocotillo Rd. Shared Use Path	\$21,911,000	\$21,911,000	Streets General Obligation Bonds, Capital Grants





## Project Schedule (Current CIP)

- Preliminary Design Study 2021 - 2022
- Design 2027 - 2028
- Right-of-Way 2028 - 2029
- Construction Phase 1 (Dobson to Paseo) 2029 - 2030
- Construction Phase 2 (Paseo to Gilbert Border) 2030 - 2031





**Discussion/ Questions?**



# Pavement Maintenance Program





# Pavement Maintenance Program

## Pavement Quality Index (PQI)

City of Chandler hires a consultant every 4-5 years to field survey and rate of the City maintained roadways sections within the City Right of Way. The most recent survey concluded November 2023 and will be implemented for the 24/25 Fiscal Year.

The rating scale is 1 – 100 (100 being the best) and the rating system is referred to as the Pavement Quality Index, "PQI".

The PQI calculation uses three main criteria

- Surface Distress Index "SDI"
- Ride Comfort Index "RCI"
- Structural Adequacy Index "SAI"



# Pavement Quality Index Examples

**PQI 75**



**PQI 70**



**PQI 45**



**PQI 40**





# Pavement Maintenance Program

## Standard Methods of Condition Measurement

**Pavement Quality Index (PQI)** is not the only industry standard rating system used to analyze the quality and performance of roadway sections. Another commonly used rating system is the **Pavement Condition Index, (PCI)**. PCI concentrates heavily on the surface condition that is like the SDI value that is part of the PQI equation.

The PQI rating system is a stricter measure than the PCI rating system and stricter than the general roadway ratings used by the Maricopa Association of Governments (MAG). However, the values are equitable enough to state that the City of Chandler roadways continuously rate high on the MAG “Fair” rating. Both standards are on a 0 –100 scale with 100 being the best.

### MAG Standard: PCI

Good 71-100

Fair 56-70

Poor 55 or less

### Chandler Standard: PQI

Chandler PQI 2022 = 63.0

Chandler PQI 2023 = 61.0

Chandler PQI 2024 = 64.5



# Pavement Maintenance Program

Lane Miles "LM" PQI Break Down

Chandler has approximately 2,090 LM

**Current PQI Overall Average: 64.0**

- 620 LM, PQI: 100-76
- 1,355 LM, PQI: 75-41
- 120 LM, PQI: 40 or below

**Current SDI Overall Average: 72.9**

- 1,376 LM, SDI: 100-76
- 651 LM, SDI: 75-41
- 67 LM, SDI: 40 or below



# Pavement Maintenance Program

## Roadway Section Lifecycle

An untreated life expectancy of a newly constructed, re-constructed, or re-paved roadway is between **20 to 30 years** and is dependent upon a variety of factors. Quality of construction, traffic loads, types of traffic, weather, oxidation, and the sun all play a factor in the life span of a roadway.

Strategically programmatic seal coating efforts are made to focus on maintaining the City's roadway sections in good standing and extending the life expectancy. The goal is to have 5 years between each seal coat application. The City has experienced performance well up to 8 sometimes even 10 years. Historically however the average lifespan is 7 years. Performance is due to a variety of variables and site conditions.

### **Example of City's Average Roadway Section Pavement Maintenance Life Cycle**

- |                                     |                                  |
|-------------------------------------|----------------------------------|
| 1) ADA completed                    | 5) 5-7 years later Seal Coat     |
| 2) 1 year later Asphalt Repave      | 6) 5-7 years later Slurry Seal   |
| 3) 1-3 Years later Rejuvenator Coat | 7) 5-7 years later Slurry Seal   |
| 4) 3-5 years later Seal Coat        | 8) 5-7 years later Asphalt Patch |

# Pavement Maintenance Program

## Treatment Techniques

The City utilizes a variety of industry standard pavement maintenance techniques;

- Asphalt Repaving (Mill and Overlay),
- Slurry Seal                      PQI: 76 – 100 = Surface Seal or Rejuvenator Seal
- Surface Seal                    PQI: 41- 75 = Slurry Seal or Asphalt Patch
- Rejuvenator Seal              PQI: 40 or below = Asphalt Repaving
- Crack Seal
- Asphalt Patching

Staff is often looking for other treatments to add to the program. It should be noted that Asphalt Repaving projects are required to bring existing pedestrian pathways to Americans with Disabilities (ADA) compliance.



# Pavement Maintenance Program

Treatment Techniques

## Pavement Maintenance Treatment Technique Triggers

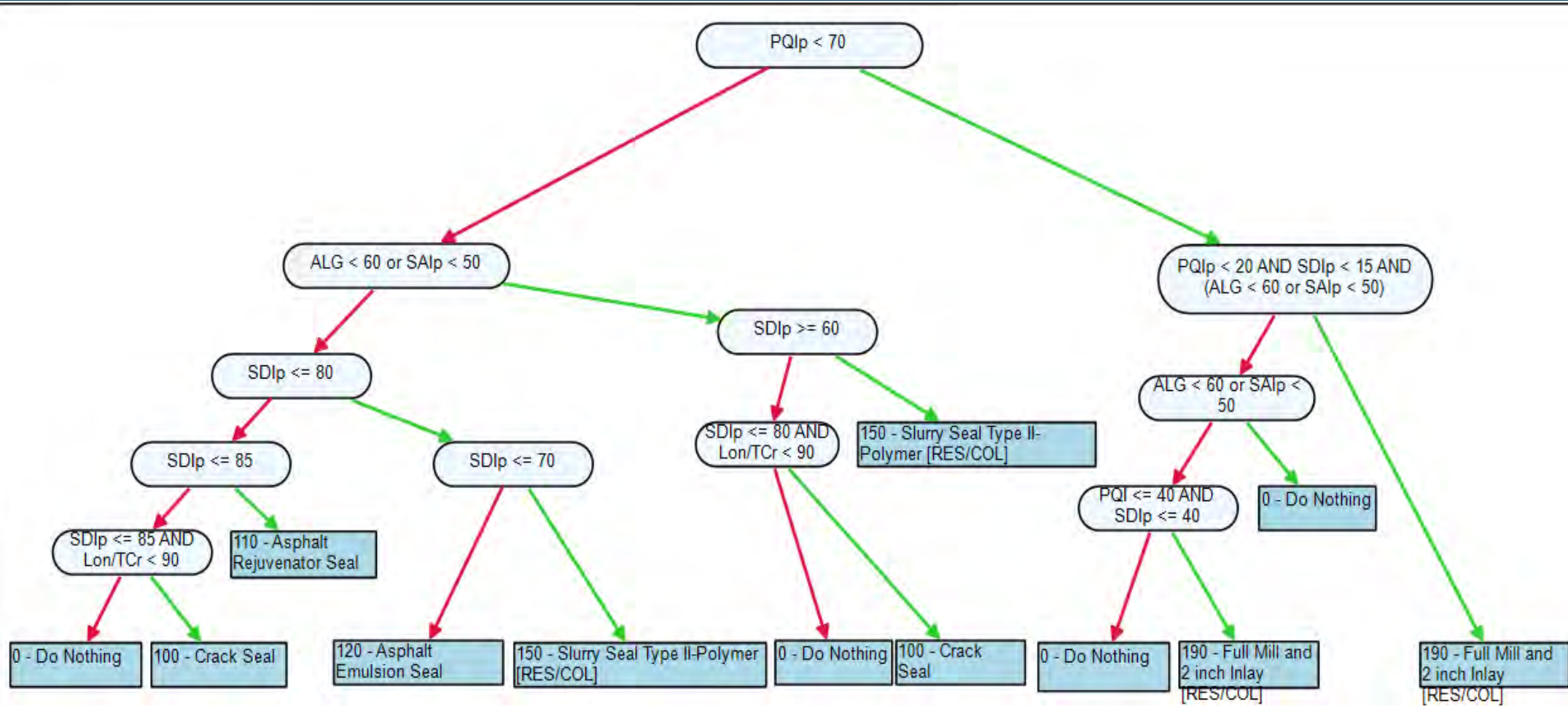
PQI: 76 – 100 = Surface Seal or Rejuvenator Seal

PQI: 41- 75 = Slurry Seal or Asphalt Patch

PQI: 40 or below = Asphalt Repaving

# Pavement Maintenance Program

## Decision Tree



# Pavement Maintenance Program

Examples of roadway pavement maintenance triggers

PQI: 20.9

ADA and Asphalt Repave



PQI: 53.1

Slurry Seal  
and/or  
Asphalt Patch



PQI: 81.3

Surface Seal  
or  
Rejuvenator Seal





# Pavement Maintenance Program

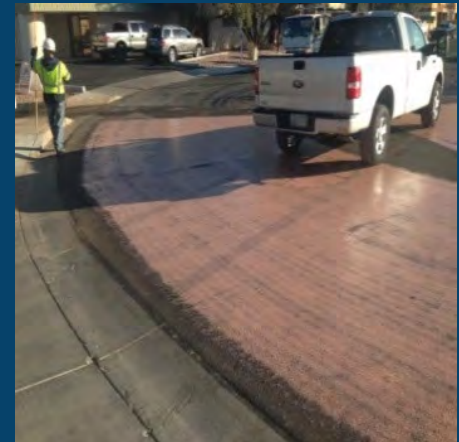
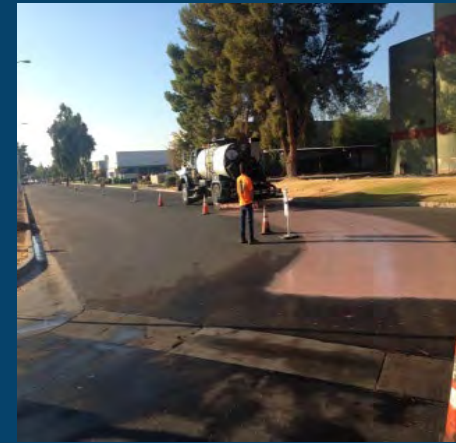
Emulsion Surface Seal



Slurry Seal

Crack Seal

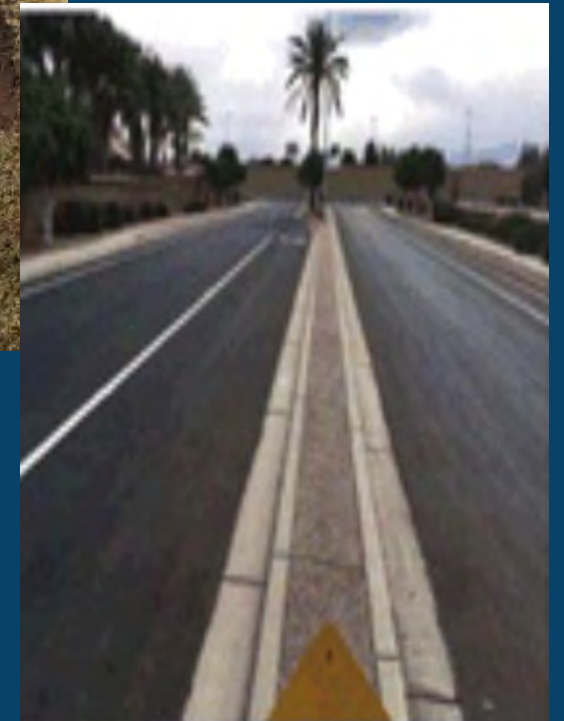
Rejuvenator Seal



# Pavement Maintenance Program Budget

## Lane miles treated per fiscal year

2020/2021 – 144.6	Budget	7.6M
2021/2022 – 138.6	Budget	8.3M
2022/2023 – 125.1	Budget	9.1M
2023/2024 - 152.0	Budget	21.0M
2024/2025 – 121 (Proposed)	Budget	17.0M









**ANY QUESTIONS**

