



**SCOTTSDALE TRANSPORTATION COMMISSION
Notice and Agenda**

Date: Thursday, September 21, 2023

Time: 5:15 P.M.

Location: Kiva – City Hall

3939 N. Drinkwater Boulevard

Scottsdale, AZ 85251

Call to Order

Roll Call

Don Anderson, Chair	Mary Ann Miller, Commissioner
Kent B. Lall, Vice-Chair	Kerry Wilcoxon, Commissioner
Karen Kowal, Commissioner	Emmie Cardella, Commissioner
Lee Kauftheil, Commissioner	

One or more members of the Transportation Commission may be attending the meeting by telephone, video, or internet conferencing, pursuant to A.R.S. §38-431(4)

Public Comment

Spoken comment is being accepted on both agendized and non-agendized items. Request to speak forms must be submitted to staff in-person before the start of the meeting.

Written comment is being accepted for both agendized and non-agendized items and should be submitted electronically at least 90 minutes before the meeting. These comments will be emailed to the Transportation Commission and posted online prior to the meeting. To submit a written public comment electronically, please [click here](#).

- [Approval of Meeting Minutes](#)-----Discussion and Action**
Regular Meeting of the Transportation Commission – August 17, 2023
- [ADOT Loop 101 Update](#)-----Information**
An update on the Loop 101 construction from Princess Dr. to Shea Blvd. – ADOT Staff
- [Arterial Life Cycle Program Fiscal Year 2023/24 Update](#)-----Information**
Updates on the changes for Fiscal Year 2023/24 – Greg Davies, Senior Transportation Planner

4. [Roundabout Education](#) -----**Information**
Discuss the history of roundabouts in Scottsdale and related safety benefits – Phillip Kercher, Traffic Engineering & Ops Manager & John Savage, Traffic Engineer

5. [Projects & Programs Update](#) -----**Information**
A continuing overview of the Transportation & Streets Department programs and activities – Mark Melnychenko, Transportation & Streets Director

6. [Commission Identification of Future Agenda Items](#)----- **Discussion**
Commission members to identify items or topics of interest to staff for future Commission presentations

Adjournment



Persons with a disability may request a reasonable accommodation by contacting Kyle Lofgren at 480-312-7637. Requests should be made 24 hours in advance, or as early as possible, to allow time to arrange the accommodation. For TYY users, the Arizona Relay Service (1-800-367-8939) may also contact Kyle Lofgren at 480-312-7637.



DRAFT SUMMARIZED MINUTES

**CITY OF SCOTTSDALE
TRANSPORTATION COMMISSION
REGULAR MEETING**

**Thursday, August 17, 2023
Kiva-City Hall
3939 N. Drinkwater Boulevard
Scottsdale, Arizona 85251**

CALL TO ORDER

Chair Iacovo called the regular meeting of the Scottsdale Transportation Commission to order at 5:16 p.m.

ROLL CALL

PRESENT: Pamela Iacovo, Chair
Don Anderson, Vice Chair
Karen Kowal
B. Kent Lall
Mary Ann Miller
Kerry Wilcoxon

ABSENT: Emmie Cardella

STAFF: Mark Melnychenko, Transportation & Streets Director
Nathan Domme, Senior Transportation Planner
Parker Murphy, Traffic Engineer
Susan Conklu, Senior Transportation Planner
Greg Davies, Senior Transportation Planner
Kiran Guntupalli, Principal Traffic Engineer
Phil Kercher, Traffic Engineering Manager
Sam Taylor, Traffic Engineer
Kyle Lofgren, Office Manager

PUBLIC COMMENT

One written public comment was included in the packet.

Kyle Lofgren, Office Manager, read an additional written public comment into the record in regards to Agenda Item 2 and the commenter's support for installation of a speed bump.

1. APPROVAL OF MINUTES

Chair called for approval of the minutes. One correction was made.

COMMISSIONER KOWAL MOVED TO APPROVE THE REGULAR MEETING MINUTES OF THE TRANSPORTATION COMMISSION ON JUNE 15, 2023 AS AMENDED. COMMISSIONER WILCOXON SECONDED THE MOTION, WHICH CARRIED 6-0 WITH CHAIR IACOVO, VICE CHAIR ANDERSON AND COMMISSIONERS KOWAL, LALL, MILLER AND WILCOXON VOTING IN THE AFFIRMATIVE WITH NO DISSENTING VOTES.

2. NTMP EXCEPTION: TRAFFIC CALMING ON OAK STREET TO HAYDEN ROAD VARIANCE REQUEST

Parker Murphy, Traffic Engineer, provided an overview of site location attributes, speed and collision data. Neighborhood residents seek an exception to allow the petition phase of the NTMP process to commence for the installation of traffic calming devices, however, the May 2023 data showed that the speed thresholds are not met. Resident Blake Hill was the primary petitioner.

Commissioner asked about the severity and timing of the collisions at the site. Mr. Murphy stated that there were two in 2017, one in 2018, one in 2020 and one in 2022 along the entire segment from 77th to Hayden. One was listed as an injury crash, involving a drunk driver who collided with a parked car.

In response to a Commissioner question, Mr. Murphy stated that the May 2023 data gathering occurred prior to school being let out for the summer break.

In response to a Commissioner question, Mr. Murphy stated that the speed limit on this section of roadway is 25. A multifamily development was constructed on the south side of Oak west of Hayden in the past ten years, however, no other major changes have been made. The City introduced a no parking restriction around the curve, due to residents' concerns of sight distance and increased traffic. The current design standard would include a speed cushion.

In response to a question from Vice Chair, Nathan Domme, Senior Transportation Planner, stated that the identified section of roadway goes up 77th Street and turns west back onto Oak Street and Oak Street becomes a collector through most of the City.

Commissioner asked how many of the 36 to 39 single family homes have signed the petition. Mr. Murphy stated that for collection of data, at least ten signatures are required and approximately half of the residents completed the interest form. Because conditions did not meet the criteria, the process did not move to a full petition.

Commissioner asked about the origins of the NTMP requirement. Mr. Murphy stated that a Neighborhood Traffic Management policy was passed by the Transportation Commission in April, 2020, which formed the basis of the requirements. The requirements are a minimum of 500 vehicles per day, a maximum of 3,000. Forty percent of the traffic must be five miles per hour or

over and 20 percent to ten miles per hour over. As a 25 mile per hour roadway, those criteria are 35 miles per hour and 35 miles per hour. In terms of comparisons, Peoria utilizes similar criteria.

Phil Kercher, Traffic Engineering Manager, gave an overview of the current status. This roadway did not meet the criteria to continue with the traffic calming installation process. If the Commission provides an exception to the criteria, staff will begin to work on a traffic calming plan. Once the plan is developed, the neighborhood must garner 70 percent resident approval. If this is successful, the plan would come back to the Commission for approval. If the exception is not granted, the neighborhood would need to wait for six months to repeat the process.

In response to a question from Chair, Mr. Kercher stated that a speed and volume count was done in 2013 and there is no history of a traffic calming request. While there are no bike lanes on this stretch of roadway, it is a bike route.

COMMISSIONER WILCOXON MOVED TO FOLLOW CITY STAFF'S RECOMMENDATION TO NOT PROCEED WITH TRAFFIC CALMING, AS THE CRITERIA HAVE NOT BEEN MET. COMMISSIONER LALL SECONDED THE MOTION, WHICH CARRIED 5-1 WITH VICE CHAIR ANDERSON AND COMMISSIONERS KOWAL, LALL, MILLER AND WILCOXON VOTING IN THE AFFIRMATIVE WITH CHAIR IACOVO DISSENTING.

3. NTMP EXCEPTION: OSBORN ROAD, 85TH STREET TO 87TH STREET VARIANCE REQUEST

Mr. Murphy provided an overview of site location attributes, speed and collision data. Data collected in September 2019 was utilized to determine that the speed thresholds had not been met. The request was received in June 2023, and since school was out, staff elected not to collect new data. Speed data does not meet the criteria to continue with the traffic calming installation process. Preliminary discussion with the stormwater department and City of Scottsdale Fire Department did not note any concerns. Staff does not recommend installation of traffic calming devices on Osborn Road between 85th Street and 87th Street, as neither of the speed criteria were met in September 2019 data.

In response to a Commissioner question, Mr. Murphy stated that there were two collisions in 2017, one in 2018, one in 2020 and one in 2022. One was listed as an injury.

Commissioner noted that the stretch of Osborn goes all the way to Hayden and asked why the entire area was not looked at. Mr. Murphy stated that the only area considered for data collection is the residential area where the request is identified. If the process were to continue to petition and planning, adjacent segments could be included. Commissioner commented that there has been a proliferation of visitors and Airbnbs in the area.

Commissioner asked about the number of homes within the two blocks and how many are requesting a traffic calming device. Mr. Murphy stated that two residents collected the ten required signatures. Commissioner estimated that approximately 11 of the 26 homes made the request.

VICE CHAIR ANDERSON MOVED TO FOLLOW CITY STAFF'S RECOMMENDATION TO NOT PROCEED WITH TRAFFIC CALMING, AS THE CRITERIA HAVE NOT BEEN MET. COMMISSIONER WILCOXON SECONDED THE MOTION, WHICH CARRIED 5-1 WITH CHAIR

IACOVO, VICE CHAIR ANDERSON AND COMMISSIONERS KOWAL, LALL AND WILCOXON VOTING IN THE AFFIRMATIVE WITH COMMISSIONER MILLER DISSENTING.

4. LINKING THE FIVE-YEAR PAVING PLAN TO RESTRIPIING EFFORTS

Sam Taylor, Traffic Engineer, provided a brief background of City paving:

- 1912: First paved roads in Arizona were constructed in Phoenix
- 1927-1956: Many roads in Scottsdale began to be paved
- Annual repaving of asphalt roadways ever since
- 2018: Incorporated signing and marking improvements – methods and procedures
- 2021: Most recent pavement index survey and 5-year paving plan
- 2023: Program continues to be refined

Commissioner requested that the Commission be provided with details on the Pavement Index Survey. Mr. Taylor stated that he does not work in the group that generates the survey, but this information could be sent to the Commission after the meeting. Commissioner inquired how the survey is conducted. Mark Melnychenko, Transportation & Streets Director, stated that a consultant was engaged to assist with this process. It involves use of a vehicle that measures the condition of roadways throughout the City. The goal is a ranking of 70 or better. The five-year plan will be posted to the website this month, which shows all roadways to be upgraded in the next five years.

Mr. Taylor reviewed pavement preservation and maintenance treatments, which include ADA ramp upgrades; crack fill; fiber/micro/slurry seal; mill and overlay and full reconstruct.

The transportation planning review process is as follows:

- Maps of the repaving locations are sent out to stakeholders prior to the start of the repaving season
- Transportation Planning staff review each PID location in to determine if bike facilities can be improved through pavement marking to meet the goals of the TAP
- Primarily looking to fill gaps in bicycle network and create a consistent roadway

An overview of the traffic engineering review process and signing and marking plan process was provided. These are followed by public outreach, construction, and coordination.

In response to a request for clarification from Commissioner regarding pavement age deterioration percentages, Mr. Taylor stated that this depends on the actual thickness of the pavement and the nature of the subsurface. Typically, Scottsdale roads are reviewed for treatment after five years.

Commissioner asked for a range on how often micro and slurry seal would typically be done on a road, versus mill and overlay. Mr. Taylor stated that fiber seal and microseal would ideally be done within five years of a previous treatment. Mill and overlay may be considered after five years, depending on pavement condition. Mr. Taylor agreed with Commissioner's assertion that a roadway surface will last longer if micro and slurry seals are performed on a four to five-year schedule.

Commissioner inquired as to the effects of increasing temperatures on the quality of the pavement. Mr. Taylor recalled that utilization of rubberized asphalt resulted in heat-related challenges in the past.

Commissioner asked about the effects of rising asphalt costs on the overall program. Mr. Melnychenko noted a significant raise in cost for many materials. Asphalt contains oil and increased costs have impacted the program budget.

Vice Chair asked about the weighting of priority roadways on the five-year plan. Mr. Melnychenko stated for each, year, the program consists of a mix of local arterial and major streets as well as City parking lots and alleys. The conditions index may serve to prioritize some projects over others. Mr. Taylor added that the five-year paving plan is an automated process, which utilizes software to prioritize locations. Mr. Melnychenko suggested a future session on this portion of the paving program.

Commissioner inquired as to coordination with the Development Service Department to avoid repaving roads that will be subsequently damaged during construction. She asked about working with the utility companies to coordinate under-street upgrade while roadwork is in progress. Mr. Taylor confirmed coordination with other departments as well as school districts with is a focus on avoiding duplication of efforts. Cristina Lenko, Public Information Officer, provided an overview of the public outreach process for road closures during the repaving and upgrade process.

In response to a question from Vice Chair, Mr. Melnychenko stated that there are specific policies in the City's policy design guidelines and timeline requirements for cutting pavement for utility work. These guidelines will soon be under review for potential updates. In response to a question from Chair, rights-of-way are handled via barricade plans and other monitoring measures.

5. CIP UPDATE

Nathan Domme, Transportation Planning Manager, provided a review of CIP projects, which consist of a relatively high monetary value of \$50,000, a life of five years or more and result in the creation of a capital asset or the revitalization of an existing capital asset.

A review of current projects was provided:

- 17 locally funded projects: Miscellaneous project from various needs and resident requests
- 22 Arterial Life Cycle Program (ALCP) projects
 - Regional Connections
 - Roadway Widening Project
- 6 Federal projects
 - 68th Street
 - Chaparral Underpass
 - Goldwater Underpass
 - 77th Emergency Connection
 - CAP Multiuse Path
 - PM-10 Dirt Road Paving
- Average \$32 million of improvements annually

- Per the Complete Streets Policy, all roadway projects include bike and pedestrian improvements

An overview of the CIP timeline was provided.

New projects for Fiscal Year 2023/24 include:

- Alma School Rd: Jomax Rd to Quail Track Drive
- Doubletree Ranch Road Bridge Repair
- Indian Bend Wash Path Renovation – Phase II
- 68th Street Sidewalk – Arizona Canal to Camelback Road
- Pima Road – Chaparral Road to Thomas Road (ALCP)
- Pima Road Jomax to Dynamite (ALCP)
- Pima Road – Las Piedras to Stagecoach Pass (ALCP)

Factors for consideration moving forward include inflationary costs of materials and equipment; labor shortages, supply chain constraints and potential recession.

Commissioner asked about a timeline for developers to come through on the last two ALCP projects. Mr. Domme stated that for Pima Road Las Piedras to Stagecoach, the developers have not yet been identified. He is uncertain about developer status for Pima Road Jomax to Dynamite.

Chair commented that the Indian Bend Wash upgrade is tied to the Complete Streets and bicycle upgrades.

6. COMMISSION IDENTIFICATION OF FUTURE AGENDA ITEMS

The following agenda items were identified:

- City of Phoenix cool paving milestone report
- Update on roundabout program
- ADOT update on freeway process

Vice Chair noted that this is Chair's last meeting and thanked her for her service on the Commission. Chair spoke about her time serving on the Commission.

7. ADJOURNMENT

With no further business to discuss, being duly moved by Commissioner Wilcoxon and seconded by Commissioner Lall, the meeting adjourned at 6:50 p.m.

AYES: Chair Iacovo, Vice Chair Anderson, Commissioners Cardelle, Kowal, Miller and Wilcoxon
NAYS: None

SUBMITTED BY:

eScribers, LLC

TRANSPORTATION COMMISSION REPORT



To: Transportation Commission
From: John C. Tucker, ADOT Community Relations
Project Manager
Subject: Loop 101 (Pima Freeway) Princess Drive to Shea Boulevard
Improvements
Meeting Date: September 21, 2023

ITEM IN BRIEF

Action: Presentation and Discussion

Purpose:

Provide an update on the progress and project schedule for the Loop 101 (Pima Freeway) Princess Drive to Shea Boulevard Improvements.

Background:

In 2010, Arizona Department of Transportation (ADOT) produced a Design Concept Report (DCR); which is a study that looked at possible efficiency and capacity improvements to the Arizona State Route 101 corridor, including widening the freeway by one lane in each travel direction between the Pima Road/Princess Drive Interchange and the Shea Boulevard Interchange.

In 2020-2021, ADOT worked with the City of Scottsdale and the Maricopa Association of Governments to update the DCR. The updated DCR looked at different types of structures and intersections not only to meet the operational needs of the freeway but also to address the expansion requirements of the interchanges along the corridor, including Pima Road/Princess Drive, Frank Lloyd Wright Boulevard, Raintree Drive, and Shea Boulevard. When the project was originally scoped in 2010, widening the mainline roadway was the main goal and ADOT's responsibility. It was recently updated to also focus on improvements to the crossroads to increase capacity.



This project is moving to construction in early 2024 and seeks to improve the traffic flow and increase the capacity and efficiency on Arizona State Route 101 and adjoining intersections.

Highway and Interchange Improvements

- Add one general-purpose lane in each direction on the Arizona State Route 101.
- Add a third southbound left turn lane at Pima Road/Princess Drive Interchange.
- Convert the Frank Lloyd Wright Boulevard Interchange to diamond configuration.
- Add right turn lanes at Raintree Drive and Shea Boulevard interchanges and cross-streets.
- Update sidewalks to make them ADA-compliant.
- Upgrade freeway and ramp lighting to LED.

Bridges and retaining walls Aesthetics and Landscaping

Approximately 20 years ago, the City of Scottsdale invested greatly in the aesthetic features along the Arizona State Route 101 corridor. Since then, the Arizona State Route 101 has become well known for the aesthetic improvements on the concrete bridges and retaining walls. Several of these aesthetic patterns will be impacted when bridges are widened and retaining walls are relocated to make space for the additional general-purpose lane. Aesthetics partially disturbed, damaged, or removed will be replaced in-kind. The city of Scottsdale added this element to the project in order to replace and restore what was originally constructed in the early 2000's. In addition to the aesthetic improvements, the existing landscaping landform graphics will be restored to their original state with the project.

Aesthetics



Project Schedule:

These planned interchange improvements were presented to the Transportation Commission in September 2020 and September 2022. Project construction is anticipated to begin in the Spring 2024.

Construction:

Construction will take 2 years from 2024 to 2026. All existing freeway lanes will be maintained during weekday peak travel times, but periodic weekend and nighttime restrictions and closures will be allowed. Closures/restrictions will be minimized during special events and holiday periods.

Loop 101 - Princess Drive to Shea Boulevard Improvements



Scottsdale Transportation Commission
September 21, 2023

Presenters

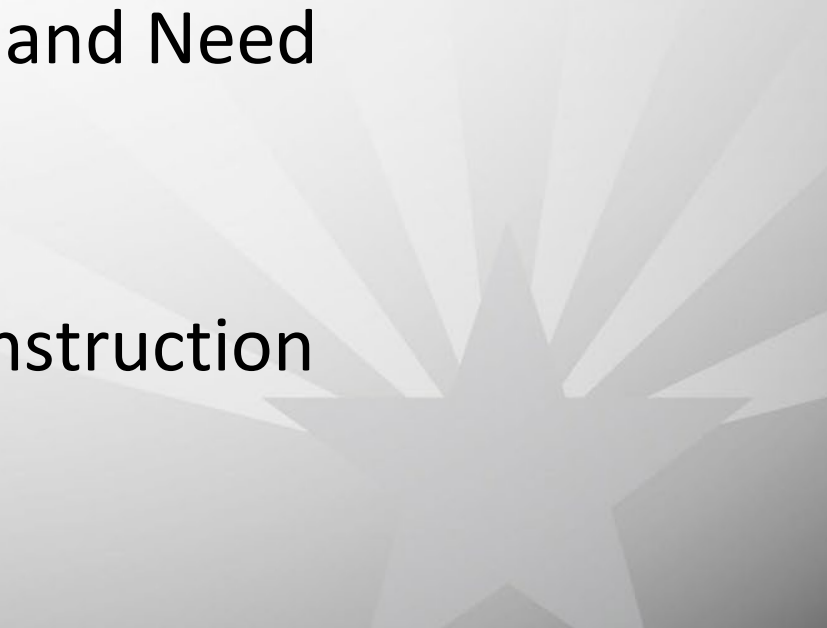


Berwyn Wilbrink, P.E.,
ADOT Sr Project Manager



Greg Fly, P.E., WSP
Design Project Manager

Agenda

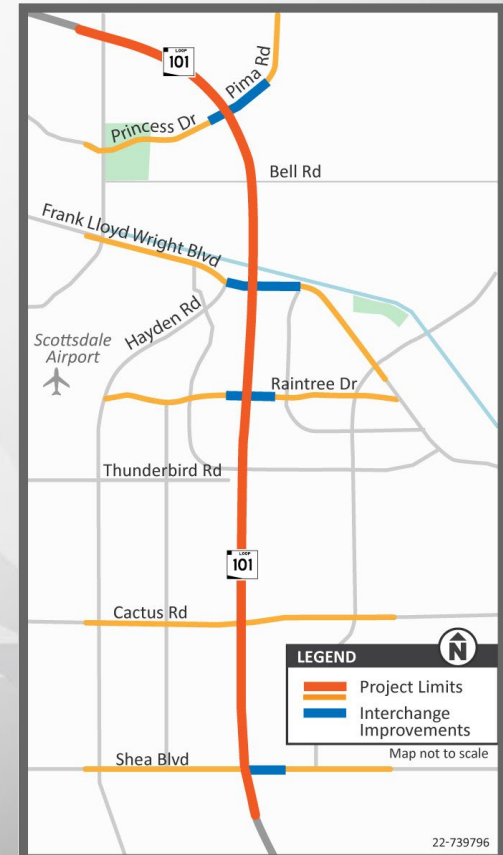
- Project Overview/Purpose and Need
 - Improvements
 - Timeline
 - What To Expect During Construction
 - Q & A
- 

Project Overview

- Design Concept Report – 2010
- Public survey conducted – 2020
- Design Concept Report updated 2021

Project Purpose and Need

- Improve traffic flow on Loop 101 and cross streets
- Increase capacity to accommodate existing and future traffic levels through 2040
- Congestion will worsen if improvements are not made

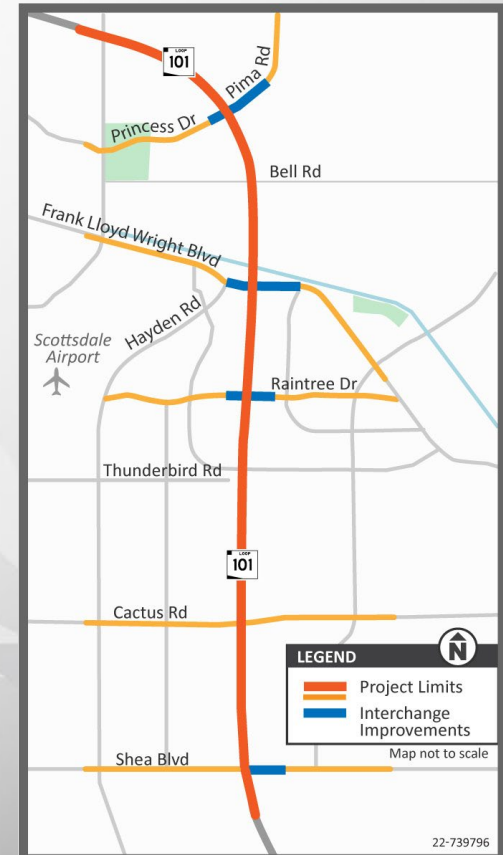


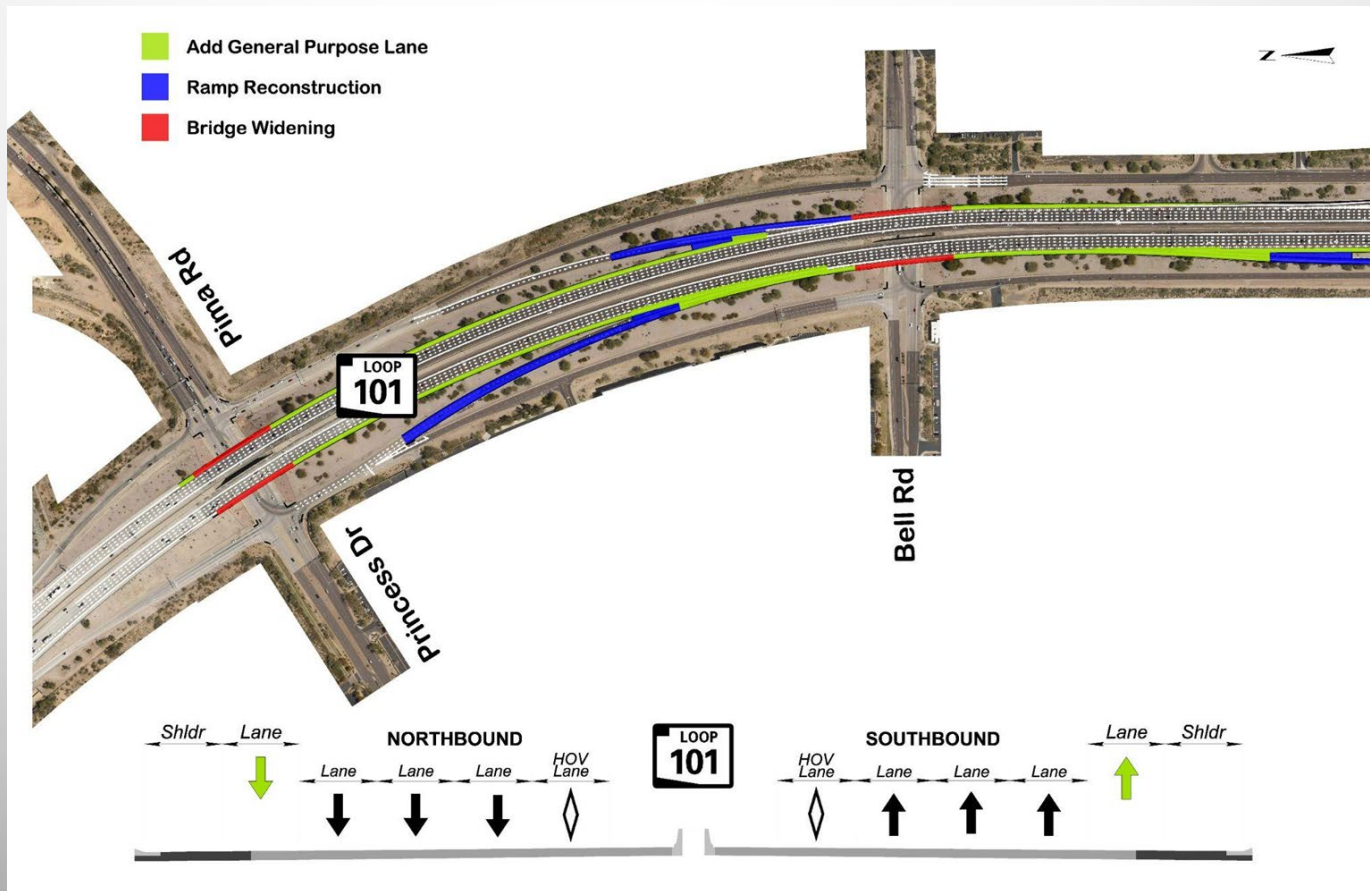
Project Timeline

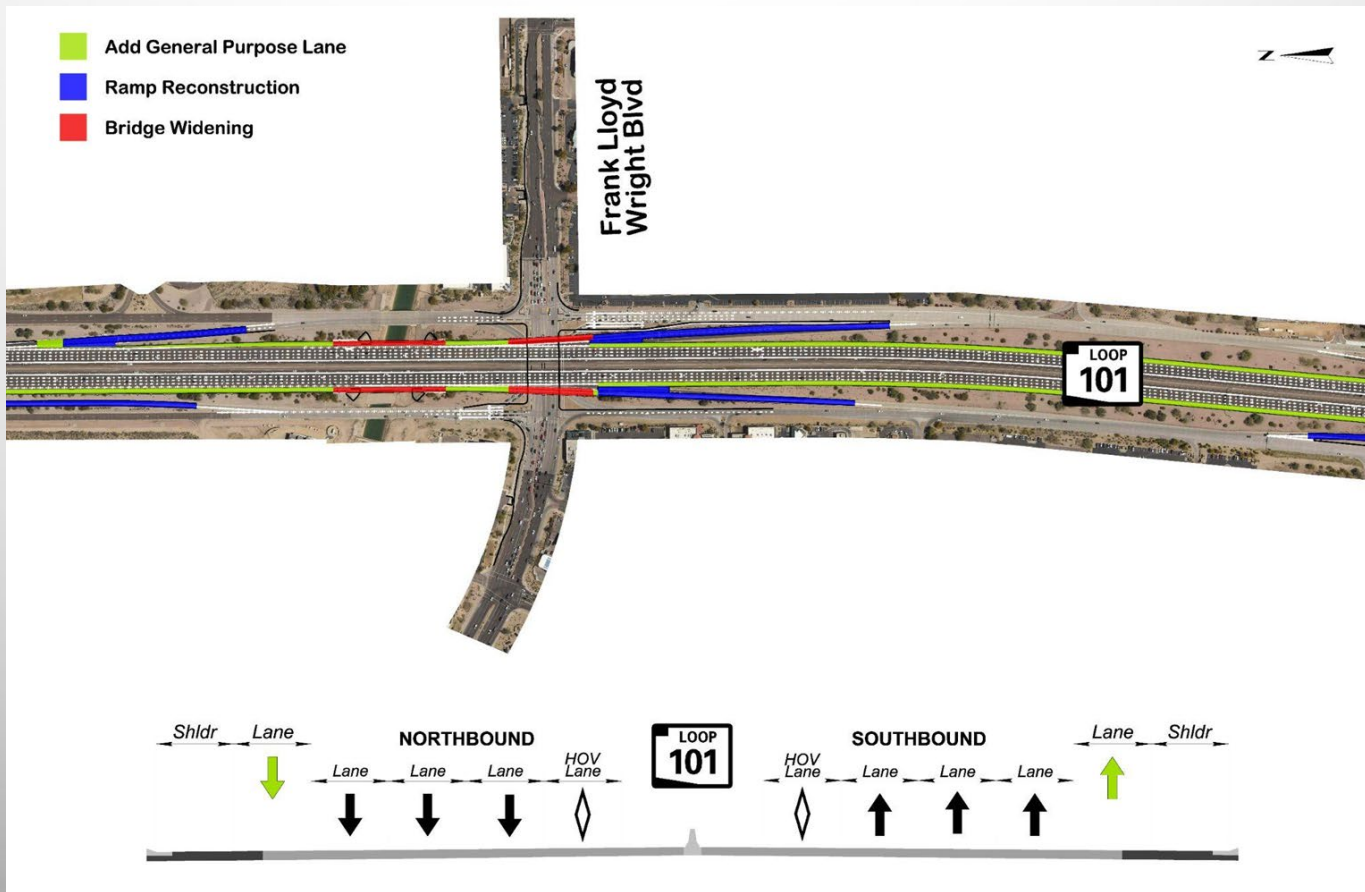


Improvements

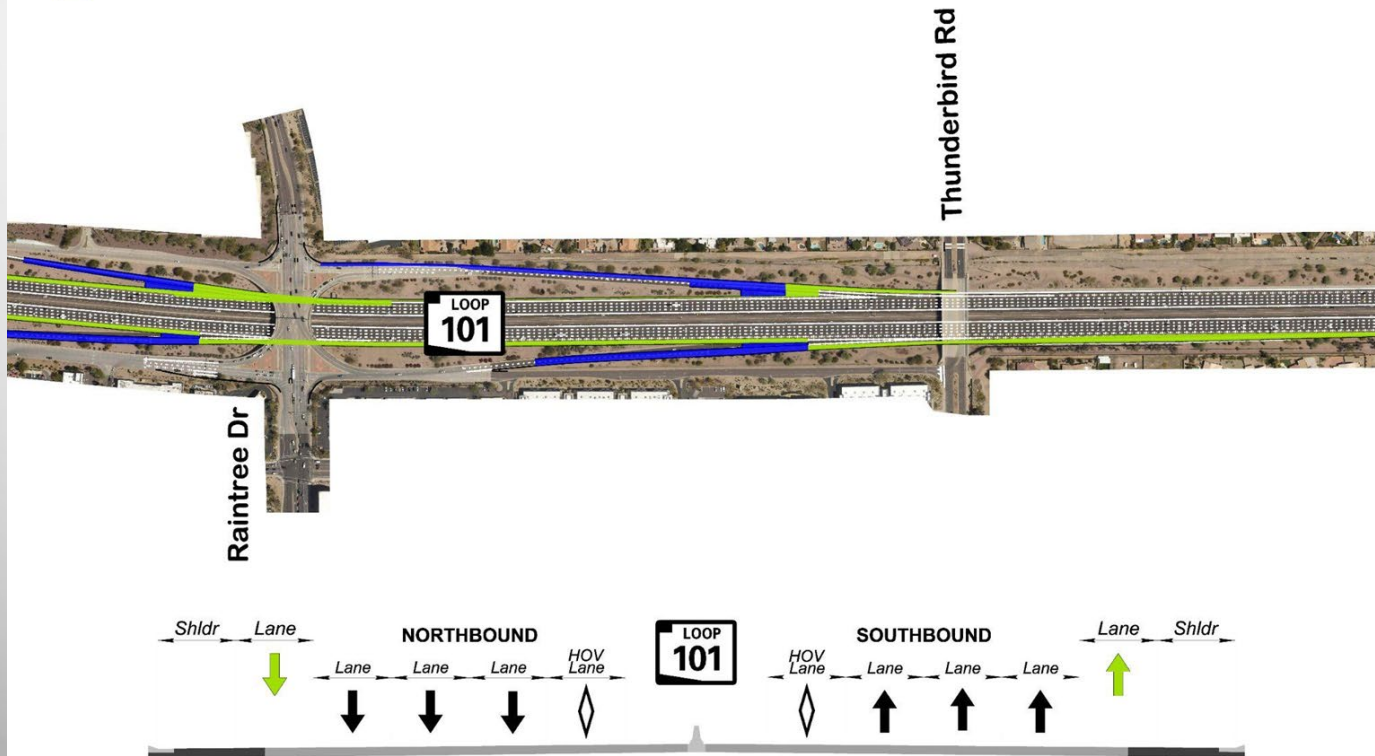
- Add one general-purpose lane in each direction
- Add third southbound left turn lane at Pima/Princess Interchange
- Convert Frank Lloyd Wright Blvd interchange to diamond configuration
- Add right turn lanes at Raintree Dr and Shea Blvd
- Resurface pavement
- Update sidewalks to make them ADA compliant
- Upgrade freeway and ramp lighting to LED



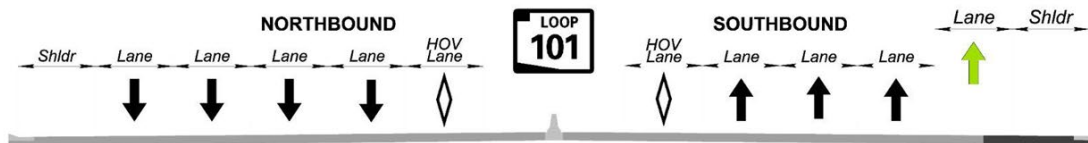


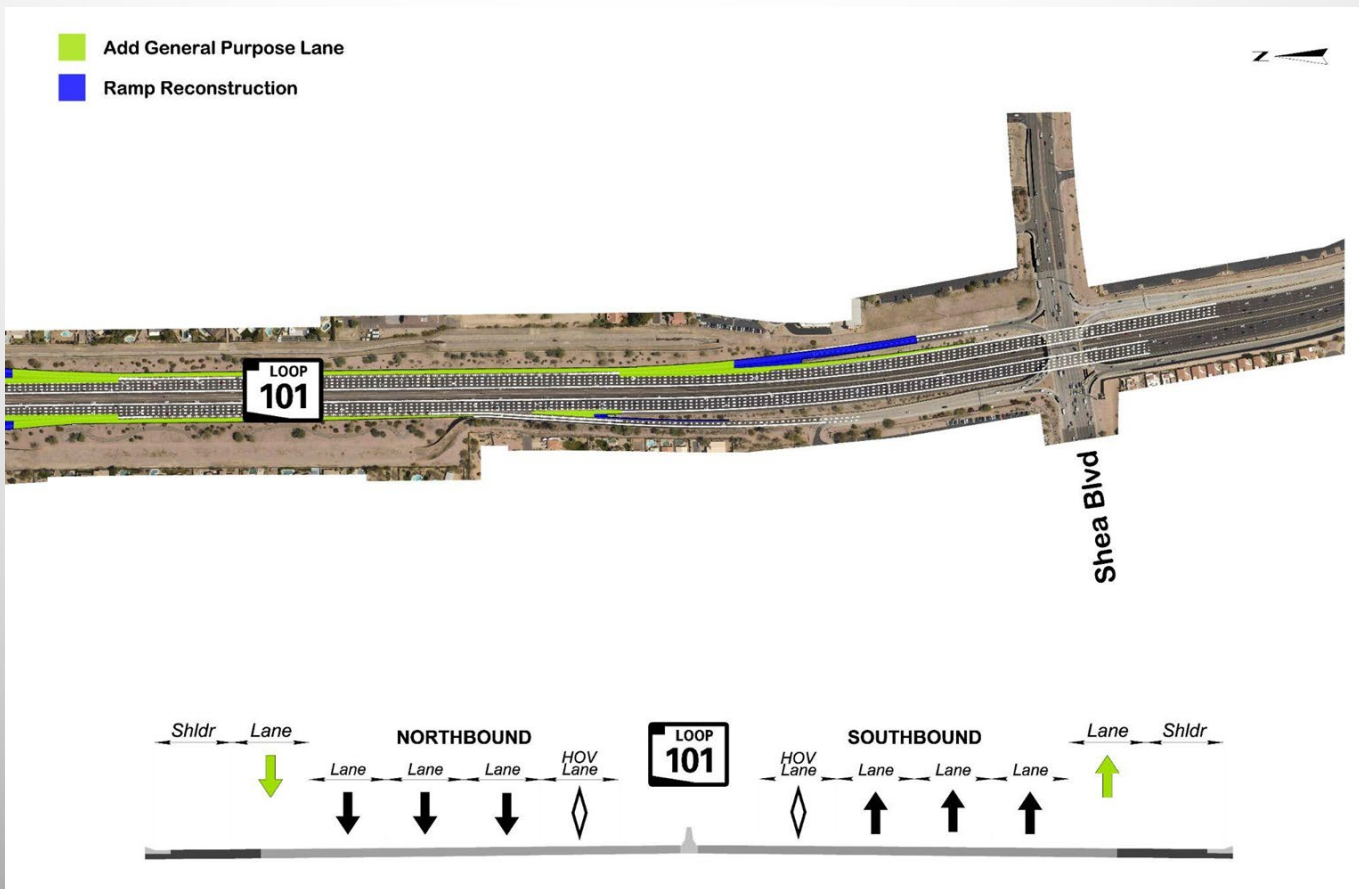


- Add General Purpose Lane
- Ramp Reconstruction



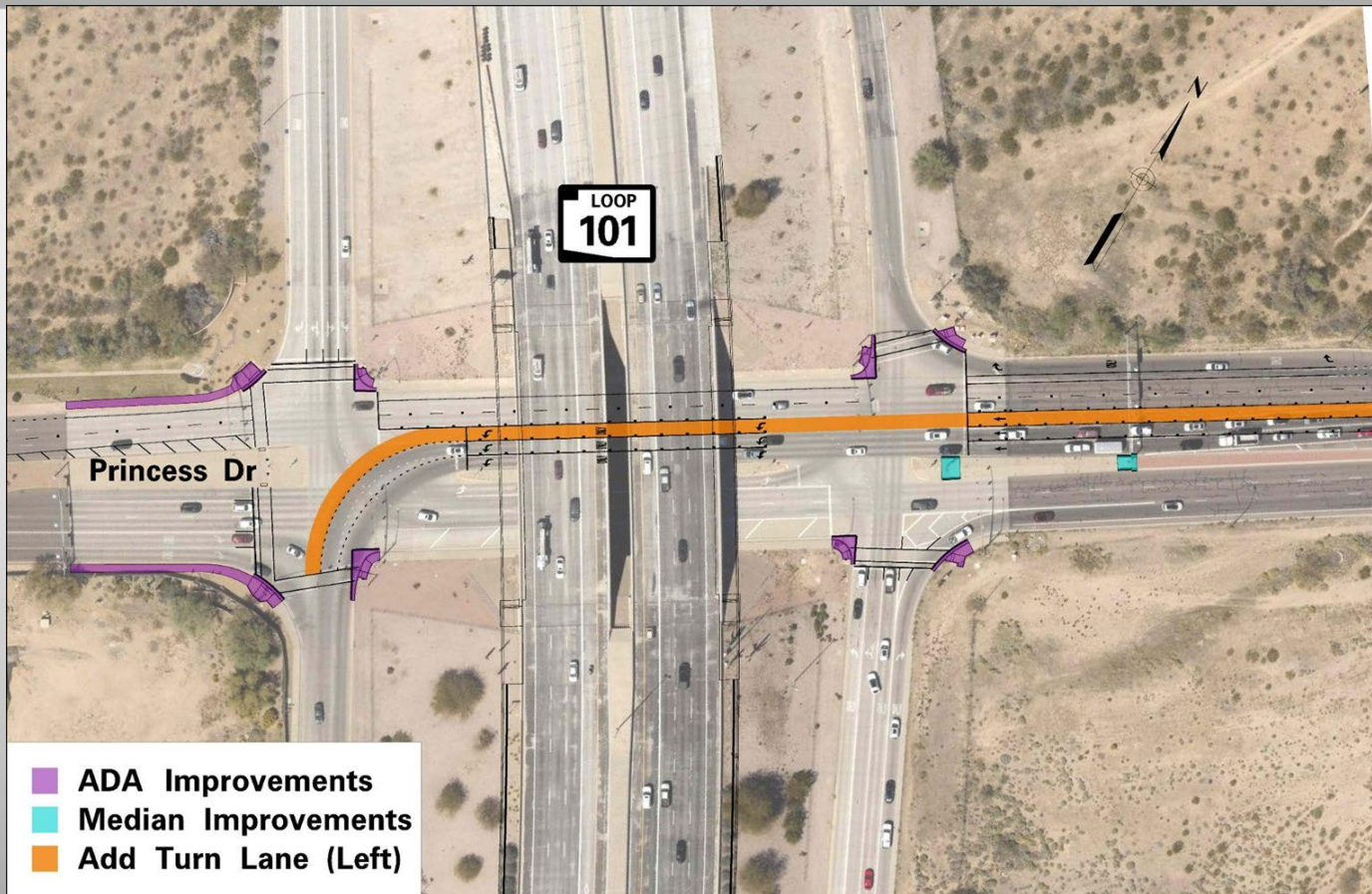
- Add General Purpose Lane
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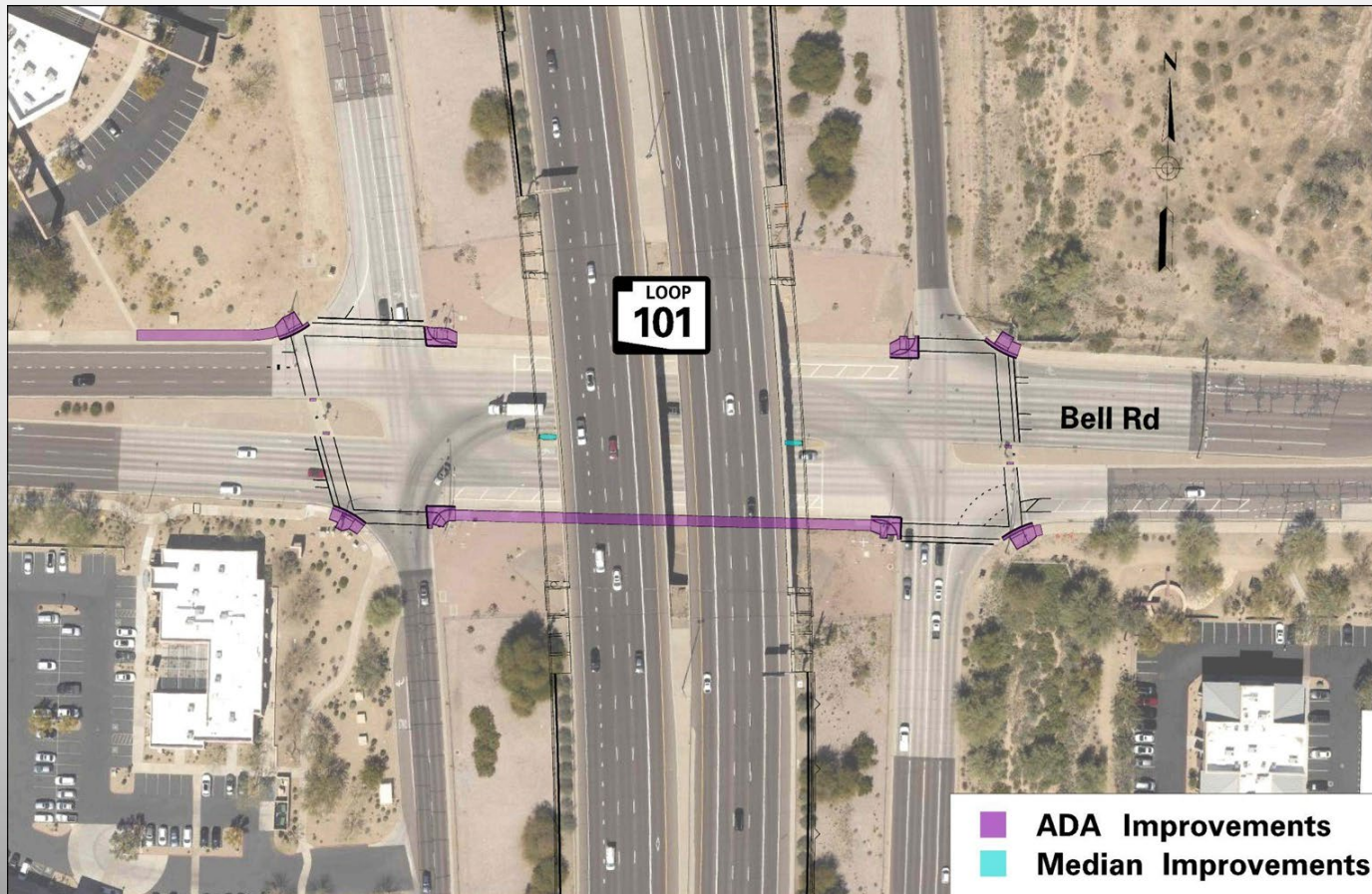


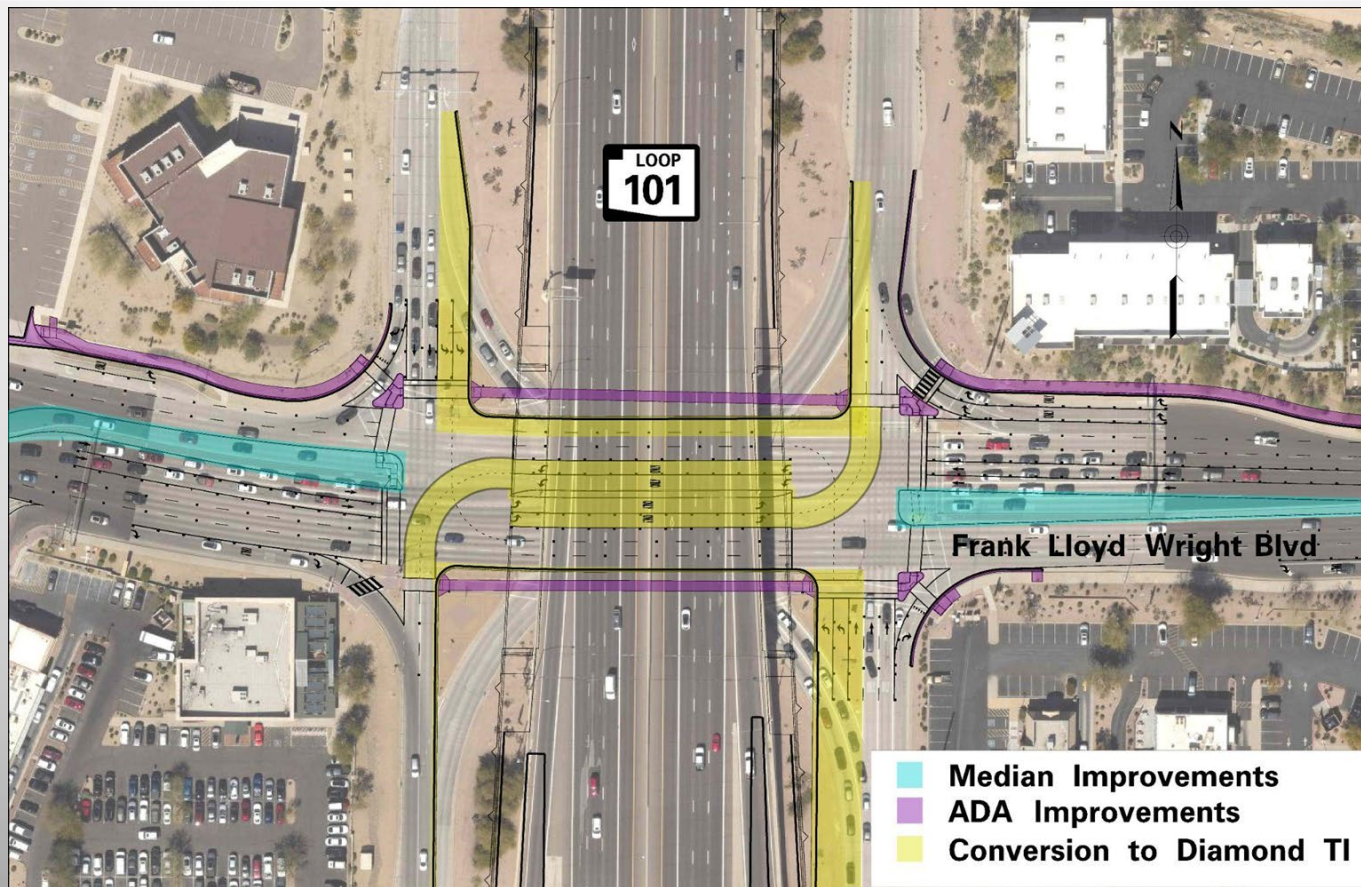


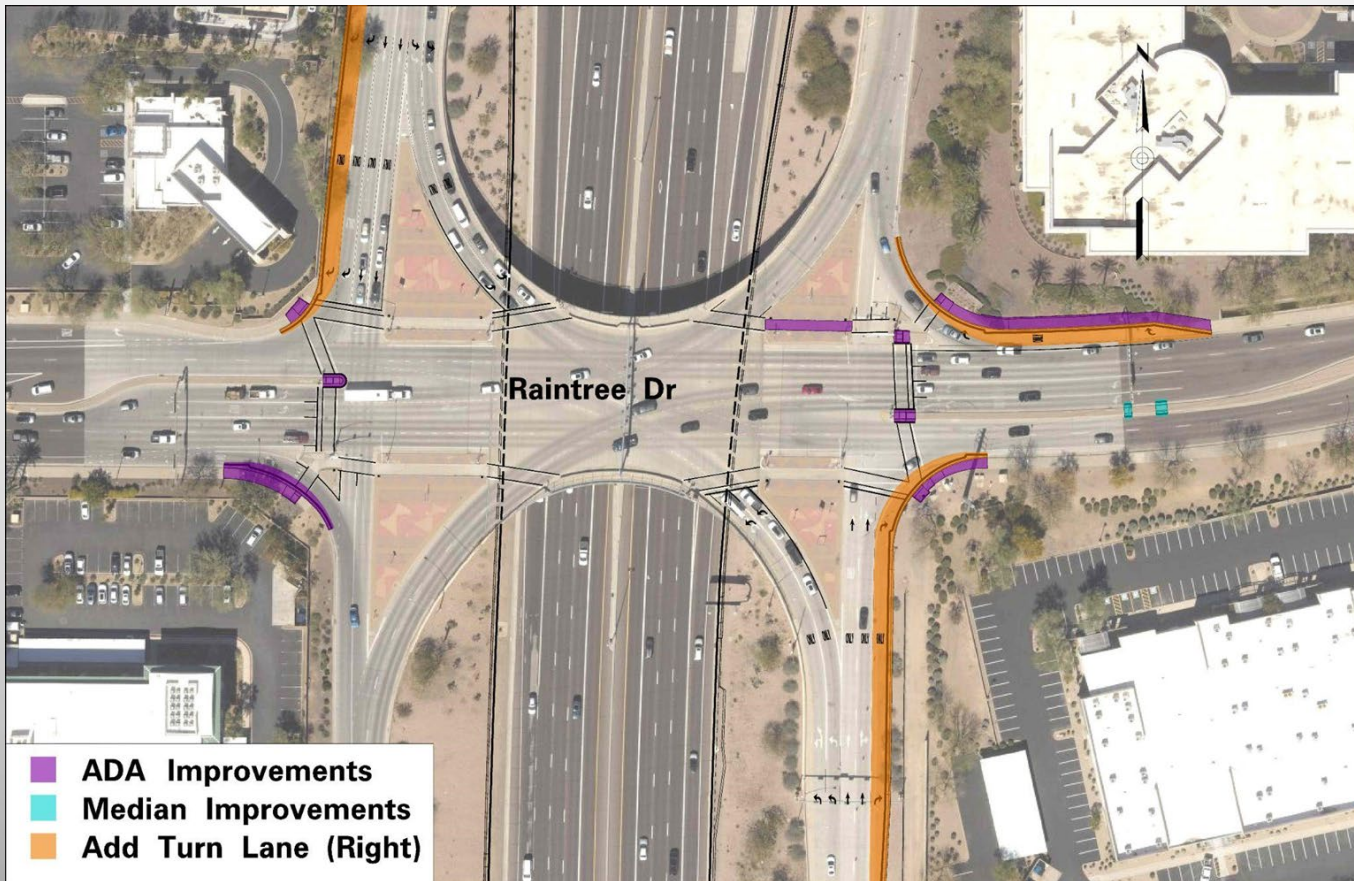
Crossroad Improvements

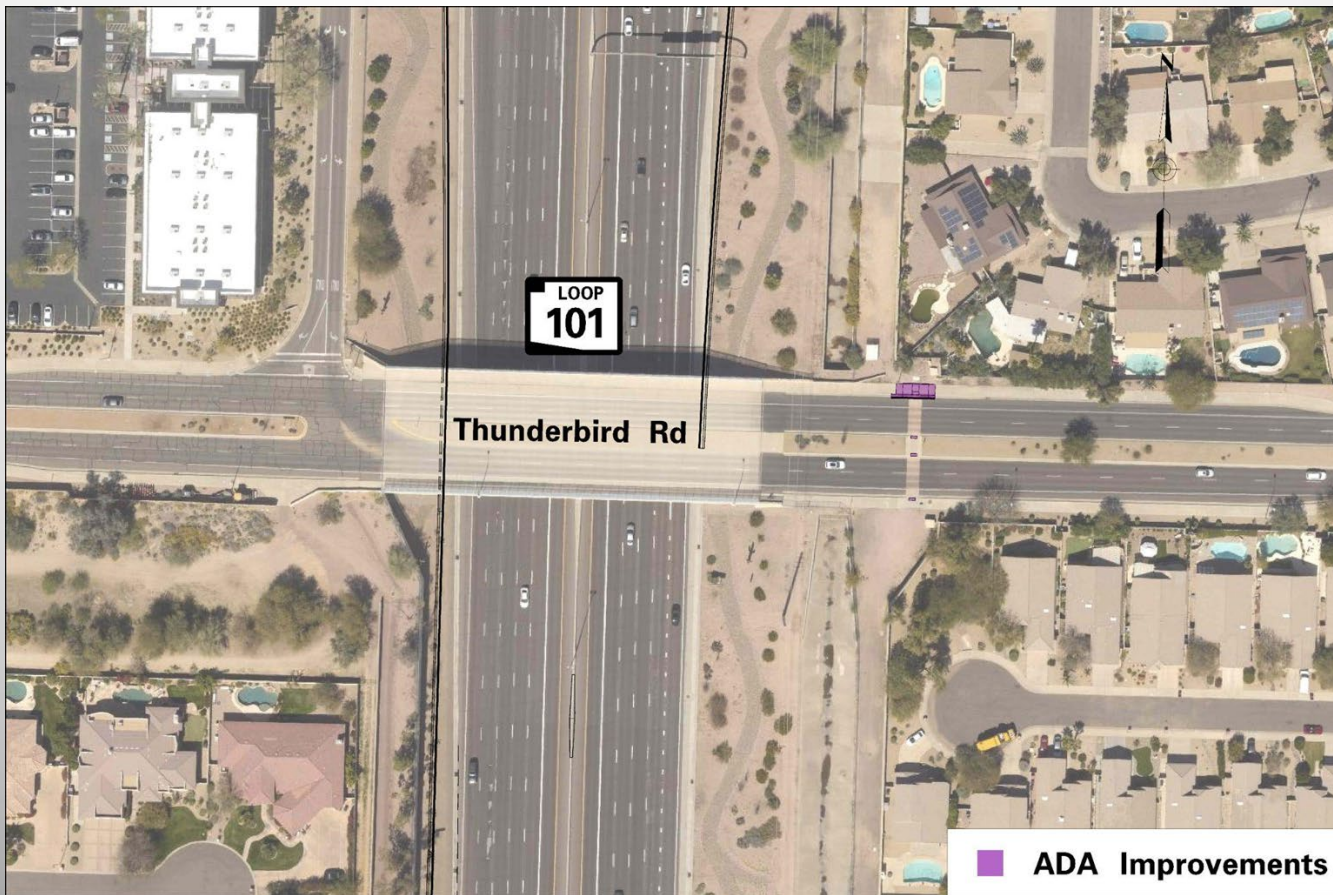


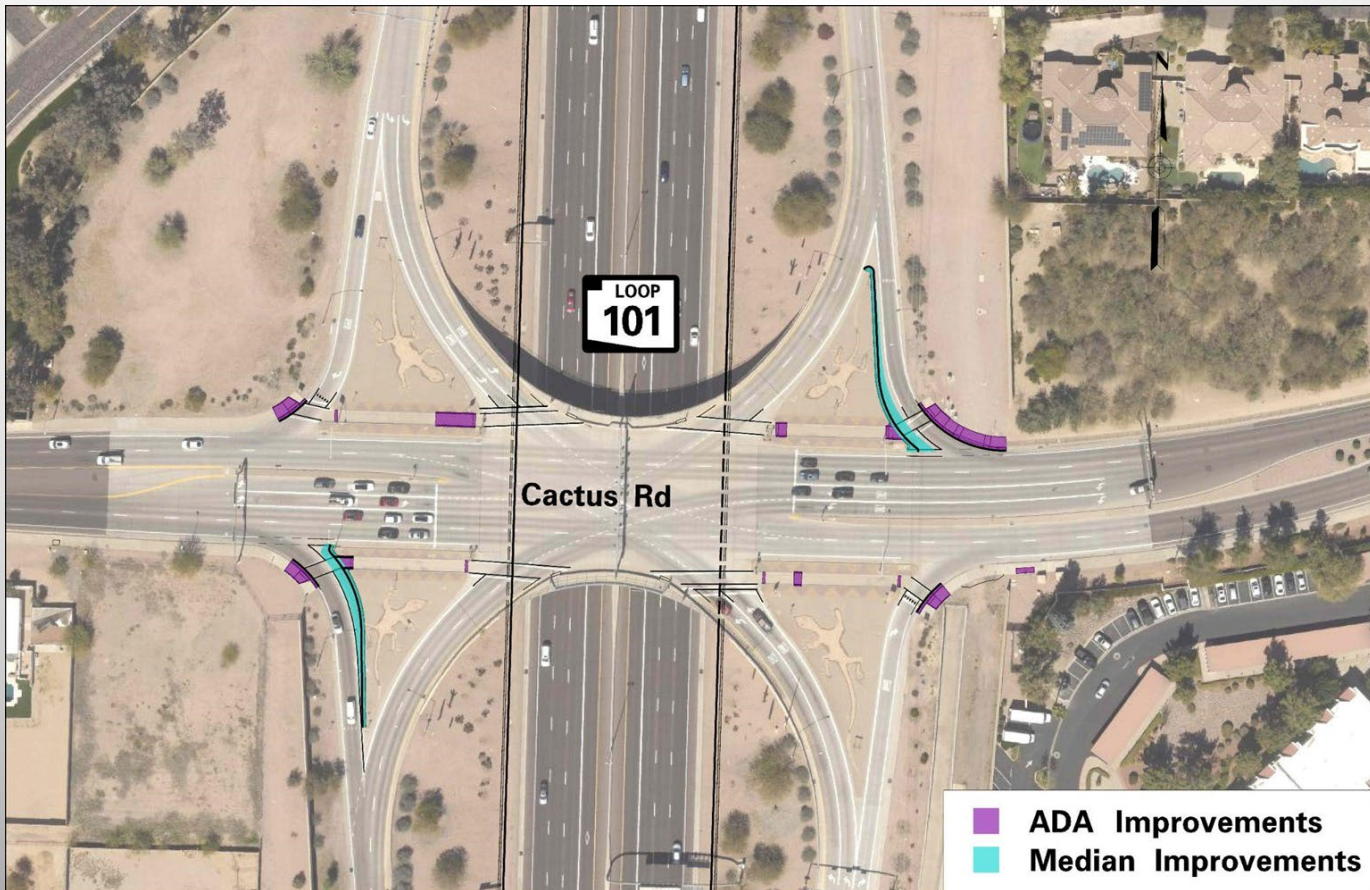


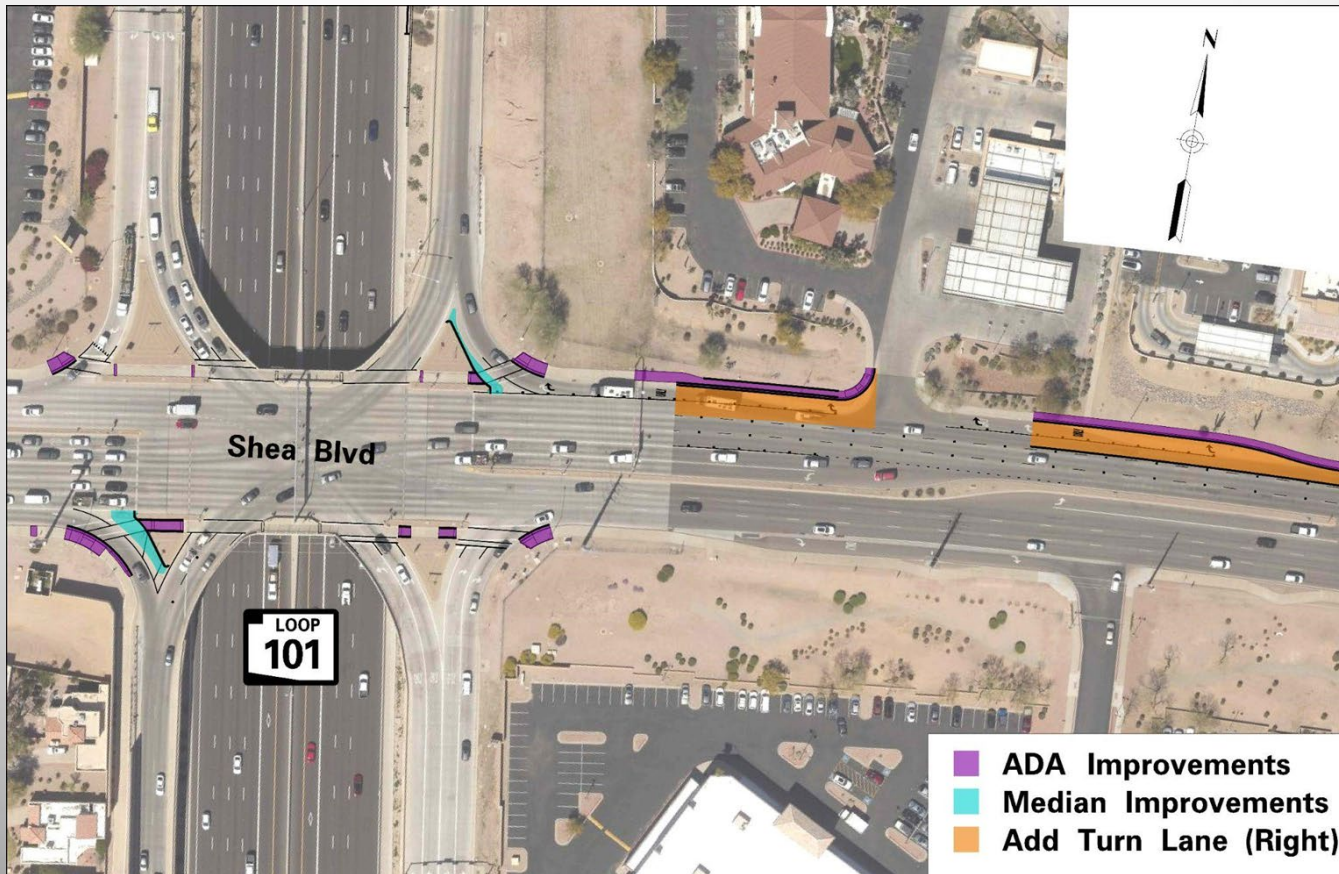












NB Additional General Purpose Lane

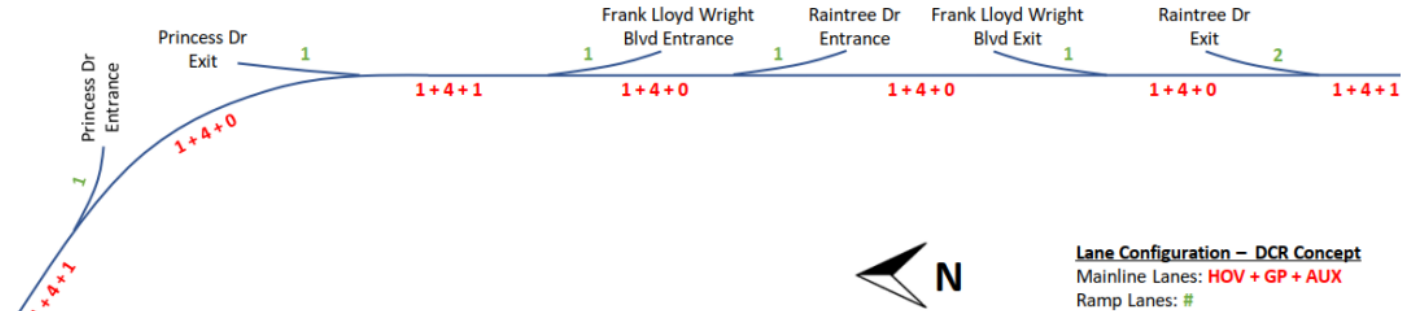


Figure 1: DCR Concept Lane Configuration

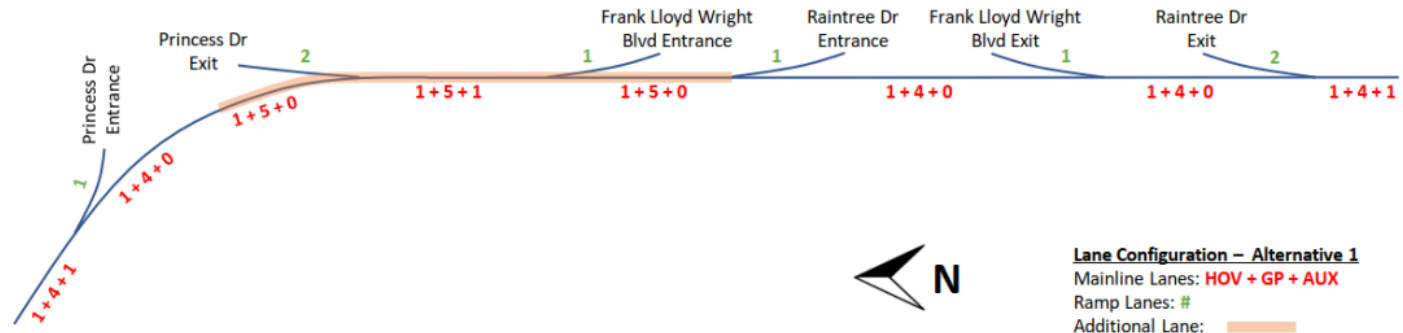


Figure 2: Alternative 1 Lane Configuration

Aesthetics



Landscape



Noise Analysis/Noise Abatement

- A noise analysis was conducted within the project limits based on current ADOT/Federal regulations
 - Performed noise measurements within project limits
 - Predicted noise levels based on future (2040) traffic volumes
 - Determined noise mitigation requirements and locations of new walls and modifications to existing walls
- Results - The existing sound walls will continue to reduce noise below the ADOT threshold
 - No need for new or modified sound walls

What to Expect During Construction

- All existing freeway lanes will be maintained during weekday peak travel times.
- Periodic weekend and nighttime restrictions and closures will be allowed.
- 60 day ramp closures will be allowed similar to previous Loop 101 Widening between I-17 and Pima/Princess.
- Closures/restrictions will be minimized during special events and holiday periods.
- Subscribe at azdot.gov/Loop101PrincesstoShea

Thank You

- Project website - azdot.gov/Loop101PrincesstoShea
- For more information contact Nikki Green - 480.209.7822 or NGreen@azdot.gov

QUESTIONS?

SCOTTSDALE TRANSPORTATION COMMISSION REPORT



To: Transportation Commission
From: Greg Davies, Senior Transportation Planner
Subject: Arterial Life Cycle Program Update
Meeting Date: September 21, 2023

ITEM IN BRIEF

Action: No action, Information and Discussion only

Purpose:

Provide an update of the Arterial Life Cycle Program (ALCP) and a proforma review for the remaining two years of the program.

Background

On November 2, 2004, voters of Maricopa County approved Proposition 400 which continued the half-cent sales tax for an additional 20 years (January 1, 2006, to December 31, 2025). The Arterial Life Cycle Program (ALCP) is a program funded in part and managed by the Maricopa Association of Governments (MAG) as part of the Regional Transportation Plan. The ALCP is reviewed and updated annually and occasionally more frequently to balance tax revenues with expenditures as required by the State Legislature. The ALCP requires that each roadway improvement project include a 30% local match. The program is now in the eighteenth year with two more years remaining. The extension of Proposition 400, for another twenty years, will go to voters in November of 2024.

In January 2022, staff received updated project costs and began to devise a strategy to redistribute and change funding levels for ALCP projects to address a projected 130M cost increase.

At the August 18, 2022, Transportation Commission meeting staff presented information on funding options to address the projected 130M cost increase for the Arterial Life Cycle Program. The Transportation Commission unanimously approved three cost saving options A-C presented by staff which included:

1. Reallocate funds programmed for the Loop 101/Hayden Interchange due to project infeasibility (Option A).
2. Require vacant Arizona State Land parcels, which have zoning stipulations in place, to build the ALCP segments along their frontage at the time of development (Options B & C).

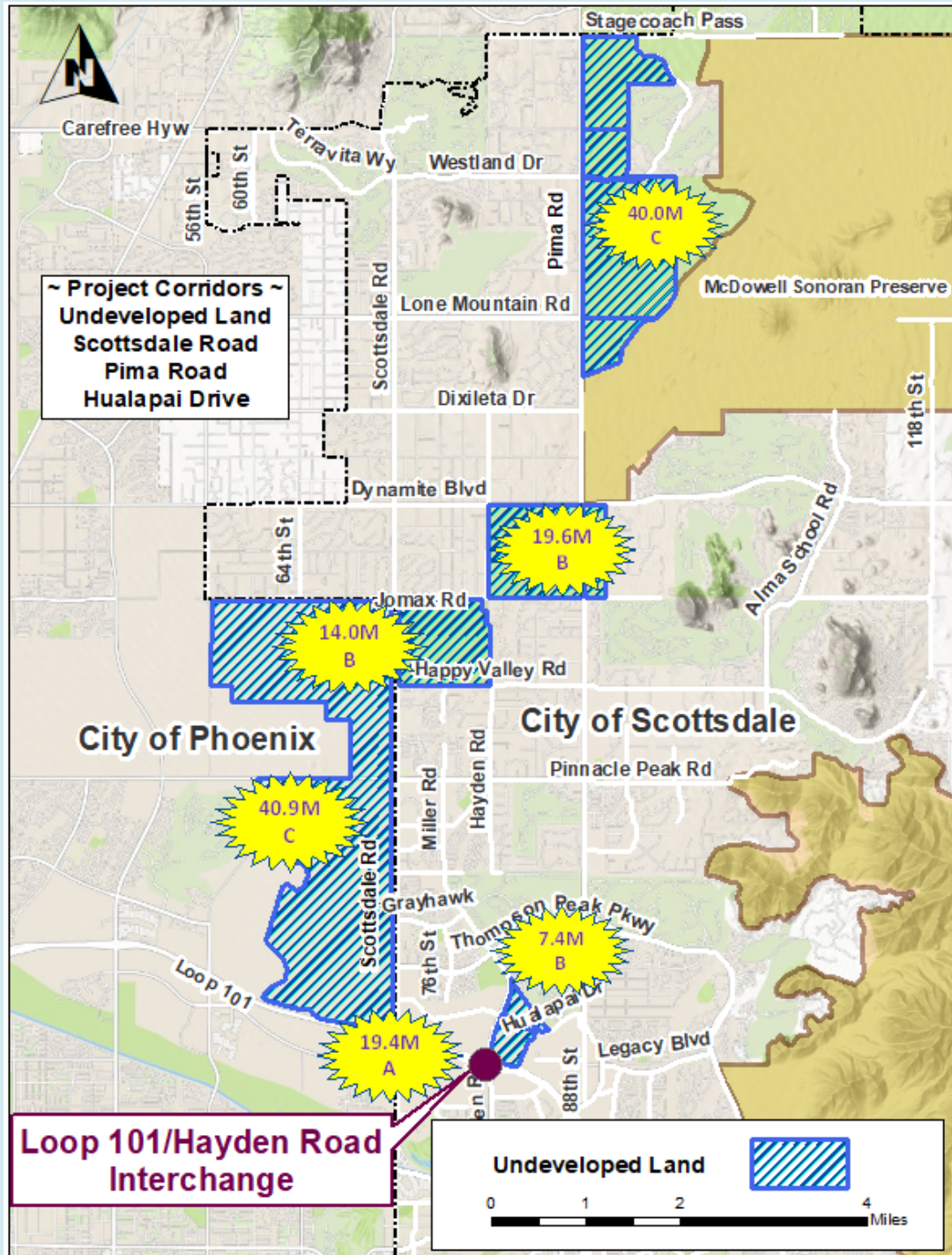
Estimated savings from Options A through C

Total Savings = \$141.3M

- Option A = \$19.4M
- Option B = \$41.0M (State Land Both Sides of Roadway)
- Option C = \$80.9M (State Land One Side of Roadway)

Figure 1 provides the locations of the cost saving options A-C.

Figure 1 – Cost Saving Options A-C



On a yearly basis, staff collaborates with MAG to reprogram the timing and funding amounts (based on more current cost estimates) for individual projects as part of the annual ALCP Update. On January 20, 2023, staff sent MAG the FY 2024 ALCP workbook which reflected desired funding changes to incorporate Options A-C.

The FY 24 ALCP Update (which included Scottsdale's funding changes) was formally approved by MAG's Regional Council on June 28, 2023. There will be two more annual updates to the Scottsdale ALCP.

Key Considerations

From FY 06 through FY 23, Scottsdale has been working on the implementation of ALCP projects. Due to the span of the program, there are many factors that can influence the delivery of programmed projects. Since pay as you go funding is the process used by Scottsdale to design and construct ALCP projects, the economy can have significant impact on project costs. Since the inception of the ALCP (2004), the Great Recession (2007-2009) and the COVID-19 Pandemic (2019-2021) had adverse impacts on the economy. Impacts such as, access to labor, rising labor costs, lack of materials, supply chain issues, and lower interest rates have created challenges to deliver projects.

In addition to economic impacts, right-of-way requirements, timeliness of utility relocations, and project infeasibility can change the trajectory of a project.

The ALCP is funded by four main funding sources:

- Scottsdale 0.1% Transportation Sales Tax (tax sunsets 1/31/29)
- Scottsdale 0.2% Transportation Sales Tax (no sunset)
- Maricopa County half-cent sales tax (tax sunsets 12/31/25)
- Federal Surface Transportation Block Grant Program Funds

On November 6, 2018, Scottsdale voters approved the Scottsdale 0.1% Transportation Sales Tax. The vote authorized a 0.1% temporary (10-year) transportation sales tax increase. With this approval, Scottsdale can now match all remaining ALCP funds available to Scottsdale. This report will provide an update of those projects funded by the 0.1% temporary (10-year) transportation sales tax.

ALCP Proforma Audit

Scottsdale compared to other jurisdictions has a significant number of roadway projects in the ALCP totaling 37. This number of projects attests to the proactive approach the City has taken to leverage the Maricopa County half-cent sales tax to build out critical roadway corridors.

On April 24, 2023, the City Treasurer requested that staff conduct a proforma audit of the ALCP. The proforma audit was presented in an internal staff meeting on July 11, 2023. Staff identified the following objectives for the proforma audit.

- Provide the status of all ALCP project expenses, reimbursements, and city match to date.
- Identify those projects funded by the 0.1% Transportation Sales Tax.
- Determine the status of project commitments to voters funded by the 0.1% Transportation Sales Tax.
- Conduct projections for the 0.1% and 0.2% Transportation Sales Tax.

Table 1 provides ALCP project fund center, status, completion status, expenses, reimbursements, and city match paid to date since the inception of the program. Projects funded by the 0.1% Transportation Sales Tax are identified by blue font.

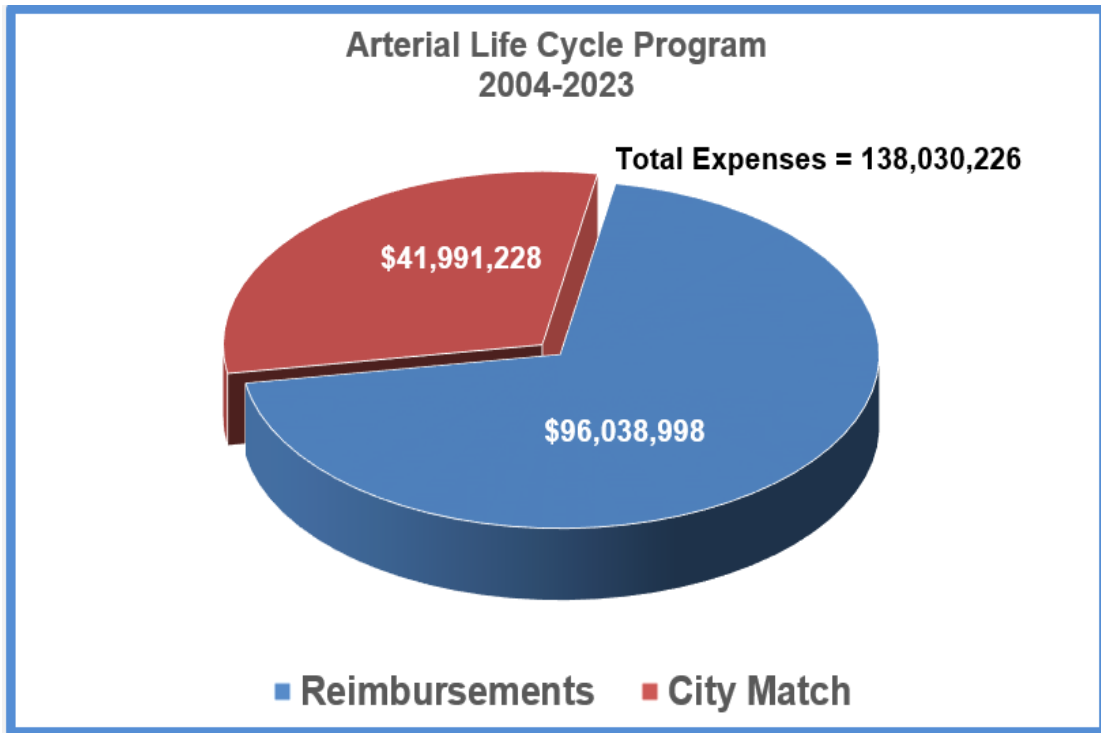
Table 1 – Arterial Life Cycle Program 2004-2023

Project	Transportation Sales Tax Fund/Center	Status	Completion Date	Expenses	Reimbursements	City Match
Hualapai Dr.: Hayden Rd. to Pima Rd.	462-TG01A	Cancelled		433,460	303,422	130,038
Hayden Rd at Loop 101 Interchange Improvements	TEMP1981-F	Cancelled		-	-	-
Scottsdale Airpark DCR	410-S1103	Complete		1,058,104	740,673	317,431
Frank Lloyd Wright at 76th/78th/82nd Intersections	410-S0304	Complete		568,192	397,734	170,457
Northsight Blvd.: Hayden to Frank Lloyd Wright	410-S1301	Complete		13,323,067	9,326,147	3,996,920
Redfield Rd.: Raintree Dr. to Hayden Rd.	410-SB56A, 462-SB56C	Complete		167,090	116,963	50,127
Shea Blvd.: 90th, 92nd and 96th Intersections	410-S9906	Complete		5,794,085	4,055,859	1,738,225
Shea Blvd. 120th/124th Intersection Improvements	410-Y1219-1	Complete		261,387	182,971	78,416
Shea Blvd. at Mayo/134th St.	410-T6101-0405	Complete		230,985	161,690	69,296
Shea Blvd.: SR 101L to 96th St. ITS Improvements	410-Y0822-1	Complete		491,454	344,018	147,436
Shea Blvd. and Via Linda Phase I	410-T6101-0407	Complete		887,785	621,450	266,336
Drinkwater Bridge	410-TE03A	Complete		6,134,377	4,294,064	1,840,313
Pima Rd.: Krail St. to Chaparral Rd.	462-SC04D	Complete		2,793,750	1,955,625	838,125
Pima Rd.: Loop 101 to Thompson Peak Parkway	410-S2104	Complete		19,484,685	13,639,279	5,845,405
Pima Rd.: Thompson Peak Parkway to Pinnacle Peak Rd.	410-S0901	Complete		3,278,605	2,295,023	983,581
Pima Rd.: Via de Ventura to Krail St.	410-S4702	Complete		9,660,774	6,762,542	2,898,232
Pima Rd.: Via Linda to Via De Ventura	410-SB57A, 462-SB57C	Complete		158,445	110,911	47,533
Scottsdale Rd.: Thompson Peak to Pinnacle Peak Phase I	410-S0311	Complete		13,028,996	9,120,298	3,908,699
Scottsdale Rd.: Thompson Peak to Pinnacle Peak Phase II	TEMP1969-F	Pending	Developer Based	-	-	-
SR-101L North Frontage Road: Scottsdale Rd. to Hayden Rd.	410-S0405	Complete		5,349,275	3,744,492	1,604,782
Raintree Dr.: Hayden Rd. to Loop 101	410-SC02A	Construction	Fall 2027	1,692,837	1,184,986	507,851
Raintree Dr.: Scottsdale Rd. to Hayden Rd.	410-SA01A, 462-SB53D	Construction	Fall 2024	25,849,592	18,094,715	7,754,878
Shea Blvd. at 124th St. Intersection	462-TI01B	Construction	Fall 2023	130,292	91,204	39,088
Shea Blvd. Intersection Improvements	462-SG06A	Construction	Spring 2024	1,932,514	1,352,760	579,754
Happy Valley Rd.: Pima Rd. to Alma School Rd.	410-SE02A, 462-SE02D	Construction	Summer 2024	6,378,349	4,464,844	1,913,505
Hayden/Miller: Pinnacle Peak to Happy Valley	462-SH02B	Construction	Fall 2024	4,174,674	2,922,272	1,252,402
Pima Rd.: Pinnacle Peak to Happy Valley	410-SC01B, 462-SC01D	Construction	Summer 2024	10,649,655	6,872,599	3,777,056
Carefree Hwy: Cave Creek to Scottsdale Rd.	462-SH04B	Design	Spring 2026	456,406	319,484	136,922
Loop 101 Traffic Interchanges: Frank Lloyd Wright, Raintree, Shea*	410-SJ05C, 462-SJ05A	Design	Fall 2025	-	-	-
Miller Rd/SR-101L Underpass	410-SC03B	Design	Developer Based	462,005	323,404	138,602
Pima Rd.: Dynamite Blvd. to Las Piedras	462-SI01B	Design	Spring 2025	628,317	439,822	188,495
Pima Rd.: Happy Valley Rd. to Jomax Rd.	462-SH01B	Design	Fall 2027	473,485	331,439	142,045
Scottsdale Rd.: Jomax Rd. to Dixileta Dr.	462-SG05A	Design	Fall 2025	2,097,584	1,468,309	629,275
Pima Rd.: Jomax Rd. to Dynamite Blvd.	462-SK03B	Pending	Developer Based	-	-	-
Pima Rd.: Las Piedras to Stagecoach Rd.	462-SK04B	Pending	Developer Based	-	-	-
Scottsdale Rd.: Dixileta Dr. to Carefree Hwy.	462-SJ04A	Pending	Developer Based	-	-	-
Scottsdale Rd.: Pinnacle Peak Rd. to Jomax Rd.	462-TEMP1970-F	Pending	Developer Based	-	-	-
* ADOT Project 410 = 0.2 % funded 462 = 0.1% funded				138,030,226	96,038,998	41,991,228

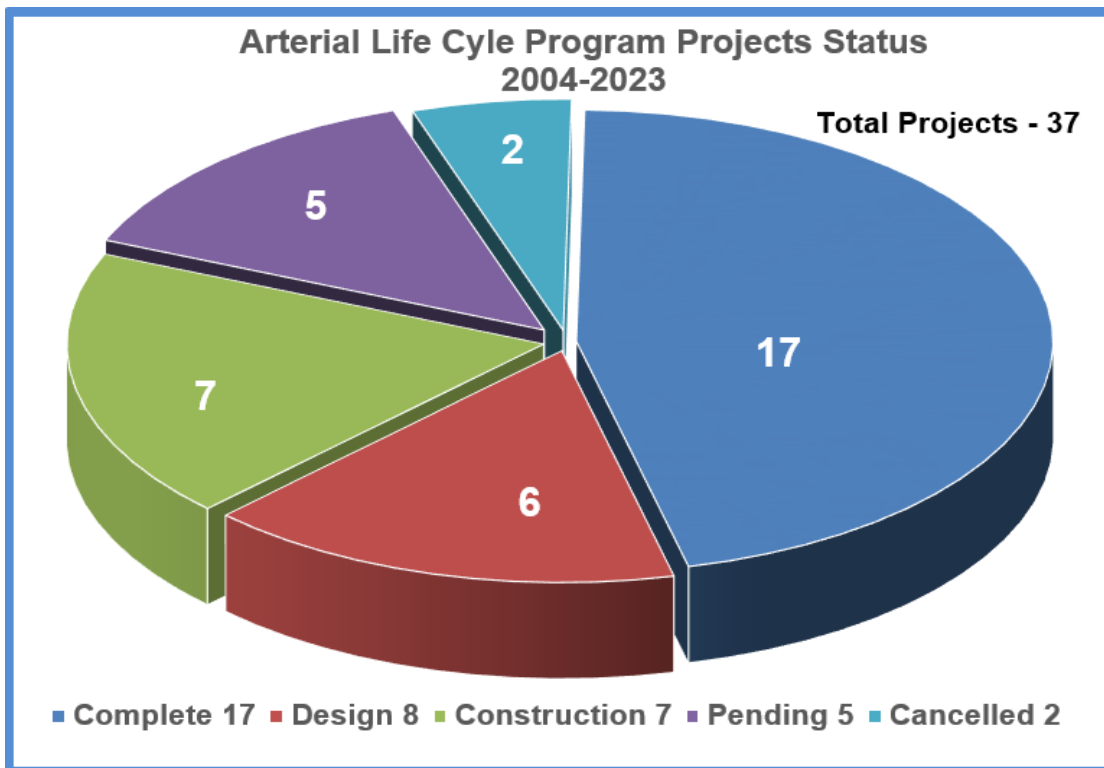
As mentioned above the ALCP consists of 37 projects. A total of 17 projects have been completed, eight projects are in the design phase, seven projects are in the construction phase, five projects are pending or waiting initiation and two projects have been cancelled from the program.

Figures 2 and Figure 3 provide graphic depictions of the information provided in Table 1.

**Figure 2 – Arterial Life Cycle Program Project Expenses, Reimbursements & City Match
2004-2023 (Millions)**



**Figure 3 – Arterial Life Cycle Program Projects Status
2004-2023**



A total of 22 projects were listed on the November 6, 2018, ballot eligible for 0.1% Transportation Sales Tax. Table 2 provides the list of eligible projects the current related programmed project and status of the commitments to the voter.

Overall, Scottsdale has made considerable progress on the project commitments to the voter. Unfortunately, there are two projects that have been cancelled. The Hayden Rd at Loop 101 Interchange Improvements became an infeasible project due to the financial impacts to marketable Arizona State Land at the southeast and southwest quadrants of this interchange. As stated above, the programmed fund for this project were reallocated to other ALCP projects.

Legacy Dr.: Hayden Rd. to 88th Street also known as Hualapai Dr: Hayden Rd. to Pima Road encountered significant drainage issues at Pima Rd. and a predominant amount of Arizona State Land borders the future roadway. As stated above, roadways identified for capacity improvements that are bordered by Arizona State Land are the responsibility of the land developer.

Table 2 – 2018 0.1% Transportation Sales Tax Project Status

Temporary Transportation Sales Tax 0.1% - 2019-2029 - Projects	FY 2023/24 - FY 2027/28 Related Programmed Project	Voter Commitment	
Frank Lloyd Wright Blvd at Loop 101 Traffic Interchange	Loop 101 Traffic Interchanges: Frank Lloyd Wright, Raintree, Shea Blvd	100% PS&E	
Raintree Dr at Loop 101 Traffic Interchange	Loop 101 Traffic Interchanges: Frank Lloyd Wright, Raintree, Shea Blvd	100% PS&E	
Scottsdale Rd: Dixileta Dr to Ashler Hills Dr	Scottsdale Rd: Dixileta Dr to Carefree Hwy	Pending	
Scottsdale Rd: Jomax Road to Dixileta Dr	Scottsdale Rd: Jomax Rd to Dixileta Dr	100 % PS&E	
Scottsdale Rd: Ashler Hills Drive to Carefree Highway	Scottsdale Rd: Dixileta Dr to Carefree Hwy	Pending	
Carefree Hwy: Cave Creek Rd to Scottsdale Rd	Carefree Hwy: Cave Creek Rd to Scottsdale Rd	33% Design	
Hayden Rd at Loop 101 Interchange Improvements	Cancelled	-	
Shea Blvd SR-101 to 136th Street (10 Projects)	Shea Blvd Intersections (L101 to 136th)	Construction	
Pima Rd: Chaparral Road to Thomas Road (joint with SRPMIC)	Pima Rd: Via Linda to McDowell	100% PS&E	
Pima Rd: Thomas Road to McDowell Road (joint with SRPMIC)	Pima Rd: Via Linda to McDowell	100 % PS&E	
Pima Rd: Dynamite Blvd to Stagecoach Road	Pima Rd: Dynamite Blvd to Las Piedras & Pima Rd: Las Piedras to Stagecoach Pass Rd	60% Design	Pending
Pima Rd: Happy Valley Road to Dynamite Road	Pima Rd: Happy Valley Rd to Jomax Rd & Pima Rd: Jomax Rd to Dynamite Blvd	60% Design	Pending
Legacy Dr: Hayden Road to 88th Street	Cancelled	-	

SRPMIC = Salt River Pima - Maricopa Indian Community, PS&E = Plans, Specifications and Engineering

In summary staff summarized the remaining active projects in the ALCP and identified the total program cost, MAG 70% contribution and the required 30% city match. Staff then developed revenue forecast scenarios for both the 0.1% and 0.2% Transportation Sales Tax.

Three revenue forecast scenarios were used to calculate revenues for the period of 2024-2029. These three forecast scenarios consisted of the following pessimistic and conservative growth scenarios.

- Negative (10%) forecast
- Negative (2.4%) forecast
- 0% growth forecast
- 3.5% growth forecast

These remaining projects are funded and contained the FY 23-24/27-28 adopted capital improvement plan. Most importantly, is the required city match which is estimated at 84M. If the negative revenue forecast scenarios become a reality, Scottsdale may need to bring to the voters an extension of the 0.1% Transportation Sales Tax.

Table 3 provides a summary of the remaining active projects and associated costs and revenue forecast scenarios to fund the remainder of the ALCP.

**Table 3 – Remaining Scottsdale Arterial Life Cycle Program – Prop 400
 (Millions)**

Scottsdale Arterial Life Cycle Program	FY 24 ALCP Update - Project Total		
	MAG	City Match	Total Project Cost
Project (Alpha)			
Carefree Hwy: Cave Creek Rd to Scottsdale Rd	\$ 14,732,615	\$ 6,313,978	\$ 21,046,593
Loop 101 Traffic Interchanges: Frank Lloyd Wright, Raintree, Shea Blvd	\$ 4,041,000	\$ 1,731,857	\$ 5,772,857
Happy Valley Rd: Pima Rd to Alma School Rd	\$ 19,716,436	\$ 8,449,901	\$ 28,166,337
Hayden Rd at Loop 101 Interchange Improvements (cancelled)	\$ -	\$ -	\$ -
Hayden/Miller Rd: Pinnacle Peak Rd to Happy Valley Rd	\$ 11,052,504	\$ 4,736,788	\$ 15,789,292
Hualapai Dr: Hayden Rd to Pima Rd (cancelled)	\$ -	\$ -	\$ -
Miller Road: Princess Drive to Legacy Blvd. [Miller Rd underpass pavement]	\$ 897,791	\$ 384,768	\$ 1,282,559
Pima Rd: Dynamite Blvd to Las Piedras	\$ 18,016,308	\$ 7,721,275	\$ 25,737,583
Pima Rd: Happy Valley Rd to Jomax Rd	\$ 12,300,957	\$ 5,271,839	\$ 17,572,796
Pima Rd: Jomax Rd to Dynamite Blvd	\$ 210,000	\$ 90,000	\$ 300,000
Pima Rd: Las Piedras to Stagecoach Pass Rd	\$ 23,554,236	\$ 10,094,672	\$ 33,648,908
Pima Rd: Pinnacle Peak Rd to Happy Valley Rd	\$ 13,061,678	\$ 4,766,206	\$ 17,827,884
Pima Rd: Via Linda to McDowell	\$ 13,284,608	\$ 5,693,403	\$ 18,978,011
Raintree Dr: Hayden Rd to L101	\$ 3,137,159	\$ 1,344,497	\$ 4,481,656
Raintree Dr: Scottsdale Rd to Hayden Rd	\$ 9,885,116	\$ 4,236,478	\$ 14,121,594
Redfield Rd: Raintree Dr to Hayden Rd (complete - remaining funds transferred to Raintree: Scottsdale Rd to Hayden Rd)	\$ 201,037	\$ 86,159	\$ 287,195
Scottsdale Rd: Dixileta Dr to Carefree Hwy	\$ 18,130,000	\$ 7,770,000	\$ 25,900,000
Scottsdale Rd: Jomax Rd to Dixileta Dr	\$ 18,950,413	\$ 8,121,605	\$ 27,072,017
Scottsdale Rd: Pinnacle Peak to Jomax Rd	\$ 1,799,927	\$ 771,397	\$ 2,571,324
Scottsdale Rd: Thompson Peak to Pinnacle Peak Phase II	\$ 6,128,450	\$ 2,626,479	\$ 8,754,929
Shea Blvd at 124th Street	\$ 337,208	\$ 144,517	\$ 481,725
Shea Blvd Intersections (L101 to 136th)	\$ 8,173,962	\$ 3,503,524	\$ 11,677,486
Totals	\$ 197,611,405	\$ 83,859,342	\$ 281,470,747
	Revenue Forecast Scenarios	\$ (20,325,956)	-10.0%
		\$ (1,707,545)	-2.4%
		\$ 98,118,390	0.0%
		\$ 121,976,217	3.5%

ALCP Next Steps

- Staff will continue to monitor the status of Arizona State Land Parcels and future entitlements.
- Staff will reassess project funding distribution for the FY 2025 ALCP update.
- Staff will collaborate with MAG to shift funds into critical corridors to address any project cost shortfalls.
- Anticipate a voter approved Proposition 400 Extension in November 2024.

Staff Contact: Greg Davies, 480-312-7829, gdavies@scottsdaleaz.gov



Transportation Commission Arterial Life Cycle Program Update

September 21, 2023

Arterial Life Cycle Program (ALCP)

- Funded through Fiscal Year 2025-26 (0.5% regional sales tax + federal funds)
- Maricopa Association of Governments (MAG) oversees ALCP
- Cities manage their own projects
- Cities program total project cost and get reimbursed 70%
- Projects require a minimum 30% local match
- Focus on adding roadway capacity through additional lanes and/or intersection widening
- Projects can include bike lanes, sidewalks and paths/trails that provide pedestrian access

Key Considerations:

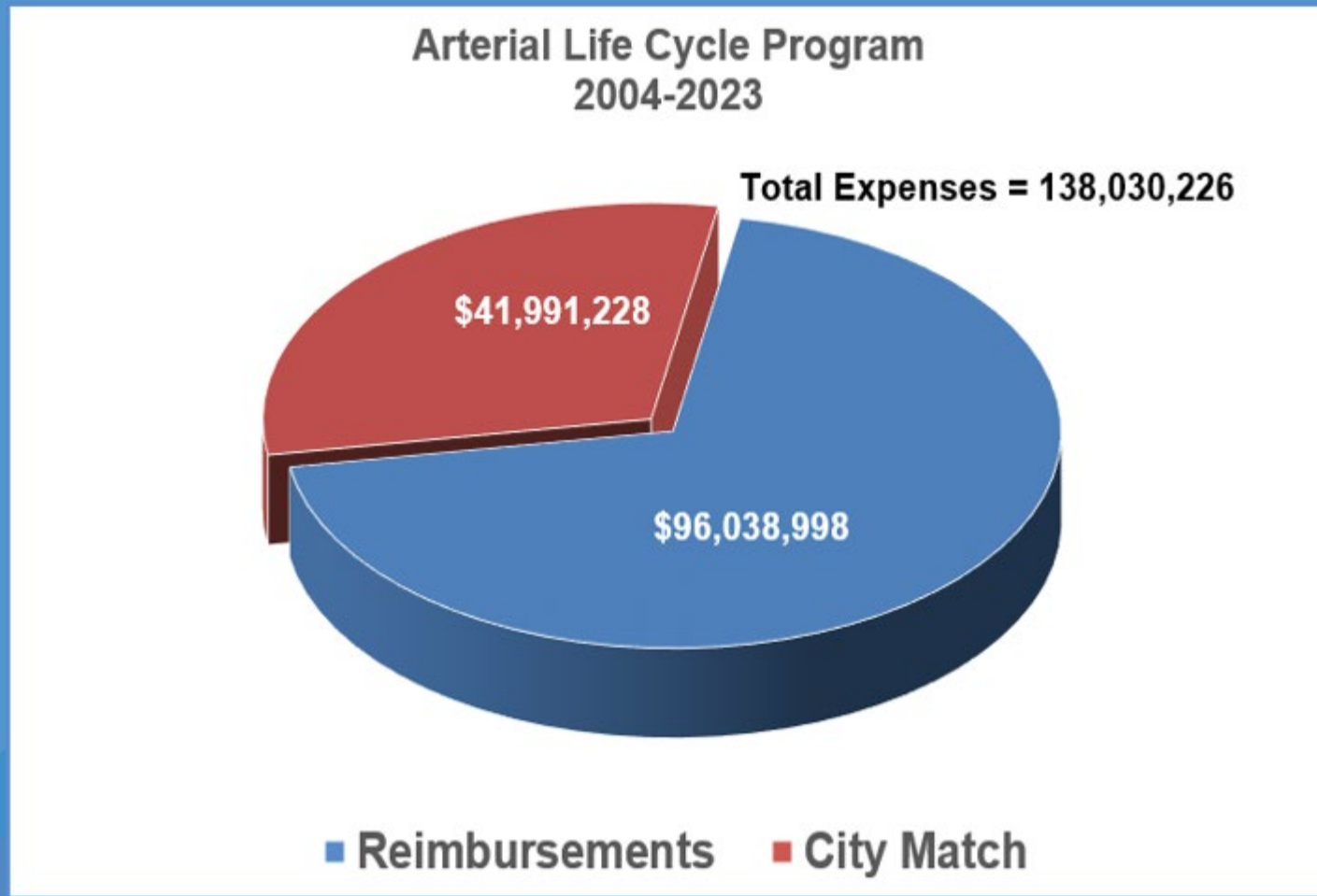
- Span of ALCP is 20 Years
- Several Factors Impact Costs Over a 20 Year Period
 - Great Recession 2007-2009 Economic Impacts
 - COVID-19 Pandemic 2019-2021 Economic Impacts
 - ROW acquisition Challenges
 - Utility Relocations
 - Project Feasibility

Key Considerations:

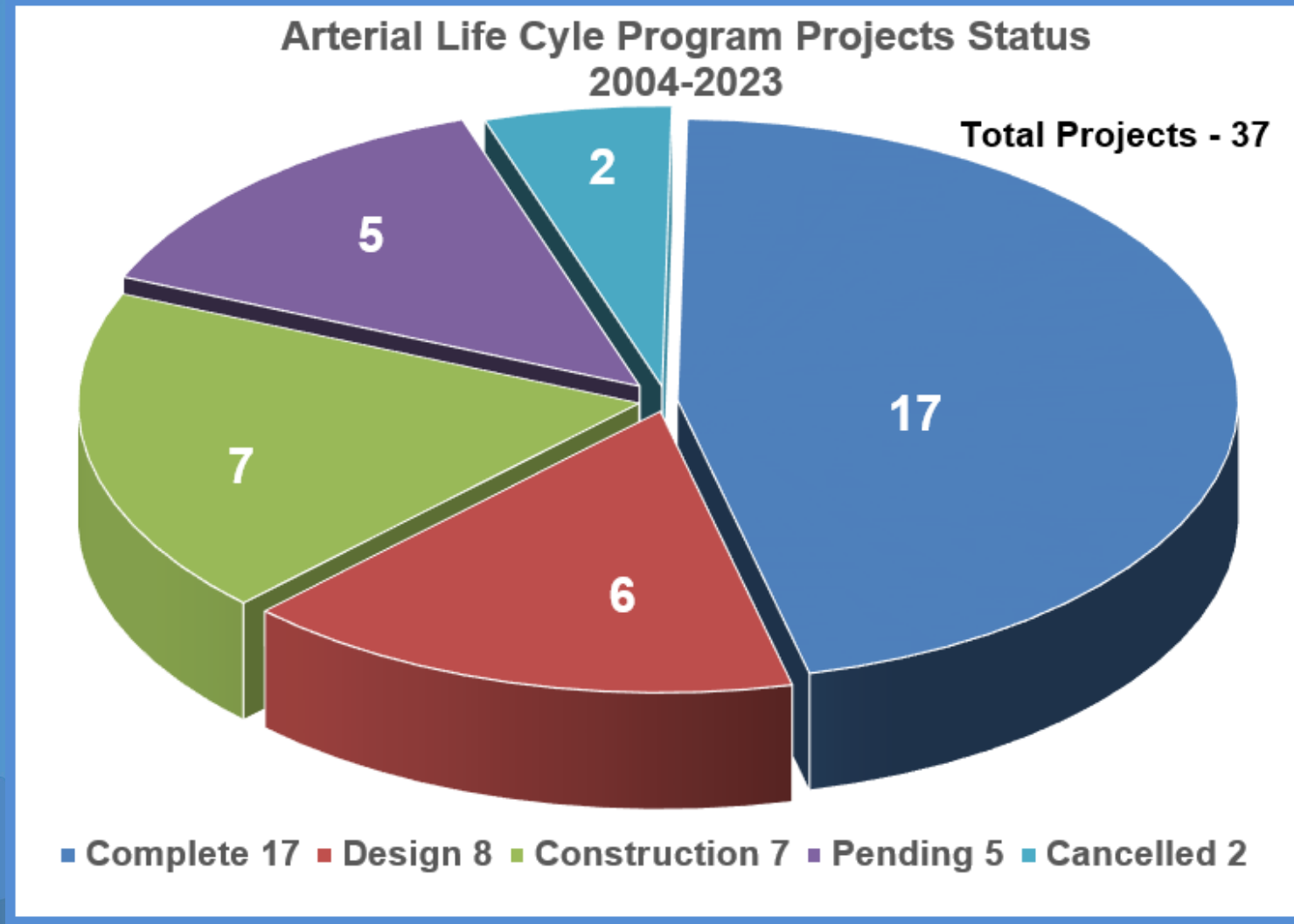
- ALCP Funded By Four Main Funding Sources
 - Scottsdale 0.1% Transportation Sales Tax (**tax sunsets 1/31/29**)
 - Scottsdale 0.2% Transportation Sales Tax (**no sunset**)
 - Maricopa County Half-Cent Sales Tax (**tax sunsets 12/31/25**)
 - Federal Surface Transportation Block Grant Program Funds



ALCP Proforma Audit:



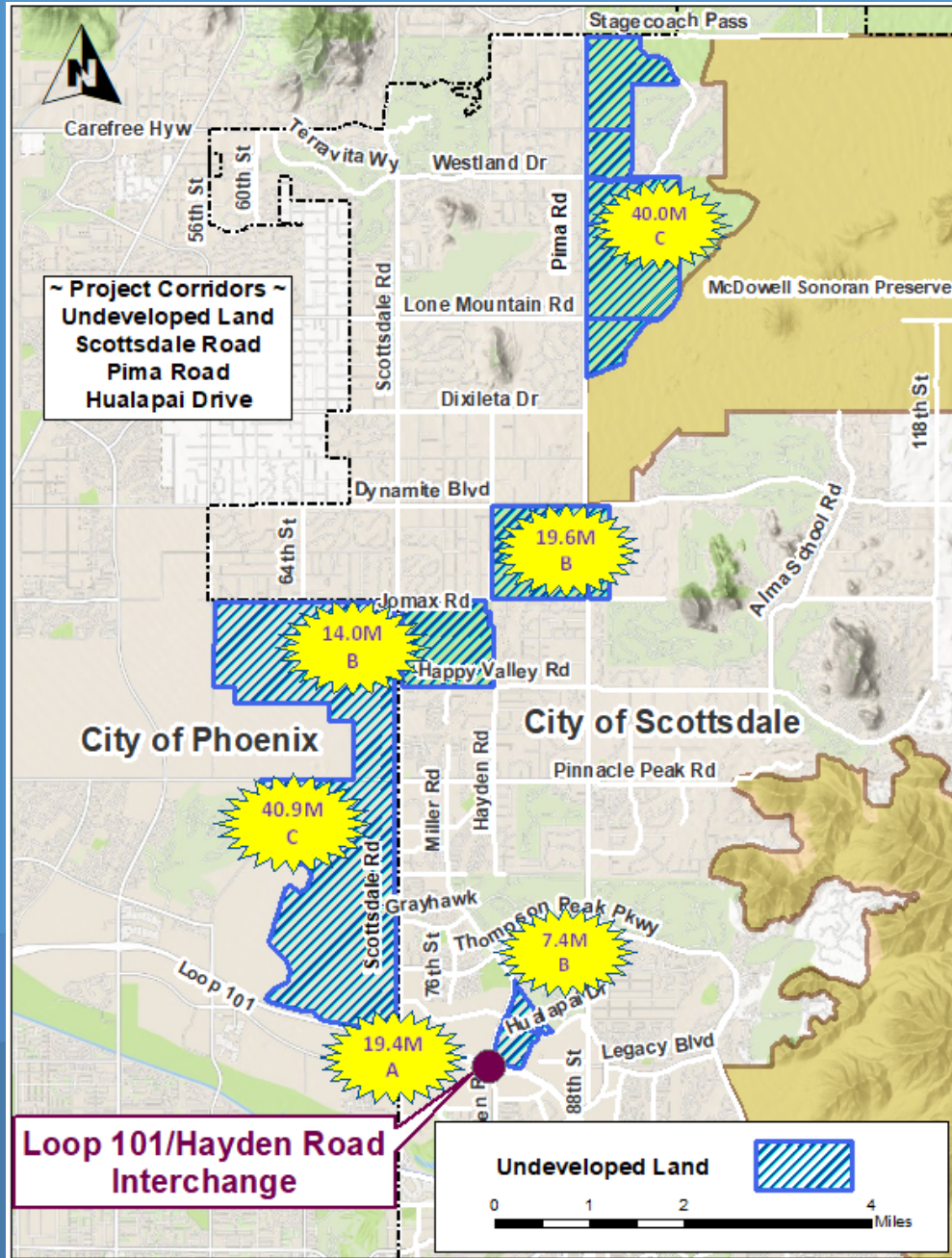
ALCP Proforma Audit:



Addressing Projected ALCP Cost Increase (existing strategy):

- Identified 130 Million Cost Increase to Program
- Address Cost increase Using Three Options A-C
 1. Reallocate funds programmed for Loop 101/Hayden Road Interchange **(Option A)**
 2. Require vacant land parcels to build roadway along their frontage consistent with zoning requirements **(Options B and C)**

Addressing Projected ALCP Cost Increase (existing):



- **Option A: Infeasible Project**
 - Loop 101/Hayden Road Interchange
- **Option B: Undeveloped Land on Both Sides of Project Corridors**
 - Scottsdale Road, Pima Road, Hualapai Drive
- **Option C: Undeveloped Land on One Side of Project Corridors**
 - Scottsdale Road and Pima Road

ALCP Proforma Audit:

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		\$ (1,707,545)	-2.4%
		\$ 98,118,390	0.0%
		\$ 121,976,217	3.5%

- Revenue Forecast Scenarios
 - Negative (10%) forecast
 - Negative (2.4%) forecast
 - 0% growth forecast
 - 3.5% growth forecast
- Projects Programmed in FY 23-24/27-28 Capital Program
- City Match = 84M
- Potential for Extension of 0.1% Transportation Sales Tax



ALCP Next Steps:

- Continue to Monitor Status of Arizona State Land Parcels
- Reassess Project Funding Distribution for FY 2025 ALCP Update
- Collaborate with MAG to Shift Additional Funds into Critical Corridors
- Anticipate a Voter Approved Prop 400E in November 2024

Questions/Discussion

SCOTTSDALE TRANSPORTATION COMMISSION REPORT



To: Transportation Commission
From: Phillip Kercher, Traffic Engineering Manager
 John Savage, Traffic Engineer
Subject: Roundabout Education
Meeting Date: September 21, 2023

ITEM IN BRIEF

Action: Information Item

Purpose: Information and discussion regarding the design and installation of roundabouts in the city of Scottsdale, a review of the operational and safety benefits of roundabouts, and some analysis of the collision experience for the roundabouts in our city.

Background:

Scottsdale has twenty-two (22) existing intersections with roundabout traffic control, and four (4) more roundabouts planned for future implementation. The oldest roundabout in Scottsdale, at the intersection of Princess Boulevard and Princess Drive, has been in operation since 1986 and the newest roundabout at Miller Road and Osborn Road was opened to traffic in 2023. The roundabout intersections are listed in Table 1 and Table 2.

Table 1: Existing Roundabout Locations in Scottsdale

Lane Configuration	North/South Street	East/West Street	Construction Year	Construction
Multi-lane	Princess Boulevard	Princess Drive	1986	DEV
Single-lane	64 th Street	Lafayette Boulevard	2000	COS
Single-lane	70 th Street	Chaparral Road	2000	COS
Single-lane	70 th Street	Oak Street	2003	COS
Single-lane	74 th Street	Sweetwater Boulevard	2003	COS
Single-lane	96 th Street	Sweetwater Boulevard	2005	COS
Single-lane	104 th Street	Cholla Street	2005	COS
Single-lane	94 th Street	Union Hills Boulevard	2006	COS
Single-lane	96 th Street	Cholla Street	2006	COS
Single-lane	124 th Street	Columbine Drive	2006	COS
Single-lane	100 th Street	Cactus Road	2008	COS
Single-lane	104 th Street	Cactus Road	2008	COS
Single-lane	108 th Street	Cactus Road	2008	COS
Multi-lane	Hayden Road	Northsight Boulevard	2013	COS
Single-lane	68 th Street	Cholla Street	2014	COS
Single-lane	60 th Street	Dove Valley Road	2015	DEV
Single-lane	124 th Street	Cactus Road	2015	COS
Multi-lane	90 th Street	Mustang Library	2017	COS
Single-lane	118 th Street	Rio Verde	2018	DEV
Single-lane	122 nd Street	Rio Verde	2018	DEV
Single-lane	76 th Place	Redfield Road	2022	COS
Multi-lane	Miller Road	Osborn Road	2023	COS

Table 2: Planned Roundabout Locations

Lane Configuration	North/South Street	East/West Street	Construction
Multi-lane	Scottsdale Road	Dynamite Boulevard	COS
Multi-lane	Raintree Drive	Northsight Boulevard	COS
Multi-lane	Hayden Road	Raintree Boulevard	COS
Multi-lane	73 rd Street	Mayo Boulevard	DEV

Scottsdale has a “roundabout first” policy that has been in place since 2016. This means that roundabouts are evaluated for effectiveness and feasibility whenever new intersection control is being considered.

Roundabout Characteristics:

Modern roundabouts were developed to slow the vehicles approaching the intersection and to designate the right-of-way to the circulating vehicles. Within a roundabout traffic is all moving in the same direction, which eliminates the traditional turning movements. All modern roundabouts generally have these basic design elements - geometric design to slow approaching vehicles, approach splitter islands, yield control for entering vehicles, circulatory travel, a central island, a truck apron, and pedestrian refuges. Decisions regarding the specific design characteristics of a roundabout are made based upon projected traffic volumes, distribution of traffic, number of legs, and approach speed. These characteristics and project goals result in many variations of roundabout design. A general modern roundabout demonstrating these key design features is shown in Figure 1.

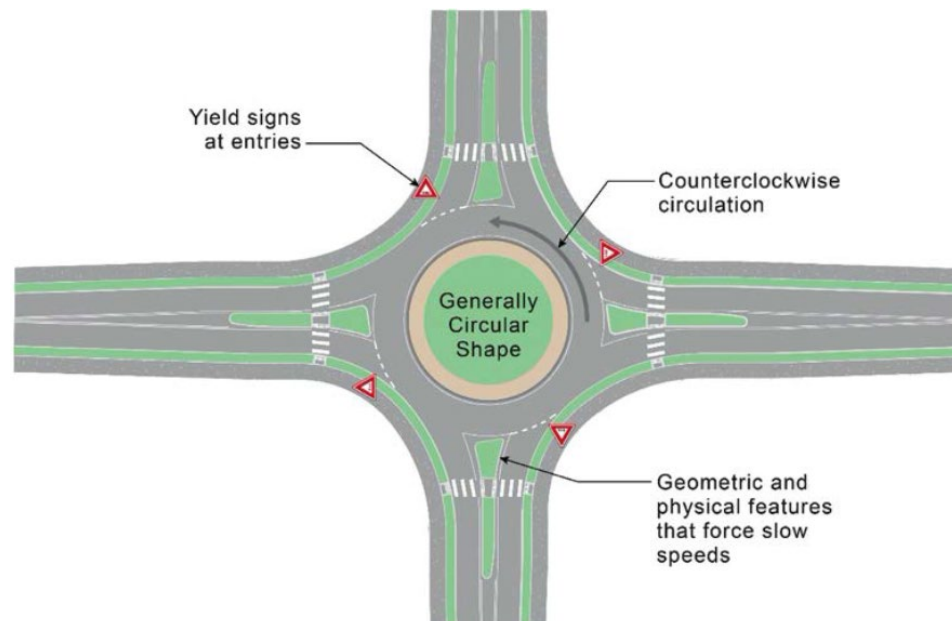


Figure 1: Example Modern Roundabout

Safety Benefits:

The Federal Highway Administration (FHWA) has identified roundabouts as one of twenty-eight (28) Proven Safety Countermeasures (PSCs) which represent countermeasures and strategies that are effective in reducing roadway fatalities and serious injuries. The FHWA strongly encourages transportation agencies to consider widespread implementation of PSCs at local, state, and national

levels to achieve safety goals. The FHWA notes that roundabouts can: Improve safety, promote lower speeds and traffic calming, reduce conflict points, improve operational performance, and meet a wide range of traffic conditions due to their design versatility. The FHWA cites an eighty-two (82) percent reduction in fatal and injury collisions when compared to a two-way stop-controlled intersection and a seventy-eight (78) percent reduction in fatal and injury collisions when compared to a signalized intersection.

The safety benefits associated with roundabout implementation is a direct result of the geometric features of a roundabout. The circular shape and single travel direction significantly reduce the number of conflict points in a roundabout when compared to a conventional traffic signal. A conflict point is defined by the FHWA as “any point where the paths of two through or turning vehicles diverge, merge, or cross”. The conflict points for a standard intersection and roundabout are shown in Figure 2.

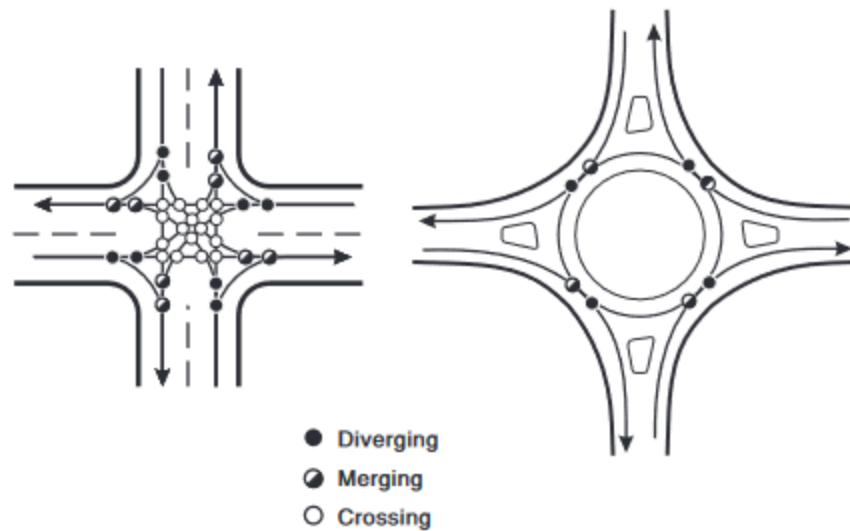


Figure 2: Intersection Conflict Points

The total number of conflict points reduces from thirty-two (32) to eight (8) when converting from a traditional intersection with one lane at each approach to a single lane roundabout. Notably, roundabouts feature no “crossing” conflict points which are often associated with red light running, left turn, and head-on collisions and are the most likely collisions to involve injuries or fatalities. In addition to reducing the number of conflict points, roundabouts reduce the conflict speed. Because vehicles traversing the roundabout are doing so at a lower speed compared to a conventional intersection, the speed differential between conflicting vehicles is lower at a roundabout. A reduced speed differential has been shown to reduce collision severity.

In addition to the reduction in conflict points with vehicles, roundabouts reduce the number of conflict points with pedestrians. Figure 3 demonstrates the difference in conflict points between pedestrian crossings at a signalized intersection and at a roundabout.

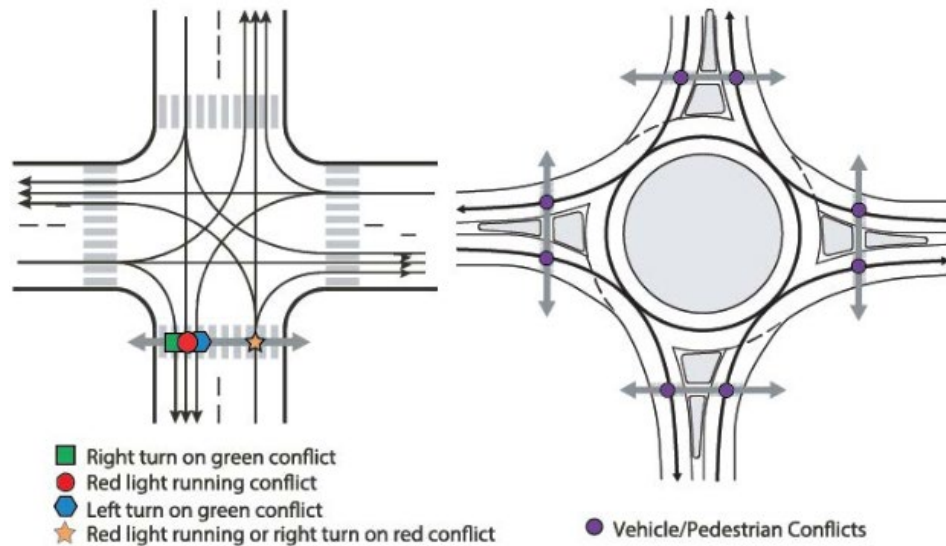


Figure 3: Pedestrian Conflict Points at Intersections

Single-lane roundabouts have fifty percent fewer pedestrian-vehicle conflict points than a comparable stop or signal controlled intersection. The setback crossings also allow for shorter crossing distances and allow pedestrians to cross only a single direction of traffic at a time due to the separation of entering and exiting traffic flows. Driver decision making in the roundabout and at pedestrian crossing locations are separate which allow for drivers to focus on pedestrian crossings apart from entering, circulating, and exiting maneuvers. The lower speeds in roundabouts are associated with better yielding rates, reduced vehicle stopping distance, and lower risk of collision injury and fatality.

Scottsdale Roundabout Performance:

Roundabout performance can be characterized primarily by both Level of Service (LOS) and collision experience. However, accurate LOS analysis of roundabouts requires detailed microsimulation or extensive data collection. Operational performance may be incorporated into future analysis, but for this evaluation only collision experience was reviewed.

Collision history for all roundabouts in Scottsdale was obtained between January 1997 and July 2023. Many roundabouts in Scottsdale serve low traffic volumes, and therefore there is a lack sufficient traffic volume and collision history to determine significant collision trends. Two multi-lane roundabouts that do have sufficient data points are the Hayden Road & Northsight Boulevard and 90th Street at the Mustang Library, so these were evaluated. The collision data for the recently constructed roundabout at the Miller Road and Osborn Road intersection for the pre-roundabout conditions was also determined. The collision data for some of the single lane roundabouts are summarized below, but insufficient data is available to do any collision analysis.

Three metrics were identified to evaluate the collision experience at the analyzed roundabouts:

- Annual Average Severity – The average severity of collisions at the intersection;
- Annual Collisions – The number of collisions that occurred at or within 100 feet of the intersection;
- Annual Percent of Collisions with Injury – The percentage of collisions with driver, passenger, or other involved persons injury.

Note that collision severity is measured on a scale between one (1) and five (5) with greater values denoting a more severe injury where a one (1) represents a non-injury collision and a five (5) represents a fatality.

Hayden Road and Northsight Boulevard:

Collision data for the Hayden Road and Northsight intersection were compiled between January 1997 and July 2023. The annual average severity of collisions decreased from 1.53 pre-roundabout to 1.18 post roundabout construction. An average value of 1.0 would indicate that no injury collisions occurred and a value 2.0 would indicate that the average collision had a minor injury. The difference in annual average collision severity in the pre-roundabout and post-roundabout timeframes is a sixty-six percent (66%) reduction in average collision severity at the intersection. The number of collisions experienced at the intersection increased from an annual average of 8.4 collisions to 14.8 collisions. This is summarized in Table 3 below.

Table 3: Hayden Road and Northsight Boulevard Expected Annual Injuries

Time Period	Average Collisions	Percentage w/ Injury	Expected Annual Injuries
Pre-Roundabout	8.4	35%	2.9
Post-Roundabout	14.8	13%	1.9

90th Street at Mustang Library:

Collision data for the 90th Street at Mustang Library intersection were compiled between January 1997 and July 2023. The annual average severity of collisions decreased from 1.60 pre-roundabout to 1.24 post roundabout construction. An average value of 1.0 would indicate that no injury collisions occurred and a value 2.0 would indicate that the average collision had a minor injury. The difference in annual average collision severity in the pre-roundabout and post-roundabout timeframes is a sixty percent (60%) reduction in average collision severity at 90th Street at the Mustang Library. The number of collisions experienced at the intersection increased from an annual average of 3.0 collisions to 4.4 collisions. This is summarized in Table 4 below.

Table 4: Hayden Road and Northsight Boulevard; Expected Annual Injuries

Time Period	Average Collisions	Percentage w/ Injury	Expected Annual Injuries
Pre-Roundabout	3.0	26%	.78
Post-Roundabout	4.4	17%	.75

Miller Road and Osborn Road:

The roundabout at the intersection of Miller Road and Osborn Road was recently constructed in 2023. Sufficient time has not elapsed post construction to allow for thorough analysis of post construction data. Collision data for the Miller Road and Osborn Road intersection were compiled between January 1997 and July 2023. The annual average severity of collisions pre-roundabout construction is 1.64. An average value of 1.0 would indicate that no injury collisions occurred and a value 2.0 would indicate that the average collision had a minor injury. A reduction to an average annual severity of 1.26 would represent a sixty percent (60%) reduction that is similar to what is present at Hayden Road and Northsight Boulevard. The number of collisions experienced at the intersection has been, on average, 7.4 collisions per year. This pre-roundabout data is summarized in Table 5 below.

Table 5: Miller Road and Osborn Road; Expected Annual Injuries

Time Period	Average Collisions	Percentage w/ Injury	Expected Annual Injuries
Pre-Roundabout	7.4	33%	2.4

Single Lane Roundabouts:

As previously stated, no single lane roundabout in the City of Scottsdale has a number of collisions suitable to determining whether there is a significant trend pre and post roundabout construction. A summary of the collision experience at single lane roundabouts is provided in Table 6.

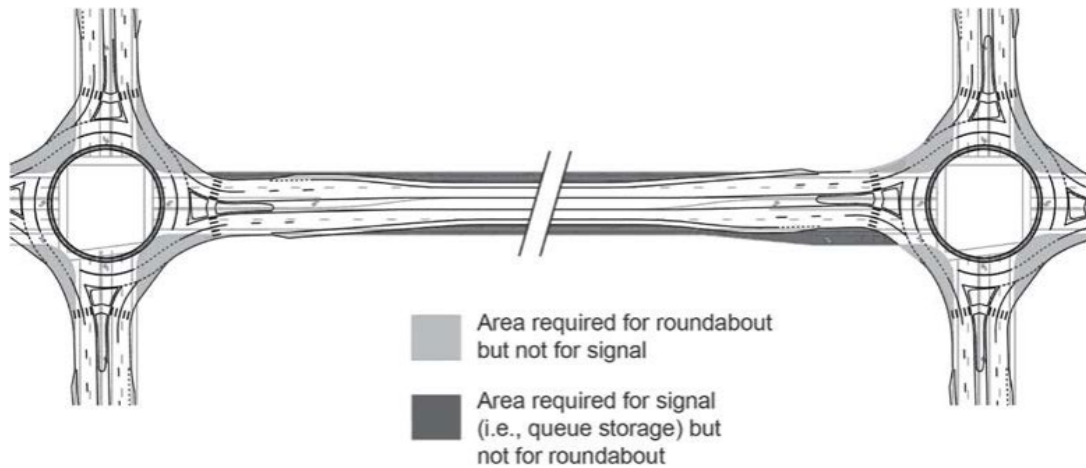
Table 6: Single Lane Roundabout Collision Data

Roundabout Location	Construction Year	Collisions Per Year Pre	Collisions Per Year Post	Mean Severity Pre	Mean Severity Post
64th Street & Lafayette Blvd.	2000	1.30	0.22	1.50	2.00
70th Street & Chaparral Blvd.	2000	0.70	0.10	1.50	1.50
70th Street & Oak Street	2003	0.70	0.60	1.00	2.31
74th Street & Sweetwater Ave.	2003	0.00	0.20	N/A	1.33
104th Street & Cholla Street	2005	0.50	0.47	2.00	1.25
94th Street & Union Hills	2006	0.00	0.10	N/A	2.00
96th Street & Cholla Street	2006	0.30	0.90	2.00	1.92
124th Street & Columbine Drive	2006	0.00	0.60	N/A	1.00
100th Street & Cactus Road	2008	0.50	2.50	1.33	2.04
104th Street & Cactus Road	2008	2.10	1.43	1.54	1.85
108th Street & Cactus Road	2008	0.70	0.18	1.33	1.50
68th Street & Cholla Street	2014	0.30	0.10	2.67	N/A
60th Street & Dove Valley Road	2015	0.20	0.30	1.00	1.00
124th Street & Cactus Road	2015	0.00	0.06	0.00	1.00
118th Street & Rio Verde	2018	0.30	3.00	1.83	1.79
122nd Street & Rio Verde	2018	0.80	1.00	2.08	1.58
76th Place & Redfield Road	2022	3.90	N/A	1.47	N/A

Note – More detailed collision data and analysis is provided in the attached roundabout white paper.

Cost Considerations:

The cost to install a roundabout compared to a traffic signal varies based on site conditions. The specific right-of-way requirements for a roundabout can differ between intersections based on specific travel patterns and lane configurations and whether the roundabout is a retrofit of an existing intersection or a new construction. Traffic signals may also have specific right-of-way requirements determined by the number of through lanes on each approach, whether any turn lanes are required based on existing or projected traffic volumes, and what type of queuing storage is necessary. An example of different land area requirements for roundabouts and signals is shown in Figure 4.



SOURCE: *NCHRP Report 672 (1)*.

Figure 4: Land Area Requirements Roundabout vs Signal

It is also difficult to separate the specific costs of the construction of a roundabout from a larger capital improvement project that includes other street improvements, utility relocation, and pavement restoration. A ballpark number based upon recent projects is between \$3 million to \$4 million.

Roundabouts have additional maintenance benefits as they do not require the electricity, maintenance, or various other forms of upkeep that traffic signals require. These maintenance costs can make roundabouts substantially cheaper over the lifespan of the roundabout.

Summary:

Scottsdale's roundabout first policy, adopted in the City's 2016 *Transportation Master Plan*, has led to the construction of modern roundabouts in various locations throughout the City. Federal data, sourced from a variety of studies performed, suggests that roundabouts are a safer alternative to all-way stops and traffic signals. Roundabouts feature geometric considerations in their design that limit vehicle conflict points and vehicle speed resulting in safer traversal of the intersection.

In Scottsdale, multi-lane roundabouts have been shown to reduce collision severity by as much as sixty-six percent (66%) which is in line with studies conducted nationally. When looking at multi-lane roundabouts influence on the number of collisions and collision severity in Scottsdale, roundabouts are shown to be safer or as safe as the previously existing intersection based on the expected number of annual injuries.

Attachment: City of Scottsdale Roundabout White Paper

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City of Scottsdale – Transportation & Streets

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Date: 14 September 2023
To: Phillip Kercher, Traffic Engineering and Operations Manager
Through: Kiran Guntupalli, Principal Traffic Engineer
From: John Savage, Traffic Engineer
Subject: City of Scottsdale Roundabouts

INTRODUCTION

Modern roundabouts have been implemented in various locations throughout Scottsdale. While roundabouts are sometimes associated with traffic calming, their primary use--and benefit--is as a right-of-way control device in place of traffic control that is a traffic signal, multi-way stop, or side street stop. Studies have shown roundabouts to be significantly safer than traffic signals in reducing collision severity, injuries, and fatalities when compared to traditional control. Roundabouts can also reduce delays, fuel use, emissions, and maintenance costs. Because roundabouts have proven to be a safe and resilient form of traffic control, the city of Scottsdale has adopted the following policy in the Transportation Action Plan: *Roundabouts shall be the first consideration for all intersections of one or two-lanes per-direction streets that require all-way stop control. Traffic signals should only be installed or remain if a traffic or budget analysis justifies their advantage.*

PURPOSE

The purpose of this document is to provide historical background and information regarding roundabouts, their implementation in the City of Scottsdale, and an analysis of available collision data for several roundabout locations.

BACKGROUND

The design and implementation of modern roundabouts can be traced back to the United Kingdom, where they were developed as a solution to address issues associated with traditional rotaries and traffic circles. The United Kingdom adopted regulations in 1966 that mandated a "give way" or yield principle for entering traffic at circular intersections. This rule aimed to facilitate the movement of traffic within the circulatory roadway by restricting vehicles from entering the intersection until there were sufficient gaps in traffic. Subsequently, the United Kingdom introduced smaller circular intersections with appropriately designed horizontal curvature, ensuring slower entry and circulating speeds. A general modern roundabout demonstrating these key design features is shown in **Figure 1**.

Roundabouts may have additional characteristics such as pedestrian refuges on splitter islands, traversable elements where right of way constraints may impact larger vehicles, or variations in lane configuration to facilitate different types of traffic flow. Decisions regarding the specific characteristics a roundabout may feature are made based on site characteristics and project goals resulting in many variations of roundabout design.

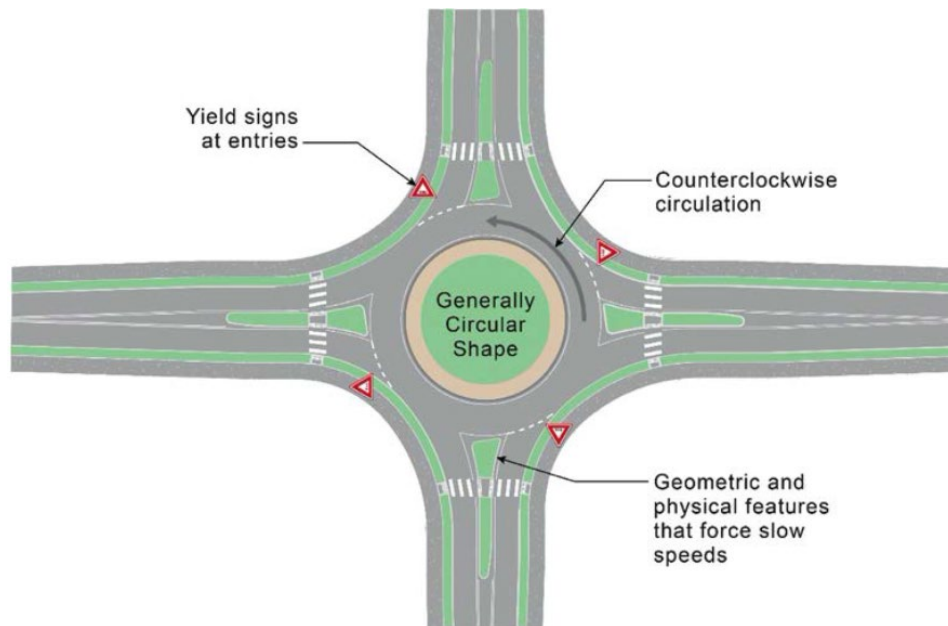


Figure 1: Example Modern Roundabout

NATIONAL SAFETY INFORMATION

The Federal Highway Administration (FHWA) has identified roundabouts as one of twenty-eight (28) Proven Safety Countermeasures (PSCs) which represent countermeasures and strategies that are effective in reducing roadway fatalities and serious injuries. The FHWA strongly encourages transportation agencies to consider widespread implementation of PSCs at local, state, and national levels to achieve safety goals. The FHWA notes that roundabouts can: Improve safety, promote lower speeds and traffic calming, reduce conflict points, improve operational performance, and meet a wide range of traffic conditions due to their design versatility. The FHWA cites an eighty-two (82) percent reduction in fatal and injury collisions when compared to a two-way stop-controlled intersection and a seventy-eight (78) percent reduction in fatal and injury collisions when compared to a signalized intersection.

The conversion of a stop controlled or signalized intersection into a roundabout may profoundly affect the nature and number of collisions experienced within the given intersection. A crash modification factor (CMF) is used to compute the expected number of collisions after implementing a countermeasure on a road or intersection. The *Crash Modification Clearing House* is an index of CMFs maintained by the U.S Department of Transportation and contains various CMFs regarding the expected reduction, or rise, in collisions with the implementation of a roundabout at a given intersection. A 2017 meta-regression analysis of forty-four (44) different studies, awarded a five-star quality rating, concluded conversion of intersections to roundabouts is associated with a reduction of approximately sixty-five (65) percent in fatal collisions and a reduction of forty (40) percent in all injury collisions.

The reduction in fatal and injury collisions associated with roundabout implementation is a direct result of the geometric features of a roundabout. The circular shape and single travel direction significantly reduce the number of conflict points in a roundabout when compared to a conventional traffic signal. A conflict point is defined by the FHWA as “any point where the paths of two through or turning vehicles diverge, merge, or cross”. The conflict points for a standard intersection and roundabout are shown in **Figure 2**.

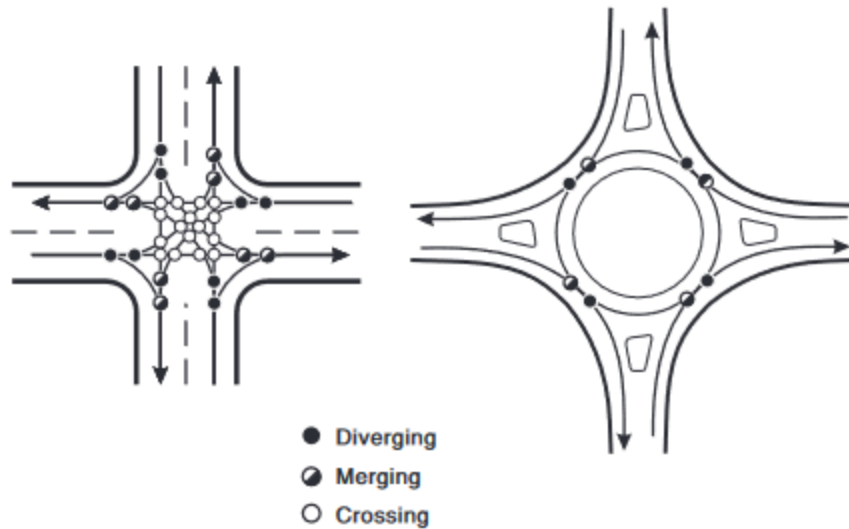


Figure 2: Intersection Conflict Points

The total number of conflict points reduces from thirty-two (32) to eight (8) when converting from a signalized intersection with one lane at each approach to a single lane roundabout. Notably, roundabouts feature no “crossing” conflict points which are often associated with red light running, left turn, and head-on collisions and are the most likely collisions to involve injuries or fatalities. In addition to reducing the number of conflict points, roundabouts reduce the conflict speed. Because vehicles traversing the roundabout are doing so at a lower speed compared to a conventional intersection, the speed differential between conflicting vehicles is lower at a roundabout. A reduced speed differential has been shown to reduce collision severity.

In addition to the reduction in conflict points with vehicles, roundabouts reduce the number of conflict points with pedestrians. **Figure 3** demonstrates the difference in conflict points between pedestrian crossings at a signalized intersection and at a roundabout.

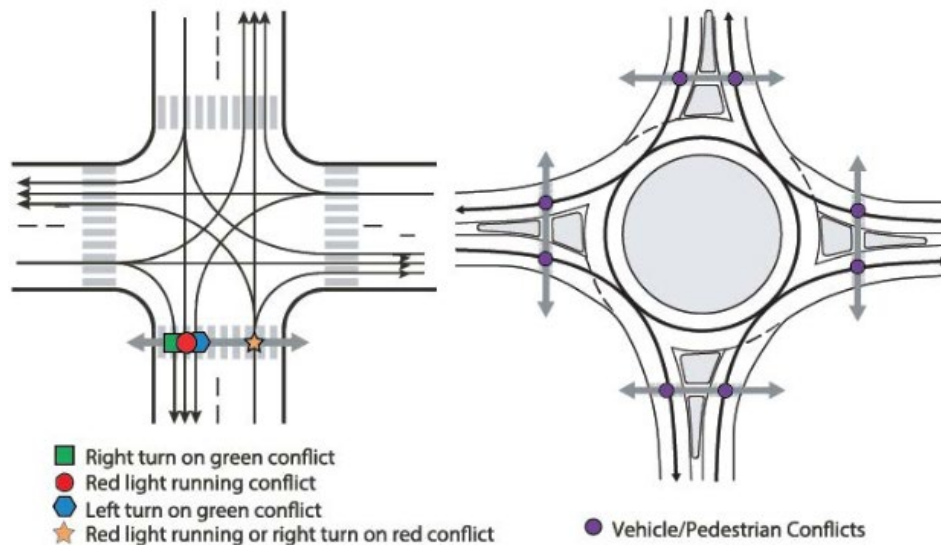


Figure 3: Pedestrian Conflict Points at Intersections

Single-lane roundabouts have fifty percent fewer pedestrian-vehicle conflict points than a comparable stop or signal controlled intersection. The setback crossings also allow for shorter crossing distances and allow pedestrians to cross only a single direction of traffic at a time due to the separation of entering and exiting traffic flows. Driver decision making in the roundabout and at pedestrian crossing locations are separate which allow for drivers to focus on pedestrian crossings apart from entering, circulating, and exiting maneuvers. The lower speeds in roundabouts are associated with better yielding rates, reduced vehicle stopping distance, and lower risk of collision injury and fatality.

ROUNDBABOUTS IN SCOTTSDALE

Scottsdale has twenty-two (22) intersections with right of way control via roundabout with three (3) more planned for future implementation. The oldest roundabout in Scottsdale, at the intersection of Princess Boulevard and Princess Drive, has been in operation since 1986 and the newest roundabout at Miller Road and Osborn Road was opened to traffic in 2023. The intersections are listed in **Table 1**.

Table 1: Existing Roundabout Locations in Scottsdale

Lane Configuration	North/South Street	East/West Street	Construction Year	Construction
Multi-lane	Princess Boulevard	Princess Drive	1986	DEV
Single-lane	64 th Street	Lafayette Boulevard	2000	COS
Single-lane	70 th Street	Chaparral Road	2000	COS
Single-lane	70 th Street	Oak Street	2003	COS
Single-lane	74 th Street	Sweetwater Boulevard	2003	COS
Single-lane	96 th Street	Sweetwater Boulevard	2005	COS
Single-lane	104 th Street	Cholla Street	2005	COS
Single-lane	94 th Street	Union Hills Boulevard	2006	COS
Single-lane	96 th Street	Cholla Street	2006	COS
Single-lane	124 th Street	Columbine Drive	2006	COS
Single-lane	100 th Street	Cactus Road	2008	COS
Single-lane	104 th Street	Cactus Road	2008	COS
Single-lane	108 th Street	Cactus Road	2008	COS
Multi-lane	Hayden Road	Northsight Boulevard	2013	COS
Single-lane	68 th Street	Cholla Street	2014	COS
Single-lane	60 th Street	Dove Valley Road	2015	DEV
Single-lane	124 th Street	Cactus Road	2015	COS
Multi-lane	90 th Street	Mustang Library	2017	COS
Single-lane	118 th Street	Rio Verde	2018	DEV
Single-lane	122 nd Street	Rio Verde	2018	DEV
Single-lane	76 th Place	Redfield Road	2022	COS
Multi-lane	Miller Road	Osborn Road	2023	COS

Table 2: Planned Roundabout Locations

Lane Configuration	North/South Street	East/West Street	Construction
Multi-lane	Scottsdale Road	Dynamite Boulevard	COS
Multi-lane	Raintree Drive	Northsight Boulevard	COS
Multi-lane	Hayden Road	Raintree Boulevard	COS
Multi-lane	73 rd Street	Mayo Boulevard	DEV

SCOTTSDALE ROUNDABOUT PERFORMANCE

Roundabout performance can be characterized primarily by both Level of Service (LOS) and collision experience. However, accurate LOS analysis of roundabouts requires detailed microsimulation or extensive data collection and was not performed as part of this analysis.

Collision history for all roundabouts in Scottsdale was obtained between January 1997 and July 2023. Many roundabouts in Scottsdale serve low traffic volumes and lack sufficient collision history to determine significant collision trends. Roundabouts with sufficient data points include Hayden Road & Northsight Boulevard and 90th Street at the Mustang Library. In addition to having insufficient data points, Cactus Road roundabouts at 100th Street and 104th Street coincide with the Cactus Road widening project. Travel patterns likely changed because of the roadway widening and comparisons before and after roundabout construction cannot be directly attributed to the roundabout itself. Collision data for the recently constructed Miller Road and Osborn Road roundabouts was determined for the pre-roundabout condition, but insufficient data is available for collision analysis of the intersection post-roundabout.

Three metrics were identified to evaluate the collision experience at the analyzed roundabouts:

Annual Average Severity – The average severity of collisions at the intersection;

Annual Collisions – The number of collisions that occurred at or within 100 feet of the intersection;

Annual Percent of Collisions with Injury – The percentage of collisions with driver, passenger, or other involved persons injury;

Note that collision severity is measured on a scale between one (1) and five (5) with greater values denoting a more severe injury where a one (1) represents a non-injury collision and a five (5) represents a fatality.

HAYDEN ROAD AND NORTHSIGHT BOULEVARD

The intersection of Hayden Road and Northsight Boulevard, constructed in 2013, is the busiest roundabout in the City of Scottsdale with an Average Annual Daily Traffic (AADT) of 33,500 vehicles. A location map showing the study intersection is provided in **Figure 4**.

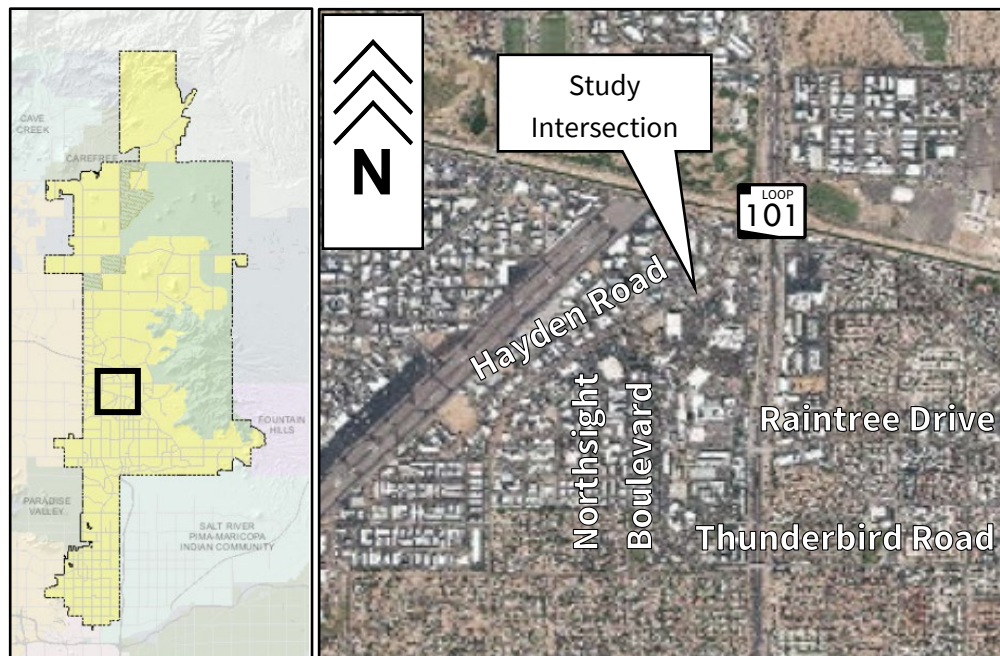


Figure 4: Hayden Road and Northsight Boulevard; Location Map

As listed under the City of Scottsdale’s *Transportation Action Plan 2022*, Hayden Road is classified as a minor arterial roadway; Northsight Boulevard to the north and south of Hayden Road is classified as a major collector. The speed limit on Hayden Road in the vicinity of the intersection is 45-MPH. The speed limit on Northsight Boulevard north of the intersection is 25-MPH and the speed limit south of the intersection is 40-MPH.

The Hayden Road and Northsight Boulevard intersection is a multi-lane roundabout sometimes referred to as a “2x1” roundabout. There are two travel lanes on the Hayden Road approaches that continue through the roundabout. The right-most lane of the Hayden Road approaches functions as a through/right-turn lane. All turning movements can be made from the left-most lane by circulating the roundabout, but it is most used to complete either a through or left-turn movement. There is one lane of approach where drivers perform all turning movements from on the north leg of Northsight Boulevard. The south leg approach on Northsight Boulevard has a dedicated right-turn lane and one lane to perform all turning movements. The existing configuration of the Hayden Road and Northsight Boulevard roundabout is shown in **Figure 5**.



Figure 5: Aerial View of Hayden Road and Northsight Boulevard (2022)

Before conversion into a roundabout, Hayden Road was a signalized intersection with one (1) left-turn lane, two (2) through lanes, and one (1) right-turn lane in the eastbound direction. Westbound, Hayden Road provided one (1) left-turn lane, one (1) dedicated through lane, and one (1) shared through/right-turn lane. Northsight Boulevard north and south of Hayden Road provided one (1) left-turn lane, one (1) through lane, and one (1) right-turn lane. An aerial view of the Hayden Road and Northsight Boulevard intersection in its prior configuration is shown in **Figure 6**.



Figure 6: Aerial View of Hayden Road and Northsight Boulevard (2012)

COLLISION EXPERIENCE

Collision data for the Hayden Road and Northsight intersection were compiled between July 2023 and January 1997. Summaries of the compiled collision data demonstrating the change in the established metrics are shown in **Figures 7, 8, and 9**. The average values exclude both the construction year of the roundabout, shown in black, and 2023 as the year is incomplete.

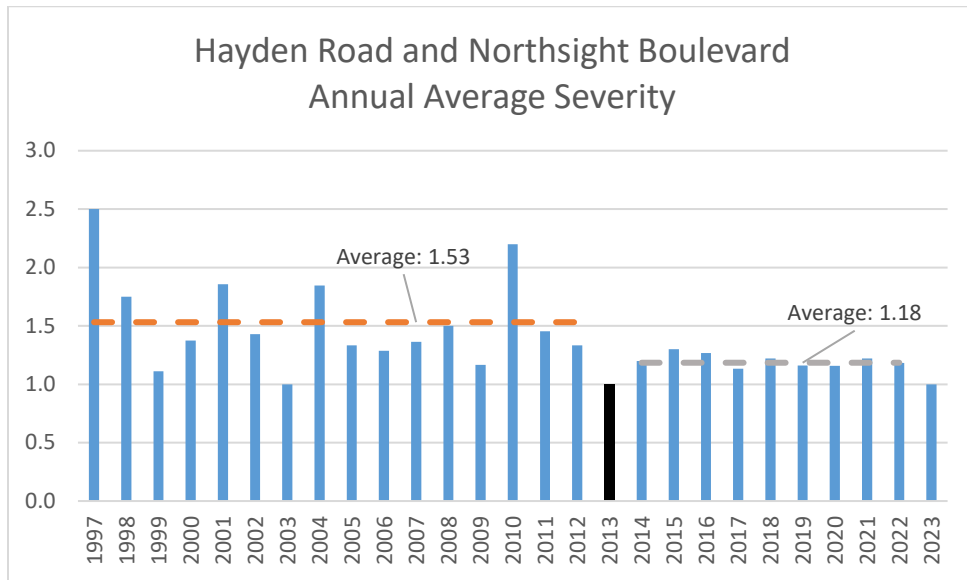


Figure 7: Hayden Road and Northsight Boulevard; Annual Average Severity

The annual average severity of collisions decreased from 1.53 pre-roundabout to 1.18 post roundabout construction. An average value of 1.0 would indicate that no injury collisions occurred and a value 2.0 would indicate that the average collision had a minor injury. The difference in annual average collision severity in the pre-roundabout and post-roundabout timeframes is a sixty-six percent (66%) reduction in average collision severity at the intersection of Hayden Road and Northsight Boulevard.

The number of collisions experienced at the intersection increased from an annual average of 8.4 collisions to 14.8 collisions. Note that 2021 and 2022 experienced a reduced number of collisions compared to 2018, 2019, and 2020. If annual collisions continue to be in line with recent years, the expected average number of collisions would be between 10 and 11. The number of collisions at the intersection are shown in **Figure 8**.

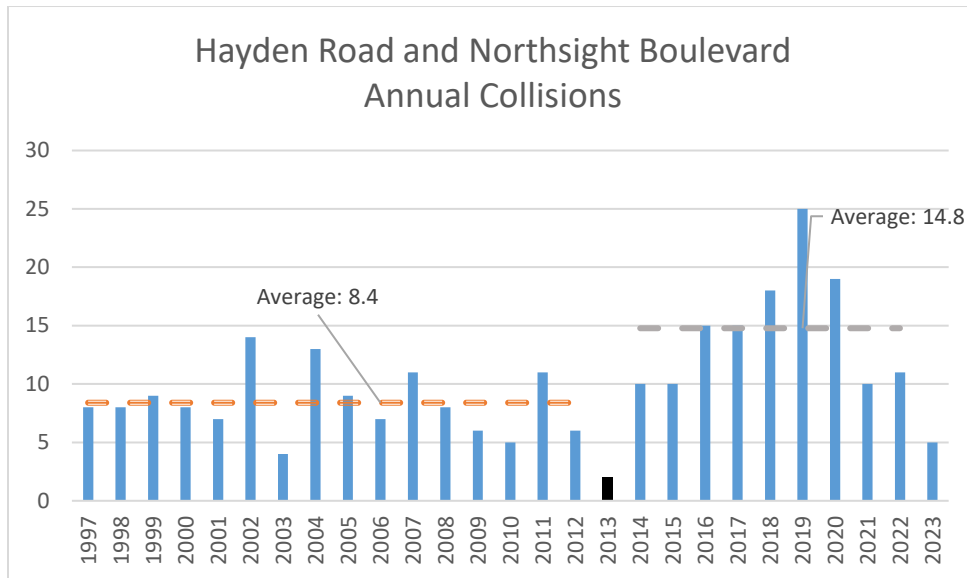


Figure 8: Hayden Road and Northsight Boulevard; Annual Collisions

The annual percentage of collisions with an injury decreased from thirty-five percent (35%) to thirteen percent (13%) post-roundabout construction. Note that a value of zero percent indicates that no collisions involving an injury were recorded during that period.

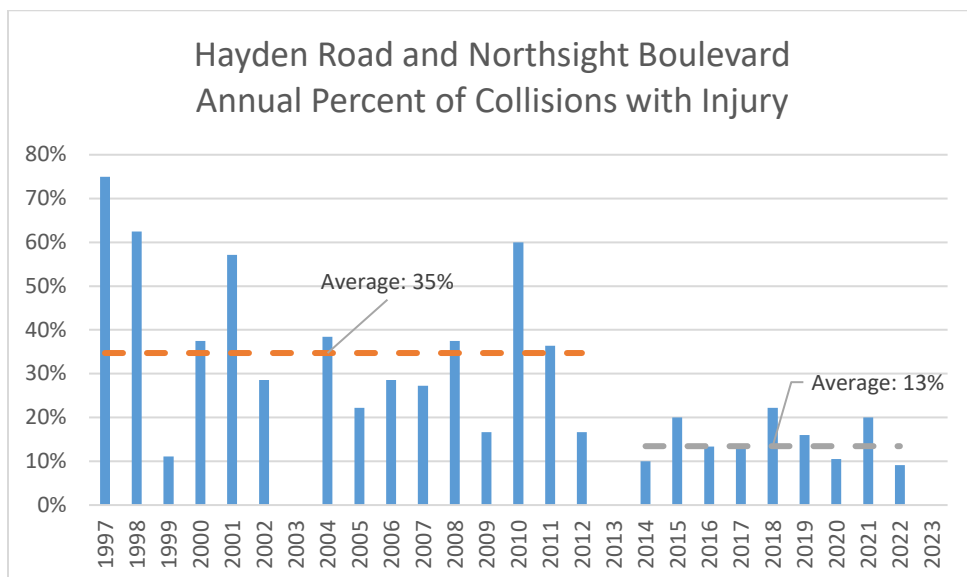


Figure 9: Hayden Road and Northsight Boulevard; Annual Percent of Collisions with Injury

The combination of the average annual collisions, and annual percent of collisions with injury, can be combined to calculate the expected total number of injuries pre-roundabout and post-roundabout construction.

Table 3: Hayden Road and Northsight Boulevard Expected Annual Injuries

Time Period	Average Collisions	Percentage w/ Injury	Expected Annual Injuries
Pre-Roundabout	8.4	35%	2.9
Post-Roundabout	14.8	13%	1.9

The expected annual injuries decreased from 2.9 to 1.9 after roundabout construction. This marks a thirty-four (34%) percent decrease in collisions involving an injury. If collision trends of the past few years continue, the reduction in annual injuries may be even greater.

Volumes on Hayden Road and Northsight Boulevard have remained consistent since construction of the roundabout. The intersection was determined to have an AADT of 33,400 in 2012 and an AADT of 33,500 was determined from the most recent data collection effort at the intersection in July 2021. The average AADT at the intersection was 35,000 between 2012 and 2022. Traffic volume information is provided in **Figure 10** and **Table 4**.

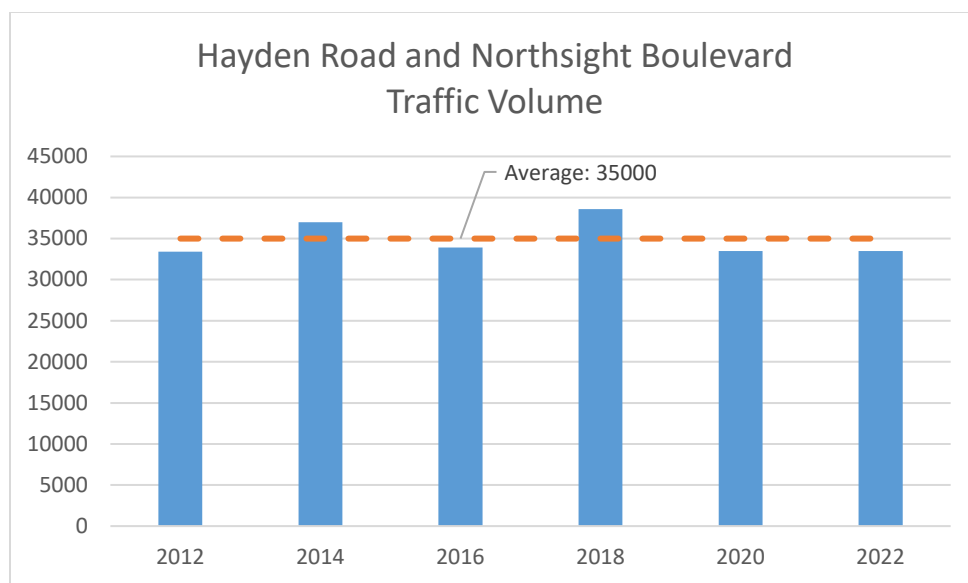


Figure 10: Hayden Road and Northsight Boulevard; Traffic Volume

Table 4: Hayden and Northsight Boulevard; Traffic Volume

Year	2012	2014	2016	2018	2020	2022
AADT	33,400	37,000	33,900	38,600	33,500	33,500

90TH STREET AT MUSTANG LIBRARY

The roundabout at 90th Street and Mustang Library was constructed in 2017. A Road Safety Assessment (RSA) was conducted on 90th Street between Mountain View Road and Shea Boulevard in 2022. A location map showing the study intersection is provided in **Figure 11**.

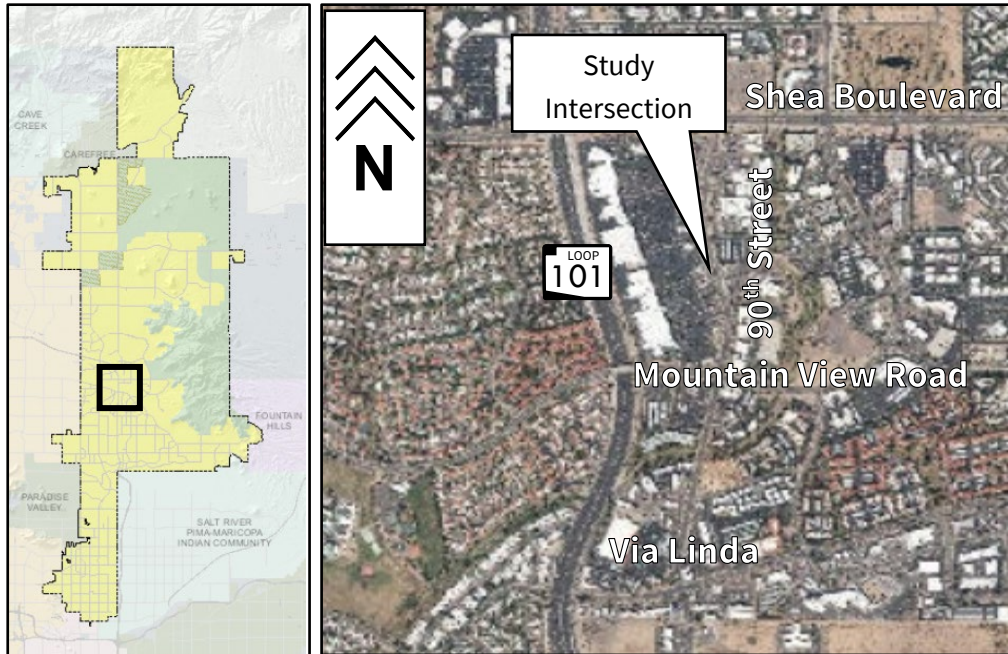


Figure 11: 90th Street at Mustang Library; Location Map

As listed under the City of Scottsdale’s *Transportation Action Plan 2022*, 90th Street is classified as a minor arterial roadway; the driveways that connect at the east and west approaches are unclassified roadways leading the Mustang Library and Scottsdale Fiesta Retail Center. 90th Street is posted at 40-MPH to the north and south of the intersection.

The 90th Street at Mustang Library intersection, like the Hayden Road and Northsight Boulevard intersection, is a multi-lane roundabout sometimes referred to as a “2x1” roundabout. There are two travel lanes on the 90th Street approaches that continue through the roundabout. The right-most lane of the 90th Street approaches functions as a through/right-turn lane. All turning movements can be made from the left-most lane by circulating the roundabout, but it is most used to complete either a through or left-turn movement. There is one lane of approach where drivers perform all turning movements at each of the driveway approaches. The existing configuration of the 90th Street at Mustang Library roundabout is shown in **Figure 12**.



Figure 12: Aerial View of 90th Street at Mustang Library Roundabout (2022)

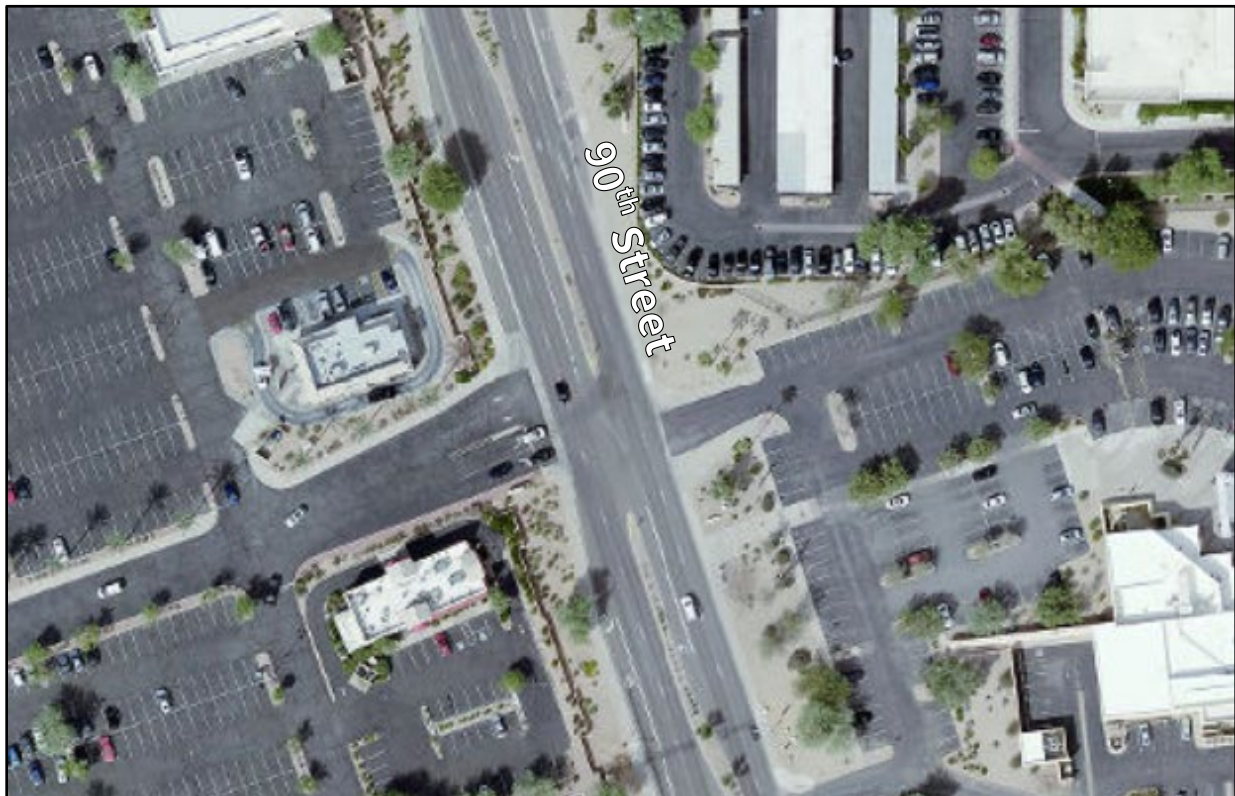


Figure 13: Aerial View of 90th Street at Mustang Library Intersection (2016)

Before conversion into a roundabout, 90th Street at Mustang Library was a two-way stop-controlled intersection.

The intersection had one (1) left-turn lane, two (2) through lanes, and one (1) right-turn lane in the southbound direction. Northbound, 90th Street provided one (1) left-turn lane, one (1) dedicated through lane, and one (1) shared through/right-turn lane. While the Mustang Library driveway was unmarked, both driveways had width to provide one (1) left-turn lane and one (1) right-turn lane. The driveways at the Scottsdale Fiesta Retail Center and Mustang Library were stopped controlled while 90th Street was free flowing. An aerial view of the 90th Street at Mustang Library intersection in its prior configuration is shown in **Figure 13**.

COLLISION EXPERIENCE

Collision data for the 90th Street at Mustang Library intersection were compiled between July 2023 and January 1997. Summaries of the compiled collision data demonstrating the change in the established metrics are shown in **Figures 14, 15, and 16**. The average values exclude both the construction year of 2017 and 2023 as the year is incomplete.

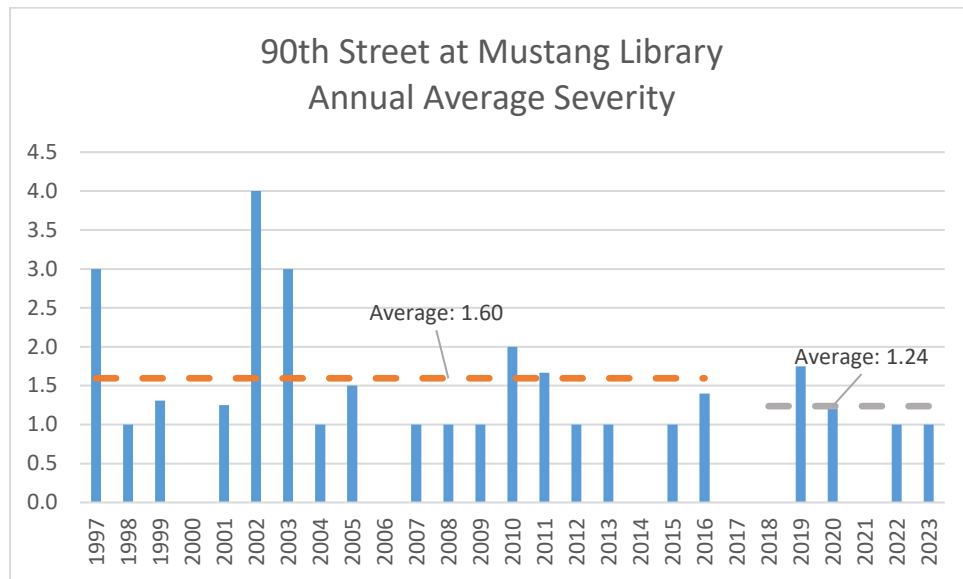


Figure 14: 90th Street at Mustang Library; Annual Average Severity

The annual average severity of collisions decreased from 1.60 pre-roundabout to 1.24 post roundabout construction. An average value of 1.0 would indicate that no injury collisions occurred and a value 2.0 would indicate that the average collision had a minor injury. The difference in annual average collision severity in the pre- and post-roundabout timeframes is a sixty percent (60%) reduction in average collision severity at 90th Street at the Mustang Library. Note that years 2000, 2006, 2014, 2017, and 2018 experienced no collisions resulting in an empty value that was not included in the analysis.

The number of collisions experienced at the intersection increased from an annual average of 3.0 collisions to 4.4 collisions. Note the greater number of collisions between 1998 and 1999. If only the years 2000 through 2016 were included in the pre-roundabout data, the average number of collisions would decrease to 2.2. The number of collisions at the intersection are shown in **Figure 14**.

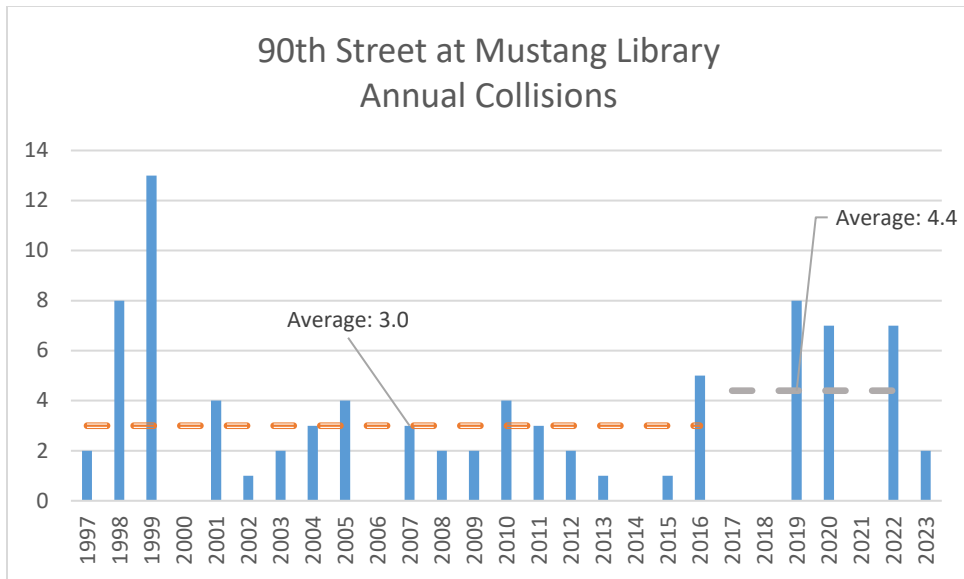


Figure 15: 90th Street at Mustang Library; Annual Collisions

The annual percentage of collisions with an injury decreased from twenty-six percent (26%) to seventeen (17%) percent post roundabout construction as seen in **Figure 15**. Note that years 2000, 2006, 20014, 2017, and 2018 did not have any collisions.

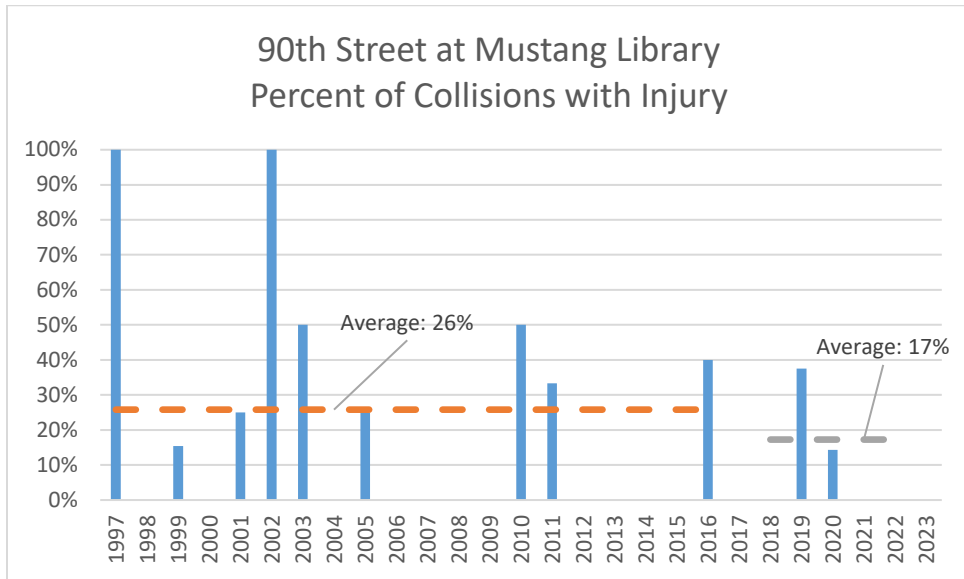


Figure 16: 90th Street at Mustang Library; Annual Percent of Collisions with Injury

The combination of the average annual collisions, and annual percent of collisions with injury, can be combined to calculate the expected total number of injuries pre-roundabout and post-roundabout construction.

Table 5: 90th Street at Mustang Library; Expected Annual Injuries

Time Period	Average Collisions	Percentage w/ Injury	Expected Annual Injuries
Pre-Roundabout	3.0	26%	.78
Post-Roundabout	4.4	17%	.75

The expected annual injuries remains similar between the pre-roundabout and post-roundabout scenarios.

Traffic volumes are not regularly collected at the roundabout location on 90th Street at the Mustang Library. Traffic volumes at the roundabout were assumed to strongly correlate with the segment volumes on 90th Street between Mountain View Road and Shea Boulevard. Northbound volumes at Shea Boulevard and southbound volumes at Mountain View Road were combined to determine segment volume. These segment volumes, or estimated roundabout volumes, are shown in **Figure 17** and **Table 6**. Note that traffic data was not collected at 90th Street and Shea Boulevard in 2018 and volumes were estimated from adjacent intersections. This estimated data has been included in the traffic volume chart, but has been excluded from the calculation of the average volume.

Traffic volumes on the segment of 90th Street between Shea Boulevard and Mountain View Road have remained consistent in the 20 years evaluated. An AADT of 19,000 was determined in 2002 and an AADT of 19,600 was determined in 2022. The average AADT on this segment over the evaluation period was 19,550.

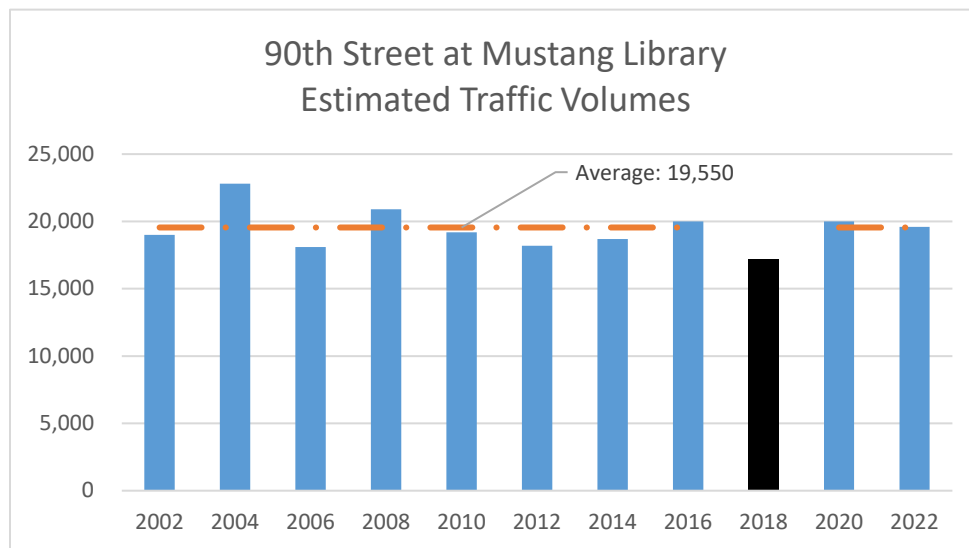


Figure 17: 90th Street at Mustang Library; Traffic Volume

Table 6: 90th Street at Mustang Library; Traffic Volume

Year	2002	2004	2006	2008	2010	2012	2014	2016	2018	2020	2022
AADT	19,000	22,800	18,100	20,900	19,200	18,200	18,700	20,000	17,200	20,000	19,600

SINGLE LANE ROUNDABOUTS

As previously stated, no single lane roundabout in the City of Scottsdale besides those at Cactus Road have a number of collisions suitable to determining whether there is a significant trend pre and post roundabout construction. The Cactus Road roundabouts coincide with the Cactus Road widening project and any identifiable trends at the 100th Street and 104th Street intersections may be the result of the change in travel patterns as a result of the widening project. A summary of the collision experience at single lane roundabouts is provided in **Table 5**.

Table 7: Single Lane Roundabout Collision Data

Roundabout Location	Construction Year	Collisions Per Year Pre	Collisions Per Year Post	Mean Severity Pre	Mean Severity Post
64th Street & Lafayette Boulevard	2000	1.30	0.22	1.50	2.00
70th Street & Chaparral Boulevard	2000	0.70	0.10	1.50	1.50
70th Street & Oak Street	2003	0.70	0.60	1.00	2.31
74th Street & Sweetwater Avenue	2003	0.00	0.20	N/A	1.33
104th Street & Cholla Street	2005	0.50	0.47	2.00	1.25
94th Street & Union Hills	2006	0.00	0.10	N/A	2.00
96th Street & Cholla Street	2006	0.30	0.90	2.00	1.92
124th Street & Columbine Drive	2006	0.00	0.60	N/A	1.00
100th Street & Cactus Road	2008	0.50	2.50	1.33	2.04
104th Street & Cactus Road	2008	2.10	1.43	1.54	1.85
108th Street & Cactus Road	2008	0.70	0.18	1.33	1.50
68th Street & Cholla Street	2014	0.30	0.10	2.67	N/A
60th Street & Dove Valley Road	2015	0.20	0.30	1.00	1.00
124th Street & Cactus Road	2015	0.00	0.06	0.00	1.00
118th Street & Rio Verde	2018	0.30	3.00	1.83	1.79
122nd Street & Rio Verde	2018	0.80	1.00	2.08	1.58
76th Place & Redfield Road	2022	3.90	N/A	1.47	N/A

Note the following roundabouts without applicable data for all of the indicated measures; 74th Avenue & Sweetwater, 94th Street & Union Hills, and 124th Street & Columbine Drive do not have recorded collisions in the data collection period pre-roundabout construction therefore no average collision severity can be calculated, 68th Street & Cholla has a single collision of unknown severity post roundabout construction, and 76th Place & Redfield Road was constructed in 2022 and 2023 has been excluded from all roundabout analysis resulting in no collisions analyzed post roundabout construction.

Collisions are an inherently erratic type of data resulting in a high degree in variability whether the number of collisions or severity of collisions increased or decreased after roundabout construction. Local conditions such as road closures and events may impact travel patterns and influence the number of collisions an intersection experiences on an annual basis. This influence is greater at intersections with low traffic volumes and with fewer data points.

MILLER ROAD AND OSBORN ROAD

The roundabout at the intersection of Miller Road and Osborn Road was recently constructed in 2023. Sufficient time has not elapsed post construction to allow for thorough analysis of post construction data. Traffic patterns take time to normalize after a long-term closure has occurred. The newly constructed roundabout of Miller Road and Osborn Road can be seen in **Figure 19**.

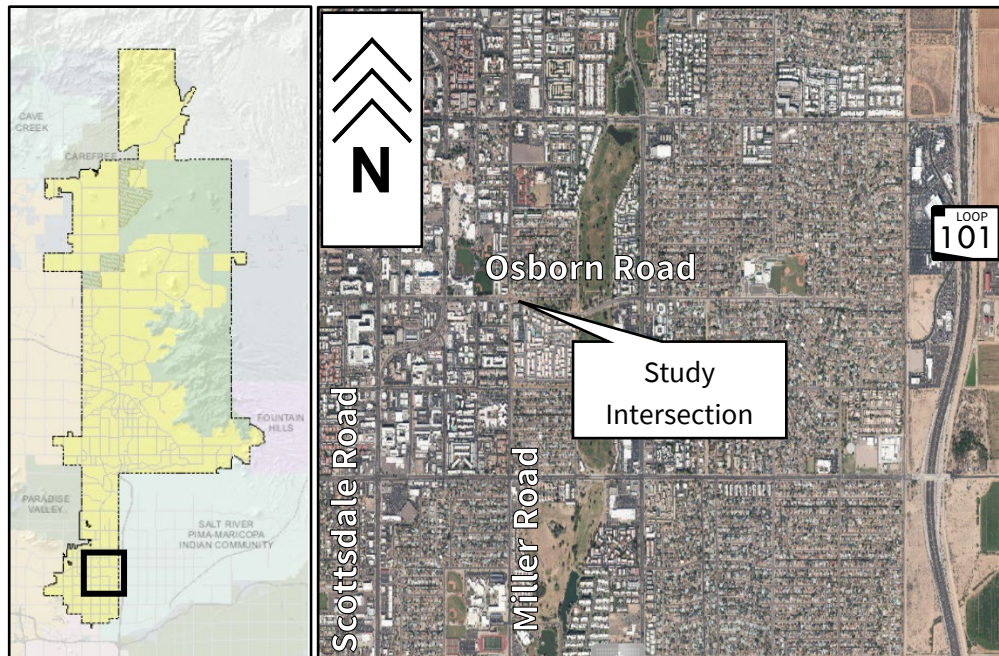


Figure 18: Hayden Road and Northsight Boulevard; Location Map

As listed under the City of Scottsdale’s *Transportation Action Plan 2022*, Miller Road is classified as a minor collector roadway; Osborn Road is classified as a major collector. The posted speed on all approaches of the intersection is 35-MPH.

The Miller Road and Osborn Road, like the Hayden Road and Northsight Boulevard intersection, is a multi-lane roundabout with two travel lanes on the eastbound approach. The right-most lane of the eastbound approach functions as a through/right-turn lane. All turning movements can be made from the left-most lane by circulating the roundabout, but it is most used to complete either a through or left-turn movement. There is one lane of approach where drivers perform all turning movements at all other approaches.



Figure 19: Miller Road and Osborn Road (2021)



Figure 20: Aerial View of Miller Road and Osborn Road (2023)

Collision data for the Miller Road and Osborn Road intersection were compiled between July 2023 and January 1997. Summaries of the compiled collision data demonstrating the change in the established metrics are shown in **Figures 21, 22, and 23**. The years of 2022 and 2023 are excluded from average calculations.

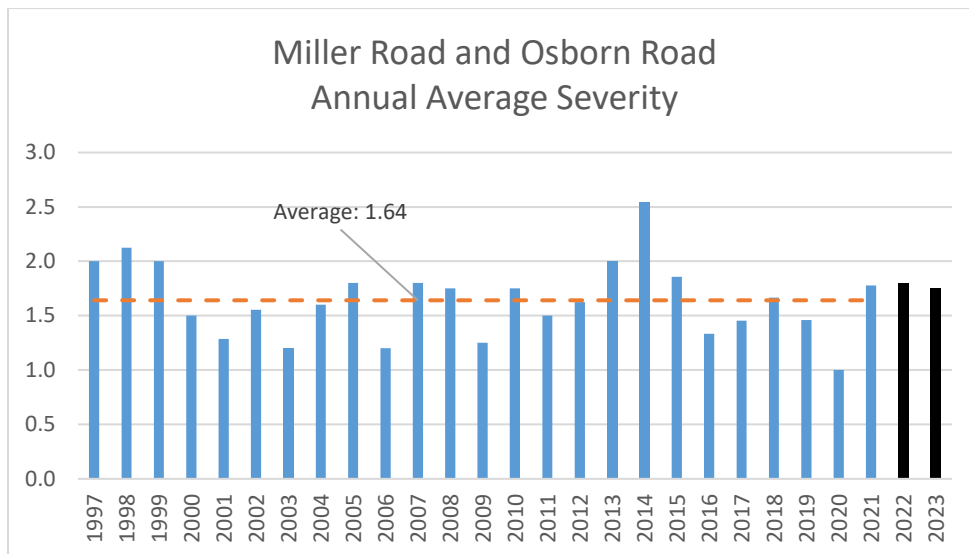


Figure 21: Miller Road and Osborn Road; Annual Average Severity

The annual average severity of collisions pre-roundabout construction is 1.64. An average value of 1.0 would indicate that no injury collisions occurred and a value 2.0 would indicate that the average collision had a minor injury. A reduction to an average annual severity of 1.26 would represent a sixty percent (60%) reduction that similar to what is present at Hayden Road and Northsight Boulevard.

The number of collisions experienced at the intersection has been, on average, 7.4 collisions per year. Note that 2022 and 2023 collisions are not representative of post-roundabout collisions as both years involved construction and 2023 data is incomplete. The number of collisions at the intersection are shown in **Figure 22**.

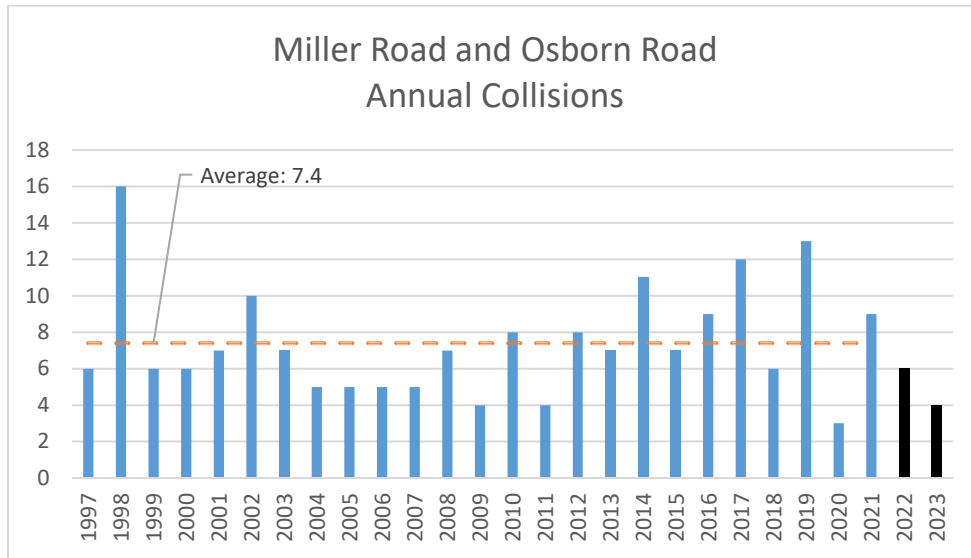


Figure 22: Miller Road and Osborn Road; Annual Collisions

The annual percentage of collisions with an injury is thirty-three percent (33%) as shown in **Figure 23**. Note that years 2000, 2006, 2014, 2017, and 2018 did not have any collisions.

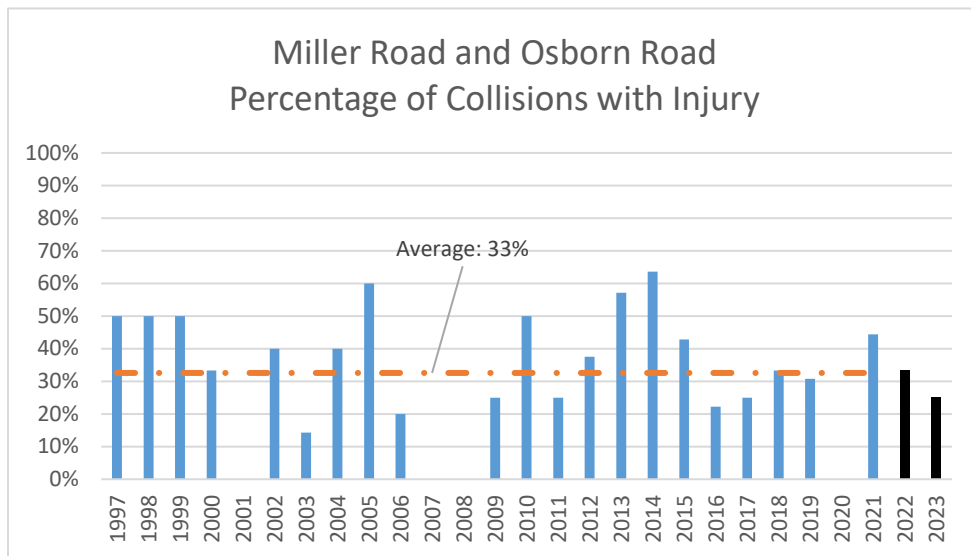


Figure 23: Miller Road and Osborn Road, Annual Percentage of Collisions with Injury

The combination of the average annual collisions, and annual percent of collisions with injury, can be combined to calculate the expected total number of injuries pre and post roundabout construction. The number of expected injuries based on pre-roundabout data is 2.4 per annum.

Table 8: Miller Road and Osborn Road; Expected Annual Injuries

Time Period	Average Collisions	Percentage w/ Injury	Expected Annual Injuries
Pre-Roundabout	7.4	33%	2.4

Traffic volumes at the intersection of Miller Road and Osborn Road have generally gradually declined over the course of the data collection period of 2002 to the most recent data collection effort at the intersection in August 2021. In 2002 the ADT at the intersection was 39,100 and in 2021 the ADT was determined to be 20,200. Note that despite a gradual decline in traffic volumes, the number of collisions was generally greater in recent years.

Table 9: Miller Road and Osborn Road; Traffic Volume

Year	2002	2004	2006	2008	2010	2012	2014	2016	2018	2020	2022
AADT	39,100	29,300	27,200	27,500	24,300	23,000	22,500	25,600	24,300	20,200	20,200

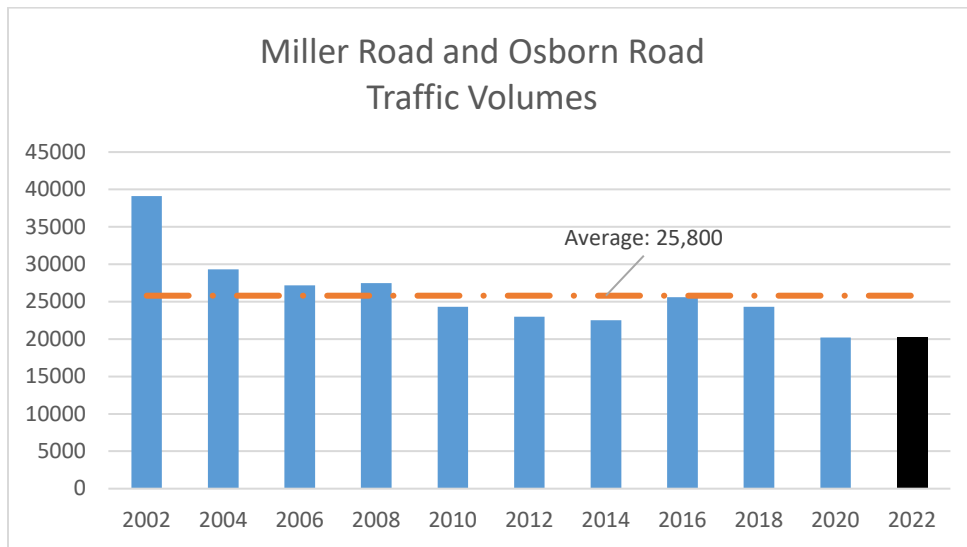
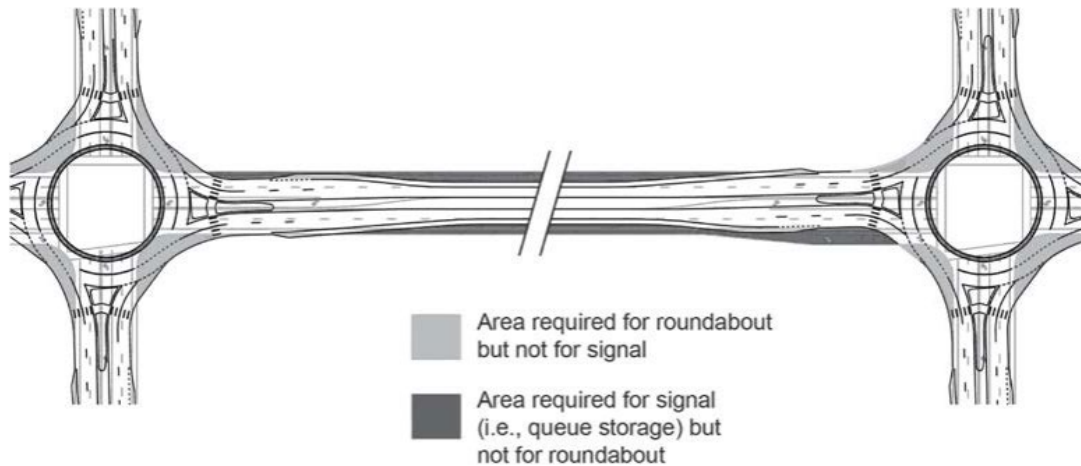


Figure 22: Miller Road and Osborn Road; Traffic Volume

COST CONSIDERATIONS

The cost to install a roundabout compared to a traffic signal varies based on site conditions. The specific right-of-way requirements for a roundabout can differ between intersections based on specific travel patterns and lane configurations and whether the roundabout is a retrofit of an existing intersection or a new construction. Traffic signals may also have specific right-of-way requirements determined by the number of through lanes on each approach, whether any turn lanes are required based on existing or projected traffic volumes, and what type of queuing storage is necessary. An example of different land area requirements for roundabouts and signals is shown in **Figure 18**.



SOURCE: NCHRP Report 672 (1).

Figure 22: Land Area Requirements Roundabout vs Signal

Construction costs vary based on existing site conditions and project goals, but new traffic signals generally cost around \$500,000 and new roundabouts can range between \$3,500,000 to \$4,000,000. These construction cost estimates do not incorporate right-of-way acquisition considerations which can greatly influence the total cost of a project.

Roundabouts have additional maintenance benefits as they do not require the electricity, maintenance, or various other forms of upkeep that traffic signals require. These maintenance costs can make roundabouts substantially cheaper over the lifespan of the roundabout.

CONCLUSION

Scottsdale's roundabout first policy, adopted in the City's *Transportation Action Plan*, has led to the construction of modern roundabouts in various locations throughout the City. Federal data, sourced from a variety of studies performed, suggests that roundabouts are a safer alternative to all-way stops and traffic signals. Roundabouts feature geometric considerations in their design that limit vehicle conflict points and vehicle speed resulting in safer traversal of the intersection.

In Scottsdale, multi-lane roundabouts have been shown to reduce collision severity by as much as sixty-six percent (66%) which is in line with studies conducted nationally. When looking at multi-lane roundabouts influence on the number of collisions and collision severity in Scottsdale, roundabouts are shown to be safer or as safe as the previously existing intersection based on the expected number of annual injuries.

Staff will continue to review roundabout performance of recently constructed roundabouts at Redfield Road & 76th Place and Miller Road & Osborn Road. There are four (4) additional multi-lane roundabouts planned for construction at Scottsdale Road and Dynamite Boulevard, Raintree Drive and Northsight Boulevard, Hayden Road and Raintree Boulevard, and 73rd Street and Mayo Boulevard. These recently constructed roundabouts may provide additional data for further evaluating roundabout performance in the City of Scottsdale.



Transportation Commission

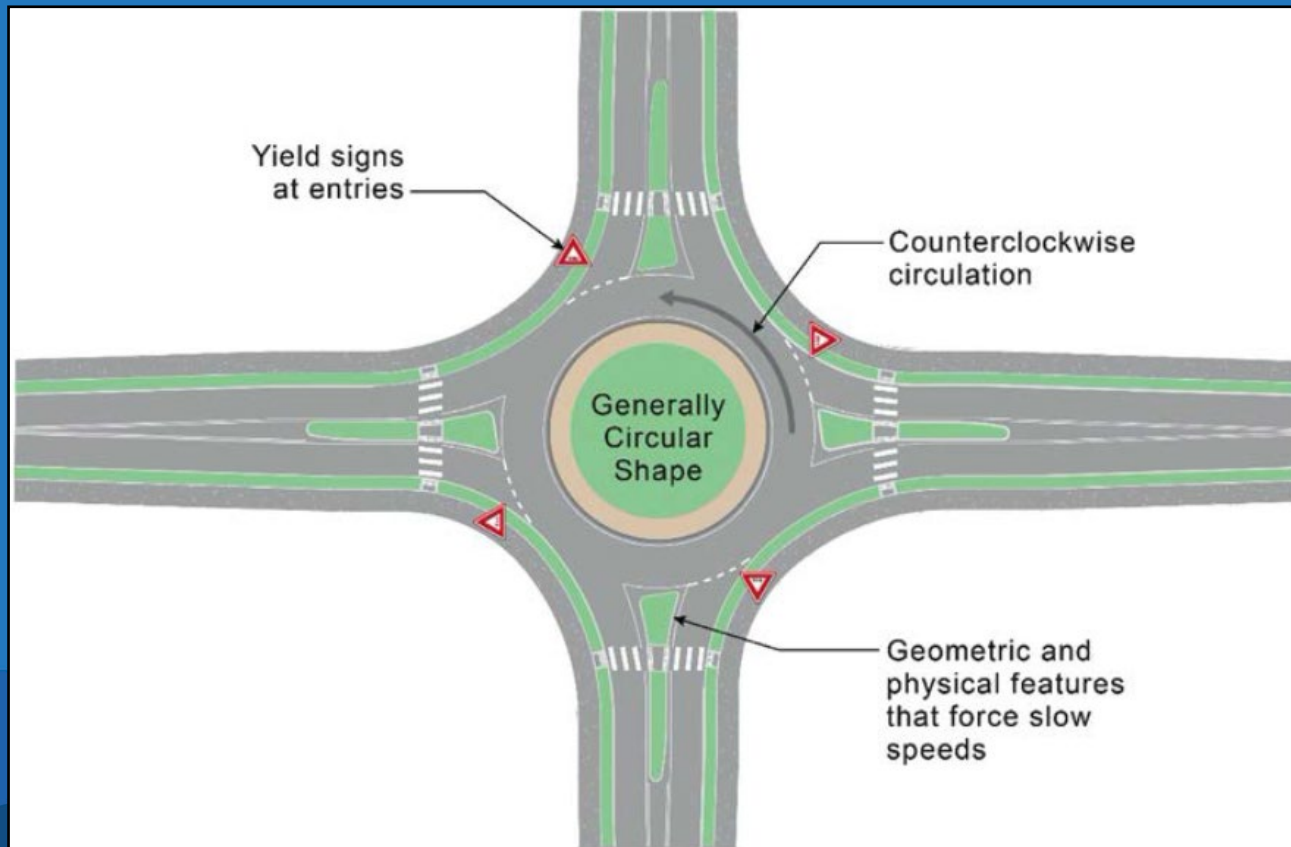
Roundabout Education

DATE: September 21, 2023

Agenda

- Roundabout Characteristics
- National Safety Information
- Cost Considerations
- Roundabouts in Scottsdale
- Scottsdale Roundabout Collision Data
 - Hayden Road and Northsight Boulevard
 - 90th Street at the Mustang Library
 - Single Lane Roundabouts
 - Miller Road and Osborn Road pre-roundabout

Roundabout Characteristics



- Generally circular shape
- Yield signs at entries
- Counterclockwise direction
- Geometric and physical features that force slow speeds

Roundabout Characteristics

Roundabouts come in various sizes and lane configurations



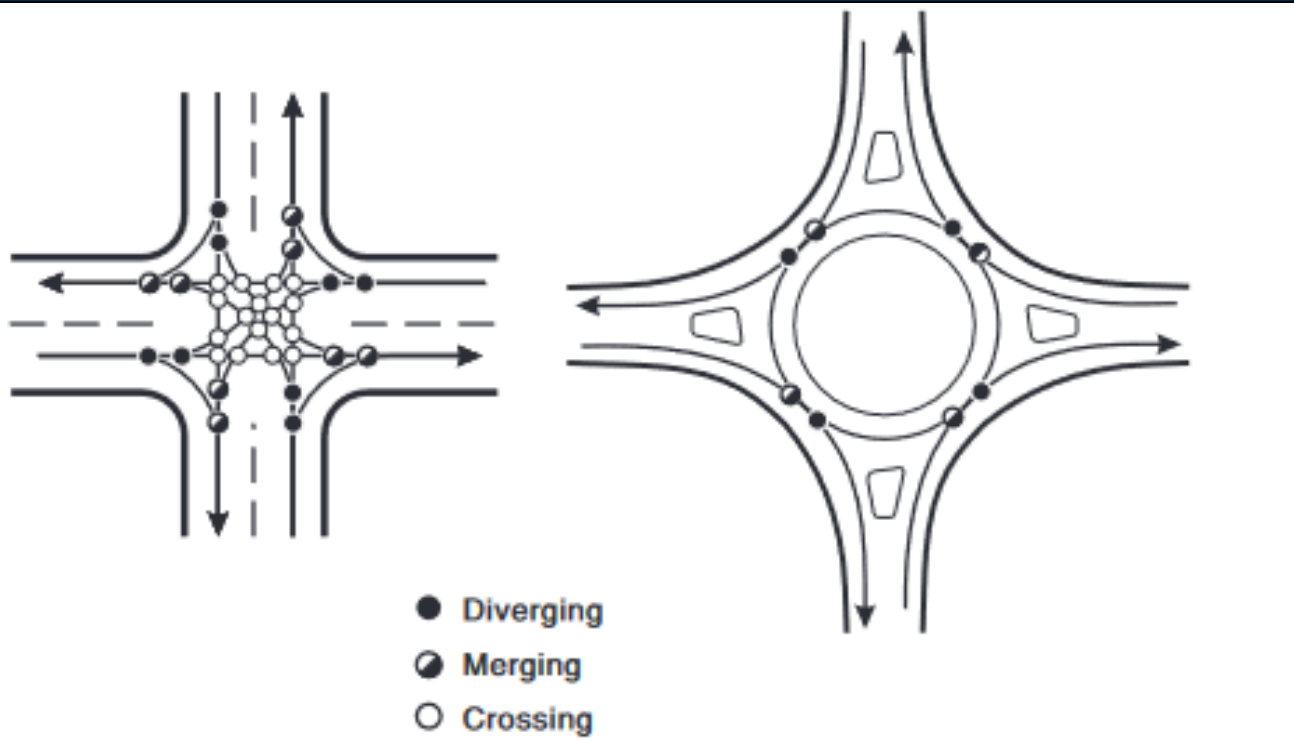
National Safety Information

FHWA Proven Safety Countermeasures



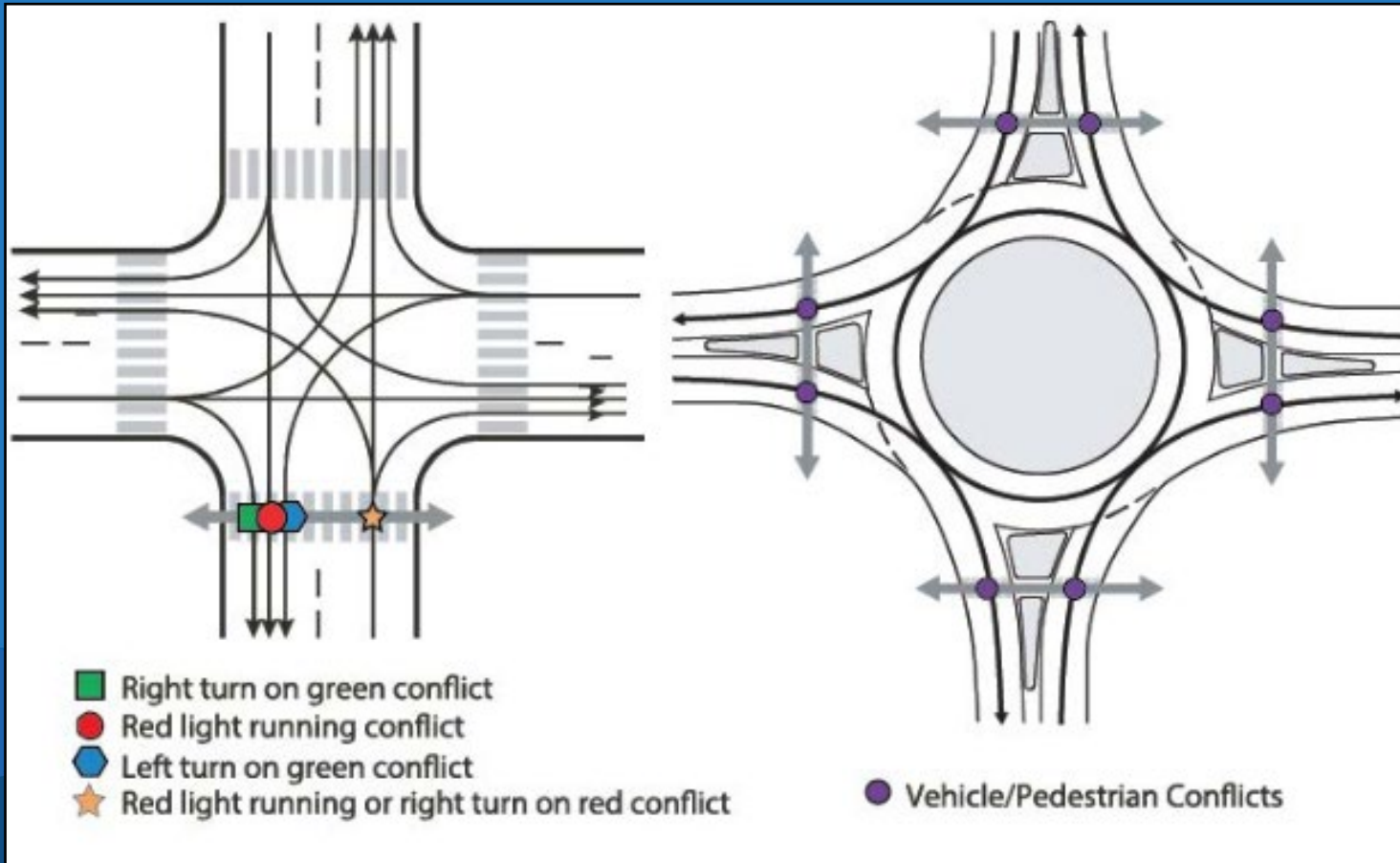
- One of 28 PSC's that reduce roadway fatalities and serious injuries
- FHWA cites an 82% reduction in fatal and injury collisions compared to AWS
- 78% reduction in fatal and injury collisions compared to signalized intersection

National Safety Information



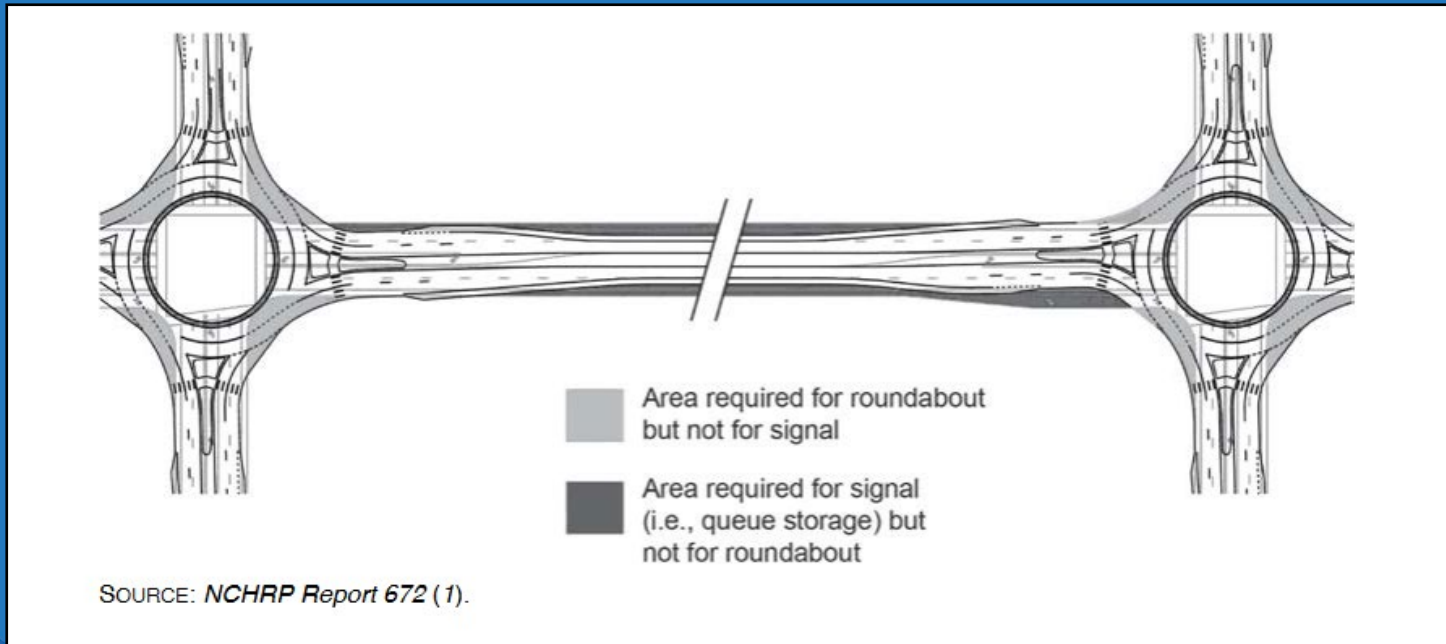
- Reduces conflict points compared to conventional intersection from 32 to 8
- Removes all crossing conflicts which are often tied to red light running, left-turns, and head-on collisions
- Remaining conflicts occur at low speed resulting in less severe collisions

National Safety Information



- Reduces pedestrian-vehicle conflict points by 50%
- Setback crossings reduce crossing distances and allow for staged crossings across one direction at a time
- Separates driver decision making in the roundabout and at pedestrian crossing locations

Cost Considerations



- Total cost varies based on site conditions and project goals
- Signals and roundabouts have different ROW needs that can affect project cost
- Construction costs for roundabouts generally range between \$3.5 and \$4 million and signals around \$500,000

Roundabouts in Scottsdale

- 22 intersections with right-of way control via roundabout
- Oldest roundabout in operation since 1986
- Newest roundabout at Miller and Osborn opened in 2023

Lane Configuration	North/South Street	East/West Street	Construction Year	Construction
Multi-lane	Princess Boulevard	Princess Drive	1986	DEV
Single-lane	64 th Street	Lafayette Boulevard	2000	COS
Single-lane	70 th Street	Chaparral Road	2000	COS
Single-lane	70 th Street	Oak Street	2003	COS
Single-lane	74 th Street	Sweetwater Boulevard	2003	COS
Single-lane	96 th Street	Sweetwater Boulevard	2005	COS
Single-lane	104 th Street	Cholla Street	2005	COS
Single-lane	94 th Street	Union Hills Boulevard	2006	COS
Single-lane	96 th Street	Cholla Street	2006	COS
Single-lane	124 th Street	Columbine Drive	2006	COS
Single-lane	100 th Street	Cactus Road	2008	COS
Single-lane	104 th Street	Cactus Road	2008	COS
Single-lane	108 th Street	Cactus Road	2008	COS
Multi-lane	Hayden Road	Northsight Boulevard	2013	COS
Single-lane	68 th Street	Cholla Street	2014	COS
Single-lane	60 th Street	Dove Valley Road	2015	DEV
Single-lane	124 th Street	Cactus Road	2015	COS
Multi-lane	90 th Street	Mustang Library	2017	COS
Single-lane	118 th Street	Rio Verde	2018	DEV
Single-lane	122 nd Street	Rio Verde	2018	DEV
Single-lane	76 th Place	Redfield Road	2022	COS
Multi-lane	Miller Road	Osborn Road	2023	COS

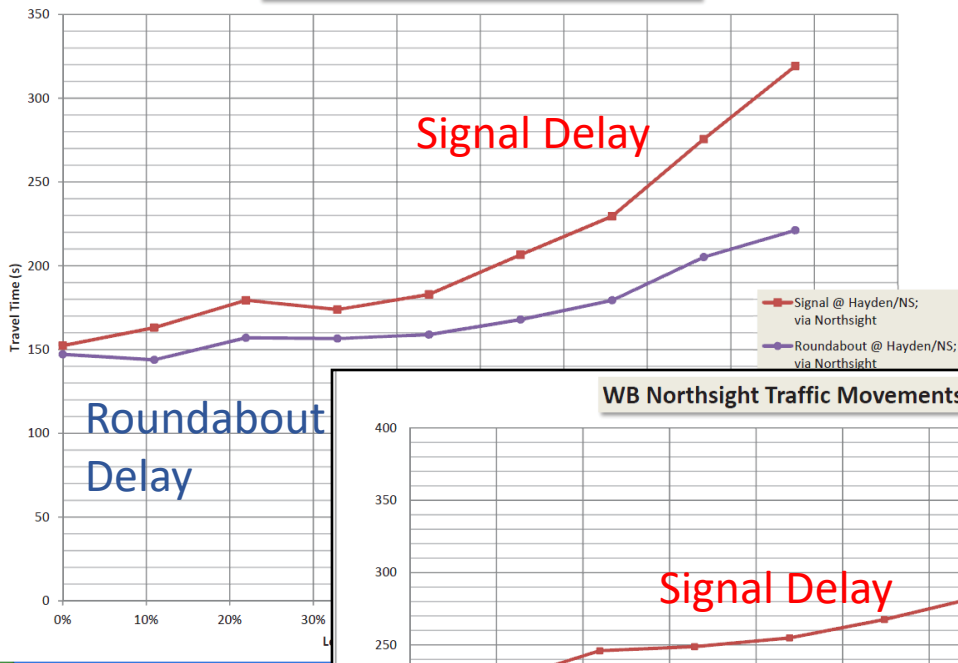
Roundabouts in Scottsdale

Lane Configuration	North/South Street	East/West Street	Construction
Multi-lane	Scottsdale Road	Dynamite Boulevard	COS
Multi-lane	Raintree Drive	Northsight Boulevard	COS
Multi-lane	Hayden Road	Raintree Boulevard	COS
Multi-lane	73 rd Street	Mayo Boulevard	DEV

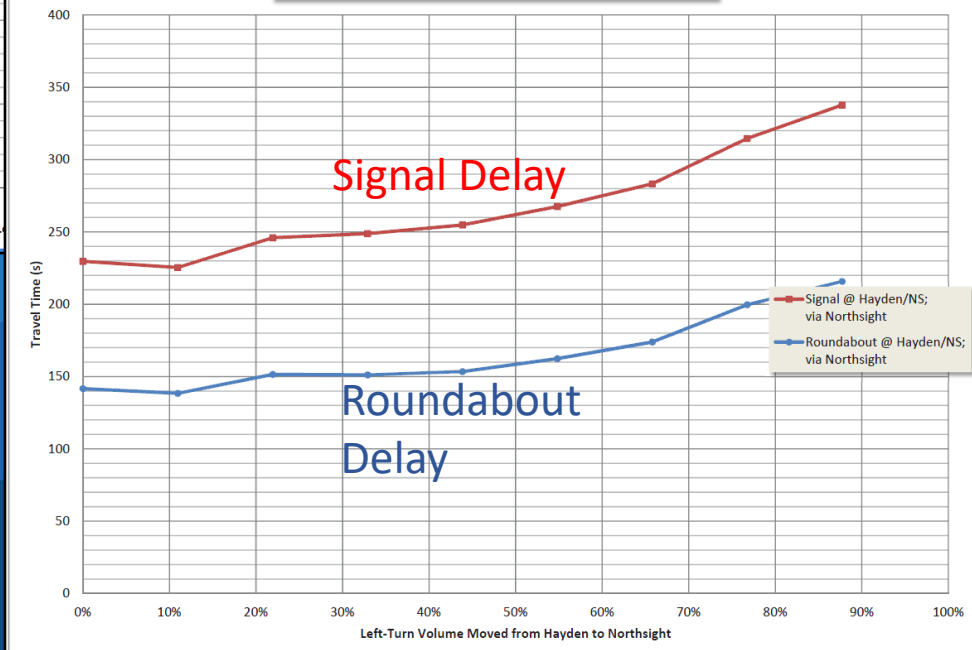
More roundabouts are in the planning or construction process

Roundabout Evaluation

NB Hayden Left Turn Movements, A to B



WB Northsight Traffic Movements, D to B



- Roundabout performance characterized by both LOS and collision experience
- LOS analysis requires detailed microsimulation or extensive data collection and was not evaluated as part of this process
- LOS analysis is performed with new roundabout intersections, historical analysis shows roundabouts can reduce delay

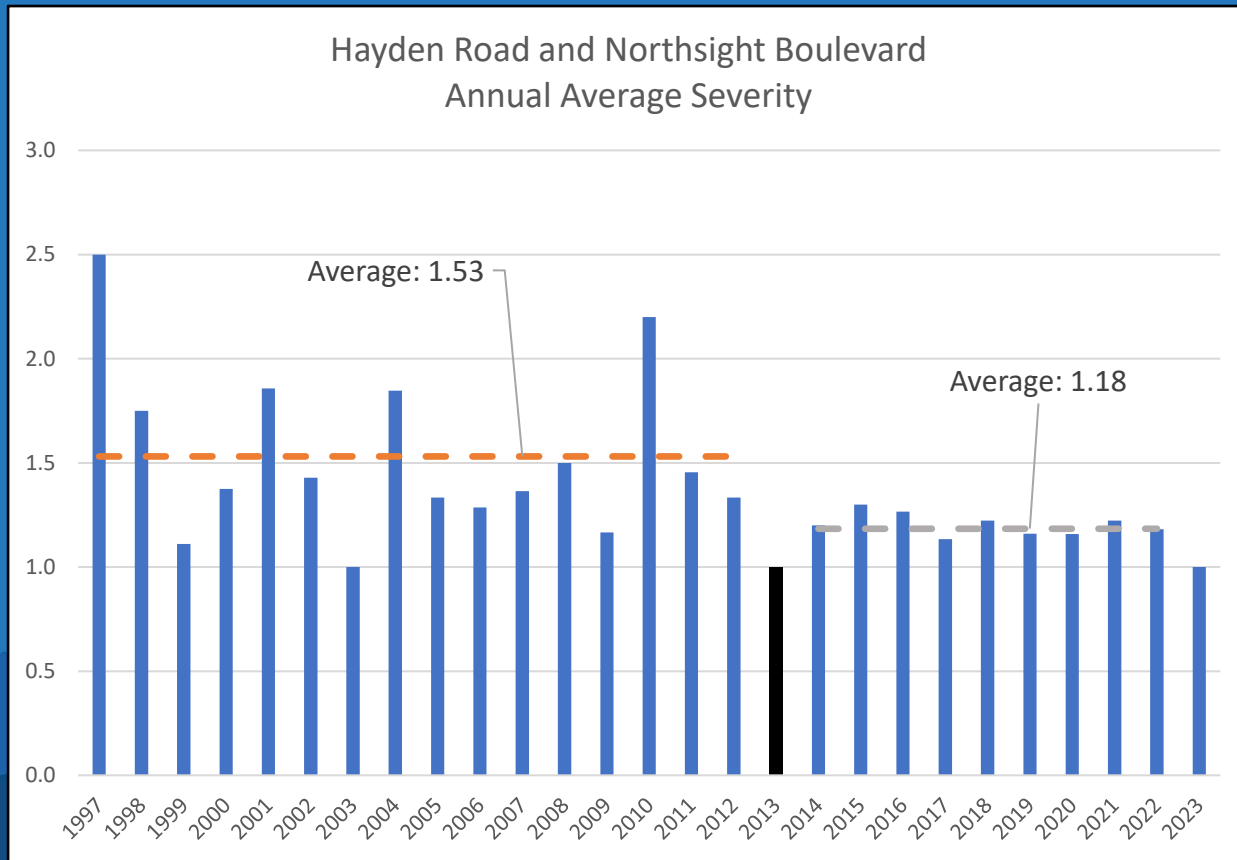
Hayden Road and Northsight Boulevard



Hayden Road and Northsight Boulevard

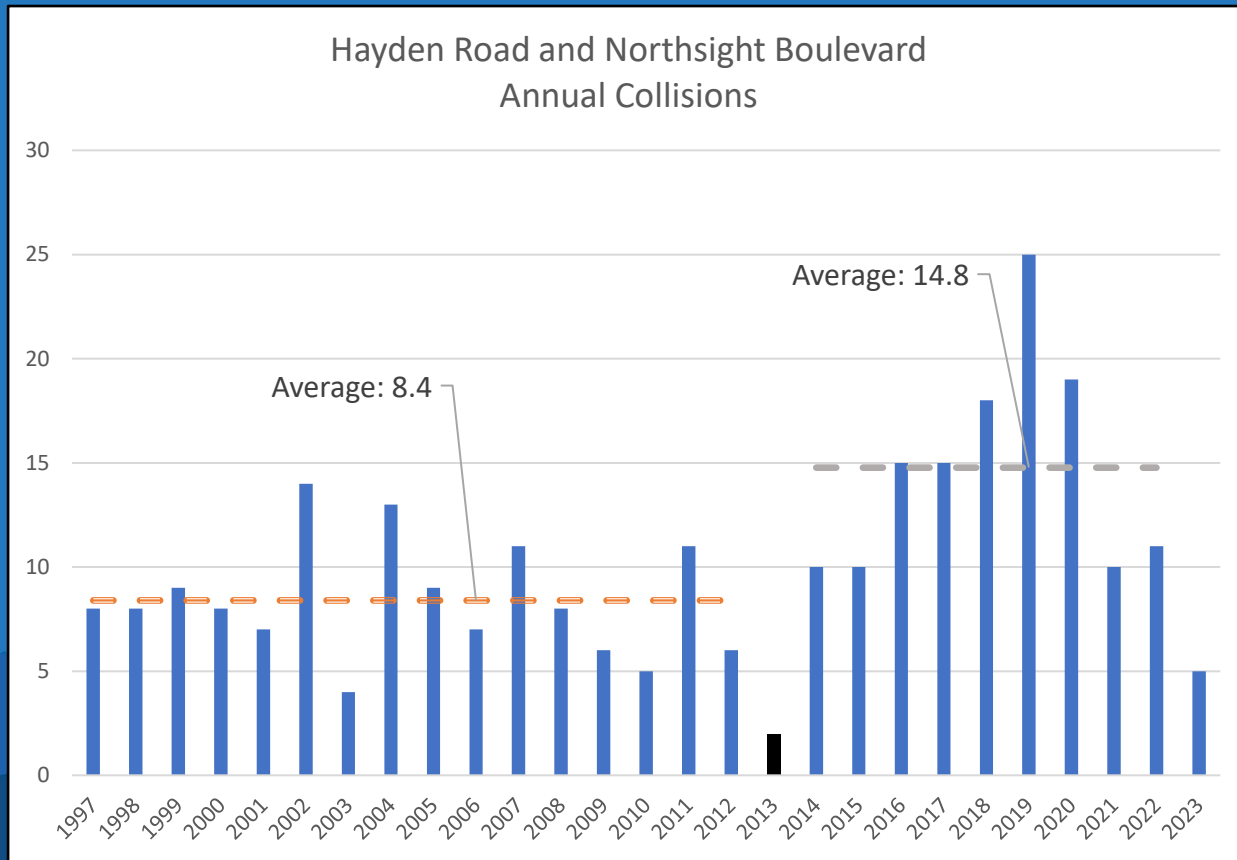


Hayden Road and Northsight Boulevard



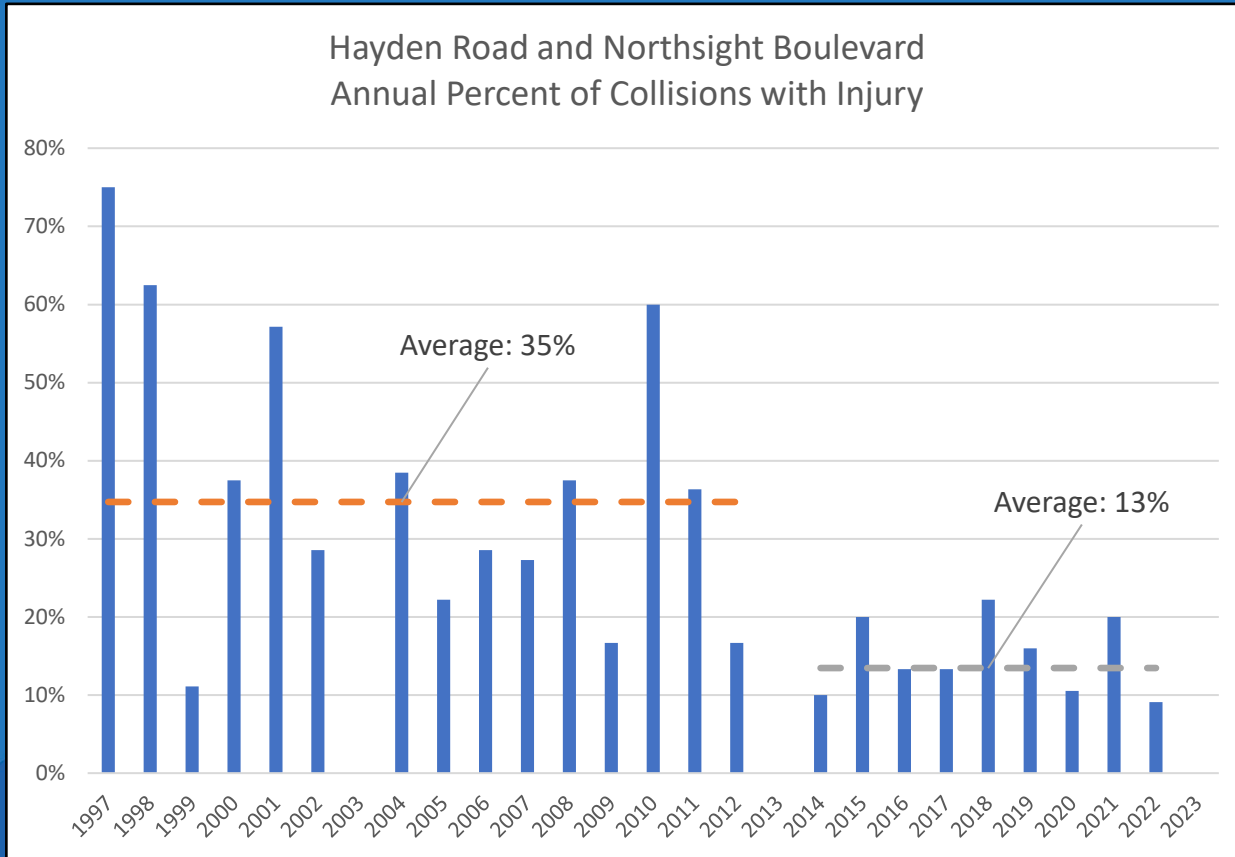
60% reduction in average collision severity post roundabout construction

Hayden Road and Northsight Boulevard



Annual number of collisions increased from 8.4 to 14.8 but recent years may indicate an improvement

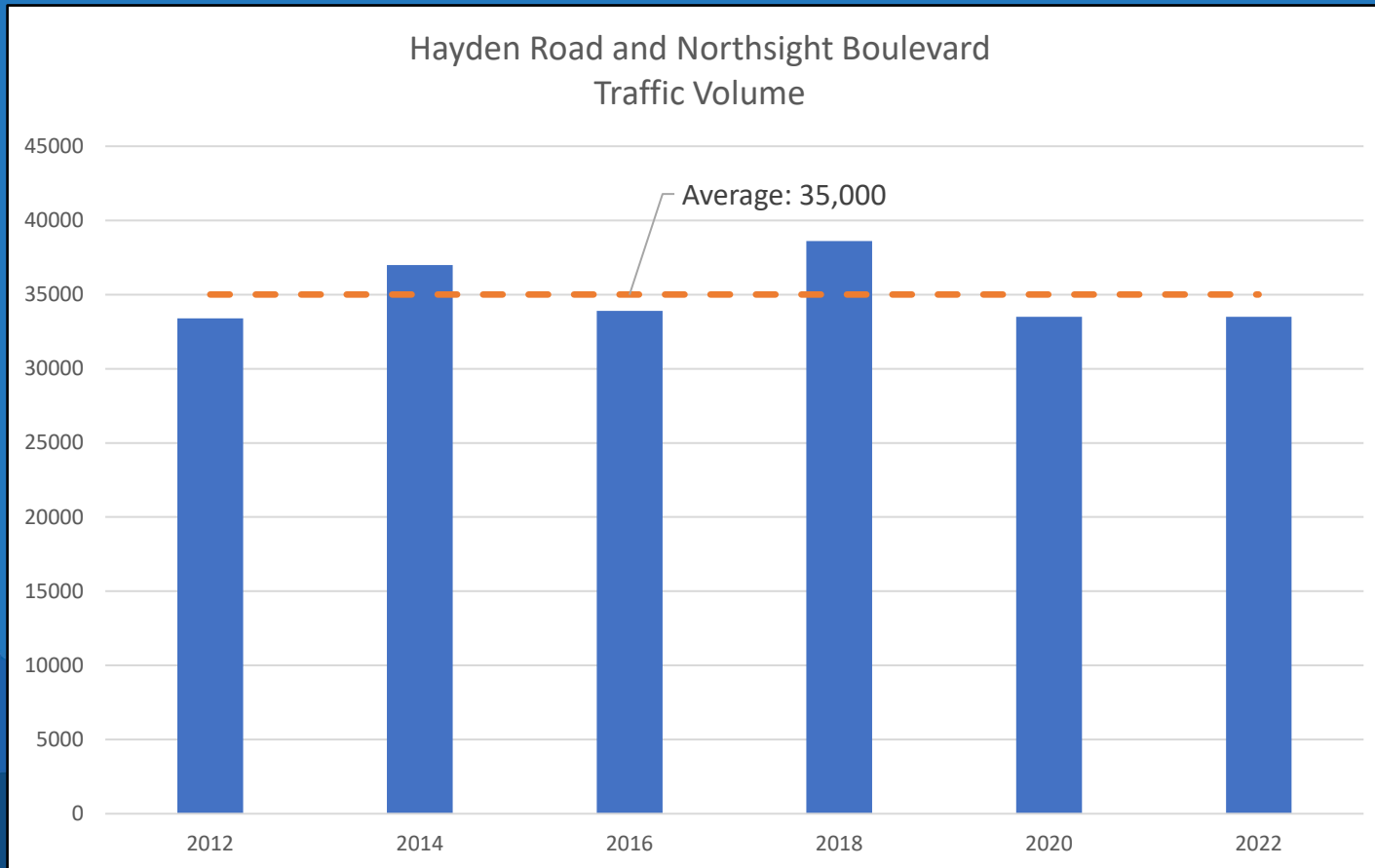
Hayden Road and Northsight Boulevard



- 62% decrease in percentage of collisions involving injury
- Overall injuries at intersection reduced by 34%

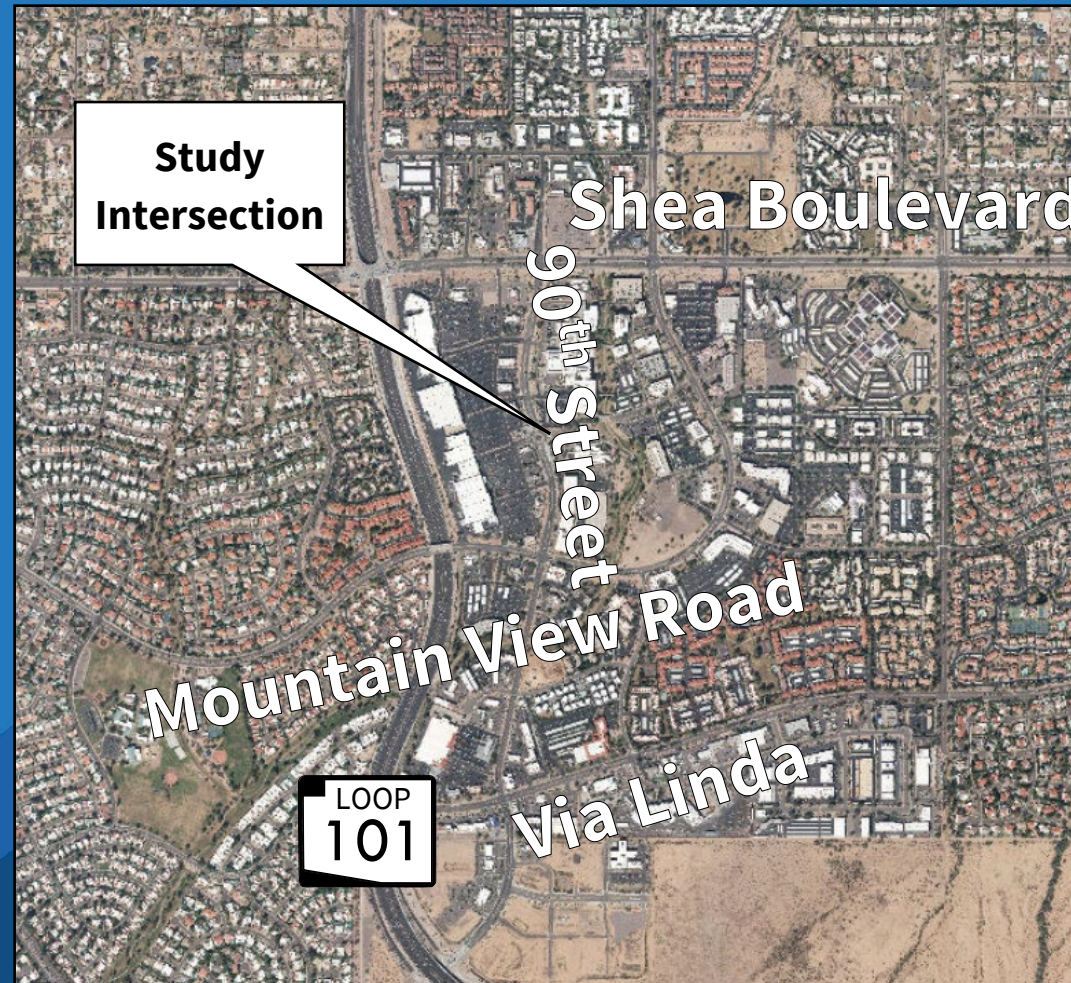
Time Period	Average Collisions	Percentage w/ Injury	Expected Annual Injuries
Pre-Roundabout	8.4	35%	2.9
Post-Roundabout	14.8	13%	1.9

Hayden Road and Northsight Boulevard



Volumes have remained stagnant since construction of roundabout

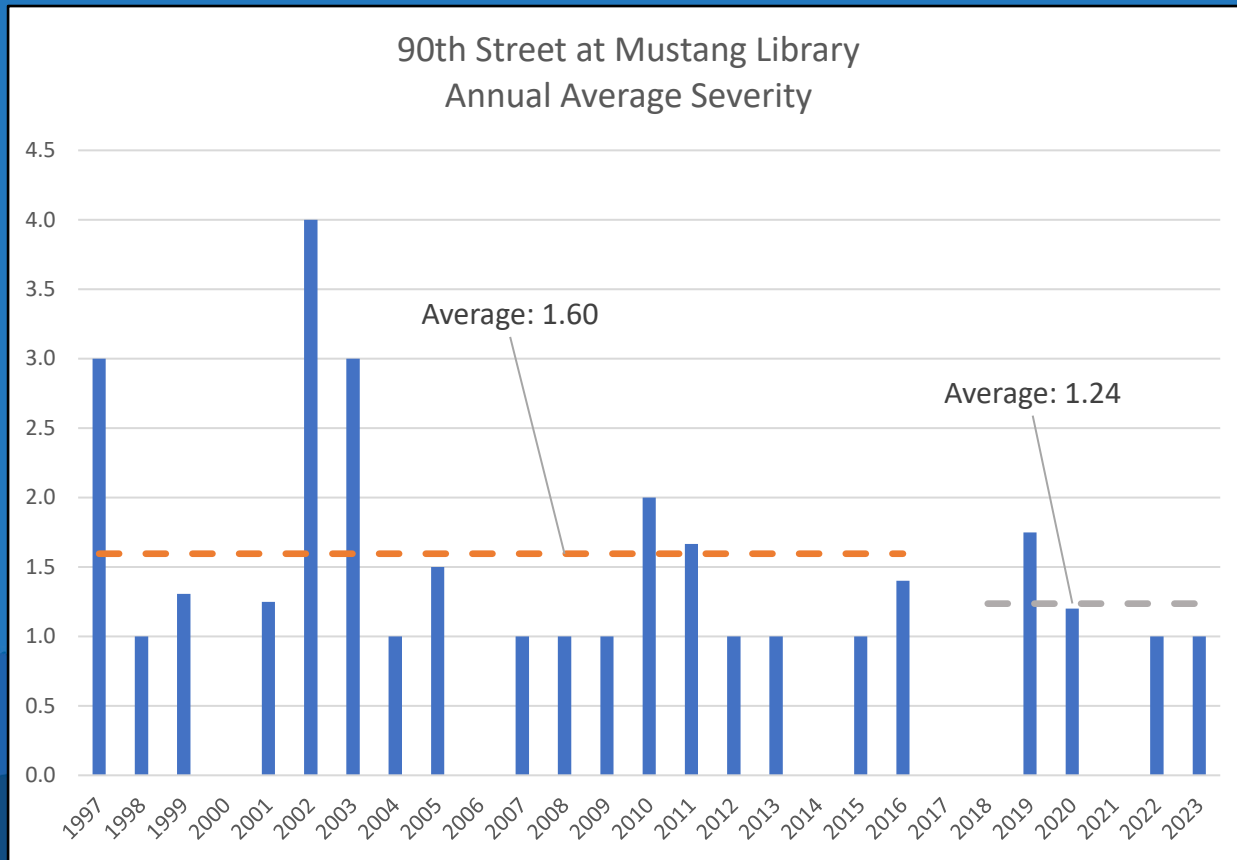
90th Street at the Mustang Library



90th Street at the Mustang Library

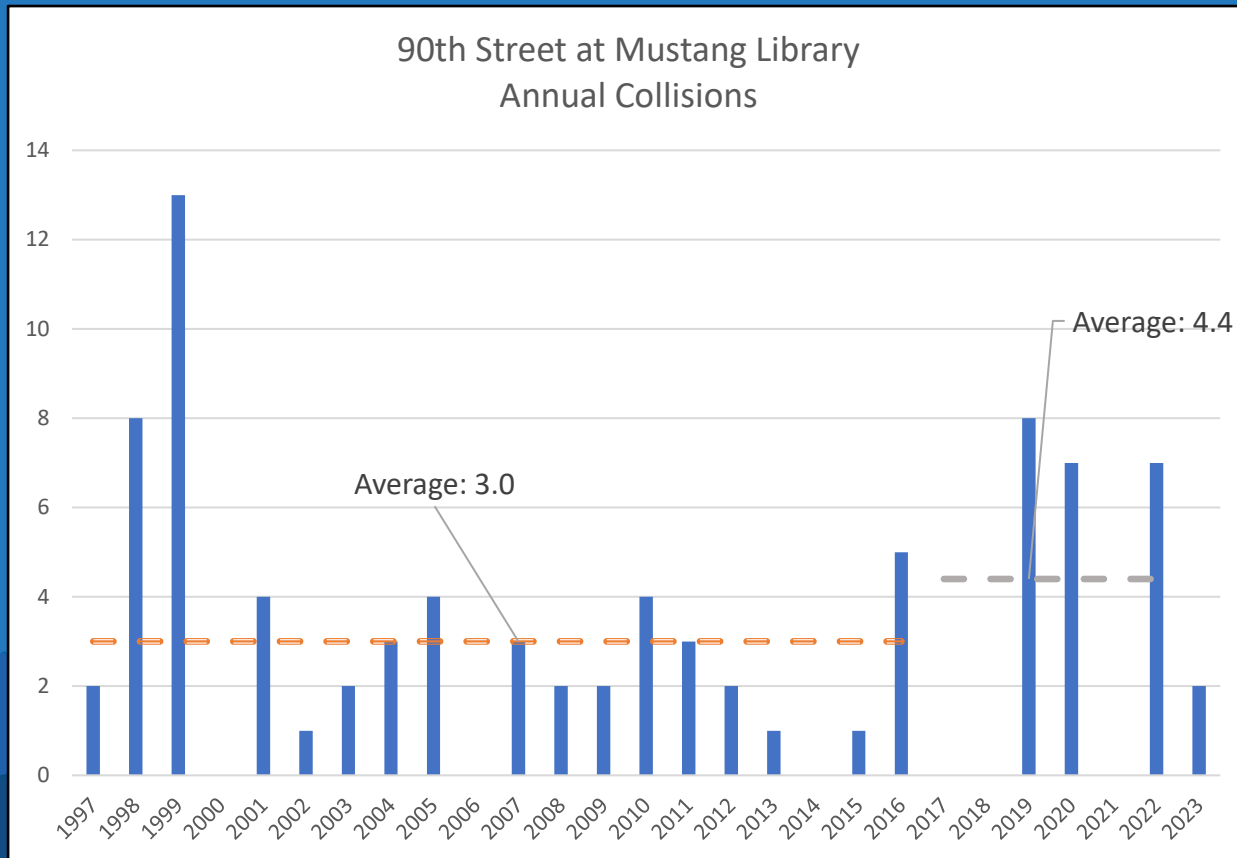


90th Street at the Mustang Library



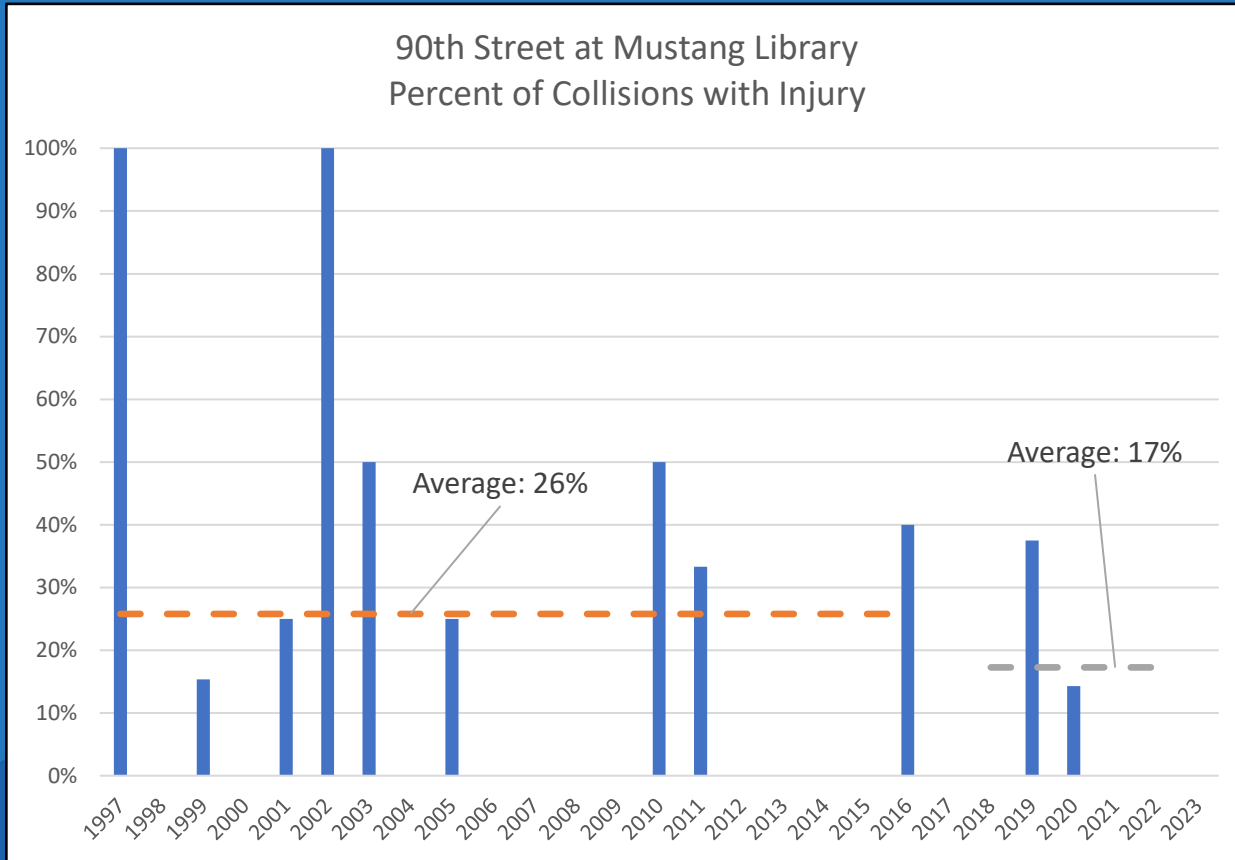
60% reduction in average collision severity post roundabout construction

90th Street at the Mustang Library



Annual number of collisions increased from 3.0 to 4.4

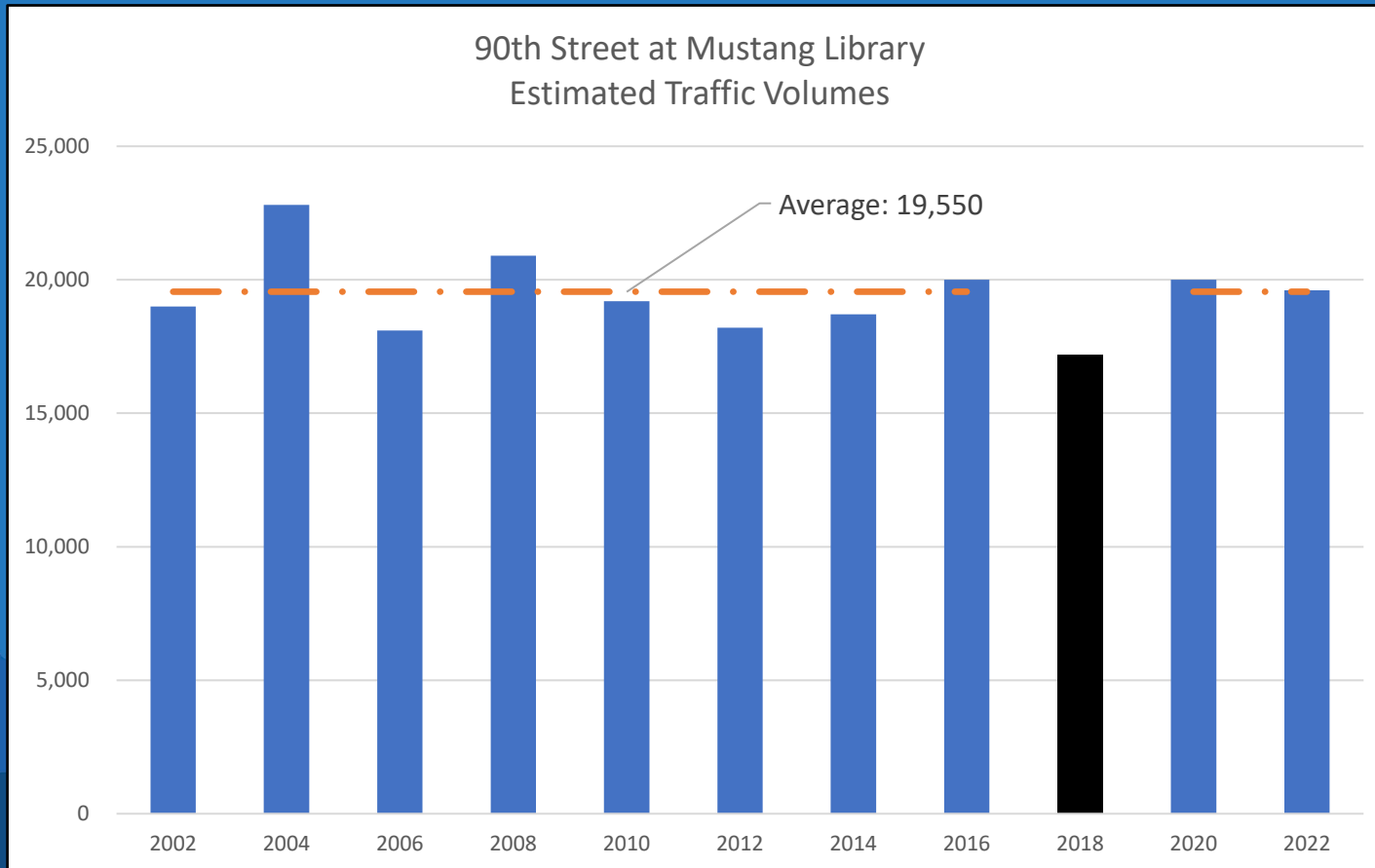
90th Street at the Mustang Library



- 34% decrease in percentage of collisions involving injury
- Overall injuries at intersection remained similar

Time Period	Average Collisions	Percentage w/ Injury	Expected Annual Injuries
Pre-Roundabout	3.0	26%	.78
Post-Roundabout	4.4	17%	.75

90th Street at the Mustang Library



- Volumes have remained consistent since construction of roundabout in 2017
- 2018 volumes excluded from average value

Single Lane Roundabouts

Roundabout Location	Construction Year	Collisions Per Year Pre	Collisions Per Year Post	Mean Severity Pre	Mean Severity Post
64th Street & Lafayette Boulevard	2000	1.30	0.22	1.50	2.00
70th Street & Chaparral Boulevard	2000	0.70	0.10	1.50	1.50
70th Street & Oak Street	2003	0.70	0.60	1.00	2.31
74th Street & Sweetwater Avenue	2003	0.00	0.20	N/A	1.33
104th Street & Cholla Street	2005	0.50	0.47	2.00	1.25
94th Street & Union Hills	2006	0.00	0.10	N/A	2.00
96th Street & Cholla Street	2006	0.30	0.90	2.00	1.92
124th Street & Columbine Drive	2006	0.00	0.60	N/A	1.00
100th Street & Cactus Road	2008	0.50	2.50	1.33	2.04
104th Street & Cactus Road	2008	2.10	1.43	1.54	1.85
108th Street & Cactus Road	2008	0.70	0.18	1.33	1.50
68th Street & Cholla Street	2014	0.30	0.10	2.67	N/A
60th Street & Dove Valley Road	2015	0.20	0.30	1.00	1.00
124th Street & Cactus Road	2015	0.00	0.06	0.00	1.00
118th Street & Rio Verde	2018	0.30	3.00	1.83	1.79
122nd Street & Rio Verde	2018	0.80	1.00	2.08	1.58
76th Place & Redfield Road	2022	3.90	N/A	1.47	N/A

- High amount of variance due to low number of data points
- Most single lane roundabouts experience less than one collision per year

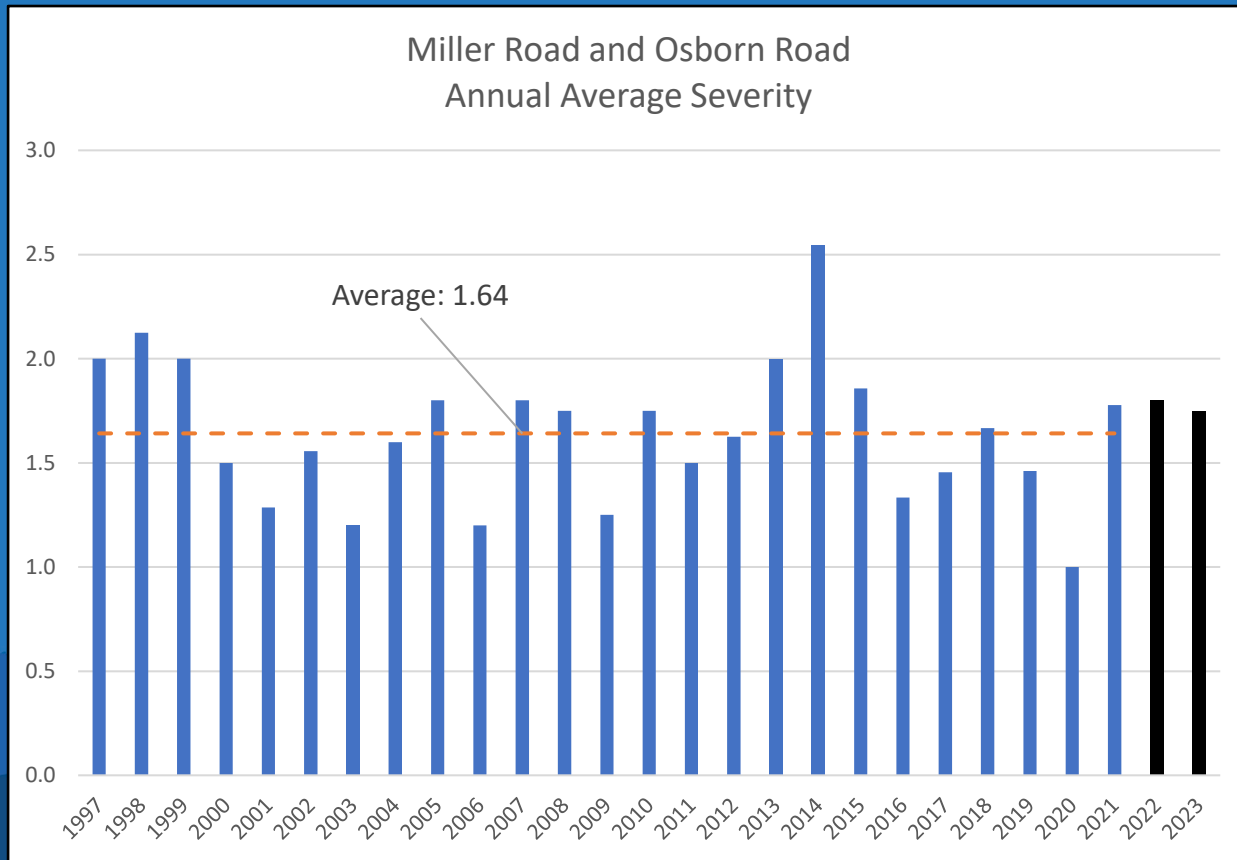
Miller Road and Osborn Road



Miller Road and Osborn Road

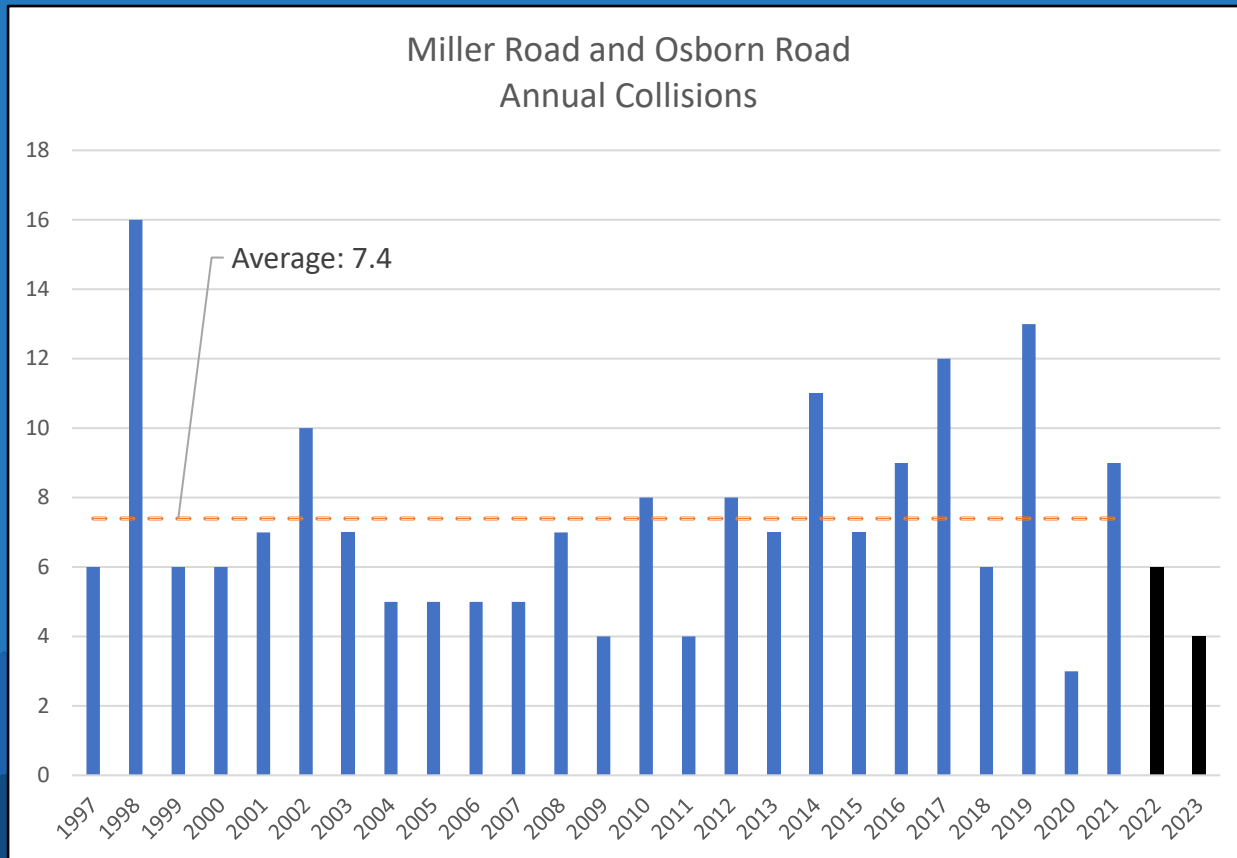


Miller Road and Osborn Road



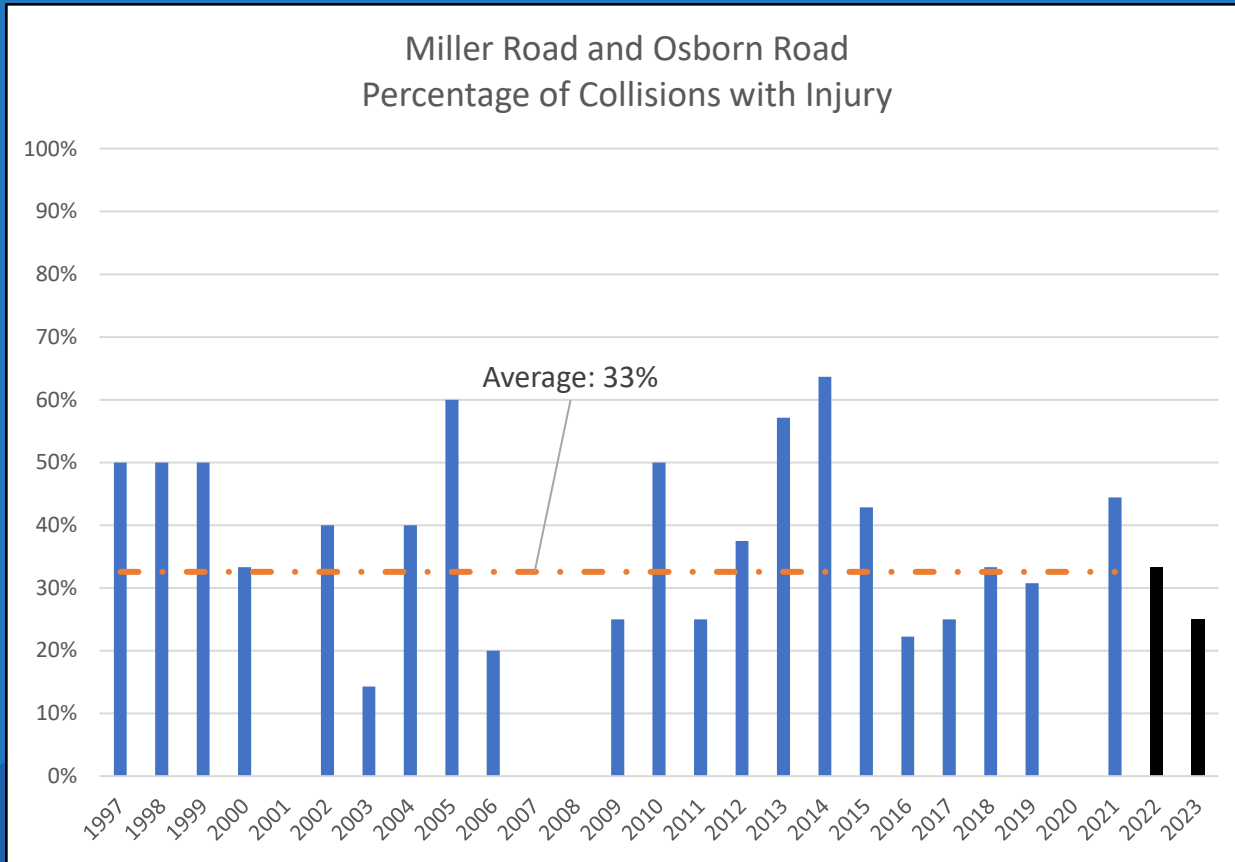
An average annual severity of 1.24 would mean a 60% reduction in a severity

Miller Road and Osborn Road



Based on multi-lane roundabout data, the number of collisions may increase

Miller Road and Osborn Road

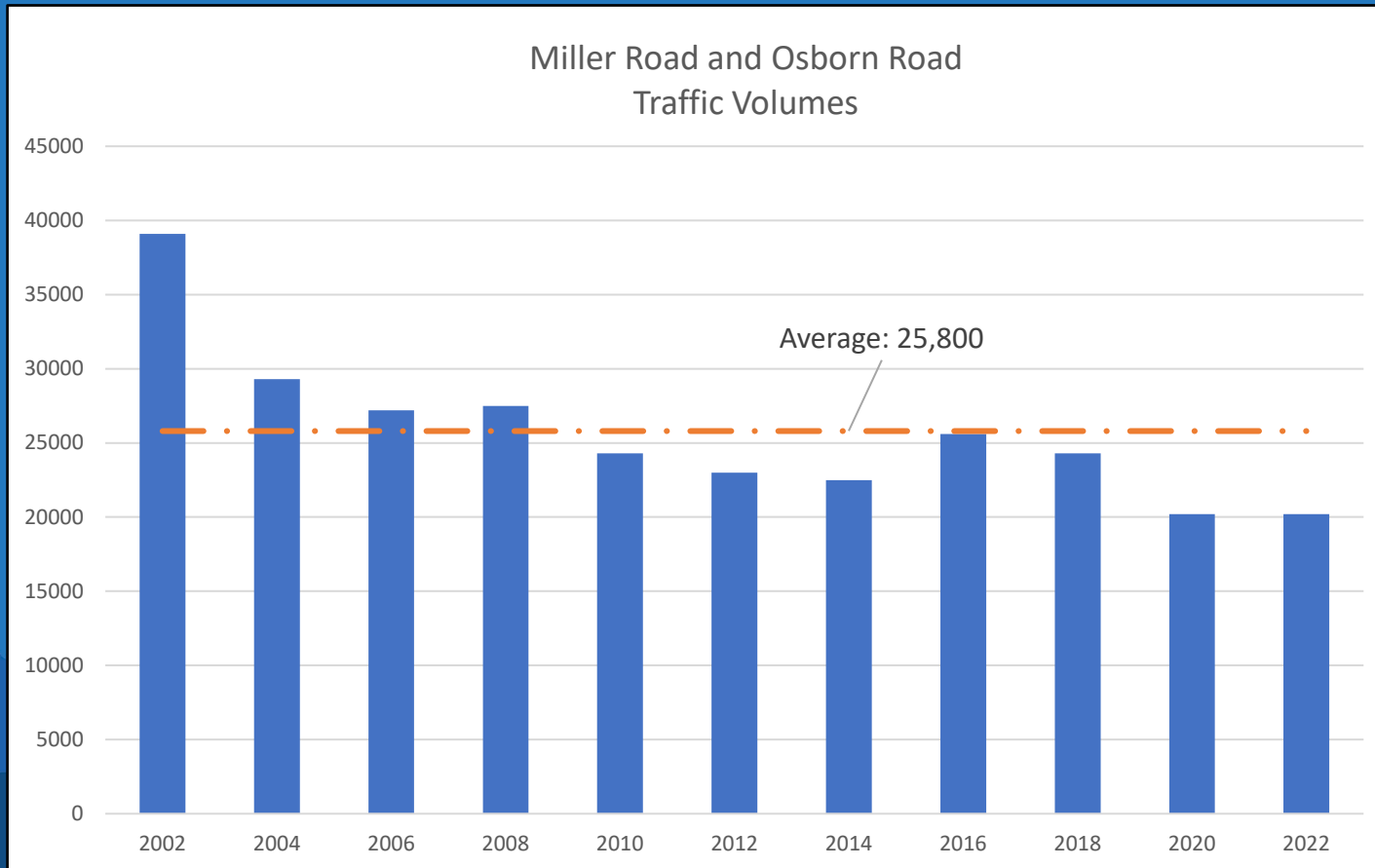


Average percentage of collisions with injury is close to Hayden Road and Northsight Boulevard pre-roundabout

Time Period	Average Collisions	Percentage w/ Injury	Expected Annual Injuries
Pre-Roundabout	7.4	33%	2.4



Miller Road and Osborn Road



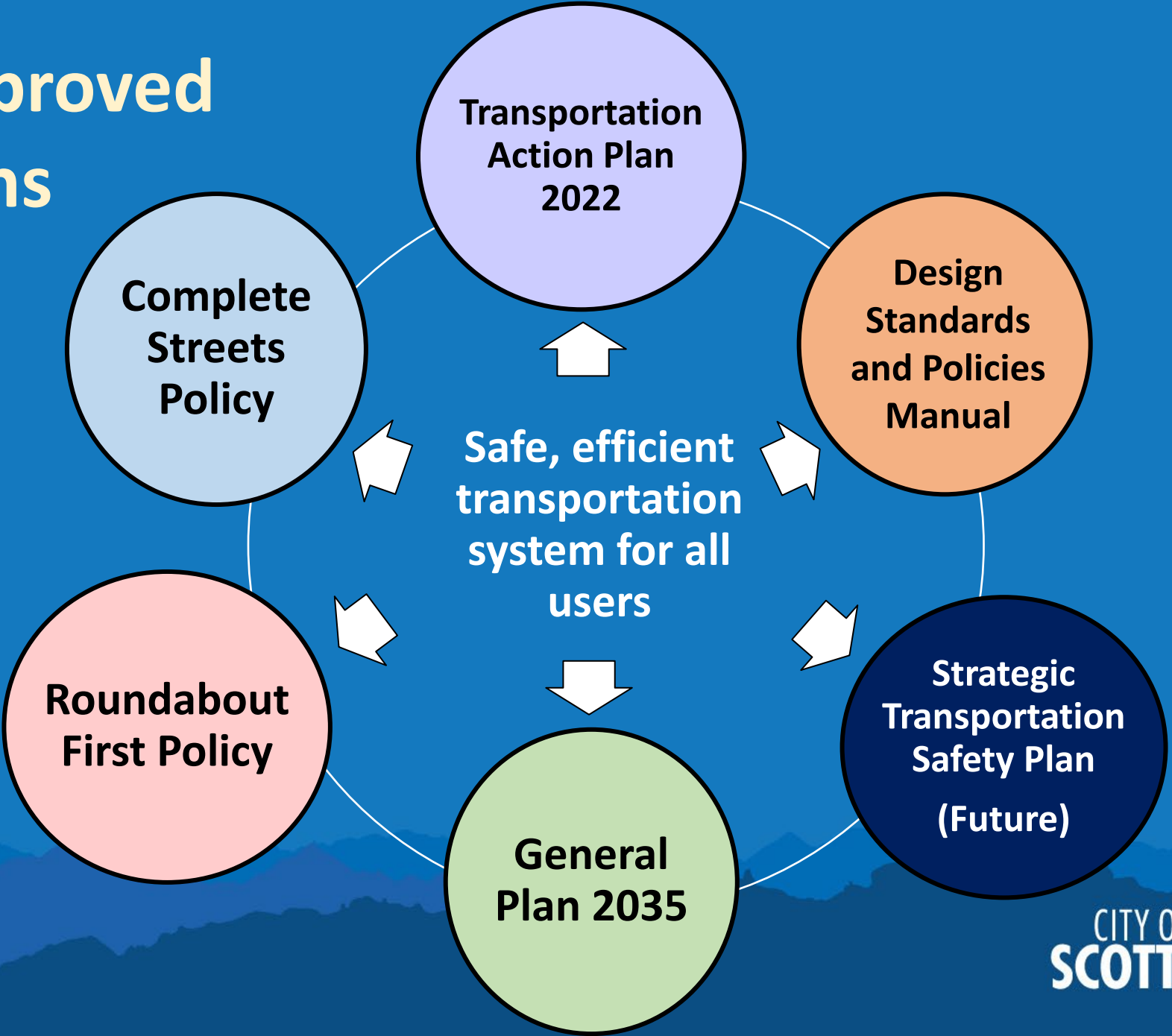
Traffic volumes have declined over the evaluation period

Questions ?

Projects and Programs Update

Transportation Commission
September 21, 2023

Guided by Approved Policies & Plans



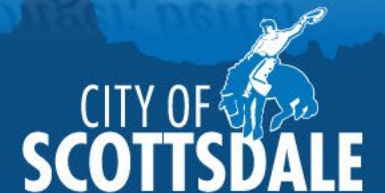
Active Transportation
1 of 39 cities Nationwide

Use of Data to Inform
1 of 62 cities Worldwide

Health and Livability
1 of 23 cities Nationwide



#6 Best City for Recreation in 2023



68th St from Indian School to Thomas

- Completed Mid-September
- Final striping completed
- RRFBs (2) are Active
- Remaining:
 - Bike Lane Logos
 - Signal work at Osborn



Roundabout First Progress

1. Osborn/Miller Road
2. 78th Street/Redfield
3. Raintree and Hayden
(under construction)



Paiute Center Paving



Paiute Center Paving



3 For Free + Possibilities...

Ride all 3 Scottsdale Trolley routes for free
& connect to regional transit routes.

Rack & Ride.

Bikes ride free. Easy-to-use bike racks
are on the front of every trolley.

Roadmap to the Future.



Learn more about Street, Transit, Bike,
Trail and Pedestrian improvements.

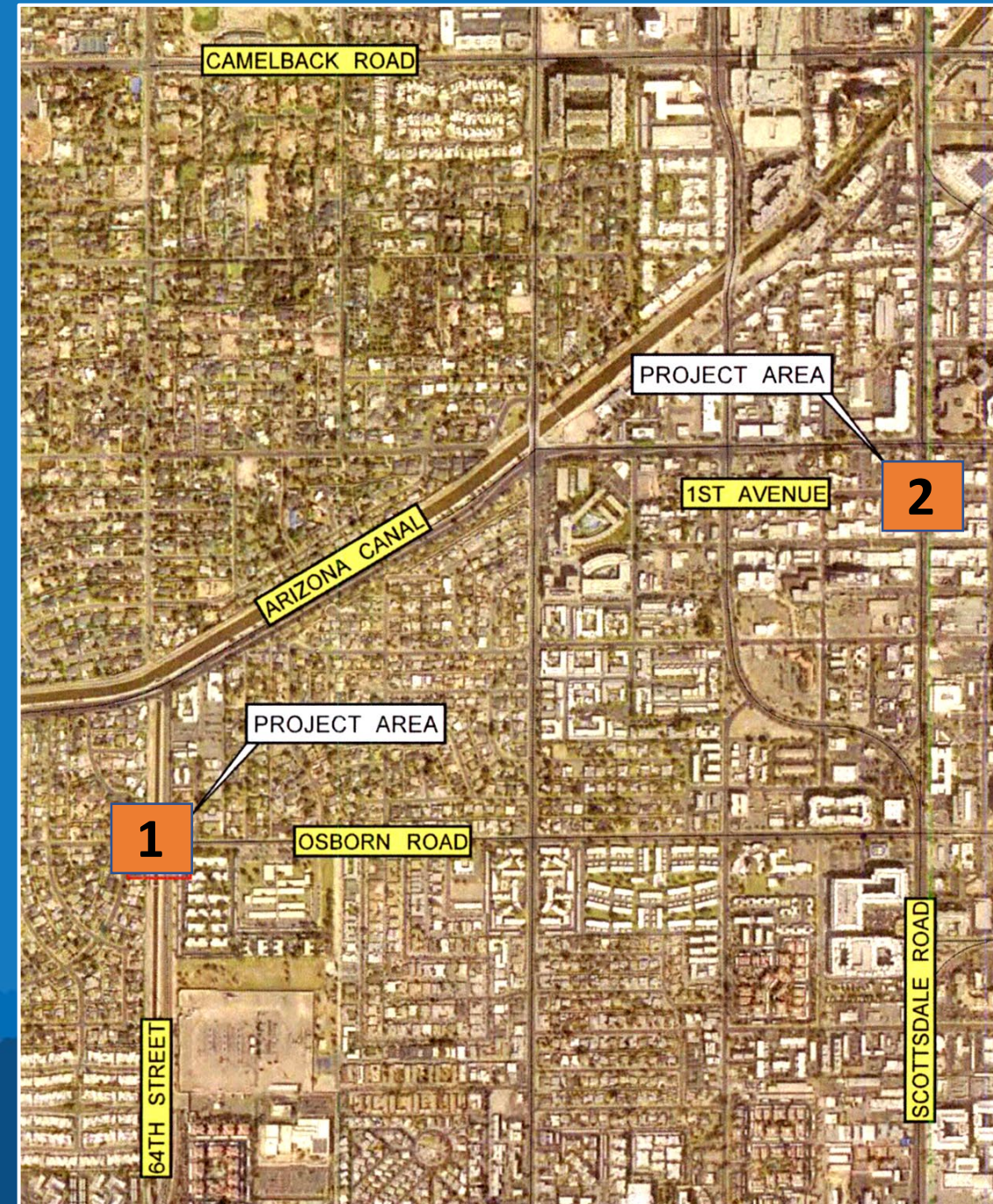
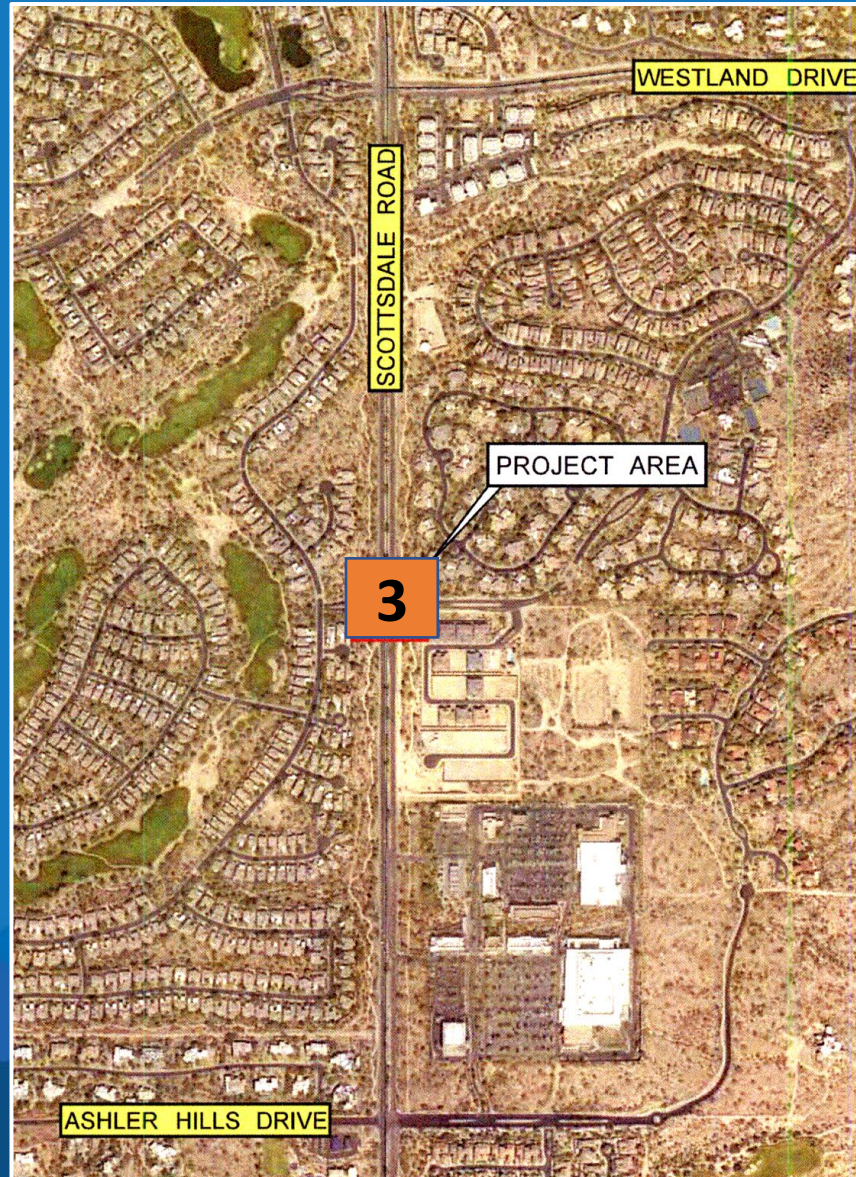
Transportation Action Plan 2022

Information Cards

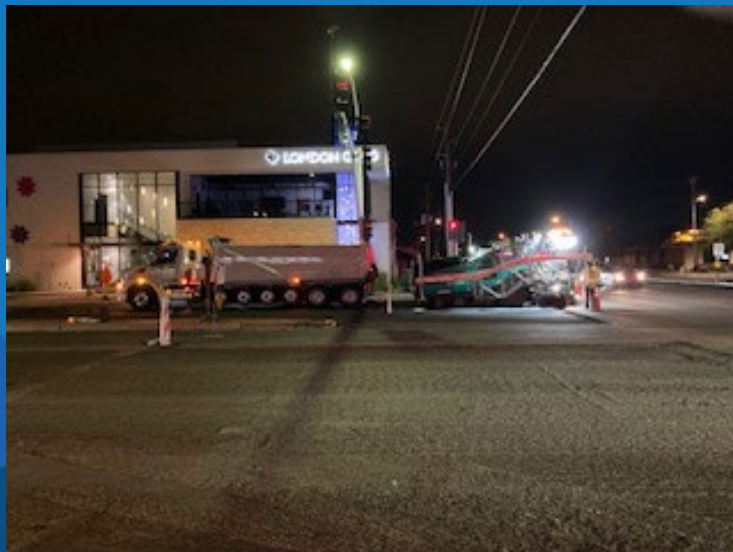


Future Traffic Signals

1. 64th Street/
Osborn Road
2. Scottsdale
Road/ 1st
Avenue
3. Scottsdale
Road /Dove
Valley Road



Shea Boulevard Paving Project

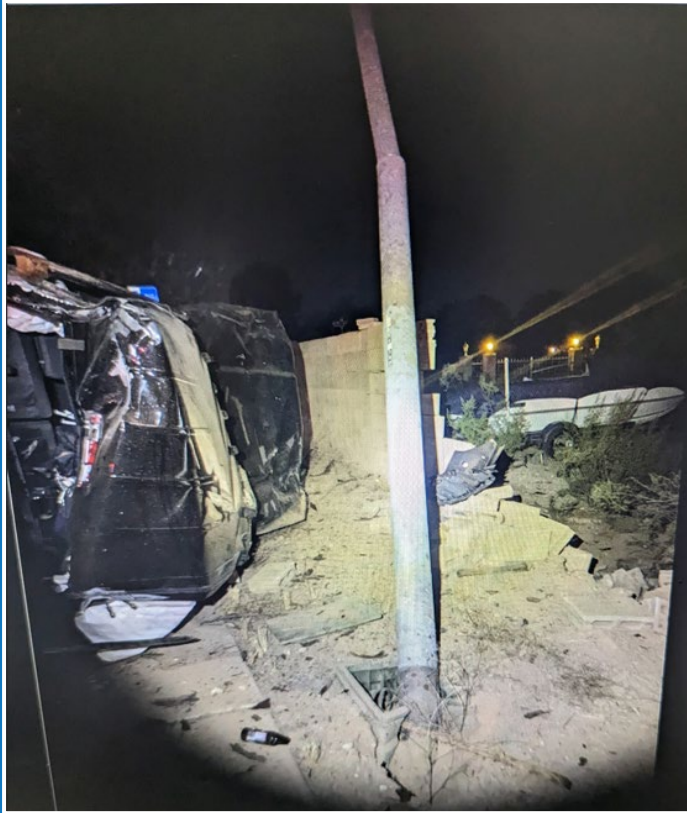


3-mile mill and overlay project

Emergency Response – Storm Cleanup



Streetlight Knockdown



Scottsdale Rd/Cactus Rd

Other Damaged Infrastructure



Cabinets and traffic signal knockdowns

ITS Section - Signal Repairs



Projects and Programs Update

Transportation Commission
September 21, 2023

TENTATIVE FUTURE AGENDA ITEMS

Rev.09-14-23

All Items Subject to Change

TRANSPORTATION COMMISSION

MEETING DATE: October 19, 2023

REPORTS/PRESENTATIONS DUE October 12

- **Approval of Meeting Minutes** **Action**
Approval of Regular meeting minutes September 21, 2023
- **Pavement Cut Ordinance**.....**Presentation and Discussion**
Presentation of a draft ordinance that guides developers, utilities, and city projects on restoring asphalt after pavement cuts in our street network – Ed Padron, Street Operations Manager
- **Bus Stop Signage Updates**.....**Discussion and Action**
Follow up from initial presentation from staff – Ratna Korepella, Transit Manager
- **Construction Mitigation Plan**.....**Presentation and Discussion**
Follow up on the initial presentation from staff – Walt Brodzinski, Right-of-Way Manager
- **Update on Cool Paving Results****Information**
Information on the results from Cool Paving – Ed Padron, Street Operations Manager

MEETING DATE: November 16, 2023

REPORTS/PRESENTATIONS DUE November 9th

- **Approval of Meeting Minutes** **Action**
Approval of Regular meeting minutes October 19, 2023
- **Projects and Programs Update****Information**
Update of the continuing department projects and programs – Mark Melnychenko, Transportation & Streets Director

FUTURE ITEMS:

INFORMATION ITEMS

- **Review of Travel Demand Patterns**.....**Information**
Information on how travel demand patterns effects roadway improvements – Kiran Guntupalli, Principal Traffic Engineer
- **Fiscal Impact of Distracted Driving****Information**
Information on the fiscal impact that distracted driving has on Transportation and Street Operations decisions – Mark Melnychenko, Transportation & Streets Director
- **Update on Traffic Safety****Information**
Information on traffic safety as it relates to pedestrian and automobiles in the city of Scottsdale – Kiran Guntupalli, Principal Traffic Engineer
- **Update on Sensagrate****Information**
Information and update from Sensagrate Pilot Project and where it stands now after initial presentation – Darryl Keeton, Sensagrate
- **Blue Zones Project****Information**
Information on Scottsdale’s first Blue Zone’s project with HonorHealth – Mark Melnychenko, Transportation & Streets Director
- **Transit System Update****Information**
Information on the transit system and an update on Micro Transit previously shared with the Commission – Ratna Korepella, Transit Manager, Brendan Wagner, Transit Operations Coordinator and Daniel Alire, Transportation Representative
- **Small Cell Wireless Facilities**.....**Presentation and Discussion**

Presentation on the issues associated with small cell wireless facilities on signals poles in North Scottsdale and the next steps to address them - Hong Huo, Traffic Engineer Principal

TRANSPORTATION & STREETS DEPARTMENT ACTIVITIES

- **Smart City.....Presentation and Discussion**
Discussion on the City’s participation in Smart City applications as well as ITS strategic plan and ITS vehicle detection – Hong Huo, Traffic Engineer Principal
- **Expanding Maintenance Needs.....Presentation and Discussion**
Maintenance of current infrastructure – Mark Melnychenko, Transportation & Streets Director
- **2022 Traffic Volume and Collision Manual..... Presentation and Discussion**
Summarize the information in the recently published 2020 Traffic Volume and Collision Manual – Kiran Guntupalli, Traffic Engineer Principal and Parker Murphy, Traffic Engineer
- **No Engine Braking Ordinance Update.....Presentation and Discussion**
Discuss the recently approved no engine braking ordinance and its application -Phil Kercher, Traffic Engineering and Ops Manager and Walt Brodzinski, Right-of-Way Manager
- **Leading Pedestrian Interval Policy.....Presentation and Discussion**
Discuss Leading Pedestrian Interval Policy and how the city applies it – Hong Huo, Traffic Engineer Principal
- **Bicycle Friendly Communities Application UpdatePresentation and Discussion**
Update from initial presentation given on the Bicycle Friendly Communities Application – Susan Conklu, Senior Transportation Planner

PATHS & TRAILS SUBCOMMITTEE

MEETING DATE: October 3, 2023

REPORTS/PRESENTATIONS DUE September 26

- **Approval of Meeting Minutes Action**
Approval of Regular meeting minutes of August 1, 2023
- **Path and Trail Gap AnalysisPresentation and Discussion**
Information on gaps in the citywide path and trails network – Greg Davies, Senior Transportation Planner
- **Proposed Updates to Bicycles and Related Devices OrdinanceInformation and Possible Action**
Information on gaps in the citywide path and trails network – Susan Conklu, Senior Transportation Planner
- **Other Transportation Projects and Programs Status.....Information**
A continuing overview of projects/programs – Nathan Domme, Transportation Planning Manager and Greg Davies, Senior Transportation Planner

MEETING DATE: December 5, 2023

REPORTS/PRESENTATIONS DUE November 28

- **Approval of Meeting Minutes Action**
Approval of Regular meeting minutes of October 3, 2023
- **Trail Maintenance Public Outreach Program UpdatePresentation and Discussion**
Information on the Trail Maintenance Public Outreach Program – Greg Davies, Senior Transportation Planner
- **Neighborhood Bikeway PrioritizationInformation**
Information on the Bikeway Prioritization Plan – Susan Conklu, Senior Transportation Planner

MEETING DATE: February 6, 2023

REPORTS/PRESENTATIONS DUE January 30

- **Approval of Meeting Minutes Action**
Approval of Regular meeting minutes of December 5, 2023
- **Bike Events and Education for SchoolsPresentation and Discussion**

Information on upcoming bike events – Susan Conklu, Senior Transportation Planner

- **Wayfinding Signage** **Information**
Update on the wayfinding signage – Susan Conklu, Senior Transportation Planner
- **Bicycle Friendly Community Application Update** **Presentation and Discussion**
Update on the submission of the Bicycle Friendly Communities Application Status – Susan Conklu, Senior Transportation Planner

MEETING DATE: April 2, 2023

REPORTS/PRESENTATIONS DUE March 26

- **Approval of Meeting Minutes** **Action**
Approval of Regular meeting minutes of February 6, 2023
- **Federally and Regionally Funded Studies and Plans** **Presentation and Discussion**
Overview of 64th St Crossings Study, CAP Canal/100th St Path Study and Strategic Transportation Safety Plan – Nathan Domme, Transportation Planning Manager
- **Overview of the Central Arizona Project Canal Trail**..... **Information**
An overview of the CAP Canal Trail – Greg Davies, Senior Transportation Planner

FUTURE ITEMS:

INFORMATION ITEMS

TRANSPORTATION & STREETS DEPARTMENT ACTIVITIES

- **Pavement Restriping** **Presentation and Discussion**
Information on the coordination of re-paving and re-striping – Nathan Domme, Transportation Planning Manager
- **Updates from Neighboring Cities and Towns**..... **Information**
Updates from Neighboring Cities such as Tempe, Phoenix, Mesa, and Paradise Valley on connectivity projects with Scottsdale – Guest Speakers
- **Parks & Recreation Master Plan**..... **Information**
Information on the Parks & Recreation Master Plan – Parks & Recreation