# CITY OF SCOTTSDALE
# TRANSPORTATION COMMISSION
# PATHS & TRAILS SUBCOMMITTEE
# Notice and Agenda

8:30 A.M.
Tuesday, June 1, 2021
**Meeting will be held electronically and remotely**

Until further notice Path and Trails Subcommittee meetings are being held electronically. While physical facilities are not open to the public, Path and Trails Subcommittee meetings are available on Scottsdale's YouTube channel to allow the public to virtually attend and listen/view the meeting in progress.

1. Go to ScottsdaleAZ.gov, search "live stream"
2. Click on "Scottsdale YouTube Channel"
3. Scroll to "Upcoming live streams"
4. Select the applicable meeting

## Call to Order

## Roll Call

| |
|---|
| Don Anderson, Chair, Transportation Commission |
| Kyle Davis, Subcommittee Member |
| Vacant - Commissioner, Parks and Recreation Commission |
| B. Kent Lall, Comimssioner, Transportation Commission |
| William Levie, Subcommittee Member |

## Public Comment

Only written comments submitted electronically are being accepted. To be considered, please submit your written Public Comment on an agenda item at least 90 minutes before the meeting's scheduled time to the following link:
https://www.scottsdaleaz.gov/boards/transportation-commission/public-comment

***However, Arizona State Law prohibits the Path and Trails Subcommittee from discussing or taking action on an item that is not on the prepared agenda.***

1. **Introduction of New Staff and Committee Member..... Information**

2. **Approval of Meeting Minutes .....Action**
   *Approval of the Regular meeting minutes of April 6, 2021*

3. **Path Counters Update ……..Information**
   *Update on the path counters – Susan Conklu, Senior Transportation Planner*

4. **Green Bike Lane Markings ……..Information**
   *Overview of green markings in bike lanes – Kiran Guntupalli, Principal Traffic Engineer*

5. **Other Transportation Projects and Programs Status..... Information**
   *Status of projects and programs – Susan Conklu, Senior Transportation Planner*

6. **Subcommittee Identification of Future Agenda Items.....Discussion**
   *Subcommittee members may identify items or topics of interest for future Subcommittee meetings*

7. **Adjournment**

Persons with a disability may request a reasonable accommodation by contacting Mariah Maindonald at 480-312-7839. 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 Frances Cookson at 480-312-7637.

# DRAFT SUMMARIZED MINUTES

## CITY OF SCOTTSDALE
## TRANSPORTATION COMMISSION
## PATHS & TRAILS SUBCOMMITTEE

## TUESDAY, APRIL 6, 2021

## Meeting Held Electronically

### CALL TO ORDER

The meeting of the Paths & Trails Subcommittee was called to order at 8:30 a.m. A formal roll call confirmed the presence of Subcommittee members as noted below.

### 1. ROLL CALL

**PRESENT:** Donald Anderson, Chair – Transportation Commission
William Levie, Subcommittee Member
Kyle Davis, Subcommittee Member
Kent Lall, Commissioner – Transportation Commission

**STAFF:** Susan Conklu, Senior Transportation Planner
David Smith, Senior Traffic Engineer
Greg Davies, Senior Transportation Planner
Dave Meinhart, Transportation Planning Manager
Mariah Maindonald, Staff Representative

### 2. APPROVAL OF MEETING MINUTES

Chair Anderson called for modifications and approval of the minutes. One typographical correction was made.

SUBCOMMITTEE MEMBER LEVIE MOVED TO APPROVE THE MINUTES OF THE FEBRUARY 2, 2021 MEETING AS CORRECTED. SUBCOMMITTEE MEMBER DAVIS SECONDED THE MOTION, WHICH CARRIED 4-0 WITH CHAIR ANDERSON, SUBCOMMITTEE MEMBERS DAVIS, LEVIE AND COMMISSIONER LALL VOTING IN THE AFFIRMATIVE WITH NO DISSENTING VOTES.

## 3. TRANSPORTATION ACTION PLAN

Mr. Meinhart stated that the this item represents the effort to update the existing 2016 Transportation Master Plan and ensure that plans going forward are consistent with the proposed new General Plan. The focus at this time is on early concepts in three elements: Streets, Bicycle and Trails. The Bylaws for the Paths and Trails Subcommittee include input on items such as bicycle lanes.

Early concepts for the Streets Element were discussed, including a review of the classifications for existing and planned streets. Analysis indicates that several reductions in street classifications may be recommended in the TAP:

- Major Arterial (6 lanes with raised median) to Minor Arterial (4 lanes with raised median)
  - Hayden Road: McKellips to Indian School

- Couplet (5 lanes with raised median) to Minor Arterial
  - Drinkwater Boulevard
  - Goldwater Boulevard

- Minor Arterial to Minor Collector (2 lanes with center turn lane or median)
  - Tom Darlington Drive: Carefree Highway to Leisure Lane
  - Westland Drive: Scottsdale to Hayden

- Major Collector (4 lanes w with center turn lane or median) to Minor Collector
  - 92nd Street: Raintree to Frank Lloyd Wright
  - 96th Street: Via Linda to Shea
  - 100th Street: Frank Lloyd Wright to Frank Lloyd Wright
  - 130th/132nd Street: Shea to Via Linda
  - Legend Trail Parkway: Pima to Stagecoach Pass
  - McCormick Parkway: Scottsdale to Hayden
  - Osborn Road: 68th to Scottsdale
  - Raintree Drive: Thompson Peak to Frank Lloyd Wright
  - Redfield Road: Raintree to Frank Lloyd Wright
  - Thunderbird Road: 89th to Frank Lloyd Wright

Staff is also reviewing typical street cross sections as preparation as the TAP moves forward. One area of early focus is the minor collector classification, where the standard cross section recommends a continuous center lane in most circumstances. Early analysis indicates that approximately 50 lane miles of minor collectors could be converted to a second minor collector cross section that does not include or plan for a center turn lane.

The Bike Element and early concepts were discussed. Priorities include completing and renovating paths to more realistic standards for width and pavement quality. It is expected that City Council will approve a new CIP to include first phase renovations on Indian Bend Wash Path. In terms of paths, there is a priority path, going the full length of the community from the Tempe border to the Carefree border. Others include the Cross Cut Canal Path, which is a short stretch going south to Tempe and tying into the Arizona Canal near 64th Street and McDowell. The Arizona Canal head up into the Downtown area and connects easterly to the Pima Road Corridor. An additional pathway (combination of multiuse path and bike route) runs from the southern border to Shea Boulevard. For the Arizona Canal Path, with the exception of one very short

segment north of Camelback Road, the path is completely paved and is at 10-foot minimum width. For an area north of Camelback, there will be an upcoming temporary improvement, which will allow for six feet of paving along the canal bank. There are design and funding challenges to build a full 10-foot wide path for a missing short segment. Significant work has been completed from the southern boundary to WestWorld with continuous pavement the whole way. However, much of it is narrow eight-foot pavement constructed 40 or more years ago. Goals are to widen the path and improve conditions. Moving north, they will connect from WestWorld to the Pima Road Corridor. Secondary paths will include work on side paths, which are eight to ten feet wide and in proximity to primary roadway corridors. Examples are Dynamite Boulevard and Scottsdale Road. Restripe opportunities may allow inclusion of buffered bike lanes and widened bike lanes.

Subcommittee Member Davis asked how the TAP works in conjunction with the existing Transportation Master Plan. Mr. Meinhart stated that prior to 2008, the Transportation Master Plan was relying on the circulation element of the General Plan as well as design standards and policies. It contains a significant volume of background information. The TAP is intended to be a replacement for the previous documents with a focus on the next five to ten years.

In response to a question from Subcommittee Member Davis, Mr. Meinhart confirmed that they will include an appendix that calls out the secondary paths system and plans. There is a map of existing paths in the 2016 plan, as there was in the 2008 plan, which will be included in the TAP.

Chair Anderson referenced the plan to convert couplets (Drinkwater and Goldwater) from a couplet to a minor arterial, from five lanes to four lanes and asked for clarification that this means they will be eliminating the center left turn lane. Mr. Meinhart said Drinkwater Boulevard currently has three northbound lanes and two southbound lanes. Goldwater has three southbound lanes and two northbound lanes with no on-street bike lanes, gaps in sidewalk connectivity and narrow sidewalks. In this case, the turn lane capacity at intersections would remain the same. However, between intersections, there would be adjustments in the cross-section. The first phase of improvements may simply be a paint solution. The long-term objective would be to modify the curb and median locations as necessary to construct a classic four-lane minor arterial complete street with bike lanes on both sides, combination of raised medians, turn bays and eight-feet wide sidewalks separated from back of curb.

Subcommittee Member Levie referenced the greenbelt on Indian Bend Wash. There is a significant increase in usage, particularly by vehicles such as e-bikes, e-scooters, three-wheel scooters and others. At some point, there will need to be a discussion on the engineering of the path to accommodate these vehicles as well as pedestrians. Mr. Meinhart stated that Ms. Conklu is leading a team on updates of ordinances on the use of electric scooters, bikes and similar vehicles. It is anticipated that these modes of transportation going 20 miles or less could still be used in the corridor. There will be consideration for a 12-foot path for areas with high levels of use. Building paths side by side can be difficult, as there are challenges with the actual land attributes and space.

## 4. TRAIL MAINTENANCE OUTREACH

Susan Conklu, Senior Transportation Planner, stated that there are approximately 150 miles of existing unpaved trails outside the McDowell Sonoran Preserve and 189 miles planned. Typically these are within City right-of-way or on easements on private property. In 2020, a citizen requested that the City improve communication with property owners about trail maintenance and

responsibilities. City code requires the property owner of the adjacent right-of-way to perform routine property maintenance. They also must maintain their own property, so that it does not interfere with public use of the right-of-way. Citizens and City staff may report issues through ScottsdaleEZ. The design standards and policies manual includes information regarding what type of maintenance is needed. Staff drafted a communications plan and schedule to include local media, social media, City communication methods, utility bill insert, Scottsdale Video Network, Paths and Trails webpage, targeted mailing and coordination with Citizen Services staff.

Next steps include drafting and producing the outreach video and webpage text and content for publication in early June. Once in place, the plan will be publicized with a web article on the news page for Scottsdale, social media posts, utility inserts and announcements in Scottsdale Update. Target outreach will be performed as needed.

Chair Anderson asked about the form of initial contact with the homeowner when there is a complaint. Ms. Conklu stated that code enforcement contacts the resident with a letter. Once contact is established, they will correspond over the phone or in person.

## 5. OTHER TRANSPORTATION PROJECTS AND PROGRAM STATUS

Ms. Conklu and Greg Davies, Senior Transportation Planner gave a brief update on other projects:

- Hayden Trail Rebuild
- Pinnacle Vista and Ranch Gate Trails
- McDowell Road bike lanes
- 86th Street Bike lanes
- Path wayfinding signage
- Path Counters
- April Bike Month

Subcommittee Davis asked for an update on the Old Town sidewalk improvements, particular in regarding to paving the Arizona Canal and sidewalks on Camelback. Mr. Meinhart stated that the temporary solution for Arizona Canal goes into construction next week with a one-week timeline. They are still working through design and right-of-way acquisition issues in terms of the sidewalk on the north side of Camelback from 73rd Street to Miller Road. They are working with APS to underground three to four poles. The goal is to get to construction this summer.

## 6. SUBCOMMITTEE IDENTIFICATION OF FUTURE AGENDA ITEMS

Subcommittee Member Davis was interested in a presentation on bicycle and bike lane marking and the potential for using the green marking system used by Phoenix and Tempe.

## 7. ADJOURNMENT

With no further business to discuss, being duly moved by Subcommittee Member Davis and seconded by Subcommittee Member Levie, the meeting adjourned at 9:34 a.m.

AYES: Chair Anderson, Subcommittee Members Davis and Levie and Commissioner Lall.

NAYS: None

SUBMITTED BY:

eScribers, LLC

***NOTE: These are summary action meeting minutes only. A complete copy of the audio/video recording is available at http://www.scottsdaleaz.gov/boards/Transp.asp**

# SCOTTSDALE TRANSPORTATION COMMISSION REPORT

**To:** **Paths and Trails Subcommittee**
**From:** **Susan Conklu, Senior Transportation Planner**
**Subject:** **Bike and Pedestrian Counts**
**Meeting Date:** **June 1, 2021**

## ITEM IN BRIEF

**Action:** Presentation and discussion

### Purpose:
Provide information on bicycle and pedestrian counts

### Background:
There are several benefits to collecting bicycle/pedestrian data. Cities have been collecting vehicular and transit data for decades but have only recently begun adding bicycle/pedestrian data to their programs. The technology has been emerging over the past several years, with several types of counters and companies. Capturing accurate bicycle/pedestrian data allows the city to justify system expansion or needed improvements as well as to provide support for grant funding applications. Bicycle/pedestrian counting is the foundational tool in Evaluation and Planning - one of the "5 Es" in measuring a city's bike friendliness by the League of American Bicyclists. Long term trends can be analyzed for better connectivity, level of service, mode share, and crash rates, and it can supplement targeted Education and Enforcement (2 of the other Es). Better data can help support changes to federal/regional/local funding splits between the various travel modes.

Historically, cities have relied on American Community Survey (ACS) data on Journey to Work for a snapshot of bicycle usage. This fails to capture all other types of bike trips and gives no information on where or when the trips take place. The margin for error in the ACS data is high. For example, in Scottsdale the ACS data typically shows similar numbers for Bike to work as it does for people who report taking Subways or Elevated Rail to work.

In late 2018, Scottsdale added an EcoCounter with the Crosscut Canal Bridge and Path construction, south of McDowell Road. This device counts bicyclists and pedestrians and includes direction of travel. The data is automatically uploaded to the EcoCounter website, where Transportation staff can access the data and run reports.

### Update:
March 2020, Transportation staff identified eight locations to install permanent bike and pedestrian counters. Two mobile counters will be deployed at various locations to give short term data.

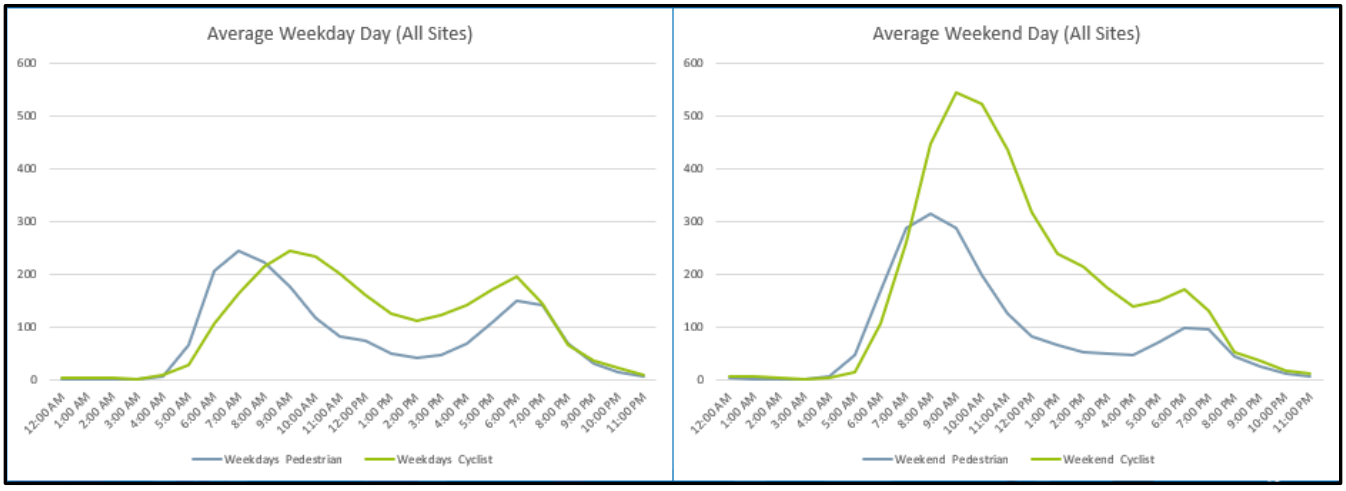
Transportation staff provided an update to the Paths and Trails Subcommittee at the December 8, 2020 meeting outlining the project.

The city's on-call contractor completed installation of EcoCounters at eight locations in April 2021 (see Attachment 1) at an average cost of $22,500/site for equipment and installation. The total counts taken at each location from April 16 – May 16, 2021 are shown in Figure 1 below. Figure 2 indicates a similar pattern of hourly usage by pedestrians and cyclists at all locations for the month.

Figure 1

| Site | Total | Cyclists | Pedestrians |
|---|---|---|---|
| McKellips Park | 23,632 | 16,405 | 7,227 |
| Crosscut Canal Bridge | 8,430 | 5,675 | 2,755 |
| Indian School Park | 35,018 | 22,749 | 12,269 |
| Chaparral Park | 30,606 | 7,557 | 23,049 |
| Arizona Canal Path west of Pima Road | 13,237 | 10,093 | 3,144 |
| Pima Path south of Indian Bend Road | 8,131 | 7,016 | 1,115 |
| McCormick Parkway west of Hayden Road | 17,177 | 11,350 | 5,827 |
| Upper Camelback Wash Path at Cholla | 15,617 | 11,128 | 4,489 |
| Sweetwater East of Loop 101 | 9,043 | 4,588 | 4,455 |
| Total Citywide | 160,891 | 96,561 | 64,330 |

Figure 2




**Next Steps:**
Transportation staff will study the counts regularly and add the data to the city's website. The new counters will not automatically upload data to the EcoCounter website due to cost/benefit. Transportation staff will manually upload the data at each location on a monthly to quarterly basis. The automatic upload option can be added in the future, if the cost-benefit changes. Staff will evaluate the data from the mobile locations to prioritize future installation of permanent counters in additional areas.

**Attachments:**
Attachment 1: Map of 2020 Count Locations

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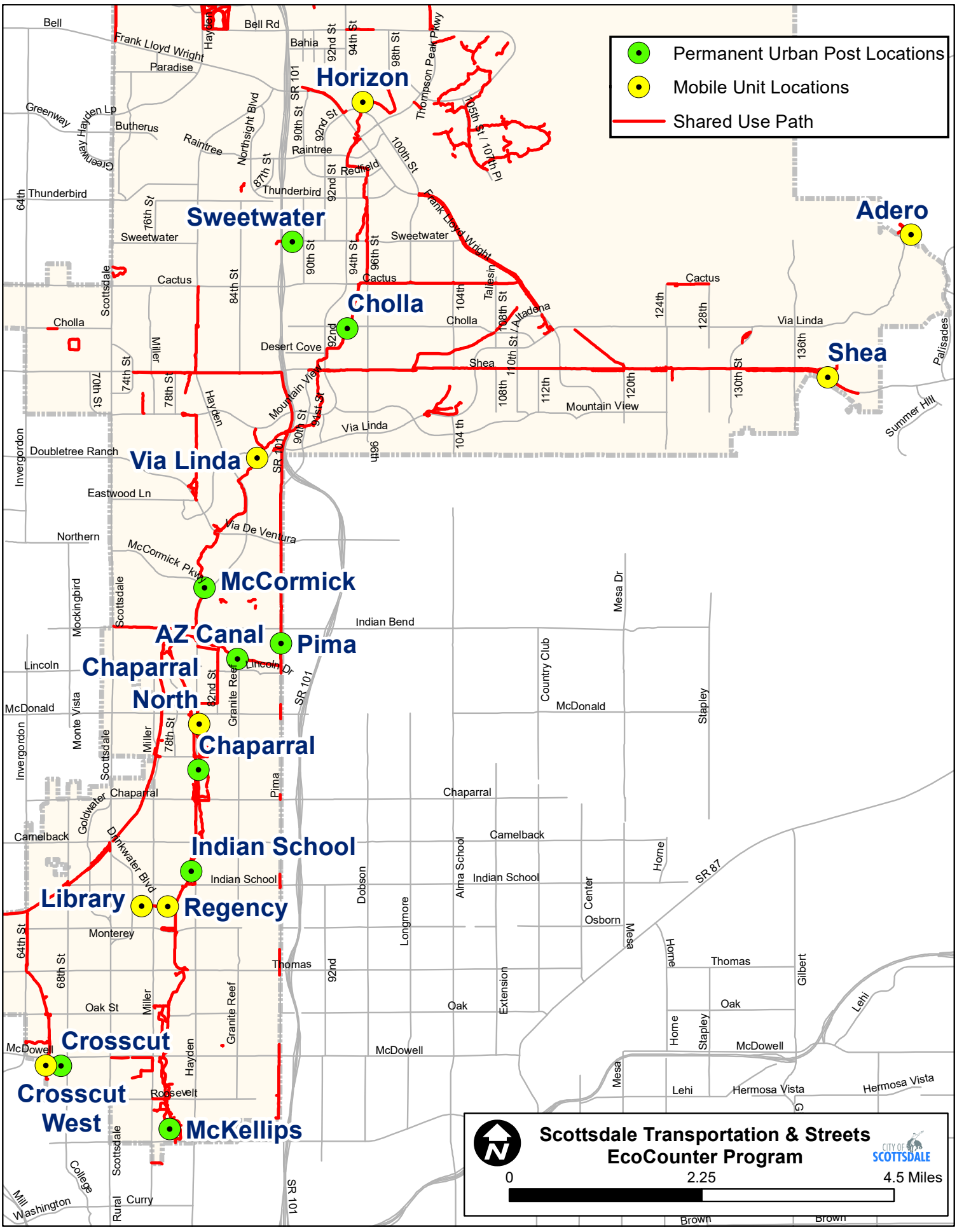
**Staff Contact:** Susan Conklu, 480-312-2308, sconklu@scottsdaleaz.gov

Attachment 1




Date: 5/25/2021

Document Path: V:\Transportation\TransportationWorkgroups\TransportationGIS\Bikeways_mxd\Eco_Counter_Locations_city_map.mxd

# Bicycle and Pedestrian Counts

## Paths & Trails Subcommittee
## June 1, 2021

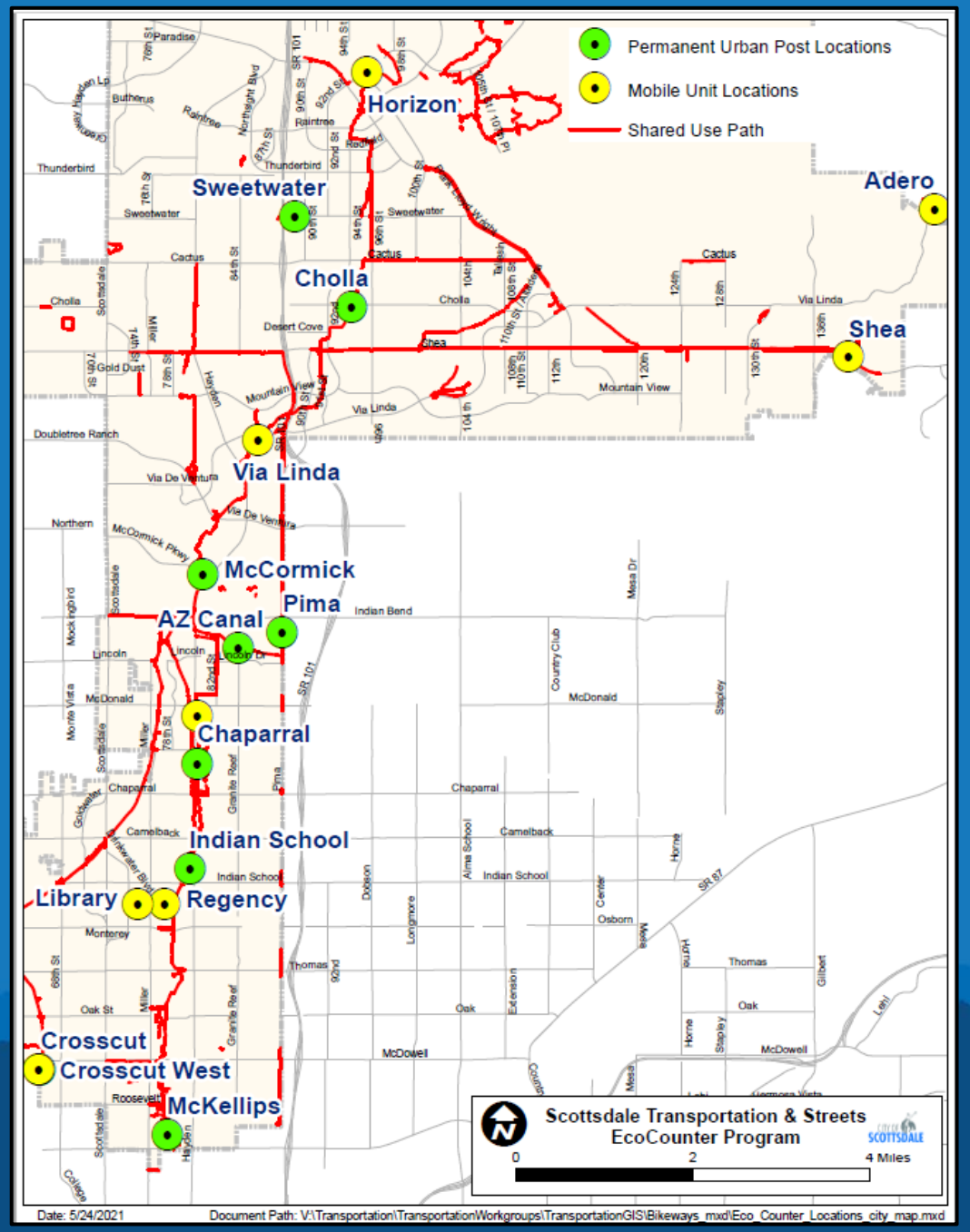
CITY OF SCOTTSDALE
TRANSPORTATION

# Background

- Benefits
  - Evaluation and Planning
- American Community Survey (ACS) Journey to Work Data

# Update

- 2020 EcoCounter Planned Locations
  - Eight permanent
  - Two mobile
    - Potential locations
- Installation completed April 2021



# Totals for All Sites: 4/16/2021 TO 5/16/2021

| Site | Total | Cyclists | Pedestrians |
|---|---|---|---|
| McKellips Park | 23,632 | 16,405 | 7,227 |
| Crosscut Canal Bridge | 8,430 | 5,675 | 2,755 |
| Indian School Park | 35,018 | 22,749 | 12,269 |
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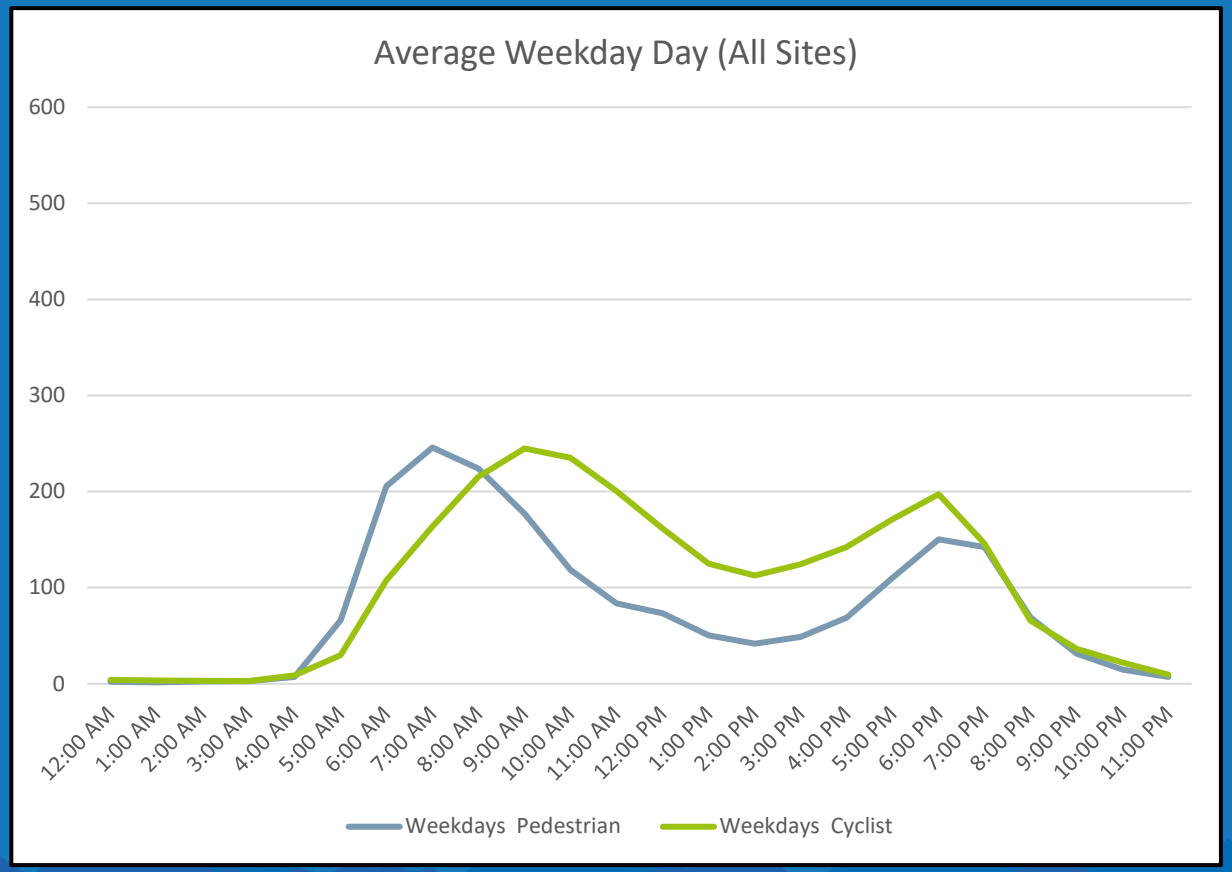
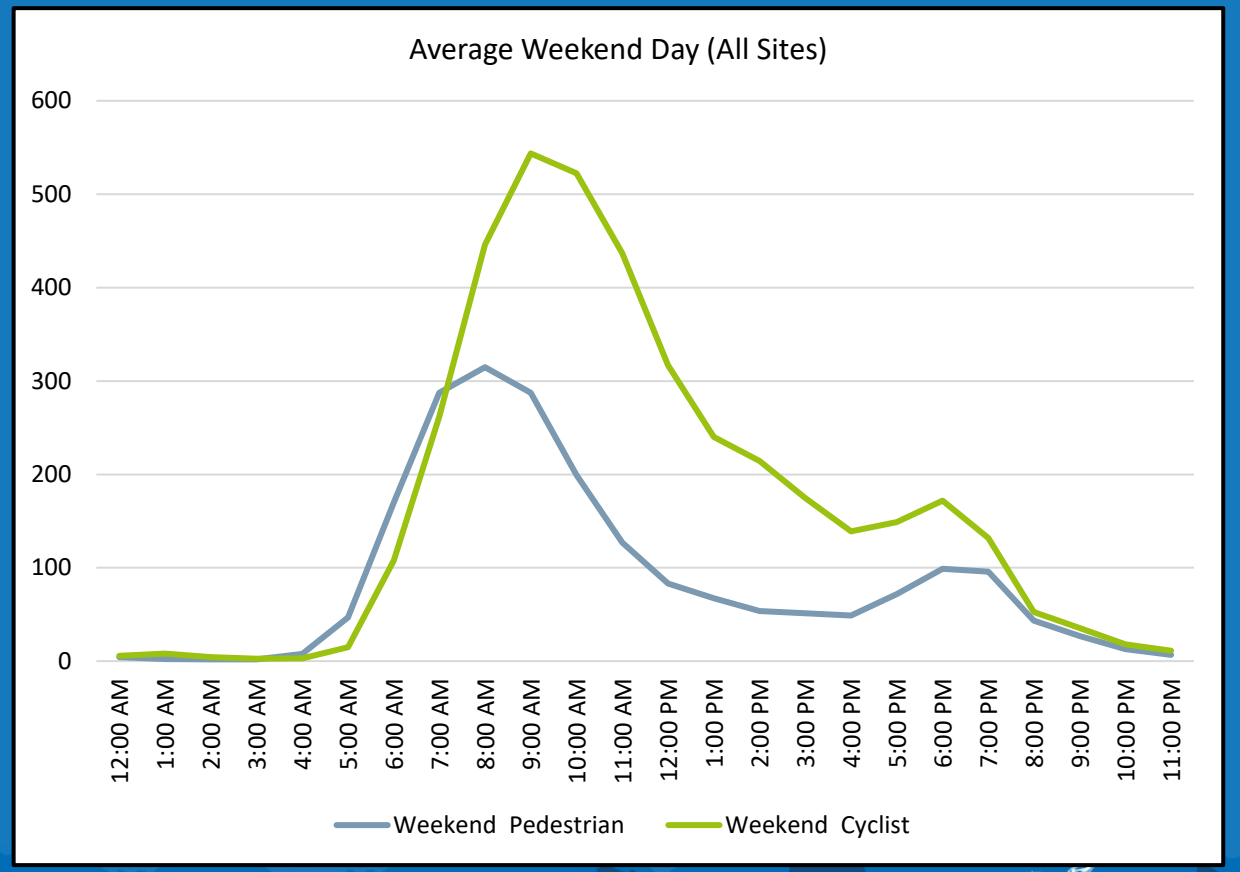
| Sweetwater East of Loop 101 | 9,043 | 4,588 | 4,455 |
| Total Citywide | 160,891 | 96,561 | 64,330 |

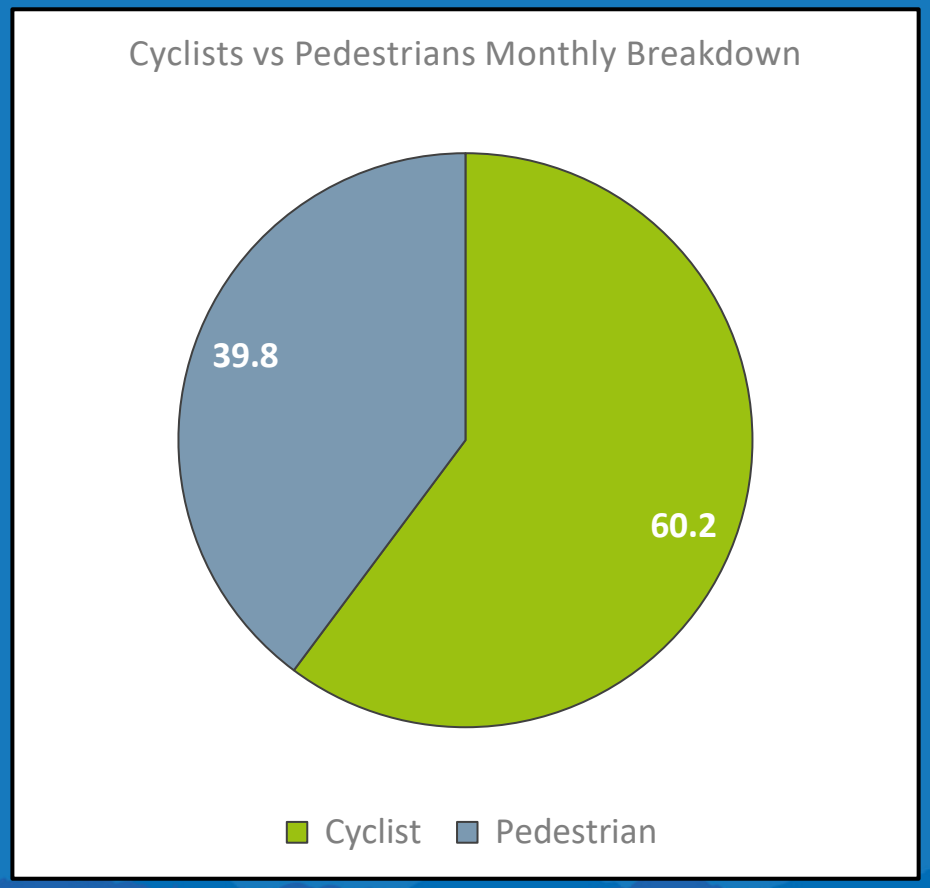
# Average Weekday and Weekend Last Month

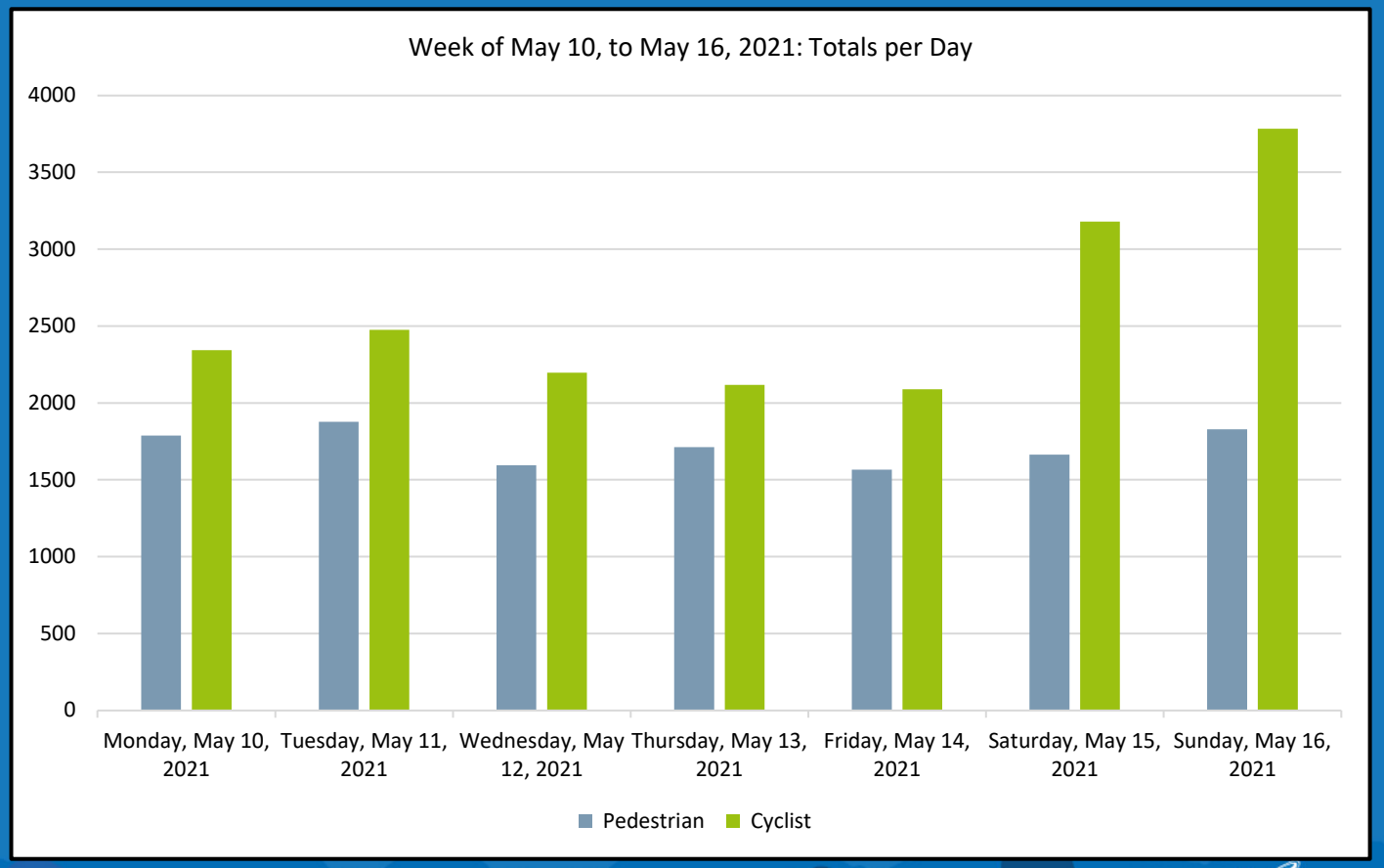


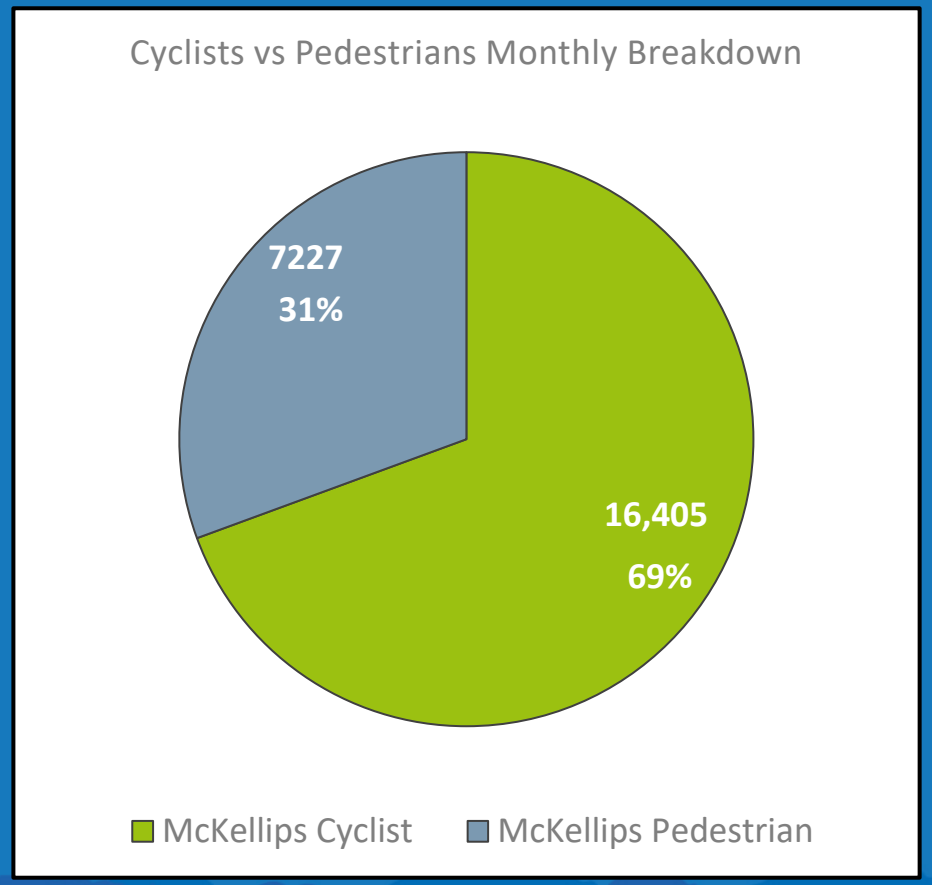

CITY OF SCOTTSDALE
TRANSPORTATION

# All Sites Totals



# McKellips Park

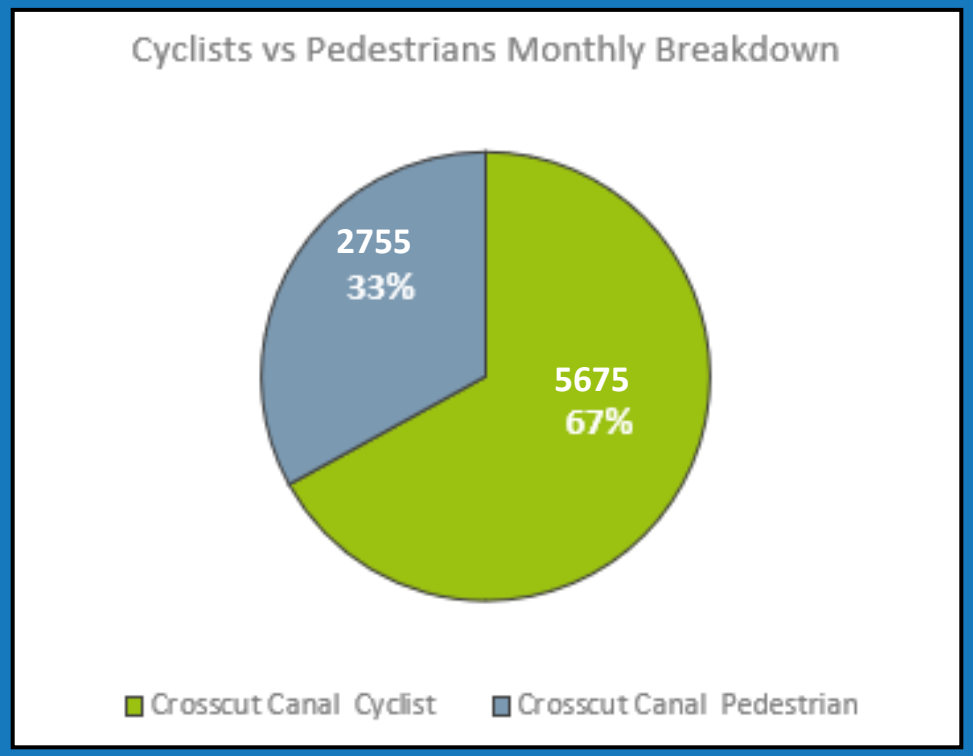




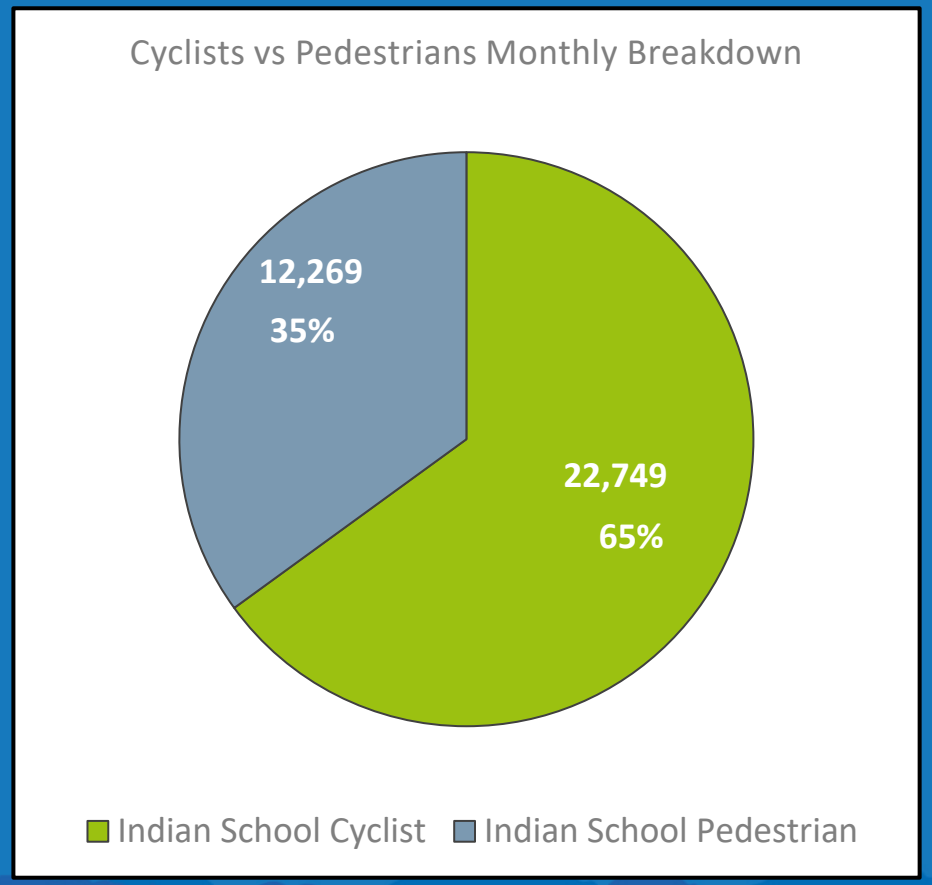


CITY OF SCOTTSDALE
TRANSPORTATION

# Crosscut Canal Bridge




# Indian School Park

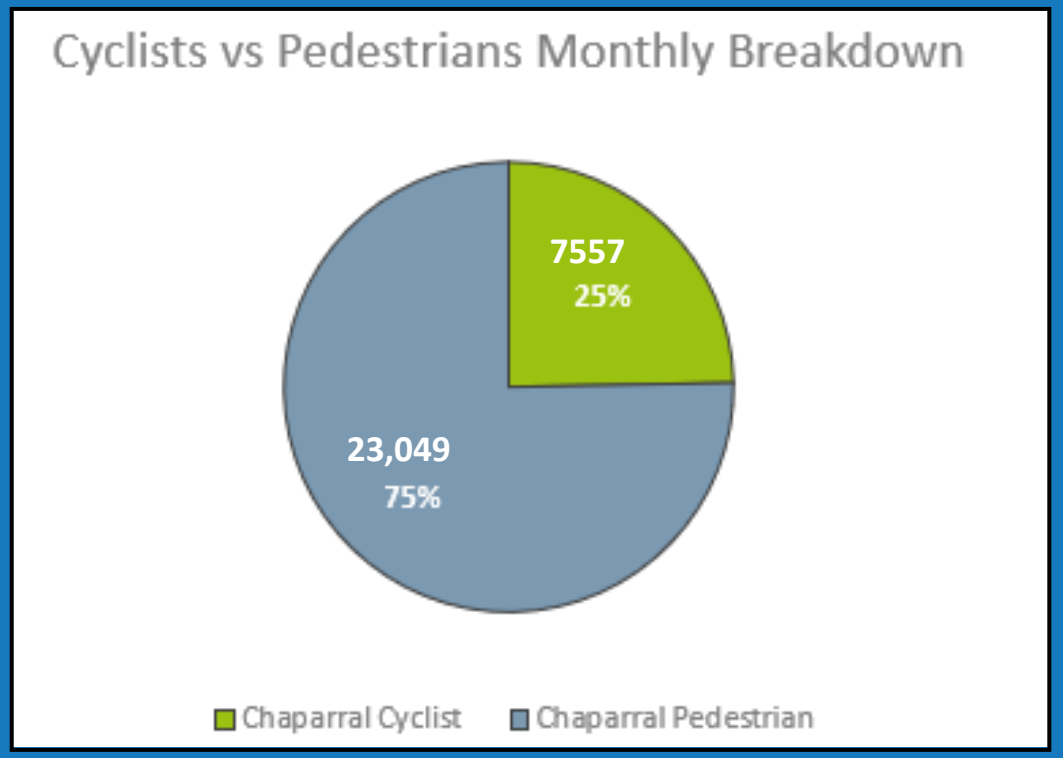






CITY OF SCOTTSDALE TRANSPORTATION

# Chaparral Park

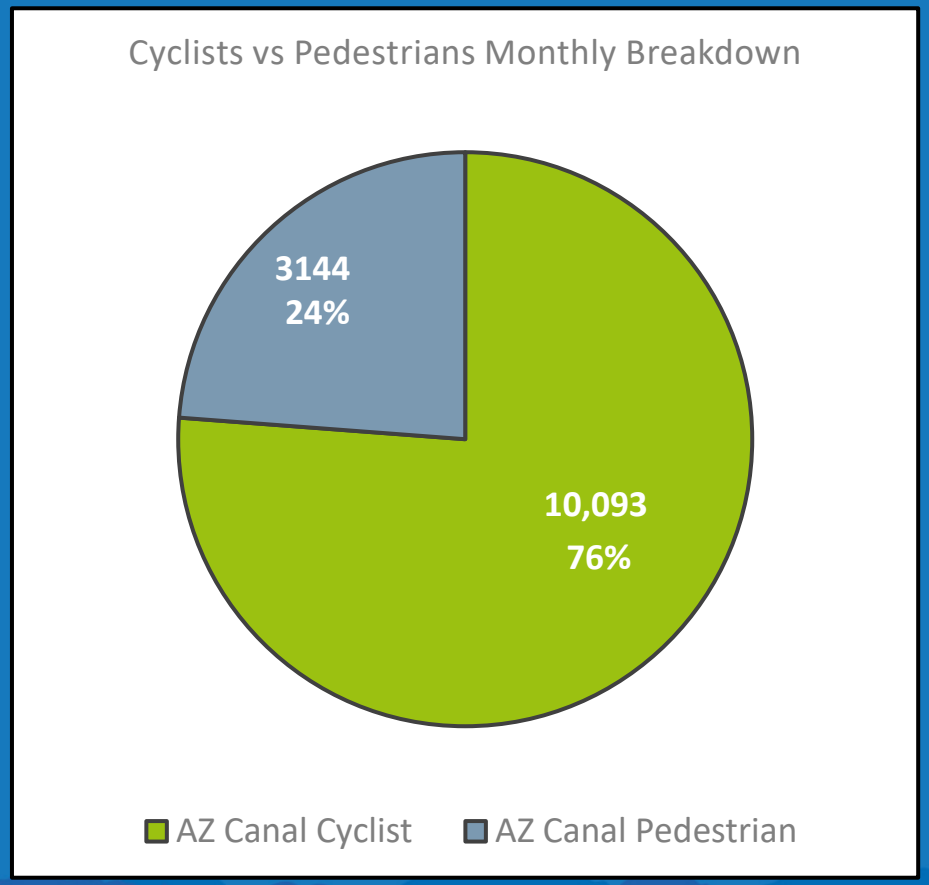






CITY OF SCOTTSDALE TRANSPORTATION

# AZ Canal Path

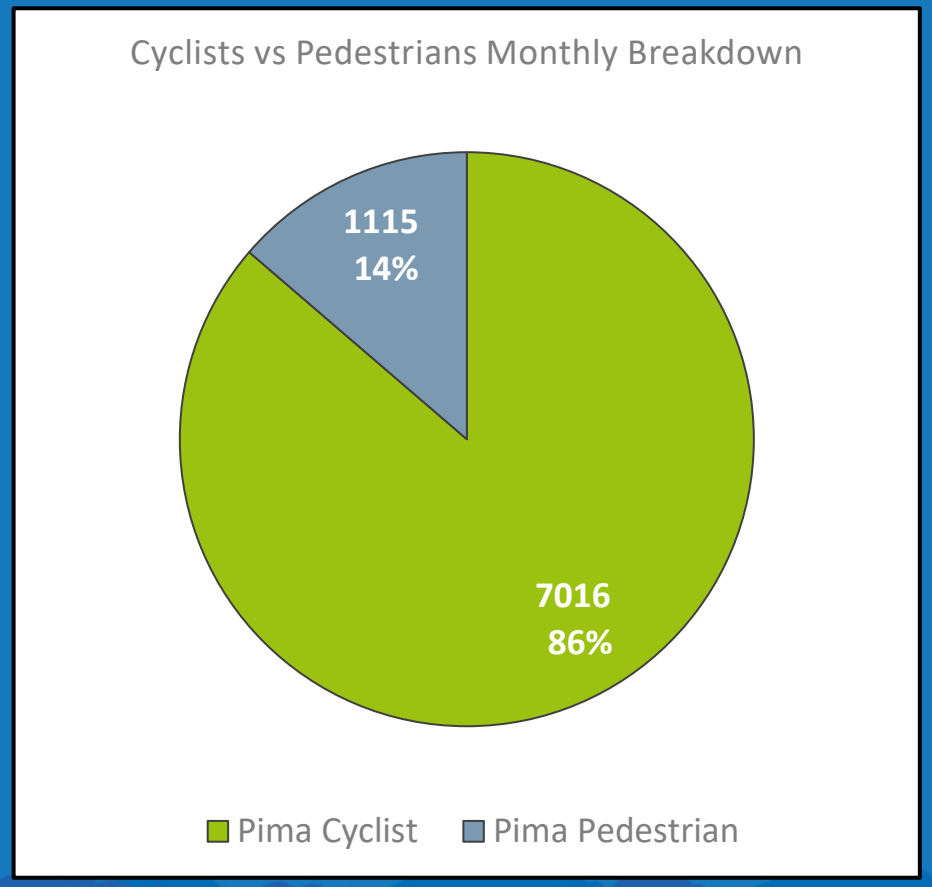






CITY OF SCOTTSDALE
TRANSPORTATION

# Pima Path

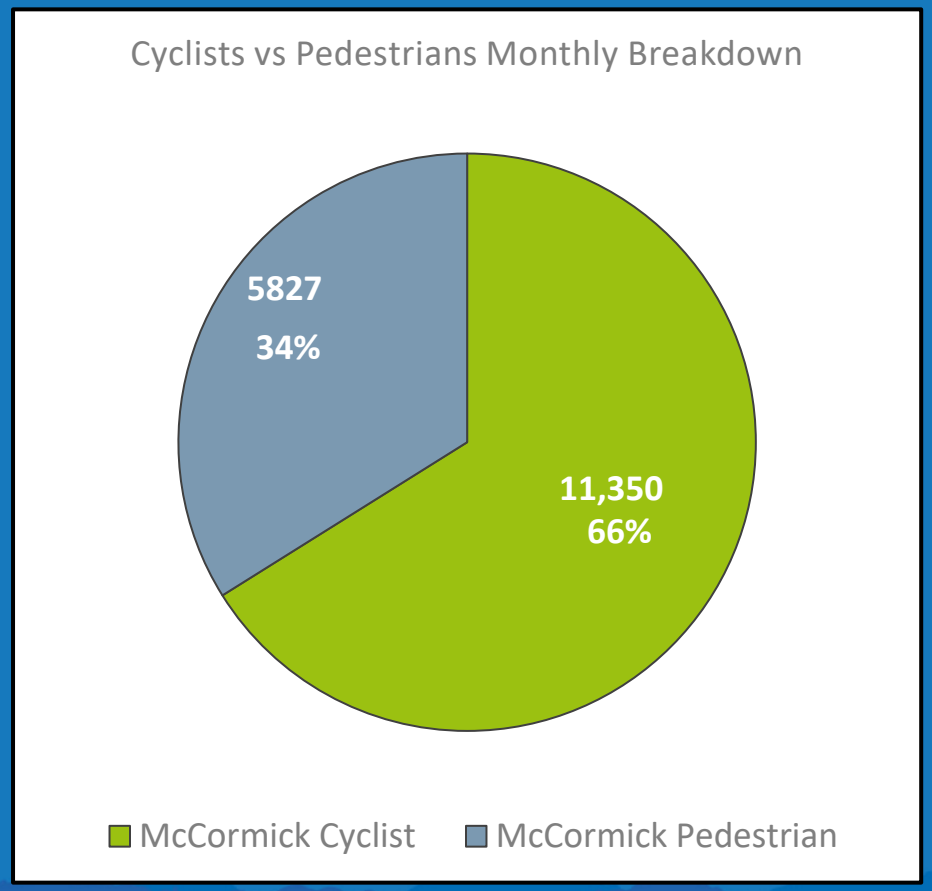




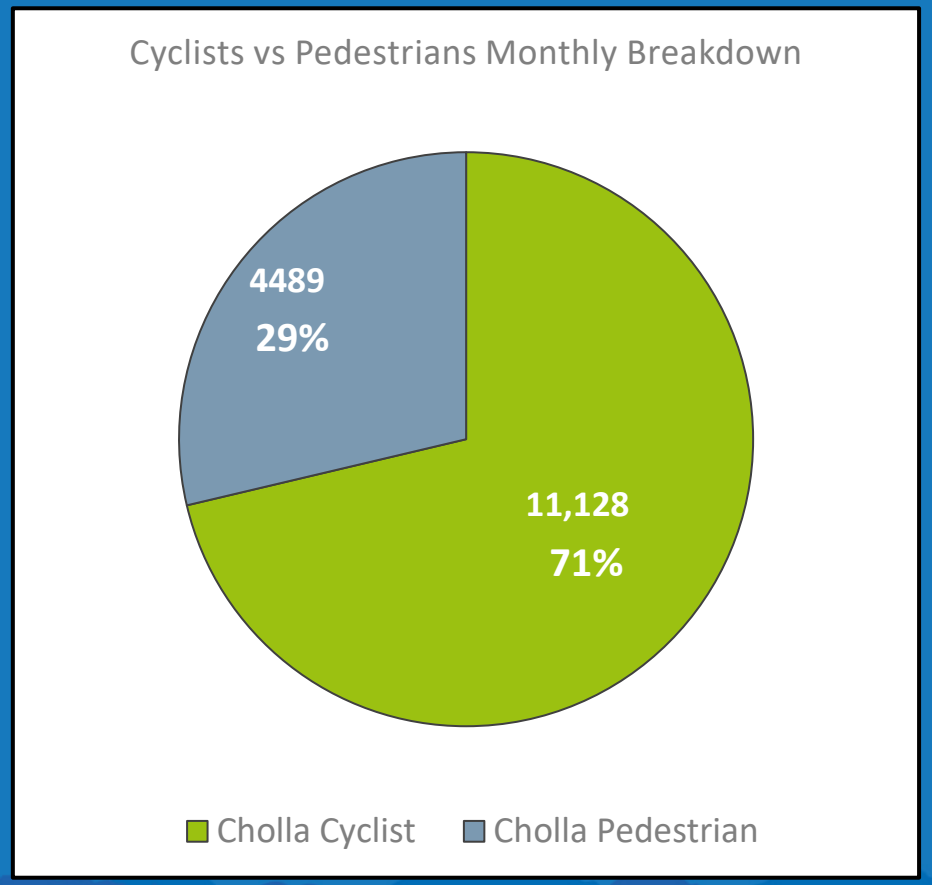


CITY OF SCOTTSDALE TRANSPORTATION

# McCormick Parkway

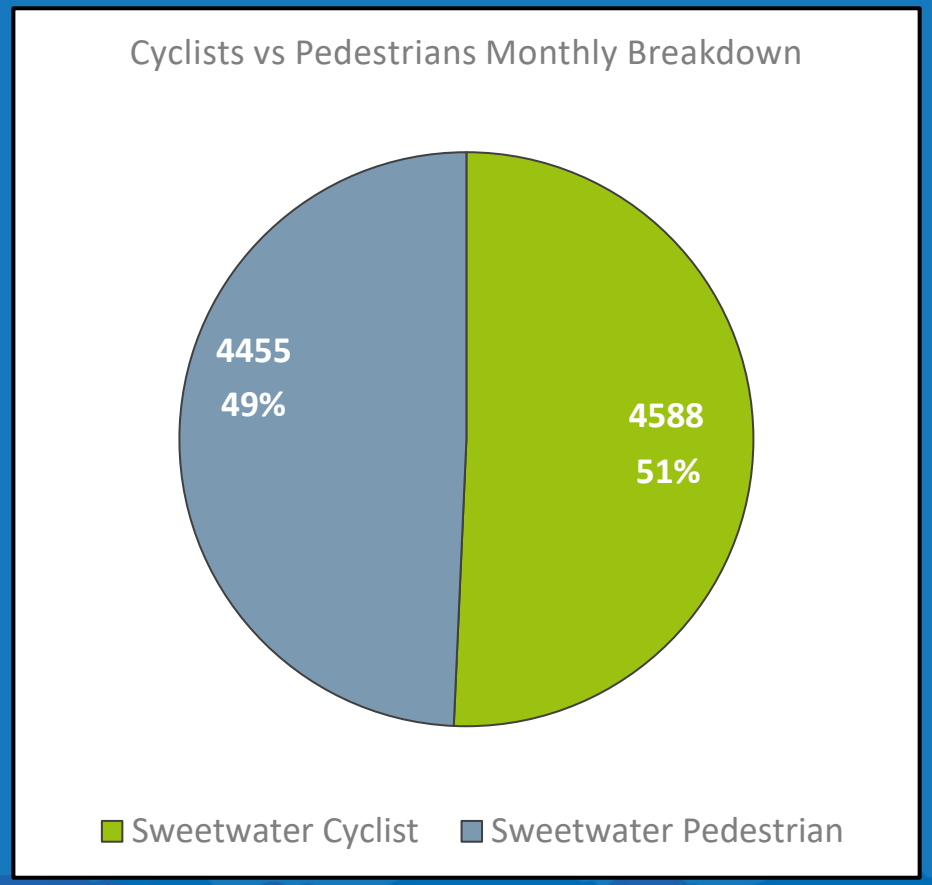



# Path South of Cholla





# Sweetwater East of the Loop 101




# Next Steps

- Study the counts monthly or quarterly
- Provide updates
- MAG Regional Bike and Pedestrian Counts
- Bicycle Friendly Community Application  2023


BICYCLE FRIENDLY COMMUNITY
2019-2023
GOLD
THE LEAGUE OF AMERICAN BICYCLISTS

# Discussion

CITY OF SCOTTSDALE
TRANSPORTATION

# SCOTTSDALE PATHS AND TRAILS SUB-COMMITTEE REPORT

**To:** **Paths and Trails Sub-Committee**

**From:** **Kiran Guntupalli, Principal Traffic Engineer**

**Subject:** **Green Bicycle Lanes / Pavement Markings**

**Meeting Date:** **June 1, 2021**

## ITEM IN BRIEF

**Action:** Presentation and Discussion

**Purpose:**
To provide the Paths and Trails Sub-Committee with information on green bicycle lanes, and to discuss whether the application of green pavement marking is planned or needed in the city of Scottsdale.

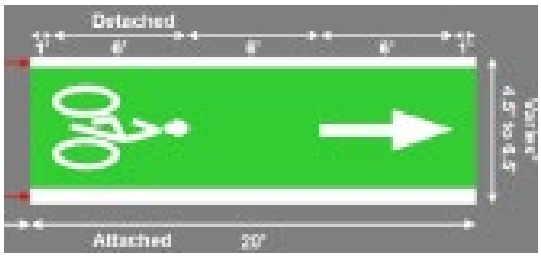
**Background:**
Public agencies across the United States and the Phoenix Metropolitan Area are showing an increased interest in using colored pavement, specifically for bicycle facilities. During the past 10 years, the FHWA has approved experiments with green colored pavement for a variety of state and local governmental agencies, including the following: City of Phoenix, City of Tempe, City of Mesa, City of Peoria, and the City of El Mirage. In these experiments, green colored pavement is being used as a traffic control device to designate locations where bicyclists are expected to operate and identify conflict areas between bicyclists and vehicular traffic.

**Applicable Standards:**
Chapter 3G of the 2009 Manual on Uniform Traffic Control Devices (MUTCD) contains provisions regarding the use of colored pavement. Any jurisdiction that would like to use green colored pavement in marked bicycle lanes and in extensions of bicycle lanes through intersections and traffic conflict areas shall submit a written request to the Federal Highway Administration (FHWA) Office of Transportation Operations. Jurisdictions using green colored pavement under this Interim Approval must agree to maintain an inventory list of all locations where green colored pavement is installed, and to comply with Item D in Paragraph 18 of Section 1A.10 of the 2009 MUTCD, which requires:

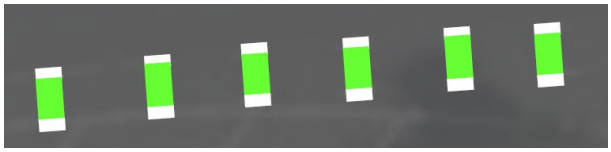
"An agreement to restore the site(s) of the Interim Approval to a condition that complies with the provisions in this Manual within 3 months following the issuance of a Final Rule on this traffic control device; and terminate use of the device or application installed under the interim approval at any time that it determines significant safety concerns are directly or indirectly attributable to the device or application. The FHWA's Office of Transportation Operations has the right to terminate the interim approval at any time if there is an indication of safety concerns."

The City of Scottsdale can use these traffic control devices under Arizona Department of Transportation authorized use of the Interim Approval 14. The use of green colored pavement under this Interim Approval is limited to the following applications:

a. Green colored pavement may be installed within bicycle lanes as a supplement to the other pavement markings that are required for the designation of a bicycle lane. Green colored pavement shall not be used instead of the longitudinal line required by Paragraph 2 of Section 9C.04 of the 2009 MUTCD or instead of the word, symbol, and arrow pavement markings illustrated in Figure 9C-3 of the 2009 MUTCD and required by Item C in Paragraph 6 of Section 3D.01 of the 2009 MUTCD. The green colored pavement may be installed for the entire length of the bicycle lane or for only a portion (or portions) of the bicycle lane. Green colored pavement may be installed as a rectangular background behind the word, symbol, and arrow pavement markings in a bicycle lane as a means of enhancing the conspicuity of these word, symbol, and arrow pavement markings.




b. If a pair of dotted lines is used to extend a bicycle lane across an intersection or driveway (see Section 3B.08 of the 2009 MUTCD) or a ramp, green colored pavement may be installed between these lines as a supplement to the lines. Green colored pavement shall not be used instead of these dotted lines to extend a bicycle lane across an intersection, driveway, or ramp. The green colored pavement may be installed for the entire length of the bicycle lane extension or for only a portion (or portions) of the bicycle lane extension. The pattern of the green colored pavement may be dotted in a manner that matches the pattern of the dotted lines, thus filling in only the areas that are directly between a pair of dotted line segments that are on opposite sides of the bicycle lane extension.



c. If a pair of dotted lines is used to extend a bicycle lane across the beginning of a turn bay where drivers who desire to turn must cross the bicycle lane when moving out of the through lane in order to turn (see Figures 9C-1, 9C-4, and 9C-5 of the 2009 MUTCD), green colored pavement may be installed between these lines as a supplement to the lines. Green colored pavement shall not be used instead of these dotted lines to extend a bicycle lane across the beginning of a turn bay. The green colored pavement may be installed for the entire length of the bicycle lane extension or for only a portion (or portions) of the bicycle lane extension. The pattern of the green colored pavement may

be dotted in a manner that matches the pattern of the dotted lines, thus filling in only the areas that are directly between a pair of dotted line segments that are on opposite sides of the bicycle lane extension.

**Practitioner Input and Maintenance Concerns:**
Some jurisdictions that have applied the green pavement markings did so with the belief that the application will ensure that bicycle lanes and conflict areas are more conspicuous to the motorists as well as the bicyclist. The green pavement marking has been incorporated into their transportation master plans or active transportation plans with the intent to improve safety for their bicycle facilities. Staff research has not identified any safety studies that suggest that green pavement reduces frequency of bicycle-vehicle crashes

Another anticipated benefit of applying green pavement marking is that they will encourage the use of the bicycle facilities and will increase active transportation. This is difficult to quantify, especially given other factors such as the recent COVID-19 impacts which increased bicycling for recreation and as a travel mode. Some studies suggest that green bicycle lanes have increased the use of bicycle facilities, but staff has not evaluated the use of green pavement markings to encourage the use of on-street bicycle facilities.

One of the major concerns about the application of green pavement marking is the degradation of the appearance over time and the need for on-going maintenance. Valley cities began installing green bicycle lanes about five years ago, and it is generally agreed that they begin to darken and look dirty after a couple of years. These markings need a more frequent maintenance cycle than typical white or yellow pavement marking. If these markings are widely used on a street system, upward revision of the maintenance budget to contract out clean and refresh these markings will be needed as the existing staff are already committed to ongoing maintenance activities. It should be noted that thermoplastic pavement markings have greater longevity and are more visible, whereas water-based paint markings require higher maintenance. Also, pavement deterioration due to frequency obliteration and reapplying of these markings should be a consideration. Summary of information from other agencies is included in Attachment #1.

**Key Considerations:**
The use of green pavement marking is limited to the guidelines allowed by the interim approval allowed by FHWA as described previously. Transportation and Streets staff have not been able to document any safety benefits derived from the application of green pavement marking. However, green pavement marking is considered to be traffic control that can designate locations where bicyclists are expected to operate, and to identify conflict zones between bicyclists and other vehicles. Its use should be limited to situations where engineering judgment suggests that the application will provide enough benefit to offset the concerns about maintenance.

If there is consideration of a widespread application of green pavement marking, such as green bike boxes or a green background for bike lane symbols, staff recommends that a pilot project be undertaken to determine if the benefits outweigh the maintenance costs.

It should be noted that the Transportation and Streets staff have been actively increasing the number of on-street bicycle lanes in the city of Scottsdale, which has been reported at previous Transportation Commission meetings. This has been achieved via the City's regular pavement maintenance activity and the use of capital funds to modify existing pavement marking. We have recently begun to utilize more buffered bicycle lanes where the number of travel lanes can be reduced. Much of the bicycle activity in the city of Scottsdale occurs on our path system, which is separated from vehicular traffic. To date staff has not identified any locations where the applying green pavement marking would address an existing concern. In addition, staff has not evaluated the use of green pavement markings to encourage the use of on-street bicycle facilities.

Attachment #1: Information from Other Agencies

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**Staff Contact:** Kiran Guntupalli, 480-312-7623, KGuntupalli@ScottsdaleAZ.gov

| Attachment #1: Information from other Agencies | | | |
|---|---|---|---|
| **City** | **Usage** | **Product Notes** | **Notes** |
| **Phoenix** | Green-backed bike lane markings is being used as the standard, use preformed thermoplastic panels or painted. | •Thermo: better product, lasts longer, harder to keep "bright" looking, can install ~ 200 linear ft per day, must oblit and reapply new when maintaining.<br>•Paint: Easier to use, can be applied more than once to the same location, fades quickly, can install more linear ft per day. | •Began 5 years ago, have not restriped or refreshed any yet.<br>•Look excessively dirty after 1-2 years.<br>• They are added during the maintenance cycle |
| **Tempe** | Installing the green bike lane symbols for approximately 7 years now | Majority of our installations are preformed thermoplastic | •Installing the green bike lane symbols for approximately 7 years now.<br>•About 3-4 years of service they become darker in appearance from the oils from the surrounding pavement<br>•It is ideal to power wash the green bike symbols at least quarterly, depending on location and traffic.<br>•Budget is a key consideration<br>•In-place costs approx. $3,000 each for a 5ft x 50ft section; and approx. $1,000 each for a 6ft x 7ft section. |
| **Peoria** | Used at right turn lanes only. | •Preformed thermoplastic.<br>•Methyl Methacrylate (MMA) product was not successful; very toxic, 5 gallons provides 10 spare feet, flashpoint is 90 degrees so it needs to be installed in winter<br>•Currently testing Safe Ride product. | Started installations recently |
| **El Mirage** | Use an intermittent green pattern on some arterials only. | | |
| **Mesa** | Two-way cycletrack for Stadium Connector has green at the conflict points in 2017. | | |
| **Maricopa** | Support use on multi-use paths | | No installations yet |
| **Fountain Hills** | •Identified in the draft Active Transportation Plan<br>•Concerns due to continual maintainence costs.<br>•Possibly use at locations with safety concern . Traffic in conflicting striping conditions | | No installations yet |
| **Chandler** | Scoped to add with Frye Protected Bike Lane project | | No installations yet |

CITY OF SCOTTSDALE

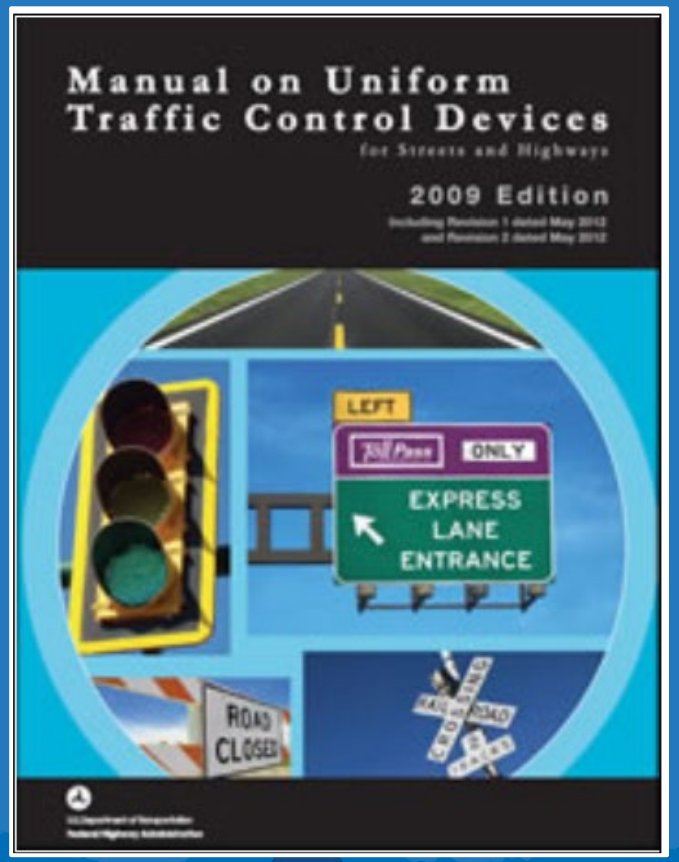
# Green Bicycle Lanes / Pavement Markings
# Paths and Trails Sub-Committee

## June 1, 2021

# Standards

- Manual on Uniform Traffic Control Devices (MUTCD)
  - Interim Approval 14( IA-14)

| | |
|---|---|
| Subject: | **INFORMATION:** MUTCD — Interim Approval for Optional Use of Green Colored Pavement for Bike Lanes (IA-14) |
| From: | Jeffrey A. Lindley<br>Associate Administrator for Operations |
| To: | Federal Lands Highway Division Engineers<br>Division Administrators |

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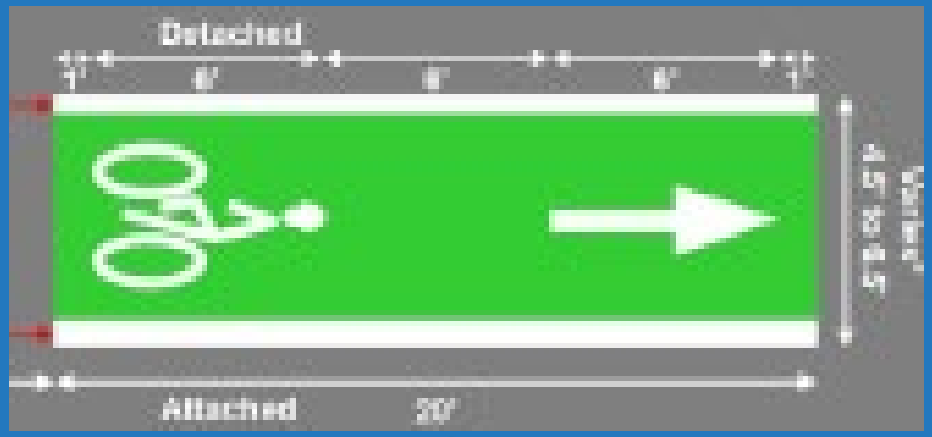
# Applications

a. Green colored pavement as a supplement to other Pavement Markings

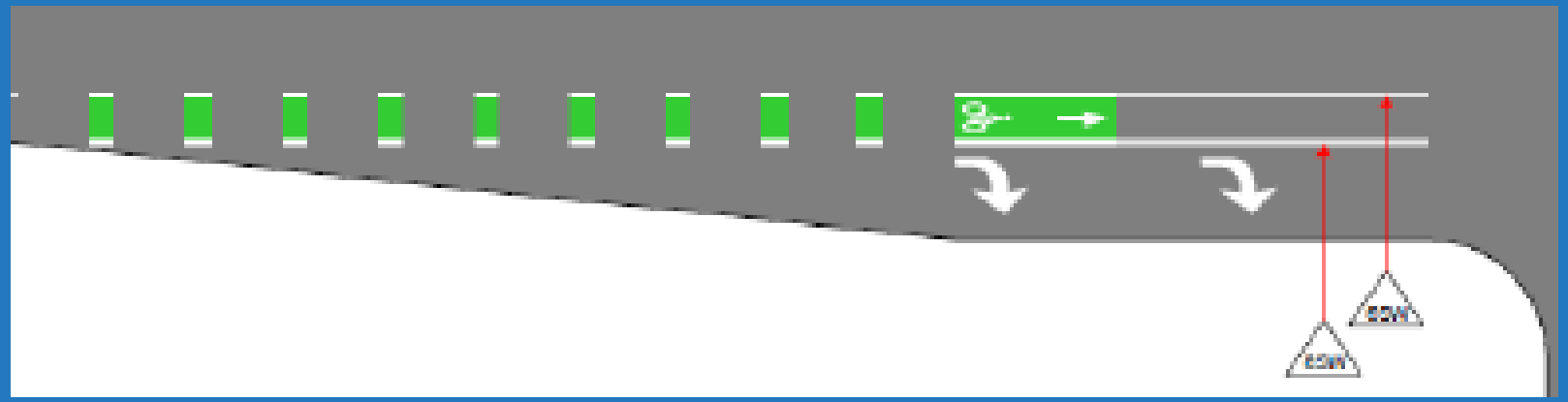


# Applications

b. Lines is used to extend a bicycle lane across an intersection or driveway

# Applications

c. Dotted lines is used to extend a bicycle lane across the beginning of a turn



# Practitioner Input

- Ensure that bicycle lanes and conflict areas are more conspicuous

- Encourage the use of the bicycle facilities and will increase active transportation

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# Maintenance Concerns

- High Installation Costs

- Degradation of the appearance over time and the need for frequent and on-going maintenance

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# Key Considerations

- No Documented Safety Benefits
- Application will be based upon an identified need and engineering judgment
- Application shall conform to MUTCD
- Funds to install and maintain

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# Questions?

# Thank you!

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# Projects and Programs Update

## Paths and Trails Subcommittee
## June 1, 2021

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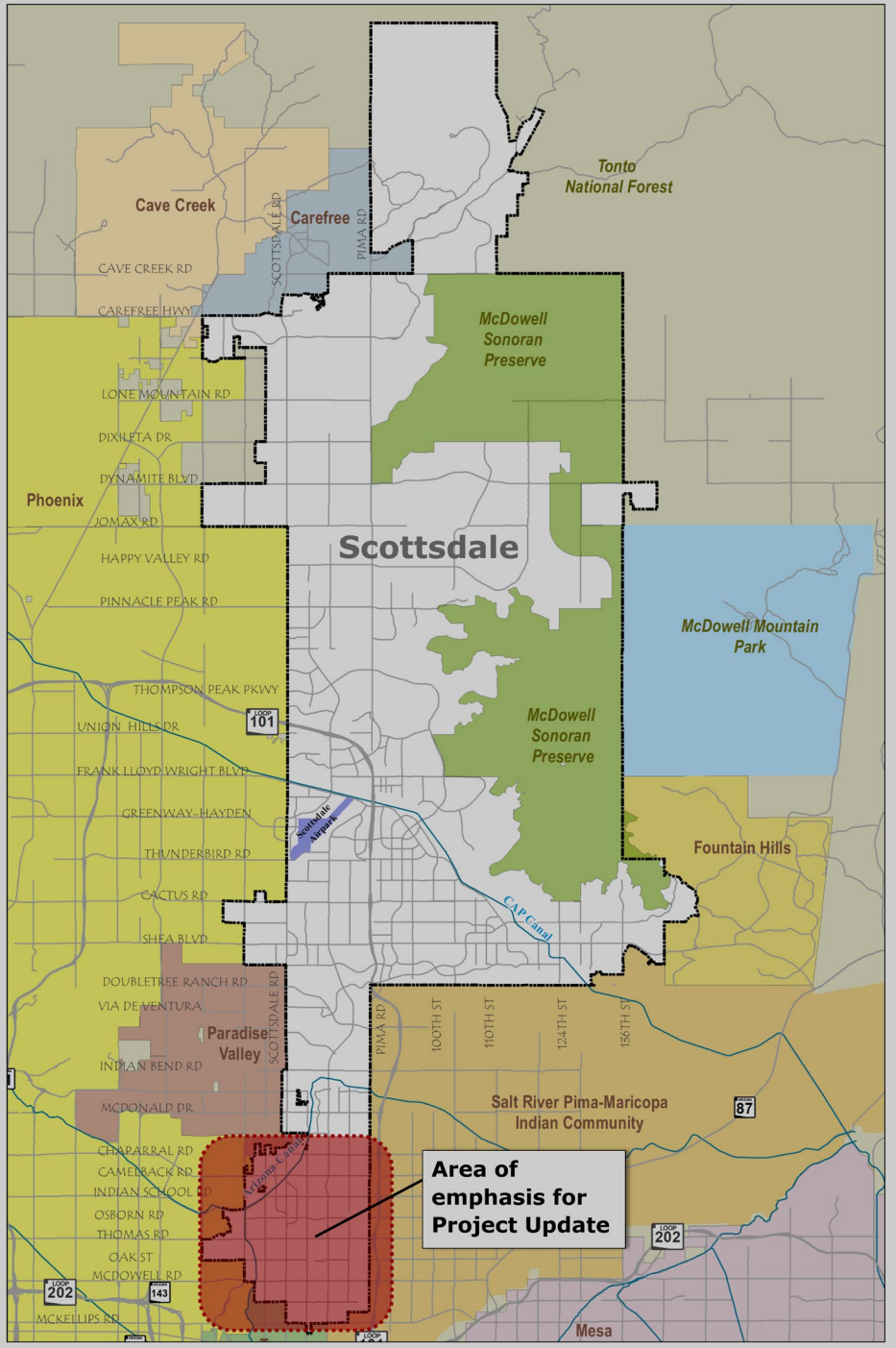
TRANSPORTATION





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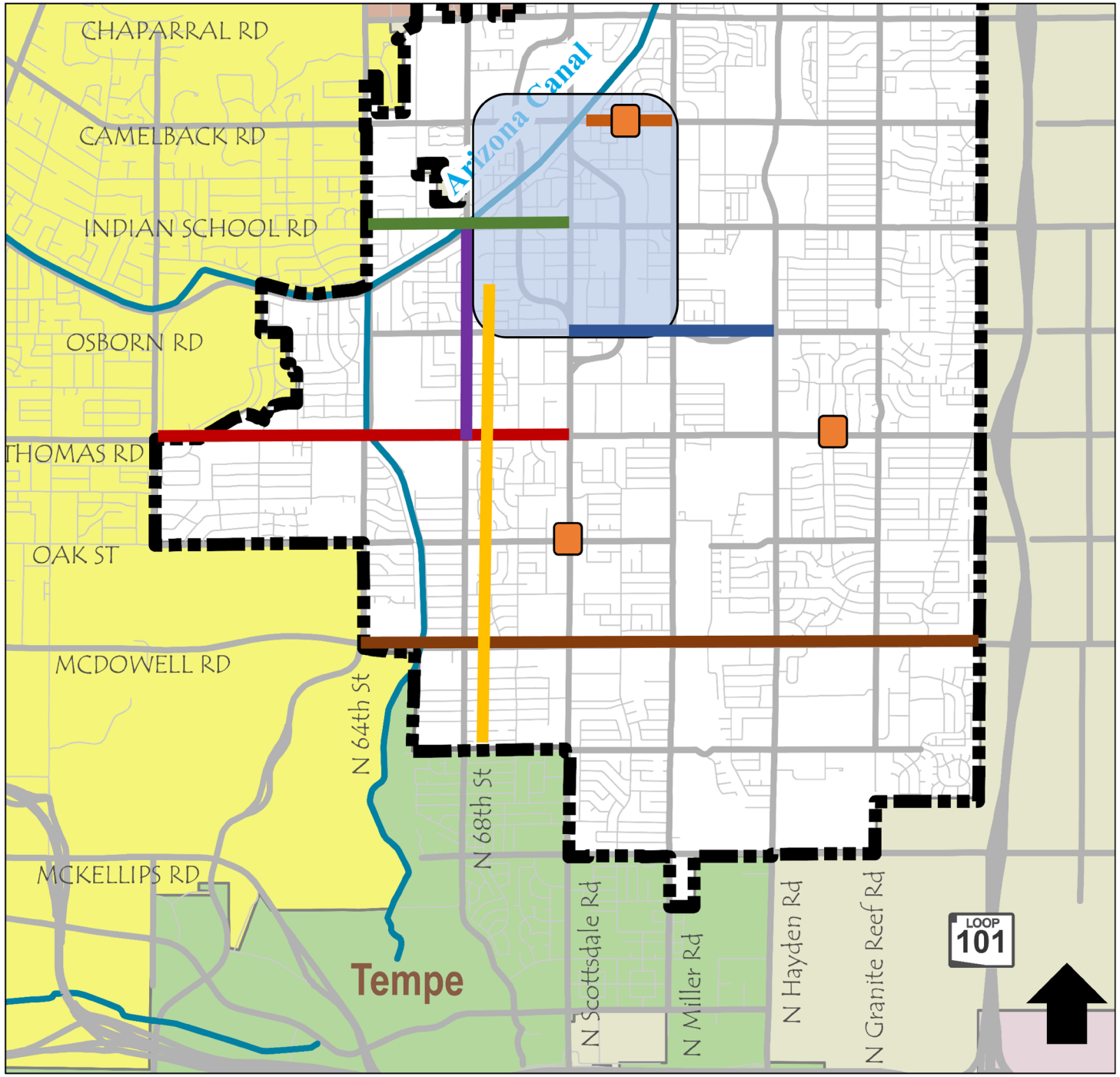
TRANSPORTATION

# Transportation Projects (South Area)

- 70th Street Neighborhood Bikeway
- Old Town Bike Master Plan
- McDowell Road
- Thomas Road
- Osborn Road
- 68th Street
- Indian School Road (Complete)
- Camelback Road
- HAWKS
  - Oak/Scottsdale Rd. (complete)
  - 86th St./Thomas Rd.
  - Saddlebag/Camelback Rd.



## Maintenance Projects (South Area)

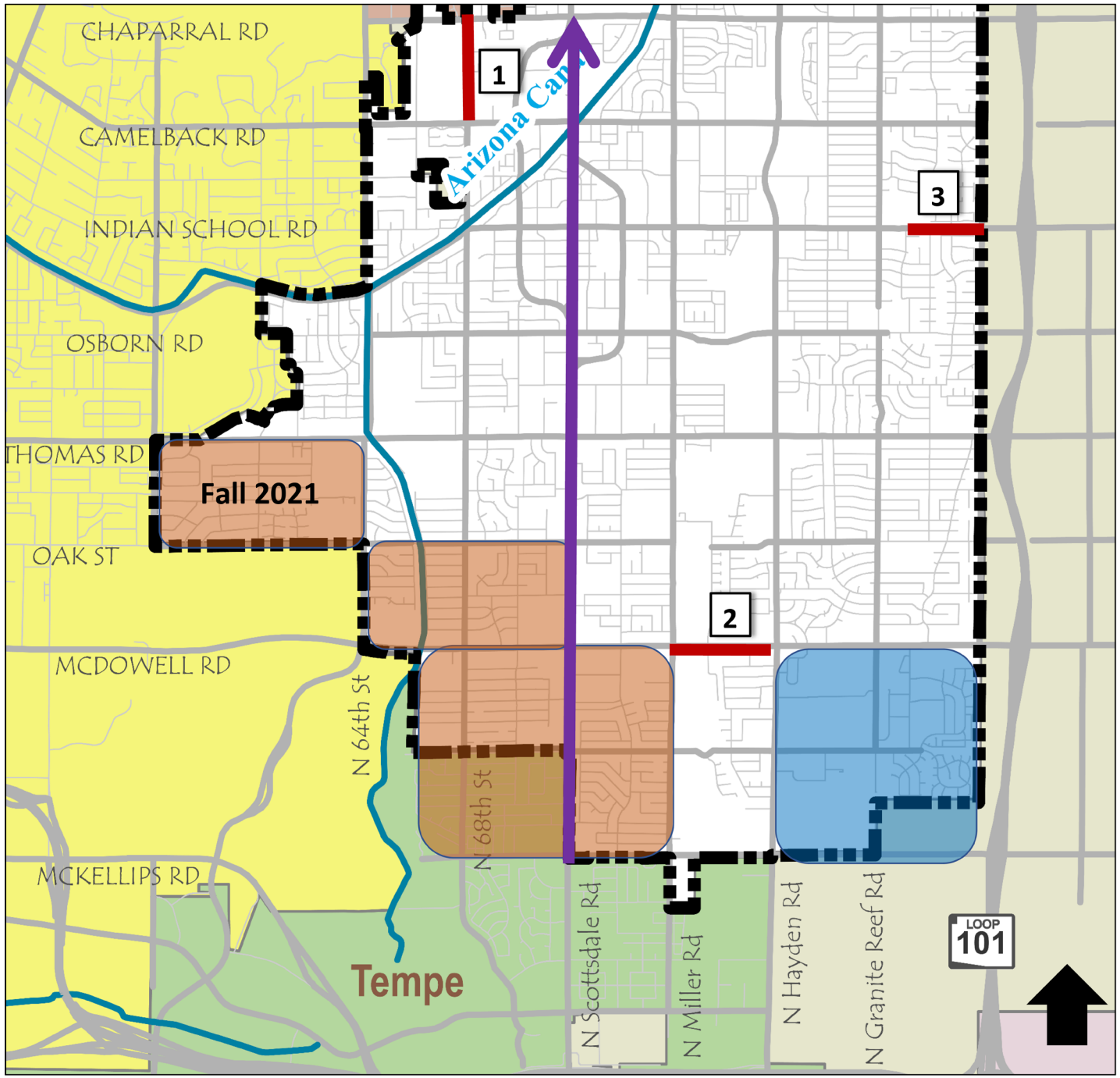
**Paving Projects**

1. 68th Street – Camelback to Chaparral (adding buffered bike lanes – through bike program funds)
2. McDowell – Miller to Hayden
3. Indian School – Pima Road

**Alley Maintenance Program (ongoing)**

**Street Light Conversion Program (ongoing)**

**Lighted Intersection Street Signs (Camelback/Scottsdale Rd - first intersection completed)**



# 70th Street Neighborhood Bikeway Study


# Old Town Scottsdale Bicycle Master Plan

# April Bike Month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TRANSPORTATION

# TENTATIVE FUTURE AGENDA ITEMS

Rev.5-25-2021

## TRANSPORTATION COMMISSION

**MEETING DATE: June 17, 2021** **REPORTS/PRESENTATIONS DUE June 10**

- **Approval of Meeting Minutes ..... Action**
  *Approval of Regular meeting minutes May 20, 2021*
- **Research Performed on Cool Pavement .....Presentation and Discussion**
  *Presentation on research performed on cool pavement and locations where it is used around Scottsdale – ASU Professors Jennifer Vanos, PhD and Ariane Middel, PhD*
- **Pedestrian Crossing Policy ..... Action**
  *Presentation of the Pedestrian Crossing Policy – Sam Taylor, Traffic Engineer*
- **Old Town Bicycle Master Plan .....Presentation, Discussion and Possible Action**
  *Presentation of the Old Town Bicycle Master Plan recommendations – Susan Conklu, Senior Transportation Planner*
- **Other Transportation Projects and Programs Status .....Information**
  *Status of projects and programs – Mark Melnychenko, Transportation & Streets Director*
- **Commission Identification of Future Agenda Items.....Discussion**
  *Commissioners may identify items or topics of interest for future Commission meetings*

**FUTURE ITEMS:**

- **Loop 101 Mobility Project.....Presentation and Discussion**
  *Kristin Darr, consultant*
- **Impact on Parking.....Presentation and Discussion**
  *Latest parking study, Walter Brodzinski, Right-Way Supervisor*
- **November 2018 Sales Tax Projects.....Presentation and Discussion**
  *Status of Projects funded by November 2018 Additional Sales Tax*
- **Assist Business' during CIP Construction.....Presentation and Discussion**
  *Discussion on working with local business' during Capital Improvement Projects – Dave Lipinski, City Engineer*
- **Urban Air Mobility .....Presentation and Discussion**
  *Discuss Urban Air Mobility as Mode of Transportation*
- **Smart City.....Presentation and Discussion**
  *Discussion on the City's participation in Smart City applications.*
- **Pedestrian Crossing Policy ..... Action**
  *Draft policy for Commission review – Sam Taylor, Traffic Engineer*
- **Median Opening Analysis.....Presentation and Discussion**
  *Reviewing data for "pork Chop" median openings compared to standard median openings – David Smith, Traffic Engineer Senior*
- **New Project Development .....Presentation and Discussion**
  *Project development and how it ties in with Transportation – Phil Kercher, Traffic Engineer & Ops Manager*
- **Vacant Land .....Presentation and Discussion**
  *Impact on areas and traffic with new buildings created – Phil Kercher, Traffic Engineer & Ops Manager*
- **Study and Results from Truck Platooning .....Presentation and Discussion**
  *Update on Study and Results from Truck Platooning*
- **Sidewalk Conditions.....Presentation and Discussion**
  *Update condition of sidewalks within the city*
- **Electric Car Movement.....Presentation and Discussion**
  *Presentation on electric car movement – Hong Huo, Traffic Engineer Principal*
- **Shea and 124th Street Underpass .....Presentation and Discussion**

*Update on underpass – Greg Davies, Transportation Planner Senior or David Meinhart, Transportation Planning Manager*

- **Downtown Trolly.....Presentation and Discussion**
  *Update on trolly usage – Ratna Korepella*
- **General Plan Update.....Presentation and Discussion**
  *Update on general plan – Erin Perreault*
- **Bus Ridership and the Transit System.....Presentation and Discussion**
  *Update on bus ridership and the Transit System – Ratna Korepella*
- **Transportation Action Plan ..... Action**
  *Presentation of the Transportation Action Plan recommendations - presented by David Meinhart*
- **Transit System Evaluation Recommendations..... Action**
  *Presentation of the Transit Plan Evaluation Recommendations – Ratna Korepella*
- **Bicycle and Related Devices Ordinance..... Action**
  *Presentation of the amended Bicycle and Related Devices Ordinance – Susan Conklu, Senior Transportation Planner*
- **Clever Devices Application on buses .....Presentation and Discussion**
  *Discussion of the status of the Clever Devices application that will provide computer aided dispatch a vehicle locator system*
- **Update on MAG Prop 400E .....Presentation and Discussion**
  *Update on MAG Prop 400E – MAG staff*
- **Research Performed on Cool Pavement .....Presentation and Discussion**
  *Presentation on research performed on cool pavement and locations where it is used around Scottsdale – ASU Professor Kamil Kaloush, PhD, MS, BS*
- **Pilot Locations of Cool Pavement.....Presentation and Discussion**
  *Discussion on potential high impact pilot locations – Shayne Lopez, Paving Manager*
- **Approval and Funding Process of Projects Related to the Transportation Action Plan…Presentation and Discussion**
  *Discuss the approval and funding process of projects related to the Transportation Action Plan– David Meinhart, Transportation Planning Manager*

## PATHS & TRAILS SUBCOMMITTEE

**MEETING DATE: August 3, 2021** **REPORTS DUE July 27, 2021**

- **Approval of Meeting Minutes ..... Action**
  *Approval of Regular meeting minutes of June 1, 2021*
- **Transportation Action Plan**
  *Review draft Bikeways, Trails and Pedestrian elements - Susan Conklu, Senior Transportation Planner*
  **Information**
- **Other Transportation Projects and Programs Status.....Information**
  *Status of projects and programs – Susan Conklu, Senior Transportation Planner*
- **Subcommittee Identification of Future Agenda Items.....Discussion**
  *Subcommittee members may identify items or topics of interest for future Subcommittee meetings*

**MEETING DATE: October 5, 2021** **REPORTS DUE September 28, 2021**

- **Approval of Meeting Minutes ..... Action**
  *Approval of Regular meeting minutes of August 3, 2021*
- **Other Transportation Projects and Programs Status.....Information**

*Status of projects and programs – Susan Conklu, Senior Transportation Planner*

- **Subcommittee Identification of Future Agenda Items.....Discussion**
  *Subcommittee members may identify items or topics of interest for future Subcommittee meetings*

**FUTURE ITEMS:**

- **Bicycle Education Program .....Presentation and Discussion**
  *Update on Laws and Education – Susan Conklu, Senior Transportation Planner*
- **Bike Month Recap.....Presentation and Discussion**
  *Information on Bike Month – Susan Conklu, Senior Transportation Planner*
- **Scooters .....Presentation and Discussion**
  *Update on Scooter Regulation – Susan Conklu, Senior Transportation Planner*
- **Wayfinding.....Presentation and Discussion**
  *Update on Wayfinding – Susan Conklu, Senior Transportation Planner*
- **Vision Zero.....Presentation and Discussion**
  *Information on Vision Zero (Tempe) – Susan Conklu, Senior Transportation Planner*
- **Equestrian Connectivity .....Presentation and Discussion**
  *Panel – Susan Conklu, Senior Transportation Planner*
- **Access to Indian Bend Wash .....Presentation and Discussion**
  *Better access and how the Parks Dept. can assist. – Susan Conklu, Senior Transportation Planner*
- **Path and Trail Gap Analysis .....Presentation and Discussion**
  *Information on gaps in the citywide path and trails network – Greg Davies, Senior Transportation Planner*