



# **Purpose of Today's Meeting**

- Highlight Background
- Explain Mitigation of Conflicts Safety
- Summarize Projects
- Discuss Options/Next Steps

<sup>\*</sup> Discussion can be continued to future work session(s)

## **BACKGROUND** Key Points

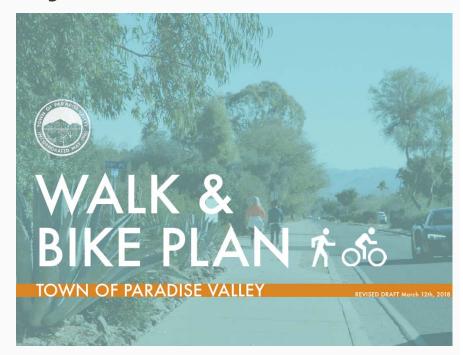
- Walk & Bike Plan fulfills a General Plan implementation measure and Council Quality of Life initiative
- Planning Commission gave a unanimous recommendation of approval
- Plan builds off 2012 General Plan
- Plan generally lessens the urban elements proposed in the existing General Plan
  - 9.6 miles fewer bike facilities
  - Removes sidewalk/bike lane options on McDonald Drive
- Detailed project cost estimates were done to illustrate what is feasible, Council now asked what is desirable
- Minor General Plan Amendment allows for changes in 2012 General Plan (i.e. McDonald Drive)



WALK & BIKE PARADISE VALLEY
The Paradise Valley Bicycle and Pedestrian Master Plan

## **BACKGROUND Plan Summary**

- 4 sections in the plan
  - INTRODUCTION describes guiding principles, mission, and summary of public input of plan process
  - THE PLAN provides facility maps, typical roadway cross-sections, and description of walk and bike facilities
  - PROJECTS + COSTS provides CIP prioritization template, summary of 17 projects with cost estimates, and project map location
  - MOVING FORWARD identifies 6
    goals with associated policies, 16
    implementation measures,
    performance measures, and possible
    funding sources



## **BACKGROUND** Council Work Session – 03/22/18

- Council directed staff to highlight how plan mitigates conflicts between pedestrians, bicyclists and motorists
- Council wanted to understand impact of costs better and directed staff to provide more detail about the projects in the plan (Refer to Detailed Projects presentation)



#### **MITIGATE CONFLICTS Direction Heard**

- SOD identifies need to mitigate conflicts
- Conflicts between pedestrians, bicyclists and motorists
- ADDRESS MITIGATION OF CONFLICTS: This mitigation includes, and is not limited to, the following:
  - Discouragement of cut-through travel, particularly on local streets.
  - Corridor design that eases unsafe conditions between different modes of travel, particularly where bicyclists share the same space as motorized vehicles. This design should include the use of rounda-bouts and other traffic calming measures, roadway pavement curb options, and other design enhancements.
  - Abatement of unintended nuisances such as noise and designs that could increase crime.
  - Accommodation of storm water passage without negatively impacting nearby development and the functioning of the roadway.
  - Identify role for the Advisory Committee on Public Safety (ACOPS) committee in supporting user group education.

#### **MITIGATE CONFLICTS Draft Plan**

- Draft Plan mitigates conflicts in 3 ways
  - Physical improvement
    - Separate facilities
    - Safety devices
    - Traffic calming
  - Education
  - Enforcement





change based on future growth.



Town of Paradise Valley Walk and Bike Plan

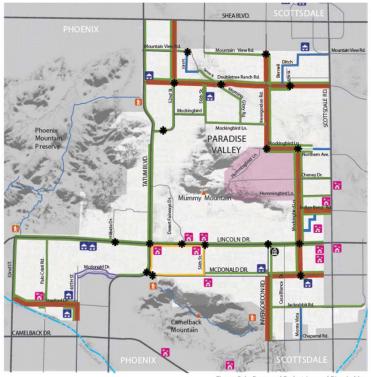


Figure 2-1 Proposed Pedestrian and Bicycle Ma

The Paradise Valley Bicycle and Pedestrian Master Plan

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## MITIGATE CONFLICTS Separate Facility (pedestrians)

- Provides sidewalks, recreational paths, trails, paved shoulders
  - Plan scope focused on non-local streets, except for known local street connections that were almost complete
  - Provides places pedestrians or bicyclists can be separate from motorized vehicle
- Includes maps and typical street cross sections
  - Aid to Council & staff
  - Aid to persons buying/building homes
- Allows non-motorized devices on pedestrian facilities
  - Longstanding Town policy
  - Mitigates motorized conflicts

PEDESTRIAN (2018 Walk & Bike Plan)	MILES
Existing	38
CIP	8
Proposed	6
TOTAL (on map)	52

\* General Plan only provides options for sidewalks on all street classes – no data



**WALK & BIKE PARADISE VALLEY** 

The Paradise Valley Bicycle and Pedestrian Master Plan

## **MITIGATE CONFLICTS Non-Local Street (pedestrians)**



- Existing facilities remain, except suggestion for:
  - Complete 300 lineal foot sidewalk gap on Hummingbird
  - Install ½ mile of trail or sidewalk on 53<sup>rd</sup> Pl/Sanna St to complete connection to Mtn View Rd

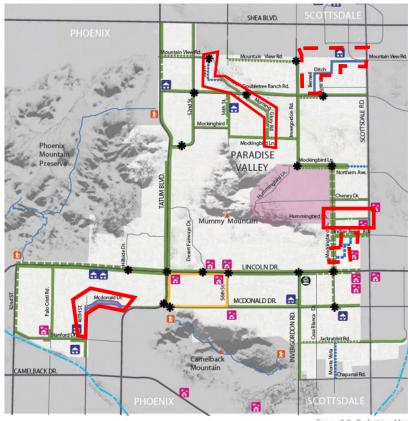
#### Pedestrian Map

The following map is the proposed built-out pedestrian system for the Town of Paradise Valley, showing the existing facilities, existing Capital Improvement Program (CIP per 2018 five-year plan) facilities, and proposed facilities. The exact location and need for individual facilities may change based on future growth.





Town of Paradise Valley Walk & Bike Plan



## **MITIGATE CONFLICTS Separate Facility (bikes)**

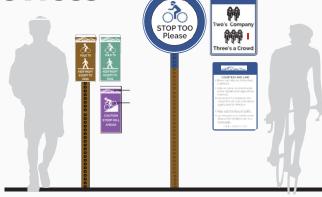
- Provides bike lanes
  - Only on select minor/collector streets
  - 2018 plan has 9.6 miles fewer bike facilities than 2012 General Plan
  - Adds option of 2' buffer between 4' lane and travel lane for safety
  - Requires bike lanes be minimum 4', some existing routes less than 4'
- Identifies 2.8 mile resort loop for recreational rider
- Facilities are shown on map and on typical street cross sections
  - Aid to Council & staff
  - Aid to persons buying/building homes

BICYCLE (2018 Walk & Bike Plan)	MILES
Existing & General Plan	8.3
Existing (not on map)	(2.6)
CIP & General Plan	2.5
Proposed & General Plan	1.4
Removed (routes)	(5.0)
Proposed in General Plan (removed)	(2.0)
TOTAL (on map)	12.2

BICYCLE (2012 General Plan)	MILES
Existing	10.9
Existing (not on map)	0
CIP & General Plan	2.5
Proposed & General Plan	1.4
Bike Routes mapped	5.0
Proposed bike lanes	2.0
TOTAL (on map)	21.8

**MITIGATE CONFLICTS Safety Devices** 

- Safety devices provide a physical cue to mitigate conflict
- 17 identified intersections to improve crosswalks and/or add ped/bike sensors (described in project list)
- Plan defines the types and general design of signs not presently outlined in General Plan
  - Includes signs that exist/allowed today
  - Allowance to customize and not use standard (e.g. 3' separation rule, 2 abreast)





# **MITIGATE CONFLICTS Traffic Calming**

- Traffic calming aids in lowering speeds, discouraging cutthrough traffic, and modifying behavior
- Plan suggests use of existing/ preferred traffic calming devices
- Plan describes these devices in a central document
- Indicates an area to focus traffic calming (Hummingbird Ln Area)



TRAFFIC STUDY AREA



Figure 2-23 Chicane



Figure 2-24 Speed Humps



Figure 2-25 Roundabout/Traffic Circle

#### **MITIGATE CONFLICTS Policies & Measures**

- Physical improvements described via maps/ graphics and policies
- 26 of the 35 policies (75%) relate to separate facilities, safety devices, and/or traffic calming
- 10 of the 16 measures relate to this topic

WB 4.5.3

Intersections. The Town shall incorporate intersection redesign techniques that slow traffic, improve bicycle and pedestrian visibility and direct or redirect users to more suitable routes where deemed appropriate from a traffic engineering perspective using such techniques as curb extensions, tighter turning radii, raised intersections, mini roundabouts, etc. (New)

WB 4.6.6

Minimize Quantities. When deemed necessary by the Town Engineer, the Town shall locate signs primarily at intersections and junctions/entry points with other facilities. (New)

**Implementation Measure 16** 

16. Develop capital improvement, operations and management budgets to properly develop, maintain and improve the bicycle and pedestrian network and the related wayfinding system in the Town. (New)

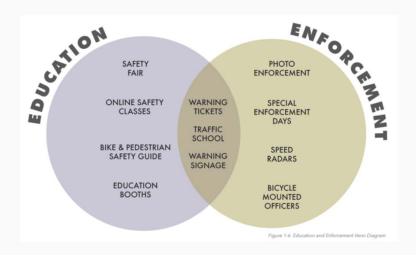
WB 4.6.5 Aesthetic Appeal. The Town desires to minimize visual clutter through allowing the minimum signs needed/required, a preference for ground plane signs over vertical signs, and the selection of materials, colors, sign spacing, or other aspects that best fits into the context and character of the area. (New)

WB 4.1.4

Conflicts. The Town shall develop safe and convenient bicycle and pedestrian facilities that reduce potential conflicts between bicyclists and motor vehicles and bicyclists and pedestrians. Design of the non-motorized system shall consider ways to avoid such conflicts along routes with particular attention at roadway intersections and within hillside areas of Town. (Policy M 4.2.3.2, Town's General Plan)

#### **MITIGATE CONFLICTS Enforcement**

- Enforcement is punitive tool to modify behavior/mitigate conflict
- Enforcement is addressed via policies
- 3 of the 35 policies (5%) address enforcement



wb 4.2.5

Enforcement. The Town shall enforce existing and consider new state and local statutes related to bicycles and pedestrians.

(New)

Bike Share. Bike Share programs shall include incentives and/or disincentives to manage bicycle parking issues to encourage that people return bikes to designated parking locations approved by the Town. (New)

WB 4.5.1

Speed Management. The Town shall develop and implement speed management policies that support safe and appropriate driving speeds on all public streets that are also designated for use by bicyclists and pedestrians. (Policy M 4.2.3.6, Town's General Plan)

#### **MITIGATE CONFLICTS Education**

- Education is a positive tool to modify behavior/mitigate conflict
- Education is addressed via policies and implementation measures
- 6 of the 35 policies (20%) address education
- 6 of the 16 (40%) implementation measures address education WB 4.2.7

Resort Coordination. In order to stay aware of resort visitor needs and the programs resorts develop to serve their clientele, the Town shall coordinate regularly with resort representatives. (New)

Education. The Town shall use a variety of means to educate persons regarding laws and safe use practices of non-motorized and shared facilities that may include public outreach events, such as the Town-sponsored Safety Fair, and volunteer efforts from Town-sponsored groups,

on Public Safety.

WB 4.6.7

(New)

Technology. The Town shall incorporate the latest wayfinding technologies to complement physical wayfinding to be accessible with Global Positioning System (GPS) and coordinate with existing online map tools and digital applications for hiking and biking. (New)

such as the Advisory Committee

Implementation Measure 7

7. Develop education programs, activities, and/or web based and print materials related to aiding enforcement and guidance to persons about the Town's transportation network (e.g. maps, special education events and activities, traffic enforcement days/weeks, school visits, walk and bike days, wayfinding technology). (New)

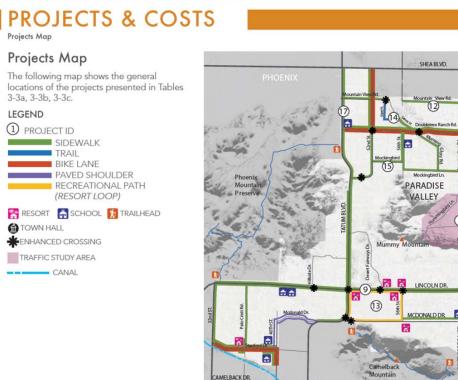


- Attached to action report packet is an additional presentation called "Detailed Projects"
  - Projects ordered from Resort Loop and McDonald Dr first, then highest to lowest cost
  - Presentations focus on proposed improvements, not existing or projects in current CIP
  - The presentation for each project covers direction heard, what is in the draft plan, the design, condition-feasibility, how the project mitigates conflict, and possible options for Council consideration
  - Staff will only go over the detailed presentation in full/or part at work session(s) upon Council request



## **Projects Project Map**

- Plan identifies 17 projects
- Total estimated cost is \$5,150,000 over 12 years
- Plan identifies approximate time frames to complete
- Funding and public input process should be determined with annual CIP
- Opportunity to reduce cost includes:
  - Seek grant(s)
  - Require with an SUP amendment
  - Reduce/delete project scope prior to this plan adoption/or during annual CIP funding



Town of Paradise Valley Walk and Bike Plan

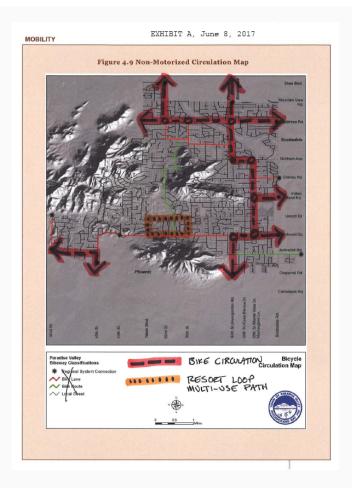
WALK & BIKE PARADISE VALLEY

The Paradise Valley Bicycle and Pedestrian Master Plan

PROJECT # 13

#### **RESORT LOOP Direction Heard**

- SOD identifies 2.8 miles for recreational path
- Direction during SOD
  - Consider where adding a 10' wide path was possible
  - Exclude areas need ROW, interfere with drainage, and/or needs retaining walls (criteria used to determine feasibility for 10' wide)
  - Provide cost estimate
- Resorts supportive (Refer to Resort Input attachment)



### **RESORT LOOP Draft Plan**

- Draft Plan identifies 1.5 miles of 2.8 mile loop with potential to be 10' wide – not required to be 10' wide
- Definition of recreational path allows 6' wide, where necessary

Resort Loop possible 10' wide



## **RESORT LOOP Options**

- Remove Resort Loop concept
- Leave Resort Loop concept and modify recreational path design to 6' wide, no 10' wide option
- Leave Resort Loop concept and build out path to 10' wide in future
  - 1.5 miles of 2.8 mile loop
  - Estimated cost \$1,830,000
  - Reduce cost
    - Seek grant
    - Wait until resorts need a major SUP (1 mile of 1.5 miles)
- Other?

- > Decision point: Keep, Modify, Remove
  - Resort Loop possible 10' wide

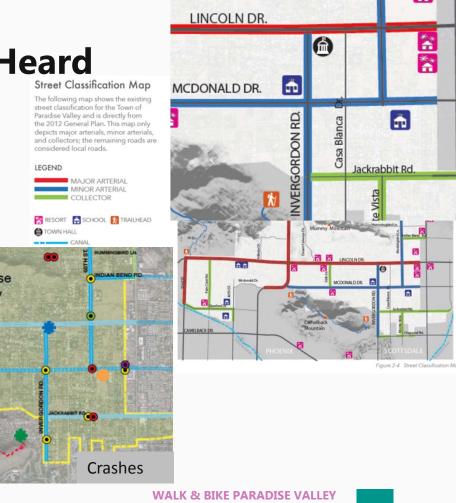


PROJECT # 10

## **MCDONALD DR Direction Heard**

- SOD identifies focusing bicycle facilities on non-local streets
- SOD states to look at safety, this is an area of known bike-pedauto crashes
- 2012 General Plan proposes bike lanes on McDonald Drive as southern W-E connection





The Paradise Valley Bicycle and Pedestrian Master Plan

#### **MCDONALD DR Draft Plan**

- Draft Plan removes bike lanes and sidewalk on south side of street west of Invergordon
- Per SOD & 2012 General Plan, retains bike accommodation east of Invergordon Rd
- Commission recommendation is for pavement sharrows and no change to existing road east of Invergordon Road
- Typical cross-section has option for 10' wide sidewalk on north side and option sidewalk/trail south side
  - Cost not included, not preferred (retain 6' sidewalk north side of street) -Left in since SOD had bike lanes
  - Optional trail/sidewalk on south refers to sidewalk portions along Temple Solel/Kiva/Valley Presbyterian
- Plan includes a suggested landscape median at Kiva school crosswalk



> Decision point: Keep, Modify, Remove

## **MCDONALD DR Options**

- 3 options in cost estimates
  - Option 1
    - Add sharrows and median at Kiva
    - Delete 10' wide sidewalk option on north side
    - \$10,000
    - Preferred option by Commission
  - Option 2
    - Remove turn lane, keep medians, add bike lanes, and median at Kiva
    - 2<sup>nd</sup> option by Commission
    - \$300,000
  - Option 3
    - Full reconstruction with turn lanes, medians, bike lanes
    - \$2,320,000
- Options exist to reduce cost
  - Seek grant money

#### Estimated cost of a complete system

To assist with capital improvement program project budgets, the following table has been prepared to outline the estimated costs to implement the active transportation system as outlined in this plan at the base level. Costs assume existing lights and traffic signals remain in place. In addition to hard costs there is: a 20% contingency, a 10% design fee and a 14% construction administration fee included in the totals.

The projects in the tables below are generally categorized by street corridor(s). The estimated costs for each project includes different components, such as the cost to construct a specific facility (e.g. sidewalk, crosswalk), demolition of existing improvements, and landscaping. Exact costs would be determined once the project(s), in whole or part, are budgeted and designed. Figure 2-2 (Pedestrian Map) and Figure 2-3 (Bicycle Map) with this Plan provide a visual of the enhanced crossing locations and proposed facility improvements. Below is a summary of the major components for each 17 identified projects in Tables 3-3a, 3-3b, 3-3c.

ID	PROJECT	DESCRIPTION	STREET CLASSIFICATION	COST	-	2021 2025	2026
1	Traffic Study Area	The Traffic Study focuses on Hummingbird Ln. at the intersections with Quartz Mountain Rd. and 61st Pl. Improvements relate to adding stop signs, improved striping, and possible use of bicycle-tolerant milled rumble strips, and a speed study for a time of day variable speed limit zone similar to that used for schools.	Local	\$20,000	X		
2	Northern Ave.	Consists of a trail from Golf Dr. to Scottsdale Rd	Local	\$30,000	Х		
3	Doubletree Ranch Rd. (1)	Constructs sidewalk on the south side of the street between Invergordon Rd. and 67th St. and additional crosswalks at 52nd Pl., Via Los Caballos, and 67th St. Existing CIP project to reconstruct road east of Invergordon Rd.	Minor Arterial	\$300,000	Х		
4	Invergordon Rd.	Constructs sidewalk on the west side of Invergordon Rd. north of McDonald Dr. to connect to the Montessori school and completes the west crosswalk at the Lincoln Dr. intersection.	Minor Arterial	\$90,000	Х	х	
5	Berneil Ditch	Improves the existing trail with landscaping north of Doubletree Ranch Rd.	Trail	\$450,000	Х	Х	

Table 3-3a Estimated Cost of a Complete System

ID	PROJECT	DESCRIPTION	STREET CLASSIFICATION	ESTIMATED COST	2018 2020	2021 2025	-
6	Invergordon Rd./ Mockingbird Ln. (2)	Completes the sidewalk on the south side of Mockingbird Ln. from Calle Caballeros to the roundabout at Invergordon Rd., reconstructs sidewalks and adds bike lanes on both sides of Mockingbird Ln. between Northern Ave. and Lincoln Dr., and partially reconstructs sidewalk on the west side of Mockingbird Ln. between Lincoln Dr. and McDonald Dr. Also, it includes adding or restriping crosswalks at the Invergordon Rd. roundabout, and at Mockingbird Ln. and 68th St., Indian Bend Rd., Lincoln Dr., and McDonald Dr. Where there are existing signals, it adds bicycle crossing/button sensors.  Existing CIP projects related to Mockingbird Ln. and Indian Bend Rd.	Minor Arterial	\$400,000	×	X	
	Period #1	Total for 2018-2020		\$1,290,000			
7	Cheney Dr.	Completes the missing sidewalk on the north side of the street, east of 70th St.	Collector	\$50,000		Х	
8	Hummingbird Ln.	Completes the missing sidewalk on the south side of the street, east of 69th Pl.	Local	\$30,000		Х	
9	Lincoln Dr./32nd St. (3)	Includes an existing CIP project to complete sidewalks on both sides the entire length of Lincoln Dr. within Town limits and sidewalk on the east side of 32nd St. Also, it proposes a new crossing at or near Hillside Dr. and coordination with the City of Phoenix for a new crosswalk on the east side of the intersection at 32nd St. The Visually Significant Corridor Plan may separately include enhancement projects.	Major Arterial	\$170,000		Х	
10	McDonald Dr.	Adds bike sharrow symbols to the existing travel lanes and a new landscape median at the existing crosswalk to Kiva Elementary school east of Invergordon Rd.	Minor Arterial	\$10,000		X	
11	Jackrabbit Rd.	Adds a sidewalk on the north side of the street east of Invergordon Rd.	Collector	\$400,000		Х	Х
12	Mountain View Rd.	Adds sidewalk on the south side of the street west of 52nd St. and east of 56th St. and adds a crosswalk on Invergordon Rd at Mountain View Rd.	Collector	\$1,080,000		Х	х
13	Resort Loop	Reconstruction of existing sidewalks for a 10-foot-wide recreational path adjoining the Montelucia Resort, Mountain Shadows Resort, McDonald Dr. from 51st St. to 54th St., Tatum Blvd. from McDonald Dr. to Rovey Ave. and near Arroyo Verde Dr. to Lincoln Dr. It includes adding several improvements at intersections such as a crosswalk/median to the east of roundabout at Echo Canyon Trail, the missing crosswalk at McDonald Dr. and Tatum Blvd., and the missing crosswalk at Lincoln Dr. and 56th St. The Visually Significant Corridor Plan will separately include enhancement projects.	Major, Minor, Collector	\$1,830,000		х	×
	Period #2	Total for 2021-2025		\$3,570,000			

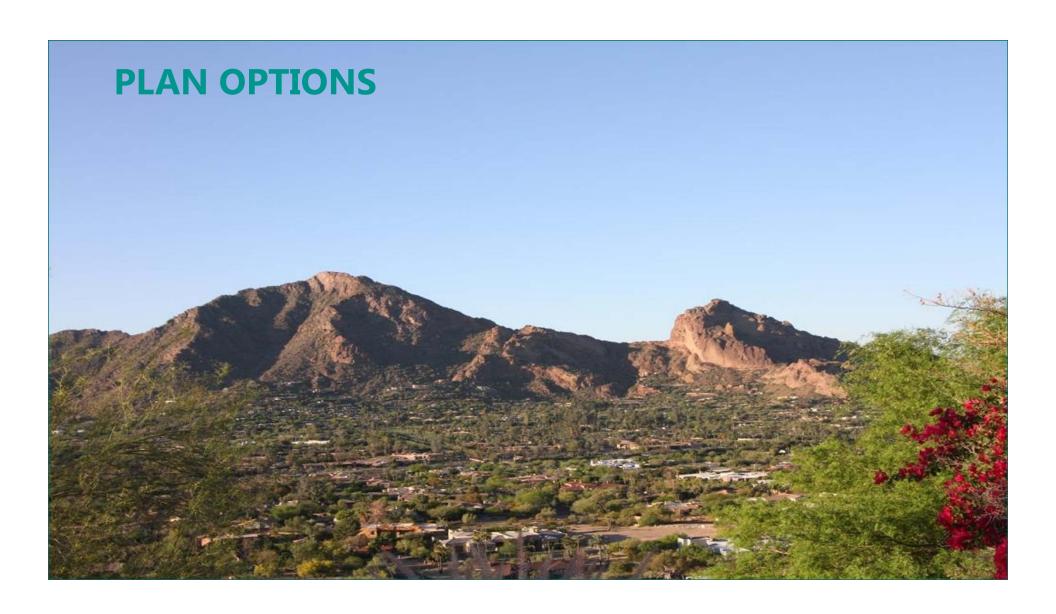
#### Table 3-3b Estimated Cost of a Complete System

ID	PROJECT	DESCRIPTION	STREET CLASSIFICATION	ESTIMATED COST	2018 2020	-	2026
14	53rd Pl./Sanna St.	Completes the pedestrian route to Mountain View Rd. with a Trail or Sidewalk on the east side of 53rd Pl. and the north side of Sanna St. It also includes a crosswalk across Mountain View Rd. at 53rd Pl.	Local	\$170,000			х
15	Mockingbird Ln./52nd St. /56th St. (4)	Adds a crosswalk at Mockingbird Ln. and 50th St. and an existing CIP project to complete sidewalk gaps on 56th St.	Collector/Local	\$20,000			х
16	Monte Vista Dr./68th St.	Completes the pedestrian route between Jackrabbit Rd. and Chaparral Rd. with a trail or sidewalk on the east side of the street.	Collector	\$100,000			х
17	Tatum Boulevard (5)	Constructs sidewalk on the east side of this street between Doubletree Ranch Rd. and Mountain View Rd. by an existing CIP project. Other improvements may be warranted as part of the Visually Significant Corridor Plan or in coordination with the City of Phoenix.	Major Arterial	\$0			
	Period #3	Total for 2026-2030		\$290,000			
	TOTAL			\$5,150,000			

Table 3-3c Estimated Cost of a Complete System

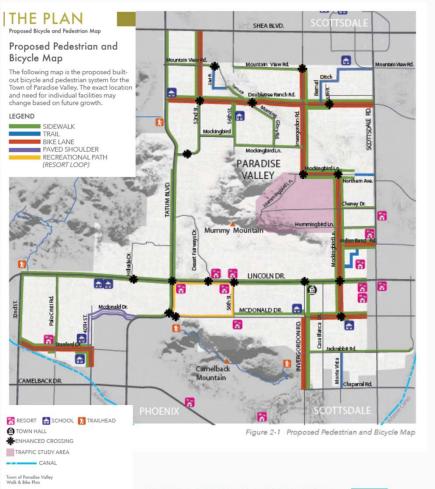
#### **NOTES**

- (1) The 2018-2022 CIP includes reconstruction of Doubletree Ranch Rd., budgeted at \$3,300,000. The budgeted items include bike lanes, medians, sidewalks, roundabouts, landscaping and full curb and gutter to match the cross section west of Invergordon Rd. The additional \$300,000 is for sidewalk on the south side of the street between Invergordon Rd. and 67th St., and three new crosswalks that are not part of that CIP budget.
- (2) The 2018-2022 CIP includes full reconstruction of Mockingbird Ln. between Northern Ave. and Lincoln Dr., along with curb, gutter, and sidewalk adjustments on the west side of Mockingbird Ln. south of Lincoln Dr. The CIP also includes full reconstruction of Indian Bend Rd., at a total budget of \$7,220,000. An estimated \$1,700,000 is expected to come from developer sources. The additional \$400,000 is for sidewalk on the south side of Mockingbird Ln. from Calle Caballeros to the roundabout at Invergordon Rd. and adding or restriping crosswalks at the Invergordon Rd. roundabout, Mockingbird Ln. and 68th St., and Mockingbird Ln. and McDonald Dr.
- (3) The 2018-2022 CIP and prior CIPs included funds to complete improvements along Lincoln Dr. This includes sidewalks on both sides of Lincoln Dr. the entire length of this street within Town limits, sidewalk on the east side of 32nd St. between Stanford Dr. and Lincoln Dr., utility relocation, and reconstruction of Lincoln Dr. east of Mockingbird Ln. The total cost of these improvements was budgeted at an estimated \$9,520,000. An estimated \$1,875,000 is expected to come from developer sources. An estimated \$1,960,000 is expected to come from grant sources. Participation by the City of Phoenix will be sought on 32nd St. The additional \$170,000 primarily relates to the crossing on Lincoln Dr. at Hillside Dr.
- (4) The 2018-2022 CIP includes completion of sidewalk gaps on the west side of 56th St. between Mockingbird Ln. and Doubletree Ranch Rd., at a total budget of \$100,000. The \$20,000 is to add a crosswalk at Mockingbird Ln. and 50th St.
- (5) The 2018-2022 CIP includes completion of sidewalk on the east side of Tatum Blvd. between Doubletree Ranch Rd. and Mountain View Rd., at a total budget of \$150,000. The \$0 cost relates to no new pedestrian or bicycle projects along Tatum Blvd.



## **Possible Plan Options**

- Council finds draft plan recommended by Commission is close to what Council envisions with possible minor edits
  - Identify edits and move forward with Minor General Plan Amendment
  - Amendment updates the 2012 General Plan by striking Sections 4.2, 4.5, and 4.6 and replacing these sections with the Walk & Bike Plan
  - Do a look back during update to 2012 General Plan
- Council finds draft plan requires substantial edits and/or only desires to incorporate some plan components
  - Identify components, move forward with Minor General Plan Amendment, and put selected components into 2012 General Plan format
  - Do a look back during update to 2012 General Plan
- Council finds to leave the 2012 General Plan as-is and table the Walk & Bike Plan for a future date, such as during the next Major General Plan update in ~2 years (2020-2022)
  - Motion to table
  - May or may not include Council-directed committee to work on the plan
- Other options



**WALK & BIKE PARADISE VALLEY** 

The Paradise Valley Bicycle and Pedestrian Master Plan

# PV Bike-Ped Master Plan Upcoming Events (Tentative) 10/11/2018 (?) Town Council Study Session Review (?) TBD Town Council Study Session Review (?) TBD Town Council Citizen Review TBD Town Council Action

#### **TIMELINE**

