

CITY OF SIERRA VISTA

EXECUTIVE SUMMARY



SAFE Bicycle and Pedestrian ROUTES PLAN



1. INTRODUCTION

The Arizona Department of Transportation (ADOT), through the Planning Assistance for Rural Areas (PARA) program, awarded funding for the City of Sierra Vista Safe Bicycle and Pedestrian Routes Plan. The purpose of the PARA program is to assist counties, cities, towns, and tribal communities in rural Arizona in addressing a broad range of multimodal transportation planning issues, including roadway and non-motorized modes of travel. The primary products of the City of Sierra Vista Safe Bicycle and Pedestrian Routes Plan are:

- Sierra Vista Bicycle and Pedestrian Routes Map
- Identification of bicycle and pedestrian needs and deficiencies in the City of Sierra Vista
- Recommended projects, programs, and studies to improve bicycle and pedestrian safety and comfort in the City of Sierra Vista (City)



2. FHWA SUPPORT FOR BICYCLES AND PEDESTRIANS

Federal Highway Administration (FHWA) has consistently reaffirmed its support for bicycle and pedestrian accommodation. In a memorandum dated February 24, 1999, FHWA emphasized that bicycle and pedestrian facilities are a critical element of the local, regional, and national transportation system. The memorandum states:

“We expect every transportation agency to make accommodation for bicycling and walking a routine part of their planning, design, construction, operations and maintenance activities....

Increasing bicycling and walking offers the potential for cleaner air, healthier people, reduced congestion, more livable communities, and more efficient use of precious road space and resources” (Accessed on 5/13/2011 at <http://www.fhwa.dot.gov/environment/bikeped/memo.htm>).

FHWA and U.S. Department of Transportation reaffirmed their support for bicycle and pedestrian accommodation on March 15, 2010 (U.S. Department of Transportation Policy Statement on Bicycle and Pedestrian Accommodation Regulations and Recommendations, March 15, 2010) by directing transportation agencies to:

“Consider[ing] walking and bicycling as equals with other transportation modes: The primary goal of a transportation system is to safely and efficiently move people and goods. Walking and bicycling are efficient transportation modes for most short trips.... Because of the benefits they provide, transportation agencies should give the same priority to walking and bicycling as is given to other transportation modes. Walking and bicycling should not be an afterthought in roadway design” (Accessed on 5/13/2011 at <http://www.fhwa.dot.gov/environment/bikeped/memo.htm>).



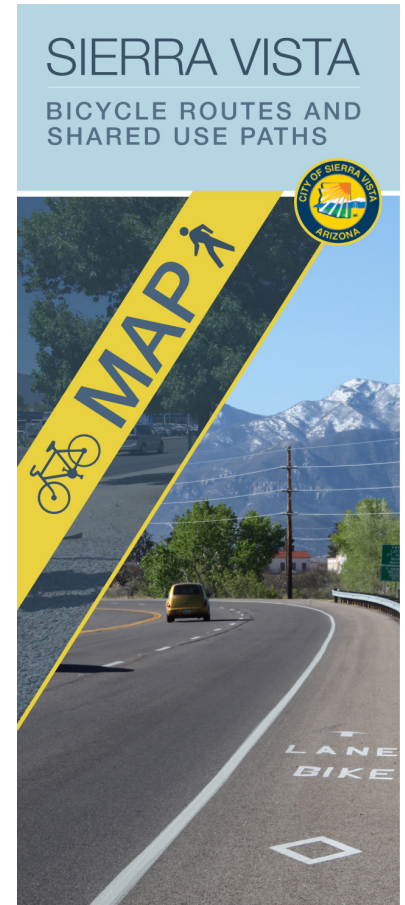
3. SIERRA VISTA BICYCLE AND PEDESTRIAN ROUTES MAP

The Sierra Vista Bicycle and Pedestrian Routes Map includes the existing City of Sierra Vista shared-use path network, on-street bicycle lanes, and other local streets suitable for bicycles and pedestrians. The map is designed to be easily understandable and utilized by the public and includes bicycle and pedestrian routes that connect key nodes such as schools, parks, and commercial centers. The map will be made available for free distribution at City Hall and on the City's website at the conclusion of the study.

4. BICYCLE AND PEDESTRIAN NEEDS AND DEFICIENCIES

Needs and deficiencies were identified through a combination of Technical Advisory Committee (TAC) input, public input at an open house meeting, and data and field review completed by the project team. Key needs and deficiencies include:

- Bicycle and pedestrian safety education campaign
- Designated bicycle lanes and bicycle routes
- Detection of bicyclists at signalized intersections
- "Share the Road" signage
- Pedestrian and bicycle access to Fry Boulevard
- Maintenance of existing bicycle lanes
- Bike lane striping at intersections
- Shared-use paths and sidewalks



5. RECOMMENDED POLICIES, PROGRAMS, AND STUDIES

Projects, programs, and studies are proposed that upon implementation will improve safety and comfort for bicyclists and pedestrians in the City.

➤ 1 Develop and implement a city-wide bicycle and pedestrian safety education campaign

An education campaign should be targeted to all roadway users (bicyclists, pedestrians, and motorists), as well as to law enforcement, planners, and engineers. A key message of the campaign will be that bicyclists have the same rights and responsibilities as motorists.

➤ 2. Require bicycle lanes and either sidewalks or shared-use paths as part of new construction or major reconstruction of principal, major, and minor arterials and collector streets

Bike lanes have been found to provide more consistent separation between bicyclists and passing motorists than shared travel lanes. Bike lane stripe results in fewer erratic motor vehicle driver maneuvers, more predictable bicyclist riding behavior, and enhanced comfort levels for both motorists and bicyclists.



3. Establish a program of regular sweeping of bike lanes, shared roadways, and shared-use paths

The City currently has a regular maintenance program that includes street sweeping of streets and shared-use paths. It is recommended that the City include bicycle routes in a routine of regular sweeping.

4. Install or reconfigure video detection of bicyclists at traffic signals

New or improved traffic signals should include video detection that is configured to detect bicyclists riding in the street, including in a bicycle lane or shoulder.

5. Install pedestrian countdown signals at traffic signals

New or improved traffic signals should include pedestrian countdown signals to improve pedestrian safety when crossing streets.

6. Consider travel lane width reductions to accommodate bicycle lanes

Many roadways in urban areas, including in Sierra Vista, were originally constructed without bicycle lanes. Busy urban arterials without bicycle lanes often act as deterrents to bicycle travel. Many city streets can be retrofitted to include bicycle lanes by narrowing the travel lanes to allow room for bicycle lanes.



7. Install bicycle lane striping and signing at intersections

New or reconstructed intersections, with right-turn lanes, should be constructed or reconstructed to include bicycle lane treatments at the intersections, including a striped bicycle lane that creates a buffer between bicyclists and motorized vehicles and increases the visibility of bicyclists.

8. Install raised pedestrian refuge crossing islands at marked and unmarked cross walks on arterials and high traffic volume collectors

Raised pedestrian refuge islands (crossing islands) are raised islands placed in the street at intersection or mid-block locations to separate crossing pedestrians from motor vehicles. Pedestrian refuge islands should be considered for implementation at marked crosswalks and mid-block locations on high volume roadways such as Fry Boulevard. FHWA guidance states that raised pedestrian refuge islands should be considered particularly in areas where there are mixtures of a significant number of pedestrians, high volumes of traffic (more than 12,000 ADT), and intermediate or high travel speeds.

9. Install bicycle route signs, bike lane signs, and shared lane markings on the City of Sierra Vista Bicycle Network

The City of Sierra Vista Bicycle and Pedestrian Routes Map presents the existing bicycle and pedestrian network. Expansion and improvements to the network of bike lanes and shared roadways should include new bike lanes and the installation of bicycle route and shared roadway signs.

10. Routinely provide a sidewalk or pathway on BOTH sides of the street

All new and reconstructed roadways should include a sidewalk or pathway on both sides of the road. From an implementation perspective, in general, sidewalks should be constructed along existing roadways when curb and gutter for drainage is installed.



11. Develop and adopt a Complete Streets policy

It is recommended that the City Council develop and adopt a Complete Streets policy that directs future investment in transportation infrastructure to consider the needs of all users. As described by the Complete Streets Coalition:

“By adopting a Complete Streets policy, communities direct their transportation planners and engineers to routinely design and operate the entire right-of-way to enable safe access for all users, regardless of age, ability, or mode of transportation. This means that every transportation project will make the street network better and safer for drivers, transit users, pedestrians, and bicyclists – making your town a better place to live.”



12. Recommended studies

Additional studies and plans are proposed to continue to address multimodal needs and deficiencies in the City.

A. Sidewalk inventory and assessment

Conduct a sidewalk inventory to identify existing sidewalk gaps in the City's pedestrian network, and to develop an implementation plan to address the gaps.

B. Warrant studies for mid-block pedestrian crossings

Conduct a detailed analysis of pedestrian crossings on Fry Boulevard to identify pedestrian crossing improvements at signalized intersections, and to identify appropriate locations and necessary infrastructure for mid-block pedestrian crossings.

C. Shared-use path / multi-use path pavement alternatives

Identify and evaluate alternative, ADA compliant, all-weather surfaces for City shared-use paths. Budgetary limitations may necessitate that alternative surfaces be considered that would reduce the cost to construct and maintain City shared-use paths.

D. Action Plan to achieve League of American Bicyclists, Bicycle Friendly Community (BFC) Designation and Pedestrian and Bicycle Information Center, Walk Friendly Communities Designation

Develop and adopt an action plan to provide strategic direction toward successful designation as a Bicycle Friendly City by the League of American Bicyclists, and as a Walk Friendly Community by the Pedestrian and Bicycle Information Center.

E. Americans with Disabilities Act (ADA) Transition Plan

It is recommended that the City develop an ADA Transition Plan to identify and address ADA deficiencies and implementation schedule.

6. RECOMMENDED PRIORITIZED PROJECTS

Specific project recommendations include an expansion of the existing bicycle lanes network, new shared-use paths, and new shared roadway projects. The prioritized projects are listed in **Table E-1**. Project numbers correspond to those depicted in **Figures E-1** and **E-2**.

Projects were prioritized by considering how the proposed projects meet the needs of Sierra Vista residents in the areas of accessibility, safety, and connectivity, and by balancing these factors with the cost and complexity of the project. **Table E-1** includes the prioritization as high, medium, or low-priority project.



Shared Roadways

Shared roadways are local roadways with relatively low vehicular traffic and a speed limit of 35 miles per hour or less, making them ideally suited for bicycle travel. Shared roadways provide continuity to other bicycle facilities (shared-use paths or bike lanes), or serve as alternatives to routes with higher traffic volumes and speeds.

Bicycle Lanes

Bicycle lanes are proposed on arterial and collector streets with vehicular speeds of 25 miles per hour or more, and where adequate street width exists. Many City streets may require travel lane width reduction to accommodate the bicycle lanes.

Shared-use Paths

Shared-use paths are generally 8 to 12 feet wide, are separated from vehicular traffic, and only allow non-motorized uses. This Plan supplements and expands upon those proposed in the City of Sierra Vista General Plan.

7. FUNDING SOURCES

Various funding sources are identified that are eligible to be utilized for bicycle and pedestrian improvements. These include:

- National Highway System (NHS)
- Bridge Program
- Surface Transportation Program (STP)
- Transportation Enhancement Activity
- Highway Safety Improvement Program (HSIP)
- Safe Routes to School
- State and Community Traffic Safety Program, Section 402
- Transportation and Community and System Preservation Pilot Program (TCSP)
- Job Access and Reverse Commute (JARC)
- Federal Transit Capital, Urban, Rural Funds
- Community Development Block Grants (CDBG)
- State Sales Tax
- Local Transportation Assistance Fund (LTAF) (Program was suspended in 2010)
- Development Impact Fees



Table E-1 – Prioritized List of Shared Roadways, Bicycle Lanes, and Shared-Use Paths Projects

PROJECT NUMBER	STREET OR LOCATION	FROM	TO	LENGTH (MILES)	PRIORITY
Signed Shared Roadways Projects					
	Calle Portal	Memorial Veteran Park (north of Fry Boulevard)	Quail Run Drive	0.4	High
	Canyon Drive	Fry Boulevard	Theater Drive	0.4	High
	Lenzner Avenue	Golf Links	Busby	0.5	High
	Quail Run (includes parts of Calle del Norte, El Camino Real, and Calle Central)	Moorman Avenue	SR 92	1.2	High
	North Avenue	James Drive	Kayetan Drive	0.1	High
	Sycamore Drive	North Avenue	Norman Avenue	0.1	High
	Campus Drive	SR 90 Bypass	Colombo Avenue	0.5	High
	Busby Drive	Buffalo Soldier Trail	Carmichael Avenue	0.2	Medium
	El Camino Real	Foothills Drive	Southern terminus of El Camino Real (approx. extension of Lexington Drive)	0.2	High
	Kayetan Drive	Buffalo Soldier Trail	Carmichael Avenue	0.7	High
	Tacoma Street/Las Brisas (includes parts of Theater Drive and 1st Street)	Pfister Avenue	Coronado Drive	3	Medium
	Tacoma Street		Ball fields at Tacoma Drive / SR 90	0.8	Medium
	Town and Country	Golf Links	Avenida Cochise	0.8	Medium
	Busby Drive	SR 92	Avenida del Sol (follows Busby Drive until it ends and picks up on Corral Road)	0.8	Medium
	Denman Avenue and Carmelita Drive	Canyon Drive	Coronado Drive	1.7	Medium
	Greenbrier Road	Cherry Hills Drive	Mission Drive	0.3	Medium
	Oakmont	Shared-use path extending from El Camino Real to Oakmont	Avenida Cochise	0.2	Medium
	Cardinal Drive and Martingale Road	El Camino Real	Golf Links Road	0.4	Medium
Bicycle Lanes Projects					
9	Fry Boulevard	Buffalo Soldier Trail	SR 90 Bypass	2.9	High
5	Charleston Road	Colombo Avenue	SR 90 Bypass	0.5	High
8	Foothills Drive	SR 92	Snyder Boulevard	1	High
3	Avenida Del Sol / Giulio Cesare Avenue	Snyder Boulevard	Buena School Boulevard	2	High



Table E-1 – Prioritized List of Shared Roadways, Bicycle Lanes, and Shared-Use Paths Projects (continued)

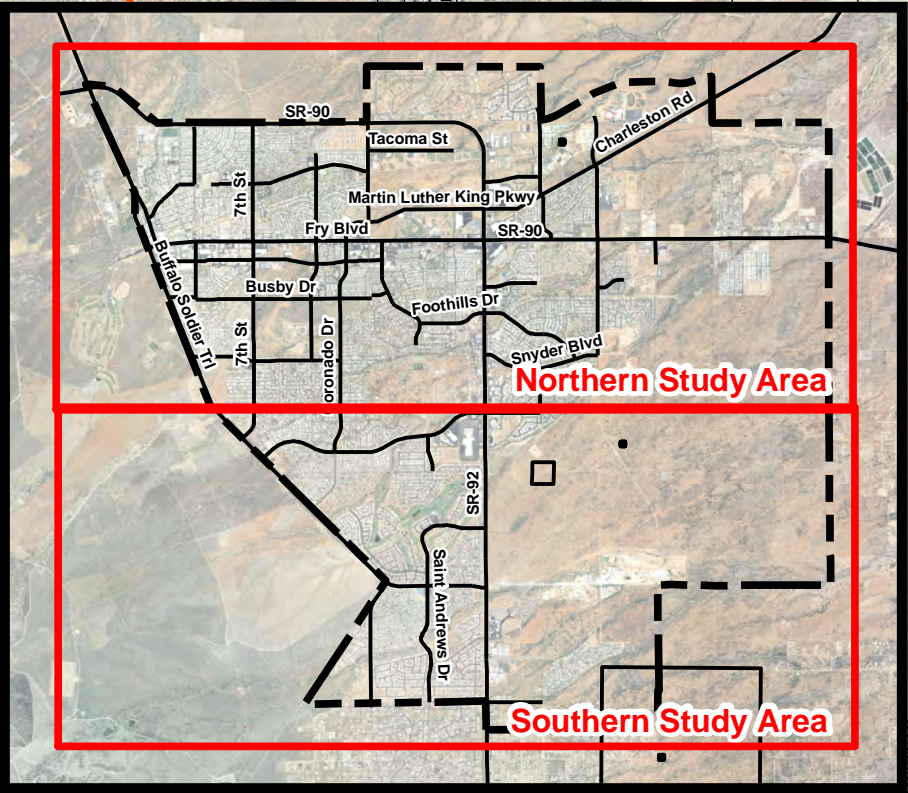
PROJECT NUMBER	STREET OR LOCATION	FROM	TO	LENGTH (MILES)	PRIORITY
Bicycle Lanes Projects (continued)					
7	Foothills Drive	El Camino Real	SR 92	0.6	High
14	SR 90 Bypass	Buffalo Soldier Trail	SR 92	4.3	High
11	Lenzner Avenue	Tacoma Street	Fry Boulevard	0.6	High
15	SR 92	SR 90 Bypass	City of Sierra Vista City Limits	3.9	High
2	Avenida Cochise	Buffalo Soldier Trail	Coronado Drive	0.7	High
4	Busby Drive	Carmichael Avenue	Moorman Avenue	1.5	High
6	Coronado Drive	Martin Luther King Jr. Parkway	Buffalo Soldier Trail	2.8	Medium
12	Oakmont Drive	Avenida Cochise	Greenbrier Road	0.2	Medium
13	Snyder Boulevard	SR 92	Avenida Del Sol	1	Medium
10	Golf Links Road	Buffalo Soldier Trail	7th Street	0.5	Medium
Shared-Use Paths Projects					
30	Avenida Del Sol / Giulio Cesare Avenue	Snyder Boulevard	Camino del Norte	0.5	High
18	Buffalo Soldier Trail	SR 90 Bypass	Avenida Cochise	2.5	High
23	Fry Boulevard	Coronado Drive	Avenida Escuela to Martin Luther King, Jr.	1.2	High
26	SR 92	Calle Mercancia	City Limit	2.5	High
26	SR 92	Foothills Drive	Avenida Cochise (west side)	0.9	High
17	Avenida Del Sol / Giulio Cesare Avenue	SR 90 Bypass	Buena School Boulevard	1	Medium
25	SR 90 Bypass	7th Street	Coronado Drive	1	Medium
26	SR 92	Buffalo Soldier Trail	City Limit	1.25	Medium
21	Coronado Drive	SR 90 Bypass	Tacoma Street	0.5	Medium
16	7th Street	Wilcox Drive	Golf Links Road	0.9	Medium
19	Busby Drive	Carmichael Avenue	Moorman Avenue	1.5	Medium
20	Undeveloped	El Camino Real	Oakmont Drive	0.1	Medium
26	SR 92	West side of 92, south of Fry	North end of Circle K to Fry Boulevard	0.2	Medium
27	Tacoma Street	End of Tacoma Street	SR 90 Bypass	0.3	Medium
31	Shared-use path extending southwest of Town and Country	Town and Country	Buffalo Soldier Trail	0.4	Medium
24	Lenzner Avenue	Fry Boulevard	Golf Links Road	0.4	Low
28	Busby Drive (Extension)	Eastern terminus Busby Drive	Western terminus of Corral Road	0.3	Low
22	Coronado Drive	Busby Drive	Golf Links Road	0.5	Low



Shared Use Path Paved 8 ft to 12 ft wide path, separated from street. Watch for equestrians, pedestrians and dogs. Suitable for slower bicycle speeds.

Bicycle Lane On major street, with white edge line, 4 ft to 10 ft wide paved shoulder, speed limit 25 mph or more.

Shared Roadway Selected bikable streets with maximum speed limit of 35 mph for vehicles. Appropriate for designation as a bicycle route with signage.



Study Area

Parcels

Roadways

Existing Facilities

Shared Use Paths

Bicycle Lanes

Proposed Projects

Shared Use Paths

Bicycle Lanes

Sidewalk Improvements

Shared Roadway

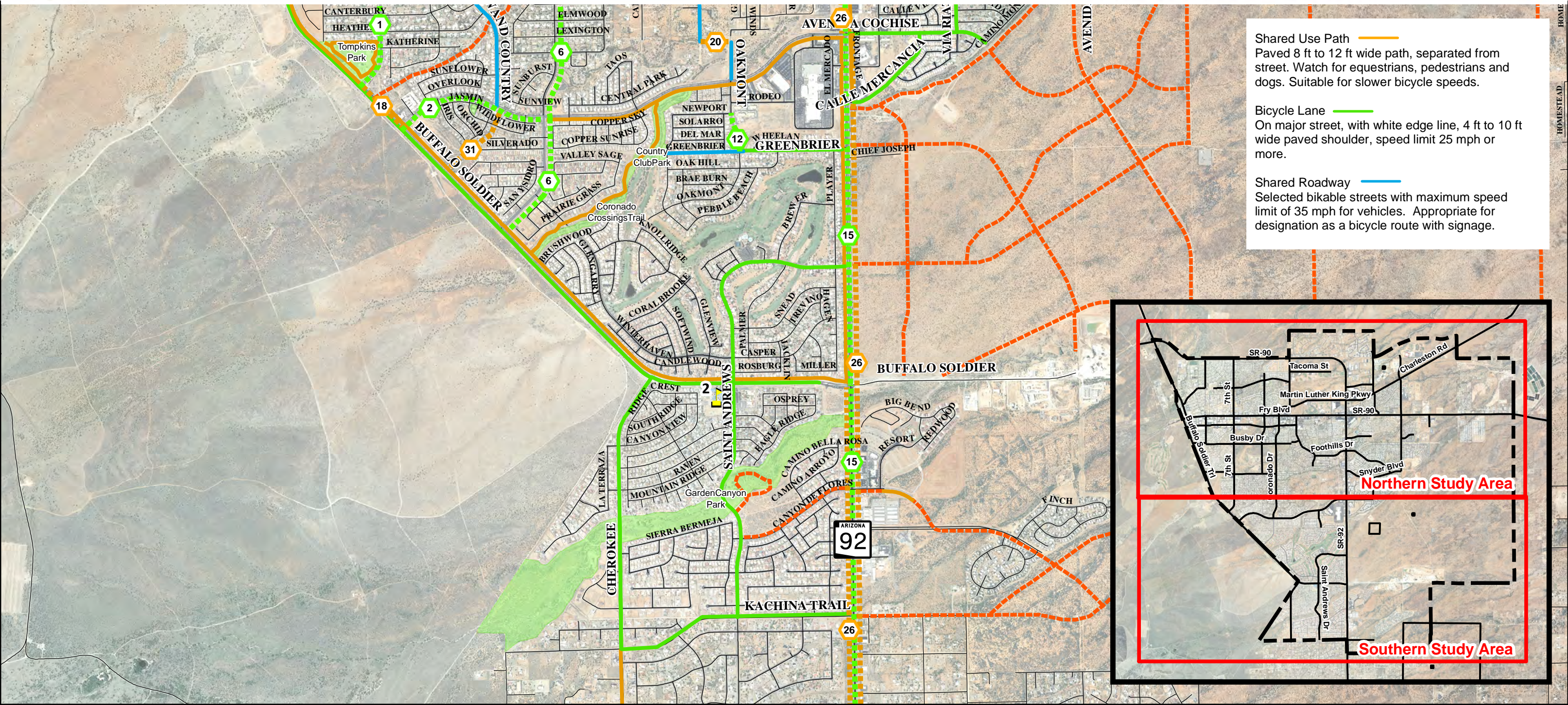
General Plan Shared Use Path


Public Schools


1. Carmichael Elementary School
2. Huachuca Mountain Elementary School
3. Village Meadows Elementary School
4. Pueblo Del Sol Elementary School
5. Buena High School
6. Apache Middle School
7. Bella Vista Elementary School
8. T&C Elementary/Joyce C. Clark Middle School


Figure E1 - Existing Facilities and Proposed Projects
Northern Study Area

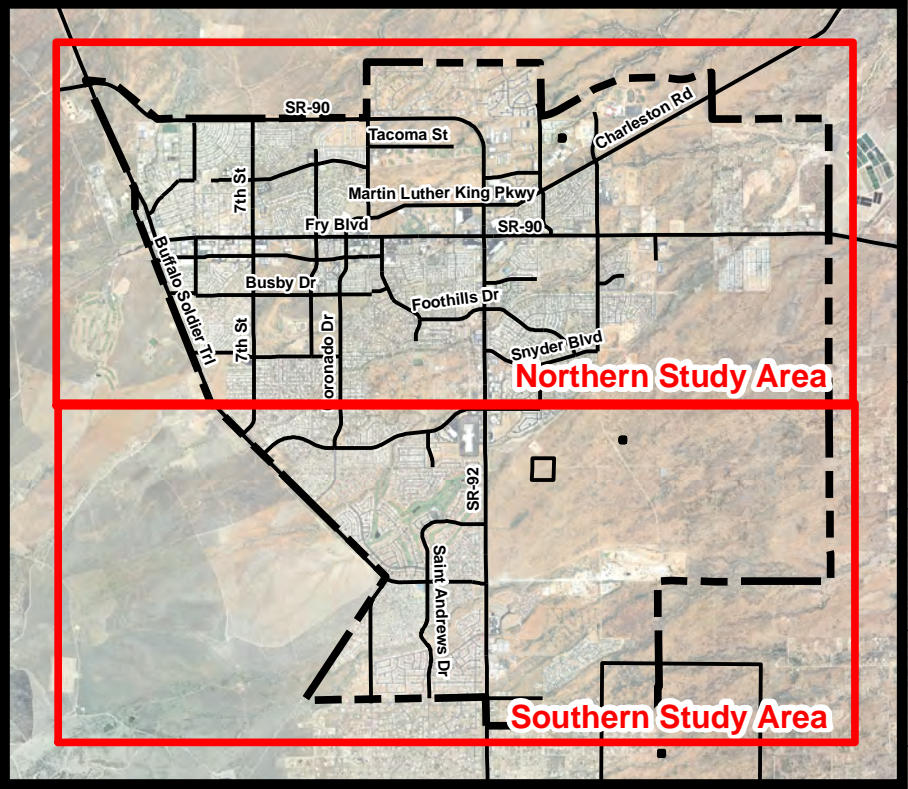














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- | | | |
|---|--|--|
|  Study Area | Existing Facilities | Proposed Projects |
|  Parcels |  Shared Use Paths |  Shared Use Paths |
|  Roadways |  Bicycle Lanes |  Bicycle Lanes |
| | |  Sidewalk Improvements |
| | |  Shared Roadway |
| | |  General Plan Shared Use Path |

-  Public Schools
1. Carmichael Elementary School
 2. Huachuca Mountain Elementary School
 3. Village Meadows Elementary School
 4. Pueblo Del Sol Elementary School
 5. Buena High School
 6. Apache Middle School
 7. Bella Vista Elementary School
 8. T&C Elementary/Joyce C. Clark Middle School

Figure E2 - Existing Facilities and Proposed Projects
Southern Study Area

