

TASK ASSIGNMENT MPD 32-10
EXECUTIVE SUMMARY
Doney Park

MULTIMODAL TRANSPORTATION STUDY

NOVEMBER 2011 | PREPARED FOR:
Coconino County Community Development
Coconino County Public Works Department
Arizona Department of Transportation



PREPARED BY:



Kimley-Horn
and Associates, Inc.



TABLE OF CONTENTS

1 Introduction	1
1.1 Doney Park Residents Value a Rural Lifestyle	1
1.2 Doney Park Timberline Fernwood Area Plan....	1
2 Proposed Projects	1
2.1 Roadway Connectivity	1
2.2 Shared-Use Paths.....	3
2.2.1 Shared-Use Path Courtesy	
2.2.2 Paved Surface Shared-Use Path	
2.2.3 Soft Surface Path for Equestrians and Pedestrians	
2.3 Sidewalks	4
2.4 Paved Shoulders	4
2.5 Bicycle Lanes	5
2.6 Paved Shoulder Maintenance and Sweeping ..	5
2.7 Project Phasing	5
2.8 Transit Service	9
3 Implementation Revenue Sources	9





INDEX OF FIGURES

Figure 1 – Proposed Projects	2
Figure 2 – Shared-Use Path: Paved Path with Equestrian Path.....	3
Figure 3 – Shared-Use Path: Paved Path with Equestrian Path and Bicycle Lane	4
Figure 4 – Soft Surface Equestrian and Pedestrian Path	5
Figure 5 – Transit Alternatives.....	10

INDEX OF TABLES

Table 1 – Phase 1 Recommended Projects	6
Table 2 – Phase 2 Recommended Projects	7
Table 3 – Phase 3 Recommended Projects	8
Table 4 – Summary of Costs by Phase.....	9





1 INTRODUCTION

The Arizona Department of Transportation (ADOT), through the Planning Assistance for Rural Areas (PARA) program, awarded funding to Coconino County for the Doney Park Multimodal Transportation Study (study). The study identifies needs and deficiencies for multimodal travel within Doney Park and recommends a program of projects to address multimodal transportation needs. The Study serves as a guide for community development, project funding applications, and project implementation.

Projects recommended in this study may be constructed incrementally over a considerable period of time as opportunities arise and funding becomes available. Projects may be initiated at any time after completion of the study, and full implementation of all the projects may not occur for 10 to 20 years or longer. There is no guarantee that all projects will be completed and some may be eliminated from consideration due to lack of funding or other unforeseen circumstances.

1.1 Doney Park Residents Value a Rural Lifestyle

Many who live in the Doney Park area value a rural lifestyle and environment. They enjoy convenient access to open space and recreational opportunities. During plan development, many expressed concern that pathways and bicycle lanes would detract from a rural environment. Many others expressed strong support for the improvements. As concisely and clearly explained by a study stakeholder:

“Proper planning for multimodal transportation is not counter to rural values. The ability to travel on foot, bicycle, or horse is part of a long-standing rural tradition in our country. Providing pathways to allow the safe and desirable use of foot, bicycle, or horse is just good, responsible community planning.”

1.2 Doney Park Timberline Fernwood Area Plan

Recommendations of the Doney Park Multimodal Transportation Study build upon concepts originally proposed in the *Doney Park Timberline Fernwood Area Plan* (Plan). A goal of the Plan is to provide a non-motorized trail system to provide access between neighborhoods and schools, public lands, and other trail systems. The study serves to advance many of these concepts.

The Doney Park Multimodal Transportation Study proposes a network of pathways along collectors and arterials, including along US 89. Bicycle lanes and paved shoulders are proposed along major arterials. Equestrian and pedestrian paths are proposed along several collector streets in the Doney Park area. Equestrian paths provide connections to adjacent U.S. Forest Service (USFS) lands.



2 PROPOSED PROJECTS

Proposed multimodal transportation projects in the Doney Park area are depicted in **Figure 1**. Proposed multimodal projects consist of the following project elements:

- » Roadway connections
- » Shared-use paths to accommodate pedestrians, bicyclists, and other users
- » Equestrian paths constructed of soft surface materials suitable for equestrian use
- » Sidewalks
- » Paved shoulders
- » Bike lanes and signing
- » Transit service

2.1 Roadway Connectivity

Roadway projects that are needed to improve connectivity, mobility, and emergency response include:





- » Improve the existing Neptune Lane from Lunar Drive to Stardust Trail to County standards. This road is currently unpaved and requires grading and paving to Coconino County standards. These improvements would likely require formation of an improvement district.
- » Construct a new road that extends Burris Lane from its current terminus at Pine Country Lane to Koch Field Road.

2.2 Shared-Use Paths

A network of shared-use paths is proposed in Doney Park and the surrounding areas, including along US 89, Townsend-Winona Drive, Cosnino Drive, and Silver Saddle Road. The proposed pathway network will be comprised of paved paths as well as soft surface/natural surface paths for both pedestrians and equestrians.

Figure 1 reflects the proposed locations of each type of path. Please note that ADOT does not allow equestrian use within ADOT right-of-way.

2.2.1 SHARED-USE PATH COURTESY

Shared-use paths will attract a variety of user groups including bicyclists, walkers, strollers, and equestrians. Each user group often has conflicting needs. For example, pedestrians are impacted by other trail users including bicyclists who travel at high speeds, horses are sensitive to sudden movements or unexpected noises, and users with disabilities are unable to react quickly to hazards.

*Image Courtesy of
Arizona State Parks*



While the Doney Park Multimodal Transportation Study recommendations include separate facilities for each user group where feasible, in some cases user groups will utilize a common space and must learn to respect one another.

2.2.2 PAVED SURFACE SHARED-USE PATH

Paved shared-use paths will accommodate pedestrians, slow-speed bicyclists (e.g., children riding to and from school), and wheeled devices such as strollers. Where paved shared-use paths are proposed, an equestrian path is proposed on the opposite side of the roadway, with exception to US 89 where stakeholder input indicated that traffic volumes and speeds are not conducive to equestrians. Furthermore, ADOT does not allow equestrians within ADOT right-of-way. A typical section of a paved shared-use path, with an accompanying equestrian path on the opposite side of the road, is shown in **Figure 2**.

Paved paths along major roadways such as Townsend-Winona Road are proposed to be 10 feet wide, as illustrated in **Figure 3**. Paved shoulders and bicycle lanes are also proposed on higher volume and higher speed roadways such as Townsend-Winona Road.

2.2.3 SOFT SURFACE PATH FOR EQUESTRIANS AND PEDESTRIANS

The Doney Park area is home to an active equestrian community. To address the needs of the equestrian community, a network of soft surface paths are proposed

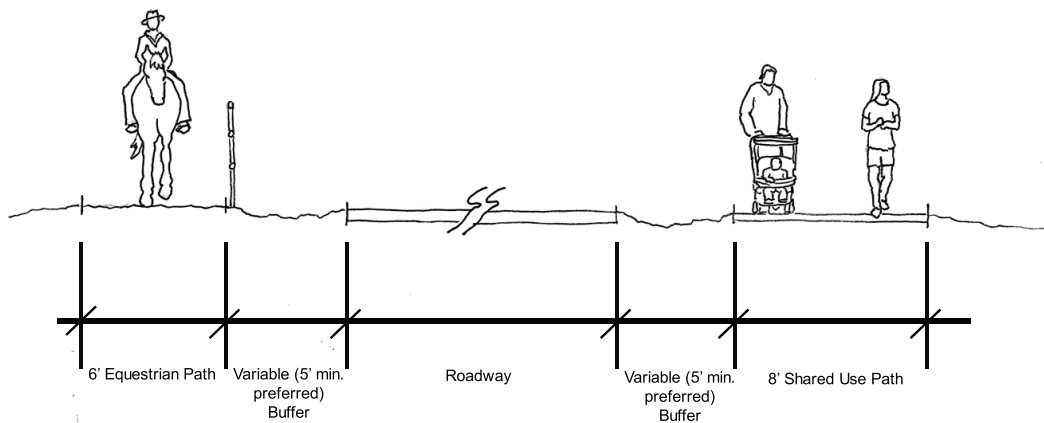


Figure 2 – Shared-Use Path: Paved Path with Equestrian Path

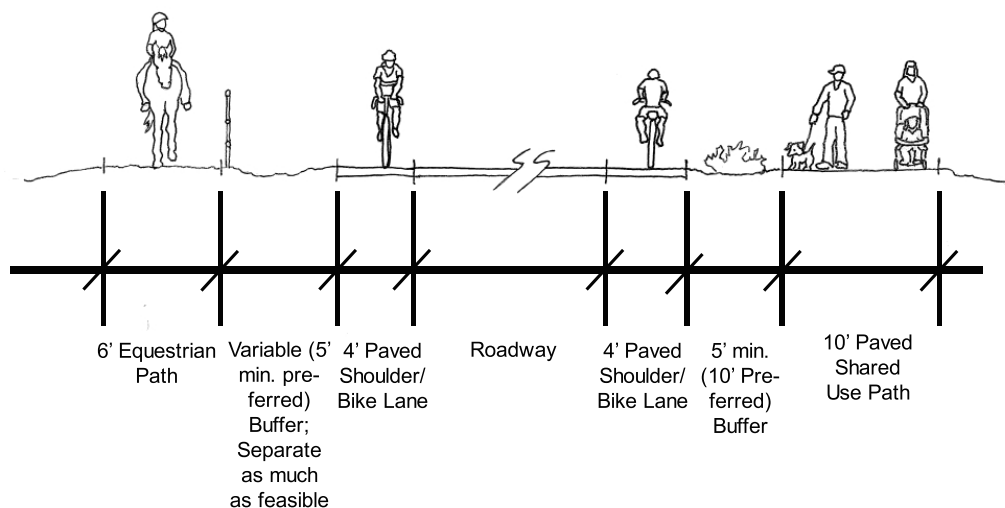


Figure 3 – Shared-Use Path: Paved Path with Equestrian Path and Bicycle Lane

throughout Doney Park. Where sufficient right-of-way exists, a soft path and a paved path are proposed. Soft paths and paved paths are proposed on Koch Field Road, Townsend-Winona Road, Silver Saddle Road, Skeet Drive, and Neptune Drive. The soft path is proposed to be located on the opposite side of the street as the paved path. The soft paths along these roads will be as natural as possible; they may be described as an 'equestrian realm' with minimal improvements such as minor clearing or covering of culverts.

Right-of-way limitations in some areas may preclude the development of a paved path and a soft path. Soft paths only are proposed on Stardust Trail, Slayton Ranch Road, and Cosnino Road. Soft paths along these roads should be constructed so that they are suitable for equestrians and pedestrians and surface treatments should consider the needs of both user groups.

A cross section is illustrated in **Figure 4** on the next page.

2.3 Sidewalks

Sidewalks are proposed in areas with existing curb and gutter, or in areas with physical features, constrained right-of-way, or access considerations that prohibit construction of a shared-use path separated from the roadway.

Within the Doney Park area, proposed sidewalks are limited to Burris Lane (due to limited right-of-way and drainage constraints) and along US 89 south of Townsend-Winona Road to connect to existing sidewalks. No other sidewalk segments are proposed in the study area.

Sidewalks along Burris Lane may be five feet wide. Sidewalks along high volume streets (US 89) should be six feet wide.

2.4 Paved Shoulders

Paved shoulders along low traffic volume streets can provide a suitable pedestrian facility. Providing paved shoulders does not always require roadway widening. In many cases, paved shoulders can be achieved through reallocating pavement width by narrowing the travel lanes and striping or restriping the existing roadway. Reducing lane widths may allow for a paved shoulder to be added to a roadway without adding additional pavement.

Existing roadways within Doney Park typically consist of a 28-foot-wide pavement width, consisting of two 14-foot travel lanes. To provide wide paved shoulders suitable for pedestrian and bicycle use, lane widths can be reduced and the roadway can be striped to consist of two 10-foot travel lanes and two four-foot shoulders.

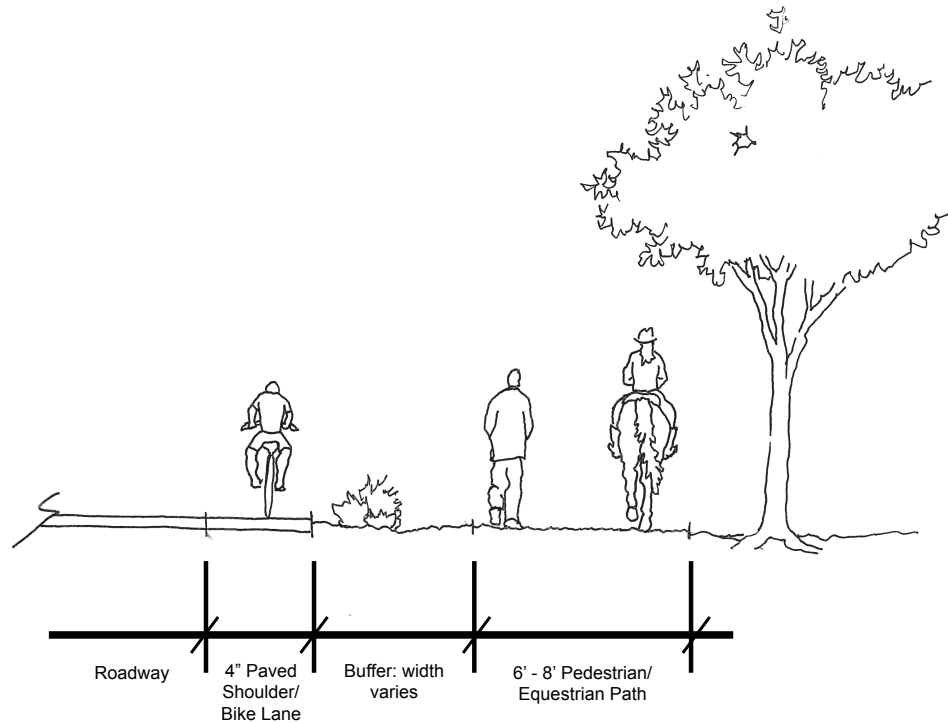


Figure 4 – Soft Surface Equestrian and Pedestrian Path

Reducing the width of travel lanes to 10 feet not only allows enough room for a paved, striped shoulder to be added to the street cross-section, but narrower travel lanes also have a tendency to slow vehicle speeds.

Safety is a common concern regarding lane width reduction. However, recent research demonstrates that travel lanes on arterial and collector roadways with 10- and 11-foot travel lanes do not increase the frequency of crashes.

2.5 Bicycle Lanes

Bicycle lanes serve to delineate road space for preferential use by bicyclists and motorists and to provide more predictable movements by each. Bicycle lanes are proposed on Townsend-Winona and Leupp Road. Paved shoulders are also proposed on Silver Saddle and Koch Field Road, which may also be designated as bicycle lanes.

The recommended minimum width of a bicycle lane is four feet to five feet. Generally, existing shoulder widths on Townsend-Winona Road and on Leupp Road are sufficient to accommodate a bicycle lane, but some spot improvements may be required.

2.6 Paved Shoulder Maintenance and Sweeping

Debris on paved shoulders and on bicycle lanes is a concern voiced by stakeholders. Routinely removing debris from the paved shoulder and bicycle lanes will improve the safety and comfort of bicyclists.

Understanding that maintenance funds are limited, it is recommended that Coconino County, at a minimum, sweep cinder and debris from shoulders and bicycle lanes after winter maintenance practices have ceased for the season. As funding becomes available, it is recommended that a regular sweeping program consist of the following:

- » Major arterials and streets with bicycle lanes: once per month
- » Collector and residential streets (shared roadways and bicycle lanes): twice per year

2.7 Project Phasing

Each proposed multimodal project is categorized into one of three phases: Phase I, Phase II, or Phase III. Project phases were developed considering the project need, anticipated benefit of the project, relative cost and complexity of the project, and relationship to other projects.



Specific timeframes are not assigned to the three project phases. It is expected that the projects will be constructed incrementally over a considerable period of time as opportunities arise and funding becomes available. Individual projects are also not locked into the phase in which they are listed, but may be constructed

out of order as conditions warrant or priorities change over time. Projects may be initiated at any time after completion of the study, and full implementation of all the projects may not occur for 10 to 20 years or longer.

Phase I includes projects that could potentially be included within currently programmed projects, projects

Table 1 – Phase 1 Recommended Projects

PHASE	PROJECT NAME	STREET	STREET SEGMENT	DISTANCE (MILES)	PROJECT DESCRIPTION	COST
PHASE 1 PROJECTS	Cosnino-1	Cosnino Road	Townsend-Winona Road to Roan Road	0.94	Paved shoulder Equestrian and pedestrian path Pedestrian crossing	\$230,000
	Cosnino-2	Cosnino Road	Roan Road to connection with Arizona Trail	0.88	Equestrian and pedestrian path	\$255,000
	Cosnino-3	Cosnino	Cosnino Drive	0.40	Traffic calming	\$25,000
	Koch Field-1	Koch Field Road	Townsend-Winona Road to Kavanaugh Way / Anaya Road	0.42	Paved shoulder Paved shared-use path Equestrian path Pedestrian crossing	\$265,000
	Koch Field -2	Koch Field Road	Kavanaugh Way /Anaya Road to Silver Saddle Road	0.8	Paved shoulder Equestrian path	\$235,000
	Leupp-1	Leupp Road	Townsend-Winona Road to U.S. Forest Service Road 244	4.92	Bike route and signing	\$40,000
	Silver Saddle-1	Silver Saddle Road	US 89 to Koch Field Road	1.13	Paved shoulder Paved shared-use path Equestrian path	\$580,000
	Townsend-Winona-1	Townsend-Winona Road	US 89 to I-40	10.00	Bike route and signing	\$75,000
	Townsend-Winona-2	Townsend-Winona Road	US 89 to Koch Field Road	2.46	Paved shared-use path Equestrian path	\$1,060,000
	US 89-1	US 89	900 feet south of Townsend-Winona Road to Townsend-Winona Road	0.33	Sidewalk	\$85,000
	US 89-2	US 89	Snowflake Dr/Trails End (existing terminus of Flagstaff Urban Trail System, North 89 trail) to Townsend-Winona Road	0.75	Paved shared-use path	\$265,000
	US 89-3	US 89	Townsend-Winona Road to Silver Saddle Road	3.74	Paved shared-use path	\$1,255,000
	US 89-4	US 89	Silver Saddle Road to Copeland Lane	2.88	Paved shared-use path	\$950,000
	US 89-6	US 89	City of Flagstaff City Limit to Townsend-Winona Road	0.5	Restripe travel lanes to provide a striped shoulder for use by bicyclists	\$25,000
	TOTAL PHASE 1 PROJECTS			29.75	-	\$5,345,000



that are needed to complete existing gaps, and projects that serve to establish a “trunk” for the ultimate Doney Park path system. Phase I projects are summarized in **Table 1** on the previous page.

Phase II projects will fill in gaps in the path system in more developed areas. Phase II projects are summarized in **Table 2**.

Phase III projects are typically in less developed areas but will provide needed links for a complete path

system. These projects also include higher cost projects that may need significant lead time to obtain funding. Phase III projects are summarized in **Table 3**.

Note that cost estimates for some very large projects (e.g., crossings of US 89) are not included, as additional planning and engineering effort is required to determine approximate costs. Crossings of US 89 are likely to cost several million dollars.

Table 2 – Phase 2 Recommended Projects

PHASE	PROJECT NAME	STREET	STREET SEGMENT	DISTANCE (MILES)	PROJECT DESCRIPTION	COST
PHASE 2 PROJECTS	Burris-1	Burris Lane	US 89 to Green Prairie Lane	0.77	Sidewalk	\$360,000
	Burris-2	Burris Lane	Green Prairie Lane to Pine Country Lane	0.42	Sidewalk	\$250,000
	Burris-3	Burris Lane	Pine Country Lane to Koch Field Road	0.49	Roadway connection	\$1,230,000
	Campbell-1	Campbell Avenue	US 89 to USFS trailhead	1.09	Equestrian and pedestrian path	\$135,000
	Campbell-2	Campbell Avenue	Campbell Avenue West Trailhead	N/A	Trailhead improvements	\$110,000
	Neptune-1	Neptune Drive	Skeet Drive to Stardust Trail	0.71	Roadway improvements Paved shared-use path Equestrian path	\$905,000
	Neptune -3	Neptune/Skeet	Neptune Drive/ Skeet Drive Intersection to U.S. Forest Service Boundary	0.5	Equestrian/pedestrian path on potentially existing easement	\$75,000
	Rio Rancho-1	Rio Rancho Road / April Drive	Townsend-Winona to Musket Trail /Autumn Drive	1.24	Paved shoulder Equestrian and pedestrian path Pedestrian crossing	\$280,000
		Stardust Trail	Musket Trail to Yancey Lane			
	Silver Saddle-2	Silver Saddle Road	Koch Field Road to Stardust Trail	0.72	Paved shoulder Equestrian path Paved shared-use path	\$375,000
	Skeet-1	Skeet Drive	Silver Saddle Road to Neptune Drive	0.45	Paved shared-use path Equestrian path	\$220,000
	Stardust-2	Stardust Trail	Yancey Lane to Deville Lane/ McGee Road	1.48	Paved shoulder Equestrian and pedestrian path	\$345,000
	Townsend-Winona-3	Townsend-Winona Road	Koch Field Road to Slayton Ranch Road	2.72	Paved shared-use path Equestrian path Pedestrian crossing	\$1,060,000
	TOTAL PHASE 2 PROJECTS			10.59	-	\$5,345,000



Table 3 – Phase 3 Recommended Projects

PHASE	PROJECT NAME	STREET	STREET SEGMENT	DISTANCE (MILES)	PROJECT DESCRIPTION	COST
PHASE 3 PROJECTS	Neptune-2	Neptune Drive	Stardust Trail to Slayton Ranch Road	0.97	Paved shared-use path Equestrian path	\$370,000
	Slayton Ranch-1	Slayton Ranch Road	Townsend -Winona Road to Carl Road	0.80	Paved shoulder Equestrian and pedestrian path Pedestrian crossing	\$220,000
	Slayton Ranch-2	Slayton Ranch Road	Carl Road to Grider Road	1.17	Paved shoulder Equestrian and pedestrian path	\$320,000
	Slayton Ranch-3	Slayton Ranch Road	Grider Road to Neptune Drive	0.86	Paved shoulder Equestrian and pedestrian path	\$245,000
	Stardust-1	Stardust Trail	Deville Lane/ McGee Road to cul-de-sac at northern terminus	0.52	Paved shoulder Equestrian and pedestrian path	\$225,000
	Townsend-Winona-4	Townsend-Winona Road	Slayton Ranch Road to Leupp Road	2.85	Paved shared-use path Equestrian path	\$1,090,000
	Townsend-Winona-5	Townsend-Winona Road	Leupp Road to Jobe Road; consideration may given to extending the pathways east to Winona/I-40. The existing bridge on Townsend-Winona Road that connects to I-40 presents a design constraint. Alternative alignments will be required. A logical terminus for the pathway needs to be identified.	1.99	Paved shared-use path Equestrian path	\$675,000
	US 89-5	US 89	Campbell Ave and/or Copeland Ave	-	Pedestrian and equestrian crossings	See Note No. 1.
	Yancey-1	Yancey Lane	Koch Field Road to Stardust Trail	1.07	Shoulder striping/widening	\$255,000
	Picture Canyon Trail	Off-Street Pathway;	City of Flagstaff limits to Townsend-Winona Road, approximately along Rain Valley Road / FR 510E or Rio de Flag floodplain	0.3 (County portion)	Paved or soft shared-use path	See Note 2.
TOTAL PHASE 3 PROJECTS				10.53	-	\$3,400,000

Notes:

1. Project US 89-5 has not been developed sufficiently to develop planning-level costs. Alternatives range from crossings under US 89 to crossings over US 89 that are designed to accommodate pedestrians and unmounted equestrians. Each of these alternatives is likely to cost several million dollars.
2. Picture Canyon trail has not been developed sufficiently to develop planning-level costs. The majority of the trail lies within the City of Flagstaff. Collaboration with City of Flagstaff and the Arizona State Land Department is required.

A summary of costs by phase is provided in **Table 4**. The total estimated cost of improvements for all phases is \$14 million.

Table 4 – Summary of Costs by Phase

PHASE	DISTANCE (MILES)	COST
Phase I	29.75	\$5,345,000
Phase II	10.59	\$5,345,000
Phase III	10.53	\$3,400,000
TOTAL ALL PHASES	50.87	\$14,090,000

2.8 Transit Service

An unmet need in the Doney Park area is the provision of fixed route and express bus service. The *Transportation Plan for Coconino County Commuter Services* (September, 2009) presented three potential transit service scenarios for the Doney Park area that are shown in **Figure 5**. These are described as follows:

- » Scenario A – Express bus service on US 89 and Silver Saddle Road (to Koch Field Road).
- » Scenario B – Express bus service on US 89 to Campbell Avenue and on Silver Saddle Road (to Koch Field Road).
- » Scenario C – Fixed route bus service on US 89, Silver Saddle Road, Koch Field Road, and Townsend-Winona Road.

Park-and-ride stops (these varied depending on the specific transit alternative) were suggested at:

- » US 89 / Burris Lane
- » US 89 / Silver Saddle Road (at the Country Store)
- » US 89 / Campbell Avenue
- » Silver Saddle Road / Koch Field Road. Suggestions by the public were east of Cromer Elementary School (a park-and-ride lot could also serve as overflow parking for the school) and at Mary's Drive
- » Townsend/Winona Road/ Koch Field Road (possibly at the Calvary Bible Church lot)

It is possible that potential park-and-ride lot sites could be designated as vanpool sites prior to the start of transit



service. Many of the public open house participants were supportive of extending public transit to the study area, and all the alternatives noted above received support.

Transit needs, as identified by the stakeholders and the public, will be forwarded to the Northern Arizona Inter-governmental Public Transportation Authority (NAIPTA) for their consideration for implementation as funding becomes available.

3 IMPLEMENTATION REVENUE SOURCES

There are various funding sources that could be considered for implementation of the proposed projects. These include:

- » Transportation Enhancement (TE) Grant Funding
- » Safe Routes to School Program
- » Coconino Parks and Open Space Program
- » Federal Recreational Trails Program
- » National Park Service Rivers, Trails, and Conservation Assistance Program

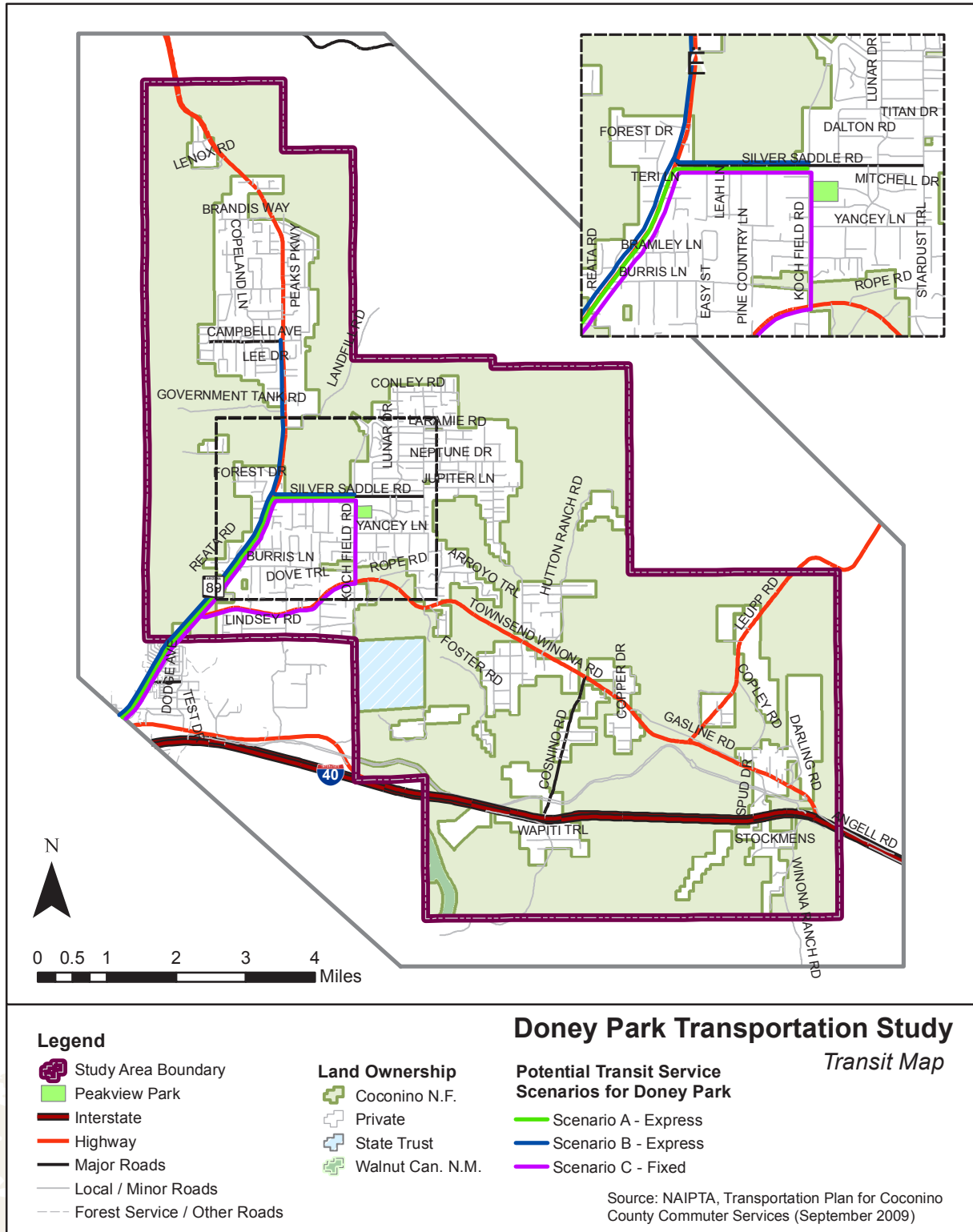


Figure 5 – Transit Alternatives