

H U A L A P A I



Long Range Transportation Plan for the Hualapai Indian Tribe

Final Report

December 2014



ADOT

JACOBS



**HUALAPAI TRIBAL COUNCIL
RESOLUTION NO. 79-2014
OF THE GOVERNING BODY OF THE
HUALAPAI TRIBE OF THE HUALAPAI INDIAN RESERVATION
PEACH SPRINGS, ARIZONA**

Long Range Transportation Plan for Hualapai Reservation

WHEREAS, The Hualapai Tribal Council is the duly elected governing body of the Hualapai Tribe; and

WHEREAS the Hualapai Tribe was awarded Planning Assistance for Rural Area's (PARA) Grant Funding from the Arizona Department of Transportation (ADOT), Multimodal Planning Division, to prepare a Long Range Transportation Plan (LRTP) for the Hualapai Indian Reservation, which included updating the Tribe's National Tribal Transportation Facility Inventory (NTTFI); and

WHEREAS, Jacobs Engineering was selected to perform the NTTFI update and prepare an updated LRTP, under the supervision of the Hualapai Tribe, ADOT and a Technical Advisory Committee, that promotes safety and mobility, enhances economic vitality, improves community livability and supports current and planned economic development; and

WHEREAS, changes to the NTTFI proposed by the Hualapai Tribe, as part of this LRTP update, are identified in the attached "Hualapai Indian Tribe - Inventory Update Comparison Listing"; and

WHEREAS, the Hualapai Tribe's LRTP update was, completed in November 2014, contains short-term, mid-term and long-term road improvement and maintenance projects, and other transportation facility projects to meet Tribal transportation needs that have been prioritized by the Tribal Council.

NOW THEREFORE BE IT RESOLVED that the Hualapai Tribal Council hereby approves the November 2014 Long Range Transportation Plan for the Hualapai Indian Tribe and adopts this document as their current (2014) Long Range Transportation Plan.

BE IT FURTHER RESOLVED that the Hualapai Tribal Council hereby approves the proposed changes to the National Tribal Transportation Facility Inventory (NTTFI) identified in the Long Range Transportation Plan which are listed in the attached "Hualapai Indian Tribe - Inventory Comparison Listing.

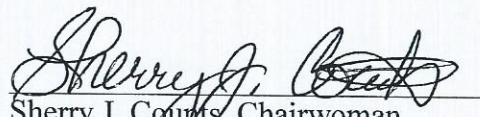
BE IT FURTHER RESOLVED that the Hualapai Tribal Council hereby authorizes the Bureau of Indian Affairs - Western Regional Office to take the necessary action needed to update the NTTFI database to incorporate road inventory update changes and additions identified in the attached "Hualapai Indian Tribe - Inventory Comparison Listing.

BE IT FURTHER RESOLVED that the Hualapai Tribal Council hereby authorizes the Tribal Public Works Director to work with the BIA - Western Regional Office, Division of Transportation and other State/County Transportation Agencies, to take the necessary action needed to implement projects based on the Tribe's current road construction and maintenance priorities.

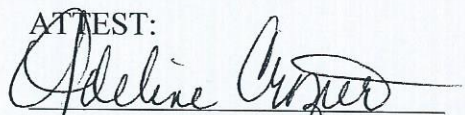
BE IT FINALLY RESOLVED that the Hualapai Tribal Council hereby authorizes the Chairwoman or her designee to execute any and all documents necessary to implement this action.

CERTIFICATION

I, the undersigned as Chairwoman of the Hualapai Tribal Council hereby certify that the Hualapai Tribal Council of the Hualapai Tribe is composed of nine (9) members of whom (9) constituting a quorum were present at **a Regular Council meeting** held on this 8th day of December, 2014; and that the foregoing resolution was duly adopted by a vote of (9) in favor, (0) opposed, pursuant to authority of Article V, Section (a) of the Constitution of the Hualapai Tribe approved March 13, 1991.


Sherry J. Counts, Chairwoman
HUALAPAI TRIBAL COUNCIL

ATTEST:


Adeline Crozier, Assist. Secretary

This report was funded in part through grants from the Federal Highway Administration, U.S. Department of Transportation. The contents of this report reflect the views of the authors, who are responsible for the facts and the accuracy of the data, and for the use or adaptation of previously published material, presented herein. The contents do not necessarily reflect the official views or policies of the Arizona Department of Transportation or the Federal Highway Administration, U.S. Department of Transportation. This report does not constitute a standard, specification, or regulation. Trade or manufacturers' names that may appear herein are cited only because they are considered essential to the objectives of the report. The U.S. government and the State of Arizona do not endorse products or manufacturers.



TABLE OF CONTENTS

	<u>Page</u>
1. STUDY OVERVIEW	1
Study Area Overview	2
Purpose and Need	5
Goals and Objectives	6
Study Process	7
Tribal Transportation Program (TTP)	7
2. PREVIOUS STUDIES, REPORTS, AND PLANS.....	8
Ongoing and Completed Studies	8
Programmed and Scoped Projects	16
3. LAND USE AND SOCIOECONOMIC CONDITIONS.....	17
Land Ownership	17
Land Use	18
Existing Socioeconomic Conditions	22
Future Development and Growth Trends	26
4. EXISTING AND FUTURE TRANSPORTATION CONDITIONS	27
Roadway Inventory	27
Existing Roadway Characteristics.....	27
Existing Traffic Conditions	41
Crash Data Analysis.....	47
Other Modes of Transportation	52
Future Traffic Conditions	60
5. EVALUATION OF IMPROVEMENTS	75
Evaluation Criteria	75
Evaluation of Roadway Improvements	76
Evaluation of Intersection Improvements	105
Evaluation of Pedestrian, Bicycle, and Trail Improvements.....	109
Evaluation of Transit Improvements	111
6. STAKEHOLDER AND PUBLIC OUTREACH.....	112
Public Involvement	112
Agency/Stakeholder Coordination	114



TABLE OF CONTENTS (CONTINUED)

	<u>Page</u>
7. AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONCERNS	117
Topography and Geology.....	117
Vegetation	118
Biology	119
Hydrology	122
Prime and Unique Farmlands	125
Noise Impacts	125
Air Quality	126
Utilities	126
Hazardous Materials	127
Visual Resources	128
Cultural Resources	128
Section 4(f) and Section 6(f) Resources	134
Environmental Justice Review (Title VI)	135
8 PLAN FOR IMPROVEMENTS	136
Roadway Improvement Recommendations	136
Pedestrian, Bicycle, and Trail Improvement Recommendations	178
Transit Improvement Recommendations.....	180
Aviation and Maritime Improvement Recommendations.....	181
Functional Classification Recommendations.....	182
Tribal Transportation Program Update Recommendations	186
Title VI Implications	189
9. ACCESS MANAGEMENT GUIDELINES.....	191
Benefits of Access Management.....	192
Existing Access Management.....	192
Access Management Recommendations	193
Access Management Tools and Strategies.....	193
10. ROADWAY MAINTENANCE PLAN	199
Study Roadway Maintenance Needs.....	199
Roadway Maintenance Estimates	210
11. TRANSPORTATION PLAN IMPLEMENTATION	211
Funding Sources	211
Implementation Guidelines	220



TABLE OF CONTENTS (CONTINUED)

Appendix A: Public Meeting 1 Summary Report

Appendix B: Public Meeting 2 Summary Report

Appendix C: Stakeholder Phase 1 Summary Report

Appendix D: Stakeholder Phase 2 Summary Report

Appendix E: BIA Tribal Transportation Inventory Update Recommendations



LIST OF TABLES

	<u>Page</u>
2.1: ADOT State Transportation Improvement Projects (STIP) FY 2015 – 2019	16
2.2: ADOT Airport Capital Improvement Program FY 2015 – 2019	16
3.1: Population and Housing Unit Growth Trends	22
3.2: Existing Socioeconomic Data	23
3.3: Potential Study Area Developments.....	26
3.4: Future Population, Housing Units, and Employment.....	26
4.1: FHWA Functional Classification Definition	29
4.2: BIA Functional Classification Definition	29
4.3: Study Area Railroad Crossings	38
4.4: FHWA Bridge Condition Ratings.....	40
4.5: Crash Locations, Crash Rate, and Leading Crash Cause.....	48
4.6: Health-Education and Wellness Center Transportation Demand by Month (FY 2012-13)	55
4.7: Means of Transportation to Work	56
4.8: Travel Time to Work	56
4.9: Vehicles per Household.....	57
4.10: Arizona Airport Ranking by Activity.....	58
5.1: Evaluation and Prioritization Criteria	75
5.2: Evaluation of Road Surface Treatment Projects.....	78
5.3: Treatment and Maintenance Options for Unpaved Road Surfaces	80
5.4: Street Cross-Sections	81
5.5: Evaluation of Safety Improvements.....	86
5.6: Evaluation of Safety Projects	89
5.7: Railroad Crossing Improvement Options.....	96
5.8: Evaluation of At-Grade Railroad Projects.....	97
5.9: Evaluation of Railroad Crossing Options at Diamond Creek Road	98
5.10: Evaluation of Bridge Improvement Projects	99
5.11: Traffic Calming Options.....	100
5.12: Evaluation of Traffic Calming Projects	103
5.13: Evaluation of Intersection Improvement Projects	107
5.14: Pedestrian, Bicycle, and Trail Improvement Options.....	110



LIST OF TABLES

	<u>Page</u>
7.1: Special Status Species and Critical Habitats in Project Vicinity	120
8.1: Short-Term Recommendations	136
8.2: Mid-Term Recommendations	174
8.3: Long-Term Recommendations.....	176
8.4: Recommended Roadway Functional Classification.....	183
8.5: Summary of Proposed BIA Road System Mileage Revisions	186
8.6: Summary of Proposed Tribal Road System Mileage Revisions	186
8.7: Summary of Proposed Non-BIA Road System Mileage Revisions.....	186
8.8: Recommended Project Impacts and Advantages on Title VI Populations	189
9.1: Driveway Spacing.....	197
10.1: Current Road Maintenance.....	199
10.2: Road Maintenance Activities	200
10.3: Level of Development	204
10.4: Level of Development 1 Maintenance Activities and Frequency	205
10.5: Level of Development 2 Maintenance Activities and Frequency	206
10.6: Level of Development 3 Maintenance Activities and Frequency	207
10.7: Level of Development 4 Maintenance Activities and Frequency	208
10.8: Level of Development 5 Maintenance Activities and Frequency	209
10.9: Road Maintenance Cost Estimates.....	210
11.1: Potential Funding Sources	213



LIST OF FIGURES

	<u>Page</u>
1.1: Study Area	3
1.2: Study Area (Outlying Areas)	4
1.3: Study Process	7
3.1: Land Ownership	17
3.2: Land Use and Major Activity Centers	20
3.3: Land Use and Major Activity Centers (Peach Springs and Valentine)	21
3.4: Total Population Per Square Mile	24
3.5: Total Housing Units Per Square Mile	25
4.1: FHWA-Approved Functional Classification	31
4.2: Roadway Surface Conditions	32
4.3: Number of Lanes and Posted Speed Limits	34
4.4: Speed Limits Versus Actual Travel Speeds	35
4.5: Railroad Crossing Locations	39
4.6: Level of Service	42
4.7: Existing Average Daily Traffic Volumes and Level of Service	43
4.8: Existing Intersection Lane Configuration	44
4.9: Existing Intersection Peak Hour Turning Movement Volumes	45
4.10: Existing Intersection Peak Hour Level of Service	46
4.11: Crash Location and Crash Severity	49
4.12: Crash Density and Major Cause of Crash	50
4.13: Existing Pedestrian Facilities	53
4.14: 2019 Projected Average Daily Traffic Volumes and Level of Service	61
4.15: 2019 Intersection Lane Configuration	62
4.16: 2019 Intersection Peak Hour Turning Movement Volumes	63
4.17: 2019 Intersection Peak Hour Level of Service	64
4.18: 2024 Projected Average Daily Traffic Volumes and Level of Service	66
4.19: 2024 Intersection Lane Configuration	67
4.20: 2024 Intersection Peak Hour Turning Movement Volumes	68
4.21: 2024 Intersection Peak Hour Level of Service	69
4.22: 2034 Projected Average Daily Traffic Volumes and Level of Service	71
4.23: 2034 Intersection Lane Configurations	72
4.24: 2034 Intersection Peak Hour Turning Movement Volumes	73
4.25: 2034 Intersection Peak Hour Level of Service	74



LIST OF FIGURES

	<u>Page</u>
5.1: Road Surface Treatment Projects	77
5.2: Safety Projects.....	88
5.3: Traffic Calming Projects	102
5.4: Pedestrian, Bicycle, and Trail Improvements.....	109
7.1: Topography and Geological Conditions	118
7.2: Hydrological Features and Prime Farmlands.....	124
8.1: Recommended Pedestrian, Bicycle, and Trail Improvements.....	179
8.2: Recommended Cross-section with Transit Pull-Out	181
8.3: BIA and FHWA Functional Classification Systems	183
8.4: Recommended BIA Functional Classification.....	184
8.5: Recommended FHWA Functional Classification	185
8.6: Recommended NTTFI Updates.....	187
8.7: Recommended NTTFI Updates - Outlying Districts.....	188
9.1: Roadway Functional Classification Hierarchy	191
9.2: Driveway Treatments.....	195
9.3: Raised Median at Intersections	195
9.4: Frontage Road	196
9.5: Minimum Corner Clearances for Signature Intersections	197



1. STUDY OVERVIEW

The Hualapai Indian Tribe and the Arizona Department of Transportation (ADOT) conducted a long-range transportation plan to identify and address the most critical current and future transportation needs on the Hualapai Indian Reservation. The study was funded by the Federal Highway Administration's (FHWA) State Planning and Research Program and administered through ADOT's Multimodal Planning Division's Planning Assistance for Rural Areas (PARA) program.

The primary goal of this study was to develop a transportation improvement plan that promotes safety and mobility, enhances economic vitality, improves community livability, encourages environmental and cultural sensitivity, and supports current and planned economic development. The study also included a comprehensive inventory update of the Hualapai Tribe's roads in the Bureau of Indian Affairs' (BIA) Road Inventory Field Data System (RIFDS). Roadway conditions currently in the inventory were updated, additional roadways were added, and some roads were removed.

Technical Advisory Committee

The study was guided by a Technical Advisory Committee (TAC). The role of the TAC was to provide technical guidance, support, advice, suggestions, recommendations, and to perform document reviews throughout the study process. TAC members included representatives from:

- Hualapai Indian Tribe
- Hualapai Public Works Department
- Hualapai Planning Department
- Hualapai Department of Cultural Resources
- Hualapai Department of Natural Resources
- BIA Western Regional Office - Division of Transportation
- Grand Canyon Resort Corporation
- ADOT Multimodal Planning Division
- Coconino County Public Works
- Mohave County Public Works
- Bureau of Land Management
- ADOT Kingman District Office
- ADOT Flagstaff District Office
- Western Arizona Council of Governments (WACOG)
- ADOT Communications

Stakeholders

To develop a thorough understanding of the issues, deficiencies, and needs, the study team identified and interviewed a core group of stakeholders on Wednesday, February 12, 2014 and Thursday, February 13, 2014. The stakeholders included representatives from all major Hualapai Tribal Government departments, Grand Canyon Resort Corporation, BIA Truxton Canon Agency, WACOG, Mohave County, Kingman Area Regional Transit, Peach Springs Unified School District #8, and ADOT. A second set of stakeholder interviews was conducted on Wednesday, July 9th, 2014 and Thursday, July 10th, 2014 to garner input on potential improvement recommendations. At both meetings, a questionnaire was distributed to each stakeholder present at the meeting and was followed up with an open discussion. Each phase of stakeholder outreach also included a presentation and discussion with Tribal members who utilize the Hualapai Senior Center. Chapter 6 provides a summary of the stakeholder outreach process.



STUDY AREA OVERVIEW

Established by the Executive Order of 1883, the Hualapai Indian Reservation occupies nearly 1 million acres of land along 108 miles of the Colorado River and the Grand Canyon. Traversing through three counties in northern Arizona, the Reservation consists of five separate areas, and has a tribal enrollment of 2,313. Located on Historic Route 66 and the Grand Canyon, the Hualapai Indian Tribe's economy relies heavily on tourism. Opened in March 2007, the Skywalk at Grand Canyon West has quickly become a major tourist destination in Arizona - allowing visitors the unique opportunity to view the Grand Canyon through a glass floor 4,000 feet above the Colorado River. Reservation areas analyzed for this study include:

Main Reservation: The Main Reservation area is comprised of nearly 1 million acres of land in northwest Arizona. Located along Historic Route 66, Peach Springs is the capital of the Hualapai Indian Reservation and home to the Peach Springs Unified School District #8, Hualapai Lodge, and numerous Tribal Government facilities. Grand Canyon West, the Tribe's major tourism development is located in the northwestern portion of the Reservation. Tribal housing within the Main Reservation is primarily in Peach Springs and along Buck and Doe Road; however, some employee housing is available at Grand Canyon West.

Valentine: Over 750 acres of trust land along State Route 66 are located within Valentine, approximately 10 miles west of the Main Reservation area. While primarily a rural and residential area, the BIA Truxton Canon Field Office is also located within Valentine.

Truxton Triangle: Currently the Tribe is in the process of transferring a 142 acre parcel of undeveloped fee land northeast of Truxton into trust status.

Big Sandy Allotments and Cholla Canyon Ranch: Located off US 93 near Wikieup in Mohave County, Big Sandy Allotments and Cholla Canyon Ranch are primarily ranching areas utilized by the Tribe. Currently, Cholla Canyon Ranch serves as a special event area with a guest ranch and cultural areas.

Influence Area: To access employment centers and schools in Kingman, Grand Canyon West, and Seligman, Tribal members must utilize non-tribal regional roadways on a daily basis. In order to provide the Hualapai Indian Tribe with a comprehensive long-range transportation plan that addresses all major roadways utilized by Tribal members, the influence area includes major routes such as State Route 66, Antares Road, Pierce Ferry Road, and Diamond Bar Road, which are maintained by Mohave County and ADOT.

Figures 1.1 and 1.2 provide an overview of the Hualapai Indian Reservation, the influence area, and study roadways.

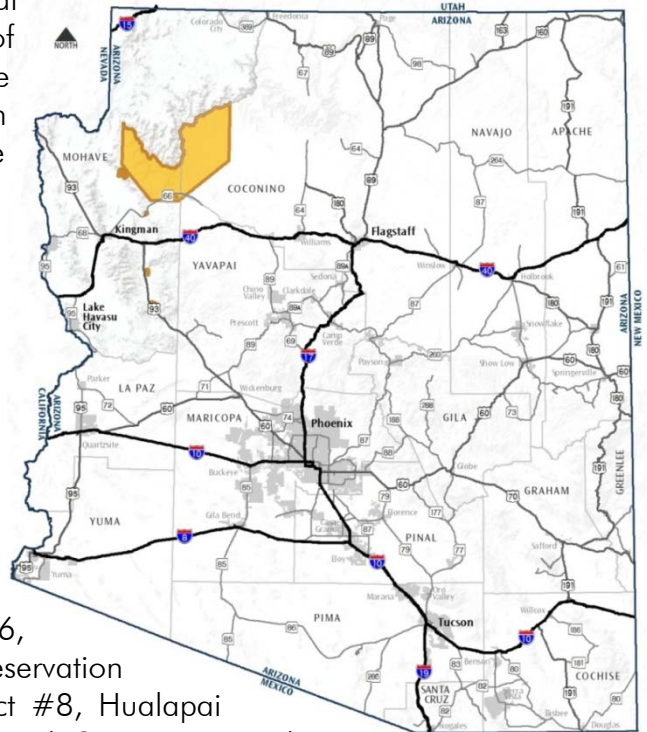


Figure 1.1: Study Area

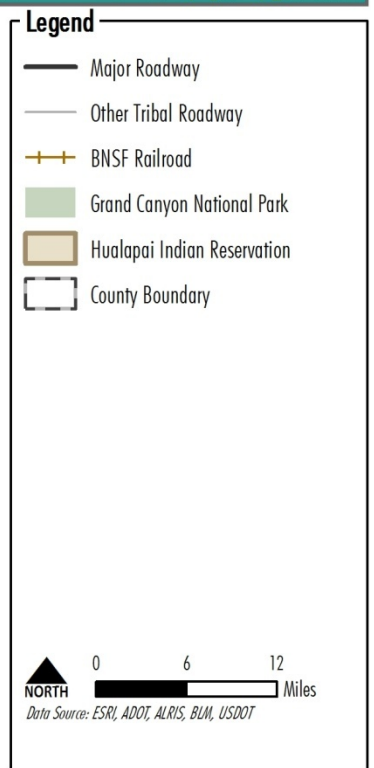
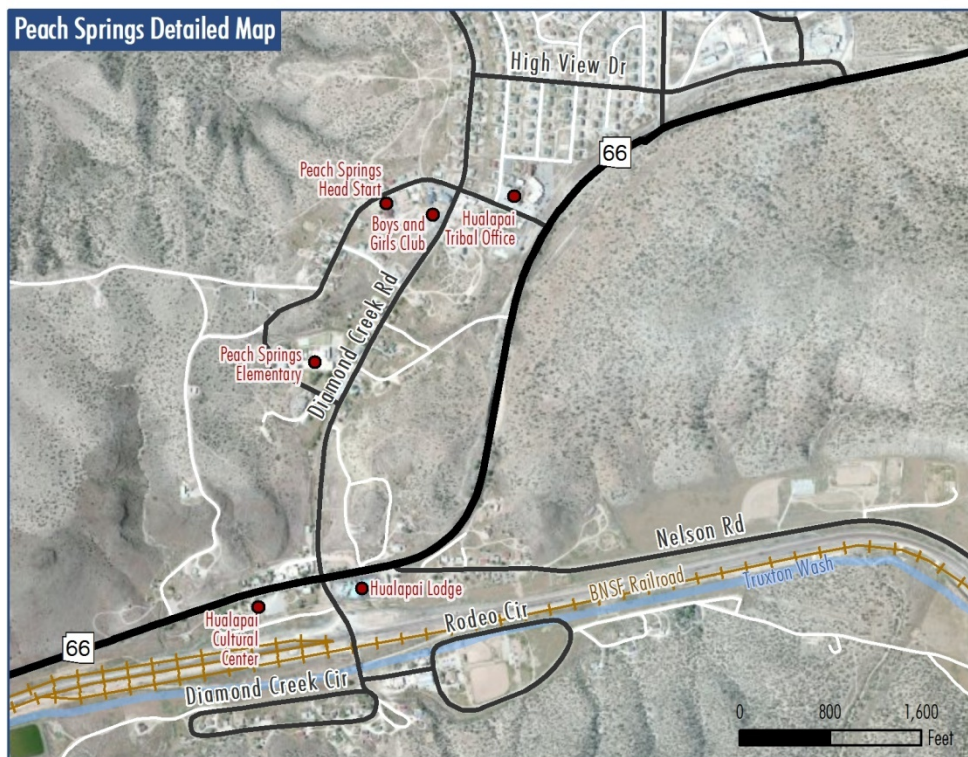
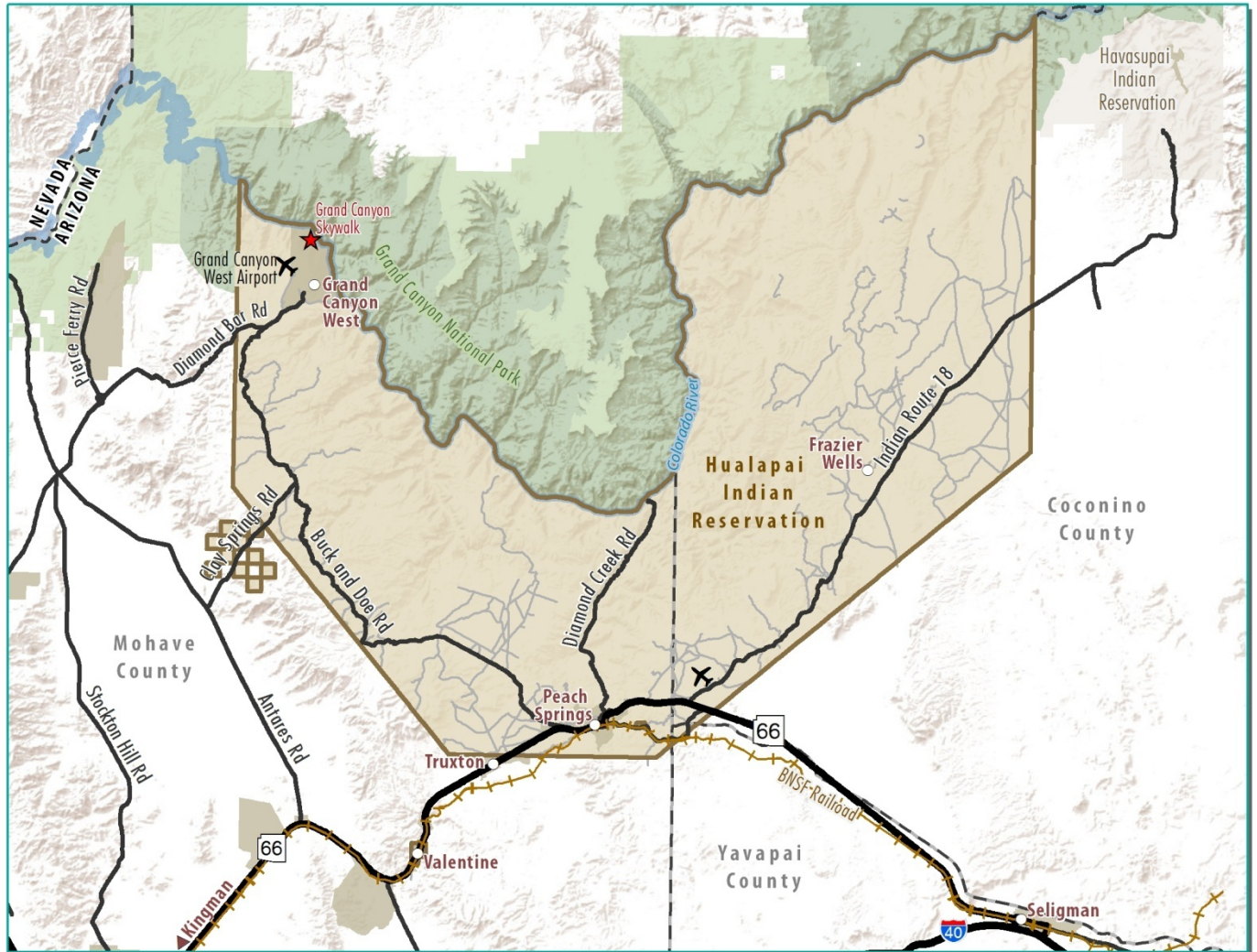
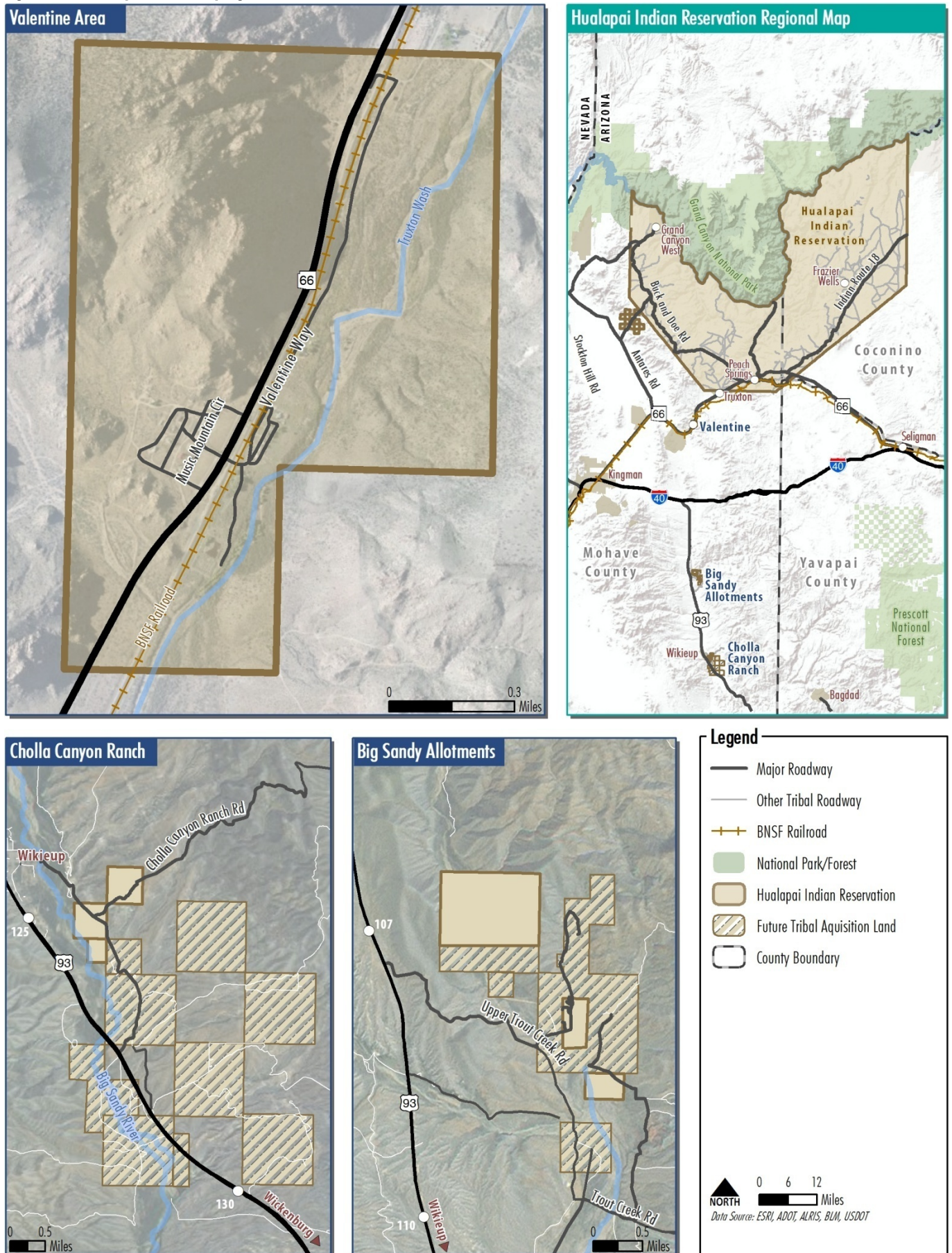


Figure 1.2: Study Area (Outlying Areas)



PURPOSE AND NEED

The Long-Range Transportation Plan for the Hualapai Indian Tribe was initiated to develop a phased, planning strategy to guide multimodal improvements with the ultimate goal of enhancing safety, accessibility, mobility, and economic growth. The need for this study stemmed directly from the Hualapai Indian Tribe's desire to increase economic vitality, improve community livability, update the existing roadway inventory, and to enhance transportation conditions along major local and regional transportation routes. The purpose of the project is demonstrated with the following statements of need:

- **Update the Tribe's Roadway Inventory.** No official road condition survey has been completed on the Hualapai Indian Reservation since 1999. In order to qualify for federal funding, the Tribe's roadway inventory needs to be updated to reflect existing roadway conditions.
- **Promote Economic Growth and Community Livability.** A plan for transportation investments that encourages economic growth while maintaining the cultural and historic nature of the study area needs to be developed. Transportation investments that provide multimodal, transportation choices and connections at the local and regional level can spur business growth and job creation, provide much needed transportation for the underserved area, encourage physical activity among residents, and promote tourism.
- **Accommodate Planned Growth.** Grand Canyon West employee vans must take a detour route to/from Peach Springs due to the poor road conditions along Buck and Doe Road. As development occurs at Grand Canyon West, the demand for safe, reasonable travel time to/from Peach Springs will significantly increase and will require upgrades to facilities to accommodate traffic and to promote multimodal transportation.
- **Address Safety, Mobility, and Operational Needs.** The current roadway network needs to be evaluated to identify solutions to improve safety and mobility, optimize traffic operations, develop maintenance procedures, and to enhance the overall streetscaping. Key issues that need to be addressed include:
 - Existing paved and unpaved roadways are in poor condition and are deteriorating; a strategic improvement plan needs to be developed to maximize funding.
 - State Route 66 through Peach Springs is in need of enhanced safety features and streetscaping to encourage tourism.
 - Vehicles travel at high speeds, particularly when approaching Valentine and Peach Springs, causing unsafe driving and walking conditions.
 - A high number of crashes occur on State Route 66, Diamond Bar Road, and Supai Road.
 - The BNSF Railroad splits the communities of Valentine and Peach Springs causing accessibility issues and potentially unsafe conditions at the at-grade crossings.
 - Roadways need to be upgraded to meet BIA design standards.
 - In order to qualify and compete for federal funding, the functional classifications of Tribal roadways need to be reclassified.



- o The area has limited pedestrian walkways, crosswalks, bicycle facilities, and trails.
- o There is currently no public transit service for local or regional needs.
- **Provide Bicycle, Pedestrian, and Trail Connections Between Activity Centers.** Sidewalks and bike paths are limited and unsafe within numerous locations of the study area. Improvements are necessary to provide continuous and safe connections between business and activity centers for residents and for recreational purposes.

The primary purpose of this study was to develop a comprehensive, phased transportation improvement plan that can provide guidance to the Hualapai Indian Tribe when making future land use and transportation decisions. Recommendations in this study will enable the Hualapai Indian Tribe, Mohave County, Coconino County, and Yavapai County to facilitate safer and more efficient infrastructure for the traveling public and guide the development along the study roadways. Study findings will also be used to update the BIA's Road Inventory Field Data System (RIFDS) to include changes to the Hualapai Indian Tribe's National Tribal Transportation Facility Inventory (NTTFI), and the Tribal Transportation Improvement Program (TTIP) for the next 5-year, 10-year and 20-year planning horizon periods.

GOALS AND OBJECTIVES

With the overall goal to improve safety and mobility, the primary purpose of this study was to:

- Conduct a comprehensive evaluation of the multimodal transportation network within the Hualapai Indian Reservation.
- Develop a three-phased Improvement Plan that promotes safety and mobility, supports economic development, and improves community livability.
- Identify specific improvement strategies to address the needs of the study area.
- Conduct a roadway field inventory and update the BIA RIFDS database.
- Develop a Safety Plan that includes a prioritized list of safety improvement projects.
- Develop a roadway maintenance plan that provides guidance on preservation, striping, signage, and pavement maintenance/re-paving cycle.
- Communicate with Technical Advisory Committee (TAC), stakeholders, Tribal members, Tribal officials, and officials from Mohave, Coconino, and Yavapai County at appropriate intervals to present results and obtain feedback.

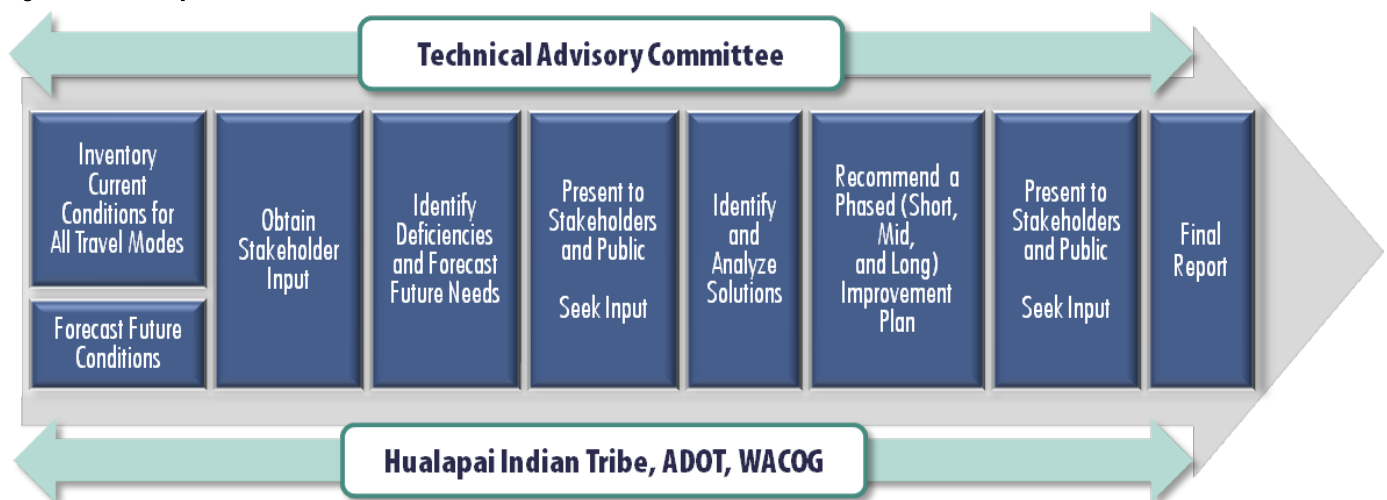


STUDY PROCESS

Development of the transportation plan consisted of a comprehensive six phase process: data collection, analysis of existing and future conditions, stakeholder involvement, analysis of improvement scenarios recommendations, and public outreach. Throughout the process, the study team maintained consistent contact with the TAC, and stakeholders and conducted extensive public outreach efforts. Figure 1.3 illustrates the process that was utilized for this study.

Working Paper 1: Existing and Future Conditions inventoried and analyzed the existing and future conditions in the study area, including existing transportation system deficiencies, issues, and needs. The First Public Open House was conducted on May 1, 2014 to present existing and projected transportation conditions and issues. *Working Paper 2: Draft Transportation Improvement Plan*, evaluated and identified improvement projects that addressed the needs and deficiencies identified in Working Paper 1. The Second Public Open House was conducted on August 20, 2014 to present the Draft Transportation Improvement Plan. Chapter 6 provides a summary of the public outreach process.

Figure 1.3: Study Process



TRIBAL TRANSPORTATION PROGRAM (TTP)

Jointly administered by the U.S. Department of Transportation, FHWA and BIA, the Tribal Transportation Program (TTP), formerly known as the Indian Reservation Roads (IRR) program, addresses the transportation needs of Tribal governments by providing safe and adequate transportation and public road access to and within Indian Reservations, Indian lands, and Alaska Native Village communities. Under the Moving Ahead for Progress in the 21st Century Act (P.L. 112-141), the TTP generally continues the IRR program, but, includes two additional 2% takedowns for bridge replacement and safety projects.

The NTTFI, which replaces the IRR inventory under the TTP, is a comprehensive national inventory of tribal transportation facilities that are eligible for assistance under the TTP. In order to obtain proper funding, it is imperative that the NTTFI accurately reflects the conditions of the tribal roadways. As a part of this study, a comprehensive roadway inventory was conducted in order to update the Hualapai Tribe's NTTFI, which was last updated 1999.



2. PREVIOUS STUDIES, REPORTS, AND PLANS

This chapter presents a review of studies, plans, and programs relevant to this study. Review of completed and current planning efforts often provides an insight into previously identified transportation issues and potential transportation improvements. This chapter also summarizes approved future transportation improvements within the study area.

ONGOING AND COMPLETED STUDIES

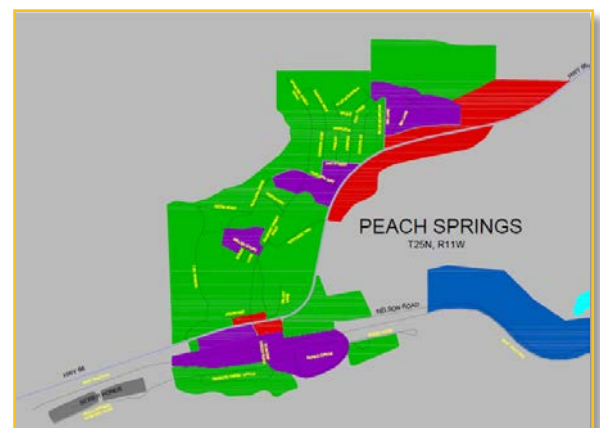
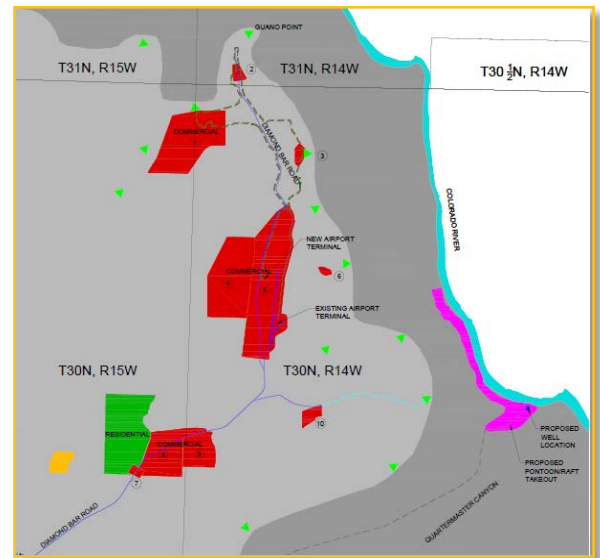
Grand Canyon West Master Plan

The Grand Canyon West Corporation, in partnership with Plan/Et and Worth Group Architects, is in the process of developing a master plan for the Grand Canyon West area. The master plan includes an in-depth assessment of current conditions and facilities, projected demand and growth patterns, and a framework for the land use and development of the Grand Canyon West.

Hualapai Tribe Master Plan

The Hualapai Tribe is currently in the process of developing their first Master Development Plan, which will help identify the Tribe's development priorities and help guide the Tribe's future. The study included conducting a community needs assessment survey to solicit input from Tribal members on their ultimate vision for the Reservation. Critical needs identified through the community needs assessment and ultimately the Master Plan included:

- High Unemployment and Business Opportunities
 - creation of jobs and employment opportunities through economic development
- Overcrowded Housing - develop affordable housing opportunities
- Infrastructure Improvement - enhance existing Public Works programs to ensure the improvement of transportation network and utilities
- Peach Springs - develop a commercial corridor along State Route 66 and provide safe, livable housing areas with proper walkability
- Grand Canyon West - create a sustainable, planned community that supports housing and commercial developments
- Diamond Creek - expand recreational area to support eco-tourism, rafting operations, and limited commercial activities
- Buck and Doe Road (BIA 1) - expansion of residential development to Mud Tank Road and commercial and residential development along State Route 66 to Music Mountain High School
- Frazier Wells - expand the Hualapai Youth Camp, provide tourist business ventures along Supai Road (BIA 18), and build employee housing



- Valentine - add small, local-and-tourist commercial development while preserving the unique character of the community
- Clay Springs - energy and water resources development area

2000 Hualapai Tribe 20 Year Transportation Plan Update

The *2000 Hualapai Tribe 20 Year Transportation Plan Update* identified the multimodal transportation needs for the next 20 years within the Hualapai Indian Reservation, in conjunction with development strategies for implementing improvements. Based on analysis of existing and future needs and deficiencies, the study developed a set of roadway, intersection, and multimodal improvement projects to enhance safety and mobility within the reservation. Recommended improvements included:

- Grade, drain, and pave Diamond Bar Road (BIA 1) from Pierce Ferry Road (C025) to the reservation's western boundary (14.1 miles) to promote economic development at Grand Canyon West.
- Three-phased roadway improvement plan along Diamond Creek Road (BIA 101) to expand recreation opportunities along the Colorado River. Phase I entails realign, grade, and install drainage along the entire route; provide all-weather gravel surfacing in Phase II; and pave the roadway in Phase III.
- Grade, drain, and pave Grand Canyon West Loop Road to provide alternative access to the Grand Canyon West housing area.
- Construct two trails to provide education and recreational opportunities.
 - Grand Canyon West/Colorado River Loop Trail - Construct a rim-to-river-to-rim hiking trail (15.0 miles).
 - Yampai Canyon Loop trail - From the Hualapai Lodge south to Yampai Canyon Area (5.0 miles).
- Improve at-grade railroad crossing and pavement condition at Diamond Creek Road (BIA 101)/Burlington Northern Santa Fe Railroad.
- Conduct a Railroad Crossing Route Location Study to evaluate an alternative railroad crossing site location on Nelson Road (BIA 19).
- Realign, grade, drain, and pave unimproved section of Buck and Doe Road (BIA 1) to provide safe access for visitors and employees to the Grand Canyon West.
- Realign and resurface Frazier Wells Road (BIA 10) and Oak Tank Road (BIA 15).
- Resurface Thornton Tower Road (BIA 17) from BIA Route 18 to BIA Route 13, Lone Pine Road (BIA 11).
- Grade, drain, and pave Peach Springs Cemetery Road (BIA 43), BIA Route 13, and Wilaha Road.
- Pave Clay Springs Road (BIA 2), Nelson Road (BIA 19), and Antares Road (Mohave County Route 261).
- Realign and resurface Oak Tank Road (BIA 15) to promote tourism.
- Grade, drain, and pave Hanaga Hill Drive, Miller Court, Shady Lane, Valley Lane, Rodeo Road, Rodeo Loop Road, and Wahonda Way in Peach Springs to alleviate flooding and improve access.
- Grade, drain, and pave BIA Route 103 routes in Valentine to access residences and the BIA Field Office in Valentine.



Conduct an Airport Facilities Location study to identify a site for the relocation of the Grand Canyon West airport facilities.

- Pave deteriorating gravel parking area to improve the Frontage Road in Peach Springs to improve access to the primary business area.
- Intersection improvements:
 - State Route 66/Diamond Creek Road (BIA 101): Add left-turn lanes in all directions and pedestrian crosswalks on State Highway 66.
 - State Route 66/Hualapai Way (BIA 101): Widen State Route 66 to add a left-turn lane and acceleration and a deceleration lane westbound and install east and westbound flashing warning lights.
 - State Route 66/BIA Lane (BIA 101): Widen eastbound State Route 66 to add a left-turn lane, stripe westbound State Highway 66 to add a deceleration lane, reduce westbound speed on State Highway 66 to 35 MPH, and install rumble strips and a flashing warning light on westbound State Highway 66 east of the intersection.
 - State Route 66/Buck and Doe Road (BIA 1): Construct a westbound deceleration lane on State Highway 66, eastbound left-turn lane on State Highway 66, install flashing warning lights in each direction on State Highway 66, and on Buck and Doe Road add flashing signs of the approaching intersection.
 - State Route 66/Supai Road (BIA 18): Construct a separate left-turn lane on eastbound State Highway 66.
 - Relocate the Valentine Cemetery Road intersection and rail railroad crossing of Valentine to the north and grade and drain.

2011 BIA 18 Road Safety Assessment

Conducted in 2011, the BIA 18 Road Safety Assessment (RSA) was requested by the Havasupai Tribe to identify countermeasures to reduce motor vehicle crashes along the road. The study investigated roadway characteristics, historical crash records, and safety conditions to highlight various safety issues along the corridor. Key elements identified in the study include:

- Based on an analysis of ten years of crash data (2000 - 2009) from the Inter Tribal Council of Arizona (ITCA), the corridor's crash rate was 135 crashes per 100 million vehicle-miles (MVM), which is 62% higher than the average rate for Arizona 2-lane rural roads of 84 crashes per 100 MVM.
- 40% of all crashes that occurred on Supai Road (BIA 18) are animal related, with 27% striking an animal and 13% involving overturns due to driver swerving to avoid an animal on the road.
- Safety issues identified along Supai Road (BIA 18) within the Hualapai Indian Reservation included:
 - Poor pavement conditions with potholes, raveling, and cracks, especially between mileposts 21 and 26.
 - Lack of centerline and edge line pavement markings making nighttime travel difficult.



Pavement conditions along Supai Road (BIA 18) were cited as a major safety issues in the 2011 BIA 18 Road Safety Assessment Report.



- o Improper signage and lack of signage warning vehicles of speeds and sharp curves.
 - o Outdated guardrails with vegetation growth.
- Recommended improvements to the corridor included:
 - o Chip seal surface treatment of the pavement between mileposts 0 and 40.
 - o Install thermoplastic centerline and edge line markings to provide 12-foot lanes and 2-foot shoulders.
 - o Conduct a ball bank analysis of curves to determine appropriate warning signs, advisory speeds, and sign locations.
 - o Provide consistent signing for speed zones.
 - o Install roadside delineators at curves.
 - o Replace outdated guardrails and remove vegetation in front of guardrails.
 - o Install Open Range signs where appropriate and repair fences and cattle guards at locations that provide openings for livestock to access the road.

2011 SR 66 MP 96 to 112.3 Road Safety Assessment

A Road Safety Assessment (RSA) of State Route 66 within the Hualapai Indian Reservation (milepost 96 to 112.3) was completed in 2011 upon request by the Hualapai Indian Tribe to identify safety improvements for the overall safety performance of State Route 66. Based upon an evaluation of historical crash records and a comprehensive field review, the following key elements were reported:

- Based on an analysis of ten years of crash data (2000 - 2009) from the Inter Tribal Council of Arizona (ITCA), the corridor's crash rate was 139 crashes per 100 million vehicle-miles (MVM).
- State Route 66 is a two-lane road with a speed limit of 65 MPH for the majority of the corridor, with speeds of 45 mph on the approaches to Peach Springs (MP 102.76 to 102.92, MP 103.74 to 104.76), and 35 MPH through Peach Springs (MP 102.92 to 103.74).
- Paved shoulders range from 7 to 8 FT in width in most locations, with curb and gutter in Peach Springs.
- The corridor generally has wide paved shoulders, newer guardrails, good sign reflectivity, proper vegetation management, good horizontal and vertical alignment, and adequate sight distance.
- Due to the rerouting of traffic from I-40 during closures, the study recommended that the Tribe develop an Incident Management Plan and to participate in ADOT's Incident Management Plan.
- Safety issues generally identified along State Route 66 included:
 - o Stop bars on intersecting roadways are faded or incorrectly placed, particularly on Hualapai Way (in which the stop bar is located 58 FT from the edge line). The study recommends relocating stop bars to improve sight distances.
 - o There are no street signs at intersections, limited roadside delineators, no rumble strips on shoulders, and pavement markings are faded. The study recommends installing Elk Crossing signs where needed, street name signs at intersections, roadside delineators as



Pavement deterioration was noted along State Highway 66 from MP 96 to 112.3 RSA



needed, shoulder rumble strips, and to refresh pavement markings and turn lane markings at the high school.

- State Route 66/Buck and Doe Road (BIA 1) Intersection:
 - East and westbound right-turn lanes on State Highway 66 to access roadway.
 - Pavement markings are faded and stop sign on Buck and Doe Road (BIA 1) was installed at an improper height.
 - Pavement edge deterioration on the westbound State Highway 66 approach to the intersection.
 - Unpaved road access to Buck and Doe Road (BIA 1) is in the middle of a curve, which upon development may cause safety issues.
- State Route 66 through Peach Springs:
 - On-street parking in front of the Hualapai Lodge causes sight restrictions for motorists exiting the Lodge parking lot.
 - Overgrown vegetation along the roadway reduces sign visibility and obstructs sidewalks.
 - Sidewalks are present west of the Lodge; however pedestrians were observed both day and night walking on the shoulder along State Route 66 east of the Hualapai Lodge.
 - The study recommended eliminating parking near the Hualapai Lodge driveways, trimming trees along sidewalks and shoulders, and extending the sidewalk at least to the Fire Department.
- State Route 66 from MP 104.4 to MP 105.7:
 - One mile segment of road with a long passing lane, speeds of 65 MPH, and a 6% grade. Several signs are located on the westbound approach warning drivers of approaching reduced speed areas in Peach Springs. Paved shoulders narrow greatly in the passing lane section (MP 104.5). At the Juvenile Detention Center intersection the stop bar is faded and vegetation located east and west of the intersection restricts sight distance.
- Railroad-Highway Grade Crossings:
 - The Valentine crossing is a narrow, 15 FT lane with no Highway-Rail Grade Crossing advance warning signs. The crossing is utilized by the public; however, the crossing is listed in the Federal Railroad System as private. The study recommended that a request be made to the BNSF Railroad to improve the crossing to improve the alignment and width, install advance warning signs, install a yield or stop light, and install a "Look" sign with crossbucks.
 - The Diamond Creek Road (BIA 6) crossing includes flashing lights with automatic gates; however, advance warning signs are missing from the northbound approach. The study recommended installing an advance warning sign on the northbound approach, stop bars



Faded pavement markings identified in the SR 66 MP 96 to 112.3 RSA

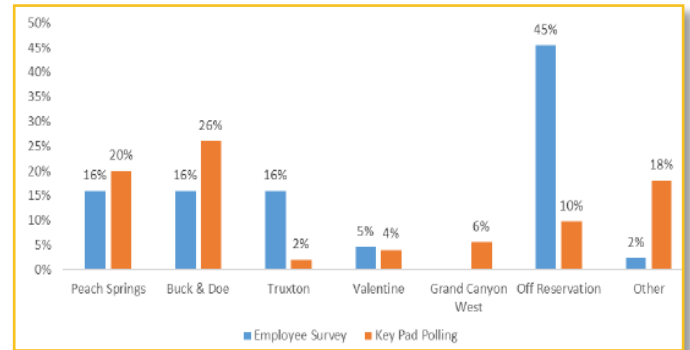


on both approaches, and developing a communication plan with the BNSF Railroad to deal with crossing closures.

2013 Hualapai Housing Needs Assessment

Completed in 2013, the *Hualapai Housing Needs Assessment* was conducted with the ultimate goal of quantifying the demand of housing on the Hualapai Indian Reservation. The study utilized the Hualapai Housing Department's Housing Data Systems (HDS) database and conducted an employer and employee survey and keypad polling to determine the existing housing supply, projected housing needs, and areas of potential development. The study concluded that an additional 210 homes are currently needed to alleviate crowding and to address the demand by the current workforce and if future growth continues to follow historical growth patterns, another 400 homes will be required by 2032. In addition, the report suggested that, based on historical growth, there will be a total of 1,560 jobs on the Hualapai Reservation by 2032.

Based on the study's community event keypad polling, it was noted that 63% of respondents drive their own car to work while 6% carpool. Of the keypad polling respondents, 59% of all respondents stated that they would take a shuttle to and from work if it were available, while 62% of employee respondents would take a shuttle. Employers that responded to the survey commented that the time required for Hualapai commuters to reach their workplace is a source of employee turnover; of those employers 31% reported having employee commuting related challenges. Employer respondents identified Peach Springs, Buck and Doe Road (BIA 1), Truxton, and Grand Canyon West as ideal areas for additional housing, while employees preferred Peach Springs, Buck and Doe Road (BIA 1), Truxton, and off-reservation areas.



Survey respondents identified Off-Reservation, Peach Springs, Buck and Doe Road, and Truxton as ideal locations for future housing projects.

Community Development and Strategic Energy Launch Plan

Developed for the Hualapai Indian Tribe, the *Community Development and Strategic Energy Launch Plan* was conducted with the purpose of outlining the needs of the Tribe and its members, along with the uniform goals of the Tribe. Through public participation, the study team identified the Tribe's history, positive trends, negative trends, advantages, and recent accomplishments. In addition, the study team helped tribal members come to agreement about a vision for the future of the tribe. The participants outlined the following goals:

- All Hualapai Tribal members should have access to free or affordable transportation.
- The Tribe needs to reach sustainable economic security.
- Use sustainable clean energy to aid protection of the environment.
- Achieve better relations and accountability between the Government and the people.
- Create energy independence.
- Help Tribal members live happy and healthy lifestyles.
- Integrate the cultural identity of the Tribe with daily life.
- Make healthy food available to the community.



- Create local access to various education options.
- Allocate resources to care for the elderly.

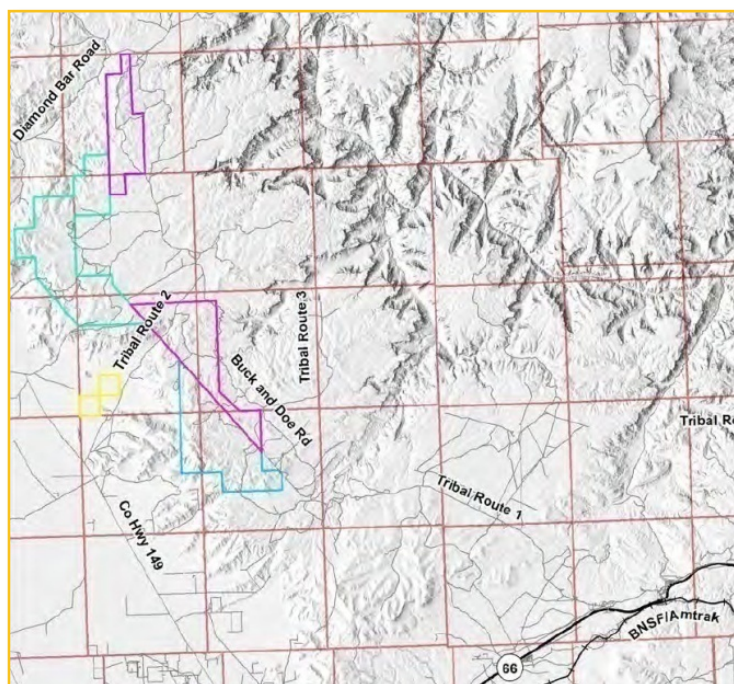
The participants to the study helped develop ways to achieve the goals before the year 2022. The workshop helped participants create a list of potential actions that could be taken by the Tribe to implement their vision. The recommended actions are as follows:

- Coordinate a multi agency effort to establish a transit system with a mini-van route, mechanic shop, lower fuel costs, and a Tribal Transit System, which would serve local areas.
- Diversify development opportunities to nurture learning, growth, and achievement.
- Develop community awareness and participation in responsible energy opportunities.
- Communicate easy to understand information with opportunities for feedback.
- Identify a Tribal Council champion to participate and represent each effort.

2012 Hualapai Wind Project Feasibility Report

Initiated by the Hualapai Department of Planning and Economic Development, the *2012 Hualapai Wind Project Feasibility Report* was conducted with the purpose of evaluating the Hualapai Wind Project for site constructability, wind resource, transmission/interconnection, environmental, and overall economic feasibility. In addition, the study also identified the site area for development and its suitability for construction. The report included six different studies which yielded the following results:

- The location study identified Grand Canyon West and Clay Springs areas as the best areas for developing a single, large wind project.
 - Buck and Doe Road (BIA 1) was analyzed for transportation of construction equipment and did not show any fatal flaws.
 - Two site options were evaluated for feasibility:
 - A priority site area is located on the Hualapai Indian Reservation and features turbines with 80 meter and 92 meter hub height.
 - The secondary site is located on the Hualapai Indian Reservation as well as adjacent BLM lands. This will increase potential for future developer interest.



Potential wind farm locations analyzed in the 2012 Hualapai Wind Project Feasibility Report.

- Wind data collection was initiated in December 2005 on the Hualapai Indian Reservation and lasted through August 2012. After the analysis period, four of the initial five meteorological towers were operating at the end of the data analysis period.
- As part of the study, engineers performed a transmission and interconnection feasibility analysis on three different Points of Interconnection based on engineering design and estimated costs. The transmission lines includes: Perkins to Mead 500kv line, Mead-Peacock 345kv line, and



Moenkopi-Eldorado 500kV line. Upon completion of the study, the Mead-Peacock 345kV line was identified as the preferred Point of Interconnection.

- The initial permitting and environmental assessment of the wind project site did not indicate any fatal flaws that would affect the viability of the project.
- Additionally, the feasibility study found that the Hualapai Wind Project is economically feasible; however, the Tribal Council has declined the request to pursue a wind farm at this time.

Hualapai Solar Project Feasibility Report

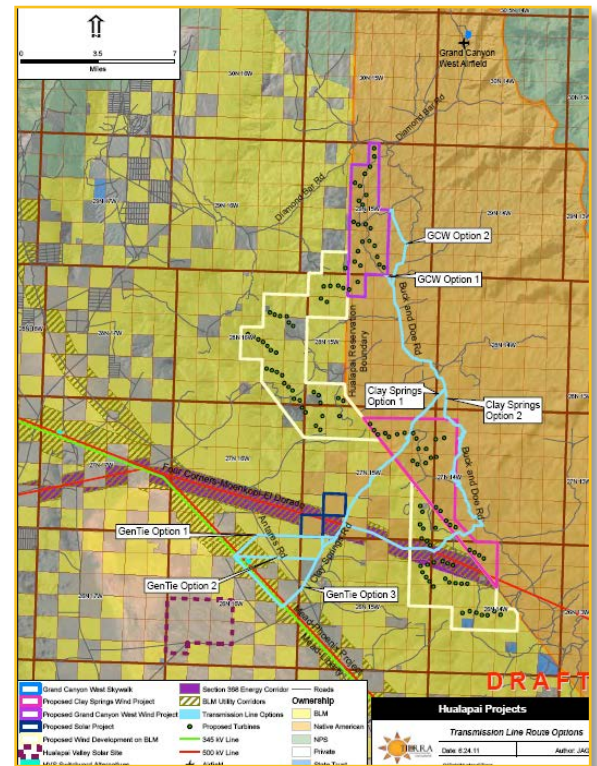
The *Hualapai Solar Project Feasibility Report* was conducted under the guidance of the Hualapai Planning and Economic Development Department to meet the goals of the previously developed Strategic Energy Plan. The study aims to evaluate proposed design of solar facilities on Hualapai owned or entrusted lands. The report considered two solar development projects:

- Clay Springs Solar Project – a 100MW solar power plant development at Clay Springs. The Clay Springs Solar Project is comprised of an electrical generating facility transmission line connecting the plant to a new 345kV switchyard.
- Nelson Solar Project – a 20MW solar power plant development at Nelson with interconnection to an existing 69kV transmission line owned and operated by Mohave Electric Cooperative.

The study process identified that the project will be beneficial to the Hualapai Indian Tribe's economic stability by:

- Creating significant revenues for the Hualapai Indian Tribe by way of land lease revenues and/or electricity sales.
- Increasing the number of jobs by adding about 250 construction jobs and 15-25 full-time positions for each of the two sites.
- Helping the Tribe increase its industrial portfolio by adding solar technologies.
- Preserving and benefitting the environment through clean, renewable, and sustainable technology.
- Contributing to a sustainable future by reducing dependence on foreign sources of energy.

Finally, the study results conclude that both of the proposed projects are feasible and will provide multiple long-term benefits.



The Hualapai Solar Project Feasibility Report evaluated the feasibility of developing solar generating facilities in Clay Springs and along Nelson Road.



PROGRAMMED AND SCOPED PROJECTS

ADOT's Multimodal Planning Division publishes the Arizona State Transportation Improvement Program (STIP), which identifies priority transportation projects that utilize federal funds over a five-year timeframe. The ADOT MPD Planning and Programming section compiles the STIP from a list of projects from regional transportation improvement programs' TIPs. Projects included in the STIP are consistent with statewide long-range transportation plan and metropolitan TIPs. The STIP includes projects recommended by the Tribal Transportation Program's (TTP) Transportation Improvement Program (TIP) for all federally recognized Tribes in Arizona. The Hualapai Indian Tribe's TIP is included in the BIA Western Region's TIP. Table 2.1 lists the improvement projects included in the *Draft Arizona State Transportation Improvement Program (STIP) Fiscal Years 2015-2019*.

Table 2.1: ADOT State Transportation Improvement Projects (STIP) FY 2015 – 2019

Year	Project Location	Type of Improvement	Total Costs
2014	H68605 : Supai Road	Safety Improvements	\$980,174

Source: ADOT Multimodal Planning Division

In conjunction with the Federal Aviation Administration (FAA) and public airports, ADOT develops a Five-Year Airport Capital Improvement Program (ACIP) for airport development. Funding for the Airport Program is mainly derived from flight property tax, aircraft lieu tax, aircraft registration, and aviation fuel tax. Table 2.2 lists the improvement projects included in the *Draft 2015-2019 Five-Year Airport Capital Improvement Program*.

Table 2.2: ADOT Airport Capital Improvement Program FY 2015 – 2019

Year	Type of Improvement	Total Costs
Grand Canyon West Airport		
2015	Conduct EA for new terminal building	\$650,000
2015	Regrade and modify drainage to address ponding water	\$200,000
2016	Design for terminal building on west side of runway	\$1,500,000
2017	Construct terminal building on west side of Runway (Phase 1)	\$16,499,000
2018	Construct terminal building on west side of Runway (Phase 2)	\$16,499,000
2019	Construct Aircraft Rescue and Fire Fighting (ARFF) and SRE facility (design only)	\$500,000

Source: ADOT Multimodal Planning Division



3. LAND USE AND SOCIOECONOMIC CONDITIONS

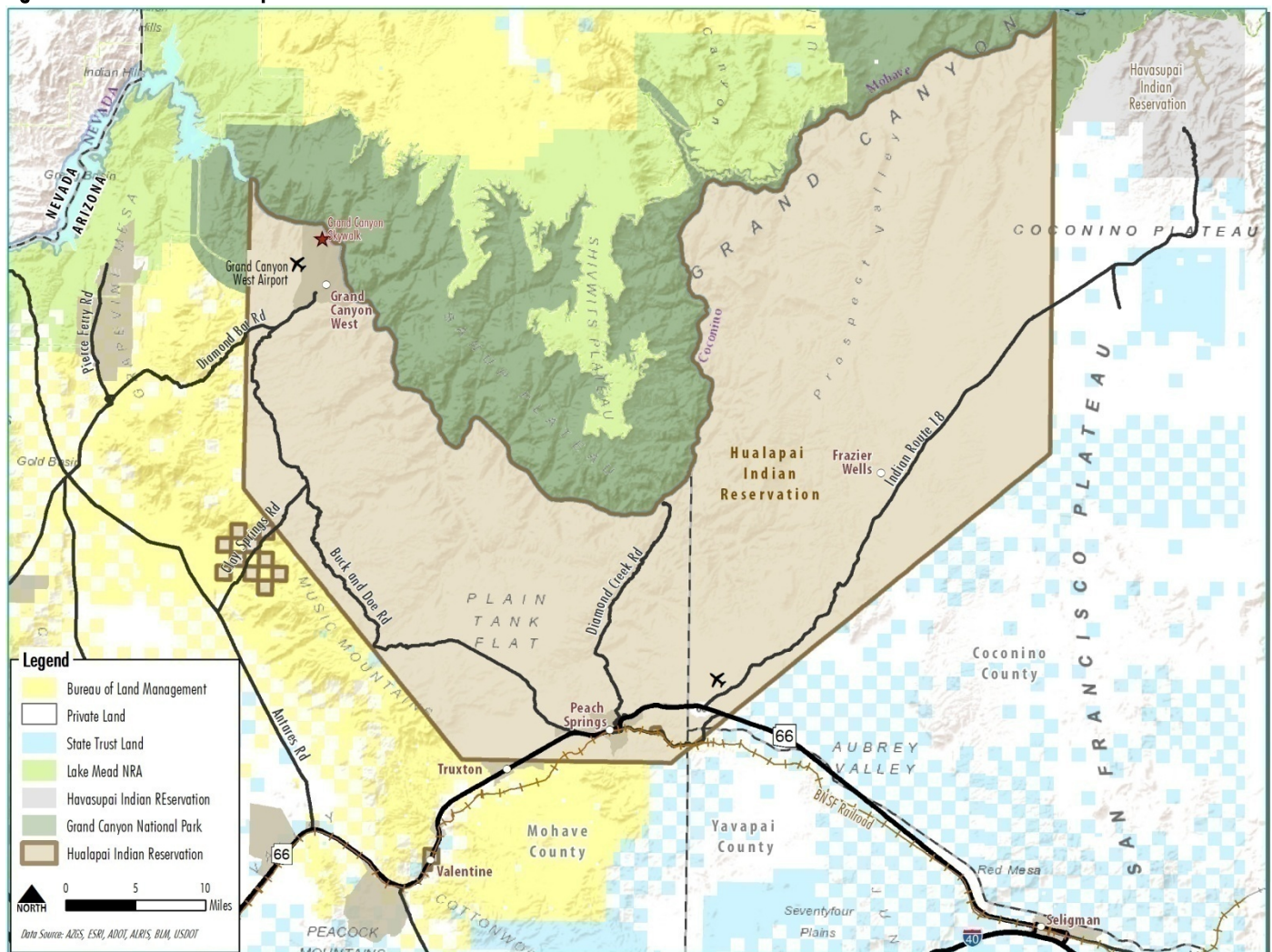
This section summarizes current and future land use and socioeconomic conditions for the study area.

LAND OWNERSHIP

The Hualapai Indian Reservation covers approximately one-million acres along the Colorado River and the Grand Canyon in northern Arizona. In 1925, the U.S. Department of the Interior restated recognition that the Hualapai Tribe is the rightful legal owner of the entire Hualapai Reservation by right of occupancy. In addition to the main reservation area, the Reservation consists of the following separate areas: Valentine, Big Sandy Allotments, Cholla Canyon Ranch, and Clay Springs. The Tribe has also acquired properties through purchase and donations, including 142 acres of fee land currently in the process of conversion in the Truxton Triangle and 360 acres in Cholla Canyon Ranch. The Tribe also has plans for future land acquisition in Big Sandy Allotments and Cholla Canyon Ranch.

Surrounding the Hualapai Indian Reservation are the Bureau of Land Management, Arizona State Land Department, the federally maintained Grand Canyon National Park, the Havasupai Indian Reservation, and private owners. Figure 3.1 illustrates the land ownership within the vicinity of the Hualapai Indian Reservation.

Figure 3.1: Land Ownership



LAND USE

Integrating land use into transportation planning is essential so communities can support "smart growth" processes and promote sustainable development. Sustainable development improves mobility, supports economic growth, and ensures the financial stability of the transportation system. This approach helps maintain the quality of living for the people, the quality of the community as a whole, and also reduces the need for roadway expansion.

Existing land use data was compiled based on existing planning documents and a comprehensive field review. Figures 3.2 and 3.3 illustrate existing land uses within the study area per the *2000 Hualapai Tribe 20 Year Transportation Plan Update* and the *Hualapai Master Plan*. As illustrated in the figures, land use types include:

- **Residential:** According to the *Hualapai Tribe Master Plan*, residential land uses within the Reservation include: rural density (1 dwelling per acre), low density (1-2 dwelling units per acre), medium density (3-8 dwelling units per acre), and urban (9-16 dwelling units per acre). Residential areas primarily consists of rural to medium density single family homes in Peach Springs, along Buck and Doe Road, Valentine, and at the Grand Canyon West. Due to the remote location of the Grand Canyon West, temporary dwelling units were added to provide housing for employees. Future residential expansion is expected to occur in the Box Canyon area along Buck and Doe Road, in the Truxton Triangle, and at the Grand Canyon West.
- **Agriculture/Forestry/Grazing:** With approximately 750,000 acres of rangeland, agriculture is the predominant land use within the Reservation. The majority of the rangeland is held for forestry and woodland purposes. In addition, rangeland is divided into five separate grazing districts, each with their own range management plan, for ranching and farming purposes. In addition to cattle grazing, crops such as corn, squash, alfalfa, and watermelon are grown on portions of the Big Sandy Allotments. The Tribe's Natural Resources Department also maintains a fish hatchery facility off of Supai Road (BIA 18) in Frazier Wells.
- **Education:** Located northwest of the Diamond Creek Road/Shady Lane intersection, the Peach Springs Unified School District #8 provides education to Tribal members from kindergarten to 8th grade. According to the Arizona Department of Education, 194 students are enrolled at Peach Springs Unified School District #8. The Hualapai Head Start program, located on Hualapai Way in Peach Springs, serves approximately 57 children. Since the closure of Music Mountain Junior/Senior High School on State Route 66, students now attend high schools in Kingman or Seligman. Valentine Elementary School, in Truxton, is a public school with approximately 68 students from kindergarten to 8th grade.
- **Institutional/Government:** The majority of Tribal and government institutions are located within Peach Springs, with the exception of BIA Field office in Valentine. Government facilities located in Peach Springs include: Hualapai Tribal Headquarters, Hualapai Tribal Juvenile and Adult Detention centers; Hualapai Day Care; Hualapai Housing Authority (HHA), Hualapai Elderly Center, U.S. Post Office, Tribal Court, Emergency Medical Service, and the Planning Department.
- **Health:** Located in Peach Springs, the Indian Health Service (IHS) clinic and the Hualapai Health Education and Wellness Department provide non-emergency health services to Tribal members. The Hualapai Nation Emergency Service Department provides emergency transportation to the nearest hospital in Kingman as necessary.



- **Commercial:** Commercial services within the Reservation are primarily located in Peach Springs and Grand Canyon West. Within Peach Springs, commercial land includes the Hualapai Cultural Center, Best Market & Deli (currently in the process of being remodeled by the Grand Canyon Resort Corporation), the Hualapai Lodge, Diamond Creek Restaurant, and Pop's Laundromat. The international tourist destination of the Grand Canyon West is the Tribe's largest commercial development, and includes a heliport, visitor's center, multiple dining facilities, the Grand Canyon Skywalk, overnight lodging facilities, and scenic viewpoints of the Grand Canyon. The Hualapai Lodge, in Peach Springs, is also the headquarters of the Hualapai River Runner's rafting operations that provides river rafting tours along the Grand Canyon. Commercial services located on State Route 66 are primarily establishments for tourists, such as a hotel and RV park in Truxton and the Grand Canyon Caverns east of the Reservation. In Truxton there is also a full-service gas station, an auto repair shop, and a convenience store. Future commercial developments are proposed at the Grand Canyon West, in Peach Springs, along State Route 66, and along Supai Road (BIA 18).
- **Industrial:** Lhoist North America owns and operates a lime quarry and plant on Nelson Road (BIA 19) southeast of Peach Springs. Additionally, there is an existing five acre flagstone quarry west of the Reservation.
- **Public and Recreation:** Recreational facilities located in Peach Springs include the Francis Munoz Roping Arena, the Warren Querta Memorial Gym, a children's playground, the Veterans' Memorial Park, Boys and Girls Club, and a community park on State Route 66. The Colorado River Recreation area, located at the terminus of Diamond Creek Road (BIA 6), hosts a boat launch for the Hualapai River Runners as well as fishing and hiking opportunities. Located on Youth Camp Road (BIA 17), the Hualapai Tribe maintained Youth Camp provides camping, fishing, and recreational opportunities for Tribal and non-Tribal groups. Additional recreation areas include a scenic site off of Pine Springs Road (BIA 22), Twenty Pines recreational area off Supai Road (BIA 18), and a playground in the Milkweed subdivision.
- **Undeveloped Open Space:** Undeveloped open space includes areas that are preserved due to cultural sensitivity or preservation, as well as areas that are not likely to be developed due to topography.



Figure 3.2: Land Use and Major Activity Centers

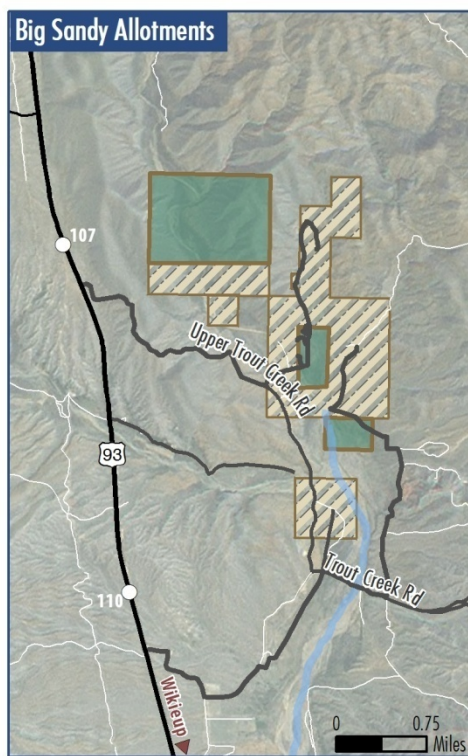
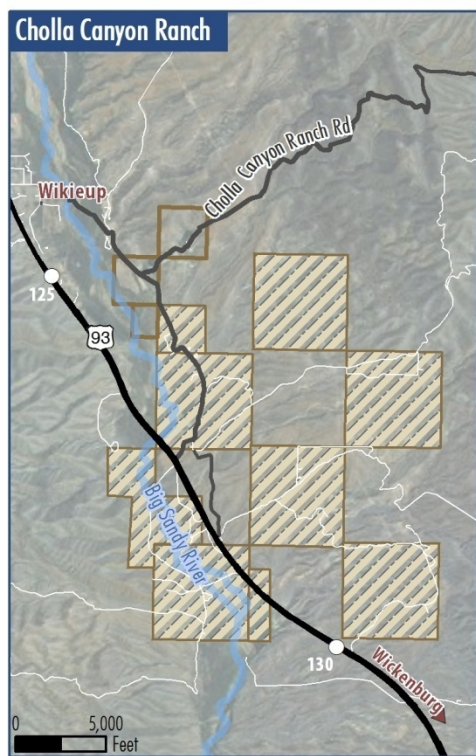
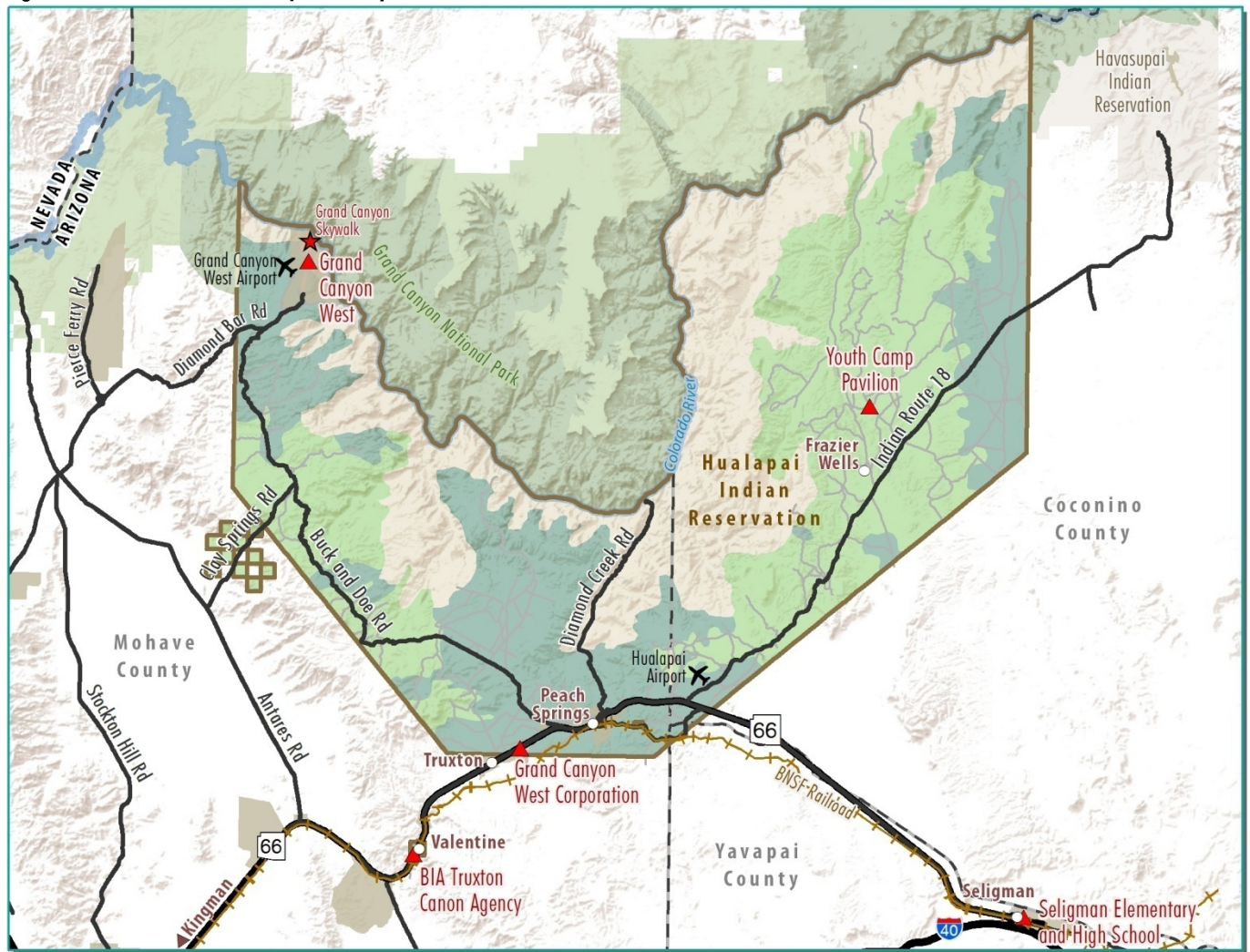
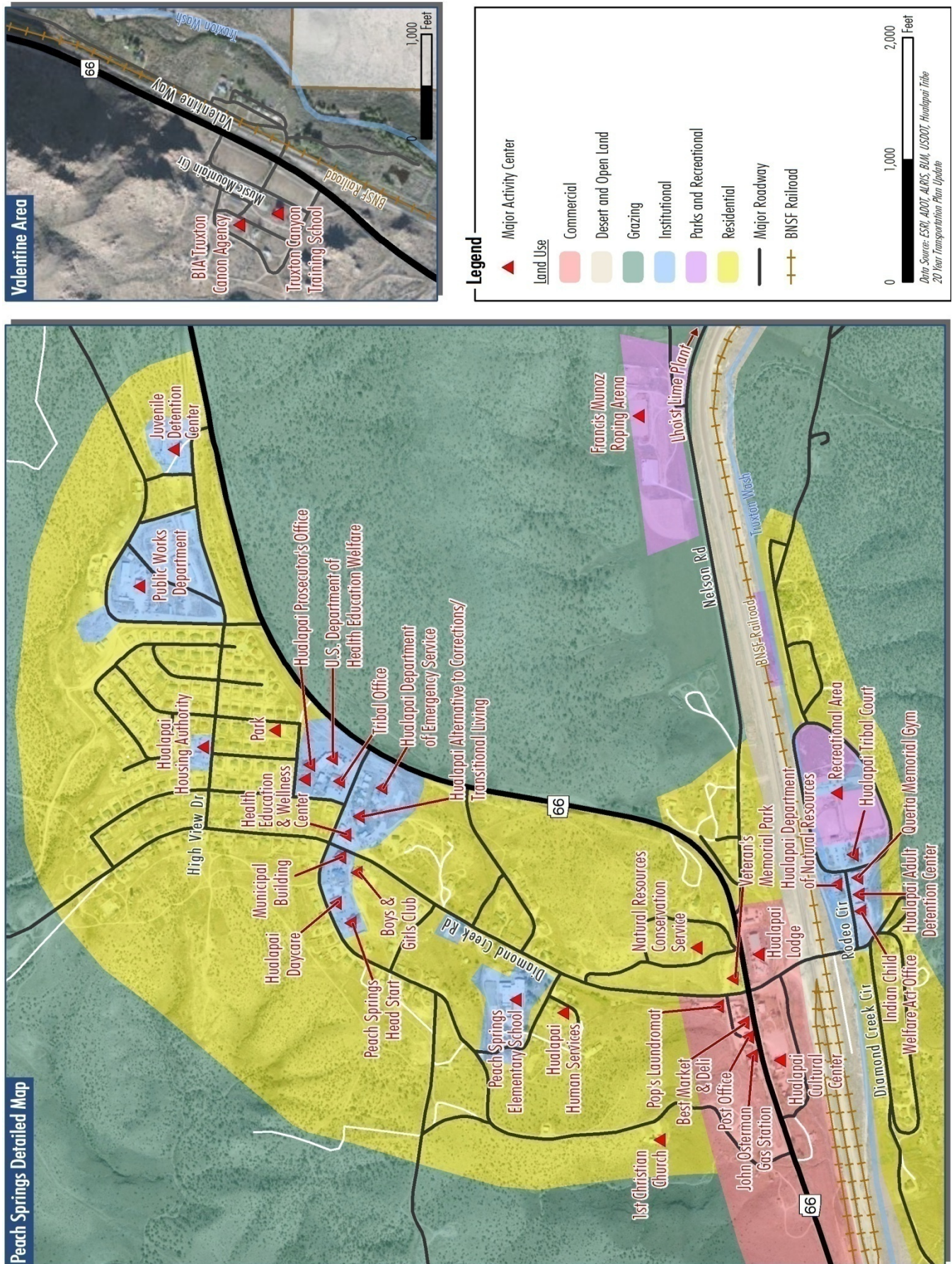


Figure 3.3: Land Use and Major Activity Centers (Peach Springs and Valentine)



EXISTING SOCIOECONOMIC CONDITIONS

A review of existing population and employment was conducted to understand the demographic characteristics of the Hualapai Indian Reservation and the surrounding region. As identified by the US Census Bureau, Table 3.1 summarizes the population and housing unit growth trends from 2000 to 2010 for the Hualapai Indian Reservation, Peach Springs Census Designated Place (CDP), Valentine CDP, Truxton CDP, Grand Canyon West CDP, Mohave and Coconino County, and the State of Arizona. According to the US Census Bureau, the Hualapai Indian Reservation overall had a slight decrease (1.3 percent decrease) in population since 2000, while Peach Springs CDP's total number of housing units and population dramatically increased. This significant increase can primarily be attributed to the geographic expansion of the Peach Springs CDP to include the housing developments of Buck and Doe and Milkweed Springs.

Table 3.1: Population and Housing Unit Growth Trends

Geographic Area	Population		Population Growth	Housing Units		Housing Unit Growth
	2000	2010		2000	2010	
Hualapai Reservation	1353	1335	-1.3%	351	422	20.2%
Peach Springs CDP	600	1090	81.7%	219	334	52.5%
Valentine CDP	-	38	-	-	14	-
Truxton CDP	-	134	-	-	73	-
Grand Canyon West CDP	-	2	-	-	19	-
Mohave County	155,032	200,186	29.13%	53,443	63,321	18.5%
Coconino County	116,320	134,421	15.6%	80,062	110,911	38.5%
State of Arizona	5,130,632	6,392,017	24.6%	2,189,189	2,844,526	29.9%

Source: 2010 US Census, 2000 US Census

*Valentine CDP, Truxton CDP, Grand Canyon West CDP were newly defined for the 2010 US Census

Figure 3.4 and Figure 3.5 illustrate the total population and housing units per square mile, respectively. As illustrated in the figures, areas with high population and housing unit concentrations are located within Peach Springs, Valentine, along Buck and Doe Road, and in Truxton. According to the 2010 US Census, nearly 82% of the Hualapai Indian Reservation's population resides within Peach Springs. The highest concentration of housing units and population is located north of Hualapai Way between Diamond Creek Road and State Route 66; this area contains 41.6% of the Reservation's population.

Areas within Peach Springs and along Buck and Doe Road with a lower housing density but higher population density suggest that the areas are comprised of dwelling units with a high occupancy rate. The 2010 US Census determined that 86% of housing units on the Reservation are occupied with an average household size of 3.68; which is higher than the Arizona state average household size of 2.63.



Employment Overview

To determine primary employment industries and current employment levels within the Reservation, meetings were held with Hualapai officials and data was compiled from ReferenceUSA. Based on the ReferenceUSA database, there are approximately 960 employees within the Hualapai Indian Reservation. Based on the input from Hualapai officials, major employers for Tribal members include:

- Tribal government/institutions - 350 employees
- Grand Canyon Resort Corporation - 550 employees

The Grand Canyon Resort Corporation, a major employer for Tribal and non-Tribal members and the leading economic generator for the Hualapai Tribe, includes the following enterprises:

- **Grand Canyon West.** Grand Canyon West is a 9,000 acre development along Grand Canyon's West Rim. Established on February 14, 1988, Grand Canyon West has developed into a major tourist attraction that received approximately 800,000 visitors in 2012. The most well known attraction is the Grand Canyon Skywalk, which is a glass bridge extending from the Canyon's edge giving visitors an unrivaled view of the Grand Canyon and Colorado River. Additional attractions include a scenic view point and dining facility at Guano Point, the Native American Village, an amphitheater to showcase live Native American performances, the Hualapai Market, and Hualapai Ranch.
- **Hualapai Rivers Runners.** Headquartered at the Hualapai Lodge, the Hualapai River Runners offer one and two-day rafting trips along the Colorado River from Diamond Creek Road to Grand Canyon West.
- **Hualapai Lodge.** Located in Peach Springs, Hualapai Lodge is a 60-room hotel that hosts a small gift shop, two meeting rooms, and a full-service restaurant. The Lodge is the headquarters for the Hualapai River Runners and is frequented by tourists traveling along Route 66 or visiting Havasupai Falls.
- **Diamond Creek Restaurant.** Located at the Hualapai Lodge, Diamond Creek Restaurant is a full-service restaurant open for breakfast, lunch, and dinner.

Travel Demand Model

For this study, a travel demand model was developed to evaluate the existing and projected performance of the Tribe's roadway network and to quantify the impacts of roadway improvements. A road network was created utilizing a system of links and nodes to represent existing streets and intersections. Population, housing units, and various types of employment categories were inventoried for each Traffic Analysis Zones (TAZ) in the study area. TAZs are geographic subdivisions of the study area bounded by roads, political boundaries, natural and man-made geographical constraints (such as rivers, washes, etc.). Table 3.2 summarizes the population, housing units, and detailed employment in the Hualapai Indian Reservation.

Table 3.2: Existing Socioeconomic Data

Socioeconomic Data Variable	Units	Total
Population	Persons	1,335
Housing Units	Dwelling Units	422
Occupied Dwelling Units	Dwelling Units	362



Figure 3.4: Total Population Per Square Mile

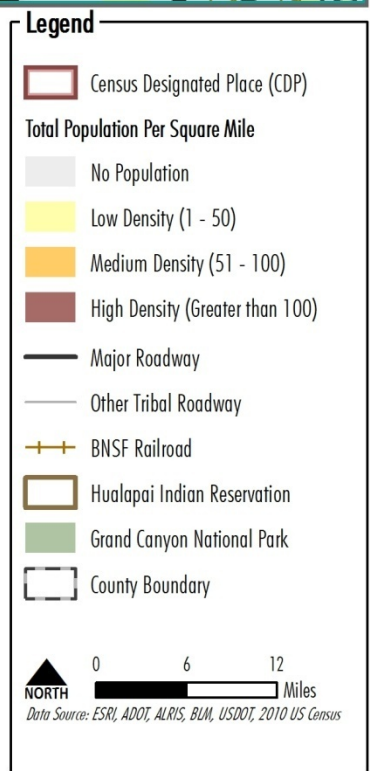
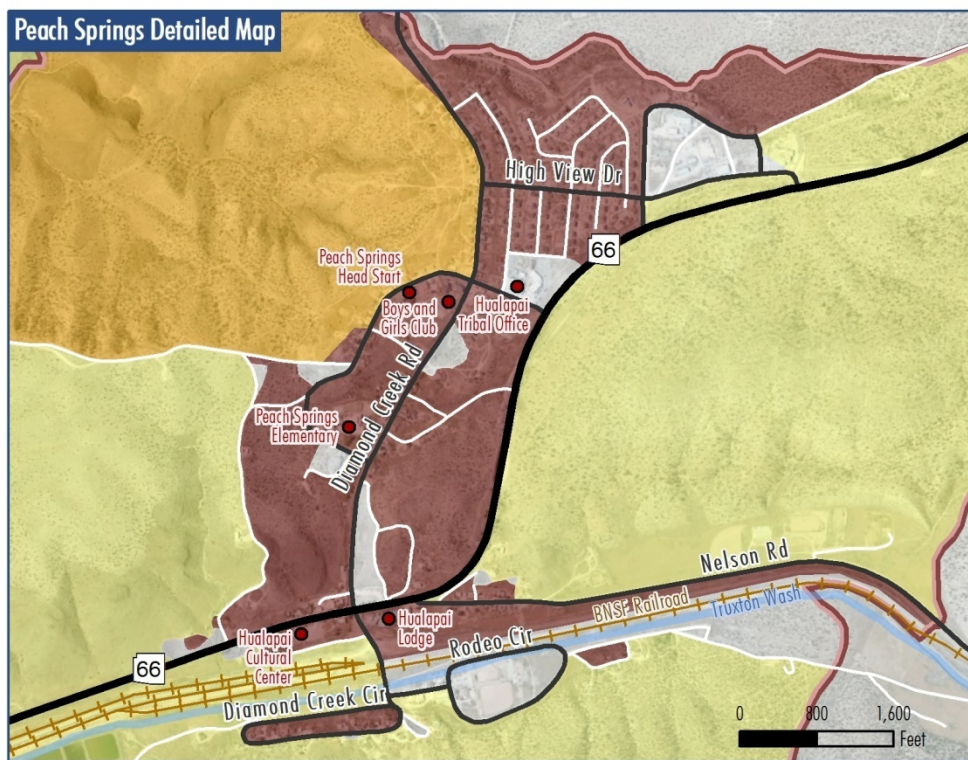
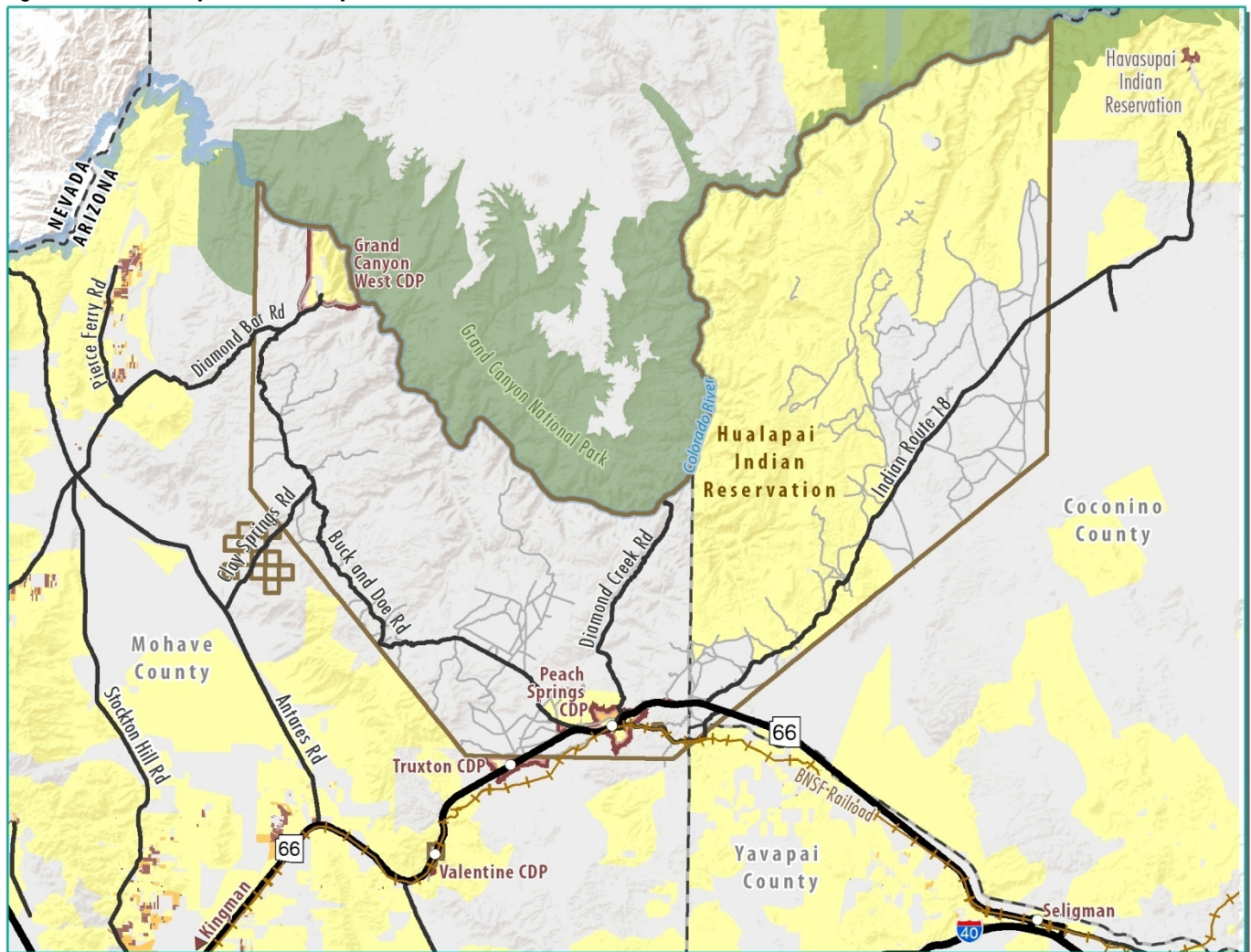
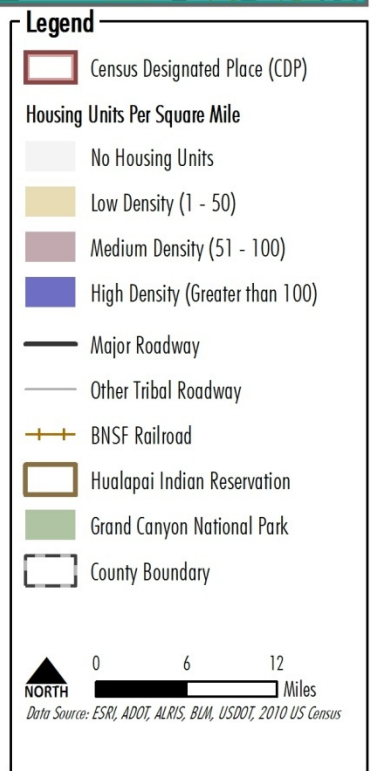
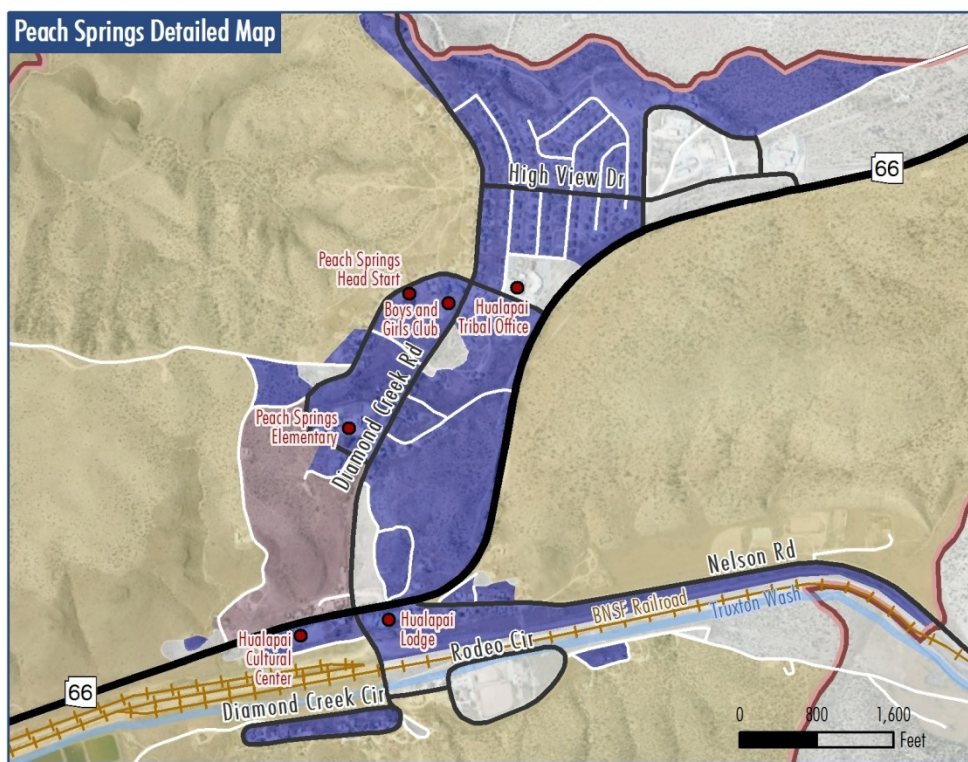
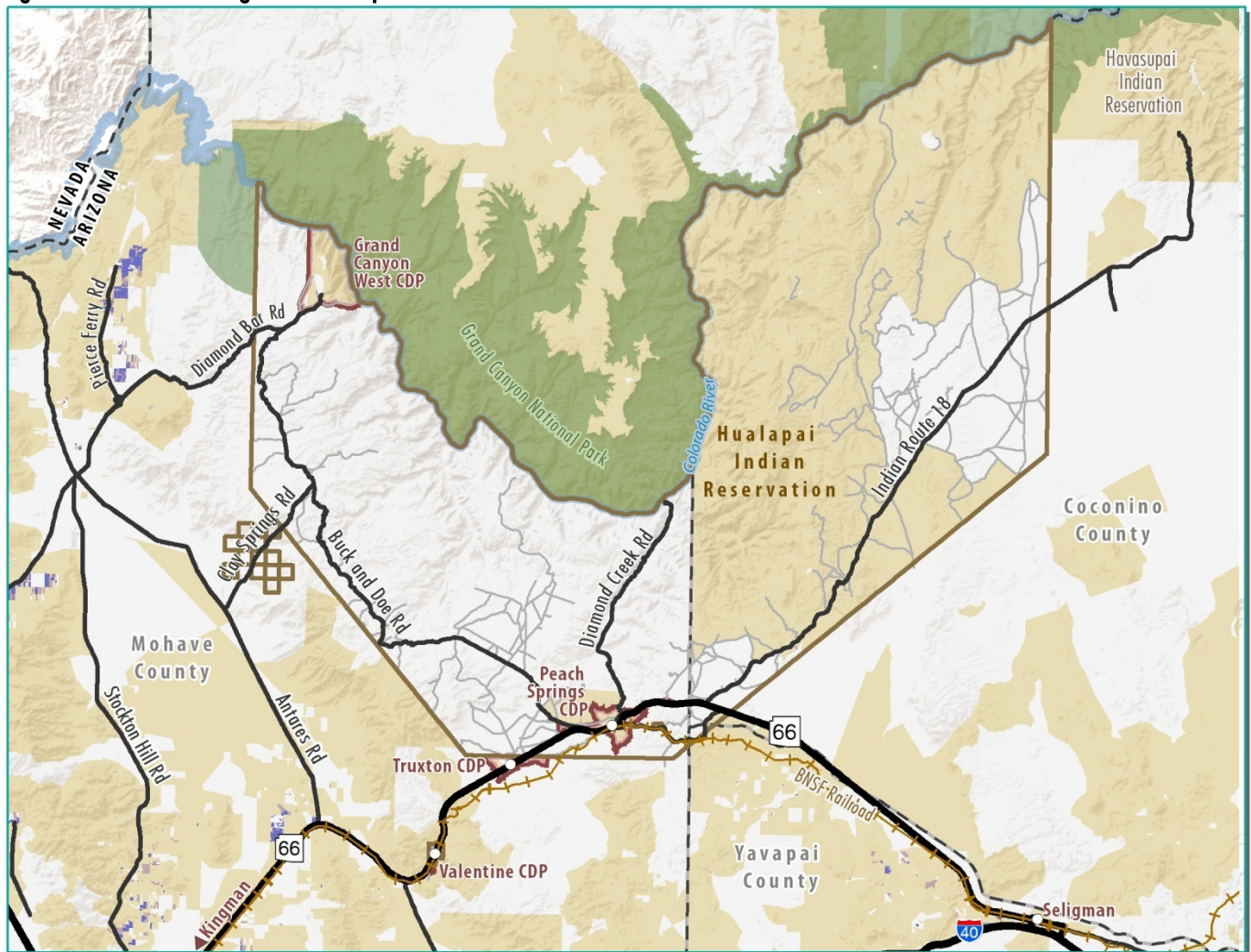


Figure 3.5: Total Housing Units Per Square Mile



FUTURE DEVELOPMENT AND GROWTH TRENDS

Forecasting socioeconomic conditions allows planners to anticipate changes in future travel demand and to envision potential solutions. Development of rational projections for population, housing units, and employment for each horizon year is vital to the process of forecasting realistic traffic volumes. Potential future developments within the study area identified in the *Hualapai Tribe Master Plan* and input received from Tribal officials are outlined in Table 3.3. Table 3.4 lists the estimated population and housing unit totals for the next 5- 10-, and 20-year horizon periods.

Table 3.3: Potential Study Area Developments

Planning Area	Potential Development
Grand Canyon West	- Residential development - approximately 100 homes constructed by 2034. - Expansion of facilities including a hotel, new airport terminal, RV parks and campgrounds and additional tourist facilities. - Commercial facilities to include a convenience store, gas station, grocery store, and restaurants.
Diamond Creek	Expanded recreational opportunities to include camping, RV facilities, hiking, trail riding, and limited commercial activities such as a convenience store.
State Route 66 and Buck and Doe Road	Commercial services along State Route 66 serve tourists and light industrial development.
Truxton Triangle	142 acre fee land conversion to Trust Land. - Residential development - approximately 100 homes constructed by 2034.
Peach Springs	- Increased tourist and commercial facilities along State Route 66. - Expansion of Elderly Center and Adult Detention Center. - Remodel existing grocery store next to Post Office and fuel station. - Residential development - approximately 62 new housing units in Box Canyon along Buck and Doe Road. - New Natural Resources building at the existing location.
Frazier Wells	- Youth Camp Pavilion expansion - 24 person bunk house, RV park, meeting pavilion, and recreation facilities. - Commercial facilities on Supai Road (BIA 18) along with employee housing.
Valentine	Residential development - approximately 20 homes constructed by 2019.
Clay Springs	Renewable energy and water resources development, including a potential wind and solar farm.
Cholla Ranch	Commercial facilities to include a guest ranch, cultural attractions, RV parking, hiking and equestrian trails, and camp sites.
Mohave County	- Mohave County Wind Farm - Hualapai Valley Solar

Table 3.4: Future Population, Housing Units, and Employment

	2014	2019	2024	2034
Total Population	1,335	1,501	1,815	1,999
Total Housing Units	422	467	552	702
Employment	960	980	1,020	1,560



4. EXISTING AND FUTURE TRANSPORTATION CONDITIONS

This section inventories essential elements of the existing transportation system and documents the status/condition of each element. Major elements inventoried include roadway characteristics, crash history, and roadway performance conditions.

ROADWAY INVENTORY

A two-phase roadway inventory program was developed in order to identify roadway conditions on major roadways and for the update of the NTTFI. The first phase of the roadway inventory was conducted in February 2014 of major roadways within the Hualapai Indian Reservation and other major regional routes utilized by Tribal members. Phase two of the roadway inventory was conducted in July 2014 and October 2014 that primarily included rural and other lesser traveled roadways within the reservation.

In order to streamline data collection, a field inventory data collection sheet was developed to document roadway characteristics per the requirements set-forth by the BIA. Upon completion, field data collection sheets will be transferred to BIA inventory forms, along with photo and map attachments, for submittal to Road Inventory Field Data System (RIFDS). The roadway inventory included conducting a windshield survey and video logging roadway segments to capture the following key items:

- Road identification - length, class, location, road purpose
- Roadway conditions - number of lanes, width, surface conditions, shoulders
- Drainage - bridge locations and drainage conditions
- Alignment conditions
- Safety hazards

The following sections provide an overview of information provided in the NTTFI as well as conditions identified during a comprehensive field review conducted by the study team.

EXISTING ROADWAY CHARACTERISTICS

The study area is comprised of a network of over 900 miles of paved and unpaved roadways. Regional roadways that serve the Hualapai Reservation include a network of roadways that connect residential areas with employment and educational facilities. Major roads serving the Hualapai Indian Reservation include:

- **State Route 66:** Regional highway connecting Kingman, Valentine, Truxton, Peach Springs, and Seligman.
- **Buck and Doe Road (BIA 1):** North-south roadway that provides the primary access to Grand Canyon West from Peach Springs. Buck and Doe Road's conditions range from paved to dirt and gravel. Due to the poor conditions of the roadway, Grand Canyon West employee vans utilize an alternate travel route consisting of various county and state roads which results in a 157-mile daily commute versus a 100-mile commute on Buck and Doe Road.
- **Diamond Creek Road (BIA Route 6):** Unimproved roadway, which provides access to the Colorado River Recreation Area traverses along the Peach Springs Wash north of Peach Springs.
- **Supai Road (BIA Route 18):** Major tourist route for visitors traveling to the Havasupai Indian Reservation, Supai Road is a two-lane roadway on the eastern portion of the Reservation.



- **Antares Road:** Mohave County maintained, bladed roadway that connects State Route 66 to Pierce Ferry Road/Diamond Bar Road.
- **Pierce Ferry Road:** Mohave County maintained, paved roadway that serves as the major tourist route for visitors from Las Vegas traveling to Grand Canyon West.
- **Diamond Bar Road:** Connects Pierce Ferry Road to the Hualapai Indian Reservation and the Grand Canyon West. Recently a nine-mile, unpaved portion of Diamond Bar Road was graded, paved, and realigned to improve safety and to promote economic development at the Grand Canyon West. In a study conducted by Harvey Economics, it was concluded that with the reconstruction of Diamond Bar Road, the Grand Canyon West may see a 20 percent increase in visitors.

Functional Classification

Functional classification is the process by which streets and highways are grouped into classes according to their role of moving traffic through a roadway network. Planners and engineers utilize this hierarchy to establish a roadway's design standards, speed, capacity, access management features, and land use development. Functional classification also impacts a roadway's eligibility for federal transportation funds for road improvements and maintenance. Roads within the Hualapai Indian Reservation are classified by both FHWA and BIA functional classification system.

FHWA Functional Classification

Federal Functional Classification is assigned to all public roads using federal guidelines and is approved by FHWA. Table 4.1 provides an overview of each FHWA approved classification within rural areas. Although tribal governments primarily receive funding through BIA, in order to qualify for federal funds roadways must be federally classified as a minor collector or above. Roadways that do not have a FHWA-approved functional classification are deemed ineligible for federal funding. Figure 4.1 illustrates the FHWA provided functional classification within the study area. Based on FHWA-approved functional classifications, the following roadways within the study are federally classified:

- **Rural Major Collector:**
 - o State Route 66
 - o Pierce Ferry Road
- **Rural Minor Collector:**
 - o Antares Road
 - o Diamond Bar Road (BIA 1)
 - o Diamond Creek Road (BIA 101): SR 66 to Shandy Lane
 - o Hualapai Way (BIA 101): Diamond Creek Road to SR 66
 - o Nelson Road (BIA 19): Yavapai County portion only



Table 4.1: FHWA Functional Classification Definition

Classification	Description
Principal Arterial	Serve corridor movements having trip length and travel density characteristics indicative of substantial statewide or interstate travel. They serve and connect most areas with populations of 25,000 or more, and provide an integrated network of continuous routes without stub connections.
Minor Arterial	Link cities and larger towns and form an integrated network providing interstate and inter-county service. Are spaced at appropriate intervals to allow for a reasonable distance from developed areas. They have relatively high travel speeds and minimum interference to through movements.
Major Collector	Primarily serve intra-county rather than statewide travel, by linking county seats, larger towns, and other traffic generators to nearby towns and cities or higher classified routes.
Minor Collector	Provide access for population and traffic from locals roads to major collectors. Typically serve smaller communities and link local, traffic generators.
Local Roads	Provide access to land next to the collector network and several travelers over short distances.

Source: FHWA

BIA Functional Classification

Roadway functional classification data was obtained from the existing BIA NTTFI roadway inventory. Table 4.2 lists the BIA functional classification types and definitions. According to the existing NTTFI inventory, 673.8 miles of roadways within the Hualapai Indian Reservation are classified as class 4 and 3. Upon discussion with the BIA Western Office, it was determined that the functional classification of roadways in the current NTTFI needs to be updated to reflect changes made to the BIA functional classification guidelines in 2007.

Table 4.2: BIA Functional Classification Definition

Class	Description
1	Major arterial roads providing an integrated network with characteristics for serving traffic between large population centers, generally without stub connections and having average daily traffic volumes of 10,000 vehicles per day or more with more than two lanes of traffic.
2	Rural minor arterial roads providing an integrated network having the characteristics for serving traffic between large population centers, generally without stub connections. May also link smaller towns and communities to major resort areas that attract travel over long distances and generally provide for relatively high overall travel speeds with minimum interference to through traffic movement. Generally provide for at least inter-county or inter-state service and are spaced at intervals consistent with population density. This class of road will have less than 10,000 vehicles per day.
3	Streets that are located within communities serving residential areas.
4	Rural major collector road is collector to rural local roads.
5	Rural local road that is either a section line and/or stub type roads, make connections within the grid of the TTP system. This class of road may serve areas around villages, into farming areas, to schools, tourist attractions, or various small enterprises. Also included are roads and motorized trails for administration of forests, grazing, mining, oil, recreation, or other use purposes.
6	City minor arterial streets that are located within communities, and serve as access to major arterials.

Source: Bureau of Indian Affairs



Table 4.2: BIA Functional Classification Definition (Continued)

Class	Description
7	City collector streets that are located within communities and serve as collectors to the city local streets.
8	This class encompasses all non-road projects such as paths, trails, walkways, or other designated types of routes for public use by foot traffic, bicycles, trail bikes, snowmobiles, all terrain vehicles, or other uses to provide for the general access of non-vehicular traffic.
9	This classification encompasses other transportation facilities such as public parking facilities adjacent to TTP routes and scenic byways, rest areas, and other scenic pullouts, ferry boat terminals, and transit terminals.
10	This classification encompasses airstrips that are within the boundaries of the TTP system grid and are open to the public. These airstrips are included for inventory and maintenance purposes only.
11	This classification indicates an overlapping or previously inventoried section or sections of a route and is used to indicate that it is not to be used for accumulating needs data. This class is used for reporting and identification purposes only.

Source: Bureau of Indian Affairs

Roadway Surface Conditions

Pavement condition information for ADOT owned facilities was obtained from the ADOT Pavement Management System. The FHWA rates pavement conditions with the International Roughness Index (IRI). This index is a statistic used to estimate the amount of roughness in a measured longitudinal profile. Based on 2011 IRI values, the pavement condition of State Route 66 is in good condition except for the following segments:

- Milepost 72 - 79: Fair condition, IRI 103-132
- Milepost 92 - 113: Fair condition, IRI 105 - 141
- Milepost 118 - 119: Fair condition, IRI 116

Condition Term Categories	IRI Rating	
	Interstate	Other
Very Good	< 60	< 60
Good	60 – 94	60 – 94
Fair	95 – 119	95 – 170
Mediocre	120 – 170	171 – 220
Poor	> 170	> 220

FHWA International Roughness Index Rating Classification

It is important to note State Route SR 66 was chip sealed between MP 62 and 81 in 2012; therefore improving conditions. The remaining study roadway conditions were determined through visual inspection during the roadway inventory. Figure 4.2 provides an illustration of roadway conditions within the Hualapai Indian Reservation. The study area is comprised of over 910 miles of roadways, of which 22 miles were determined to have poor pavement conditions and 713 miles are unpaved.



Figure 4.1: FHWA-Approved Functional Classification

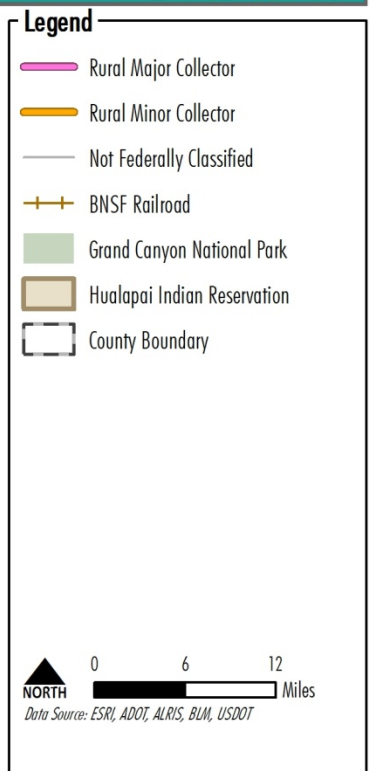
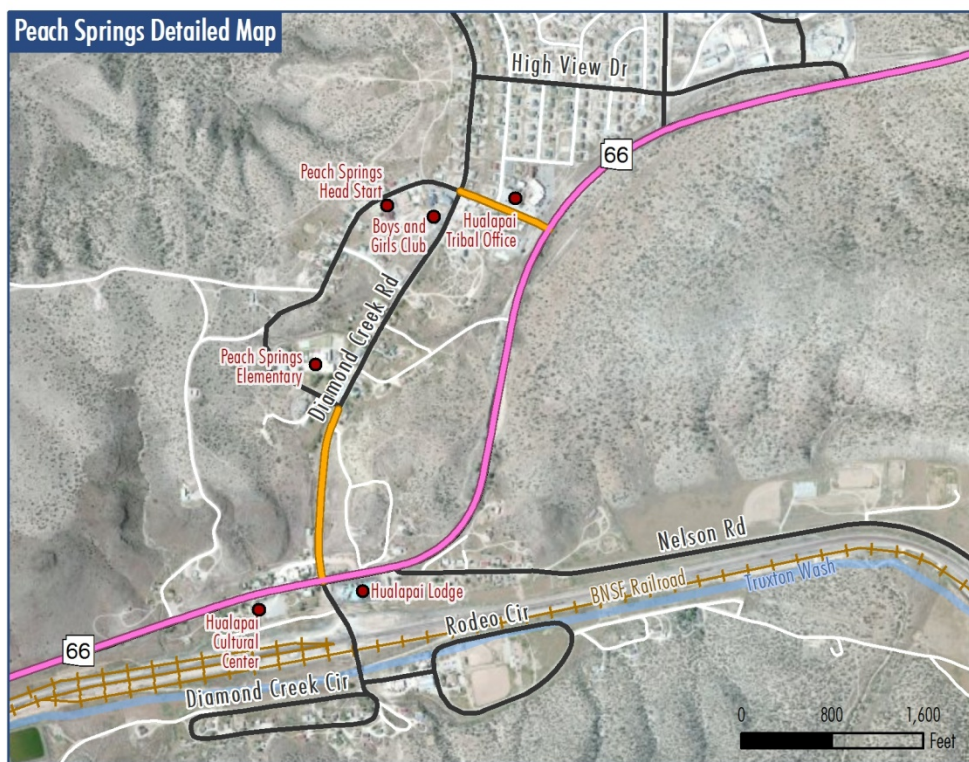
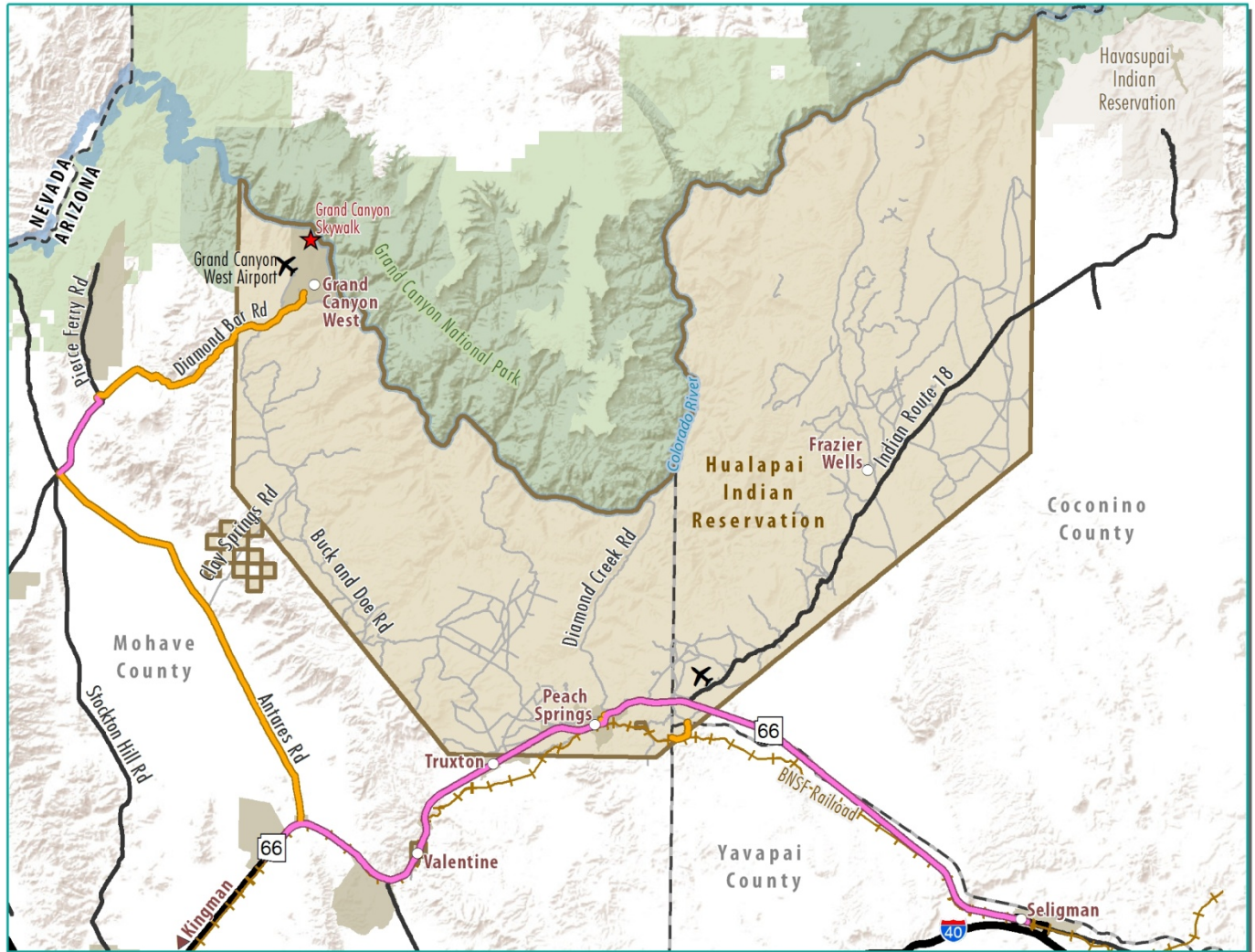
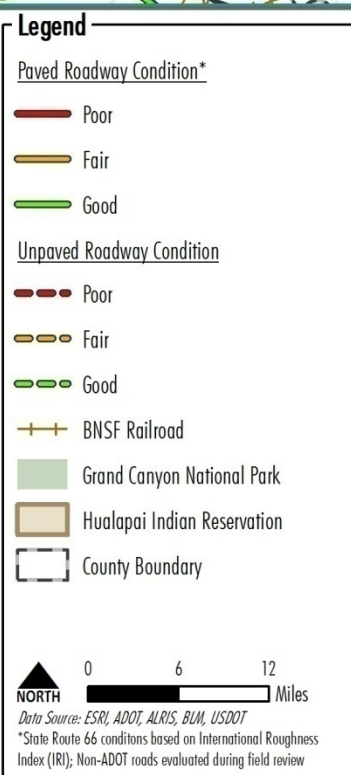
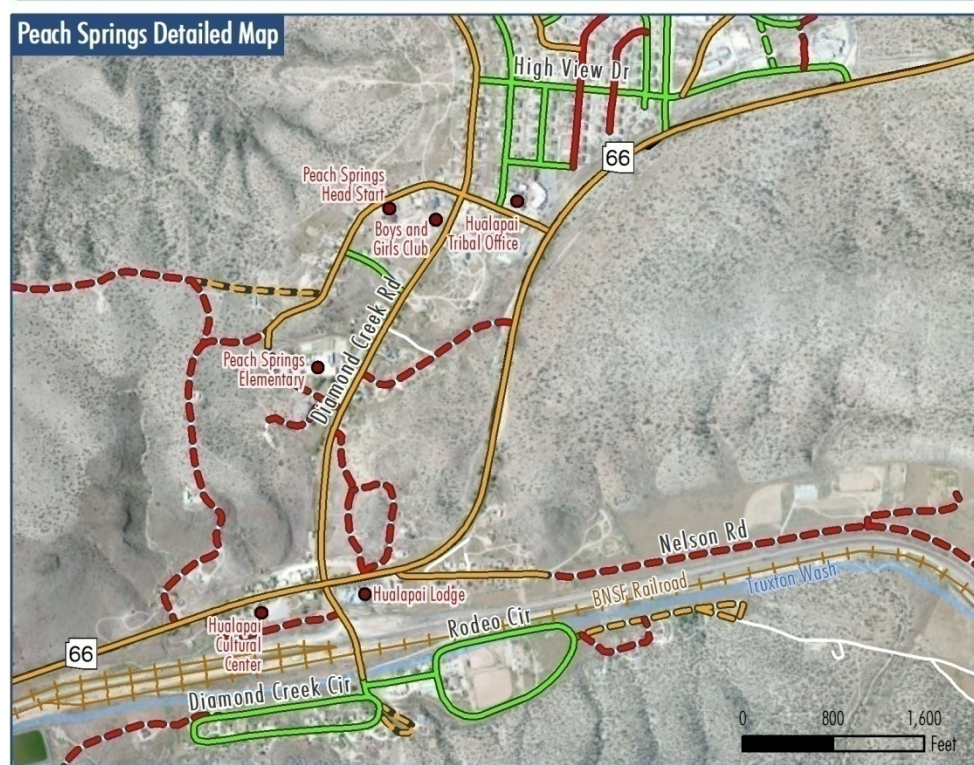
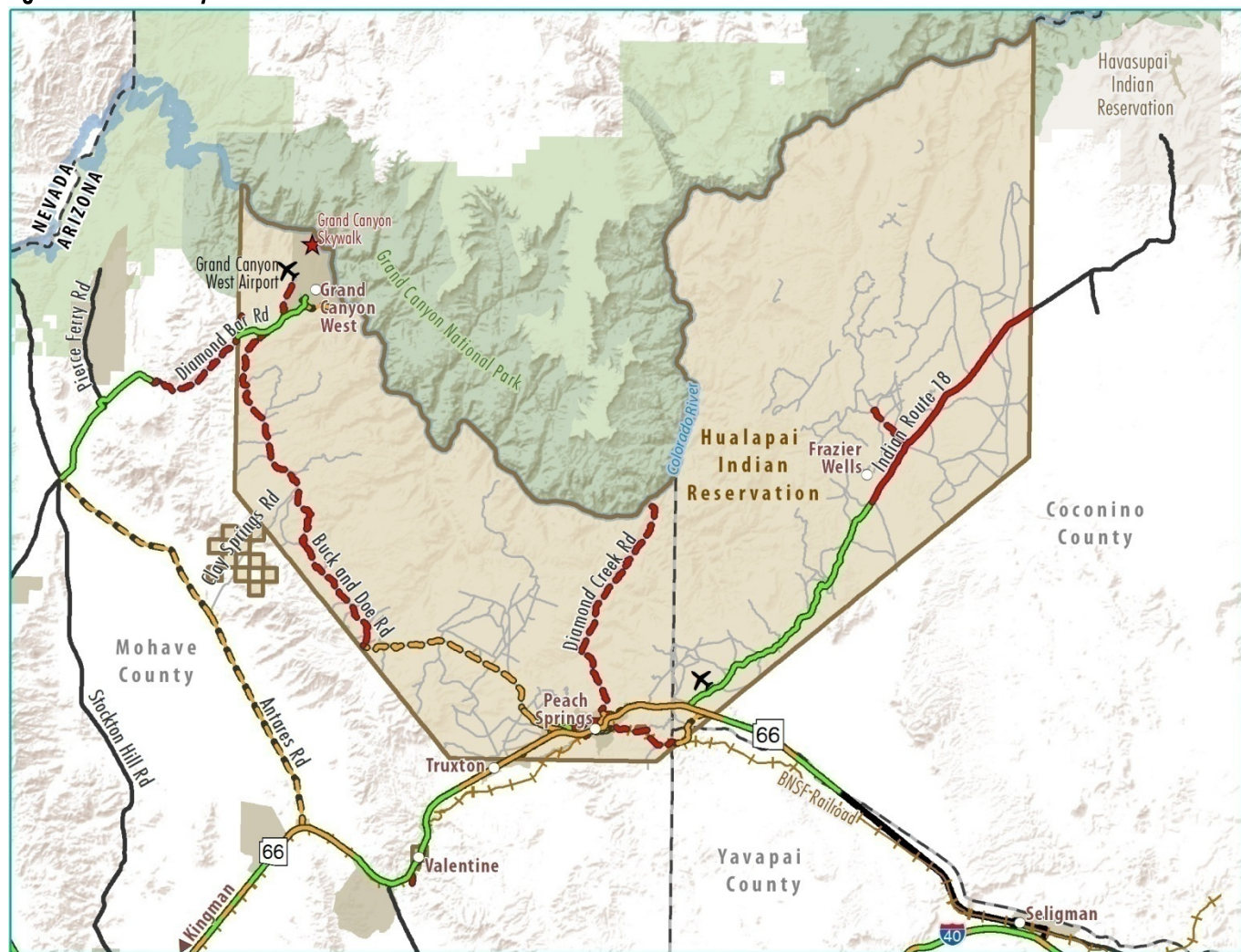


Figure 4.2: Roadway Surface Conditions



Number of Lanes

Data regarding the number of lanes on each major study roadway was collected during the field review portion of this study. As illustrated in Figure 4.3, the majority of study roadways are two lane roadways, except the following:

- **State Route 66 - MP 86 to MP 90:** Two eastbound lanes and one westbound lane
- **State Route 66 - MP 104.79 to MP 105.73:** Two lanes in each direction
- **State Route 66 - MP 103.16 to MP 103.54:** One lane in each direction with a center turn lane through Peach Springs
- **State Route 66 - MP 115 to MP 115.67:** Divided, four-lane roadway with two lanes in each direction

Posted Speed Limits

Posted speed limits were recorded during the roadway inventory and Figure 4.3 provides an illustration of posted speed limits. As illustrated in the figure, speed limits within the study area include:

- State Route 66 - range between 65 to 35 MPH in the community of Peach Springs
- Antares Road: 45 MPH
- Pierce Ferry Road: 55 MPH
- Diamond Bar Road (BIA 1): 45 MPH; due to current construction portions of road have posted speed limits of 25 MPH
- Buck and Doe Road (BIA 1): 25 to 45 MPH
- Supai Road (BIA 18): varies from 35 MPH due to turns and grade changes to 50 MPH
- Diamond Creek Road (BIA 6): 15 to 25 MPH
- Peach Springs local roadways: 15 to 25 MPH

Traffic and speed counts were conducted in November 2013 as part of this study process. The traffic count data obtained validates the stakeholders' claims that actual travel speeds are much higher than the posted speed limits. Figure 4.4 illustrates the posted speed limits versus the actual travel speeds. As illustrated in the Figure, dangerously high vehicle speeds were witnessed on Supai Road (BIA 18), State Route 66, Pierce Ferry Road, and Diamond Bar Road.



Traffic Control

The usage of traffic control devices ensures orderly traffic flow at intersections and along roadway networks. Within the study area, there are no signalized intersections. Stop signs are generally located at major intersections with State Route 66, Supai Road (BIA 18), Buck and Doe Road (BIA 1), Pierce Ferry Road, as well as within the residential communities of Peach Springs, Valentine, and the Milkweed Springs area. In addition, traffic control signs throughout the study area are faded and deteriorating.

Figure 4.3: Number of Lanes and Posted Speed Limits

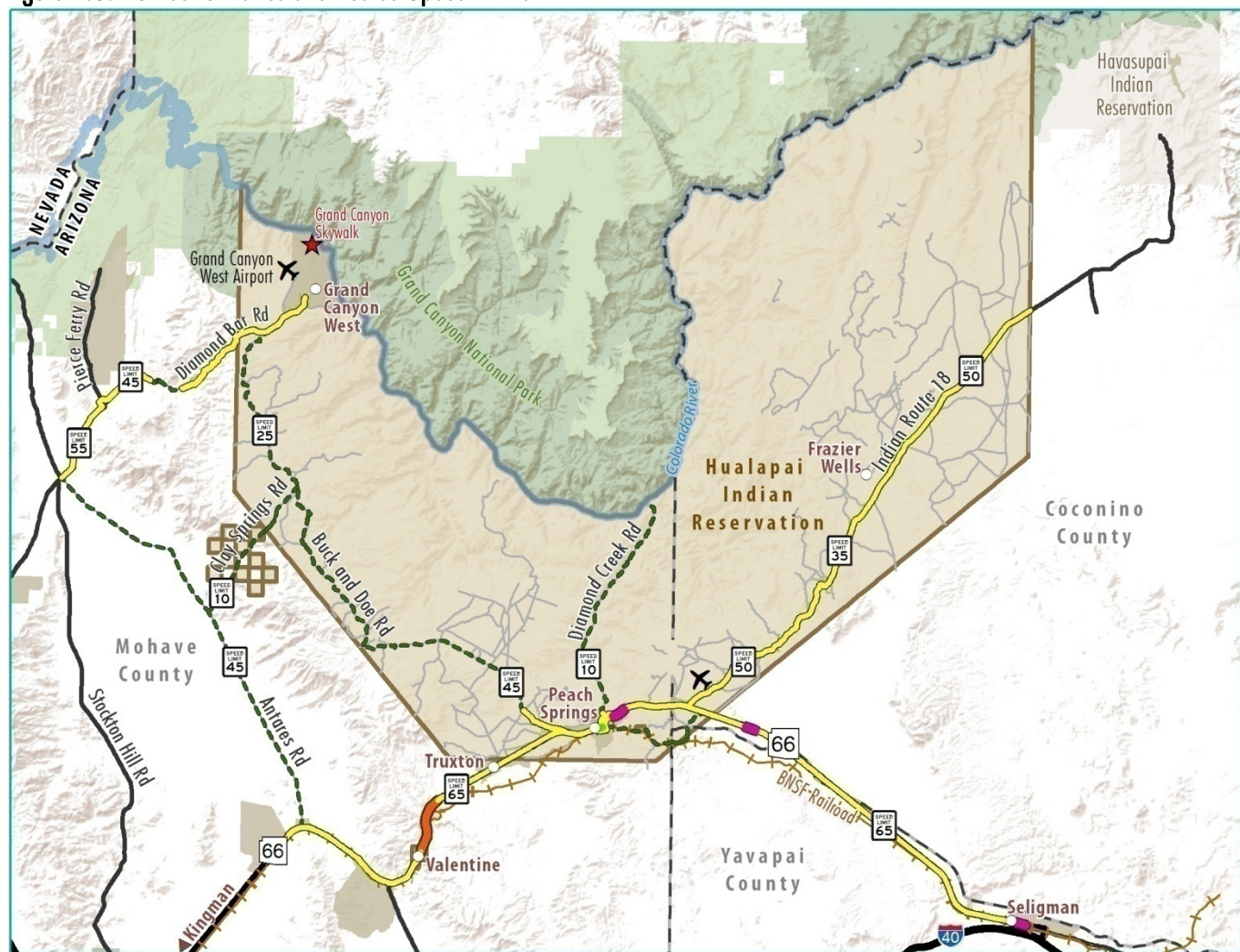
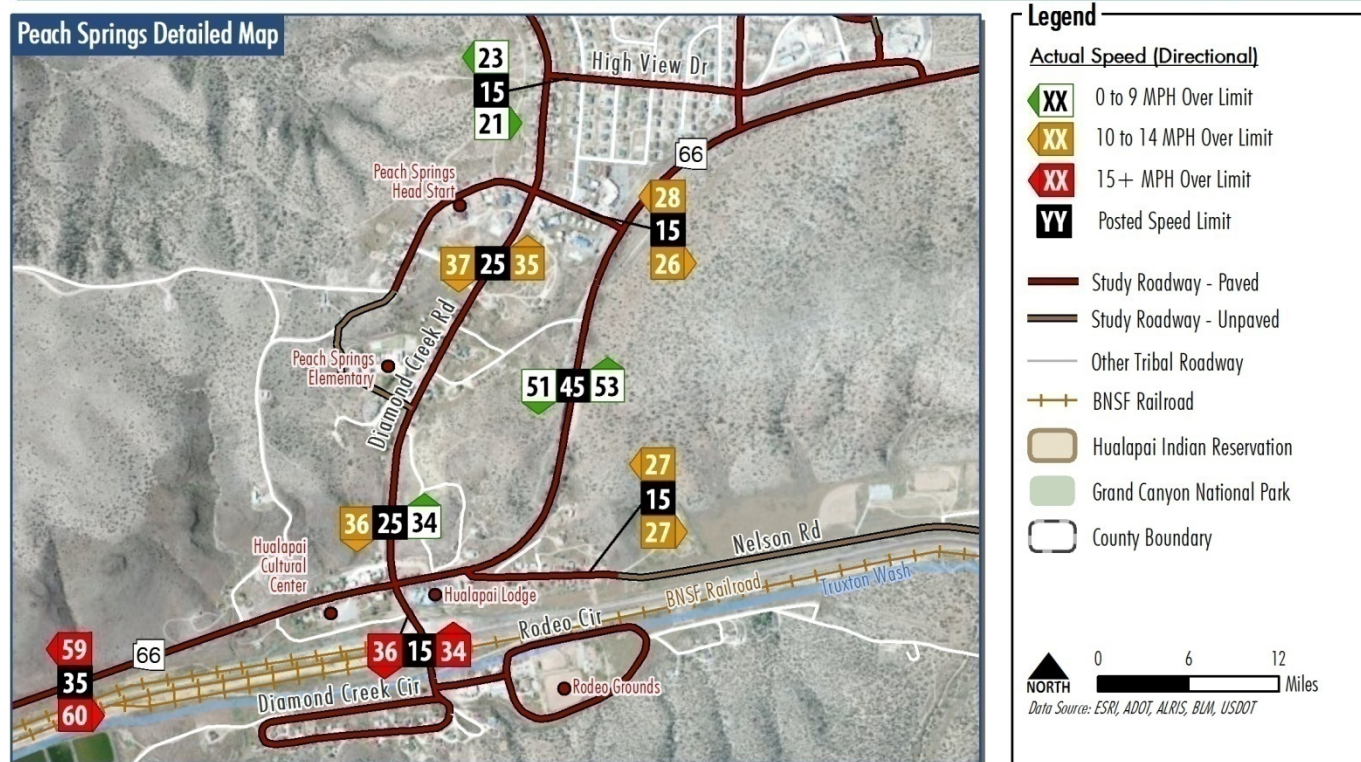
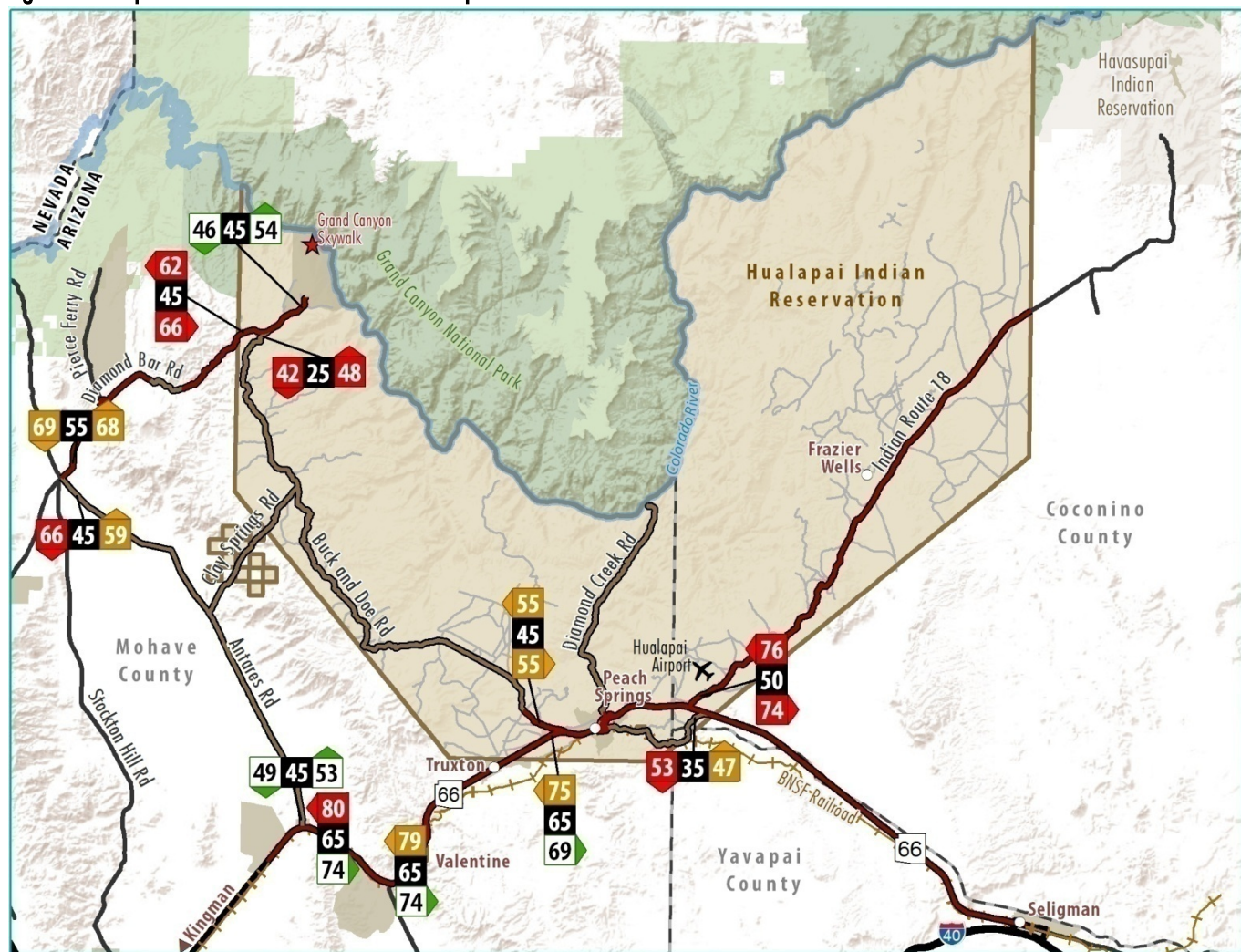


Figure 4.4: Speed Limits Versus Actual Travel Speeds

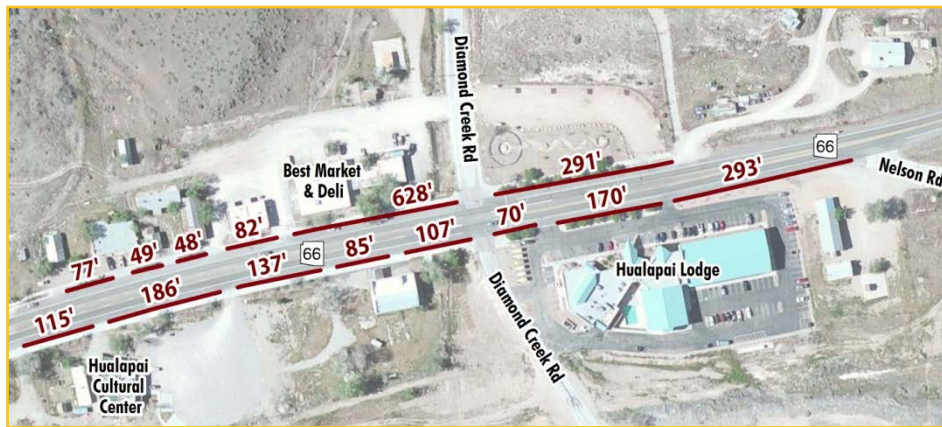


Access Management

Access management is a set of techniques used to proactively manage and regulate the design, spacing, and operation of intersections, driveways, and median openings along a roadway. Roadways with more access points and intersections have more opportunities for conflicts, and significant friction to through-traffic, which contributes to congestion and crashes. The objective of access management is to provide access to enhance the flow of traffic on a corridor or roadway system by improving safety, capacity, and speed.

Effective access management strategies control the number of driveways, decrease the number of crashes, reduce travel time and traffic congestion, preserve the flow of traffic, and improve access to properties. Primary design techniques include increasing driveway spacing, utilizing turning lanes, grade-separating intersections, traffic signals, and medians. Applying access management techniques can also enhance the livability of a community, improve pedestrian/bicycle safety, enhance customer safety and convenience to businesses, provide additional areas for streetscaping, and promote efficient land and site design.

The Hualapai Indian Tribe currently does not have an access management policy in place. Access to State Route 66 is regulated by ADOT. Within Peach Springs, driveway spacing on SR 66 ranges between approximately 80 and 290 FT apart. The close driveway spacing increases potential conflicts, particularly coupled with limited sight distance issues caused by on-street parking. Guidelines for minimum driveway or local street spacing should consider the speed of the roadway, stopping sight distance, the elimination of right-turn conflicts in the area of the access points.



Approximate driveway spacing on State Route 66 in Peach Springs.

Street Lighting and Pavement Striping

Street lighting fixtures are only present in Peach Springs and the Milkweed area. Based on the comprehensive field review, study team members noted that pavement striping along State Route 66 and Supai Road (BIA 18) generally was faded and in need of maintenance. Paved roadways in Peach Springs, Valentine, and along Buck and Doe Road are in need to pavement striping and lighting in order to increase night visibility for motorists.

Shoulder Conditions

Roadside shoulders are an important safety feature that may also be utilized for future bicycle lanes, new sidewalks, or extended sidewalks/buffers. According to the *Arizona Statewide Bicycle Pedestrian Plan*, bike lanes should be four FT in width to safely accommodate bicyclists. Shoulder conditions vary throughout the study area; at the time of the roadway inventory the following conditions were found:

- State Route 66 - shoulders are in generally good conditions with widths from 6 to 8 FT, except in areas where passing lanes occur and shoulders narrow to about one FT in width. The shoulders are level with the roadway surface and, in some areas, have rumble strips to warn drivers that leave the roadway. Shoulder striping is visible at day and night.
- State Route 66 (Peach Springs) - curb and gutter from Honoga Hill Road to the Hualapai Lodge.
- Within Peach Springs - shoulders are generally about two FT wide and include curb and gutter drainage. The shoulder structure conditions are generally excellent; however there are drainage issues during heavy rains.
- Supai Road (BIA 18) - shoulders are generally two FT wide throughout the corridor. Between State Route 66 and mile post 22, shoulders are paved, level with the roadway and in excellent conditions; however, east of mile post 22, shoulder conditions quickly deteriorate. Vehicles could experience loss of control due to the cracking and deterioration evident on the shoulder.

Drainage Conditions

Roadway drainage conditions were inventoried during the roadway inventory. Based on field review findings, the following roadways have severe drainage problems:

- Antares Road: graded roadway that crosses Truxton Wash
- Diamond Creek Road (BIA 6): following along Peach Spring Wash, Diamond Creek Road is vulnerable to severe flash floods that cause major erosion along the roadway.
- Within Peach Springs, a low water crossing is present on Diamond Creek Road north of Peach Springs Elementary School and is plagued with flooding issues.
- Buck and Doe Road (BIA 1): storm water runoff erodes unimproved portions of the roadway.



Diamond Creek Road crosses Peach Spring Wash multiple times and is susceptible to flash floods

Railroad Crossings

The Burlington Northern Santa Fe (BNSF) Railroad transverses the entire span of the Hualapai Indian Reservation. Three at-grade crossings and one overpass are located within the Hualapai Indian Reservation. During stakeholder and TAC meetings, it was noted that trains pass approximately every 15-20 minutes and that stopped trains often block access to residential/commercial area. In addition, train traffic noise from the BNSF Railroad causes significant noise pollution and is a major complaint of Peach Springs residents and visitors at the Hualapai Lodge. As listed in Table 4.3 railroad crossings include:



- Diamond Creek Road (BIA 101) south of State Route 66: At-grade crossing with crossbucks, automatic gates, flashing lights, and advance warning signs. Stakeholder and TAC members commented that when a stopped train blocks the crossing, particularly during extended periods, there is no alternative route to access portions of Peach Springs and response times by emergency vehicles is significantly increased.
- BIA Route 6 in Valentine: At-grade crossing with crossbucks only. It was noted during the roadway inventory that due to the alignment of the roadway at the railroad crossing, low-sprung or limited ground clearance vehicles may have difficulty clearing the railroad tracks and may become stuck. Additionally, during winter season, snow can obscure the location of the crossing limiting drivers view of the road.
- Valentine Way: As an alternative to the at-grade crossing, Valentine residents can access an underpass one-mile north via an unimproved roadway.
- Valentine Cemetery Road: At-grade crossing with crossbucks and stop signs in both directions. Similarly to BIA Route 6 crossing, snow could cause visibility issues of the crossing platform, which is about only 14 FT wide.

Figure 4.5 illustrates the location of at-grade crosses within the study area. Stakeholders, TAC members, and the public all expressed concern over existing safety issues caused by these at-grade crossings.

Table 4.3: Study Area Railroad Crossings

Crossing #	Street	Railroad	Type of Crossing	Traffic Control Devices	Advance Warning Signs	Pavement Markings	Number of Daily Trains
025215V	Diamond Creek Road (BIA 101)	BNSF	At-grade	Automatic gates Flashing lights	Y	N	86
025225B	BIA Route 6	BNSF	At-grade	Stop signs Crossbucks	N	N	86
025224U	Valentine Way	BNSF	Underpass	None	N	N	86
025226H	Valentine Cemetery Road	BNSF	At-grade	Crossbucks Stop signs	N	N	86

Source: Federal Railroad Administration Office of Safety Analysis



Figure 4.5: Railroad Crossing Locations



Bridge Conditions

A comprehensive and detailed inventory of bridge and culvert conditions was conducted along major roadways. Based on visual inspection during the roadway inventory, structures located on study roadways are in good conditions; however, some structures on Buck and Doe Road (BIA 1) and Supai Road (BIA 18) may require cleaning due to vegetation in the drain. ADOT's Bridge Inventory identifies 24 bridges along State Highway 66 within the study area, Table 5.4 presents the sufficiency rating for each of these structures. State Route 66 bridge at milepost 91.6 has a sufficiency rating of 69.7 and is currently being rehabilitated. The current NTTFI also cites that bridges on the Hualapai Indian Reservation as being in good condition.

Table 4.4: FHWA Bridge Condition Ratings

Structure Number	Milepost	Structure Crossing	Year Constructed	Sufficiency Rating
4225	73.09	Wash	1936	93.8
4226	75.84	Wash	1936	93.7
4227	75.90	Wash	1936	94.7
738	80.10	Hackberry Wash	1962	91.6
4229	80.51	Wash	1962	82.3
4230	81.90	Wash	1932	97.7
4231	84.94	Wash	1933	97.7
192	87.91	Wash	1937	88
4232	88.90	Wash	1962	82.3
4233	89.00	Wash	1962	82.3
4234	90.57	Wash	1935	97.7
141	91.61	Wash	1934	69.7 (Structurally Deficient)
134	92.37	Wash	1934	83.9
4235	93.32	Wash	1935	97.7
142	95.02	Truxton Wash	1935	69.7
6077	104.15	Wash	1963	97.7
4236	109.02	Wash	1962	94.7
4237	119.51	Wash	1936	98.2
4238	120.78	Wash	1936	98.2
4239	121.27	Wash	1936	98.2
7754	124.70	Wash	1936	98.5
7755	126.60	Wash	1936	98.5
7756	130.42	Wash	1936	87.3
7757	132.49	Wash	1965	98.5
7758	139.40	Wash	1989	97.7

Source: 2013 FHWA National Bridge Inventory



EXISTING TRAFFIC CONDITIONS

Traffic and turning movement counts were conducted in November 2013 as part of this study process. Daily traffic counts were collected at 46 locations along the study roadways and 10 turn movement counts for the AM/PM peak two hour periods for the critical intersections. The traffic counts also provided vehicle classification distribution and average travel speeds at each location. To account for the seasonal increase of tourists to the region, seasonal factors were applied to existing traffic counts and then modeled for annual average daily traffic (AADT). This data was compared against ADOT's traffic counts for validation purposes. Figure 4.7 displays the existing daily traffic volumes. Key observations noted in the Figure include:

- State Route 66 has the highest amount of traffic within the study area, particularly within the Peach Spring community. This increase of traffic in Peach Springs is probably due to local traffic utilizing State Route 66 to access activity centers and residential areas.
- Diamond Creek Road has a significant amount of traffic between the BNSF Railroad and Hualapai Way.
- High View Drive and Hualapai Way carry a considerable amount of local traffic within Peach Springs.
- Antares Road's traffic volumes are highest in the paved, southern section of the roadway, probably due to the higher population totals along that section of the roadway.
- According to the traffic counts, approximately 50% of the traffic on Buck and Doe Road south of Diamond Bar Road are classified by the FHWA as class 4-7 (i.e., 2, 3, or 4 axle buses and trucks). These high traffic volumes may be caused by construction vehicles accessing materials stored off of Buck and Doe Road.
- Diamond Bar Road carries a significant of traffic supports a wide variety of traffic including tourists, employee vans, tour buses, and construction vehicles.

Level of Service

Traffic congestion levels of study roadways were estimated using traffic count data. The degree of traffic congestion is commonly expressed in terms of Level of Service (LOS). LOS is a measurement of traffic congestion conditions defined by the Transportation Research Board's (TRB) Highway Capacity Manual (HCM). For a planning level analysis, the roadway LOS is determined based on the ratio of traffic volume on the road to capacity of the road. Capacity of the road is a function of the number of lanes, functional classification, speed, and roadway geometrics and provides thresholds for the maximum number of cars allowed to travel on a lane for the peak or daily conditions. Each level of service is given a letter grade based on its level of congestion, ranging from "A" through "F", with LOS A representing free flowing traffic conditions where vehicles experience minimal delays and LOS F representing failure conditions where vehicles experience long delays. Figure 4.6 is an illustration of the LOS types. Road segment LOS is characterized by the HCM as follows:

- **LOS A:** Best, free flow operations (on uninterrupted flow facilities) and very low delay (on interrupted flow facilities). Freedom to select desired speeds and to maneuver within traffic is extremely high.
- **LOS B:** Flow is stable, but presence of other users is noticeable. Freedom to select desired speeds is relatively unaffected, but there is a slight decline in the freedom to maneuver within traffic.



- **LOS C:** Speed is becoming affected by the presence of other users. Maneuvering within traffic requires substantial vigilance on the part of the user.
- **LOS D:** High density but stable flow. Speed and freedom to maneuver are severely restricted. The driver is experiencing a generally poor level of comfort and convenience.
- **LOS E:** Flow is at or near capacity. All speeds are reduced to a low, but relatively uniform value. Freedom to maneuver within traffic is extremely difficult. Comfort and convenience levels are extremely poor.
- **LOS F:** Worse, facility has failed, or a breakdown has occurred.

In general for rural areas, LOS A and B represent no congestion, LOS C and D represent moderate congestion, and LOS E and F represent severe congestion.

Current Roadway Level of Service

Figure 4.7 displays the existing LOS for the study roadways. Road segments performing at a LOS B or worse include:

- **LOS B:**
 - o State Route 66: Antares Road to Diamond Creek Road
 - o State Route 66: Diamond Creek Road to Seligman
 - o Pierce Ferry Road: West of Antares Road to Diamond Bar Road

Current Intersection Level of Service

Utilizing the turning movement count data, LOS conditions were estimated for major intersections within the study area. Figure 4.8 displays the current lane configuration and traffic control type at each intersection and Figure 4.9 displays the turn movement volumes. Figure 4.10 displays the overall intersection LOS, and the LOS at each turn movement for each leg/approach for each intersection. Based on existing traffic counts, all intersection approaches and overall intersection perform at LOS A.

Figure 4.6: Level of Service

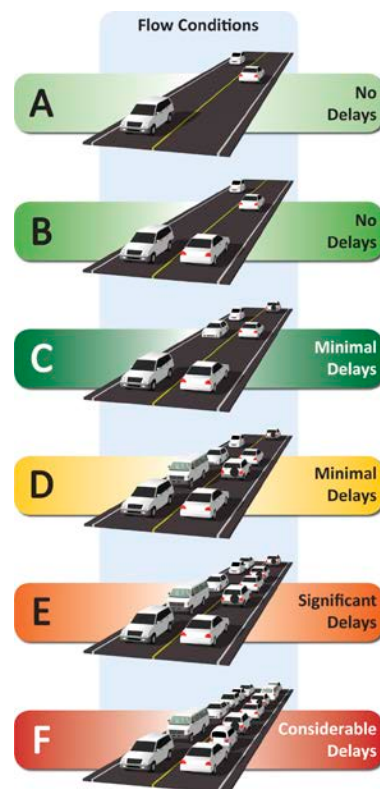


Figure 4.7: Existing Average Daily Traffic Volumes and Level of Service

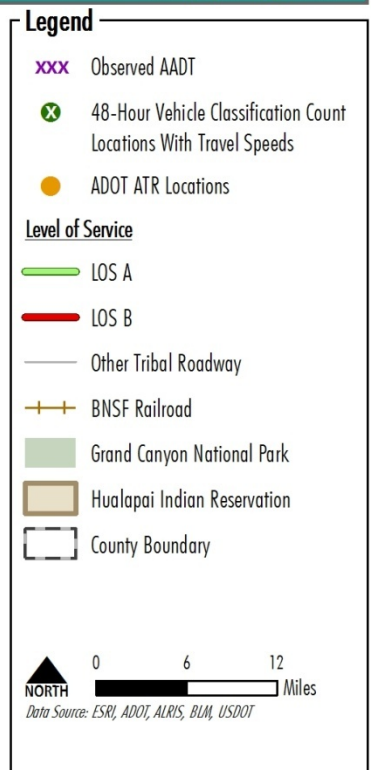
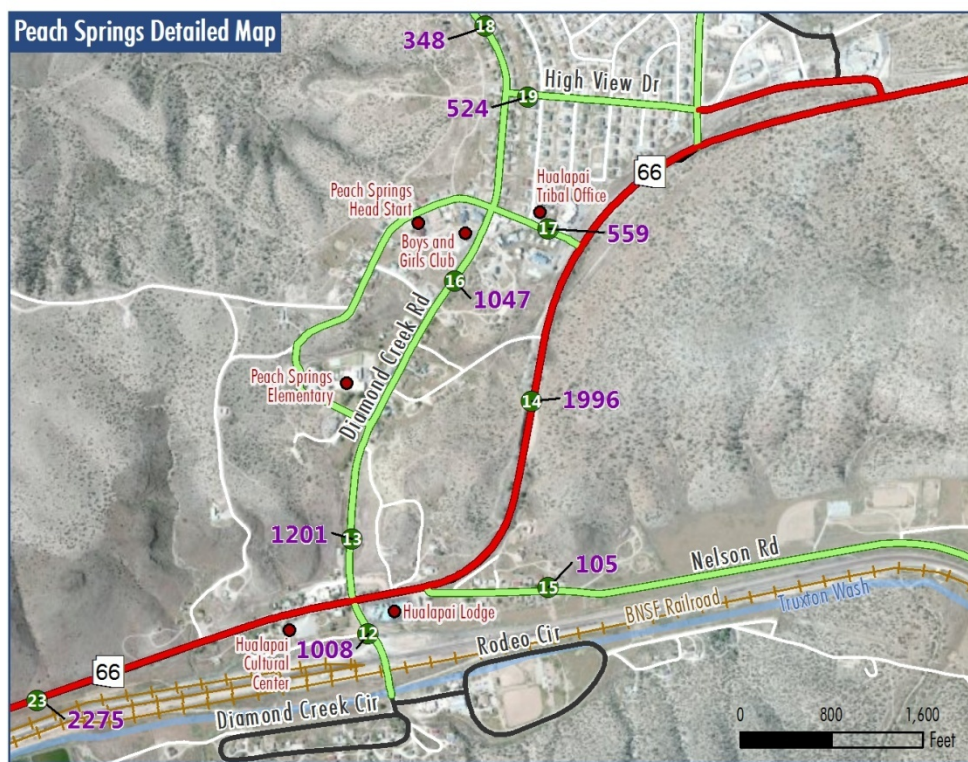
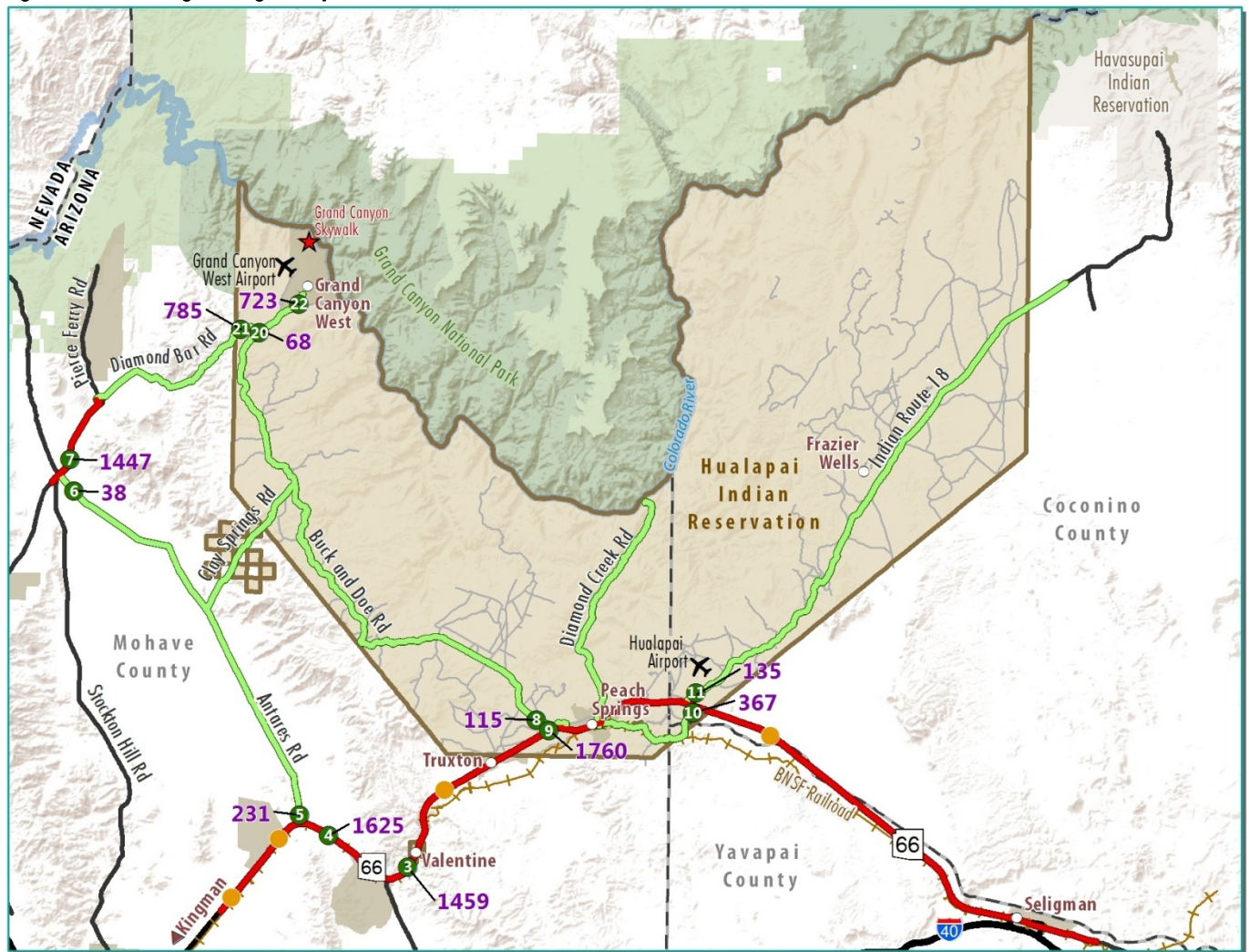
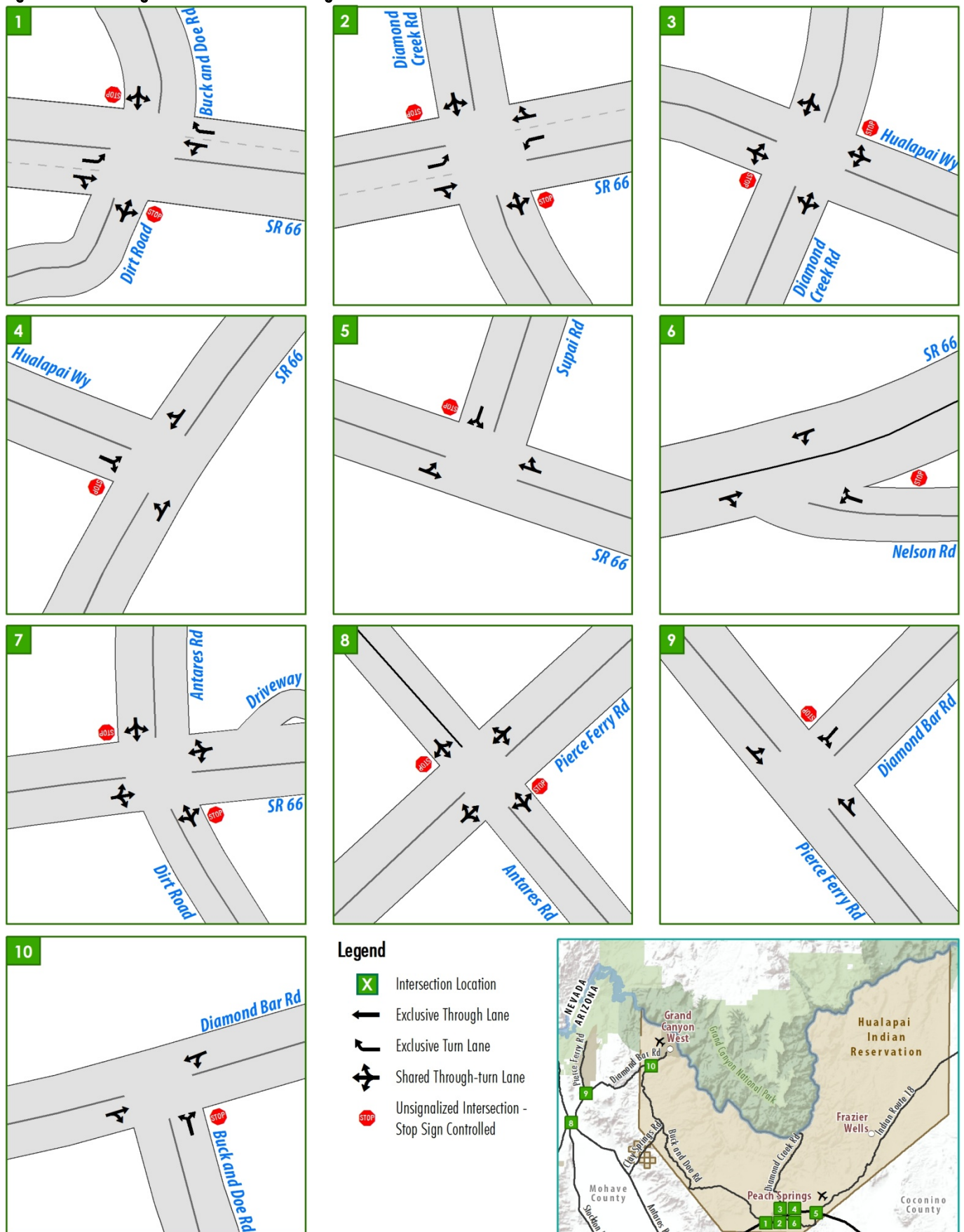


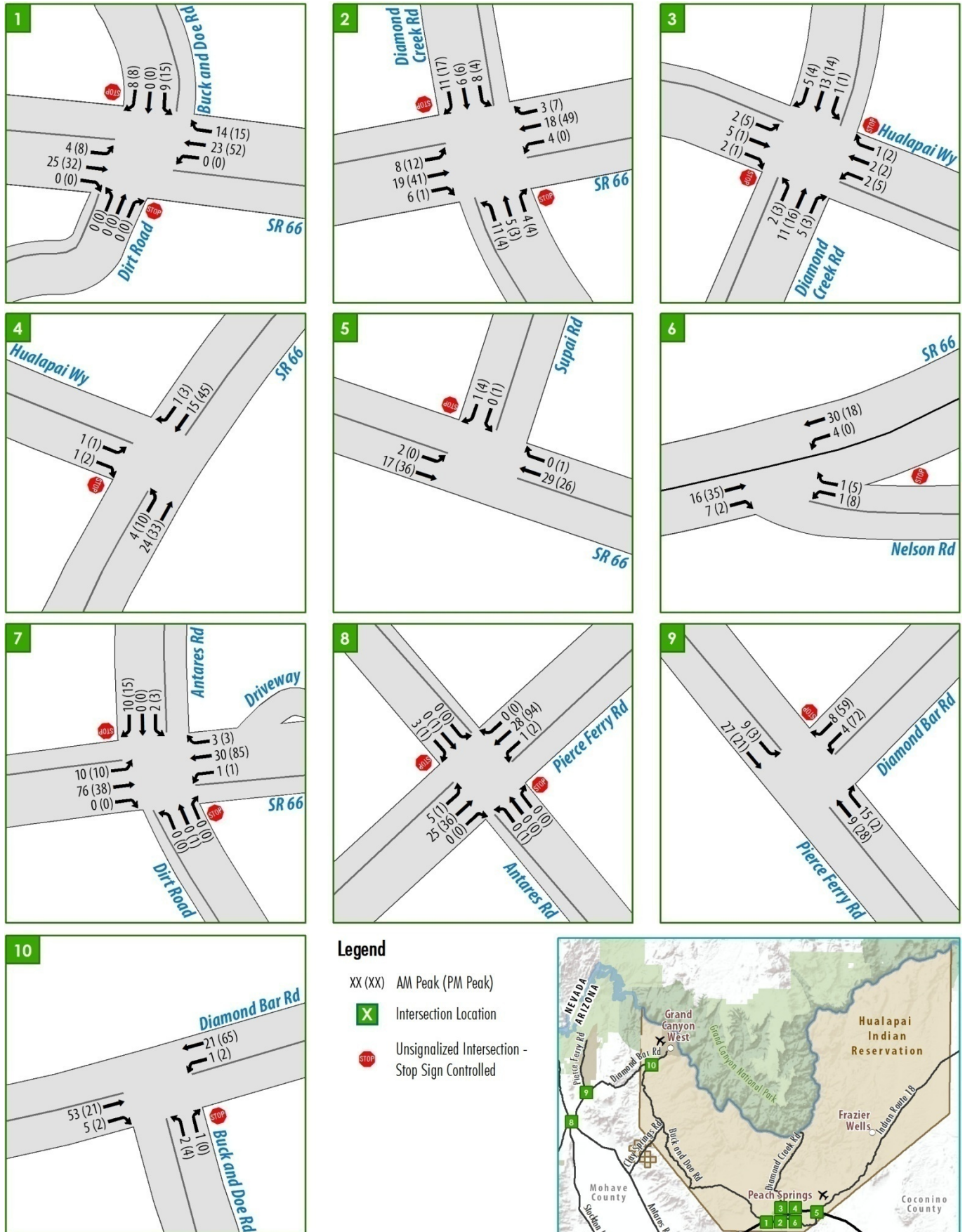
Figure 4.8: Existing Intersection Lane Configuration



Data Source: ESRI, ADOT, ALRIS, BLN



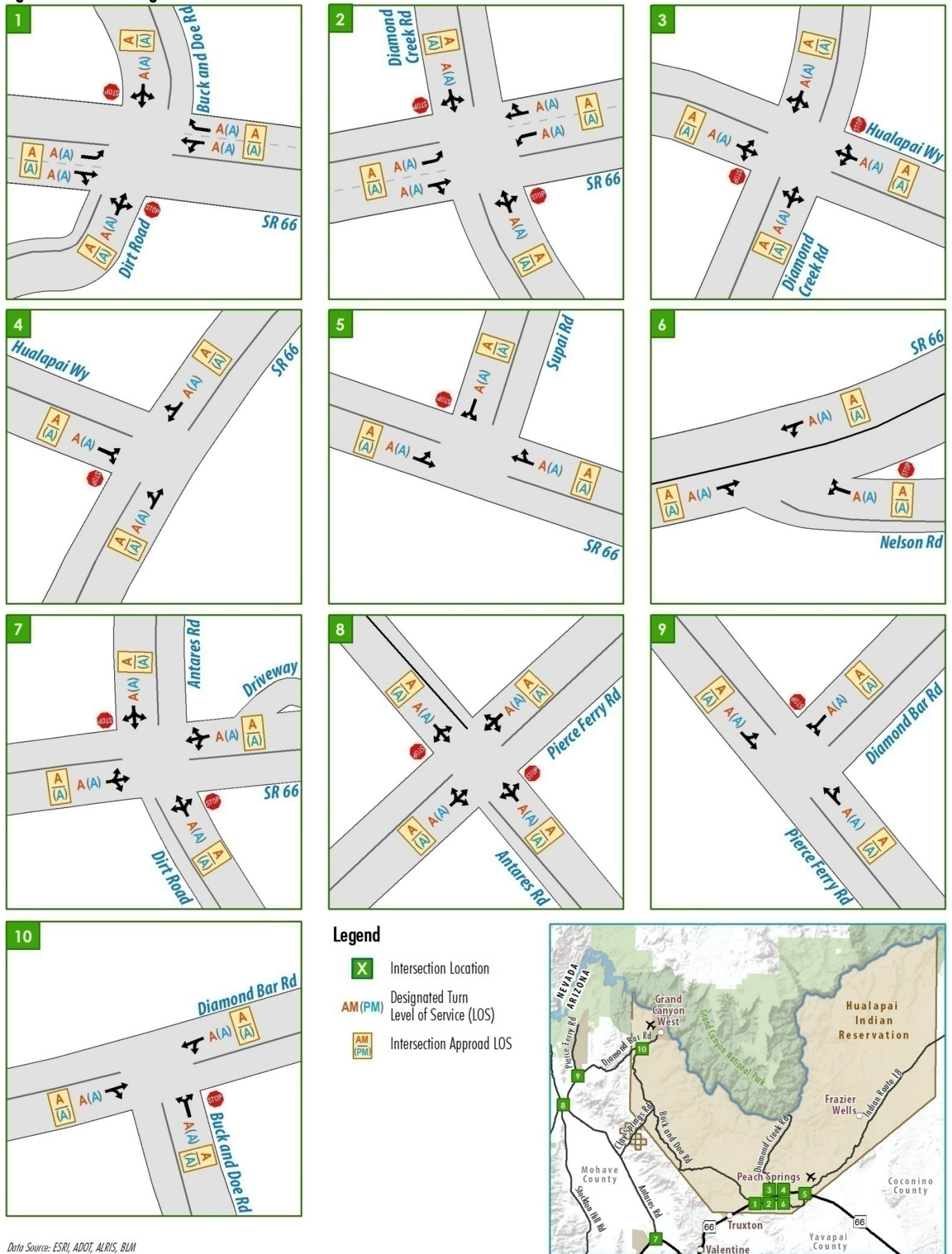
Figure 4.9: Existing Intersection Peak Hour Turning Movement Volumes



Data Source: ESRI, ADOT, ALRIS, BLM, USDOT



Figure 4.10: Existing Intersection Peak Hour Level of Service



Data Source: ESRI, ADOT, ALRIS, BLM



CRASH DATA ANALYSIS

Crash analysis was conducted for the study corridors to identify trends, patterns, predominant crash reasons, and high crash rate intersections and corridors. The purpose of the crash analysis is to discover safety hazard locations that need to be addressed to improve area safety. Motor vehicle crash data was obtained from the Hualapai Nation Police Department (HNPD) for crashes occurring between January 2008 and December 2013. During this six year period, a total of 164 crashes occurred along the study roadways. To supplement the HNPD records, data provided by ADOT from January 2008 to January 2013 was utilized. A total of 165 crashes occurred on State and county maintained study roadways during this time period.

Figure 4.11 illustrates location of crashes within the study area, as well as the crashes that resulted in injuries or fatalities. Figure 4.12 presents the overall crash density and the location of major crashes. Based on review of the each crash characteristic and location, the following trends were identified for crashes recorded between January 2008 and December 2013.

Crash Location by Road: Identifying crash locations and the type of crashes for each roadway corridor aids in identifying deficiencies and developing safety improvement scenarios. Table 4.5 provides a summary of the number of crashes, crash rates, and the major cause of crashes along the study roadways. As shown in the table, approximately 40% occurred within the Hualapai Indian Reservation (including crashes that occurred on State maintained State Route 66). Within the Hualapai Indian Reservation, over 26% of crashes occurred on Buck and Doe. These crashes were primarily located south of BIA Route 32. State Route 66, between Diamond Creek Road (BIA 101) and Supai Road (BIA 18), and Supai Road (BIA 18), also experienced a high total number of crashes with 25 and 19 total crashes, respectively.

Outside of the Reservation, the major economic corridor of Pierce Ferry Road and Diamond Bar Road experienced a significantly high number of crashes between January 2008 and December 2011; with 60 crashes occurring on Diamond Bar Road and 29 on Pierce Ferry Road. In addition, a high number of crashes occurred on State Route 66, particularly between Antares Road and Valentine and between Valentine and the West Reservation.

Injury Severity: Approximately 43.7% of crashes resulted in an injury along study roadways. Since 2008 a total of nine fatal crashes occurred within the study area. Figure 4.11 provides an illustration of the location of crashes that resulted in a fatality. Three fatal crashes occurred on State Route 66 between mileposts 97 to 99; these crashes were cited as single vehicle, rollover crashes. Two crash related fatalities occurred on Pierce Ferry Road, with one crash cited as a head-on collision and the other a single vehicle that ran off the road.



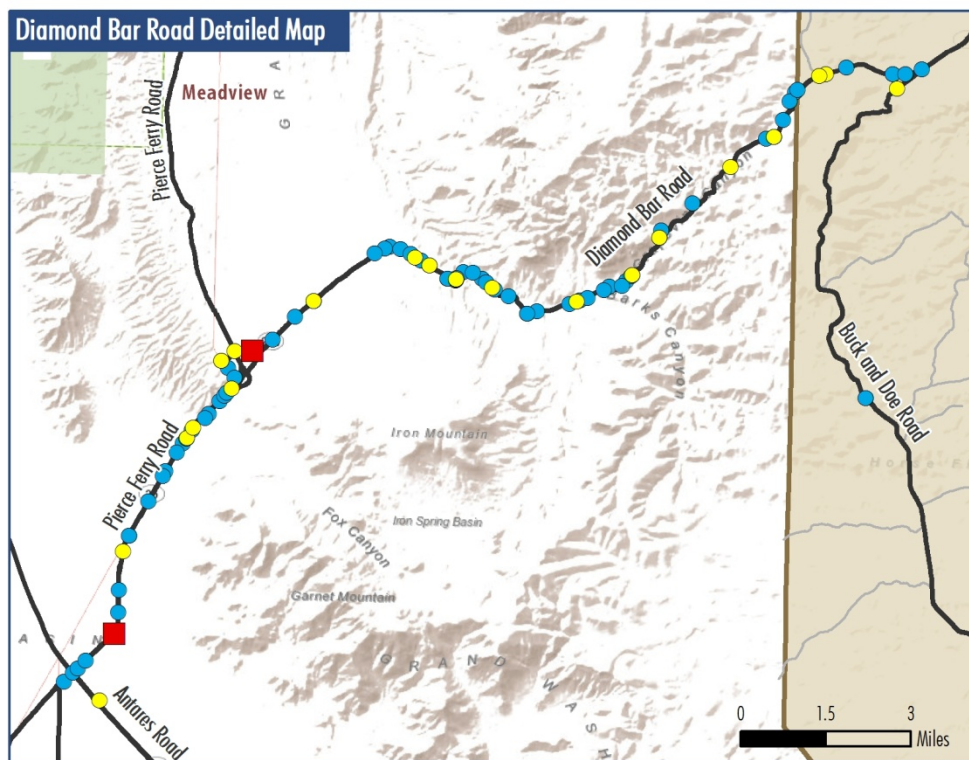
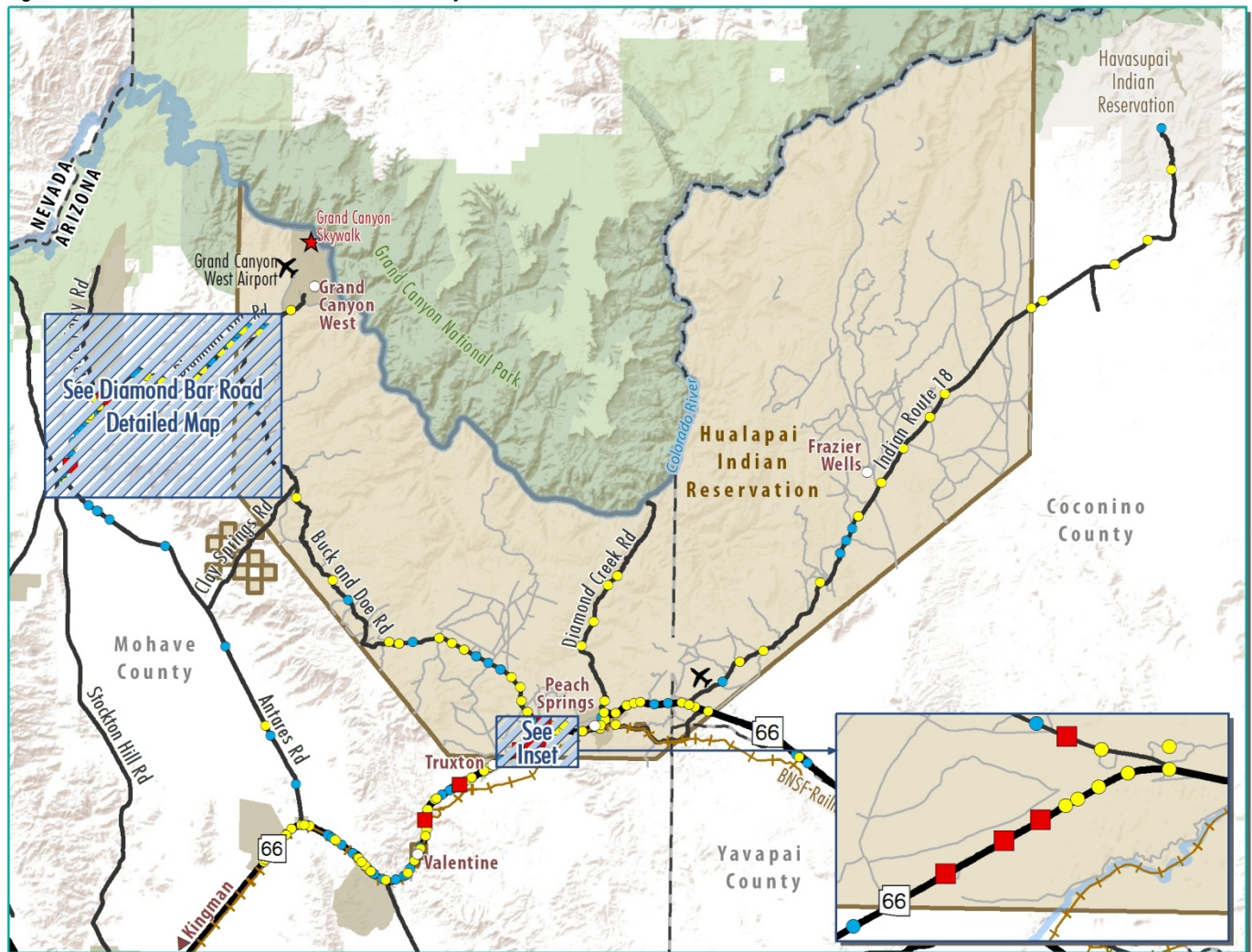
Table 4.5: Crash Locations, Crash Rate, and Leading Crash Cause

Location	Number of Crashes	Percent of All Crashes	Road Length (Miles)	Leading Crash Cause (Percent)
Hualapai Indian Reservation				
Buck and Doe Road (BIA 1)	35	10.6%	14.81	Animal On Road (35%) Speed (34%)
Diamond Bar Road (BIA 7)	10	3.0%	6.27	Fixed Object (30%)
Diamond Creek Road (BIA 6)	6	1.8%	20.43	Speed (66%)
Diamond Creek Circle (BIA 101)	1	0.3%	0.67	Pedestrian (100%)
Hualapai Way (BIA 101)	1	0.3%	0.48	Speed (66%)
Milkweed Springs Road (BIA 6)	1	0.3%	1.46	Intoxication (100%)
Nelson Road (BIA 19)	1	0.3%	8.73	Intoxication (100%)
Supai Road (BIA 18)	19	5.8%	40.06	Animal On Road (63%)
State Route 66 - West Reservation Line to Buck and Doe Road	15	4.6%	4.53	Intoxication (20%) Pedestrian (7%)
State Route 66 - Buck and Doe Road to Diamond Creek Road	11	3.3%	2.76	Inattention (36%)
State Route 66 - Diamond Creek Road Supai Road	25	7.6%	7.13	Animal on Road (48%)
State Route 66 - Supai Road to East Reservation Line	2	0.6%	1.79	Snow (100%)
State Route 66 - Valentine	5	1.5%	1.65	Animal on Road (20%)
Influence Area				
Antares Road	11	3.3%	32.32	Animal On Road (45%)
Diamond Bar Road	60	18.2%	14	Fixed Object (28%) Overturn Rollover (17%)
Pierce Ferry Road	29	8.8%	6.65	Animal On Road (55%)
State Route 66 - West of Antares Road	11	3.3%	3.89	Fixed Object (45%)
State Route 66 - Antares Road to Valentine	36	10.9%	9.94	Animal On Road (28%) Fixed Object (25%)
State Route 66 - Valentine to West Reservation Line	38	11.6%	9.72	Fixed Object (29%)
State Route 66 - East Reservation Line to Seligman	5	1.5%	29.12	Turning Vehicle (40%)
State Route 66 - Seligman	7	2.1%	0.92	Motor Vehicle (100%)

Source: Hualapai Nation Police Department (January 2008-December 2013); ADOT Accident Location Identification Surveillance System (January 2008 - January 2013)



Figure 4.11: Crash Location and Crash Severity



Legend

- Fatal Crash
- Injury Crash
- Crash Location
- Major Roadway
- Other Tribal Roadway
- + BNSF Railroad
- Hualapai Indian Reservation
- Grand Canyon National Park
- County Boundary

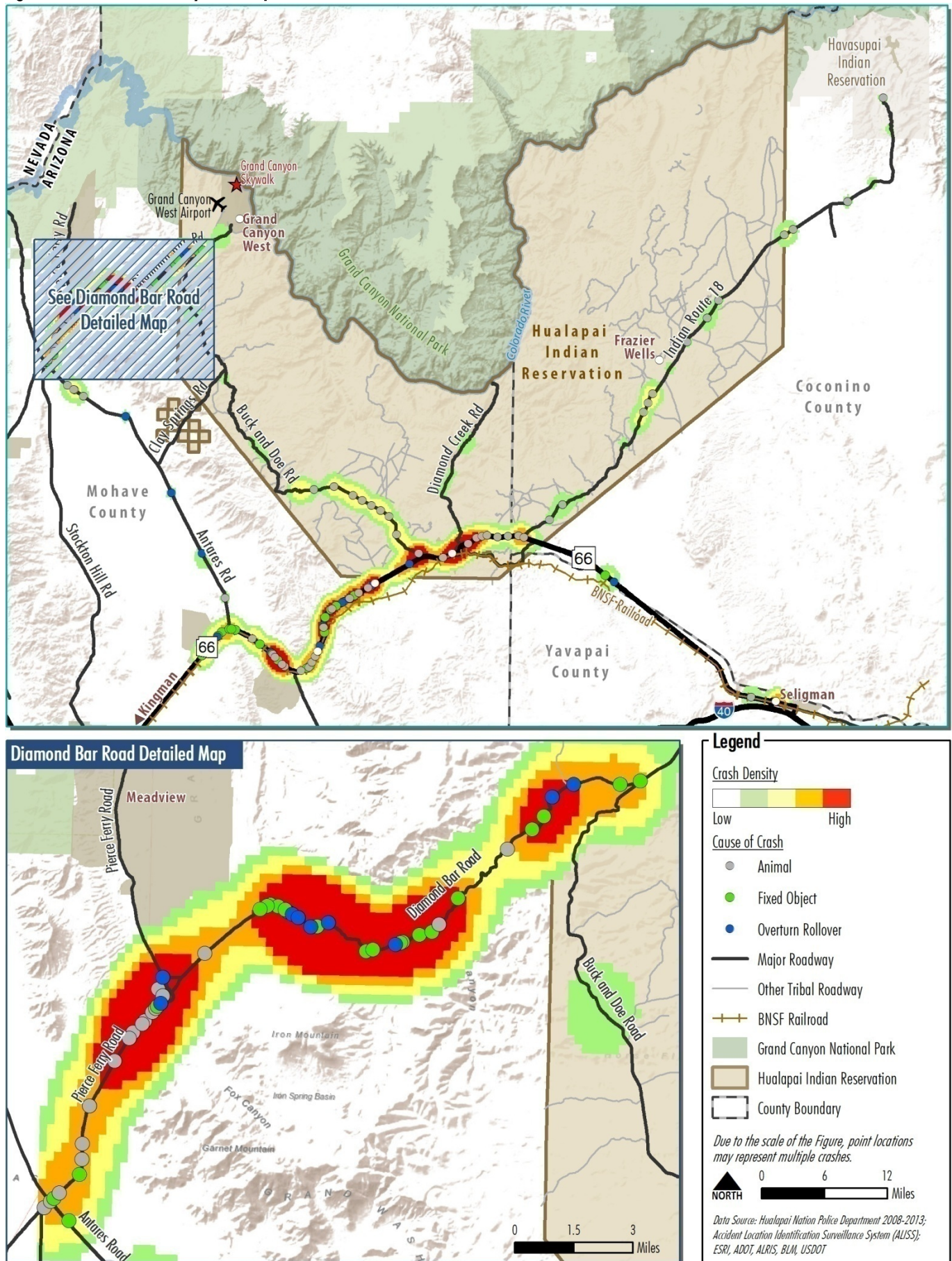
Due to the scale of the Figure, point locations may represent multiple crashes.

NORTH 0 6 12 Miles

Data Source: Hualapai Nation Police Department 2008-2013; Accident Location Identification Surveillance System (ALISS); ESRI, ADOT, ALRIS, BUM, USDOT



Figure 4.12: Crash Density and Major Cause of Crash



Pedestrian and bicyclists: Pedestrians were involved in two serious crashes. One pedestrian related crash occurred on State Route 66 west of Buck and Doe Road. The crash was cited as a head-on collision when a single vehicle struck a pedestrian walking in the roadway. A separate pedestrian related crash occurred on Diamond Creek Circle, the crash was cited as a single vehicle that the driver fell asleep at the wheel and struck a pedestrian. There were no bicyclist related crashes within the study area.

Intersection Relation: A total of 17 crashes (5.2% of all crashes) were identified as intersection related crashes. The majority of intersection related crashes occurred along State Route 66 between Honaga Hill Road and Hualapai Way in Peach Springs. These crashes were primarily cited as driver inattention and failure to yield that resulted in sideswipe or side impact crashes. At the intersection of State Route 66/Diamond Creek Road, there was a rear-end, hit and run crash that resulted in a rollover. It was noted during the field review that sight distance may be an issue at the following intersections with State Route 66: Honaga Hill, Hualapai Lodge Drive, Nelson Road, Hualapai Way, and Mesa View Drive. In addition, parked cars along State Route 66 may limit motorist visibility of vehicles exiting driveways and for vehicles entering Route 66 from Diamond Creek Road (BIA 6).

Crash Event Summary: Analyzing the crash event assists in identifying hazards that cause safety issues along study roadways. Key observations made from the analysis of crash events include:

- The leading causes for crashes in the study area were cited as "animal on roadway" (25.2%).
 - 20% (16 total crashes) of all animal related crashes occurred on Pierce Ferry Road. Animal related crashes on Pierce Ferry Road were largely collisions with livestock during dark lighting conditions.
 - All 13 crashes that occurred on Buck and Doe Road were cited as involving an animal on the roadway. These crashes were primarily cited as collisions with deer and cow and were largely located north of the Milkweed Springs development area (mile post 4) to west of BIA Route 32.
 - 63% (12 out of 19 total crashes) of crashes that occurred on Supai Road (BIA 18) were animal related. Animal related crashes on Supai Road (BIA 18) primarily occurred between milepost 3 to 5, 18 to 20, and 26 to 31. These crashes were largely due to impacts with Elk.
 - The highest number of animal related crashes on State Route 66 occurred between milepost 105 to Supai Road (BIA 18).
- Collisions with fixed objects accounted for approximately 15.5% of all crashes within the study area.
 - Nine crashes occurred on Diamond Bar Road with motorist colliding with roadside embankments. These crashes primarily occurred on curvy portions of the roadway milepost 11 to 16.
 - Seven crashes relating motorist colliding with a roadside tree stump occurred on Diamond Bar Road.
 - East of Valentine, six crashes occurred on State Route 66 with motorists colliding with the roadside guardrail.
- While not cited as intersection related, four crashes occurred on State Route 66 at the Grand Canyon Caverns. These accidents were identified as rear-end or left-turn related crashes.
- Speeding and intoxication was cited as a contributing factor for the majority of crashes. Speeding related crashes were largely a part of crashes occurring on Buck and Doe Road, Diamond Bar Road, Diamond Creek Road, and State Route 66. Poor road conditions, such as pot holes and ruts, were also a major contributing factor cited on Diamond Bar Road.



OTHER MODES OF TRANSPORTATION

Existing Pedestrian, Bicycle, and Equestrian Facilities

Sidewalks are currently present along State Route 66 within Peach Springs, as well as in the vicinity of the Hualapai Elderly Center, and adjacent to the Health, Education and Wellness Center at Diamond Creek Road (BIA 6) and Hualapai Way. Truxton Wash Bridge, located south of the BNSF railroad tracks, provides the only pedestrian facility to access homes and community services in the southern section of Peach Springs. Figure 4.13 illustrates the existing sidewalks and pedestrian facilities within Peach Springs. Currently, there are no public pedestrian facilities in Truxton, Valentine, and the Grand Canyon West.

During the field review, many pedestrians were witnessed utilizing the shoulders along State Route 66 and on local roads within Peach Springs for exercise and to access activity centers and residential areas. In addition, it was noted that due to the lack of alternative transportation, pedestrians walk along State Route 66 from Peach Springs to Truxton. Since pedestrian facilities are limited, Peach Springs Elementary students are forced to walk within the road's right-of-way to and from school. It was also noted during the field review that a man-made pedestrian path was created off Diamond Creek Road (BIA 6) to access Best Market.

Currently there are no bicycle lanes or designated equestrian trails within the study area. Bicyclists, particularly along State Route 66, are forced to utilize vehicle travel lanes because of narrow shoulders in downtown Peach Springs and where passing lanes occur.

Pedestrian Needs

Since the Reservation currently has limited pedestrian and bicycle facilities, input from stakeholders and community members suggests an overriding need for increased pedestrian access between residential areas and activity centers. According to the 2013 Hualapai Housing Needs Assessment, 71% of community members surveyed commented that the ability to walk or bike to work, store, and other amenities is very important. Furthermore, survey results found that 7% of respondents currently bike or walk to work. Comments made from the TAC and stakeholders regarding sidewalks, paths, pedestrian related needs, and bicycle facilities included:

- Sidewalks with additional street lighting are needed in Peach Springs to encourage children to walk to/from schools.
- Crosswalks are needed at the State Route 66/Diamond Creek Road (BIA 6).
- Students from Milkweed Springs Road and Buck and Doe Road (BIA 1) areas are utilizing pathways behind homes to access Peach Springs Elementary School.



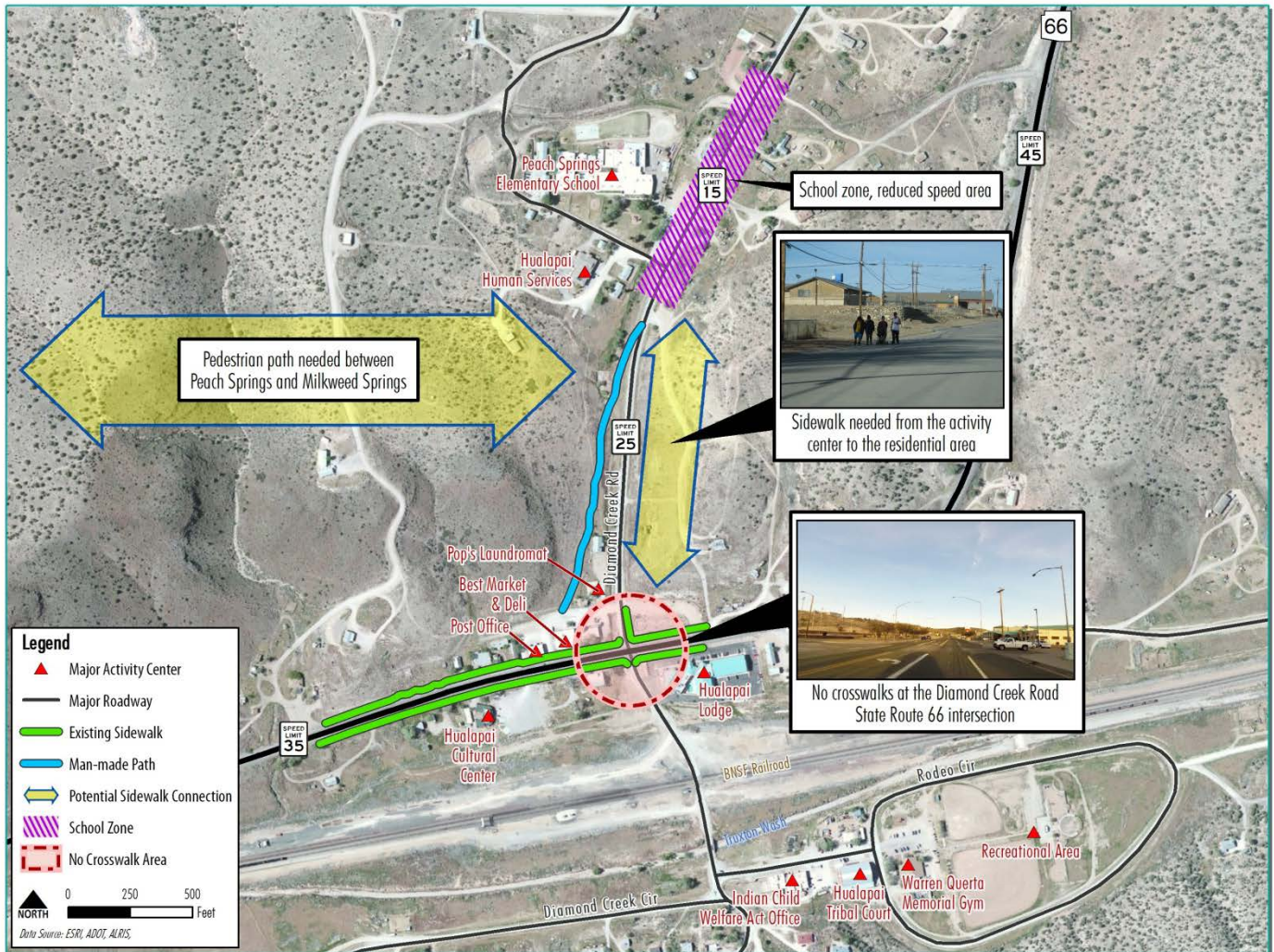
Limited pedestrian sidewalks in Peach Springs forces residents to utilize road shoulders, dirt roads, and unofficial trails to access activity centers and homes.



The Truxton Wash Bridge, in Peach Springs, is the only pedestrian access point to cross Truxton Wash.

- A trail system linking Milkweed Springs/Buck and Doe Road (BIA 1) to Peach Springs would be heavily utilized and is desired. Stakeholders suggested reviewing the trail system currently in place in Laughlin, Nevada as a guideline for trail standards.
- Mountain bike trails in and around Peach Springs are needed.
- Lighting is needed on Buck and Doe Road (BIA 1) due to the high number of pedestrian that walk along the road.
- The Hualapai Healthy Heart Program is interested in identifying and developing bicycle routes.
- Equestrian trails would enhance livability and promote tourism.

Figure 4.13: Existing Pedestrian Facilities



Existing Transit Services

Currently there is no official public transit service within the Hualapai Indian Reservation; however, limited transit options are available from the following sources:

- **Grand Canyon West Corporation** - provides two employee shuttle buses, one from Kingman and one from the Hualapai Lodge in Peach Springs. This very popular service carries approximately 60 passengers each way daily. Stakeholders commented that due to the popularity of the service, riders must arrive early to secure a seat and many riders do not have alternative means of transportation, so if they miss the bus they also must miss work.
- **Health and Wellness Department** - a Section 5310, Enhanced Mobility of Seniors and Individuals with Disabilities program is currently in place. The Health Center has five vehicles and each can accommodate five people. Transportation is provided for Hualapai Tribal members that have medical appointments, locally or out of local area for shopping at a fee of \$10 per 100 miles per person. Although medical appointments take priority, the service can be used to non-medical appointments, special events, and local as well as out-of-town shopping. Service is provided for dialysis patients to Kingman Hospital three days a week, twice per day. Service to Phoenix is provided twice a week, Las Vegas two to three times a week, and to Tuba City twice a month. To request transportation services, an appointment request form must be provided. Table 4.6 provides an overview of the ridership and the number of trips provided by the Hualapai Health and Wellness Department in 2012.
- **Boys and Girls Club** - provides pick-up and drop-off services to Peach Springs and Buck and Doe Road (BIA 1).
- **Hualapai Head Start** - bus transportation is provided to and from school for enrolled students.
- **Kingman High School** - bus transportation from Truxton is available for high school students to Kingman High School in Kingman via Peach Springs Unified School District #8 school buses.
- **Seligman High School** - provides bus transportation from Seligman High School to Grand Canyon Caverns, approximately 15 miles east of Peach Springs. In order for students to board the bus, family members must drop off students at the Grand Canyon Caverns.

Transportation Request Form

Return to: Health-Education & Wellness
Phone: (928) 769-4188 Fax: (928) 769-288
Mail: PO Box 397, Peach Springs, AZ 86434

☐ Medical Transportation ☐ LOCAL
☐ Non-Medical Transportation

****Shopping--must pay a fee of \$10 per 100 miles per person to the Tribal Office and bring receipt to the H.E.W. w/ REQUEST****
Scheduling Hours: 8 am—5 pm Monday—Friday

☐ One Way ☐ ALTC/AHCCCS ☐ Training Center ☐ H.E.W.
☐ Round Trip ☐ RTC ☐ Tribal Office ☐ Housing
☐ Ambulatory ☐ I.H.S. Clinic ☐ Social Services ☐ Lodge
☐ Wheelchair ☐ GCRC ☐ Court ☐ Other
☐ Discharge ☐ Store/P.O. ☐ School/H. Start ☐ Out of Town-Shopping

APPOINTMENT DATE: / / APPOINTMENT TIME: : PICK UP TIME: : TODAYS DATE: / /

First Name: Last Name: ORIGIN - Pick Up Address: / /

Phone # or Message #: DESTINATION NAME: / /

Name of escort: DESTINATION ADDRESS: / /

ABUSE # or ALTC # (if MEDICAL) B.O.B. (if MEDICAL) / /

☐ Pending Phone Number: / /

****FOR OFFICE USE (Do not write in area below)****

Driver: Beginning Mileage: For Shopping Trips: Amount paid: / /
Vehicle: Ending Mileage: Receipt #: / /

TRIP INFORMATION

	Pick up Mileage:	Drop off Mileage:	Total
Start	Pick up Time: / /	Drop off Time: / /	
Return	Pick up Time: / /	Drop off Time: / /	
			TOTAL

Reason Client is not going with Transportation: / /

☐ Trip approved and scheduled as requested

Signature of Transportation Coordinator/HHD Director: / /

The Hualapai Health and Wellness Department provides appointment-only transit services for medical and shopping needs.



Table 4.6 Health-Education and Wellness Center Transportation Demand by Month (FY 2012-13)

Month	Number of Riders	Number of Trips	Miles Traveled
January	246	477	17,484.5
February	249	500	11,959.1
March	241	501	16,279.1
April	297	555	16,202.2
May	213	451	13,634.2
June	202	399	14,304.0
July	190	394	16,737.0
August	237	467	20,791.8
September	183	338	14,776.1
October	295	541	15,814.1
November	146	266	22,560.4
December	203	351	17,165.5
Total	2,702	5,240	197,705

Source: Western Arizona Council of Governments 5300 Program Data

Peach Springs Unified School District #8

Peach Springs Unified School District #8 provides school bus transportation for their students to school and school-related activities. Currently, the school has three bus drivers and three buses that serve Peach Springs area and Buck and Doe Road area. Within Peach Springs, buses drop-off/pick-up students at the end of street blocks and go door-to-door along Buck and Doe Road. Approximately 7-16 high school students also are given daily transportation to/from Truxton, where they board a separate bus operated by the Kingman High School. Recent 100-day counts of ridership found that an average of 170 students a day utilize Peach Springs Unified School District #8 transportation.



Gary Halbert, Maintenance/Transportation Supervisor, commented that the number one issue with the Tribe's roadway network is the lack of street signs and posted house numbers. He went on to say that without street signs and house numbers, new bus drivers have difficulty identifying school routes and student's homes.

Kingman Area Regional Transit (KART)

Established in 2003, Kingman Area Regional Transit (KART) operates four deviated fixed transit routes and serves more than 100 bus stops in the Kingman area. KART operates Monday through Friday from 6am to 6pm, with a regular bus fare costing \$1.50 one-way. In addition to the fixed route service, KART provides Curb-to-Curb service that allows riders to schedule a pick-up and drop-off at locations not included in the regular bus schedule. Curb-to-Curb service is only available for individuals over the age of 60 and for persons with qualifying disabilities. KART does not currently operate service to the Hualapai Indian Reservation.



Commuting Characteristics

Utilizing 2008-2012 American Community Survey (ACS) data, employee commuting patterns and vehicle availability was identified. Table 4.7 summarizes the mode of transportation for workers age 16 and older to commute to work and Table 4.8 outlines the typical travel time to work on the Hualapai Indian Reservation. As presented in the table, approximately 56% of those surveyed either carpooled, walked, or took public transportation to work, while over 36% drove alone.

According to the ACS, the mean travel time for workers on the Hualapai Indian Reservation is 30.7 minutes. As outlined in Table 6.3, 60% of employees on the Hualapai Indian Reservation have a commute time of under 10 minutes. This small commute time is probably due to the number of employees in Peach Springs and Buck and Doe Road that work in Peach Springs. An additional 24.2% of employees have a commute time of over 90 minutes.

Vehicle availability may limit a person's ability to commute to work or get to an activity center. Depending on the number of people living in each household, a certain number of vehicles may not be able to provide everyone with a means of transportation. Table 4.9 outlines the total number of vehicles available per occupied housing unit on the Hualapai Indian Reservation. According to the 2008-2012 ACS, 16.5% of occupied housing units do not have any vehicles available, forcing residents to utilize alternative means of transportation.

Table 4.7: Means of Transportation to Work

Means of Transportation	Total Population	Percent
Car, Truck, of Van - Drove Alone	106	36.9%
Carpooled	118	41.1%
Public Transportation	6	2.1%
Walked	38	13.2%
Other Means	17	6.0%
Worked at Home	2	0.7%
Total	287	100%

Source: U.S. Census Bureau, 2008-2012 American Community Survey

Table 4.8: Travel Time to Work

Travel Time	Total	Percent
Less than 5 Minutes	55	19.3%
5 to 9 Minutes	116	40.7%
10 to 19 Minutes	38	13.3%
20 to 29 Minutes	0	0%
30 to 89 Minutes	7	2.5%
Greater Than 90 Minutes	69	24.2%

Source: U.S. Census Bureau, 2008-2012 American Community Survey



Table 4.9: Vehicles per Household

Number of Vehicles	Housing Units	Percent
No Vehicles Available	30	16.5%
1 Vehicle Available	96	52.7%
2 Vehicles Available	40	22.0%
3 or More Vehicles Available	16	8.8%
Total	182	100%

Source: U.S. Census Bureau, 2008-2012 American Community Survey

Transit Need

While the Reservation currently does not have transit service, input from stakeholders and community members suggests an overriding need for transit services to access employment centers, retail facilities, medical appointments, and activity centers. According to the 2013 *Hualapai Housing Needs Assessment*, 50% of employers identified costs and time required for commuters to reach work as a source of employee turnover, while 31% of employees have commute related challenges. Results from the keypad polling in the *Hualapai Housing Needs Assessment* found that 20% of respondents currently carpool or receive a ride from someone to access work. Employee respondents commented that they typically leave work between 6:00 am and 8:00 am and return home between 4:00 pm to 6:00 pm. Furthermore, 62% of participants commented that they would ride a bus/shuttle to and from work if it were available.

Comments relating to transit related needs from TAC and stakeholder input included:

- Transit service from Peach Springs to Kingman is very important for the community members to access medical, shopping, entertainment, services, and activity centers. Several dialysis patients must travel to Kingman Hospital for service.
- Regional transit service to Phoenix, Flagstaff, Las Vegas, Laughlin, Tucson, and other major areas would be beneficial.
- Transit access to specific destinations not currently served by Kingman's KART system is requested.
- Emergency Services commented that many patients refuse to be taken by ambulance to Kingman for emergency services because they do not have transportation back to their home.
- Limited drivers are available for existing medical transport service provided on an on-call basis.
- Hiring a full-time transit coordinator to manage and expand transit service operation within the Reservation is needed in the long-term. Stakeholders suggested identifying a transit "champion" to manage funding, grant application, and transit related needs.



Aviation Conditions

In order to gain a better understanding of all of the factors contributing to the regional transportation conditions, it is important to consider air travel. Airports serving the Hualapai Indian Reservation include:

- **Grand Canyon West Airport** - public airport located at the Grand Canyon West. According to the Federal Aviation Administration (FAA), Grand Canyon West had 147,794 passenger boardings (enplanements) in 2012. As illustrated in Table 4.10, Grand Canyon West is the fifth busiest airport in Arizona in terms of passenger boardings. Grand Canyon West is primarily utilized by tourists and the Grand Canyon West Corporation. Passengers can fly from/to Las Vegas or arrange for helicopter or plane tours of the Grand Canyon and Colorado River.
 - The existing runway configuration consists of one active runway, Runway 17/35. It is 5,058 feet long and 60 feet wide. There are also a taxiway, aircraft parking, and multiple heliports.
 - According to the ADOT Five-Year Airport Capital Improvement Program, multiple airport improvements are scheduled for construction, including the design and construction of a terminal building.
- **Hualapai Airport** - private use airport located eight miles northeast of Peach Springs. The airport has one paved runway and is privately owned by the Hualapai Indian Tribe. The Hualapai Airport is utilized primarily by business owners visiting the Hualapai Tribe, the Grand Canyon West Corporation, by the Department of Natural Resources to conduct surveys, and for wildlife observation.
- **Grand Canyon Caverns Airport** - public use airport located at the Grand Canyon Caverns on State Route 66. Per FAA records, the airport had 98 passenger boardings in 2012.
- Kingman, Seligman, and Meadview also have public airports that serve the areas surrounding the Hualapai Reservation.
- International airports include McCarran International Airport in Las Vegas, Nevada and Phoenix Sky Harbor International Airport in Phoenix, Arizona.



Grand Canyon West Airport is the fifth busiest airport in Arizona, and hosts one runway and multiple heliports.

Table 4.10: Arizona Airport Ranking by Activity

Rank	Airport Name	2012 Enplanements
1	Phoenix Sky Harbor International	19,560,870
2	Tucson International	1,710,649
3	Phoenix-Mesa Gateway	744,685
4	Grand Canyon National Park	336,716
5	Grand Canyon West	147,794

Source: Federal Aviation Administration



Maritime Facilities

The Hualapai River Runners, operated by the Grand Canyon Resort Corporation and headquartered in the Hualapai Lodge, operates one-day river rafting tours along the Colorado River. Guests are transported from Peach Springs to the Colorado River via Diamond Creek Road (BIA 6). Eight-passenger whitewater rafts are launched from the Colorado River's bank and head west towards Grand Canyon West (river mile 266), where passengers are helicoptered out of the Canyon and then ultimately driven back to the Hualapai Lodge. Approximately 95 percent of the Tribe's maritime business is based on downstream trips from Diamond Creek to Grand Canyon West. According to the *Hualapai Master Plan*, 14,000 -19,000 seats were available during the six to eight month rafting season in 2000. In 2014, operations will be extended to last from March 15th to October 31st, a total of 230 days. During this period the potential number of travelers per season could go as high as 25,760 individuals.

At the Diamond Creek embarkation point, a small ramada is available. At Quartermaster Canyon, river mile 266, the Grand Canyon West Corporation permits and monitors the ramada area and helicopter tours. According to the Hualapai Master Plan, a Labor Day survey showed 72 helicopters in one 24-hour period at the ramadas and two of the upper Quartermaster landing sites.

Additional commercial rafting operators provide 30-minute boat trips on Lake Mead and utilize the ramadas at River Mile 266 as the embark/disembark point. The Hualapai Tribe also sells permits for boaters to camp along the Colorado River or those wishing to camp at the Diamond Creek embarkation point.



Hualapai River Runners boat launching location off Diamond Creek Road



Quartermaster Canyon embark/disembark location along the Colorado River. Photo Courtesy of Google Streetview (2014).

FUTURE TRAFFIC CONDITIONS

The primary purpose of forecasting traffic volumes is to estimate the additional travel demand added to existing roadways and to forecast congestion levels due to projected growth in population and employment. In addition, this analysis provides valuable insight into potential transportation solutions. Future traffic volumes were estimated using a travel demand model developed for this study. The future forecasts represent traffic volumes without any roadway improvements (No-Build scenario) while using future socioeconomic/growth projections. This analysis helps evaluate how roadways perform in the future if no improvements are made.

Future traffic volumes were estimated using a travel demand model developed for this study. Working Paper 1 presented future traffic conditions *if no roadway improvements are made* (No-Build). Projected No-Build traffic conditions serve as a baseline to determine if roadway improvements alleviate congestion.

Projected 2019 Traffic Conditions

Projected 2019 Roadway Level of Service

Figure 4.14 displays the projected 2019 daily traffic volumes and LOS for the roadway network. Traffic volumes and LOS results in this section represent average annual daily traffic conditions. Road segments performing at a LOS B or worse include:

- LOS B:
 - State Route 66: Antares Road to Diamond Creek Road
 - State Route 66: Diamond Creek Road to Seligman
 - Pierce Ferry Road: Antares Road to Diamond Bar Road

Projected 2019 Intersection Level of Service

Based on the projected 2019 daily traffic volumes, intersection turn movement volumes were estimated using *NCHRP Report 255* methods. Intersection improvements such as additional turn lanes and traffic signals were identified to accommodate 2019 traffic conditions. Figure 4.15 displays the enhanced 2019 lane configuration; Figure 4.16 displays the projected 2019 turn movement volumes; and Figure 4.17 displays the intersection LOS conditions. Based on projected 2019 traffic volumes, all intersections and approaches perform at a LOS of A, except for the following:

- LOS B:
 - Antares Road/State Route 66 Northbound PM turning movement
 - Antares Road/State Route 66 Northbound PM intersection approach



Figure 4.14: 2019 Projected Average Daily Traffic Volumes and Level of Service

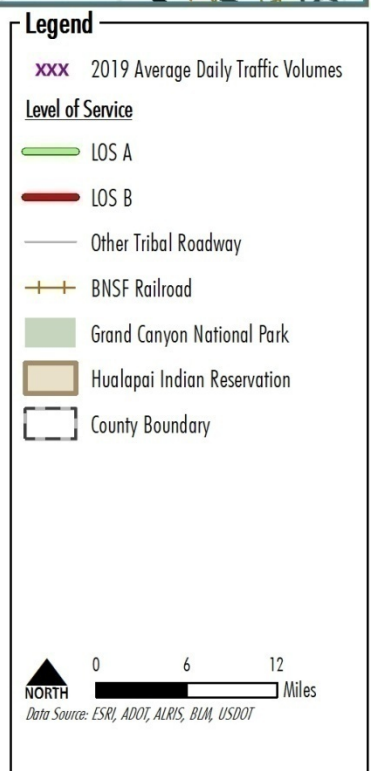
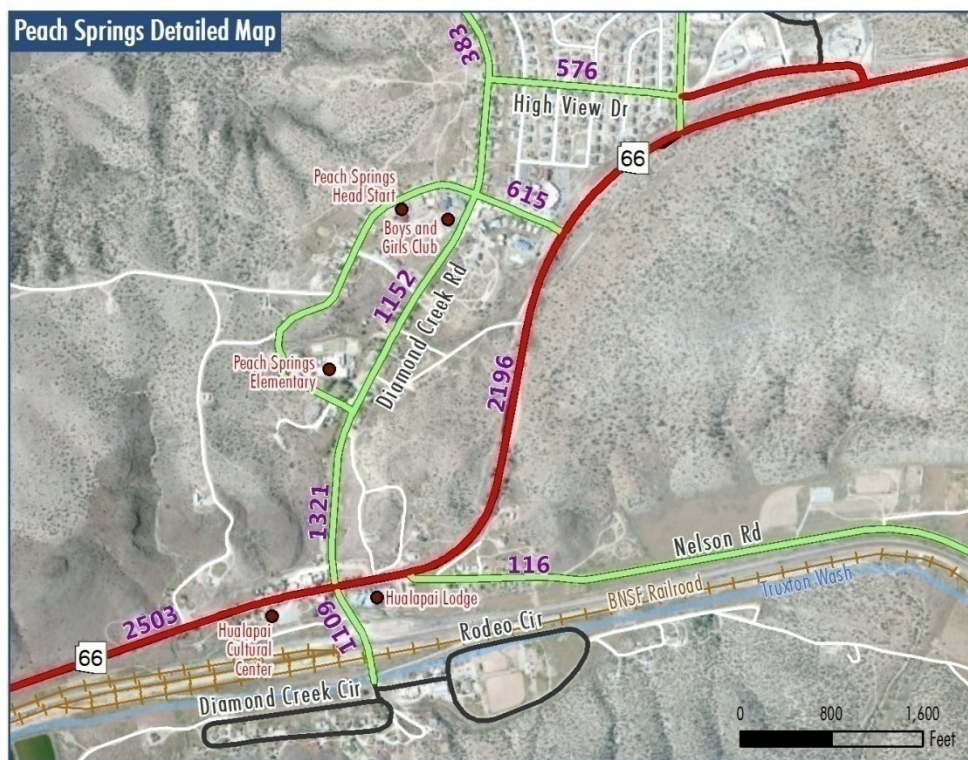
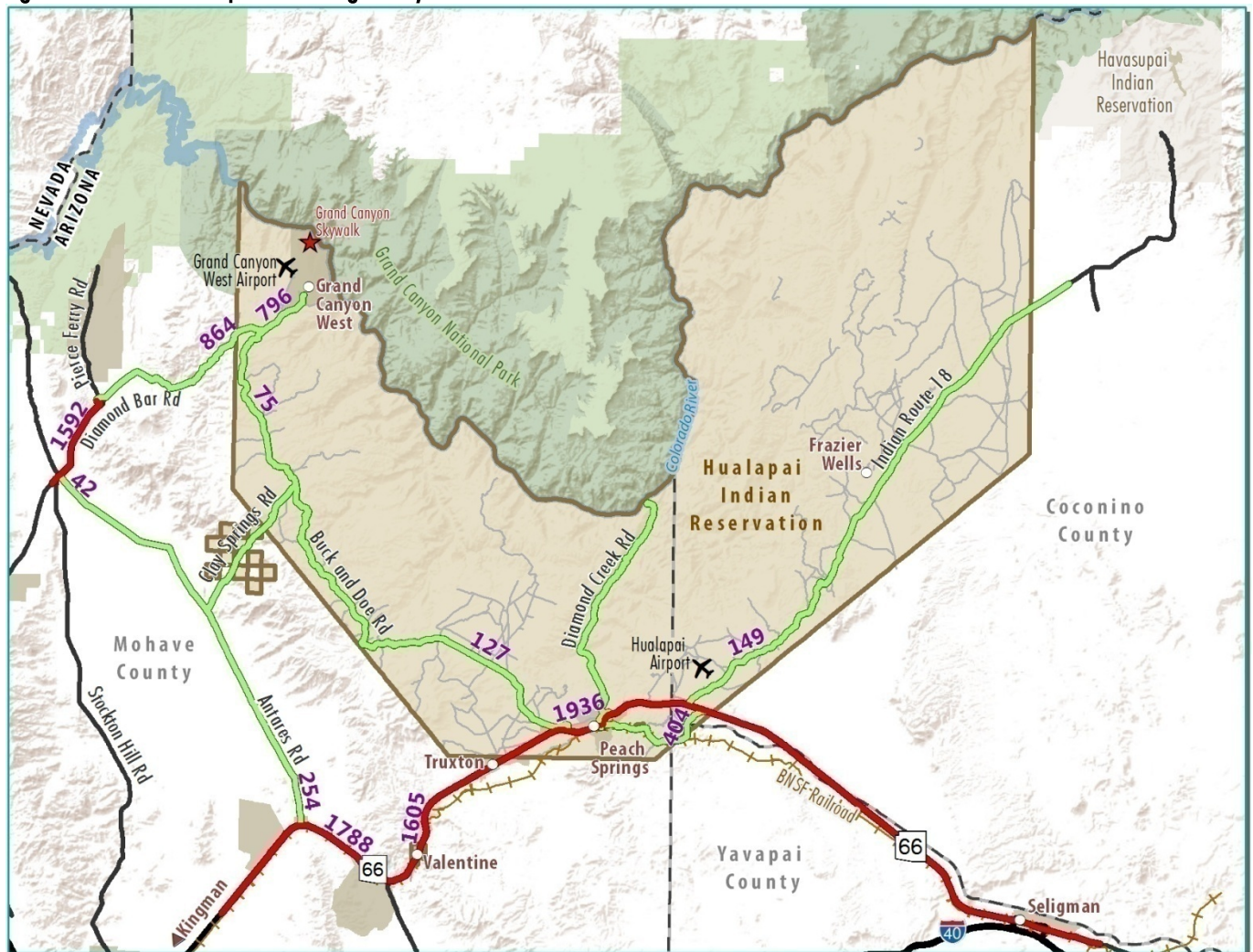
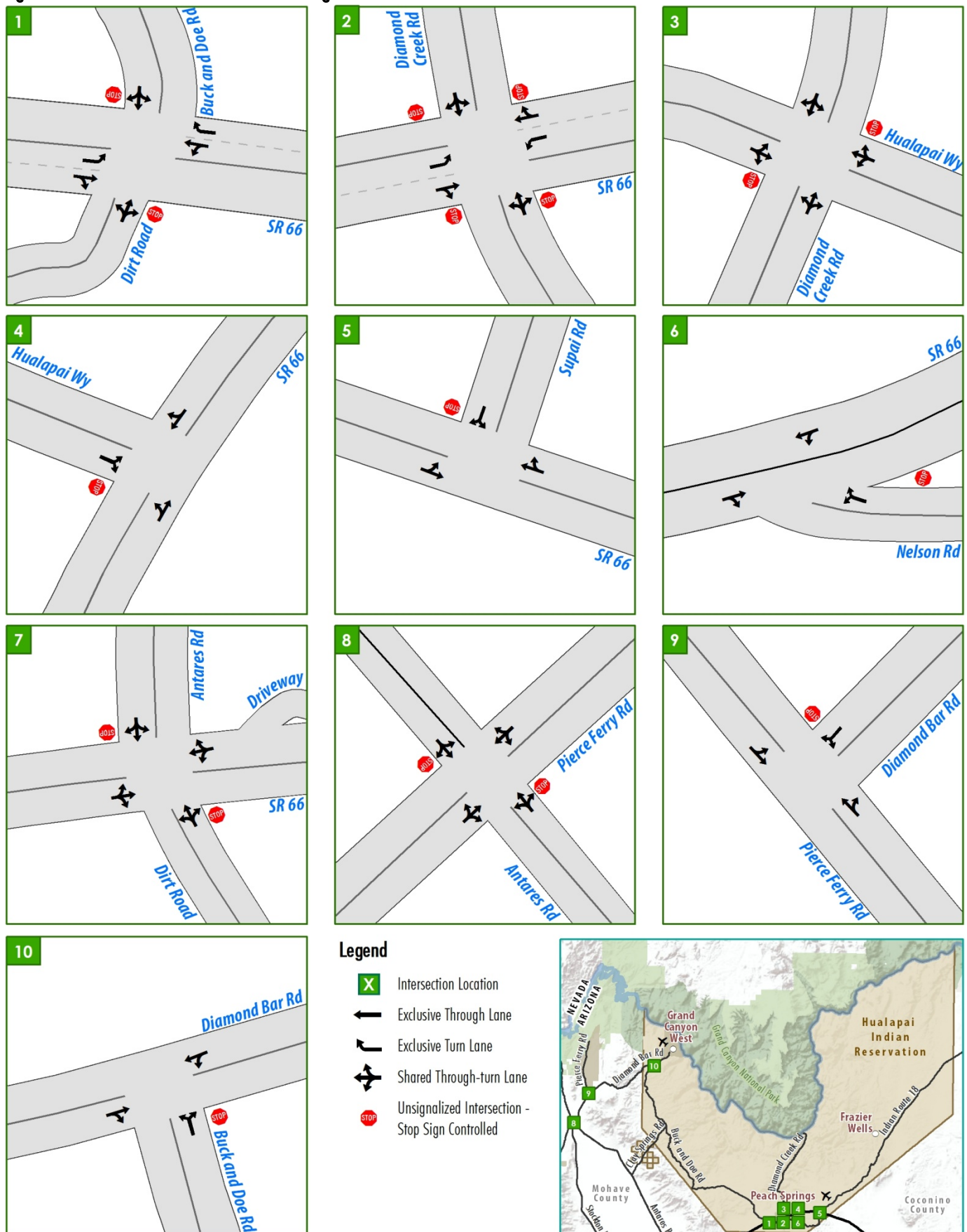


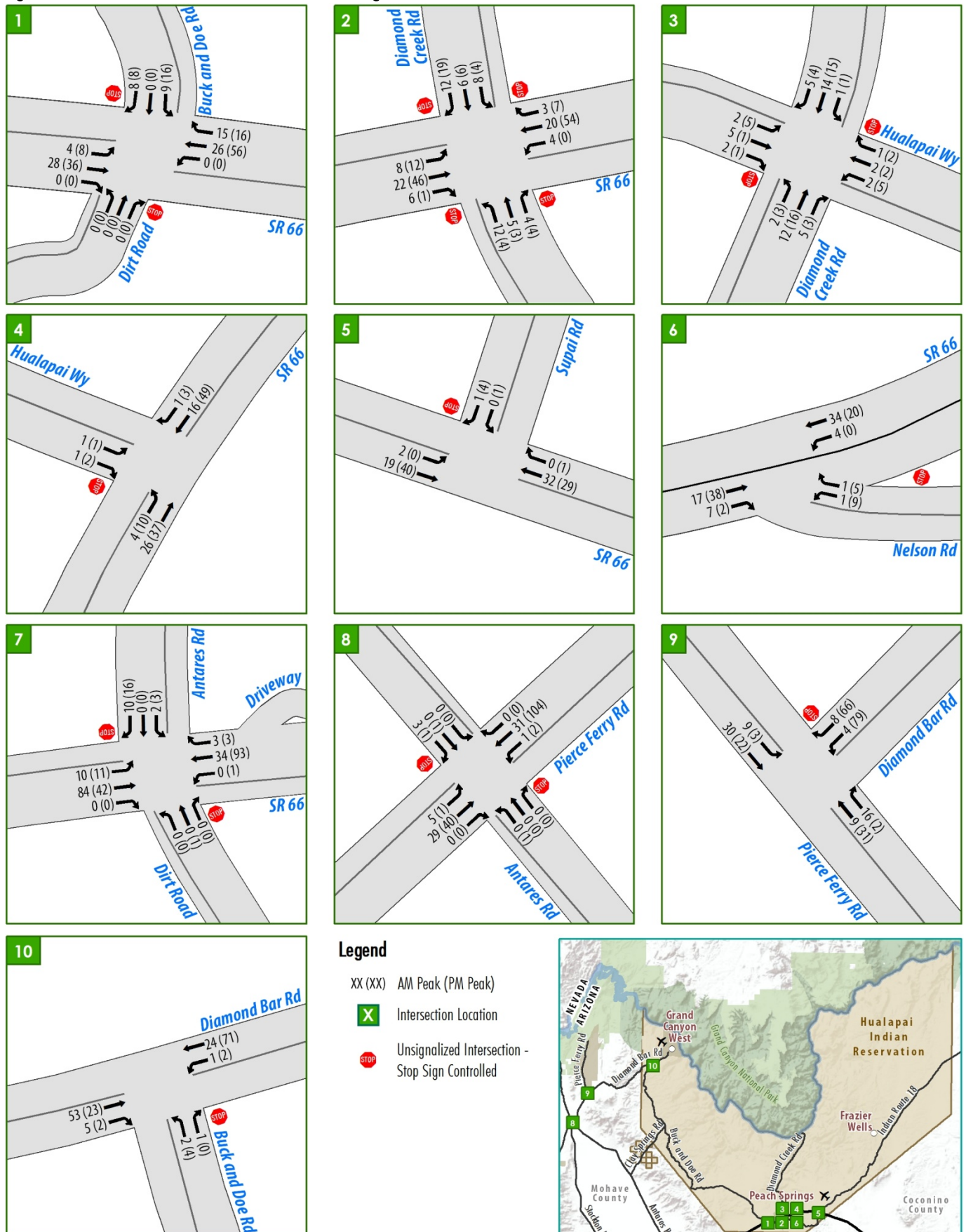
Figure 4.15: 2019 Intersection Lane Configuration



Data Source: ESR, ADOT, ALRIS, BLM



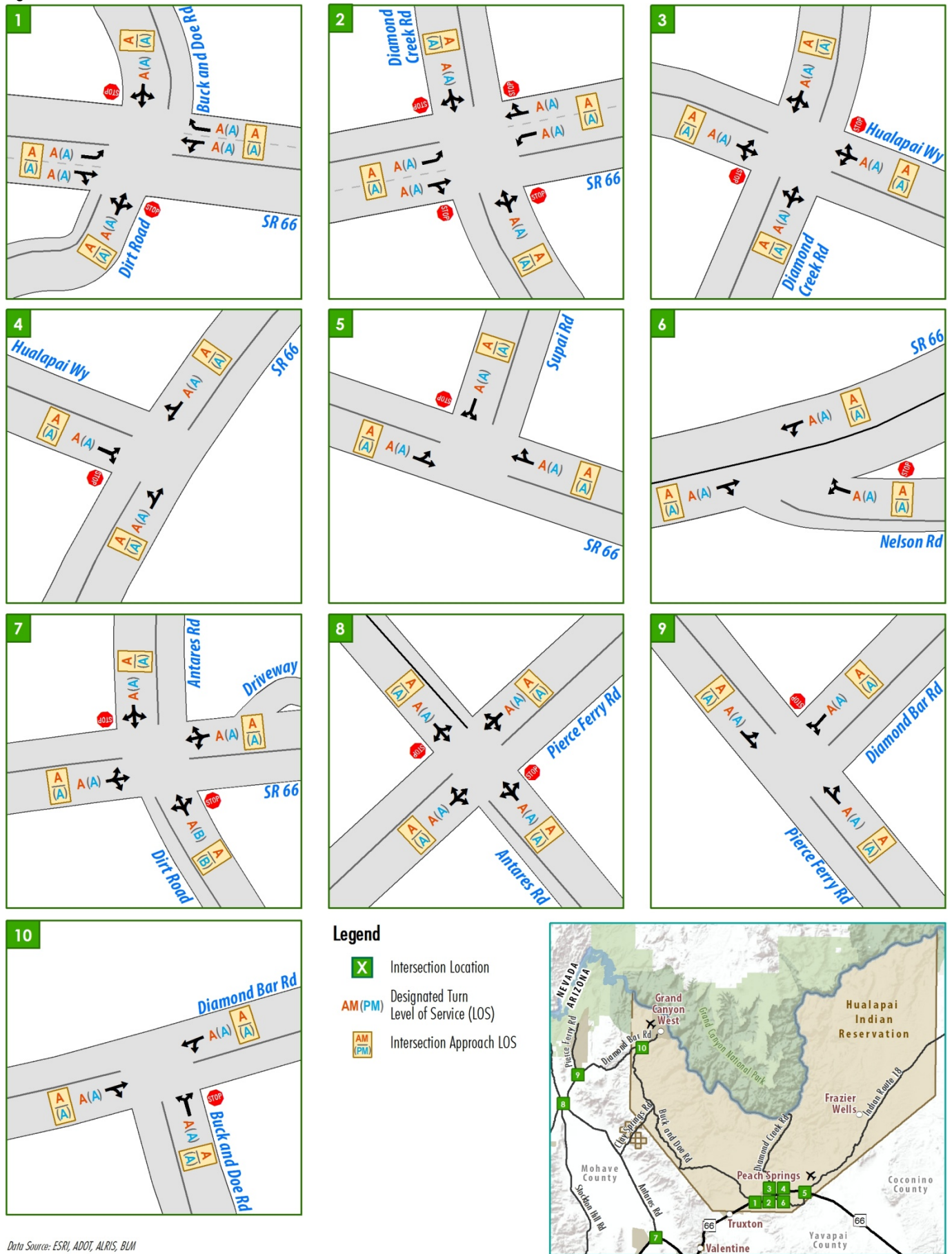
Figure 4.16: 2019 Intersection Peak Hour Turning Movement Volumes



Data Source: ESRI, ADOT, ALRIS, BLM, USDOT



Figure 4.17: 2019 Intersection Peak Hour Level of Service



Data Source: ESRI, ADOT, ALRIS, BLM



Projected 2024 Traffic Conditions

Projected 2024 Roadway Level of Service

Figure 4.18 displays the projected 2024 daily traffic volumes and the LOS for the roadway network. Traffic volumes and LOS results in this section represent average annual daily traffic conditions. Road segments performing at a LOS B or worse include:

- LOS B:
 - o State Route 66: Antares Road to Diamond Creek Road
 - o State Route 66: Diamond Creek Road to Seligman
 - o Pierce Ferry Road: Antares Road to Diamond Bar Road

Projected 2024 Intersection Level of Service

Based on the projected 2024 daily traffic volumes, intersection turn movement volumes were estimated using *NCHRP Report 255* methods. Intersection improvements such as additional turn lanes and traffic signals were identified to accommodate 2024 traffic conditions. Figure 4.19 displays the enhanced 2024 lane configuration; Figure 4.20 displays the projected 2024 turn movement volumes; and Figure 4.21 displays the intersection LOS conditions. Based on projected 2024 traffic volumes all intersections and approaches perform at a LOS of A, except for the following:

- LOS B:
 - o Antares Road/State Route 66 Northbound PM turning movement
 - o Antares Road/State Route 66 Northbound PM intersection approach
 - o Antares Road/Pierce Ferry Road Northbound PM turning movement
 - o Antares Road/Pierce Ferry Road Northbound PM intersection approach



Figure 4.18: 2024 Projected Average Daily Traffic Volumes and Level of Service

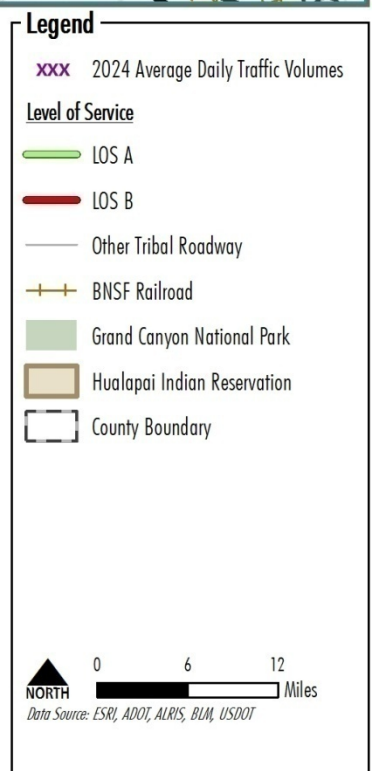
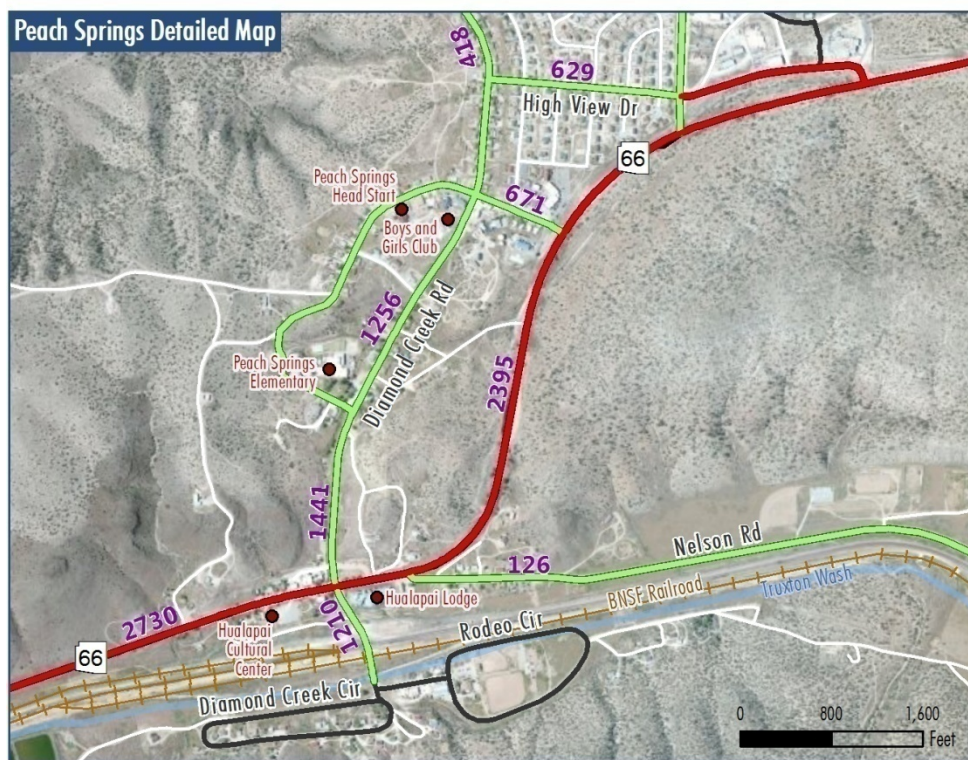
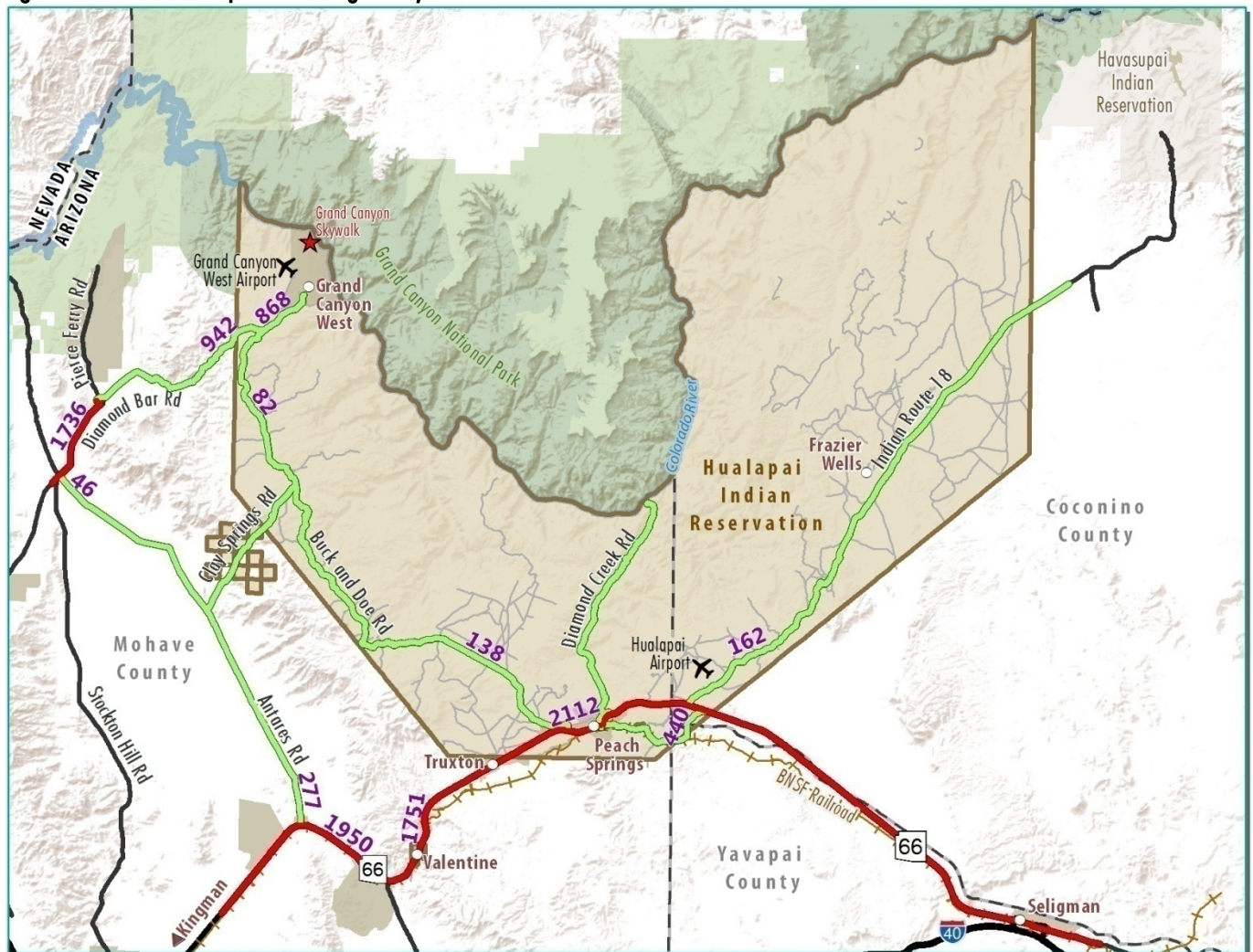
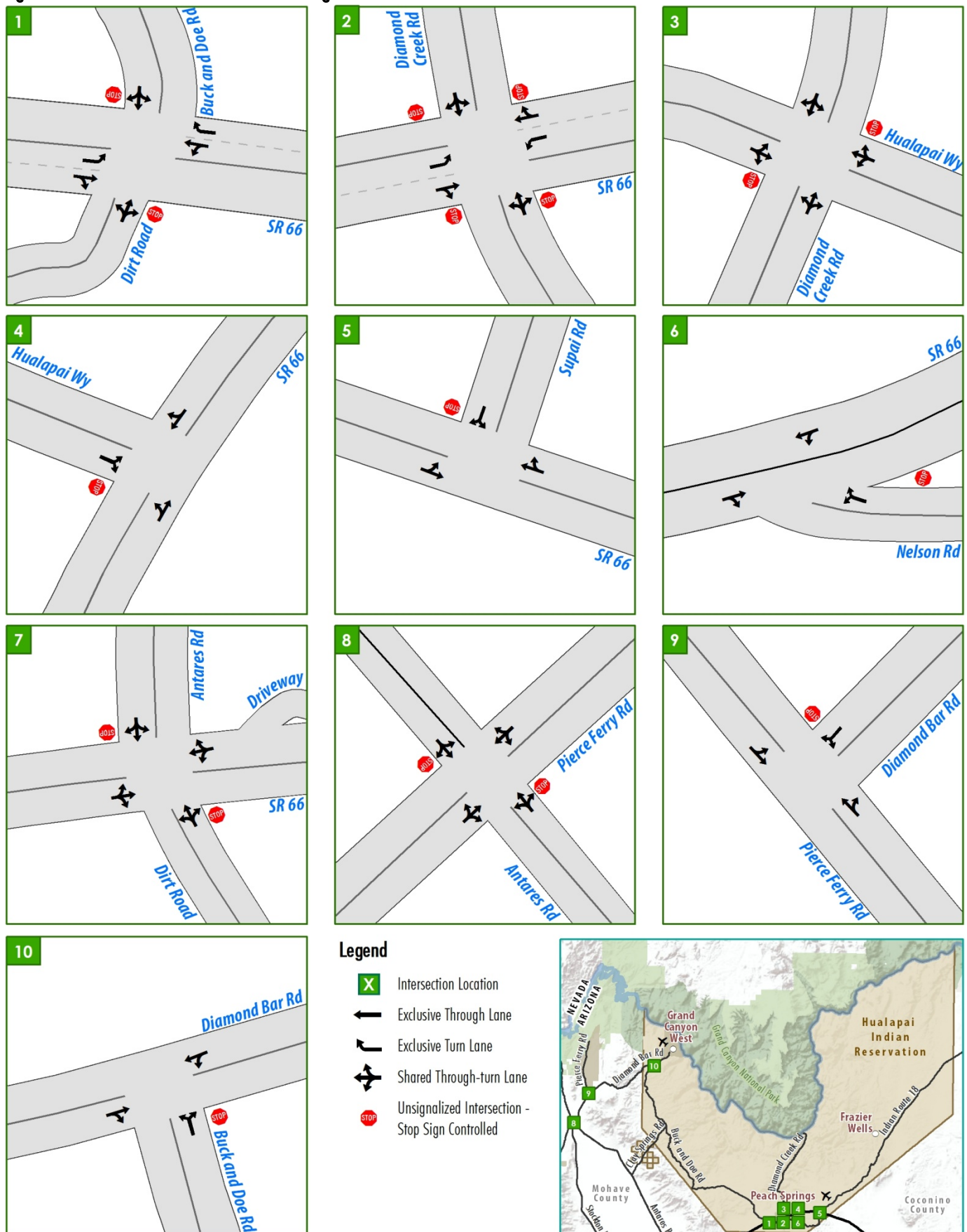


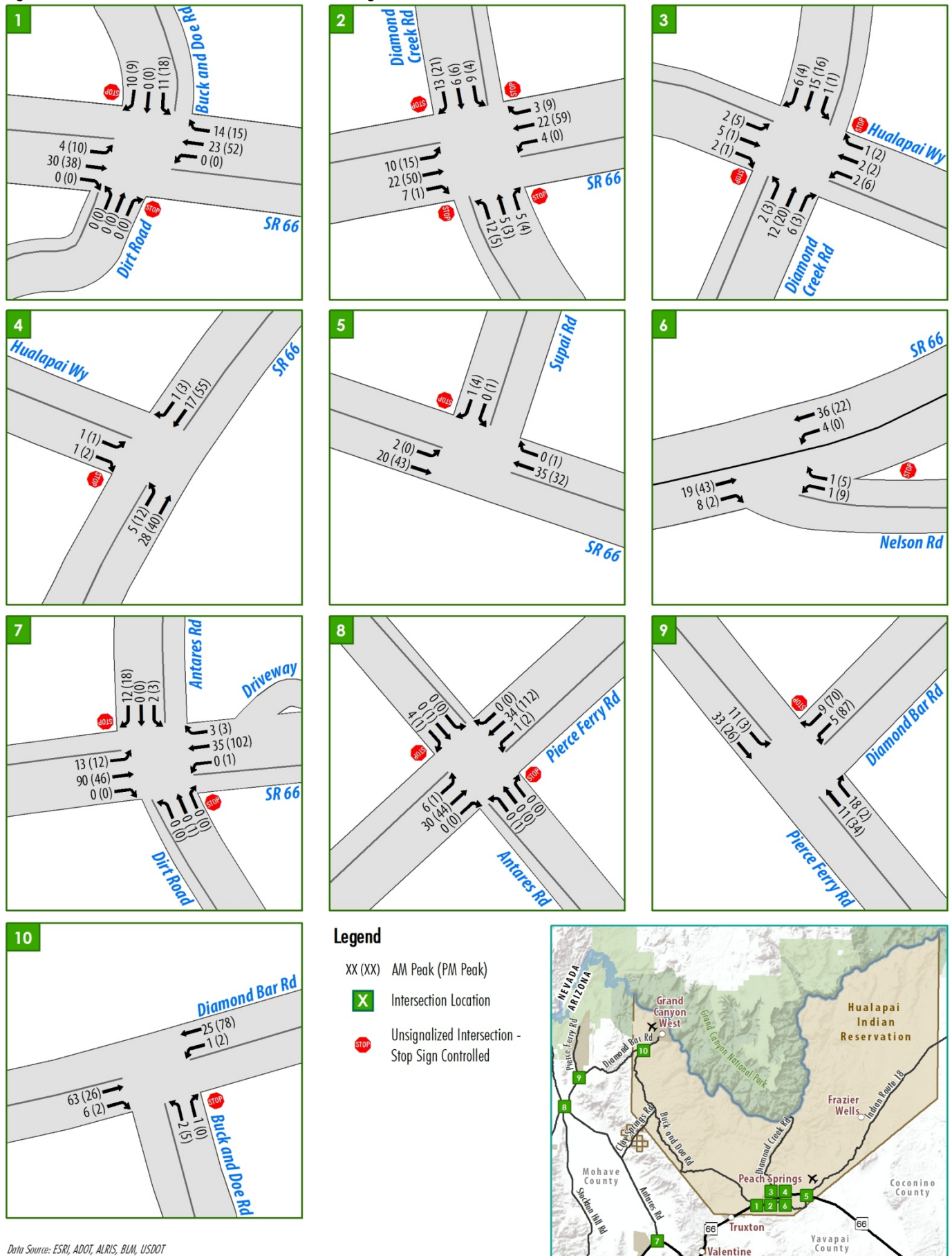
Figure 4.19: 2024 Intersection Lane Configuration



Data Source: ESRJ, ADOT, ALRIS, BLM



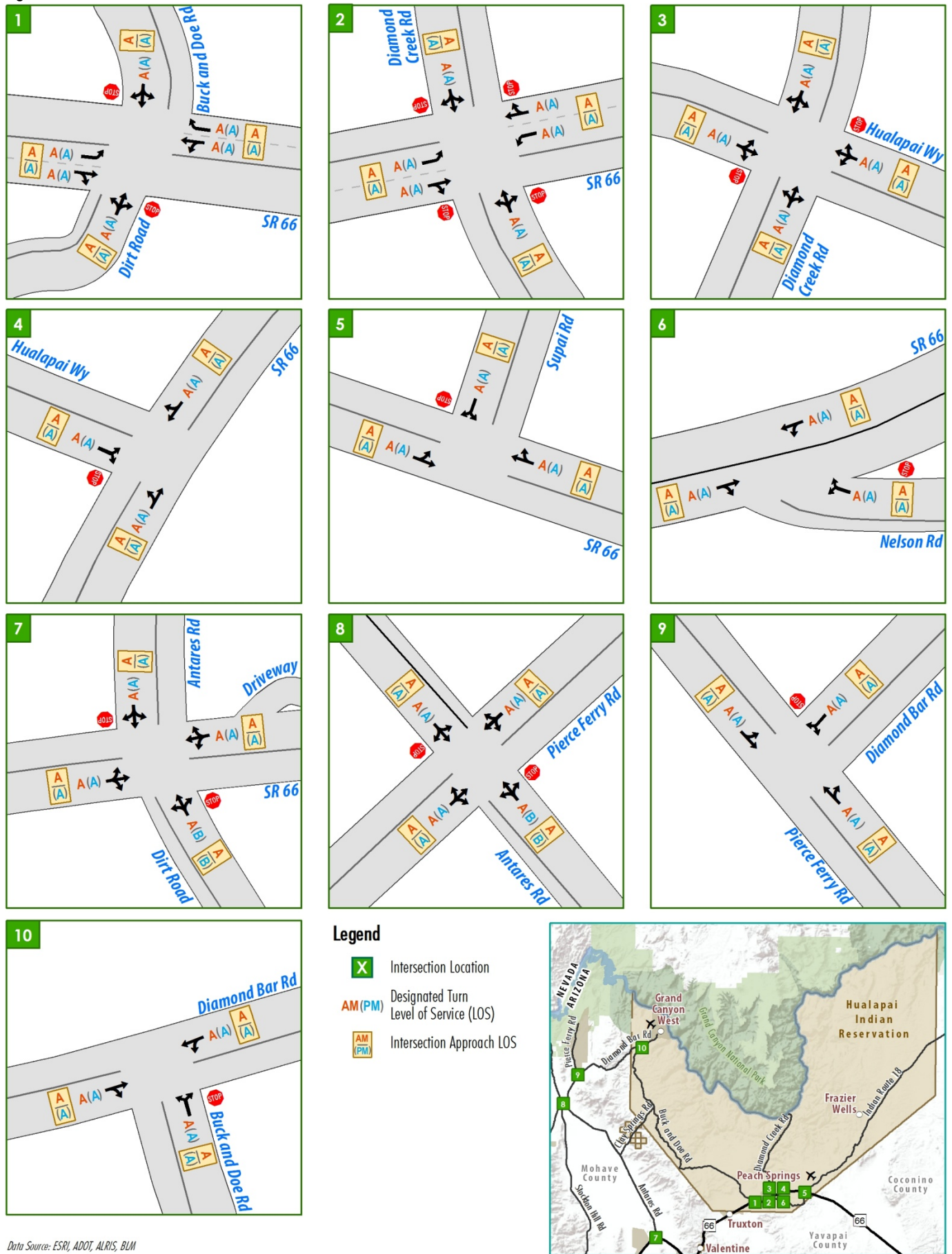
Figure 4.20: 2024 Intersection Peak Hour Turning Movement Volumes



Data Source: ESRI, ADOT, ALRIS, BLM, USDOT



Figure 4.21: 2024 Intersection Peak Hour Level of Service



Data Source: ESRI, ADOT, ALRIS, BLM



Projected 2034 Traffic Conditions

Projected 2034 Roadway Level of Service

Figure 4.22 displays the projected 2034 daily traffic volumes and the LOS for the roadway network. Traffic volumes and LOS results in this section represent average annual daily traffic conditions. Road segments performing at a LOS B or worse include:

- LOS B:
 - o State Route 66: Antares Road to Diamond Creek Road
 - o State Route 66: Diamond Creek Road to Seligman
 - o Pierce Ferry Road: Antares Road to Diamond Bar Road
 - o Diamond Bar Road: Pierce Ferry Road to Grand Canyon West

Projected 2034 Intersection Level of Service

Based on the projected 2034 daily traffic volumes, intersection turn movement volumes were estimated using *NCHRP Report 255* methods. Intersection improvements such as additional turn lanes and traffic signals were identified to accommodate 2034 traffic conditions. Figure 4.23 displays the enhanced 2034 lane configuration; Figure 4.24 displays the projected 2034 turn movement volumes; and Figure 4.25 displays the intersection LOS conditions. Based on projected 2034 traffic volumes all intersections and approaches perform at a LOS of A, except for the following:

- LOS B:
 - o Antares Road/State Route 66 Northbound PM turning movement
 - o Antares Road/State Route 66 Northbound PM intersection approach
 - o Antares Road/Pierce Ferry Road Northbound PM turning movement
 - o Antares Road/Pierce Ferry Road Northbound PM intersection approach



Figure 4.22: 2034 Projected Average Daily Traffic Volumes and Level of Service

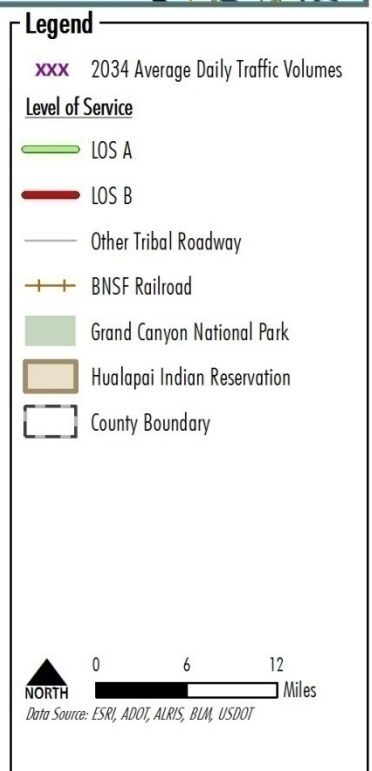
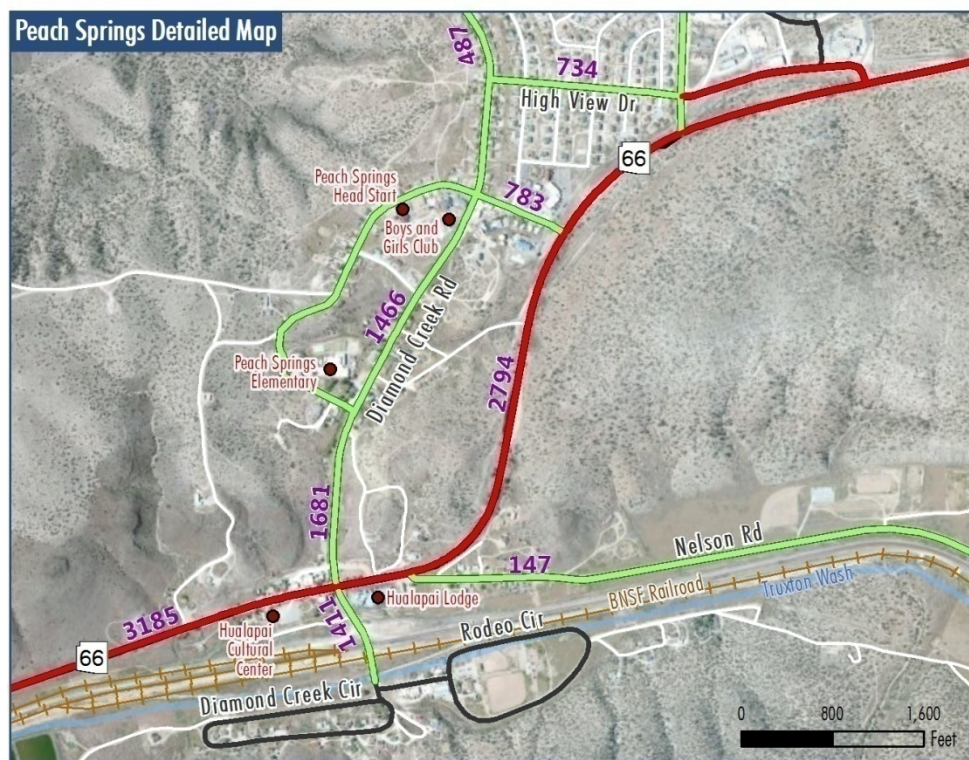
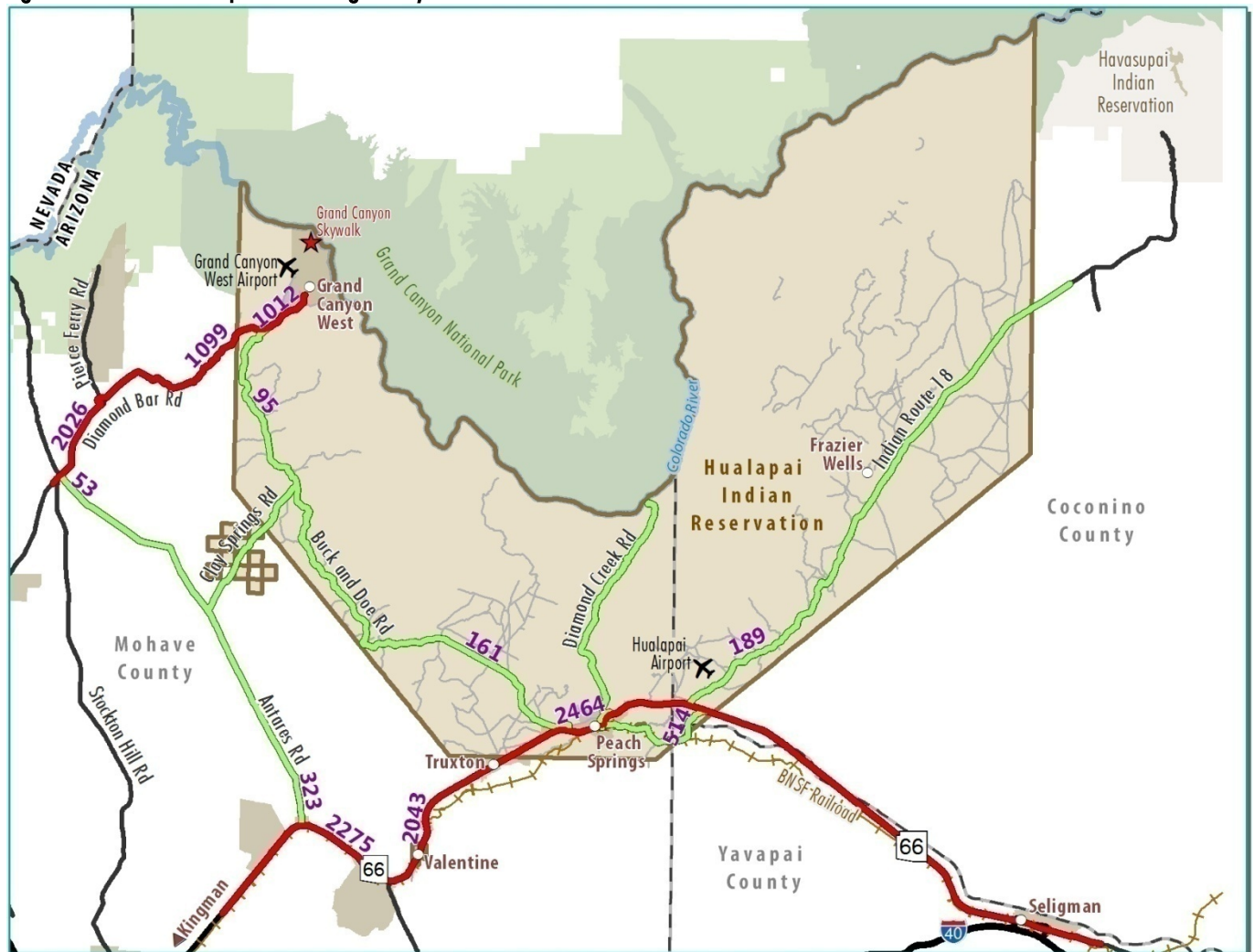
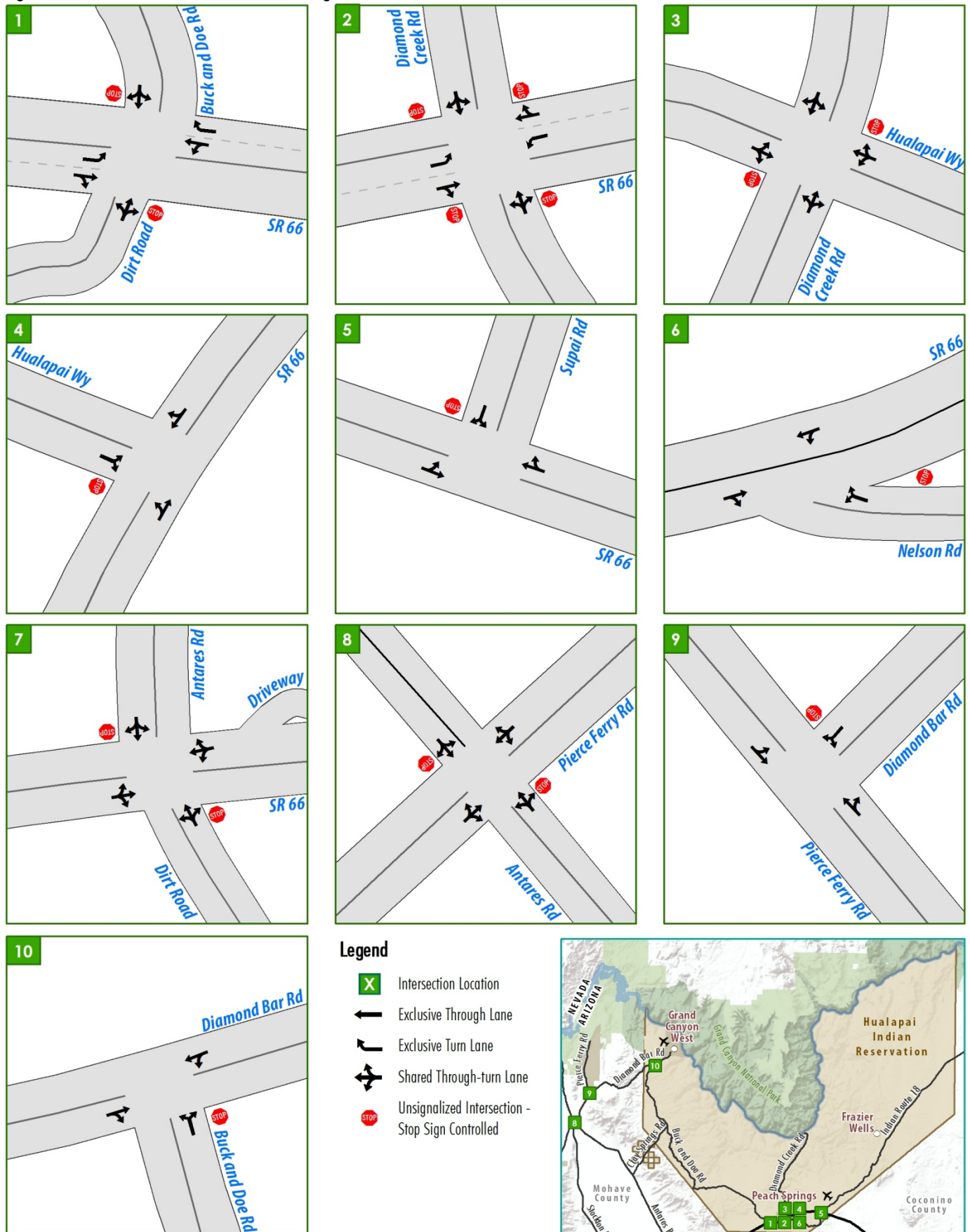


Figure 4.23: 2034 Intersection Lane Configurations



Data Source: ESR, ADOT, ALRIS, BLM

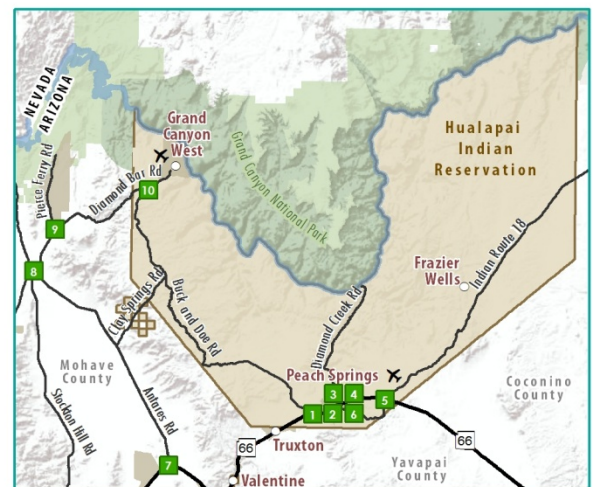
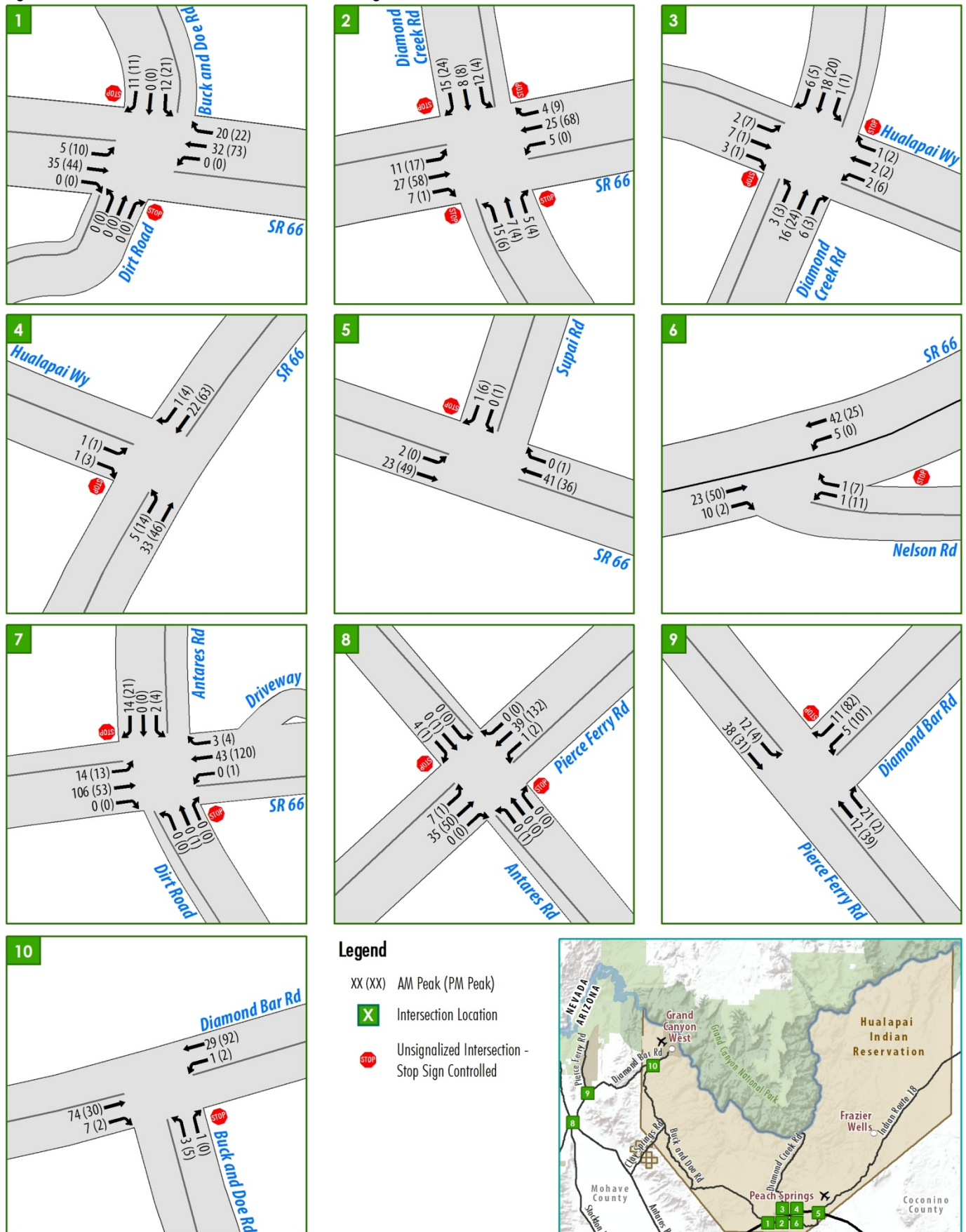


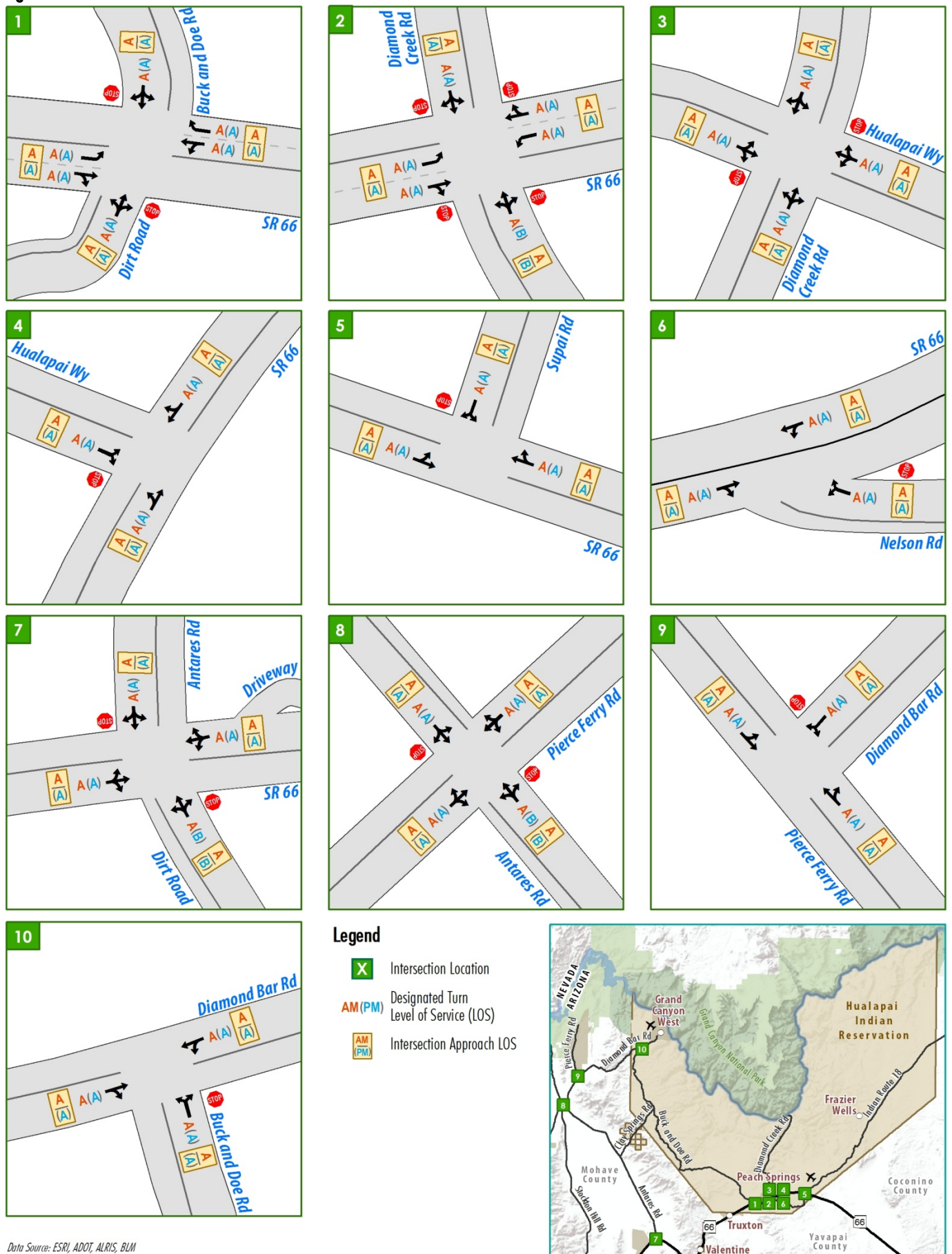
Figure 4.24: 2034 Intersection Peak Hour Turning Movement Volumes



Data Source: ESRI, ADOT, ALRIS, BLM, USDOT



Figure 4.25: 2034 Intersection Peak Hour Level of Service



Data Source: ESRI, ADOT, ALRIS, BLM



5. EVALUATION OF IMPROVEMENTS

This chapter presents the initial improvement concepts and the criteria used for evaluating recommendations for the study area. Initial concepts were developed based on deficiencies and needs identified in the existing conditions analyses, future land use, socioeconomics, traffic conditions, and the goals and objectives established by the study team and the TAC at the onset of the study.

EVALUATION CRITERIA

Transportation system deficiency analysis and input from the public, stakeholders, and the TAC resulted in a comprehensive list of existing and future transportation issues and needs for the Hualapai Indian Reservation. Potential improvements identified were evaluated and prioritized to determine the projects/improvements that best serve the needs of the Hualapai Indian Reservation. Table 5.1 summarizes the criteria utilized to evaluate and to quantify the benefits of each potential transportation improvement option. Based on the results of the evaluation, projects were prioritized into short-, mid-, and long-term implementation phases. Planning level cost estimates were also developed based on typical *per mile/foot* construction costs in 2014. *Estimated costs for each project are expressed in 2014 dollars and do not include ROW acquisition costs. Actual costs for projects could vary at the time of implementation; therefore, a detailed analysis should be performed on a case-by-case basis to determine actual costs. Unless otherwise noted, the recommended projects are not yet funded.*

Table 5.1: Evaluation and Prioritization Criteria

Evaluation Criteria	Objective	Measure	Benefit Scale* (High ← → Low)		
Safety	- Reduce vehicle, pedestrian, and bicycle collisions - Improve access for emergency services	Improves overall Safety	High	Med	Low
		Serves as alternative/emergency access route	Yes	-	No
		Enhances pedestrian/bicyclist Safety	High	Med	Low
Infrastructure Preservation /Maintenance	Preserve and maintain existing transportation infrastructure	Preserves existing infrastructure	Yes	-	No
Mobility and Accessibility	- Reduce congestion, bottlenecks and travel times for all modes - Support future traffic demand - Improve linkages between vehicular, transit, pedestrian, and bicycle modes	Current and future traffic volume levels	High	Med	Low
		Improves multimodal access	Yes	-	No
		Improves network connectivity	Yes	-	No
Economic Development	Support economic growth	Serves tourist or economic development	High	Med	Low
Environmental and Title VI Impacts	- Protect natural and cultural environment - Avoid or minimize negative impacts on Title VI population groups	Impact on environmental/cultural resources	Low	Med	High
		Impact on Title VI	Positive	Neutral	Negative
Implementation Feasibility	- Minimize capital cost of improvements, including preservation of ROW - Reduce ROW impacts - Implementable and flexible	Construction feasibility	High	Med	Low
		Cost effectiveness	High	Med	Low
		ROW impacts	Low	Med	High

*Tables 4.2 - 4.13 provide detailed evaluation and prioritization results for each recommended improvement.



EVALUATION OF ROADWAY IMPROVEMENTS

Based on the traffic analysis, summarized in Chapter 4, study area roadways have enough capacity to accommodate future traffic demand. In order to enhance safety and to adhere to BIA standards, the following safety and general roadway improvements were evaluated:

- Roadway pavement treatments
- Street cross-section enhancements
- Safety features
- Railroad crossing enhancements
- Traffic calming measures

The following section presents a summary of the different safety enhancements evaluated to identify the most effective improvements for the study area.

Paved Road Treatments

On-going, paved road maintenance and pavement reconstruction is critical to the overall safety of the Hualapai Tribe's transportation network. Maintaining a road's pavement condition can lessen maintenance costs on vehicles, improve overall safety, and provide motorists with a smoother, more comfortable ride. Pavement improvement projects include:

- **Pavement Rehabilitation:** Minor rehabilitation consists of non-structural enhancements to eliminate age-related, top-down surface cracking that develops in flexible pavements due to environmental exposure. Major rehabilitation consists of structural enhancements that both extend the service life of an existing pavement and/or improve its load-carrying capability. Surface treatment methods include microsurfacing, chip seal, slurry seal, and crack seal.
- **Pavement Reconstruction:** Complete removal and replacement of the existing pavement structure. Required when a pavement has either failed or has become functionally obsolete. Reconstruction is also warranted when pavement needs to be widened to meet BIA standards. According to the *Code of Federal Regulations, Title 25, Part 170, Subpart C, Appendix D*, BIA functionally classified roadways require the following minimum standards:
 - o Class 4: 32 FT roadway width with 4 FT shoulders
 - o Class 5: 28 FT roadway width with 2 FT shoulders
 - o Class 3: 21 FT roadway width

Figure 5.1 illustrates roadways in need of pavement maintenance, rehabilitation, and reconstruction. Table 5.2 lists and evaluates pavement surface treatment projects in the study area.

Unpaved Road Treatments

Paving road surfaces results in a number of benefits, including reduced vehicle maintenance, improved driving experience and safety, and reduced dust emissions. Figure 5.1 illustrates dirt roads identified for paving and Table 5.2 lists and evaluates new paving projects.

The majority of roads located within the Hualapai Indian Reservation are unpaved roads. Since these roads are low volume facilities, they generally do not meet the minimum requirements to qualify for paving; therefore, continued maintenance of these roads will be required. Gravel roads often have the advantage of lower construction and sometimes lower maintenance costs. If properly maintained, a gravel road can safely serve traffic for many years. The challenges and potential solutions to maintaining unpaved roadways are outlined in Table 5.3.



Figure 5.1: Road Surface Treatment Projects

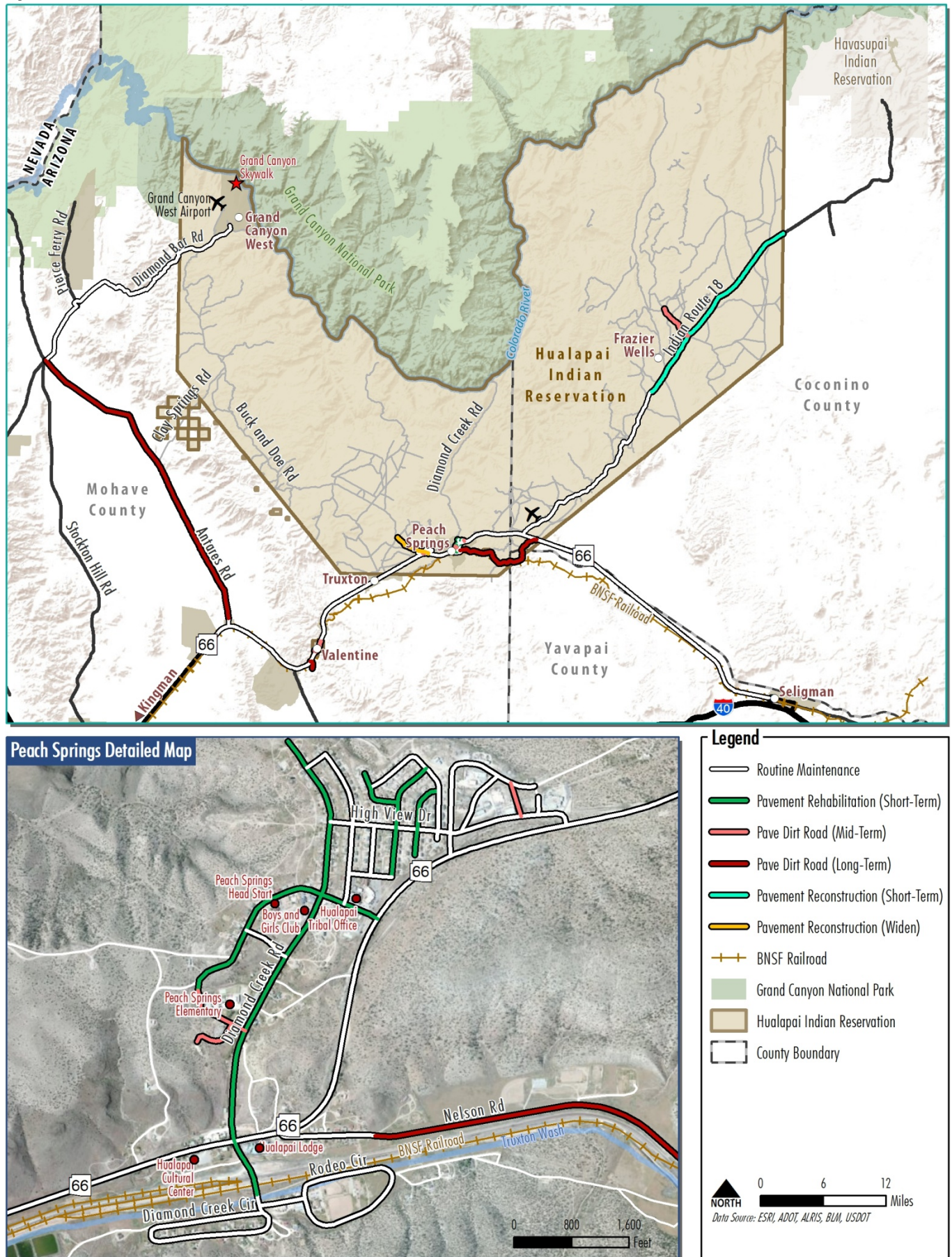


Table 5.2: Evaluation of Road Surface Treatment Projects

On Road	Project Location	Project Description	Length (miles)	Evaluation Criteria																		Cost (2014 dollars)	
				No. of Crashes	Crash Severity (EPDO)	Existing AADT	Existing LOS	AADT 2034	LOS 2034	Overall Safety	Alt./Emergency Route	Ped/Bike Safety	Preserves Infrastructure	Multimodal Access	Network Connectivity	Tourist/Economic	Environ./Cultural Resources	Title VI	Construction Feasibility	Cost Effectiveness	ROW Impacts		Project Phase
Pavement Rehabilitation																							
BIA Route 101 (Peach Springs)	Sections 40, 70, 100, 160-180, 280	Pavement Rehabilitation - Chip Seal	2.6	0	0	<100	A	<100	A	H	N	L	Y	Y	Y	H	L	NI	H	H	L	Short	\$7,500
Pavement Reconstruction Projects																							
Supai Road (BIA 18)	MP 20 to MP 40	Structural Overlay	20.0	10	32	135	A	189	A	H	N	M	Y	Y	Y	H	M	Pos	H	M	L	Short	*Currently under Design
Buck and Doe Road (BIA 1)	State Route 66 to Mud Tank Road	Reconstruct roadway to include 5 FT shoulders, center turn lane, and 12 FT travel lanes	3.5	7	30	115	A	161	A	H	N	H	Y	Y	Y	H	M	Pos	L	M	M	Long	\$3,000,000
Pave Unpaved Roadways																							
Nelson Road	Lhoist Lime Plant to State Route 66	Grade and pave roadway	2.5	1	7	367	A	514	A	H	Y	L	Y	N	Y	M	M	NI	L	M	L	Mid	\$2,300,000
BIA Route 103 (Valentine)	Sections 10 - 110	Grade and pave roadway	1.3	0	0	<100	A	<100	A	H	Y	L	Y	Y	Y	L	M	NI	L	M	L	Mid	\$1,200,000
BIA Route 9103 (Valentine)	Section 10	Grade and pave roadway	0.4	0	0	<100	A	<100	A	H	Y	L	Y	Y	Y	L	M	NI	L	M	L	Mid	\$375,000
BIA Route 101 (Peach Springs)	Shandy Lane (Sections 50 and 30); BIA Lane (Section 260)	Grade and pave roadway	0.40	0	0	<100	A	<100	A	H	N	H	Y	Y	Y	L	L	Pos	M	M	L	Mid	\$400,000
BIA Route 104	Section 40 and Section 50	Grade and pave roadway	0.6	0	0	<100	A	<100	A	H	N	H	Y	Y	Y	M	M	NI	M	M	L	Mid	\$550,000
Youth Camp Road	State Route 66 to Youth Camp	Grade and pave roadway	3.8	0	0	<100	A	<100	A	H	N	L	Y	N	Y	M	M	NI	M	M	L	Mid	\$350,000
Antares Road	Pavement Ending to Pierce Ferry Road	Grade and pave roadway	31.6	11	20	38	A	53	A	H	Y	L	N	Y	Y	H	M	NI	L	L	L	Long	\$30,000,000
Nelson Road	Pavement ending to Lhoist Lime Plant	Grade and pave roadway	5.6	1	7	105	A	147	A	H	N	L	Y	N	Y	M	M	NI	L	L	L	Long	\$2,000,000
BIA Route 8000 (Valentine Cemetery Road)	State Route 66 to Valentine Cemetery	Grade and pave roadway	0.9	0	0	<100	A	<100	A	H	N	L	Y	N	N	L	M	NI	L	L	L	Long	\$1,200,000

* Projects identified on Mohave County and ADOT maintained roads are recommendations only. These recommendations are based on stakeholder/public input, a roadway inventory, and an analysis of deficiencies and needs.

* Route and Section Numbers refer to the BIA TTP roadway inventory route and section numbers.

* EPDO = Equivalent Property Damage Only value. EPDO is a method for ranking crash locations in terms of crash severity. The higher the EPDO value for a road segment the higher the crash severity. Following EPDO multipliers were used for each crash: Fatal Crash =12; Severe Injury = 7; Minor Injury = 4; Possible Injury = 2; No Injury = 1

* Title VI Implications: NI= No Impact; Pos. = Positive Impact; Neg. = Negative Impact



Table 5.2: Evaluation of Road Surface Treatment Projects (Continued)

On Road	Project Location	Project Description	Length (miles)	Evaluation Criteria																		Cost (2014 dollars)	
				No. of Crashes	Crash Severity (EPDO)	Existing AADT	Existing LOS	AADT 2034	LOS 2034	Overall Safety	Alt./Emergency Route	Ped/Bike Safety	Preserves Infrastructure	Multimodal Access	Network Connectivity	Tourist/Economic	Environ./Cultural Resources	Title VI	Construction Feasibility	Cost Effectiveness	ROW Impacts		Project Phase
Pavement Striping																							
BIA Route 101 (Peach Springs)	Diamond Creek Road (Section 100 and 280); Hualapai Way (Section 70); High View Drive (Section 110)	Add pavement striping	1.6	1	4	<100	A	<100	A	H	N	L	Y	N	N	H	L	NI	H	H	L	Short	\$2,600
	Sections 20, 40-60, 90, 110, 130-190, 210-270	Add pavement striping		0	0	<100	A	<100	A	H	N	L	Y	N	N	H	L	NI	H	H	L	Short	\$8,500
Buck and Doe Road (BIA 1)	State Route 66 to Mud Tank Road	Add pavement striping	3.5	7	30	115	A	161	A	H	N	L	Y	N	N	H	L	NI	H	H	L	Short	\$15,000
	Diamond Bar Road to Grand Canyon West	Restripe faded pavement striping	3.7	3	6	723	A	1,012	B	H	N	L	Y	N	N	H	L	NI	H	H	L	Short	\$12,000
Antares Road	State Route 66 to Pavement Ending	Add pavement striping	0.76	1	7	231	A	323	A	H	Y	L	Y	N	N	H	L	NI	H	H	L	Short	\$2,500
Nelson Road (BIA 101 Section 310)	State Route 66 to Pavement Ending	Add pavement striping	0.3	0	0	105	A	147	A	H	N	L	Y	N	N	M	L	NI	H	H	L	Short	\$1,200
BIA Route 104	Milkweed Springs Road and Music Mountain Road	Add pavement striping	2.1	1	4	<100	A	<100	A	H	N	L	Y	N	N	M	L	NI	H	H	L	Short	\$8,000

★ Projects identified on Mohave County and ADOT maintained roads are recommendations only. These recommendations are based on stakeholder/public input, a roadway inventory, and an analysis of deficiencies and needs.

★ Route and Section Numbers refer to the BIA TTP roadway inventory route and section numbers.

★ EPDO = Equivalent Property Damage Only value. EPDO is a method for ranking crash locations in terms of crash severity. The higher the EPDO value for a road segment the higher the crash severity. Following EPDO multipliers were used for each crash: Fatal Crash =12; Severe Injury = 7; Minor Injury = 4; Possible Injury = 2; No Injury = 1

★ Title VI Implications: NI= No Impact; Pos. = Positive Impact; Neg. = Negative Impact

Table 5.3: Treatment and Maintenance Options for Unpaved Road Surfaces

Challenges	Possible Causes and Solutions
Longitudinal (lengthwise) erosion of the road surface	• <i>Flat or u-shaped road.</i> A crown or tilting of the road (super-elevation) is needed to shed water laterally off the outer edge(s) of the road surface. Keep the road graded with the proper crown. • <i>Small ridge of soil or grass growth along the outer edge of the road is preventing water from draining off the road surface.</i> Edge needs to be graded to remove this ridge. • <i>Water is traveling in a wheel rut.</i> Road needs to be re-graded and re-crowned. This problem often results from soft roads. • <i>Road ditch is not large enough and overflows onto road surface.</i> Install more frequent turnouts to allow water to drain from the road; if this is not possible the ditches need to be made larger.
Washboarding	• <i>Mainly due to poor road surface materials.</i> This will most likely result from a lack of fines and moisture. Check gradation of road material, and adjust as necessary. A grader should be used to remove washboarding and mix road materials. • <i>Alternative road surface materials may be necessary in certain high stress areas.</i> Consideration should be given to using soil stabilizers, these need to be selected based on the gradation and other factors.
Tire rutting on soft roads	• <i>Poor road base material does not drain efficiently.</i> Road base needs to be reconstructed with suitable soil materials, or consider using geotextiles. One option is to use soil stabilizers, these need to be selected based on the gradation and other factors. • <i>Road is too low and the base is in the water table.</i> Build road up above grade and/or install sub surface drains. • <i>Poorly drained native soils that may be unsuitable for typical gravel roads.</i> Consider using geotextiles or rock sandwiches, or restricting access for seasonal use only. • <i>Insufficient road base thickness.</i> Road base should be reconstructed, or consider using geotextiles or soil stabilizers. • <i>Insufficient ditching.</i> Ditches need to allow subsurface water to drain out of the road base. If road ditch is in a groundwater seep area, ditch may need to be rip rapped to prevent slumping.
Muddy or slippery road surface	• <i>Poor road surface material containing too many fines.</i> Good surface material needs to be added or blended with existing surface using appropriate grading equipment. • <i>Insufficient road tilting (super-elevation) or road crown, which allows water to sit on the road surface.</i> Road needs to be tilted or re-crowned to continuously to promote proper drainage
Dust	• <i>Poor road surface material and low moisture content.</i> Apply new road surface material with the proper soil gradations, or use of calcium chloride or other chemical binding agent as a dust suppressant.
Too much loose gravel	• <i>Poor road surface material that lacks fines due to dusting, heavy traffic or erosion.</i> New road surface material is needed or the road needs to be re-graded and re-compacted.
Lateral erosion cutting across the road surface	• This most often occurs at a low spot by the road or where a ditch filled up and no longer functions; water builds up and eventually overflows and erodes the road and sediment that has settled in the ditch. The water needs to be conveyed to the other side of the road by means of a culvert, sub drainage, or ford.
Potholes	• Potholes usually result from road sections on poorly drained soils or from insufficient crown or road tilting. Rebuild the road with proper materials, or re-grade road to remove potholes, then re-crown or super-elevate.

Source: Gravel Road Maintenance Manual, A Guide for Landowners on Camp and Other Gravel Roads



Street Cross-Sections

Roadway cross-sections provide the framework for designing and improving community roadways. A road's cross-section is based on several factors, including:

- Existing and future traffic volumes
- Type of traffic that utilizes the facility
- Function of the facility
- Level of pedestrian, bicycle, and transit activity
- Surrounding land use
- Right-of-way (ROW) availability
- Proposed development surrounding the corridor

To accommodate multiple transportation modes, many communities are utilizing "Complete Streets" initiatives to develop cross-sections to enhance the safety along roadways. According to the National Complete Streets Coalition, typical elements that make up a complete street include sidewalks, bicycle lanes, shared-use paths, and safe pedestrian crossings. Based on input from the TAC, stakeholders, and the public; cross-section concepts were developed for the study roadways that incorporate complete street elements while maintaining the character of the community. Table 5.4 summarizes cross-sections evaluated for the study area.

Table 5.4: Street Cross-Sections

Rural Local	
	 The diagram illustrates a cross-section of a Rural Local street. It features a central two-lane road with two 10'-11' vehicle lanes separated by a dashed yellow line. On either side of the vehicle lanes are 5'-8' shoulders. The total width of the right-of-way is indicated as 30'-38'.
Roadway Context:	• Provides local access to ranching areas, water tanks, and other remote areas • Very Low traffic volumes
Number of Lanes & Median:	One 10-11 FT lane in each direction
Right-of-Way Width:	30 -38 FT
Street Elements:	5-8 FT unpaved shoulders on both sides of road
Pedestrian/Bike Facilities:	No pedestrian or bicycle facilities
Comments:	Suitable for roads such as Youth Camp Road

Table 5.4: Street Cross-Sections (Continued)

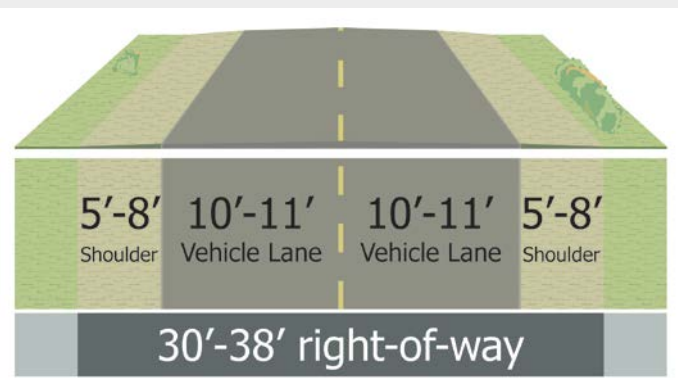
Rural Collector	
	 The diagram illustrates a cross-section of a Rural Collector road. It features a central two-lane road with two 10'-11' vehicle lanes separated by a dashed yellow line. On either side of the vehicle lanes are 5'-8' shoulders. The total width of the right-of-way is indicated as 30'-38'.
Roadway Context:	• Provides local access • Low traffic volumes
Number of Lanes & Median:	One 10-11 FT lane in each direction
Right-of-Way Width:	30 -38 FT
Street Elements:	5-8 FT unpaved shoulders on both sides of road
Pedestrian/Bike Facilities:	No pedestrian or bicycle facilities
Comments:	Suitable for roads such as Buck and Doe Road
Rural Minor Arterial (AADT Less than 400)	
	 The diagram illustrates a cross-section of a Rural Minor Arterial road. It features a central two-lane road with two 10'-11' vehicle lanes separated by a dashed yellow line. On either side of the vehicle lanes are 5'-8' shoulders. The total width of the right-of-way is indicated as 30'-38'.
Roadway Context:	• Provides local and regional access to tourist activity centers • Links cities and larger towns
Number of Lanes & Median:	One 10-11 FT lane in each direction
Right-of-Way Width:	30-38 FT
Street Elements:	5-8 FT paved shoulders on both sides of road
Pedestrian/Bike Facilities:	No pedestrian or bicycle facilities
Comments:	Suitable for roads such as Supai Road

Table 5.4: Street Cross-Sections (Continued)

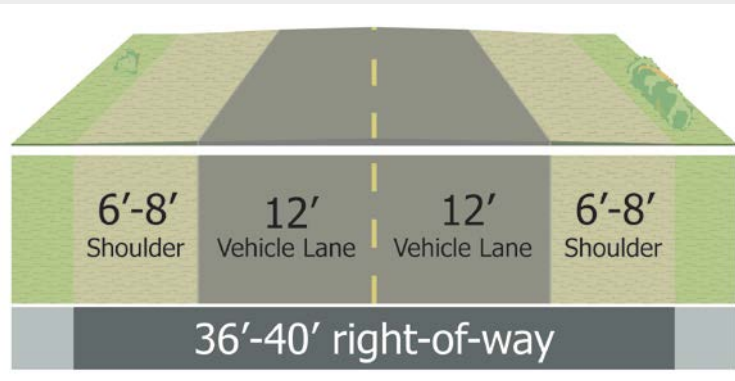
Rural Minor Arterial (AADT Greater than 400)	
 The diagram shows a cross-section of a Rural Minor Arterial road. It features a central dashed yellow line separating two 10'-11' vehicle lanes. On each side of the vehicle lanes is a 6'-8' shoulder. The total right-of-way width is indicated as 32'-38'.	
Roadway Context:	• Provides local and regional access to tourist activity centers • Links cities and larger towns
Number of Lanes & Median:	One 10-11 FT lane in each direction
Right-of-Way Width:	32-38 FT
Street Elements:	6-8 FT paved shoulders on both sides of road
Pedestrian/Bike Facilities:	No pedestrian or bicycle facilities
Comments:	Suitable for roads such as State Route 66 (Seligman to Hualapai Indian Reservation Boundary)
Rural Major Arterial	
 The diagram shows a cross-section of a Rural Major Arterial road. It features a central dashed yellow line separating two 12' vehicle lanes. On each side of the vehicle lanes is a 6'-8' shoulder. The total right-of-way width is indicated as 36'-40'.	
Roadway Context:	• Provides regional access to tourist activity centers • Connects regional roadways and larger communities
Number of Lanes & Median:	One 12 FT lane in each direction
Right-of-Way Width:	36-40 FT
Street Elements:	6-8 FT paved shoulders on both sides of road
Pedestrian/Bike Facilities:	No pedestrian or bicycle facilities
Comments:	Suitable for roads such as State Route 66

Table 5.4: Street Cross-Sections (Continued)

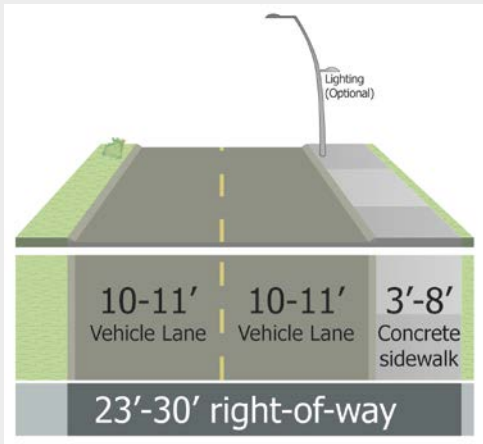
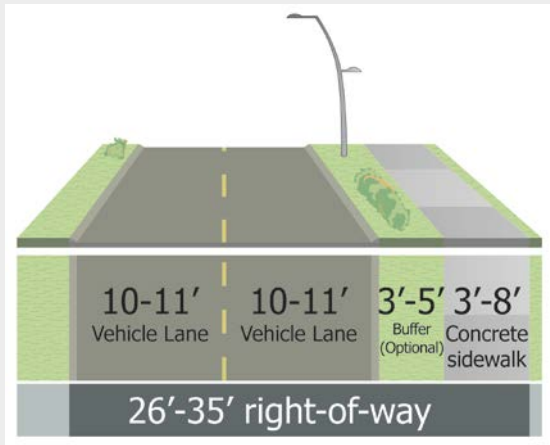
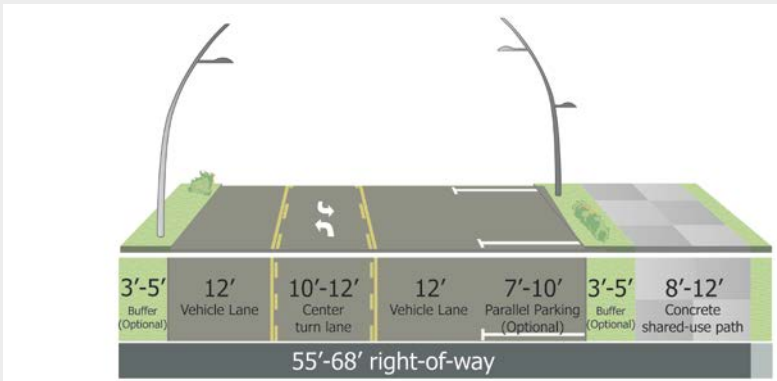
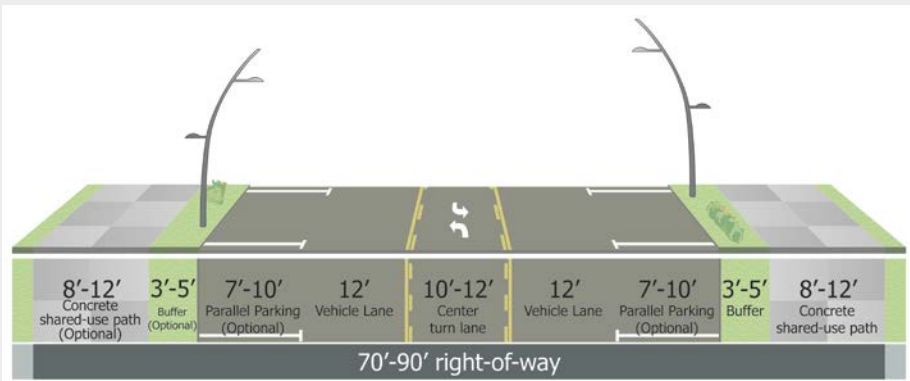
Urban Local		
		
Roadway Context:	• Provides access for local traffic to residential areas • Restricted ROW conditions	
Number of Lanes & Median:	One 10-11 FT lane in each direction	
Right-of-Way Width:	23-30 FT	
Street Elements:	• Street and sidewalk lighting (Optional) • Curb and gutter • Utility buffer	
Pedestrian/Bike Facilities:	3-8 FT concrete sidewalk on one side of the road	
Comments:	Suitable for local residential streets in Peach Springs	
Urban Collector		
		
Roadway Context:	• Serves as a connection for employment and activity centers • Curb and gutter • Limited ROW	
Number of Lanes & Median:	One 10-11 FT lane in each direction	
Right-of-Way Width:	26-35 FT	
Street Elements:	• 3-5 FT Landscape buffer on both sides of road • Street and pedestrian path lighting	
Pedestrian/Bike Facilities:	3-8 FT concrete sidewalk in both directions	
Comments:	Suitable for roads such as Diamond Creek Road, Hualapai Way, or High View Drive	

Table 5.4: Street Cross-Sections (Continued)

Urban Minor Arterial		
		
Roadway Context:	- Experiences high traffic volumes - Serves local commercial/tourist areas - Serves regional and local traffic - Located in developed area with growth potential - On-street parking	
Number of Lanes & Median:	- One 12 FT lane in each direction 10-12 FT two-way center turn lane	
Right-of-Way Width:	55-68 FT	
Street Elements:	3-5 FT landscape buffer on both sides of road - Optional parallel parking on one side of the road - Street and sidewalk lighting	
Pedestrian/Bike Facilities:	8-12 FT concrete shared-use path in one direction	
Comments:	Suitable for roads such as State Route 66 through Peach Springs	
Urban Major Arterial		
		
Roadway Context:	- Major roadway linking educational, residential, commercial, and employment land uses - Restricted ROW conditions - Serves regional and local traffic - High amount of pedestrian traffic - Frequent tourist use	
Number of Lanes & Median:	- One 12 FT lane in each direction 10-12 FT two-way center turn lane	
Right-of-Way Width:	70-90 FT	
Street Elements:	3-5 FT landscape buffer on both sides of road - Parallel parking on both sides of road - Street and sidewalk lighting	
Pedestrian/Bike Facilities:	8-12 FT concrete shared-use path in both directions	
Comments:	Suitable for roads such as State Route 66 through Peach Springs	

Safety Features

Based on stakeholder and public input as well as a comprehensive roadway inventory, study area roadways currently have numerous safety issues that require improvement. Key issues identified in Working Paper 1 included: livestock and wildlife entering ROW, paved roadways lack pavement markings, nighttime vision is limited on roadways, and limited street and direction signs to aid in navigation. Table 5.5 provides a summary of potential safety enhancements that could be implemented to enhance safety on study area roadways. Based on evaluation results, Figure 5.2 and Table 5.6 summarize proposed safety improvements.

Table 5.5: Evaluation of Safety Improvements

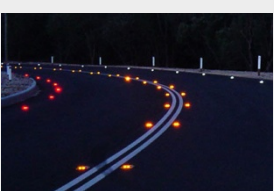
Enhancement	Description	Considerations
Permeable Fencing 	The primary purpose of a fence is to enclose livestock or to exclude or direct livestock/wildlife from entering a road's right-of-way. Woven wire fencing, referred to as "game fencing", is commonly used to enclose sheep pastures. Barbed wire fencing is the most cost-effective fencing material. AZGF recommends a maximum height of 42 inches and the bottom wire to be 18-20 inches off the ground to allow pronghorn and deer fawns to go under. AZGF recommend that fencing be located as far from the road as practicable. In pronghorn sheep habitats a 300 FT buffer is recommended. Additional information is located at: http://www.azgfd.gov/w_c/documents/110125_AGFD_fencing_guidelines.pdf	- According to the AZGF, to be permeable for deer and elk, the top and bottom wires of a barbed wire fence should be barbless. - In Bighorn Sheep habitats, AZGF recommends a three-wire fence no more than 39 inch high, with T-posts spaced 20-25 FT apart and the bottom wire 20 inches off the ground. - To allow deer, pronghorn, and bighorn sheep to cross a fence (not elk or livestock), AZGF suggests a special ladder comprised of two 10 FT vertical wooden posts 20 inches apart.
Funnel/Non Permeable Fencing 	Funnel fencing is installed to prevent wildlife/livestock from crossing high risk areas and guide them to safer crossings (underpass, bridge, and culvert) or to open areas with adequate visibility for motorists to avoid collisions. Additional information is located at: www.azgfd.gov/w_c/documents/110125_AGFD_fencing_guidelines.pdf and www.azdot.gov/docs/default-source/planning/wildlife_funnel_fencing_summary.pdf	- Deer can be excluded, funneled, or directed in a specific direction by use of a woven wire, 8 FT fence. - Pronghorn deer are capable of jumping, but prefer to go under fences; therefore, AZGF recommends a 5 FT, woven wire fence. - In high elk activity areas, AZGF suggests the following types of fencing: Buck and Pole, extended ROW barbed wire extension, 8 FT woven wire fence, or 7 FT braided electric rope fence. - ADOT suggests a 12-20 FT wide rock, rip-rap swath as a fencing alternative to deter elk from crossing the roadway and funneling wildlife into crossing structure.
Road Markers 	Reflective road markers, either raised pavement markers or delineator posts that communicate the road's alignment to motorists. Recessed pavement markers also alert to drivers that they are crossing into the shoulder area or the opposite lane.	- Raised pavement markers are used to supplement standard pavement markings when a higher degree of nighttime visibility is warranted. - Solar powered, LED markers create a highly visible line of light directing motorists at night. - Post mounted delineators can be seen from up to 1,000 FT under normal conditions.
Pavement Markings 	Pavement markings provide important traffic control information to motorists as well as guidance to motorists and pedestrians. Longitudinal rumble strips enhance safety by alerting drivers that their vehicle is leaving the travel lane. Additional information is located at: www.azdot.gov/business/engineering-and-construction/traffic/signing-and-marking-standard-drawings/current	- Recessed striping and rumble strips provide long-term delineation on routinely snow-plowed routes. - Traffic striping requires minimum levels of retroreflectivity.

Table 5.5: Evaluation of Safety Improvements (Continued)

Enhancement	Description	Considerations
Upgrade Signage 	Traffic signs communicate rules, warnings, and guidance to drivers to safely and effectively navigate the roadway system.	• At horizontal curves, installing chevron signs and curve warning signs guide motorists on the road's alignment, particularly during nighttime driving. • A sign technician should review the placement of signs to ensure that the position is visible, particularly at night.
Clear Zones	Unobstructed, traversable roadside area that allows drivers to regain control of their vehicle that has left the travel lane. Clear zones can reduce the severity of crashes and provide a safe recovery area rather than a crash.	• AASHTO provides a range of clear zone width based on speed, traffic, and roadside slope.
Street Lighting 	Street and pedestrian lighting is intended to create a safe, nighttime environment by increasing visibility between pedestrians, motorists, and their surroundings. For motor vehicles, installing street lighting improves driver's visibility and in turn can reduce the risk of traffic accidents and the severity of crashes. Good outdoor lighting can also create and encourage a pedestrian friendly environment by providing extended hours of light to utilize pedestrian facilities.	• Aesthetically, street light poles and fixtures can also create a defining visual characteristic to enhance a community's character. • If not properly designed and installed, however, light pollution caused by street and pedestrian lighting can increase glare for drivers and reduce sky visibility.
Safety Laws, Programs, and Campaigns	Seat belt laws allow law enforcement to ticket drivers and passengers for not wearing seat belts; therefore, creating a deterrent to drivers. Seat belt usage is a proven countermeasure that can reduce crash severity.	

Figure 5.2: Safety Projects

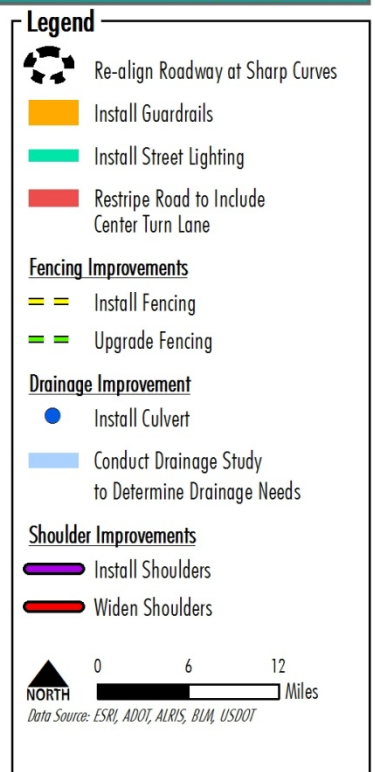
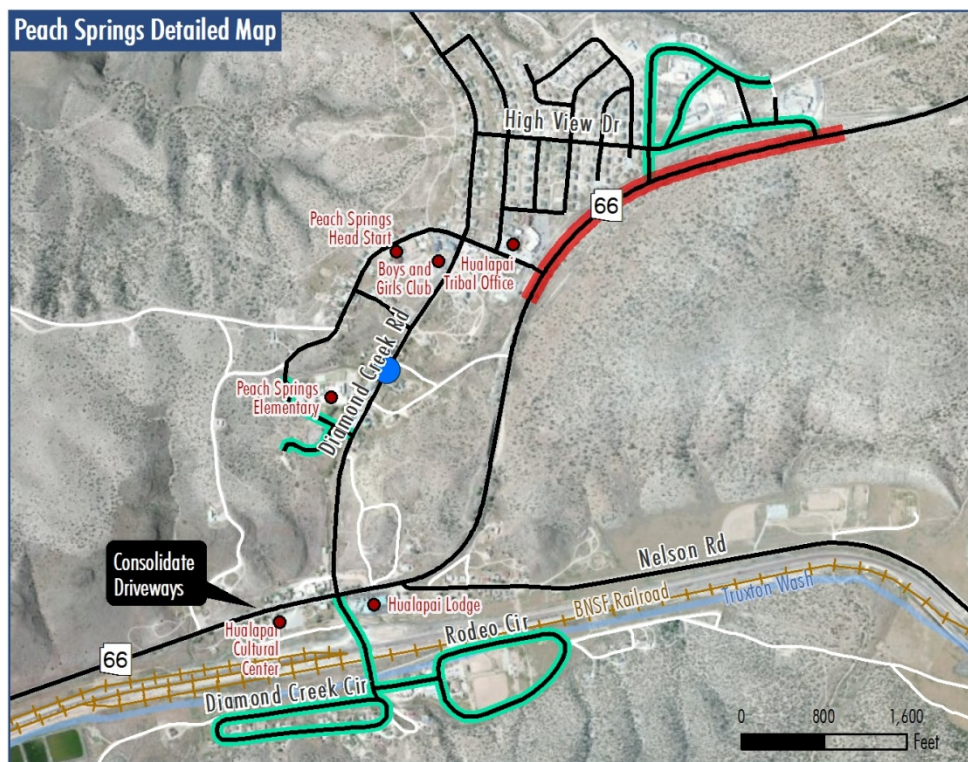
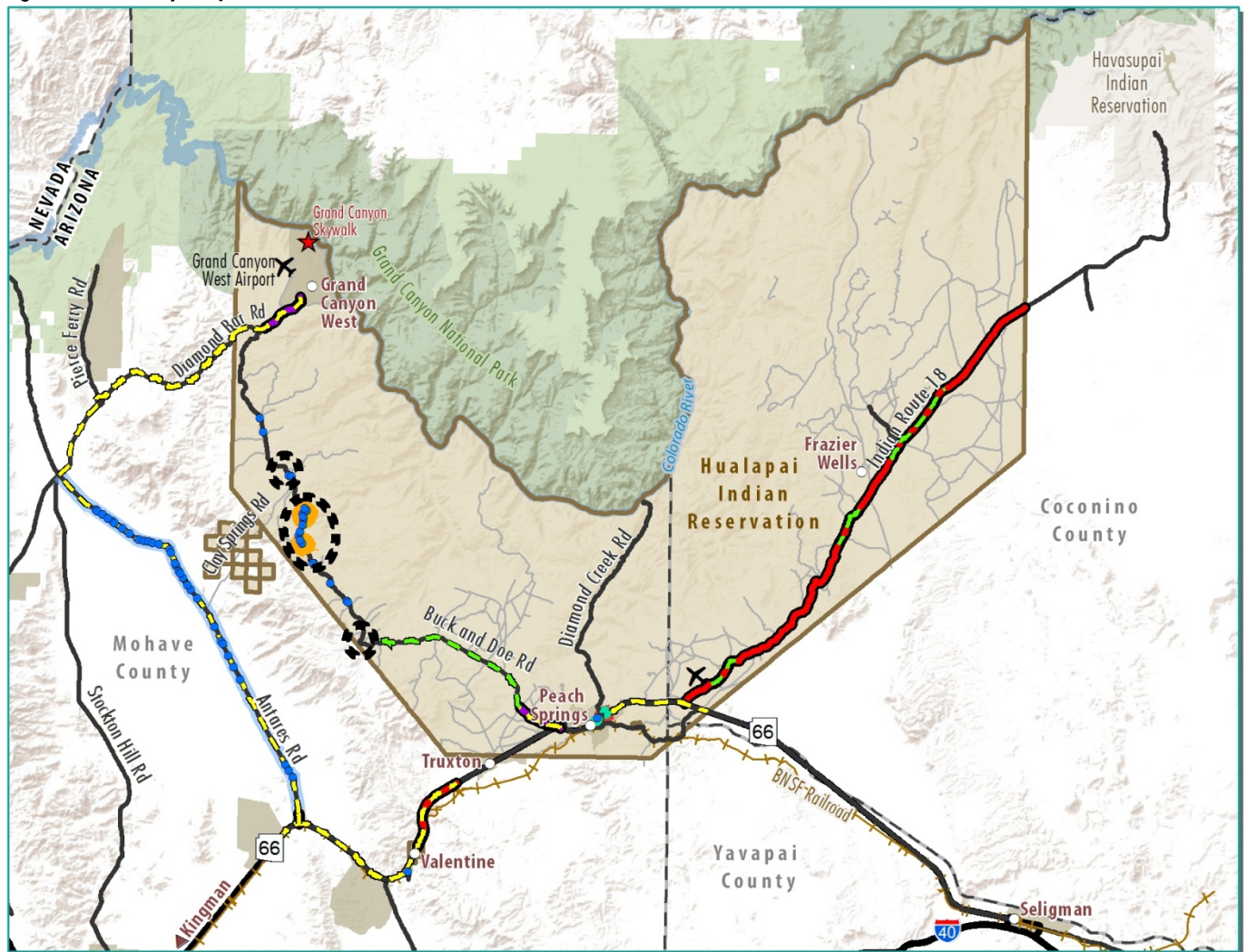


Table 5.6: Evaluation of Safety Projects

On Road	Project Location	Project Description	Length (miles)	Evaluation Criteria																		Cost (2014 dollars)	
				Crash Rate	Crash Severity (EPDO)	Existing AADT	Existing LOS	AADT 2034	LOS 2034	Overall Safety	Alt./Emergency Route	Ped/Bike Safety	Preserves Infrastructure	Multimodal Access	Network Connectivity	Tourist/Economic	Environ./Cultural Resources	Title VI	Construction Feasibility	Cost Effectiveness	ROW Impacts		Project Phase
Roadway Realignment																							
Buck and Doe Road (BIA 1)	Buck and Doe Road (BIA 1): Mud Tank Road to Diamond Bar Road	Realign roadway at sharp curves (MP 17.5 - 18.5; MP 26 - 29; MP 30 - 32; MP 34 - 36)	44.9	22	15	68	A	95	A	H	Y	L	Y	N	Y	H	M	NI	L	L	L	Long	\$51,000,000
Install Center Turn Lane																							
State Route 66	East of Hualapai Way to West of High View Drive	Repave and restripe roadway to include center turn lane	0.57	0	0	1,996	B	2,794	B	H	Y	L	Y	N	N	H	L	NI	H	H	L	Short	\$2,000
Shoulder Improvements																							
State Route 66	MP 86 to MP 86.5	Widen shoulders to 8 FT	0.3	1	1	1,459	B	2,403	B	H	Y	H	Y	Y	N	H	L	Pos	M	H	M	Short	\$160,000
	MP 86.5 to MP 90	Widen shoulders to 8 FT	3.6	23	88	1,459	B	2,403	B	H	Y	H	Y	Y	N	H	L	Pos	H	M	M	Short	\$2,000,000
Buck and Doe Road (BIA 1)	Diamond Bar Road to Grand Canyon West	Add 5 FT unpaved shoulders	3.7	3	6	723	A	1,012	B	H	N	H	Y	Y	Y	H	M	NI	M	H	M	Short	\$250,000
Antares Road	State Route 66 to Pavement Ending	Add 5 FT unpaved shoulders	0.76	1	7	231	A	323	A	H	Y	H	Y	Y	Y	H	M	Pos	H	H	M	Mid	\$200,000
Buck and Doe Road (BIA 1)	State Route 66 to Mud Tank Road	Add 5 FT unpaved shoulders	3.5	7	30	115	A	161	A	H	N	M	Y	Y	Y	H	M	Pos	M	M	M	Mid	\$1,500,000
Supai Road	State Route 66 to MP 20	Add 5 FT unpaved shoulders	20.1	8	32	135	A	189	A	H	N	M	Y	Y	Y	M	M	NI	M	H	M	Mid	\$5,000,000
	MP 20 to Reservation Boundary	Add 5 FT unpaved shoulders	20.0	10	32	135	A	189	A	H	N	M	Y	Y	Y	M	L	NI	H	H	M	Mid	\$5,000,000
Clear Roadside Vegetation																							
Supai Road	MP 17 to MP 40	Clear roadside vegetation to the fence line	23.0	2.5	38	135	A	189	A	H	N	L	Y	N	N	M	M	NI	M	H	L	Short	\$15,000
BIA Route 103 (Valentine)	Sections 10 - 110	Clear roadside vegetation	1.3	0	0	<100	A	<100	A	H	N	M	Y	Y	N	L	L	NI	H	H	L	Short	\$1,200
BIA Route 101 (Peach Springs)	Diamond Creek Road (Section 100 and 280); Hualapai Way (Section 70); High View Drive (Section 110)	Clear roadside vegetation	1.63	1	4	<100	A	<100	A	H	N	H	Y	Y	N	L	L	NI	H	H	L	Short	\$1,000

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★ Route and Section Numbers refer to the BIA TTP roadway inventory route and section numbers.

★ EPDO = Equivalent Property Damage Only value. EPDO is a method for ranking crash locations in terms of crash severity. The higher the EPDO value for a road segment the higher the crash severity. Following EPDO multipliers were used for each crash: Fatal Crash =12; Severe Injury = 7; Minor Injury = 4; Possible Injury = 2; No Injury = 1

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Table 5.6: Evaluation of Safety Projects (Continued)

On Road	Project Location	Project Description	Length (miles)	Evaluation Criteria																		Cost (2014 dollars)	
				Crash Rate	Crash Severity (EPDO)	Existing AADT	Existing LOS	AADT 2034	LOS 2034	Overall Safety	Alt./Emergency Route	Ped/Bike Safety	Preserves Infrastructure	Multimodal Access	Network Connectivity	Tourist/Economic	Environ./Cultural Resources	Title VI	Construction Feasibility	Cost Effectiveness	ROW Impacts		Project Phase
Drainage Improvements																							
BIA Route 9103 (Valentine)	Section 10	Install "Do Not Enter When Flooded" sign	0.4	0	0	<100	A	<100	A	H	Y	L	N	N	N	L	L	NI	H	H	L	Short	\$500
BIA Route 8000 (Valentine Cemetery Road)	State Route 66 to Valentine Cemetery	Install "Do Not Enter When Flooded" sign	0.9	0	0	<100	A	<100	A	H	N	L	N	N	N	L	L	NI	H	H	L	Short	\$500
Diamond Creek Road	Diamond Creek Road: Pavement Ending to Colorado River	Install "Do Not Enter When Flooded" sign	19.0	5	26	<100	A	<100	A	H	N	L	N	N	N	H	L	NI	H	H	L	Short	\$500
Antares Road	Pavement Ending to Pierce Ferry Road	Conduct a drainage study to assess roadway to determine water flow patterns and possible culvert locations.	31.5	11	20	38	A	53	A	H	Y	L	Y	Y	Y	H	L	NI	H	H	L	Short	\$35,000
Buck and Doe Road (BIA 1)	Mud Tank Road to Diamond Bar Road	Install 22 culverts	44.9	28	83	76	A	95	A	H	N	L	Y	N	N	M	L	NI	M	H	L	Mid	\$350,000
Antares Road	Pavement Ending to Pierce Ferry Road	Install drainage improvement recommended in the drainage study	31.6	11	20	38	A	53	A	H	Y	L	N	Y	Y	H	M	NI	L	L	L	Long	-
BIA Route 8000 (Valentine Cemetery Road)	State Route 66 to Valentine Cemetery	Buildup roadway and install culvert (1) at Truxton Wash	0.9	0	0	<100	A	<100	A	H	N	L	Y	N	N	L	L	NI	L	L	L	Long	\$120,000
Roadside Fencing																							
Buck and Doe Road (BIA 1)	State Route 66 to Mud Tank Road	Install roadside fencing to ADOT/AZGF standards	3.5	7	30	115	A	3,185	B	H	N	L	Y	N	N	H	M	NI	M	H	L	Short	\$450,000
	Diamond Bar Road to Grand Canyon West	Install roadside fencing to ADOT/AZGF standards	3.7	3	6	723	A	1,012	B	H	N	L	Y	N	N	H	M	NI	M	H	L	Short	\$470,000
Diamond Bar Road	Pierce Ferry Road to Hualapai Indian Reservation	Install roadside fencing to ADOT/AZGF standards	14.0	63	130	785	A	1,099	B	H	N	L	Y	N	N	H	M	NI	M	H	L	Short	\$1,800,000
	Hualapai Indian Reservation to Buck and Doe Road	Install roadside fencing to ADOT/AZGF standards	2.4	8	32	135	A	189	A	H	N	L	Y	N	N	H	M	NI	M	H	L	Short	\$305,000

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Table 5.6: Evaluation of Safety Projects (Continued)

On Road	Project Location	Project Description	Length (miles)	Evaluation Criteria																		Cost (2014 dollars)	
				Crash Rate	Crash Severity (EPDO)	Existing AADT	Existing LOS	AADT 2034	LOS 2034	Overall Safety	Alt./Emergency Route	Ped/Bike Safety	Preserves Infrastructure	Multimodal Access	Network Connectivity	Tourist/Economic	Environ./Cultural Resources	Title VI	Construction Feasibility	Cost Effectiveness	ROW Impacts		Project Phase
Supai Road	MP 2.5 to MP 5.5	Upgrade existing roadside fencing to ADOT/AZGF standards	3.0	4.1	9	135	A	189	A	H	N	L	Y	N	N	M	M	NI	M	H	L	Short	\$375,000
	MP 17.5 to MP 20.5	Upgrade existing roadside fencing to ADOT/AZGF standards	3.0	6.8	11	135	A	189	A	H	N	L	Y	N	N	M	M	NI	M	H	L	Short	\$375,000
	MP 25.5 to MP 31.5	Upgrade existing roadside fencing to ADOT/AZGF standards	6.0	2.7	16	135	A	189	A	H	N	L	Y	N	N	M	M	NI	M	H	L	Short	\$750,000
Pierce Ferry Road	Antares Road to Diamond Bar Road	Install roadside fencing to ADOT/AZGF standards	6.6	29	63	1,447	B	2,026	B	H	N	L	Y	N	N	H	M	NI	H	H	L	Short	\$840,000
State Route 66	MP 71 to MP 84	Install roadside fencing to ADOT/AZGF standards	12.9	41	134	1,625	B	2,275	B	H	N	L	Y	N	N	H	M	NI	H	H	L	Short	\$1,600,000
	MP 86.5 to Western Reservation Boundary	Install roadside fencing to ADOT/AZGF standards	9.7	41	144	1,459	B	2,403	B	H	N	L	Y	N	N	H	M	NI	M	H	L	Short	\$1,300,000
	MP 105 to Eastern Reservation Boundary	Install roadside fencing to ADOT/AZGF standards	7.4	21	60	1,760	B	2,464	B	H	N	L	Y	N	N	H	L	NI	H	H	L	Short	\$950,000
	Eastern Reservation Boundary to Seligman	Install roadside fencing to ADOT/AZGF standards	27.2	12	7	905	A	1,267	A	H	Y	L	Y	N	N	H	L	NI	H	H	L	Short	\$3,500,000
Buck and Doe Road (BIA 1)	MP 4 to MP 17	Install roadside fencing to ADOT/AZGF standards	13.0	14	57	68	A	95	A	H	N	L	Y	N	N	M	M	NI	L	M	L	Mid	\$375,000
Antares Road	State Route 66 to Pavement Ending	Install roadside fencing to ADOT/AZGF standards	0.76	1	7	231	A	323	A	H	Y	L	Y	N	N	H	M	NI	M	H	L	Mid	\$100,000
	Pavement Ending to Pierce Ferry Road	Install roadside fencing to ADOT/AZGF standards	31.6	11	20	38	A	53	A	H	Y	L	Y	N	N	H	M	NI	H	M	L	Mid	\$4,000,000
Street Lighting																							
State Route 66	MP 85.2 to MP 85.5	Install street lighting	0.3	2	4	1,459	B	2,403	B	H	Y	H	Y	N	N	H	L	NI	H	M	L	Short	\$40,000
BIA Route 101 (Peach Springs)	Sections 30, 50, 70, 100, 120, 200 - 220, 260 - 290	Install street lighting	4.5	1	4	<100	A	<100	A	H	N	H	Y	Y	N	L	L	Pos	M	M	L	Short	\$520,000
Buck and Doe Road (BIA 1)	State Route 66 to Mud Tank Road	Install street lighting	3.5	7	30	115	A	3,185	B	H	N	H	Y	Y	Y	H	L	Pos	M	M	L	Short	\$400,000

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Table 5.6: Evaluation of Safety Projects (Continued)

On Road	Project Location	Project Description	Length (miles)	Evaluation Criteria																		Project Phase	Cost (2014 dollars)
				Crash Rate	Crash Severity (EPDO)	Existing AADT	Existing LOS	AADT 2034	LOS 2034	Overall Safety	Alt./Emergency Route	Ped/Bike Safety	Preserves Infrastructure	Multimodal Access	Network Connectivity	Tourist/Economic	Environ./Cultural Resources	Title VI	Construction Feasibility	Cost Effectiveness	ROW Impacts		
Antares Road	State Route 66 to Pavement Ending	Install street lighting <i>Technical analysis does not warrant installing street lighting; however, stakeholders and public expressed need for street lighting to improve safety.</i>	0.76	1	7	231	A	323	A	H	Y	H	Y	Y	N	H	L	Pos	M	M	L	Short	\$80,000
BIA Route 104	Section 40 and Section 50	Install street lighting	0.6	0	0	<100	A	<100	A	H	N	H	Y	Y	N	M	L	Pos	M	M	L	Short	\$80,000
Additional Roadside Safety Features																							
Supai Road	State Route 66 to MP 20	Install recessed reflective pavement markers	20.1	8	32	135	A	189	A	H	N	L	Y	N	N	M	L	NI	H	H	L	Short	\$15,000
	MP 20 to Hualapai Indian Reservation Boundary	Install recessed reflective pavement markers	20.0	10	32	135	A	189	A	H	N	L	Y	N	N	M	L	NI	H	H	L	Short	\$15,000
Buck and Doe Road (BIA 1)	MP 17.5 - 18.5; MP 26 - 29; MP 30 - 32; MP 34 - 36	Install guardrails along sharp curves	8.5	2	5	68	A	95	A	H	N	L	Y	N	N	M	L	NI	H	H	L	Short	\$10,300
	Diamond Bar Road to Grand Canyon West	Install recessed reflective pavement markers	3.7	3	6	723	A	1,012	B	H	N	L	Y	N	N	H	L	NI	H	H	L	Short	\$2,500
Pierce Ferry Road	Antares Road to Diamond Bar Road	Install recessed reflective pavement markers	6.6	29	63	1,447	B	2,026	B	H	N	L	Y	N	N	H	L	NI	H	H	L	Short	\$5,000
Diamond Bar Road	Pierce Ferry Road to Hualapai Indian Reservation	Install recessed reflective pavement markers	14.0	63	130	785	A	1,099	B	H	N	L	Y	N	N	H	L	NI	H	H	L	Short	\$10,000
	Hualapai Indian Reservation to Buck and Doe Road	Install recessed reflective pavement markers	2.4	8	12	1,447	A	2,026	B	H	N	L	Y	N	N	H	L	NI	H	H	L	Short	\$10,000
State Route 66	MP 71 to MP 84	Install recessed reflective pavement markers	12.9	41	134	1,625	B	2,275	B	H	Y	L	Y	N	N	H	L	NI	H	H	L	Short	\$10,000
		Clean roadside clear zones	12.9	41	134	1,625	B	2,275	B	H	Y	L	Y	Y	N	H	L	NI	H	H	L	Short	\$13,000
BIA Route 8000 (Valentine Cemetery Road)	State Route 66 to Valentine Cemetery	Replace and widen cattle guards (2)	0.9	0	0	<100	A	<100	A	H	N	L	Y	N	N	L	L	NI	L	M	L	Mid	\$8,000

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Table 5.6: Evaluation of Safety Projects (Continued)

On Road	Project Location	Project Description	Length (miles)	Evaluation Criteria																			Cost (2014 dollars)
				Crash Rate	Crash Severity (EPDO)	Existing AADT	Existing LOS	AADT 2034	LOS 2034	Overall Safety	Alt./Emergency Route	Ped/Bike Safety	Preserves Infrastructure	Multimodal Access	Network Connectivity	Tourist/Economic	Environ./Cultural Resources	Title VI	Construction Feasibility	Cost Effectiveness	ROW Impacts	Project Phase	
State Route 66	MP 84 to MP 86.5	Install recessed reflective pavement markers	2.4	8	20	1,459	B	2,403	B	H	Y	L	Y	N	N	H	L	NI	H	H	L	Short	\$1,800
	MP 86.5 to Western Reservation Boundary	Install recessed reflective pavement markers	9.7	41	144	1,459	B	2,403	B	H	Y	L	Y	N	N	H	L	NI	H	H	L	Short	\$8,000
	Western Reservation Boundary to MP 101	Install recessed reflective pavement markers	4.9	15	91	1,760	B	2,464	B	H	Y	L	Y	N	N	H	L	NI	H	H	L	Short	\$4,000
	MP 101 to MP 103	Install recessed reflective pavement markers	2.0	10	28	2,275	B	3,185	B	H	Y	L	Y	N	N	H	L	NI	H	H	L	Short	\$2,000
	MP 103 to Diamond Creek Road	Install recessed reflective pavement markers	0.4	6	18	2,275	B	3,185	B	H	Y	L	Y	N	N	H	L	NI	H	H	L	Short	\$500
	Diamond Creek Road to MP 105	Install recessed reflective pavement markers	1.6	10	31	1,996	B	2,794	B	H	Y	L	Y	N	N	H	L	NI	H	H	L	Short	\$1,200
	Diamond Creek Road to Nelson Road	Upgrade street lighting, install wayfinding signs, enhance landscaping	0.12	1	4	1,996	B	2,794	B	H	Y	H	Y	Y	Y	H	L	Pos	H	H	L	Short	\$75,000
	MP 105 to Eastern Reservation Boundary	Install recessed reflective pavement markers	7.4	21	60	1,760	B	2,464	B	H	Y	L	Y	N	N	H	L	NI	H	H	L	Short	\$6,000
	Eastern Reservation Boundary to Seligman	Install recessed reflective pavement markers	27.2	12	7	905	A	1,267	A	H	Y	L	Y	N	N	H	L	NI	H	H	L	Short	\$20,000
State Route 66	Honga Hill Road to Diamond Creek Road	Consolidate driveways to the Cultural Center, Post Office, and Planning Department	0.25	1	4	2,275	B	3,185	B	H	Y	M	Y	N	N	H	L	NI	M	H	L	Mid	\$300,000
Signage																							
BIA Route 101 (Peach Springs)	Diamond Creek Road (Section 100 and 280); Hualapai Way (Section 70); High View Drive (Section 110)	Install Street Name and Wayfiding Signs	-	1	4	<100	A	<100	A	H	N	H	Y	Y	N	H	L	NI	H	H	L	Short	\$3,000
	Sections 20, 40-60, 90, 110, 130-190, 210-270	Install Street Name and Wayfiding Signs	-	0	0	<100	A	<100	A	H	N	H	Y	Y	N	H	L	NI	H	H	L	Short	\$10,000

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- ★ Route and Section Numbers refer to the BIA TTP roadway inventory route and section numbers.
- ★ EPDO = Equivalent Property Damage Only value. EPDO is a method for ranking crash locations in terms of crash severity. The higher the EPDO value for a road segment the higher the crash severity. Following EPDO multipliers were used for each crash: Fatal Crash =12; Severe Injury = 7; Minor Injury = 4; Possible Injury = 2; No Injury = 1
- ★ Title VI Implications: NI= No Impact; Pos. = Positive Impact; Neg. = Negative Impact



Table 5.6: Evaluation of Safety Projects (Continued)

On Road	Project Location	Project Description	Length (miles)	Evaluation Criteria																		Cost (2014 dollars)	
				Crash Rate	Crash Severity (EPDO)	Existing AADT	Existing LOS	AADT 2034	LOS 2034	Overall Safety	Alt./Emergency Route	Ped/Bike Safety	Preserves Infrastructure	Multimodal Access	Network Connectivity	Tourist/Economic	Environ./Cultural Resources	Title VI	Construction Feasibility	Cost Effectiveness	ROW Impacts		Project Phase
Buck and Doe Road (BIA 1)	State Route 66 to Mud Tank Road	Install Animal Crossing Warning Signs	-	7	30	115	A	161	A	H	N	L	Y	N	N	H	L	NI	H	H	L	Short	\$4,000
	Buck and Doe Road (BIA 1) / Mud Tank Road Intersection	Install Road Conditions Warning Signs	-	0	0	115	A	161	A	H	N	L	Y	N	N	M	L	NI	H	H	L	Short	\$500
	Mud Tank Road to Diamond Bar Road	Install Animal Crossing Warning Signs	-	28	76	68	A	95	A	H	N	L	Y	N	N	M	L	NI	H	H	L	Short	\$15,000
	MP 17 - MP 20	Install Curve Warning Signs	-	0	0	68	A	95	A	H	N	L	Y	N	N	M	L	NI	H	H	L	Short	\$2,000
	MP 26 - MP 29	Install Curve Warning Signs	-	0	0	68	A	95	A	H	N	L	Y	N	N	M	L	NI	H	H	L	Short	\$2,000
	MP 17 - MP 20	Install Curve Warning Signs	-	0	0	68	A	95	A	H	N	L	Y	N	N	M	L	NI	H	H	L	Short	\$2,000
	MP 26 - MP 29	Install Curve Warning Signs	-	2	5	68	A	95	A	H	N	L	Y	N	N	M	L	NI	H	H	L	Short	\$2,000
	Buck and Doe Road (BIA 1) / Diamond Bar Road Intersection	Install Road Conditions Warning Signs	-	1	1	68	A	95	A	H	N	L	Y	N	N	M	L	NI	H	H	L	Short	\$500
	Diamond Bar Road to Grand Canyon West	Install Curve Warning Signs	-	3	6	723	A	1,012	B	H	N	L	Y	N	N	H	L	NI	H	H	L	Short	\$5,000
Antares Road	Antares Road/Pavement Ending Intersection	Supplement existing W11-4 (Advance Cattle Crossing) signs at MPs 3.64 SB, 8.51 NB, 12.08 NB, and 31.66 SB	-	0	0	38	A	53	A	H	Y	L	Y	N	N	H	L	NI	H	H	L	Short	\$31,000
Pierce Ferry Road	Antares Road to Diamond Bar Road	Supplement existing Curve Warning Signs	-	29	63	1,447	B	2,026	B	H	N	L	Y	N	N	H	L	NI	H	H	L	Short	\$6,000
		Supplement existing W11-4 (Advance Cattle Crossing) sign at MP 22.94 SB	-	29	63	1,447	B	2,026	B	H	N	L	Y	N	N	H	L	NI	H	H	L	Short	\$6,000
		Install wayfinding signs for tourists	-	29	63	1,447	B	2,026	B	H	N	L	Y	Y	N	H	L	NI	H	H	L	Short	\$8,000

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- ★ Route and Section Numbers refer to the BIA TTP roadway inventory route and section numbers.
- ★ EPDO = Equivalent Property Damage Only value. EPDO is a method for ranking crash locations in terms of crash severity. The higher the EPDO value for a road segment the higher the crash severity. Following EPDO multipliers were used for each crash: Fatal Crash =12; Severe Injury = 7; Minor Injury = 4; Possible Injury = 2; No Injury = 1
- ★ Title VI Implications: NI= No Impact; Pos. = Positive Impact; Neg. = Negative Impact



Table 5.6: Evaluation of Safety Projects (Continued)

On Road	Project Location	Project Description	Length (miles)	Evaluation Criteria																	Cost (2014 dollars)		
				Crash Rate	Crash Severity (EPDO)	Existing AADT	Existing LOS	AADT 2034	LOS 2034	Overall Safety	Alt./Emergency Route	Ped/Bike Safety	Preserves Infrastructure	Multimodal Access	Network Connectivity	Tourist/Economic	Environ./Cultural Resources	Title VI	Construction Feasibility	Cost Effectiveness		ROW Impacts	Project Phase
Diamond Bar Road	Pierce Ferry Road to Hualapai Indian Reservation	Install wayfinding signs for tourists	-	63	130	785	A	1,099	B	H	N	L	Y	Y	Y	H	L	NI	H	H	L	Short	\$18,000
		Supplement existing Curve Warning Signs	-	63	130	785	A	1,099	B	H	N	L	Y	N	N	H	L	NI	H	H	L	Short	\$12,000
		Supplement existing Animal Crossing Warning Signs	-	63	130	785	A	1,099	B	H	N	L	Y	N	N	H	L	NI	H	H	L	Short	\$16,000
	Hualapai Indian Reservation to Buck and Doe Road	Install wayfinding signs for tourists	-	8	12	1,447	A	2,026	B	H	N	L	Y	Y	Y	H	L	NI	H	H	L	Short	\$1,500
		Supplement existing Curve Warning Signs	-	8	12	1,447	A	2,026	B	H	N	L	Y	N	N	H	L	NI	H	H	L	Short	\$5,000
		Supplement existing Animal Crossing Warning Signs	-	8	12	1,447	A	2,026	B	H	N	L	Y	N	N	H	L	NI	H	H	L	Short	\$10,000
Supai Road	State Route 66 to MP 20	Install Street Name and Wayfinding Signs	-	8	32	135	A	189	A	H	N	L	Y	Y	Y	M	L	NI	H	H	L	Short	\$2,000
		Install Animal Crossing Warning Signs	-	8	32	135	A	189	A	H	N	L	Y	N	N	M	L	NI	H	H	L	Short	\$4,000
		Signage Inventory	-	8	32	135	A	189	A	H	N	L	Y	N	N	M	L	NI	H	H	L	Short	\$15,000
	MP 13 to MP 15	Install Curve Warning Signs	-	1	4	135	A	189	A	H	N	L	Y	N	N	M	L	NI	H	H	L	Short	\$1,000
		Install Curve Warning Signs	-	1	4	135	A	189	A	H	N	L	Y	N	N	M	L	NI	H	H	L	Short	\$2,500
	MP 20 to Hualapai Indian Reservation Boundary	Install Street Name and Wayfinding Signs	-	10	32	135	A	189	A	H	N	L	Y	Y	Y	M	L	NI	H	H	L	Short	\$2,000
		Install Animal Crossing Warning Signs	-	10	32	135	A	189	A	H	N	L	Y	N	N	M	L	NI	H	H	L	Short	\$4,000
		Signage Inventory	-	10	32	135	A	189	A	H	N	L	Y	N	N	M	L	NI	H	H	L	Short	\$15,000
Nelson Road	Lhoist Lime Plant to State Route 66	Install Hill Warning Signage	-	1	7	367	A	514	A	H	N	L	Y	N	N	M	L	NI	H	H	L	Short	\$2,500
BIA Route 101 (Peach Springs)	Shandy Lane (Sections 50 and 30); BIA Lane (Section 200)	Install Street Name and Wayfinding Signs	-	0	0	<100	A	<100	A	H	N	H	Y	Y	N	L	L	Pos	M	H	L	Mid	\$20,000

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★ EPDO = Equivalent Property Damage Only value. EPDO is a method for ranking crash locations in terms of crash severity. The higher the EPDO value for a road segment the higher the crash severity. Following EPDO multipliers were used for each crash: Fatal Crash =12; Severe Injury = 7; Minor Injury = 4; Possible Injury = 2; No Injury = 1

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Railroad Crossings

Railroad crossing improvements can range from low-cost signage installation to major rail and road reconstruction projects. Table 5.7 provides a summary of potential enhancement options that can be utilized in the study area to improve railroad crossings. Based on a comprehensive inventory of at-grade crossing and evaluation of potential improvements to the crossings, Table 5.8 summarizes proposed safety improvements.

Table 5.7: Railroad Crossing Improvement Options

Railroad Crossing Improvement	Description	Considerations
Pedestrian Grade Separated Crossing 	A bicycle or pedestrian crossing structure, typically either an underpass or a bridge, which allows access across a railroad track.	• Can be expensive and difficult to implement. • Pedestrians may still cross tracks.
Flashing Light Signal 	Flashing signs that are placed to warn drivers of approaching railroad crossing. Warns drivers and pedestrians of oncoming train.	• May be disruptive to nearby residential areas at night.
Active Traffic Control Device 	Active traffic control devices are activated by the passage of a train over a detection circuit as it approaches a crossing. Active traffic control devices include flashing light signals (both mast-mounted and cantilevered), bells, automatic gates, active advance warning devices, and highway traffic signals.	• High installation costs. • Pedestrians and motorists may ignore warning devices.
Quiet Zones 	Stretch of track that trains are not required to routinely sound the horn at each public crossing, except in emergencies.	• To qualify, traffic control device upgrades must be installed.
Over or Underpass 	Grade-separated railroad crossings include a bridge, tunnel, or similar structure that allows motorists to safely cross a railroad.	• High construction costs and on-going maintenance. • Underpasses may result in restricted horizontal or vertical clearance, have drainage concerns, and may restrict expansion of the railroad line.

Table 5.8: Evaluation of At-Grade Railroad Projects

On Road	Project Location	Project Description	Evaluation Criteria																		Cost (2014 dollars)	
			Crash Rate	Crash Severity (EPDO)	Existing AADT	Existing LOS	AADT 2034	LOS 2034	Overall Safety	Alt./Emergency Route	Ped/Bike Safety	Preserves Infrastructure	Multimodal Access	Network Connectivity	Tourist/Economic	Environ./Cultural Resources	Title VI	Construction Feasibility	Cost Effectiveness	ROW Impacts		Project Phase
BIA Route 8000 (Valentine Cemetery Road)	Valentine Cemetery Road/ BNSF Railroad Crossing	Install crossbucks	0	0	<100	A	<100	A	H	N	L	Y	N	N	L	L	NI	H	H	L	Short	\$1,500
		Coordinate with BNSF to conduct an at-grade crossing safety assessment to determine necessary improvements							H	N	L	Y	N	N	L	L	NI	H	H	L	Short	\$8,000
BIA Route 103 (Valentine)	Section 70 and 80/ BNSF Railroad Crossing	Coordinate with BNSF to conduct an at-grade crossing safety assessment to determine necessary improvements	0	0	<100	A	<100	A	H	N	L	Y	N	N	L	L	NI	H	H	L	Short	\$8,000
		Install "Look" and "Yield" sign at crossing							H	N	L	Y	N	N	L	L	NI	H	H	L	Short	\$1,000
BIA Route 101 (Peach Springs)	Diamond Creek Road/ BNSF Rail road Crossing	Coordinate with BNSF to conduct an at-grade crossing safety assessment to determine necessary improvements	0	0	1,008	A	1,411	A	H	N	L	Y	N	N	H	L	NI	H	H	L	Short	\$8,000
		Restripe roadway to include stop line and pavement marking symbols							H	N	L	Y	N	N	H	L	NI	H	H	L	Short	\$1,500
BIA Route 103 (Valentine)	Section 70 and 80/ BNSF Railroad Crossing	Coordinate with BNSF to level and widen roadway; install gates; and flashing lights	0.2	0	<100	A	<100	A	H	N	H	N	Y	Y	L	L	Pos	L	M	M	Mid	\$800
	Section 70 and 80/ BNSF Railroad Crossing	Establish Quiet Zone through Valentine Community							L	N	L	Y	N	N	L	L	Pos	M	M	L	Mid	\$5,000
BIA Route 101 (Peach Springs)	Diamond Creek Road/ BNSF Rail road Crossing	Establish Quiet Zone through Peach Springs Community	0.2	0	1,008	A	1,411	A	L	N	L	Y	N	N	H	L	Pos	M	M	L	Mid	\$8,000
BIA Route 101 (Peach Springs)	Diamond Creek Road/ BNSF Rail road Crossing	Option 1: Replace current at-grade crossing with new 500 FT overpass	0.2	0	1,008	A	1,411	A	H	N	M	N	Y	Y	H	M	NI	L	L	M	Long	\$3,700,000
		Option 2: Extend Rodeo Way to State Route 66 with a new 450 FT railroad overpass							H	N	M	N	Y	Y	H	M	NI	L	L	M	Long	\$3,800,000
		Option 3: Realign Rodeo Circle to connect to Nelson Road with a new 250 FT railroad overpass							H	N	M	N	Y	Y	H	M	NI	L	L	M	Long	\$2,200,000
		Option 4: Construct new railroad underpass west of existing at-grade crossing							H	N	M	N	Y	Y	H	M	NI	L	L	M	Long	\$6,000,000

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* Route and Section Numbers refer to the BIA TTP roadway inventory route and section numbers.

* EPDO = Equivalent Property Damage Only value. EPDO is a method for ranking crash locations in terms of crash severity. The higher the EPDO value for a road segment the higher the crash severity. Following EPDO multipliers were used for each crash: Fatal Crash =12; Severe Injury = 7; Minor Injury = 4; Possible Injury = 2; No Injury = 1

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Diamond Creek Road (BIA 101)/BNSF Railroad Alternative Crossing

As the only access point to the south side of Peach Springs, community members and emergency vehicles are often restricted from crossing the BNSF railroad when a train is stopped at the crossing for an extended period of time. In order to improve connectivity within Peach Springs, an alternative railroad crossing needs to be constructed. Table 5.9 presents a summary of preliminary alternative options. Potential funding sources to implement safety improvements at railroad crossings include the TIGER Discretionary Grant program, Federal Railroad Administration (FRA) grant programs, and the Railway-Highways Crossing (Section 130) Program. Additional funding source information can be found in Chapter 9.

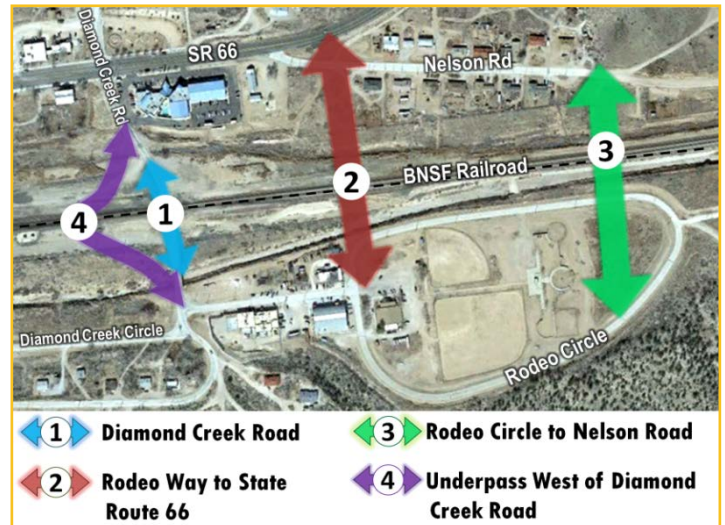


Table 5.9: Evaluation of Railroad Crossing Options at Diamond Creek Road

Option	Description	Considerations	Approximate Cost
1- Diamond Creek Road	Replace current at-grade crossing with new 500 FT overpass	Construction will obstruct the crossing and limit connectivity	\$3.7 million
2- Rodeo Way to State Route 66	Extend Rodeo Way to State Route 66 with a new 450 FT railroad overpass	Will increase traffic at Nelson Road/State Route 66 intersection	\$3.8 million
3- Rodeo Way to Nelson Road	Realign Rodeo Circle to connect to Nelson Road with a new 250 FT railroad overpass	Nelson Road will need to be upgraded to accommodate increased traffic	\$2.2 million
4- Underpass	Construct underpass west of the existing at-grade railroad crossing	Additional expense to pump storm water may be needed	\$6.0 million

Bridge Improvements

Proposed bridge improvement projects were developed based on input received by stakeholders, review of existing conditions, and sufficiency ratings obtained from ADOT's bridge inventory. Bridge #141, located on State Route 66 at milepost 91.6, is structurally deficient and is currently being rehabilitated. For bridges and culverts maintained by BIA and the Hualapai Indian Tribe, a comprehensive inventory was conducted to identify bridges that are in need repair or maintenance. Table 5.10 summarizes bridge improvement projects.

Table 5.10: Evaluation of Bridge Improvement Projects

On Road	Project Location	Project Description	Length (miles)	Evaluation Criteria																	Cost (2014 dollars)	
				Crash Severity (EPDO)	Existing AADT	Existing LOS	AADT 2034	Future LOS	Overall Safety	Alt./Emergency Route	Ped/Bike Safety	Preserves Infrastructure	Multimodal Access	Network Connectivity	Tourist/Economic	Environ./Cultural Resources	Title VI	Construction Feasibility	Cost Effectiveness	ROW Impacts		Phase
Buck and Doe Road (BIA 1)	BIA Route 1, Section 22 (~MP 15.5)	Clear vegetation and cleanout bridge	0	0	68	A	95	A	H	N	L	Y	Y	N	M	L	NI	H	H	L	Short	\$5,000
	BIA Route 1, Section 27 (~MP 17.8)	Clear vegetation and cleanout bridge																				\$5,000
	BIA Route 1, Section 30 (~MP 18.2)	Clear vegetation and cleanout bridge																				\$5,000
	BIA Route 1, Section 52 (~MP 19.9)	Clear vegetation and cleanout bridge																				\$5,000
State Route 66	Bridge #141 (MP 91.6)	Bridge Rehabilitation	1	0	1,459	B	2,403	B	H	Y	L	Y	N	N	H	L	NI	M	M	L	Short	*Currently Under Construction
Antares Road	Pavement Ending to Pierce Ferry Road	Construct bridge over Truxton Wash	32	11	20	A	53	A	H	Y	L	N	Y	Y	H	M	NI	L	L	L	Long	\$2,000,000
BIA Route 101 (Peach Springs)	Truxton Wash Bridge (Section 290)	Widen bridge	0	0	1,008	A	1,411	A	H	N	L	N	Y	Y	H	M	Pos	L	L	L	Long	\$700,000

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Traffic Calming Measures

As identified in Chapter 4, travel speeds through the study area are generally much greater than actual posted speed limits. Traffic calming measures are often utilized to improve safety by encouraging motorists to reduce traveling speeds. Traffic calming is a self-enforcing traffic management approach that forces motorists to alter their speed or direction of travel. Research has found that installing traffic calming devices not only reduces automobile speeds but also the number and severity of crashes. Traffic calming devices can range from options that require no physical roadway modifications to major roadway alterations, such as roadway closures. Table 5.11 provides a summary of potential roadway enhancements that can be utilized in the study area to reduce traveling speeds. Based on evaluation results, Figure 5.3 and Table 5.12 summarize traffic calming improvements in the study area.

Table 5.11: Traffic Calming Options

Traffic Calming Device	Description	Advantages	Considerations
In-Road/On-Road Rumble Strips 	Grooves or raised markers placed in/on the roadway surface that transmits sound and vibration to alert drivers to changing conditions.	• Low installation costs • Do not require any additional ROW	• Noise and vibration created by the rumble strips may affect the adjacent residences • Can interfere with snow plow operations
Speed Limit Pavement Markings 	Highly visible in-pavement markings, which are also visible at night, alerting drivers of speed limit.	• Inexpensive installation costs • Can be quickly installed	• Easily wears off and requires regular maintenance • Not visible on snow covered roads
Speed Hump or Table 	Raised pavement section requires motorists to drive at a reduced speed over an undulation.	• Speed reduction • Relatively inexpensive installation costs	• Increased roadway noise • Increased maintenance costs • Requires highly visible warning signage • May slow emergency vehicle response times • Can interfere with snow plow operations
Transverse Lane Markings 	Pavement markings spaced to give drivers the perception that they are speeding up. This gives a driver the perception of going too fast or speeding up and encourages them to reduce their speed.	• Low cost to install • Cost-effective • Do not affect vehicle operation, pedestrians, or bicyclists	• Additional maintenance costs • Less effective in winter conditions

Table 5.11. Traffic Calming Options (Continued)

Traffic Calming Device	Description	Advantages	Considerations
Traffic Islands and Medians 	Concrete or landscaped islands typically located down the center of a roadway or at a roadway entrance.	• Provides a mid-block pedestrian refuge • Can improve the aesthetics of a roadway	• May restrict access to driveways in one direction
Roundabout or Traffic Circle 	Roundabouts require traffic to circulate counterclockwise around a center island at an intersection. Traffic circles are small islands placed in intersections, in which vehicles must slow down in order to navigate the circle.	• Roundabout can moderate traffic speeds on arterial roadways • Less expensive than operating a traffic signal • Provides landscaping opportunities	• May require additional ROW to construct • Emergency vehicles and large trucks may have difficulty navigating
Dynamic Speed Displays 	Radar activated signs relay a vehicle's speed or displays messages such as "Slow Down" or "Reduce Speed".	• Do not affect vehicle operation, pedestrians, or bicyclists • Can be quickly implemented	• High cost to purchase • Require regular maintenance and a power source • May encourage some drivers to speed • Speed radar trailers are portable devices that can be moved as needed
HAWK Pedestrian Beacon 	Pushbutton-activated, signalized, mid-block pedestrian crossing signal. The pedestrian hybrid beacon is used to warn and control traffic to assist pedestrians in crossing a street at a marked crosswalk.	• Provides a "red" condition which requires vehicles to stop for pedestrians • Improves visibility of crossing and pedestrians	• High installation and maintenance costs
Community Gateways 	Gateway signs indicate to motorists that they are leaving a rural area and entering a city or town with increased pedestrian and motor vehicle traffic. Gateways should be placed in speed transition zones where a gradual reduction of speed is desired.	• Enhances streetscape • Personalized to reflect community	• May infringe on clear zones • Require on-going maintenance

Figure 5.3: Traffic Calming Projects

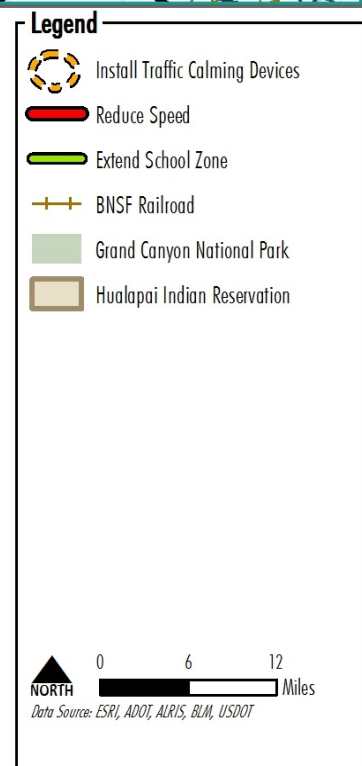
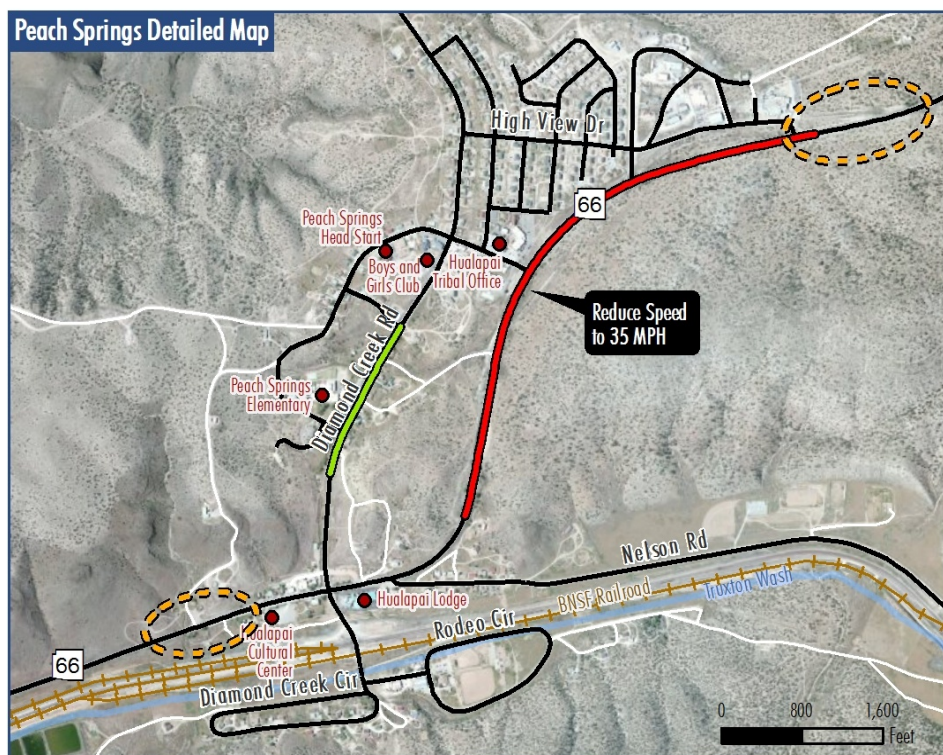
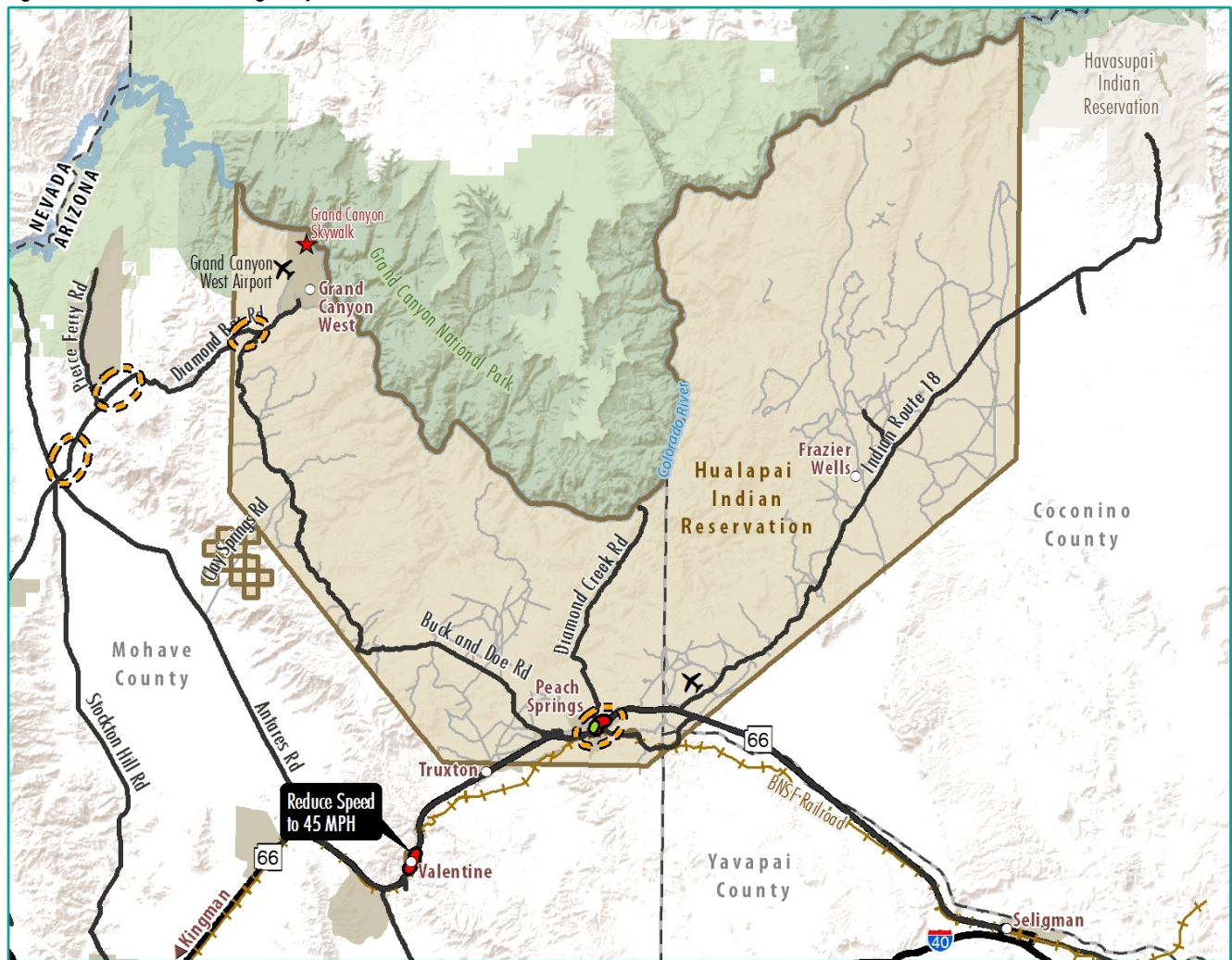


Table 5.12: Evaluation of Traffic Calming Projects

On Road	Project Location	Project Description	Length (miles)	Crash Rate	Evaluation Criteria																	Project Phase	Cost (2014 dollars)
					No. of Crashes	Crash Severity (EPDO)	Existing AADT	Existing LOS	AADT 2034	Overall Safety	Alt./Emergency Route	Ped/Bike Safety	Preserves Infrastructure	Multimodal Access	Network Connectivity	Tourist/Economic	Environ./Cultural Resources	Title VI	Construction Feasibility	Cost Effectiveness	ROW Impacts		
Diamond Creek Road (BIA 101)	Shandy Lane to Indian Way	Extend school zone from south of Shandy Lane to Indian Way	-	0	0	1,008	A	1,411	A	H	N	Y	Y	N	N	H	L	NI	H	H	L	Short	\$1,000
Diamond Bar Road (BIA 1)	Pierce Ferry Road to Hualapai Indian Reservation	Mohave County successfully obtained a \$314,000 Highway Safety Improvement Program project to design, install, and evaluate the installation of 20 driver feedback speed limit signs countywide. Design is scheduled to commence this fiscal year with installation in FY 17.	14.0	63	130	785	A	1,099	B	H	N	L	Y	N	N	H	L	NI	H	H	L	Short	-
	Hualapai Indian Reservation to Buck and Doe Road	Option 1: Install flashing, speed limit signs	2.4	8	12	1,447	A	2,026	B	H	N	L	Y	N	N	H	L	NI	H	H	L	Short	\$30,000 per location
		Option 2: Install speed limit pavement markings	2.4							H	N	L	Y	N	N	H	L	NI	H	H	L	Short	\$3,000 per location
Pierce Ferry Road	Antares Road to Diamond Bar Road	Mohave County successfully obtained a \$314,000 Highway Safety Improvement Program project to design, install, and evaluate the installation of 20 driver feedback speed limit signs countywide. Design is scheduled to commence this fiscal year with installation in FY 17.	6.6	29	63	1,447	B	2,026	B	H	N	L	Y	Y	N	H	L	NI	H	H	L	Short	-

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Table 5.12: Evaluation of Traffic Calming Projects (Continued)

On Road	Project Location	Project Description	Length (miles)	Crash Rate	Evaluation Criteria																	Project Phase	Cost (2014 dollars)
					No. of Crashes	Crash Severity (EPDO)	Existing AADT	Existing LOS	AADT 2034	Overall Safety	Alt./Emergency Route	Ped/Bike Safety	Preserves Infrastructure	Multimodal Access	Network Connectivity	Tourist/Economic	Environ./Cultural Resources	Title VI	Construction Feasibility	Cost Effectiveness	ROW Impacts		
State Route 66	MP 71 to MP 84	Install speed limit signs within 500 FT of major intersection	12.9	41	134	1,625	B	2,275	B	H	Y	M	Y	N	N	H	L	NI	H	H	L	Short	\$12,000
	MP 85 to MP 86.5	Reduce speed limit to 45 MPH	1.5	2	8	1,459	B	2,403	B	H	Y	H	Y	N	N	H	L	NI	H	H	L	Short	\$2,500
	MP 86.5 to Western Reservation Boundary	Install speed limit signs within 500 FT of major intersection	9.7	41	144	1,459	B	2,403	B	H	Y	M	Y	N	N	H	L	NI	H	H	L	Short	\$1,000
	Western Reservation Boundary to MP 102	Install speed limit signs within 500 FT of major intersection	4.9	15	91	1,760	B	2,464	B	H	Y	M	Y	N	N	H	L	NI	H	H	L	Short	\$5,000
	MP 101 to MP 103	Install speed limit signs within 500 FT of major intersection	2.0	10	28	2,275	B	3,185	B	H	Y	M	Y	N	N	H	L	NI	H	H	L	Short	\$4,000
	MP 103 to Diamond Creek Road	Option 1: Install flashing, speed limit signs	0.4	6	18	2,275	B	3,185	B	H	Y	H	Y	N	N	H	L	Pos	H	H	L	Short	\$30,000 per location
		Option 2: Install speed limit pavement markings	0.4							H	Y	H	Y	N	N	H	L	Pos	H	H	L	Short	\$3,000 per location
	Diamond Creek Road to MP 105	Option 1: Install flashing, speed limit signs	1.6	10	31	1,996	B	2,794	B	H	Y	H	Y	N	N	H	L	Pos	H	H	L	Short	\$30,000 per location
		Option 2: Install speed limit pavement markings	1.6							H	Y	H	Y	N	N	H	L	Pos	H	H	L	Short	\$3,000 per location
	Nelson Road to East of High View Drive	Reduce speed limit to 35 MPH	1.5	2	8	1,459	B	2,403	B	H	Y	H	Y	N	N	H	L	NI	H	H	L	Short	\$2,500
State Route 66	MP 105 to Eastern Reservation Boundary	Install speed limit signs within 500 FT of major intersection	7.4	21	60	1,760	B	2,464	B	H	Y	H	Y	N	N	H	L	NI	H	H	L	Short	\$7,500
	MP 103 to Diamond Creek Road	Construct Chicane	0.4	6	18	2,275	B	3,185	B	H	Y	L	Y	Y	Y	H	L	NI	M	H	L	Mid	\$350,000
	East of High View Drive	Construct Chicane	0.7	0	0	1,996	B	2,794	B	H	Y	L	Y	Y	Y	H	L	NI	M	H	L	Mid	\$350,000

- ★ Projects identified on Mohave County and ADOT maintained roads are recommendations only. These recommendations are based on stakeholder/public input, a roadway inventory, and an analysis of deficiencies and needs.
- ★ Route and Section Numbers refer to the BIA TTP roadway inventory route and section numbers.
- ★ EPDO = Equivalent Property Damage Only value. EPDO is a method for ranking crash locations in terms of crash severity. The higher the EPDO value for a road segment the higher the crash severity. Following EPDO multipliers were used for each crash: Fatal Crash = 12; Severe Injury = 7; Minor Injury = 4; Possible Injury = 2; No Injury = 1
- ★ Title VI Implications: NI= No Impact; Pos. = Positive Impact; Neg. = Negative Impact



EVALUATION OF INTERSECTION IMPROVEMENTS

To address the existing deficiencies, future needs, and to enhance safety and mobility, preliminary improvement concepts were developed for the Diamond Creek Road/State Route 66 intersection. The following section presents a summary of these preliminary improvement concepts. Additional intersection improvements are summarized in Table 5.13.

Diamond Creek Road/State Route 66 Intersection - Option 1: Signalized Intersection

As illustrated in the figure bellow, in Option 1:

- Intersection is converted to a four-way, signalized intersection
- Eastern entrance to the Hualapai Lodge is widened to become the main entrance to the hotel
- Western entrance to the Hualapai Lodge is converted to right-in/right-out
- Sidewalks extended to Nelson Road
- Signage and pavement markings are improved
- Crosswalks are incorporated on all legs of the intersection
- Pedestrian and bicycle facilities are located throughout
- Reconstructed ramps to meet ADA compliance
- Long-Term: Widen Diamond Creek Road to incorporate an exclusive left-turn lane



Advantages

- No additional right-of-way needed
- No learning curve for motorists
- Improves safety

Disadvantages

- Current traffic volumes do not meet requirements for traffic signal
- High maintenance costs
- May not reduce speeding, which is currently an issue
- Minor loss of on-street parking



Diamond Creek Road/State Route 66 Intersection - Option 2: Roundabout

As illustrated in the figure below, in Option 2:

- Intersection is converted to a one-lane roundabout
- Eastern entrance to the Hualapai Lodge is widened to become the main entrance to the hotel
- Western entrance to the Hualapai Lodge is converted to right-in/right-out
- Sidewalks extended to Nelson Road
- Crosswalks are incorporated on all legs of the intersection
- Raised medians provide a safe refuge area for pedestrians crossing the road
- Signage and pavement markings are improved
- Pedestrian and bicycle facilities are located throughout
- Incorporates ADA compliant ramps



Advantages

- Forces drivers to slow down as they approach the intersection
- Improves safety for turning movements
- Lesser delays and backups at the intersection
- Provides opportunities for landscaping, new sidewalks, and bike lanes
- Improves the aesthetic appearance of the area

Disadvantages

- Additional right-of-way needed
- Some on-street parking spots will need to be removed
- High implementation costs
- Drivers unaccustomed to roundabouts may find the roundabout confusing



Table 5.13: Evaluation of Intersection Improvement Projects

On Road	Project Description	Total No. of Crashes		Evaluation Criteria																Phase	Cost (2014 dollars)
				Crash Severity (EPDO)	Existing AADT	Existing LOS	AADT 2034	LOS 2034	Overall Safety	Alt./Emergency Route	Ped/Bike Safety	Preserves Infrastructure	Multimodal Access	Network Connectivity	Tourist/Economic	Environ./Cultural Resources	Title VI	Construction Feasibility	Cost Effectiveness		
BIA Lane (BIA Route 101 Section 200)/ State Route 66 Intersection	Restripe intersection to include lane markings and stop bar	0	0	<100	A	<100	A	H	N	L	Y	N	N	H	L	NI	H	H	L	Short	\$1,500
High View Drive (BIA Route 101 Section 120)/ State Route 66 Intersection	Restripe intersection to include lane markings and stop bar	0	0	<100	A	<100	A	H	N	L	Y	N	N	H	L	NI	H	H	L	Short	\$1,500
Buck and Doe Road (BIA 1)/ State Route 66 Intersection	Restripe intersection to include lane markings and stop bar	1	2	115	A	161	A	H	N	L	Y	N	N	H	L	NI	H	H	L	Short	\$1,500
State Route 66/Nelson Road Intersection (Peach Springs)	Restripe intersection to include lane markings and stop bar	0	0	105	A	147	A	H	N	M	Y	Y	Y	M	L	Pos	H	H	L	Short	\$1,500
Antares Road/State Route 66 Intersection	Restripe intersection to include lane markings and stop bar	1	7	231	A	323	A	H	Y	L	Y	N	N	H	L	NI	H	H	L	Short	\$1,500
State Route 66/ Diamond Creek Road Intersection	Option 1 (Traffic Signal): Upgrade traffic signal; install raised medians on State Route 66; install pedestrian crosswalks and ADA compliant ramps; convert western entrance Hualapai Lodge to a right-in/right-out only; widen eastern entrance to Hualapai Lodge; restripe roadway; add pedestrian crosswalks; improve intersection signage	4	0	2,275	B	3,185	B	H	Y	H	Y	Y	Y	H	L	NI	M	M	M	Short	\$350,000
	Option 2 (Roundabout): Reconfigure intersection to include a roundabout; convert western entrance Hualapai Lodge to a right-in/right-out only; widen eastern entrance to Hualapai Lodge; installed raised medians; pedestrian crosswalks and sidewalks incorporated into design; improve intersection signage	4	0	2,275	B	3,185	B	H	Y	H	Y	Y	Y	H	L	NI	L	M	H	Short	\$750,000

* Projects identified on Mohave County and ADOT maintained roads are recommendations only. These recommendations are based on stakeholder/public input, a roadway inventory, and an analysis of deficiencies and needs.

* Route and Section Numbers refer to the BIA TTP roadway inventory route and section numbers.

* EPDO = Equivalent Property Damage Only value. EPDO is a method for ranking crash locations in terms of crash severity. The higher the EPDO value for a road segment the higher the crash severity. Following EPDO multipliers were used for each crash: Fatal Crash =12; Severe Injury = 7; Minor Injury = 4; Possible Injury = 2; No Injury = 1

* Title VI Implications: NI= No Impact; Pos. = Positive Impact; Neg. = Negative Impact



Table 5.13: Evaluation of Intersection Improvement Projects (Continued)

On Road	Project Description	Total No. of Crashes	Evaluation Criteria																Phase	Cost (2014 dollars)	
			Crash Severity (EPDO)	Existing AADT	Existing LOS	AADT 2034	LOS 2034	Overall Safety	Alt./Emergency Route	Ped/Bike Safety	Preserves Infrastructure	Multimodal Access	Network Connectivity	Tourist/Economic	Environ./Cultural Resources	Title VI	Construction Feasibility	Cost Effectiveness			ROW Impacts
Buck and Doe Road/ State Route 66	Widen intersection to include exclusive left-turn lane	1	0	115	A	161	A	H	N	M	Y	Y	Y	M	L	NI	M	M	L	Long	\$175,000
State Route 66/ Nelson Road Intersection	Widen intersection so trucks turning EB can easily access State Route 66	0	0	105	A	147	A	H	N	L	Y	Y	Y	M	L	NI	L	M	L	Long	\$300,000
State Route 66/Nelson Road Intersection (Peach Springs)	Redesign and realign intersection to a T-intersection	0	0	105	A	147	A	H	N	M	Y	Y	Y	M	L	Pos	L	M	M	Long	\$250,000
BIA Route 103 Section 20/State Route 66 Intersection	Level intersection	0	0	<100	A	<100	A	H	Y	L	Y	Y	Y	L	L	NI	L	L	L	Long	\$250,000
Shandy Lane/Honaga Hill Road/Ridge Road Intersection	Reconfigure intersection	0	0	<100	A	<100	A	H	N	L	Y	N	Y	M	L	NI	M	L	M	Long	\$250,000

- ★ Projects identified on Mohave County and ADOT maintained roads are recommendations only. These recommendations are based on stakeholder/public input, a roadway inventory, and an analysis of deficiencies and needs.
- ★ Route and Section Numbers refer to the BIA TTP roadway inventory route and section numbers.
- ★ EPDO = Equivalent Property Damage Only value. EPDO is a method for ranking crash locations in terms of crash severity. The higher the EPDO value for a road segment the higher the crash severity. Following EPDO multipliers were used for each crash: Fatal Crash =12; Severe Injury = 7; Minor Injury = 4; Possible Injury = 2; No Injury = 1
- ★ Title VI Implications: NI= No Impact; Pos. = Positive Impact; Neg. = Negative Impact

EVALUATION OF PEDESTRIAN, BICYCLE, AND TRAIL IMPROVEMENTS

Alternative modes of transportation, such as sidewalks, bike paths/routes, and trails (including equestrian), are an important aspect of the multimodal transportation network as they provide mobility for those not able to operate or without access to a vehicle, and also for recreational purpose. At the onset of the study, community members, stakeholders, and the TAC, all expressed interest in enhancing existing pedestrian facilities to allow pedestrians to safely walk between residential areas and activity centers. Developing a community-wide pedestrian and bicycle network can lead to many benefits, including:

- Lowering traffic congestion by reducing dependence on automobiles
- Enhancing residents' quality of life through promoting healthier lifestyles
- Expanding tourism opportunities and enhancing local economy
- Providing mobility for those without a vehicle or are unable to drive
- Improving community aesthetics while preserving the natural environment

Table 5.14 and Figure 5.4 provide an overview of potential pedestrian, bicycle, and trail facilities that could enhance the Hualapai Indian Reservation's existing transportation network.

Figure 5.4: Pedestrian, Bicycle, and Trail Improvements

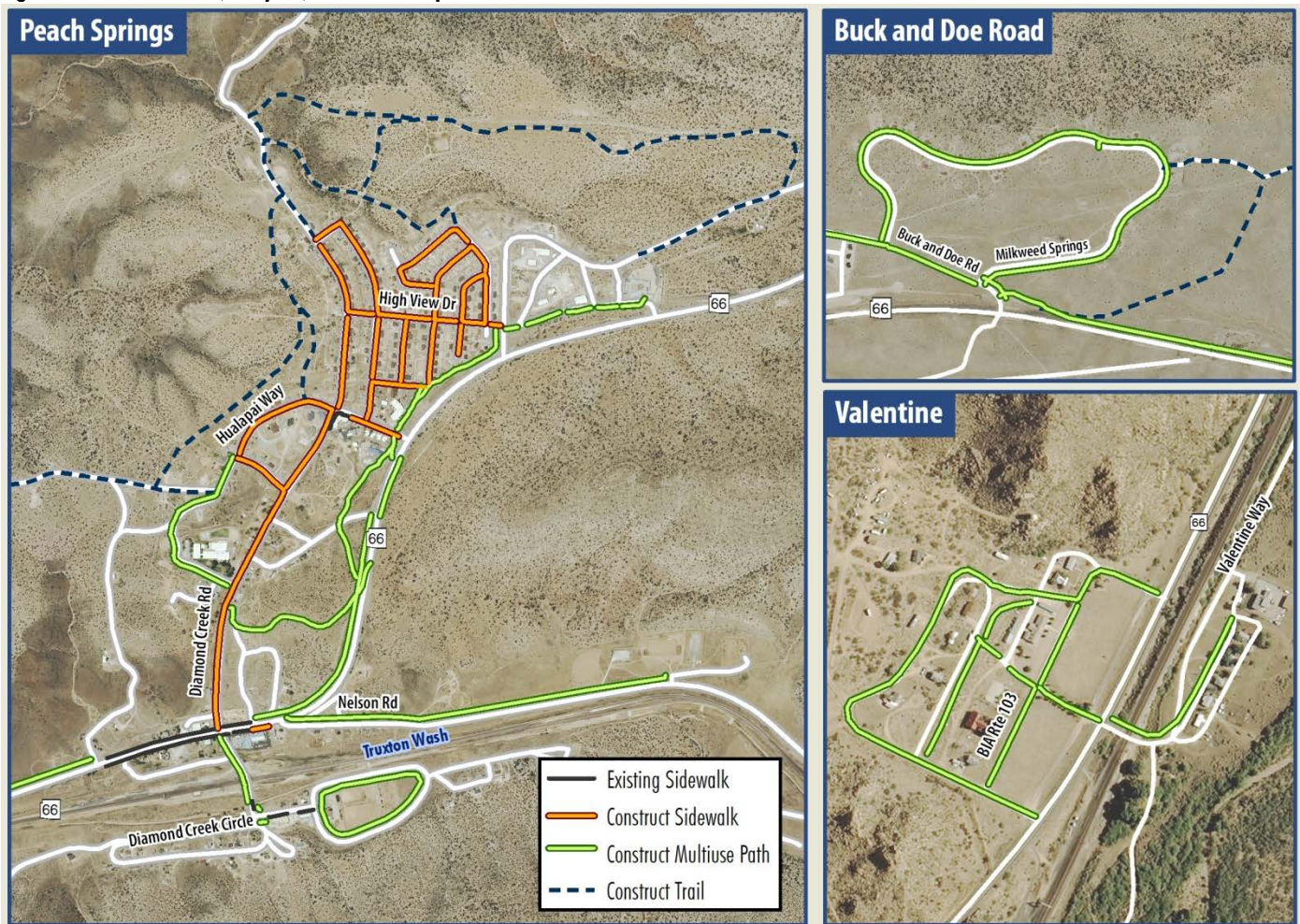


Table 5.14: Pedestrian, Bicycle, and Trail Improvement Options

Pedestrian Facility	Considerations	Applicable Locations	Illustration
Sidewalk Only	• Pedestrians have safe buffer zone between motor vehicles • Provides opportunity to enhance streetscaping	• Diamond Creek Road within Peach Springs • Hualapai Way • Nelson Road • High View Drive from Diamond Creek Road to Mesa View Drive • Other residential streets in Peach Springs	
Asphalt shared-use-path offset from roadway	• Offset sidewalk provides a safe buffer zone between motor vehicles • Can be utilized by multiple modes, including bicyclists, in-line skaters, wheelchair users, etc. • Minimizes potential crossing conflicts with motor vehicles • Provides opportunity to enhance streetscaping	• Milkweed Springs Road • Buck and Doe Road	
Paved multi-use path with trailside amenities	• Can be utilized by multiple modes, including bicyclists, in-line skaters, wheelchair users, etc. • Trailside amenities provide additional recreational opportunities • Promotes tourism • Increased construction and maintenance costs	• State Route 66 from Diamond Creek Road to Hualapai Way	
Unpaved, multi-use trail	• Increased construction and maintenance costs • Can be designated for off-highway vehicle or equestrian use • Trailside amenities provide additional recreational opportunities	• Ridgeline Road from Peach Springs to Milkweed Springs	
Unpaved multi-use path with trailside amenities	• Trailside amenities provide additional recreational opportunities • Increased installation and maintenance costs	• State Route 66 from Peach Springs to Buck and Doe Road	

EVALUATION OF TRANSIT IMPROVEMENTS

Successful transit systems open economic opportunities for local residents and businesses, link neighboring destinations, and generally enhance the quality of life of residents and the economic vitality of rural communities.

Summary of Transit Need and Demand

During public outreach events, stakeholder meetings, and TAC meetings, Tribal members often expressed the desire for transit service within the Indian Reservation and to outlying, regional activity centers. Due to the lack of vehicles available to Tribal members and long travel distances, the Grand Canyon West Corporation began providing van service for employees between Peach Springs, Truxton, and Kingman to the Grand Canyon West. The employee vans carry approximately 60 passengers per day and are often overcrowded. The Health and Wellness Department also provides van service for medical appointments and limited, fee-based service to local activity centers; in 2012 this service provided over 5,240 trips and logged over 197,700 miles. According to the 2013 *Hualapai Housing Needs Assessment*, 50% of employers identified costs and time required for commuters to reach work as a source of employee turnover, while 31% of employees have commute related challenges.

This high demand for transit service within the Hualapai Indian Reservation clearly demonstrates the need for a programmed transit service and warrants a pilot program. Based on analysis of existing transit needs, potential growth within the study area, and input from Tribal staff, the need for transit service within the Hualapai Indian Reservation includes:

- Fixed route system that provides access between activity centers within Peach Springs to Buck and Doe Road.
- Phased transit system that includes service between Peach Springs, Truxton, Valentine, and Grand Canyon West; as well as regional connections to Seligman and Kingman.
- Regional transit service to Phoenix, Flagstaff, Las Vegas, and Laughlin.

In order to establish a transit service, a transit demand analysis must be performed in order to effectively determine the service design, capacity, and schedule. A comprehensive Transit Feasibility Study and a subsequent Transit Implementation Study should be conducted with assistance from ADOT. Currently, the Tribe is in the process of publishing an RFP to conduct a Transit Feasibility Study.



6. STAKEHOLDER AND PUBLIC OUTREACH

Public involvement is essential to the broad acceptance and successful implementation of any transportation improvement plan. The goal of community outreach is to educate stakeholders and the public about the study, provide opportunities for input, and to create a process to build consensus in support of the study recommendations. For this study, Phase 1 of the outreach focused on current transportation issues, problem areas, and needs; and Phase 2 focused on improvement recommendations for the problem areas identified in the first phase. This chapter presents public outreach efforts conducted during the first phase and stakeholder outreach efforts conducted during the second phase.

PUBLIC INVOLVEMENT

Public involvement is the process of involving the public throughout the transportation planning process through meaningful communication with interested citizens. To ensure that transportation decisions reflect the public's best interests, public involvement is a critical component of the transportation planning process. To engage the public, the study work plan includes two public meetings to inform, discuss, and to seek input. Additionally, a project website was developed and hosted by ADOT to enable citizens and the public to access study documents and to submit comments or questions.

Phase I of public outreach efforts introduced the project to the public with a focus on existing and future conditions. The purpose of the meetings was to discuss the deficiencies and needs of the study area, and elicit input on the public's "vision" for the future for the Hualapai Indian Reservation. Phase II presented the draft transportation improvement plan in order to receive feedback and fine tune the study recommendations.

Special outreach efforts were made for additional groups such as the Tribal Council, Elderly, and the Youth Council. Each of these groups received their own opportunity to obtain information regarding the study and provide input for the recommended transportation improvements.

Phase 1

The Hualapai Indian Tribe, ADOT, and the study team hosted the first of two public meetings on May 1, 2014 at the Hualapai Gymnasium. The goal of the meeting was to inform the public of the project's goals and objectives, discuss the deficiencies and needs of the study area, and elicit input on the public's "vision" for the future of the Hualapai Indian Reservation. In total, there were 12 members of the community in attendance, not including study team members.

The meeting commenced with a brief presentation of the study goals and objectives, summary of existing conditions, and key issues identified by the study team. The presentation was followed by an opportunity for participants to pose questions, comments, and to provide recommendations on areas of improvement. Oversized boards were also displayed to further communicate information and to generate conversation between the public and study team members. The boards displayed included: study overview; map of current roadway issues at a region-wide scale as identified by the study team; map of current roadway issues within Peach Springs, Big Sandy Allotments, Valentine, and Cholla Canyon Ranch as identified by the study team; and a map of the multimodal issues. Comment forms were also provided to each meeting attendee. A booth was also setup, on April 25, 2014, at the Hualapai Indian Tribe's Earth Day Celebration to obtain additional feedback from the public on the study goals and objectives and other information presented at the May 1, 2014 public meeting.



Key comments received during the public meeting and Earth Day celebration included:

- State Route 66 and Diamond Creek Road intersection is a major problem that would benefit from traffic control (traffic signal or roundabout), lighting, and pedestrian facilities.
- High traffic speeds on State Route 66 in Peach Springs create unsafe conditions for pedestrians.
- The BNSF railroad crossing in Peach Springs requires additional safety features and a pedestrian crossing.
- Paved roadways, particularly BIA 18 and State Route 66, currently have poor pavement conditions, vegetation that encroaches into the roadway, and lack roadside reflectors.
- Monsoon rains cause severe flooding on local roadways and State Route 66.
- Unpaved roadways limit tourist activity.
- Since there are limited pedestrian and bicycle facilities, pedestrians are forced to walk close to the vehicle travel lanes.
- Public transportation to activity centers for elders and the youth is a priority need.
- The maintenance of the roads needs to be revisited and maintained often, for the safety of all traffic.

Appendix A provides a comprehensive summary of the first public meeting.

PHASE 2

The Hualapai Indian Tribe, ADOT, and the study team hosted a second public open house at the Hualapai Gym on August 20, 2014. The purpose of the meeting was to elicit input and feedback from the public on recommended improvement projects for the next 5, 10, and 20 years. In total, there were 17 members of the community and five study team members present.

A presentation was given at the open house and a comment form was provided to each attendee. The presentation provided an overview of the existing deficiencies and outlined recommended improvement projects. Oversized boards were displayed to illustrate the location of recommended improvements and to encourage conversation between the public and the study team. Comment forms provided to the attendees asked for feedback on intersection improvements, traffic calming measures, at-grade railroad crossing enhancements, pedestrian/bike/trail improvements, and transit service routes.

Key comments received during the public meeting included:

- Nine out of 19 comment forms received were in favor of converting the State Route 66/Diamond Creek Road intersection into a signalized intersection.
- Seven out of 19 comment forms received were in favor of installing a roundabout at the State Route 66/Diamond Creek Road intersection. Comments received included:
 - "I have a concern with the roundabout in so far as commercial vehicle traffic is concerned. They will impede truck and bus traffic in the downtown area."
 - "I feel this roundabout is a good option to slow traffic in a high pedestrian area seems the most efficient option for the area and the amount of vehicle traffic."
- Comments were received about removing on-street parking on State Route 66, particularly near the Diamond Creek Road intersection. One attendee suggested constructing a parking lot area next to the John Ostermann Gas Station to provide parking for visitors.



- One attendee recommended creating an employee parking lot for Hualapai Lodge and Grand Canyon West Employees, as well as a "pick-up" parking area for take-out orders.
- Seven comment forms were in favor of installing rumble strips. One comment form stated, "Rumble strips, great idea. Always late night travelers neither out of towners, locals coming from work late (GCW). As a personal view coming home from Grand Canyon West after work I've almost gone off the road a couple times being tired, always though the rumble strips would be a good idea around Peach Springs and Diamond Bar area."
- Attendees did not come to a consensus on one railroad crossing improvement; however, respondents were in favor of installing flashing signals and gates, establishing quiet zones, and constructing structure to allow pedestrian access.
- Pedestrian, bicycle, and trail facilities were highly favored by meeting attendees. Locations desired for improvement included:
 - Roadside sidewalks within Peach Springs with lighting for children to walk to school and to provide safe access.
 - Roadside sidewalks to Buck and Doe Road.
 - Roadside sidewalks to Truxton with lighting.
- Short-term local service in Peach Springs, to Kingman, and to Grand Canyon West is desired.
- Visual signs need to be added for tourists.
- Turning lanes to the Tribal Office, Roads Department entrance, Hackberry General Store, and Valentine are desired.

In response to the recommended improvements, the General Manager of the Hualapai Lodge submitted a letter of response to the Hualapai Indian Tribe. The letter states that the Hualapai Lodge supports the recommendation of establishing a quiet zone at the BNSF/Diamond Creek Road at-grade crossing. According to the letter, the noise from the railroad has a significant, negative impact on the Lodge's operations. There are only 22 roadside rooms available, limiting their ability to sell out since most guests do not want to stay trackside. Guests at the Hualapai Lodge often complain about noise from the railroad.

Appendix B provides a comprehensive summary of the second public meeting.

AGENCY/STAKEHOLDER COORDINATION

To facilitate agency and stakeholder communication, the study team conducted meetings with the following groups:

- Technical Advisory Committee (TAC): Comprised of agency representatives, TAC meetings are held at key milestones throughout the project and allow agencies with vested interest in the project an opportunity to provide input and feedback.
- Stakeholders: These meetings help the study team understand the issues, concerns, and needs of the study area from the unique perspective of the stakeholders. Stakeholders for this study include utility companies, schools, fire and police, local tribal staff, local business owners, and persons with vested interest in the project.



Phase 1

To develop a thorough understanding of the issues, deficiencies, and needs, the study team identified and interviewed a core group of stakeholders. The stakeholders included representatives from all major Hualapai Tribal Government departments, Grand Canyon Resort Corporation, BIA Western Regional Office, BIA Truxton Canon Agency, WACOG, Mohave County, Kingman Area Regional Transit, Peach Springs Unified School District #8, and ADOT. The first set of stakeholder interviews were conducted on Wednesday, February 12, 2014 and Thursday, February 13, 2014. At each stakeholder meeting, a questionnaire was given to participants and a roundtable discussion took place to identify key issues within the study area.

Appendix C provides a detailed list of the stakeholders, questionnaire distributed during the meeting, and a summary of the comments received. Key concerns identified by the stakeholders include:

- Railroad crossings are generally unsafe;
- Majority of paved roads are in need of maintenance and repair;
- Most unpaved roads have poor conditions with drainage problems and unsafe alignment;
- Pedestrian and recreation trails are needed throughout Peach Springs and between activity centers;
- There is a need for local and regional transit service; and
- Roadway lighting and/or safety signage is needed throughout the study area.

Phase 2

The Hualapai Indian Tribe, ADOT, and the study team hosted a second round of meetings for stakeholders to provide input on improvement scenarios and to discuss the long-term "vision" of the study area. The meetings were held on Wednesday, July 9th, 2014 and Thursday, July 10th, 2014 in Peach Springs. Meetings included a brief presentation by the study team on potential improvement projects and an interactive discussion on major multimodal improvement scenarios. Following is a summary of comments received from the stakeholders:

- The majority of stakeholders preferred converting the Diamond Creek Road/State Route 66 intersection to a four-way traffic light, instead of a roundabout.
- Preferred locations for traffic calming were Diamond Bar Road, and State Route 66 within Peach Springs and Valentine.
- The majority of responses recommended pavement markings and flashing speed signs as the top choices for reducing vehicle speed in traffic calming areas.
- Several stakeholders expressed a concern for vehicle speeds along Diamond Bar Road and recommended a reduction of the speed limit along the roadway.
- Respondents preferred adding sidewalks to Diamond Creek Road, Hualapai Way, and Nelson Road in an effort to increase pedestrian access to school.
- Trail connections between Peach Springs and Milkweed Springs are highly desired – both along Ridge Road and State Route 66. Additional trails were recommended between Peach Springs and Valentine and north of Peach Springs.



- Stakeholders preferred constructing a railroad overpass and pedestrian bridge along Diamond Creek Road. In Valentine, stakeholders preferred installing gates with flashing lights at the at-grade railroad crossing. In addition, stakeholders recommended establishing a Quiet Zone within Peach Springs and Valentine.
- Preferred transit routes included service within Peach Springs; Peach Springs to Milkweed Springs; and Peach Springs to Grand Canyon West. Transit service from Peach Springs to Kingman, Flagstaff, and Phoenix was not identified as a high priority. Stakeholders also commented that safe, weather protected bus stops are needed.
- Roadside safety improvements recommended by stakeholders included installing wayfinding signs on Diamond Creek Road, installing street lighting in Peach Springs and Valentine, and installing wildlife fencing to keep livestock and wildlife from entering a road's right-of-way.

Appendix D provides a comprehensive summary of the second phase of stakeholder meetings.



7. AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONCERNS

Inventory of the physical, natural, and cultural environment is an important component of the transportation planning process. When environmental conditions and concerns are reviewed in the early stages of the transportation planning process, transportation solutions can be developed to avoid or lessen the negative impacts on the natural environment. This chapter presents a review of environmental conditions within the study area.

TOPOGRAPHY AND GEOLOGY

Due to the Reservation's location along the southwest edge of the Colorado Plateau, the topography varies greatly from plateaus to mountainous terrain. The northern portion of the Reservation is characterized by high plateaus and steep vertical cliffs along the Lower Granite Gorge. To the west of the Reservation are the Music Mountains and Grand Wash Cliffs, while the Blue Mountains and Aubrey Valley/Aubrey Cliffs are located in the eastern portion of the Reservation. Elevations range from over 7,300 feet atop the Aubrey Cliffs to 1,150 feet along the Colorado River. The Valentine area is located within Truxton Canyon between the Grand Wash Cliffs and the Cottonwood Cliffs. Situated along the Big Sandy River and Valley, the Big Sandy Allotments border the Aquarius Mountains and have an approximate elevation of 2,450 feet. The Cholla Canyon Ranch District, located southeast of Wikieup, is situated along Bitter Creek in the Aquarius Mountains and has an approximate elevation of 1,900 feet.



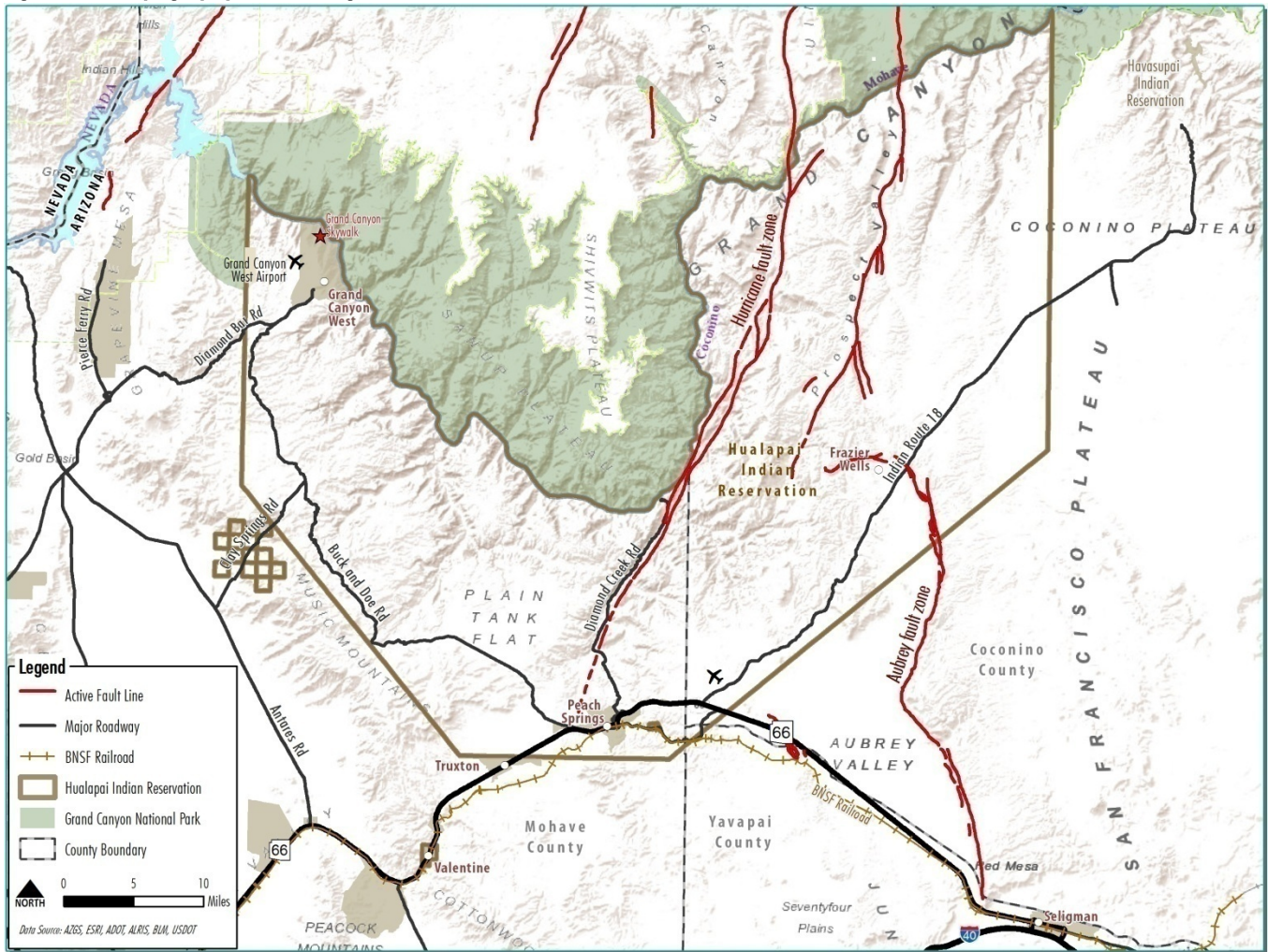
The Hualapai Indian Reservation's terrain varies from high plateaus, mountainous terrain, to low-lying valleys.

Earth fissures and faults are associated with earth displacement and seismic activity, which can negatively impact infrastructure. According to the Arizona Geological Survey (AZGS), earth fissures form as a result of land subsidence driven by groundwater withdrawal. Within the Hualapai Indian Reservation, the AZGS has not identified any fissures. Faults are defined by the United States Geological Society (USGS) as a fracture or zone of fractures between two blocks of rock that allow the blocks to move relative to each other. According to the USGS, the majority of faults lines within the Hualapai Indian Reservation are deemed as high-angle fault lines; however, there are multiple quaternary faults within the Reservation. Quaternary faults are active fault lines that have been identified on the surface and have moved in the past 1.6 million years. Within the Hualapai Indian Reservation, quaternary faults are located in the eastern portion of the Reservation and include the southern section of the Aubrey fault zone, the southern section of the Hurricane fault zone, and the southern portion of the Sevier/Toroweap fault line. The AZGS also identified the Hualapai Indian Reservation as being located within an area of moderate hazards for earthquakes, with moderate historical seismicity and numerous young fault lines.

Figure 7.1 provides an overview of the Hualapai Indian Reservation's topography and geological conditions. As illustrated in the Figure, BIA 18 crosses the Aubrey Fault line near MP 24. Due to the active nature of the Aubrey fault line, ground displacement may occur which could affect the roadway's structure.



Figure 7.1: Topography and Geological Conditions



Recommendations for Further Analysis

A geotechnical evaluation of soils will need to be conducted during the design phase of project implementation to determine pavement, slope protection, and structural needs. A corridor specific, geotechnical evaluation is particularly important along Supai Road (BIA 18) in order to develop effective design parameters if roadway reconstruction is needed in the future. An analysis of drainage needs will also need to be performed during the Design Concept Report/Environmental Assessment (DCR/EA) phase.

VEGETATION

The Hualapai Indian Reservation contains the following vegetation communities:

- Great Basin Conifer Woodland - mainly comprised of medium sized conifers, the pinyon pine and juniper, this vegetation community covers approximately 60% of the Hualapai Indian Reservation.
- Great Basin Desertscrub - scattered throughout the Reservation, this vegetation community is dominated by the presence of sagebrush, blackbrush, shadescale, and grasses.
- Mohave Desertscrub - this barren desert community characterized by scattered, low shrubs is located along the Grand Canyon Rim in the northern portion of the Reservation. Joshua trees, a type of yucca plant, are unique to this community.



- Plains and Great Basin Grassland - located in the southern and eastern portion of the Reservation, this vegetation community is primarily composed of mixed or short-grass communities.
- Petran (Rocky Mountain) Montane Conifer Forest - located along Supai Road (BIA 18) in the eastern portion of the Reservation, this vegetation community is dominated by ponderosa pine and Douglas-fir.
- Arizona Upland Subdivision – found within the Big Sandy Allotments and in Cholla Canyon Ranch, Arizona Upland is a part of the Sonoran Desert Subdivision biotic community and is comprised of leguminous trees and succulents.
- Semidesert Grasslands - primarily characterized by grasses interspersed with some succulents, such as prickly-pear cactus and yucca. Semidesert grasslands are located in the Big Sandy Allotments and Valentine.

No formal inventory of native plants was conducted; however, native plants may occur within the study area. According to the Arizona Game and Fish Department's (AGFD) Heritage Data Management System (HDMS), the following salvage restricted protected native plants may be located within the Hualapai Indian Reservation: Grand Canyon beavertail cactus, Grand Canyon cottontop cactus, and the varied fishhook cactus.

Recommendations for Further Analysis

Any improvements to study area roadways have the potential to affect native plants. During the design phase, a detailed review will need to be conducted to identify impacts on protected plant species. Close coordination with the Hualapai Department of Natural Resources should occur during the design phase to ensure native vegetation is protected.

BIOLOGY

The AGFD's Heritage Data Management System was accessed to determine special status species and threatened, endangered, and candidate species in the vicinity of the study area. Table 7.1 outlines the special status species and critical habitat identified utilizing the HDMS online retrieval system within the study area. As outlined in the table, within the Hualapai Indian Reservation, there is a designated critical habitat for the razorback sucker. Critical habitats are geographic areas that are essential for the conservation of a threatened or endangered species that may require special management and protection.

Under Section 10 of the Endangered Species Act, a portion of the Hualapai Indian Reservation has been designated as a Section 10(i) area for the Colorado condor and a portion of land along State Route 66 between Seligman and the Hualapai Indian Reservation for the Black-footed ferret. Section 10(i) designations allow for the reintroduction of populations of listed species as "experimental populations" to determine if the experimental population is "essential" or "nonessential" for the continued existence of a species. From 1996-2001, 144 Black-footed ferrets have been released in the Aubrey Valley; while 41 California condors were released between 2007-2011 in northern Arizona.



Table 7.1: Special Status Species and Critical Habitats in Project Vicinity

Common Name	FWS	USFS	BLM	State
Spotted Bat	SC	S	S	WSC
Arizona Phlox		S		
Gila Longfin Dace	SC		S	
Arizona Toad	SC			
Yellow-billed Cuckoo (Western U.S. DPS)	PT	S		WSC
Sonoran Desert Tortoise	C*	S		WSC
Northern Leopard Frog		S	S	WSC
Varied Fishhook Cactus				SR
Hualapai Milkwort		S		
Golden Eagle	BGA		S	
Flannelmouth Sucker	SC		S	
Grand Canyon Cottontop Cactus				SR
Southwestern Willow Flycatcher	LE			WSC
American Peregrine Falcon	SC	S	S	WSC
Grand Canyon Beavertail Cactus				SR
Speckled Dace	SC		S	
Bluehead Sucker			S	
Hualapai Mexican Vole	LE			WSC
Grand Canyon Evening-primrose	SC			
Humpback Chub	LE			WSC
Designated Critical Habitat				
Razorback Sucker				
10(J) Status Area				
California Condor				
Black-footed Ferret				

Status Definitions (Source: Arizona Game and Fish Department):

FWS:

SC = US Fish and Wildlife Species of Concern

PT = Proposed Threatened

LE = Listed Endangered: imminent jeopardy of extinction

C = US Fish and Wildlife Candidate Species

C* = US Fish and Wildlife species identified for which the FWS made a continued warranted-but-precluded finding on a resubmitted petition by the code "C*" in the category column.

BGA = Bald and Golden Eagle Protection Act: Prohibits take of bald and golden eagles without prior USFWS permit.

USFS:

S = US Forest Service Sensitive

BLM:

S = US Forest Service Sensitive

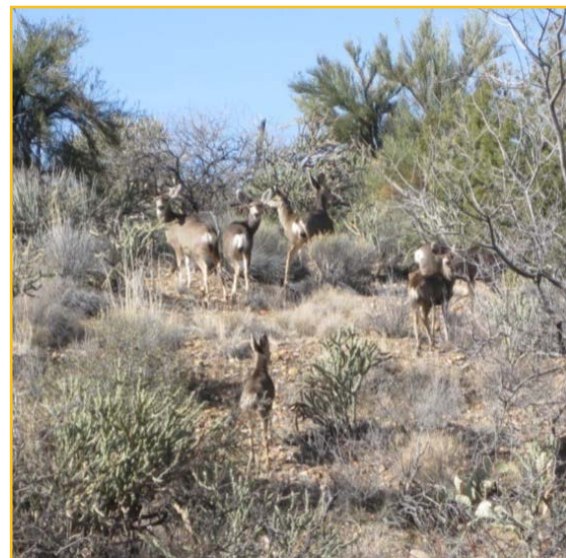
State:

WGS = AZGFS Wildlife of Special Concern in Arizona

SR = Arizona Native Plant Law Salvage Restricted plant; collection only with permit.



The Hualapai Department of Natural Resources is responsible for overall monitoring of the environment and natural resources on the Hualapai Indian Reservation. The overall goals of the Hualapai Department of Natural Resources are to conserve, protect, and to enhance the Reservation's natural resources while ensuring long-term sustainability between multiple uses. Annually, Desert bighorn sheep surveys are conducted to determine distribution, population size, and sex ratios; during the 2002 survey, a total of 232 Desert bighorn sheep were identified within the Hualapai Indian Reservation. According to the Hualapai Department of Natural Resource's annual survey of Pronghorn Antelope, over the past ten years, the antelope population has significantly declined; a total of 126 Pronghorn Antelope were surveyed in 2002, while only 62 were identified in 2010.



The most important cultural and economic big game species in the Hualapai Indian Reservation are Rocky Mountain Elk. In 1993, the Hualapai Indian Tribe partnered with the AGFD to transport elk into Arizona from the Yellowstone National Park. The original shipment consisted of 40 elk, while a 2010 aerial survey identified 581 elk within the Reservation. Big game trophy elk hunting has become a major revenue source for the Hualapai Indian Tribe, with the Hualapai Fish and Game Department selling a limited number of permits annually for hunting activities.

The Hualapai Indian Tribe has also constructed an Endangered Fish Rearing Facility on 80 acres of land. The Tribe, in agreement with Arizona Fishery Resources Office, raised 5,000 Razorback sucker fingerlings for reintroduction in Tribal and non-Tribal waters. The Tribe also works in cooperation with the USFWS and AZGS to establish refuge populations of the endangered Grand Canyon Humpback Chub and to protect its habitat along the Little Colorado River.

Non-Native Animals

Feral animals, or non-native animals, which live outside of domestic control, can cause significant impacts by damaging native plant species and by trampling springs and wetlands. According to the Hualapai Department of Natural Resources, past aerial surveys have identified 185 wild horses in the National and Mohawk Canyons. In addition, a number of wild donkeys have been captured and removed from the Reservation.

Area of Critical Environmental Concern (ACEC)

Two BLM designated ACEC areas bound the Hualapai Indian Reservation. The Joshua Tree Forest and Grand Wash Cliffs ACEC, located along Diamond Bar Road, was designated to protect a large Joshua tree forest and the scenic beauty of the Grand Wash Cliffs. The Wright-Cottonwood Creeks Riparian and Cultural ACEC, located east of Valentine, were established to improve and maintain aquatic and riparian habitation locations and to protect cultural resources in the area.



The Joshua Tree Forest along Diamond Bar Road is designated as a BLM Area of Critical Concern (ACEC).

Riparian Habitats

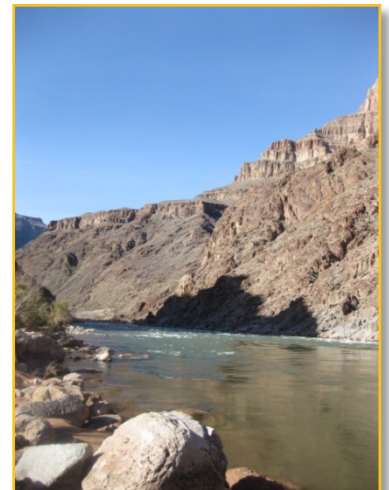
Riparian habitats are ecologically diverse areas typically found along the banks of rivers, lakes, or other bodies of water with unique soil and plant characteristics. These riparian areas provide a transition zone between dry and wet ecosystems and are among the most biologically rich habitats. Riparian habitats for Cottonwood Willow, Mesquite, Mixed Broadleaf, Strand, and Tamarisk are present within the Big Sandy Allotments and in Cholla Canyon Ranch.

Recommendations for Further Analysis

Construction within the study area may have the potential to affect plants and wildlife identified in the AGFD special status species list or the USFWS threatened and endangered species list. Any improvements in the study area may have the potential to affect plants and wildlife. During the design and environmental overview phase of project implementation, a detailed biological analysis will need to be conducted to determine the specific presence/absence of projected species and potential mitigation measures. During the design process, coordination will need to occur with the AZGFD, the USFWS, and the Arizona Wildlife Linkages Workgroup to incorporate elements to protect wildlife from roadway traffic and to allow for the safe wildlife movement across the study area. On-going communication is also recommended between the Hualapai Indian Tribe, BLM, AGFD, USFWS, Mohave County, Coconino County, and Yavapai County to coordinate mitigation measures to protect all environmentally sensitive species in the area during the construction phase.

HYDROLOGY

Major hydrological features within the Hualapai Indian Reservation include the Colorado River, the northern boundary of the Reservation; Diamond Creek, a tributary of the Colorado River that flows from Peach Springs to the Colorado River; Truxton Wash, a major wash transverses through the Reservation south of State Route 66 and crosses Antares Road; and Big Sandy River, that cuts through both the Big Sandy Allotments and Cholla Canyon Ranch. Additional prominent water features include: Albers Wash, Lost Creek, Mohawk Canyon, Prospect Creek, Spencer Canyon, and Reference Point Creek.



Nationwide Rivers Inventory (NRI)

The National Park Service maintains a list of free-flowing river segments that possess one or more outstanding remarkable values (ORVs) of local or regional significance. Within the study area, the following rivers have been identified in the National Rivers Inventory (NRI):

- Big Sandy River - Listed in 1993, Big Sandy River is listed as a "wild river" with scenic, fish, and wildlife ORVs.
- Colorado River - Listed in 1982, Colorado River is listed as a "wild river" with scenic, recreational, geologic, fish, wildlife, historical, and cultural ORVs.

Wild river areas are those rivers or sections of rivers that are free of impoundments and generally inaccessible except by trail, with watersheds or shorelines essentially primitive and waters unpolluted. These represent vestiges of primitive America.

Water Quality

The Colorado River was identified in the 2006/2008 303(d) Impaired Waters Report, released by the Arizona Department of Environmental Quality (ADEQ), as an impaired water due to selenium (total), turbidity, and suspended sediment concentration. According to the assessment, sediment may pose a



threat to aquatic life. To preserve and protect water resources, the Hualapai Indian Tribe adopted a Water Resource Ordinance. The purpose of the ordinance is to protect Tribal water, prescribe narrative and numeric water quality standards, minimize degradation of existing water quality, promote the social welfare and economic well being of the Hualapai Indian Tribe, and to protect the health and welfare of the Hualapai people through safe water. In conjunction with the Water Resource Ordinance, the Hualapai Indian Tribe also adheres to the same standards set forth by the Clean Water Act's Section 106- Water Pollution Control Program.

Wetlands

The United States Fish & Wildlife's National Wetlands Inventory (NWI) indicates that freshwater forested/shrub wetlands, freshwater emergent wetlands, freshwater ponds, and riverine wetlands may be present within the Hualapai Indian Reservation. According to the NWI, riverine, freshwater forested/shrub wetlands, freshwater emergent wetlands may border the Colorado River along the eastern portion of the Hualapai Indian Reservation. Freshwater forested/shrub wetlands, freshwater emergent wetlands, and freshwater ponds may occur throughout the eastern portion of the Reservation. Riverine and freshwater forested/shrub wetlands may follow the Big Sandy River in the Big Sandy Allotments, while in Cholla Canyon Ranch riverine, freshwater forested/shrub wetlands, freshwater emergent wetlands may be located along Big Sandy River and Bitter Creek. Wetlands are defined by the Environmental Protection Agency (EPA) as lands where saturation with water is the dominant factor determining the nature of soil development and the types of plant and animal communities living in the soil and on its surface. Wetlands typically are areas where water covers the soil or is present at/near the surface of the soil year-round or during varying periods throughout the year.

With the ultimate goal of maintaining or increasing wetland area, enhancing wetland function, establishing wetland parameters data, and identifying wetland areas in need of protection and/or restoration the Hualapai Indian Reservation the Tribe has adopted its own Wetlands Protection Program. This Wetland Projection Plan will be implemented between 2011 and 2017 and will include monitoring 27 wetland alternating sites every three year. The Hualapai Department of Natural Resources currently monitors 19 separate wetland sites. Monitoring activities include scheduled site visits each year to conduct field parameter water quality sampling, measuring pH, temperature, conductivity, salinity, total dissolved solids, dissolved oxygen and turbidity.

Wells

The Arizona Department of Water Resources (ADWR) administers and enforces groundwater code and surface rights law in Arizona. Drilling a well within Arizona requires a Notice of Intent to Drill to be filed with the ADWR in order to manage and protect groundwater. ADWR's Well55 Registry lists 12 wells within the main Reservation area, two in Valentine, and five in Cholla Canyon Ranch.

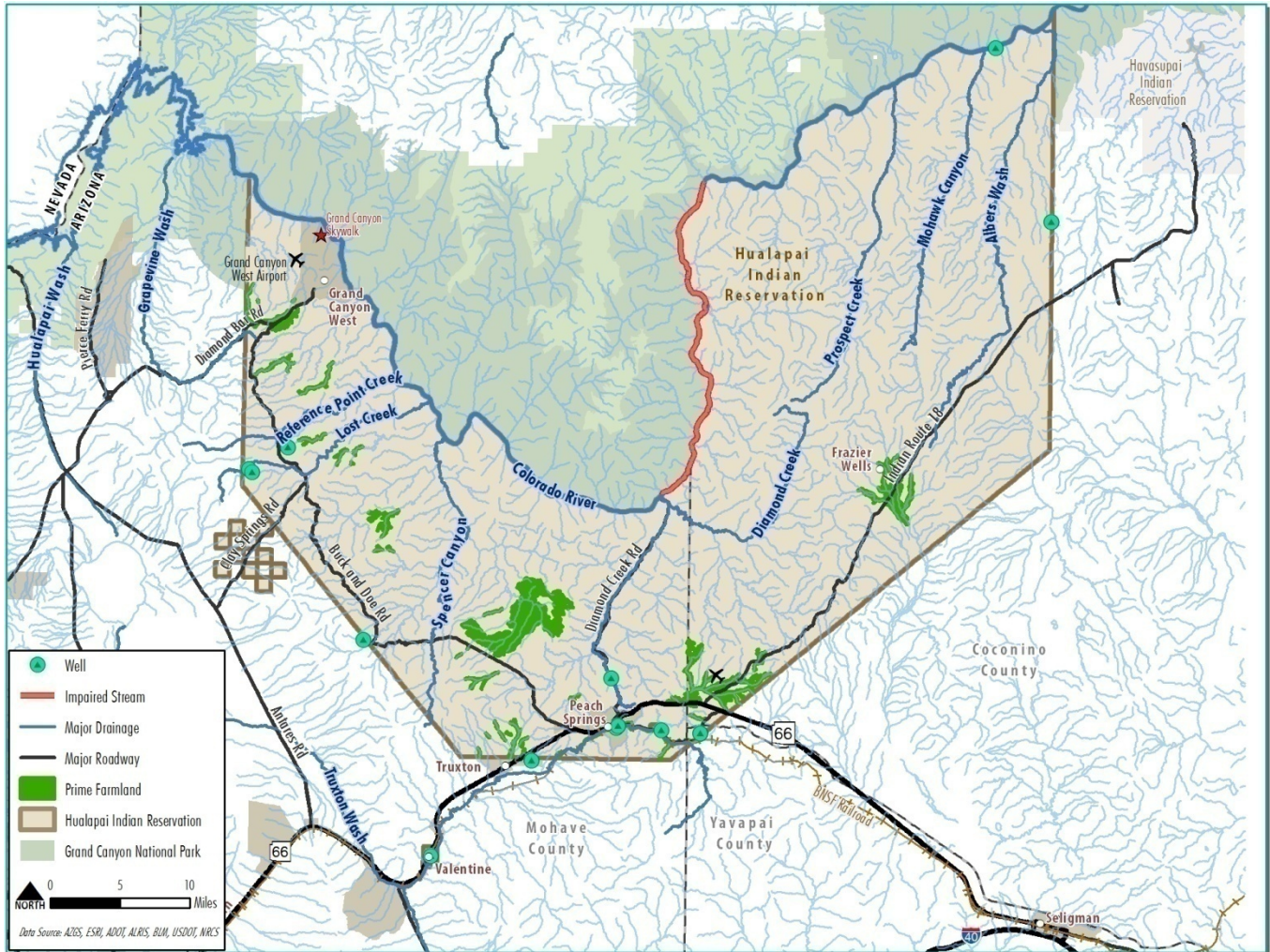
Floodplains

The Federal Emergency Management Agency (FEMA) has not conducted an official flood study of the Reservation to determine potential flood hazards; however, during the roadway inventory, flooding and drainage issues were identified on a large percentage of roadways. Roadways with significant flooding issues include: Buck and Doe Road (BIA 1), Antares Road, Diamond Creek Road (BIA 6), Youth Camp Road (BIA 17), and several other unpaved roadways throughout the Reservation.

Figure 7.2 illustrates the location of hydrologic features in the study area.



Figure 7.2: Hydrological Features and Prime Farmland



Recommendations for Further Analysis

Priority should be given to protecting the Colorado River and Big Sandy River to protect the free-flowing conditions and outstanding remarkable values that qualify the rivers for inclusion in the NPS National River Inventory. A drainage analysis will need to be conducted during the design phase to determine the degree of impacts on the area's hydrological features and to identify potential mitigation measures. An impact to hydrological features from roadway construction needs to be considered to reduce or eliminate induced increases to flood event water surface elevations. During the design process, coordination will need to occur with the USFWS and EPA to identify and to incorporate elements that protect wetlands in and around the study area. Furthermore, landscaping considerations should be given to incorporate low water use desert or desert adaptable planting.

PRIME AND UNIQUE FARMLANDS

The Hualapai Indian Reservation is located in the Natural Resources Conservation Service's (NRCS) Soil Survey Geographic (SSURGO) Database soil survey area AZ 699. According to the NRCS survey, the study area contains approximately 2,476 acres of prime farmland and 14,842 acres of prime farmland, if irrigated. Figure 7.2 illustrates the location of the prime farmland within the study area.

Recommendations for Further Analysis

Coordination between the Hualapai Indian Tribe, Mohave County, Coconino County, Yavapai County, USDA, and the USFS is needed to identify areas of potential or prime unique farmlands. If soil types in the area are considered prime or unique as identified on the USDA prime and unique farmlands soils list, analysis needs to be conducted to determine whether water delivery irrigation systems associated with the farmlands are adversely affected by the recommended improvements.

NOISE IMPACTS

Maintaining acceptable noise levels to preserve the character of open spaces, residential quiet zones, and recreational facilities should be considered when selecting a potential transportation improvement project. Schools, hospitals, residential development, and community uses requiring low noise levels are included in the list of potential noise-sensitive receptors. There are numerous existing noise-sensitive receptors within the study area, including the Peach Springs Elementary School; residential areas within Peach Springs, Valentine, Grand Canyon West, and along Buck and Doe Road (BIA 1); the Hualapai Lodge; community centers; parks; and churches. Potential future noise-sensitive receptors include new residential development, existing housing redevelopment, and the Music Mountain High School if it is converted back into an education center.

Other than paved roadways, noise generators within the Hualapai Indian Reservation include the BNSF Railway, truck traffic generated from the Lhoist Lime Plant on Nelson Road (BIA 19), Peach Springs Airport, and the significant helicopter and fixed wing aircraft activity at the Grand Canyon West Airport. The BNSF Railway transverses the entire length of the main Reservation and Valentine; with trains passing every 15 to 20 minutes (about 80 per day), high decibel horn noise from passing trains is the largest noise generator in the Reservation. As the fifth busiest airport in Arizona, helicopter and plane noise is a major noise generator at the Grand Canyon West's visitor center.

Recommendations for Further Analysis

During any project-related construction, care should be taken to maintain acceptable noise levels to preserve the characteristics of residential and recreational facilities. A detailed noise analysis study would need to be conducted to identify if potential noise levels exceed FHWA noise thresholds. During the DCR/EA phase of the project, noise-sensitive receivers should be modeled using the FHWA's approved Traffic Noise Model version 2.5 (TNM2.5) and validated against field measurements. As residential development occurs at the Grand Canyon West, the Hualapai Indian Tribe should consider establishing a noise ordinance that regulates aviation and motor vehicle noise levels for noise sensitive land.

In addition, the Hualapai Indian Tribe should coordinate with the BNSF Railway, Federal Railroad Administration (FRA), and ADOT establish quiet zones in Valentine and Peach Springs and to implement quiet zone improvements. A quiet zone is a section of a rail line at least one-half mile in length where the FRA has agreed that trains, except in emergency situations, are not required to routinely sound the horn at each public crossing. In order to establish a quiet zone, a diagnostic team should first review the crossing and Supplementary Safety Measures (SSMs), such as flashing lights and gates, need to be installed.



AIR QUALITY

Based on data provided by the Arizona Department of Environmental Quality (ADEQ), air quality in the study area meets the National Ambient Air Quality Standards (NAAQS) set forth by the Clean Air Act (CAA) for criteria pollutants carbon monoxide (CO), nitrogen dioxide (NO₂), ozone, particulate matter less than or equal to 2.5 microns or 10 microns (PM_{2.5} and PM₁₀, respectively), and sulfur dioxide (SO₂).

The Hualapai Indian Tribe has adopted its own Air Ordinance and EPA 105 approved program. The Hualapai Indian Tribe's Air Quality Program currently operates a Class 2 air shed and is considering re-designating their air shed from a Class 2 to a Class 1 air shed. The Hualapai Indian Tribe's Air Quality Program operates under the Hualapai Air Ordinance with an EPA approved Quality Assurance Project Plan (QAPP). Currently, the Hualapai Air Program monitors air quality at three monitoring stations on the Hualapai Indian Reservation. Designated as a Class 1 airshed by the EPA, the Grand Canyon requires the highest level of protection under the Clean Air Act of 1970.

Dust, due to the majority of roadways being unpaved, is the main pollutant on the Reservation. The health of the Joshua Tree Forest along Diamond Bar Road is particularly a concern, as the forest's health is declining due to dusts from traveling motorists. It was noted, however, that during a field review conducted after the paving of Diamond Bar Road that the Joshua Tree Forest is recovering.

Recommendations for Further Analysis

Measures should be taken to ensure that improvements made do not negatively impact the air quality of the region. During the project implementation phase, proposed improvements will require a detailed evaluation to identify the impacts with respect to the increase and decrease in criteria pollutants and mobile source air toxins. Coordination will need to occur between the Hualapai Indian Tribe, Mohave County, Yavapai County, and Coconino County to ensure that any proposed improvements comply with EPA ordinances and policies for air quality.

UTILITIES

Mohave Electric Cooperative (MEC) is the main service provider to the Hualapai Indian Reservation; Hualapai Public Works is the local water provider; and water, sewer, and waste are managed by the Hualapai Public Works Department. While the majority of the Reservation does not have electricity, service is provided to Peach Springs, Valentine, and areas along Buck and Doe Road (BIA 1). The MEC also provides single-phase electrical service to Youth Camp, Thorton Tower, and Bender Tank. Energy projects currently underway or recently constructed in the Hualapai Indian Reservation include:

- As part of the Renewable Energy Standard Tariff (REST), MEC with assistance from the Grand Canyon Trust funded a 19kW solar array that should offset the annual electrical costs of Peach Springs Elementary School by 10-12%.
- Solar powered water pipeline, funded by USDA/HUD/ARRA funds, carries water to the Grand Canyon West from a water storage reservoir 26 miles south.
- The Grand Canyon West installed 2.5 KW solar arrays at Guano Point to power lights, appliances, and evaporative cooling units.



Dust from dirt roadways adversely impacts air quality and the health of native vegetation.



- United States Department of Agricultural (USDA) Rural Utilities Service (RUS) High Energy Cost Grant Program provided funding to the Tribe to install a 34 KW hybrid solar photo-voltaic electric system. The system will help support the Grand Canyon West Airport, commercial facilities, worker housings, a water system plant, and approximately 50 homes.
- BLM Mohave County Wind Farm Project - The BIA is currently in the process of analyzing a 38,000 acre site for the construction of a Wind Farm Site. The project is proposed to consist of up to 283 wind turbine generators and will connect with the main electrical power grid.
- Department of Energy Wind Energy Development - the Hualapai Department of Planning and Economic Development recently completed the *Wind Project Feasibility Study*. The study identified site areas for the feasible construction of a potential wind project. The study examined areas in Peach Springs, Blue Mountain, Grand Canyon West, the Nelson Road area, and Clay Springs for feasibility and fatal flaws. Results of the study identified the Grand Canyon West and Clay Springs area has the most suitable locations for a wind project. The Hualapai Tribal Council, however, has declined the request to develop a wind farm at this time.
- Solar Power Project - the Hualapai Planning and Economic Development Department recently completed the *Hualapai Solar Project Feasibility Report* that identified locations on Nelson Road and Clay Springs as feasible locations for the development of two solar facilities.

Recommendations for Further Analysis

During the project pre-design and DCR/EA phase, additional investigations need to be made concerning the degree of impacts and to see if any relocation or service interruptions would need to be made. Coordination between the utility companies and the Hualapai Indian Tribe is imperative during the pre-design and design phase of project implementation.

HAZARDOUS MATERIALS

A regulatory review of federal and state hazardous material databases was conducted to identify the presence of hazardous materials in the Hualapai Indian Reservation. Through this evaluation it was found that no Superfund sites, solid waste landfills, or hazardous waste treatment, storage, and disposal facilities (TSDFs) are located within the study area. According to the Arizona Department of Environmental Quality (ADEQ) AZURITE database, there are no current leaking underground storage tanks (LUSTs) on the Reservation.

There are no authorized landfills operating on the Hualapai Reservation; however, residents have established an unauthorized landfill on an unpaved road between Peach Springs and the Milkweed area. The Tribe does own a Solid Waste Transfer Station; therefore, waste is hauled to the Mohave County operated landfill in Mineral Park approximately 70 miles away.

Recommendations for Further Analysis

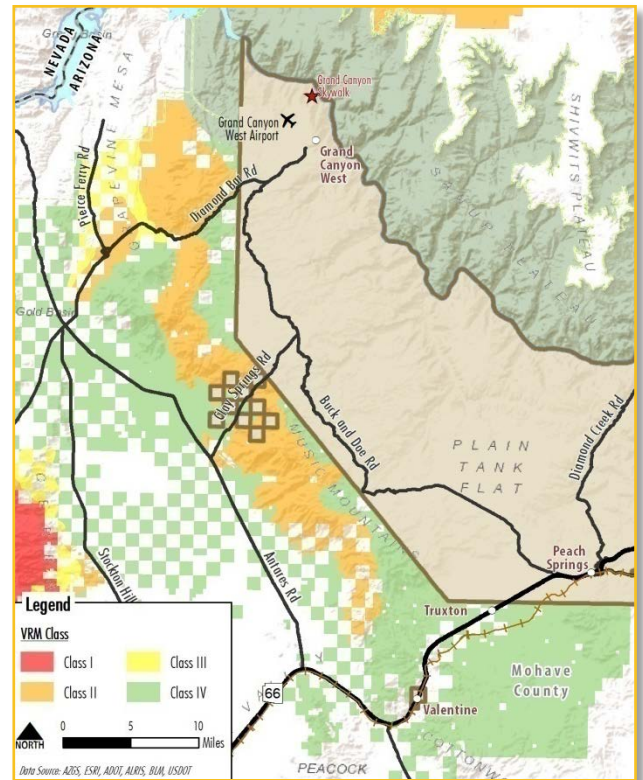
Construction of recommended improvements has no direct impact on hazardous sites. Future hazardous materials investigations may also include sampling and testing for asbestos in concrete and lead-based paint in roadway striping and structures.



VISUAL RESOURCES

The visual character of the study area varies between breathtaking views of the Grand Canyon, scenic mountainous terrain, thriving forests, and developed residential areas. State Route 66 is designated by the FHWA's American Byways program as a National Scenic Byway and All-American Road. As defined by the FHWA, the America's Byways program aims to recognize, preserve, and enhance roadways with one or more archeological, cultural, historic, natural, recreational, and scenic qualities. The *2005 Historic Route 66 Corridor Management Plan* was developed by ADOT to guide the management, development, and conservation of the historic corridor.

No other land-managing agencies with visual impact requirements (e.g., National Park Service, U.S. Forest Service, and Bureau of Land Management) own or have jurisdiction over land in the study area. The Bureau of Land Management's Visual Resource Inventory (VRI); however, classifies areas along State Route 66, Antares Road, and Diamond Bar Road as class II, class III and class IV. The objectives of class III and IV areas are partial or no retention of the existing landscape character; while class II areas should have low changes to the existing character of the landscape.



Recommendations for Further Analysis

The proposed improvements are consistent in scope and scale with the current facility, adjacent land use, and the visual character of the Hualapai Indian Reservation. Vegetation removal and aesthetic treatment/landscaping should coordinate with the Tribe's vision and follow ordinances set forth by the Hualapai Indian Tribe, Mohave County, Coconino County, and Yavapai County. Due to the scenic nature of the Hualapai Indian Reservation, design consideration should be given to maintain vistas from the roadway and to incorporate cohesive planting design that allows for views of the surrounding landscape. Coordination should also occur between the Hualapai Indian Tribe and ADOT to develop a comprehensive signage system, landscaping standards, and corridor maintenance plan, for State Route 66, which promotes economic vitality while maintaining the historic nature of the roadway.

CULTURAL RESOURCES

Cultural resources are properties that reflect the heritage of local communities, states, and nations. Properties judged to be significant and to retain sufficient integrity to convey that significance are termed "historic properties" and are afforded certain protection in accordance with state and federal legislation. Cultural resources within Hualapai Reservation are a unique resource, which needs to be protected. In order to quantify the impacts of potential transportation improvement projects on cultural resources within the Hualapai Indian Reservation, the Hualapai Indian Tribe's Department of Cultural Resources will conduct a high level review of archaeological sites and ethnohistorical places of cultural and historical significance. Identification of these resources will help the study team develop mitigation plans to protect those resources while resolving transportation issues.



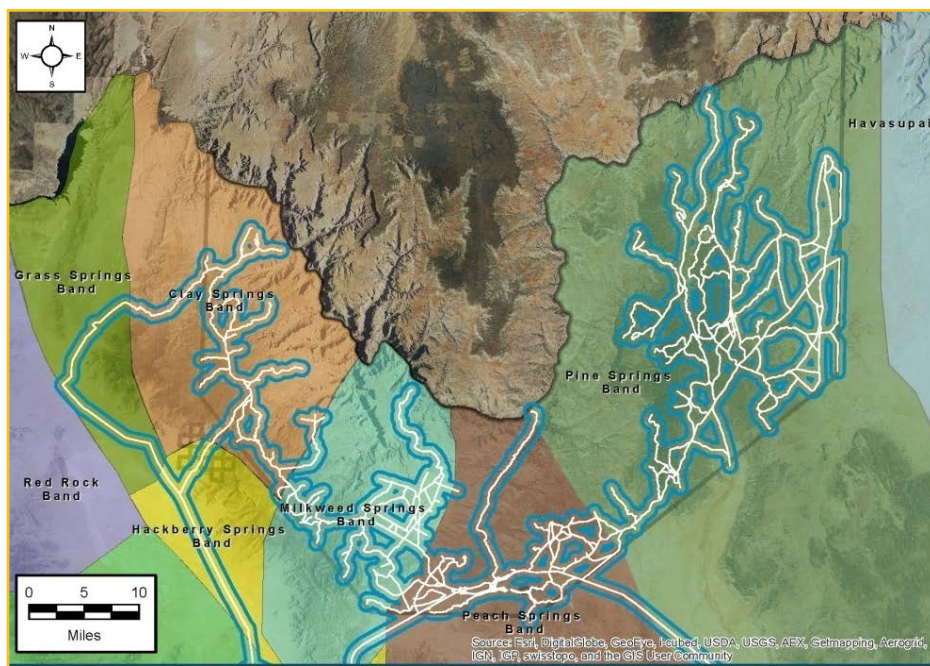
This section provides a cultural resources overview of the various general transportation route areas, and highlights potential issues that may affect implementation of undertakings in those areas. For the purposes of this section, the discussion will focus on general environmental zones and the types and anticipated densities of archaeological sites found in these zones, as well as an overview of ethnohistoric places of cultural and historical significance, which are typically referred to as traditional cultural places (TCPs). Considered collectively, the various areas of the Hualapai Indian Reservation may be thought of as a patchwork of overlapping cultural landscapes that individually hold significance to the descendants of one or more ancestral bands, as well as the Hualapai people as a whole. Potential Native American Graves Protection and Repatriation Act (NAGPRA) concerns are also considered.

The information summarized in this section was obtained from two main sources: the Hualapai Indian Tribe's Department of Cultural Resources archaeological database and from a GIS-based atlas of Hualapai places of historical and cultural importance (the Hualapai Atlas). This discussion does not include specific ethnohistoric information or other kinds of sensitive subject matter, which would normally only be brought forth in response to actual undertakings that may adversely affect such places.

History

The current Hualapai Indian Reservation comprises approximately one million acres in northwestern Arizona. Hualapai ancestral territory, however, was approximately seven times larger, reaching to the Colorado River to the north and west, the Little Colorado River area and San Francisco Peaks to the east, and the Bill Williams River to the south. Historically, at least 14 bands were known to occupy this extensive area. The image on the right depicts the general territories used by bands in the vicinity of the road inventory being analyzed in the plan. These boundaries were not clearly delineated across the landscape, but were fluid, overlapping, and commonly shared among bands.

For the purposes of this discussion, the study area will be divided into western, central, and eastern. Within each division there may be several diverse ecological zones, which had a significant effect on the kinds of subsistence activities that could be undertaken, although not necessarily deterministically so. In each case, the Colorado River of the western Grand Canyon defines the northern extent of band territory, as well as the Hualapai Reservation boundary.



Traditional band territories within and surrounding the roadway inventory.

Western Division

The western part of the analysis area was mainly occupied by the Clay Springs Band (*Ha Du:ba Pa'a* in Hualapai), conceptually tethered to the landscape surrounding Clay Springs located just below the western escarpment of the Grand Wash Cliffs, but ranging over a very broad area surrounding Clay

Springs. Their neighbors were the Grass Springs Band to the west, the Hackberry Springs Band to the south, and the Milkweed Springs Band to the southeast.

The landscape of this area ranges from grasslands and open juniper woodland to the south, climbing to a very diverse piñon-juniper woodland vegetation community, incised by rugged canyons that drain into the Colorado River, as one moves north. Toward the northern extent, elevation decreases to the area now known as Grand Canyon West, where once again open grasslands and sparse and patchy juniper woodland becomes more typical. The west part of the Hualapai Indian Reservation is framed by the prominent Grand Wash Cliffs, through which a number of routes could be traversed to access the lower elevations of the Hualapai Valley.

As the long-time home base for the Clay Springs Band, the area holds considerable importance to Hualapai history and culture. Occupying the territory along the Grand Wash Cliffs, the Clay Springs Band had access to a very diverse variety of food and material resources. Aside from crucial water sources at the numerous springs issuing along the cliffs, they hunted and gathered from the upland areas of the western edge of the Colorado Plateau, the canyon country that incised the plateau, and the broad valley bottoms to the west that mark the transition to the Basin and Range physiographic province (e.g., the Hualapai Valley and Red Lake areas). Some areas were favorable for gardening and small-scale agriculture, either in the immediate vicinity of springs or, during moister climatic periods, in upper alluvial washes and sagebrush valleys where dry farming was sometimes possible. This latter scenario in particular is demonstrated at archaeological sites that contain evidence of maize consumption, habitation features, and in general more sedentary occupation necessary to maintain field areas.

Archaeologically, the Grand Wash Cliffs area is one of the most intensively occupied areas on the Hualapai Indian Reservation and in northwestern Arizona in general. It is not uncommon for sites to exceed 10 acres in area or to contain habitation features, chipped stone, ceramics, and grinding tools. Furthermore, as the Hualapai people hold their ancestral territory sacred and have been very protective of ancient sites from intrusion by non-tribal members, it is clear that there has been little looting or illicit artifact collecting relative to most other areas in the southwestern United States, particularly when compared with non-reservation lands in general.

Likewise, the Milkweed Springs Band area was also very diverse, encompassing the Grand Wash Cliffs as well as the canyon country that ultimately leads down to the Colorado River. Although on average it lies a bit lower than much of the Clay Springs Band country, the diversity of plant and associated animal resources available allowed for a varied lifeway that, similar to the Clay Springs area, included hunting and gathering as well as horticulture.

In contrast, the open grassland areas are more typically found in landscapes where less surface water is readily available. Although occupied less intensively and with lower site densities, they were nonetheless important for obtaining certain resources, such as grass seeds, small game, and deer and antelope.

The vast majority of known sites that have been recorded in the western reservation are open artifact scatters. These tend to be concentrated in piñon-juniper woodland areas above 5000 ft in elevation. In fact, as elevation increases, vegetation diversity also seems to increase, and site density and intensity also generally increases. Sites throughout this area range from camps with diverse artifact types (such as chipped stone, ceramics, and grinding tools occurring together, interpreted as evidence of seasonal residential use), to hunting oriented camps (primarily chipped stone, often with several projectile points and cutting tools), gathering and seed processing loci (with multiple grinding tools, often with relatively low numbers of chipped stone artifacts), to residential agricultural sites (with deep, formalized trough and basin metates, abundant ceramics, and generally more diverse artifact assemblages resulting from more intensive long-term occupation).



Notable larger archaeological projects completed in the western part of the Transportation Plan study area include a survey of APS' 500kV transmission line (which in fact traversed the entire reservation from east to west); drought relief/waterline surveys that currently provide water for livestock and Grand Canyon West (these were generally narrow corridors running north-south); a sample survey of six 160-acre parcels across the Hualapai Reservation (three of which occurred in the western area); the Boston Patch Fuelwood Survey (generally near the interface between the Milkweed Springs, Clay Springs, and Hackberry Springs band areas, and containing abundant archaeological sites); a seven mile fenceline survey from the vicinity of Buck and Doe Road to the rim of the Grand Wash Cliffs generally overlooking Clay Springs; and a mitigation project associated with the realignment of Buck and Doe Road near Milkweed Springs, which involved some archaeological testing. Most recently, archaeological inventory related to the Diamond Bar Road paving project has resulted in the identification of several archaeological sites, including the discovery of human remains (although this occurred on BLM lands west of the reservation).

Although the area undoubtedly contains many burial sites, their locations are largely unknown (notwithstanding the above exception, which was only discovered through significant ground disturbing activity). This is especially true with those interred prior to the establishment of family or community cemeteries in the past 100 years or so. Common past burial practices, including interment underground, included cremation or placing the deceased in rock crevices. Because of the low-visibility, as well as the dispersed and obscure locations of these burial sites, it is extremely difficult to inventory or predict where they might be. Considering the general area was a major settlement and use area for many centuries for the Hualapai, it follows that there would be many burial sites throughout the area.

In addition, because of the long history of occupation and the importance of the area on many levels, there are numerous landmarks and places of cultural and historical importance (TCPs) throughout the area, some of which have been documented but others that are very likely not yet documented. A comprehensive ethnohistoric study, analogous to an archaeological inventory, should be conducted as part of any planning for large scale development in the area as early in the process as possible, especially development that has the potential to increase access to areas that were previously isolated.

Upon assessment it is evident that any large-scale transportation development in this area would entail numerous issues. Direct and indirect impacts to an extremely important cultural and historic traditional cultural place (TCP) would raise complicated and potentially difficult mitigation challenges. Concerning the abundant archaeological sites in this area, it would also be challenging to avoid direct impacts to sites during any type of extensive road construction. Mitigation would therefore likely involve extensive archaeological excavations, analysis, and curation, all of which entail considerable expense. Identifying and mitigating impacts to TCPs, perhaps most obviously the visual and other indirect effects of road paving and related development that potentially promote easier (and perhaps unauthorized) access, should include broad participation by Tribal members, especially those with direct ancestral ties to the area. This recommendation holds true for all areas to be considered in the transportation plan.

Although the focus for future road improvement in this area would most likely be on Buck and Doe Road (BIA 1) to promote easier access to the Grand Canyon West development from State Route 66 and Peach Springs, many other smaller "feeder" routes adjoin Buck and Doe Road. These will almost certainly receive more traffic if Buck and Doe is further improved or paved, as well, whether authorized or not. As these have enjoyed relative isolation from illegal or unwanted visitation and molestation of sensitive cultural resources up to the present, they will be subject to increased risk if this country is opened to increased access.



Central Division

The central area, which in this discussion includes the Peach Springs Band and the eastern Milkweed Springs Band areas, stands in marked contrast to either the western or eastern areas in that it contains a somewhat less diverse environment. For the most part the higher elevation zones that climb above 5000 feet are not present within the reservation boundaries, although these band territories extend further to the south and ultimately encompass many higher elevation mountainous areas. Accordingly, the subsistence and material resources available to the occupants in the immediate vicinity were somewhat more limited although it was an integral part of the annual settlement and subsistence tradition going back countless generations.

The central area is characterized by grasslands and open juniper woodlands descending to lower desert and canyon environments. It is also where the town of Peach Springs is located, which tends to have relatively greater development within and surrounding it. State Route 66 is the main thoroughfare through the area, attracting thousands of tourists each year. A number of other paved and unpaved existing routes access residential areas, ranching related facilities, such as corrals and tanks, and the frequently travelled road commonly known as Diamond Creek Road (BIA 6), which is unique in that it accesses the Colorado River at one of the main take-out and launch points on the river.

Relative to the western and eastern areas, there has been less archaeological work conducted in the area (with the exception of numerous homesite and other small survey projects within the immediate Peach Springs vicinity). A few exceptions include the APS 500kV transmission line survey noted above, surveys of proposed hiking trails that lead from Diamond Creek Road (BIA 6), and a survey of a waterline route north of Peach Springs along Diamond Creek Road (BIA 6). Other investigations during the late 1930s by the Museum of Northern Arizona and early 1950s by Robert C. Euler also focused on sites along Diamond Creek Road; however, site locations are not precisely known due to the lack of detailed maps available when the work was conducted.

Recorded archaeological sites within this area include artifact scatters, roasting pit complexes, rockshelters, and petroglyph and pictograph sites. Sites in the lower desert areas are generally smaller and less dense than in the western and eastern upland areas, and appear to be focused on specific seasonal activities, such as collecting and roasting agave. In some of the upland areas that supported stands of perennial native grasses, seed gathering and processing was also an important subsistence pursuit. Hunting would have been important in both the upland and lower desert areas.

Several ethnohistorically important places are known in the central area, including springs and mineral gathering areas. In addition, some remote places near the Colorado River in rugged canyon country served as refuges during conflict with the U.S. Army in the 1860s. In some of these areas, it was reported that horticulture and intensive settlement occurred, especially in the vicinity of springs and streams with reliable water.

Because there has been relatively little archaeological study of the central area, the summary described above should be viewed as tentative. As demonstrated on a map of the current road inventory, this area of the western Grand Canyon country contains some of the more remote undeveloped roadless areas of the Hualapai Indian Reservation.

Eastern Division

The eastern area of the reservation was primarily occupied historically by the Pine Springs Band, who ranged over a very broad territory. This area was also very ecologically diverse, comprising lower desert and canyon country near the Colorado River, upland piñon-juniper woodlands and grasslands, and, unique to the Hualapai Indian Reservation, ponderosa pine forests at elevations above 6800 ft.



The eastern area of the reservation would appear to have the greatest number and density of archaeological sites. Certainly there are a great number of sites, but the overall picture may be skewed by the fact that this area has also received the greatest amount of archaeological survey coverage, by far. This is due to forestry related inventory projects that extend back to at least the early 1980s in and near ponderosa pine stands. This work was driven specifically by timber and forest management and continues to the present day. This area also contains numerous roads and routes in the current road inventory, many of which are mere two-tracks that serve primarily as service roads used by tribal forest and range managers.

In the ponderosa pine and adjacent piñon-juniper transition ecotones in particular are numerous sites that demonstrate both agricultural subsistence strategies and hunting and gathering pursuits. These include masonry, jacal, and pithouse living structures, abundant and diverse artifact assemblages, and site locations near small alluvial valleys that appear to have supported dry farming. Advanced chipped stone lithic assemblages with projectile points and cutting tools point to an emphasis on hunting, and grinding tools suitable for small seed grinding as well as maize processing indicate both wild plant foods and domesticates were important staples.

Elsewhere in the eastern area, the piñon-juniper woodlands supported a diverse plant and animal community and was intensively occupied, although perhaps only seasonally. Sites in these contexts tend to comprise artifact scatters only, although Wikieup shelters were known to be commonly used but have mostly collapsed and deteriorated over time. The importance of nutritious piñon “nuts” to the Hualapai diet should not be underestimated. Tribal members continue to be on the lookout for the next abundant harvest and gather crops in good years using traditional methods.

Similar to other areas, grasslands were important for native perennial seeds, such as Indian rice grass and *Sporobolus*, as well as a species of *Mentzelia* known in Hualapai as *sel'é*, which thrived in grassy valleys and open desert areas before being decimated by cattle grazing. The rugged canyon country near the Colorado River has received very little archaeological attention, with the exception of the river corridor proper, which is of course a road less area and is not a factor.

TCPs in the eastern area include the numerous springs, canyons, prominent landforms, and settlement areas. Because of the extensive and intensive occupation of the area extending back countless generations, it would be expected that there are a great many burial sites, as well, although very few have been specifically documented. These may be subsurface graves at some of the more permanent settlements in the high country, or cremation, crevice, or cairn burials in the rugged canyon country.

The benefits of relative isolation to the preservation of ancient sites cannot be overstated. This, coupled with the Hualapai Indian Tribe’s approach to restricting travel to a few well-travelled routes and the overall ethic of preservation among tribal members, has resulted in a cultural landscape more intact than most of the western United States. Continuing these practices will help to ensure that this landscape remains so for generations to come.

Similar to many other relatively undeveloped areas of the southwestern United States, which are managed by various tribal, federal, and state land management agencies, the vast majority of the Hualapai Reservation has not been intensively surveyed or studied in detail. The synopsis provided above, then, is based on somewhat limited knowledge. In providing a general overview, the emphasis is placed on the typical and on patterns and trends, rather than on the unique. There are many unknown and forgotten archaeological locations within the study area which calls for the need of mitigation of dramatic impacts.



SECTION 4(F) AND SECTION 6(F) RESOURCES

Section 4(f) of the US Department of Transportation Act of 1966 and the Section 6(f) of the Land and Water Conservation Fund (LWCF) Act are intended to protect the nation's recreational resources from significant transportation-related impacts. Section 6(f) is a component of the LWCF Act of 1965 that protects recreational properties acquired or developed with LWCF Act funds that could be affected by transportation projects. No Section 6(f) properties have been identified in the Hualapai Indian Reservation.

Section 4(f) stipulates that the FHWA and other DOT agencies cannot approve the use of land for transportation improvements on publicly owned parks, recreational areas, wildlife and waterfowl refuges, or public and private historical sites unless there is no feasible alternative or the projects include all possible planning to minimize harm to the property. The "use" of Section 4(f) is defined in CFR Title 23, Part 771.135(p) as:

- When property is permanently incorporated into a transportation facility;
- When there is a temporary occupancy of land that is adverse in terms of the statute's preservation purpose; or
- When there is a constructive use of a Section 4(f) property. A constructive use of Section 4(f) resource occurs when the proximity impacts of a proposed project adjacent or nearby a Section 4(f) property results in a substantial impairment to the property's activities or features that qualify a resource for protection under Section 4(f).

A historic site is considered a Section 4(f) property if it is eligible for the National Register of Historic Places (NRHP) under Criterion A, B, or C if the site is associated with events that have made a significant contribution to the broad patterns of our history, associated with the lives of persons significant in our past, or embodies the distinctive characteristics of a type, period, or method of construction, or that represents the work of a significant distinguishable entity whose components may lack individual distinction. Potential Section 4(f) properties within the study area include:

- Boys and Girls Club, which includes a playground area, at the southwest corner of Hualapai Way (BIA 101)/Diamond Creek Road (BIA 6) intersection.
- Hualapai Day Care, which includes a playground area, located on Hualapai Drive.
- A community park at the northeast corner of the State Route 66/Diamond Creek Road (BIA 6) intersection.
- Recreation area along Rodeo Circle, which includes two baseball fields, a playground, Querta Memorial Gym, and an amphitheater.
- Peach Springs Trading Post, located on State Route 66 in Peach Springs, is listed in the NRHP.
- Schoolhouse at Truxton Canyon Training School, located in Valentine, is listed in the NRHP.
- John Osterman Gas Station, located on State Route 66 in Peach Springs, is listed in the NRHP.

Recommendations for Further Analysis

Additional analysis needs to be conducted into resources eligible for protection under Section 6(f) and Section 4(f) to evaluate potential impacts of the proposed improvements on these resources. A Section 4(f) evaluation report should be conducted that documents coordination efforts between agencies and local communities; attempts to avoid the resources, direct or constructive use impacts; and measures to minimize harm and impacts from temporary occupancy (if needed). During the DCR/EA phase, Section 4(f) properties need to be analyzed for measures to minimize harm on planned recreational facilities in proximity to the project area, if warranted.



ENVIRONMENTAL JUSTICE REVIEW (TITLE VI)

Title VI of the Civil Rights Act of 1964 and related statutes ensure that individuals are not excluded from participation in, denied the benefit of, or subjected to discrimination under any program or activity receiving federal financial assistance on the basis of race, color, national origin, age, sex, and disability. Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, dictates that programs, policies, and activities identify and address, as appropriate, disproportionately high adverse human health and environmental effects on minority and low-income populations. Protected populations considered in this analysis include: minority, elderly, low-income, and disabled populations. Detailed analysis of the environmental justice conditions based on Census 2010, ACS 2006-2010, and Census 2000 data can be found in Working Paper 1. Key findings noted in Working Paper 1 include:

- *Age 65 and Older* -Within the Hualapai Indian Reservation, approximately 5.9% of the total population is over the age of 65. Concentrations of elderly populations can be found along Diamond Creek Road within Peach Springs. Buck and Doe Road (BIA 1) and south of SR 66 in Peach Springs also have concentrations of age 65 and older populations.
- *Minority Population* -According to the 2010 Census, approximately 98% of the total population within the study area are minorities. This high percentage of minority population is due to the study being located within the Hualapai Indian Reservation.
- *Female Head of Households* - Census data estimates that approximately 35.6% of households within the Reservation consist of have a female head of household. Additionally, 17.1% of all households are female head of households with their own children residing at home.
- *Below Poverty Population* - According to the 2006-2010 ACS approximately 41% of the Hualapai Indian Reservation's population is considered to be below the poverty level.
- *Disabled Population* - According to the 2000 U.S. Census, 17% of the population on the Hualapai Indian Reservation is disabled.

Multimodal transportation improvements would provide numerous positive impacts to environmental justice populations in the study area. Enhanced streetscaping that provides bicycle and pedestrian facilities would increase protected population's ease of access to local activity centers, places of employment, medical services, and community facilities. Additionally, incorporating transit services will provide protected populations even greater accessibility to local and regional activity centers, as well as employment centers.

Recommendations for Further Analysis

The potential positive and negative impacts on the protected populations should be discussed in the environmental analysis of the design phase. The environmental justice data will also need to be updated as data becomes available; continued coordination with ADOT environmental planners will determine the appropriate data source for the most accurate environmental justice review. Consideration should be given during the construction phase of project implementation on the impacts to minority-owned businesses, the mobility needs of the protected populations, and on residential parcels of protected populations. In addition, on-going outreach efforts need to be made to include meaningful participation by all residents, including low-income, disabled, below poverty and minority populations, throughout project development.



8. PLAN FOR IMPROVEMENTS

This section presents the Plan for Improvements for the short-, mid-, and long-term phases. This transportation plan is the result of the deficiency analysis, Public Open House input, and feedback from Tribal staff and stakeholders. It is a multimodal plan that includes roadway, transit, pedestrian, bicycle, trails, aviation, and maritime improvements.

ROADWAY IMPROVEMENT RECOMMENDATIONS

Short-Term (2019) Improvements

Short-term phase projects are recommended to be completed as the study area reaches year 2019. Table 8.1 presents a comprehensive list of the transportation recommendations for this phase, as well as the project number, location, description, and estimated costs for each project. Each project is assigned a unique project number that can be used to track project progress. Planning level cost estimates were developed based on typical per-mile/foot construction costs. *Estimated costs for each project are expressed in 2014 dollars and do not include ROW acquisition costs. Actual costs for projects could vary at the time of implementation; therefore, a detailed analysis should be performed on a case-by-case basis to determine actual costs. Unless otherwise noted, the recommended projects are not yet funded.*

Table 8.1: Short-Term Recommendations

Project ID	Project Location	Project Description	Length (miles)	Cost
Hualapai Indian Tribe				
ST-1	BIA Route 101 (Peach Springs)			\$914,300
ST-1.1	BIA Lane (Section 200)/State Route 66 Intersection	Restripe intersection to include a stop bar	-	\$1,500
ST-1.2	High View Drive (Section 120)/State Route 66 Intersection	Restripe intersection to include a stop bar	-	\$1,500
ST-1.3	BIA 101 (Section 20)/Honaga Hill Road Intersection	Install "Yield" Sign on BIA 101 (Section 20)	-	\$500
ST-1.4	Ridge Road/Honaga Hill Road Intersection	Install "Yield" Sign on Honaga Hill Road	-	\$500
ST-1.5	Shandy Lane/Honaga Hill Road Intersection	Install "Yield" Sign on Honaga Hill Road	-	\$500
ST-1.6	Rodeo Way/Diamond Creek Road/Diamond Creek Circle Intersection	Install "Stop" Sign on Rodeo Way and "Yield" Sign on Diamond Creek Circle	-	\$1,000
ST-1.7	Sections 10, 20, 60, and 300	Install "Hill" Signs at steep hills	-	\$2,500
ST-1.8	Diamond Creek Road/BNSF Railroad Crossing	Coordinate with BNSF to conduct an at-grade crossing safety assessment to determine necessary improvements	-	\$8,000
ST-1.9		Restripe roadway to include stop line and pavement marking symbols		\$1,500
ST-1.10	Diamond Creek Road (Section 100)	Extend School Zone from south of Shandy Lane to Indian Way	-	\$1,000
ST-1.11	Diamond Creek Road (Section 100 and 280); Hualapai Way (Section 70); High View Drive (Section 110)	Add pavement striping	1.63	\$2,600
ST-1.12		Install street signs and wayfinding signs	1.63	\$3,000
ST-1.13		Clear roadside vegetation	1.63	\$1,200

* Projects identified on Mohave County and ADOT maintained roads are recommendations only. These recommendations are based on stakeholder/public input, a roadway inventory, and analysis of deficiencies and needs. Route and Section Numbers refer to the BIA TTP roadway inventory route numbers.



Table 8.1: Short-Term Recommendations (Continued)

Project ID	Project Location	Project Description	Length (miles)	Cost
Hualapai Indian Tribe				
ST-1	BIA Route 101 (Peach Springs) <i>(Continued)</i>			
ST-1.14	Sections 40, 70, 100, 160 – 180, 280	Pavement Preservation – Chip Seal	2.6	\$7,500
ST-1.15	Sections 20, 40-60, 90, 110, 130-190, 210-270	Add pavement striping	5.26	\$8,500
ST-1.16		Install street signs and wayfinding signs	5.26	\$10,000
ST-1.17	Hualapai Lodge to End of Nelson Road	Extend concrete shared-use path to Nelson Road	0.25	\$40,000
ST-1.18	Diamond Creek Road: Rodeo Way to Canyon View Drive	Construct concrete shared-use path	1.16	\$175,000
ST-1.19	Hualapai Way: State Route 66 to Indian Way	Construct concrete shared-use path	0.33	\$50,000
ST-1.20	High View Drive: Diamond Creek Road to BIA Lane	Construct concrete shared-use path	0.26	\$42,000
ST-1.21	High View Drive: BIA Lane to State Route 66	Construct asphalt shared-use path	0.22	\$36,000
ST-1.22	Sections 30, 50, 70, 100, 120, 200 - 220, 260 - 290	Install street lighting	4.5	\$520,000
ST-2	BIA Route 103 (Valentine)			\$10,000
ST-2.1	Section 70 and 80/BNSF Railroad Crossing	Coordinate with BNSF to conduct an at-grade crossing safety assessment to determine necessary improvements	0.2	\$8,000
ST-2.2		Install "Look" and "Yield" sign at crossing	0.2	\$1,000
ST-2.3	Sections 10 - 110	Clear roadside vegetation	1.3	\$1,000
ST-3	Valentine Way (BIA Route 9103)			\$500
ST-3.1	Section 10	Install "Do Not Enter When Flooded" sign	0.4	\$500
ST-4	BIA Route 8000 (Valentine Cemetery Road)			\$10,000
ST-4.1	State Route 66 to Valentine Cemetery	Install "Do Not Enter When Flooded" sign	0.9	\$500
ST-4.2	Valentine Cemetery Road/BNSF Railroad Crossing	Install crossbucks	-	\$1,500
ST-4.3		Coordinate with BNSF to conduct an at-grade crossing safety assessment to determine necessary improvements	-	\$8,000
ST-5	Buck and Doe Road (BIA 1): State Route 66 to Mud Tank Road			\$870,500
ST-5.1	Buck and Doe Road (BIA 1)/State Route 66 Intersection	Restripe intersection to include a stop bar		\$1,500
ST-5.2	State Route 66 to Mud Tank Road	Add pavement striping	3.5	\$15,000
ST-5.3		Install animal crossing warning signs	3.5	\$4,000
ST-5.4		Install roadside fencing to ADOT and AZGF standards	3.5	\$450,000
ST-5.5		Install street lighting	3.5	\$400,000

★ Projects identified on Mohave County and ADOT maintained roads are recommendations only. These recommendations are based on stakeholder/public input, a roadway inventory, and analysis of deficiencies and needs. Route and Section Numbers refer to the BIA TTP roadway inventory route numbers.



Table 8.1: Short-Term Recommendations (Continued)

Project ID	Project Location	Project Description	Length (miles)	Cost
Hualapai Indian Tribe				
ST-6	Buck and Doe Road (BIA 1): Mud Tank Road to Diamond Bar Road			\$60,300
ST-6.1	MP 17 - MP 20	Install sharp curve ahead warning signs	3	\$2,000
ST-6.2		Install chevron signs at curves	3	\$2,000
ST-6.3	MP 26 - MP 29	Install sharp curve ahead warning signs	3	\$2,000
ST-6.4		Install chevron signs at curves	3	\$2,000
ST-6.5		Install guardrails along sharp curves	3	\$4,300
ST-6.6	MP 30 - MP 32	Install sharp curve ahead warning signs	2	\$2,000
ST-6.7		Install chevron signs at curves	2	\$1,000
ST-6.8		Install guardrails along sharp curves	2	\$3,000
ST-6.9	MP 34 - MP 36	Install sharp curve ahead warning signs	2	\$2,000
ST-6.10		Install chevron signs at curves	2	\$1,000
ST-6.11		Install guardrails along sharp curves	2	\$3,000
ST-6.12	Buck and Doe Road (BIA 1) / Diamond Bar Road Intersection	Install "Rough Road Travel At Your Own Risk" sign	-	\$500
ST-6.13	Buck and Doe Road (BIA 1) / Mud Tank Road Intersection	Install "Rough Road Travel At Your Own Risk" sign	-	\$500
ST-6.14	Mud Tank Road to Diamond Bar Road	Install animal crossing warning signs	44.9	\$15,000
ST-6.15	BIA Route 1, Section 22 (~MP 15.5)	Clear vegetation and cleanout structure	-	\$5,000
ST-6.16	BIA Route 1, Section 27 (~MP 17.8)	Clear vegetation and cleanout structure	-	\$5,000
ST-6.17	BIA Route 1, Section 30 (~MP 18.2)	Clear vegetation and cleanout structure	-	\$5,000
ST-6.18	BIA Route 1, Section 52 (~MP 19.9)	Clear vegetation and cleanout structure	-	\$5,000
ST-7	Buck and Doe Road (BIA 1): Diamond Bar Road to Grand Canyon West			\$739,500
ST-7.1	Diamond Bar Road to Grand Canyon West	Restripe faded pavement striping	3.7	\$12,000
ST-7.2		Install raised, reflective pavement markers	3.7	\$2,500
ST-7.3		Install chevron signs at curves	3.7	\$5,000
ST-7.4		Add 4 FT unpaved shoulders	3.7	\$250,000
ST-7.5		Install roadside fencing to ADOT and AZGF standards	3.7	\$470,000
ST-8	Diamond Bar Road (BIA 1): Hualapai Indian Reservation to Buck and Doe Road			\$371,100
ST-8.1	Hualapai Indian Reservation to Buck and Doe Road	Install wayfinding signs for tourists	2.4	\$1,500
ST-8.2		Install raised, reflective pavement markers	2.4	\$1,600
ST-8.3		Option 1: Install flashing, speed limit signs	2.4	\$30,000
ST-8.4		Option 2: Install speed limit pavement markings	2.4	\$3,000
ST-8.5		Install chevron signs at curves	2.4	\$5,000
ST-8.6		Install animal crossing warning signs	2.4	\$10,000
ST-8.7		Install roadside fencing to ADOT and AZGF standards	2.4	\$305,000
ST-8.8		Conduct Roadway Safety Assessment	2.4	\$15,000

★ Projects identified on Mohave County and ADOT maintained roads are recommendations only. These recommendations are based on stakeholder/public input, a roadway inventory, and analysis of deficiencies and needs. Route and Section Numbers refer to the BIA TTP roadway inventory route numbers.



Table 8.1: Short-Term Recommendations (Continued)

Project ID	Project Location	Project Description	Length (miles)	Cost
Hualapai Indian Tribe				
ST-9	Diamond Creek Road (BIA 6): Pavement Ending to Colorado River			\$1,000
ST-9.1	Diamond Creek Road/Pavement Ending Intersection	Install "Rough Road Travel At Your Own Risk" sign	-	\$500
ST-9.2	Pavement Ending	Install "Do Not Enter When Flooded" sign	-	\$500
ST-10	Supai Road: State Route 66 to MP 20			\$829,500
ST-10.1	State Route 66 to MP 20	Install recessed reflective pavement markers	20.1	\$15,000
ST-10.2		Install street signs and wayfinding signs to Youth Camp and Havasupai Indian Reservation	20.1	\$2,000
ST-10.3		Install animal crossing warning signs	20.1	\$4,000
ST-10.4		Conduct a sign inventory and update signs that do not meet reflectivity standards or are in need of repair	20.1	\$15,000
ST-10.5		Replace signage	20.1	\$40,000
ST-10.6	MP 2.5 to MP 5.5	Upgrade existing roadside fencing to ADOT/AZGF standards	3	\$375,000
ST-10.7	MP 13 to MP 15	Install "Sharp Curve Ahead" warning signs	2	\$1,000
ST-10.8		Install chevron signs at curves	2	\$2,500
ST-10.9	MP 17.5 to MP 20.5	Upgrade existing roadside fencing to ADOT/AZGF standards	3	\$375,000
ST-11	Supai Road: MP 20 to Hualapai Indian Reservation Boundary			\$860,000
ST-11.1	MP 20 to Hualapai Indian Reservation Boundary	Pavement Reconstruction - Structural Overlay	20	*Currently Under Design
ST-11.2		Install raised, reflective pavement markers	20	\$15,000
ST-11.3		Install street signs and wayfinding signs to Youth Camp and Havasupai Indian Reservation	20	\$2,000
ST-11.4		Install animal crossing warning signs	20	\$4,000
ST-11.5		Conduct a sign inventory and update signs that do not meet reflectivity standards or are in need of repair	20	\$15,000
ST-11.6		Replace signage	20	\$40,000
ST-11.7		Clean roadside clear zones	20	\$20,000
ST-11.8	MP 25.5 to MP 31.5	Upgrade existing roadside fencing to ADOT/AZGF standards	6	\$750,000
ST-11.9	MP 20 to MP 40	Clear roadside vegetation to the fence line	20	\$14,000

* Projects identified on Mohave County and ADOT maintained roads are recommendations only. These recommendations are based on stakeholder/public input, a roadway inventory, and analysis of deficiencies and needs. Route and Section Numbers refer to the BIA TTP roadway inventory route numbers.



Table 8.1: Short-Term Recommendations (Continued)

Project ID	Project Location	Project Description	Length (miles)	Cost
Hualapai Indian Tribe				
ST-12	Nelson Road			\$5,200
ST-12.1	State Route 66 to Pavement Ending	Add pavement striping	0.3	\$1,200
ST-12.2	State Route 66/Nelson Road Intersection (Peach Springs)	Restripe intersection to include a lane markings and stop bar	-	\$1,500
ST-12.3	Lhoist Lime Plant to State Route 66	Install "Hill Blocks View" warning signs	2.5	\$2,500
ST-13	BIA Route 104			\$88,000
ST-13.1	Milkweed Springs Road and Buck Music Mountain Road	Add pavement striping	2.1	\$8,000
ST-13.2	Section 40 and Section 50	Install street lighting	0.6	\$80,000
ST-14	Multi-Use Trail System			\$365,000
ST-14.1	State Route 66: Peach Springs to Buck and Doe Road	Construct a multi-use trail offset from State Route 66 from Honaga Hill Road to Buck and Doe Road	2.5	\$160,000
ST-14.2	Ridgeline Road: Peach Springs to Milkweed Springs Road	Construct a multi-use trail along Ridgeline Road from Shandy Lane to Milkweed Springs Road	2.4	\$160,000
ST-14.3	Buck and Doe Road	Construct a multi-use path to connect Ridgeline Road trail to multi-use trail along State Route 66	0.65	\$45,000
Mohave County				
ST-15	Antares Road: State Route 66 to Pavement Ending			\$84,000
ST-15.1	Antares Road/State Route 66 Intersection	Restripe intersection to include a stop bar	-	\$1,500
ST-15.2	State Route 66 to Pavement Ending	Add pavement striping	0.76	\$2,500
ST-15.3		Install street lighting <i>Technical analysis does not warrant installing street lighting; however, stakeholders and public expressed need for street lighting to improve safety.</i>	0.76	\$80,000
ST-16	Antares Road: Pavement Ending to Pierce Ferry Road			\$66,000
ST-16.1	Pavement Ending to Pierce Ferry Road	Conduct a drainage study to assess roadway to determine water flow patterns and possible culvert locations.	31.5	\$35,000
ST-16.2		Supplement existing W11-4 (Advance Cattle Crossing) signs at Mile Posts 3.64 SB, 8.51 NB, 12.08 NB, and 31.66 SB	31.5	\$31,000
ST-17	Pierce Ferry Road: Antares Road to Diamond Bar Road			\$40,000
ST-17.1	Antares Road to Diamond Bar Road	Install raised, reflective pavement markers	6.6	\$5,000
ST-17.2		Mohave County successfully obtained a \$314,000 Highway Safety Improvement Program project to design, install, and evaluate the installation of 20 driver feedback speed limit signs countywide.	6.6	-
ST-17.3		Supplement existing chevron signs as needed	6.6	\$6,000
ST-17.4		Supplement existing W11-4 (Advance Cattle Crossing) sign at Mile Post 22.94 SB	6.6	\$6,000
ST-17.5		Conduct Roadway Safety Assessment	6.6	\$15,000
ST-17.6		Install wayfinding signs for tourists	6.6	\$8,000

* Projects identified on Mohave County and ADOT maintained roads are recommendations only. These recommendations are based on stakeholder/public input, a roadway inventory, and analysis of deficiencies and needs. Route and Section Numbers refer to the BIA TTP roadway inventory route numbers.



Table 8.1: Short-Term Recommendations (Continued)

Project ID	Project Location	Project Description	Length (miles)	Cost
Mohave County				
ST-18	Diamond Bar Road: Pierce Ferry Road to Hualapai Indian Reservation			\$86,000
ST-18.1	Pierce Ferry Road to Hualapai Indian Reservation	Install wayfinding signs for tourists Note: Mohave County maintains one D7-1 (Advance Recreational Area) sign for the Grand Canyon Skywalk at Mile Post 0.03 EB	14	\$18,000
ST-18.2		Install raised, reflective pavement markers Note: Mohave County secured a High Risk Rural Roads Program project to install centerline and shoulder rumble strips along the first 4.5 miles of Diamond Bar Road in 2015.	14	\$10,000
ST-18.3		Mohave County successfully obtained a \$314,000 Highway Safety Improvement Program project to design, install, and evaluate the installation of 20 driver feedback speed limit signs countywide.	14	-
ST-18.4		Supplement existing chevron signs as needed	14	\$12,000
ST-18.5		Supplement existing animal crossing warning signs as needed	14	\$16,000
ST-18.6		Conduct Roadway Safety Assessment	14	\$30,000
Arizona Department of Transportation				
ST-19	State Route 66/Diamond Creek Road Intersection			
ST-19.1	State Route 66/Diamond Creek Road Intersection	Option 1 (No Roundabout): Upgrade traffic signal; install raised medians on State Route 66; install pedestrian crosswalks and ADA compliant ramps; convert western entrance Hualapai Lodge to a right-in/right-out only; widen eastern entrance to Hualapai Lodge; restripe roadway; add pedestrian crosswalks; improve intersection signage	-	\$350,000
ST-19.2		Option 2 (Roundabout): Reconfigure intersection to include a roundabout; convert western entrance Hualapai Lodge to a right-in/right-out only; widen eastern entrance to Hualapai Lodge; installed raised medians; pedestrian crosswalks and sidewalks incorporated into design; improve intersection signage	-	\$750,000
ST-20	State Route 66: MP 71 to MP 84			\$1,652,000
ST-20.1	MP 71 to MP 84	Install speed limit signs within 500 FT of major intersections	12.9	\$12,000
ST-20.2		Install animal crossing warning signs	12.9	\$14,000
ST-20.3		Install roadside fencing to ADOT and AZGF standards	12.9	\$1,600,000
ST-20.4		Install raised, reflective pavement markers	12.9	\$10,000
ST-20.5		Clean roadside clear zones	12.9	\$13,000
ST-20.6	State Route 66/Antares Road Intersection	Install street signs and wayfinding signs	-	\$2,500
ST-20.7	State Route 66/Valentine Cemetery Road Intersection	Install "Hidden Driveway" sign	-	\$500

* Projects identified on Mohave County and ADOT maintained roads are recommendations only. These recommendations are based on stakeholder/public input, a roadway inventory, and analysis of deficiencies and needs. Route and Section Numbers refer to the BIA TTP roadway inventory route numbers.



Table 8.1: Short-Term Recommendations (Continued)

Project ID	Project Location	Project Description	Length (miles)	Cost
Arizona Department of Transportation				
ST-21	State Route 66: MP 84 to MP 86.5 (Valentine)			\$208,300
ST-21.1	MP 85 to MP 86.5	Widen shoulders to 8 FT	0.3	\$160,000
ST-21.2		Install raised, reflective pavement markers	2.4	\$1,800
ST-21.3		Reduce speed limit to 45 MPH	1.5	\$2,500
ST-21.4		Install street signs at intersections	1.5	\$4,000
ST-21.5	MP 85.2 to MP 85.5	Install street lighting	0.3	\$40,000
ST-22	State Route 66: MP 86.5 to Western Reservation Boundary			\$3,745,000
ST-22.1	MP 86.5 to MP 90	Widen shoulders to 8 FT	3.6	\$2,000,000
ST-22.2	Bridge #141 (MP 91.6)	Bridge Rehabilitation	-	\$400,000
ST-22.3	MP 86.5 to Western Reservation Boundary	Install speed limit signs within 500 FT of major intersection	9.7	\$10,000
ST-22.4		Install animal crossing warning signs	9.7	\$10,000
ST-22.5		Install roadside fencing to ADOT and AZGF standards	9.7	\$1,300,000
ST-22.6		Install raised, reflective pavement markers	9.7	\$8,000
ST-22.7		Install chevron signs at curves	9.7	\$9,000
ST-22.8		Install street signs and wayfinding signs	9.7	\$8,000
ST-23	State Route 66: Western Reservation Boundary to MP 101			\$34,500
ST-23.1	Western Reservation Boundary to MP 101	Install speed limit signs within 500 FT of major intersection	4.9	\$5,000
ST-23.2		Conduct Roadway Safety Assessment	4.9	\$20,000
ST-23.3		Install raised, reflective pavement markers	4.9	\$4,000
ST-23.4		Install street signs and wayfinding signs	4.9	\$4,000
ST-23.5	State Route 66/Buck and Doe Road Intersection	Install street signs and wayfinding signs	-	\$1,500
ST-24	State Route 66: MP 101 to MP 103			\$6,000
ST-24.1	MP 101 to MP 103	Install raised, reflective pavement markers	2	\$2,000
ST-24.2		Install speed limit signs	2	\$4,000
ST-25	State Route 66: MP 103 to Diamond Creek Road			\$54,500
ST-25.1	MP 103 to Diamond Creek Road	Option 1: Install flashing, speed limit signs entering Peach Springs	0.4	\$30,000
ST-25.2		Option 2: Install speed limit pavement markings entering Peach Springs	0.4	\$3,000
ST-25.3		Install community gateway signs	0.4	\$4,000
ST-25.4		Conduct Roadway Safety Assessment	0.4	\$15,000
ST-25.5		Install raised, reflective pavement markers	0.4	\$500
ST-25.6		Install street signs at Honaga Hill Road and Diamond Creek Road	0.4	\$2,000

* Projects identified on Mohave County and ADOT maintained roads are recommendations only. These recommendations are based on stakeholder/public input, a roadway inventory, and analysis of deficiencies and needs. Route and Section Numbers refer to the BIA TTP roadway inventory route numbers.



Table 8.1: Short-Term Recommendations (Continued)

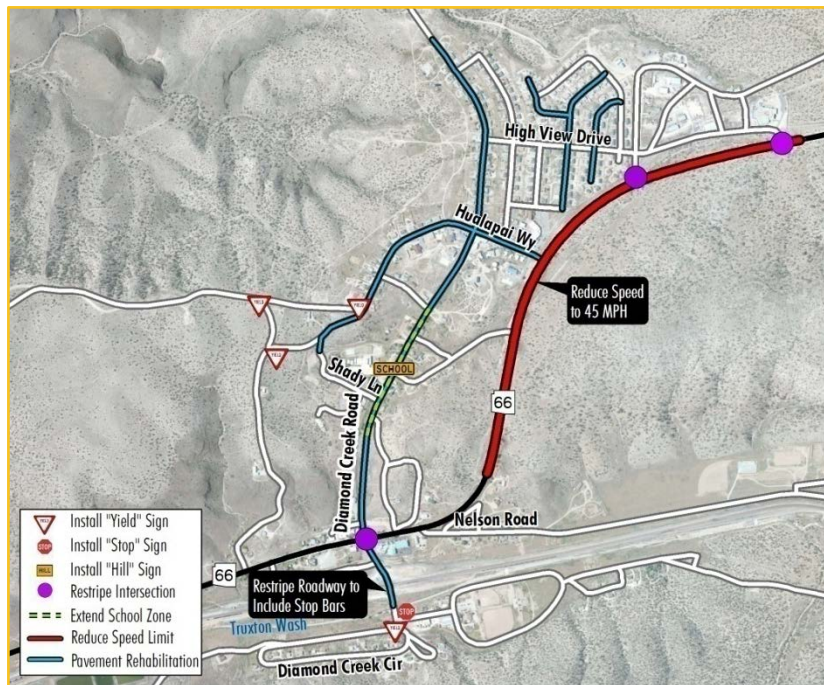
Project ID	Project Location	Project Description	Length (miles)	Cost
ST-26	State Route 66: Diamond Creek Road to MP 105			\$134,900
ST-26.1	Diamond Creek Road to MP 105	Option 1: Install flashing, speed limit signs entering Peach Springs	1.6	\$30,000
ST-26.2		Option 2: Install speed limit pavement markings entering Peach Springs	1.6	\$3,000
ST-26.3		Install community gateway signs	1.6	\$4,000
ST-26.4		Install street signs at Nelson Road, Wahanda Way, Hualapai Way, BIA Lane, and High View Drive	1.6	\$4,000
ST-26.5		Conduct Roadway Safety Assessment	1.6	\$15,000
ST-26.6		Install raised, reflective pavement markers	1.6	\$1,200
ST-26.7	Diamond Creek Road to Nelson Road	Upgrade street lighting, install wayfinding signs, enhance landscaping	0.12	\$75,000
ST-26.8	Nelson Road to East of High View Drive	Reduce speed limit to 35 MPH	1.5	\$2,500
ST-26.9	East of Hualapai Way to West of High View Drive	Repave and restripe roadway to include center turn lane	0.57	\$200
Arizona Department of Transportation				
ST-27	State Route 66: MP 105 to Eastern Reservation Boundary			\$966,500
ST-27.1	MP 105 to Eastern Reservation Boundary	Install speed limit signs within 500 FT of major intersection	7.4	\$7,000
ST-27.2		Install roadside fencing to ADOT and AZGF standards	7.4	\$950,000
ST-27.3		Install raised, reflective pavement markers	7.4	\$6,000
ST-27.4	State Route 66/Supai Road	Install street signs and wayfinding signs		\$2,000
ST-27.5	State Route 66/Nelson Road	Install "Trucks Entering Highway" sign		\$1,500
ST-28	State Route 66: Eastern Reservation Boundary to Seligman			\$3,520,000
ST-28.1	Eastern Reservation Boundary to Seligman	Install roadside fencing to ADOT and AZGF standards	27.2	\$3,500,000
ST-28.2		Install raised, reflective pavement markers	27.2	\$20,000

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Project #ST-1. BIA Route 101 (Peach Springs)

Route Name: BIA 101
 Section Number: 10 - 310
 Project Map:



Project Length: 1.63 miles

Existing and Future Conditions:

- Paved and unpaved local streets that provide access to residential areas and activity centers
- Functional Classification: 7 (City Collector) and 3 (City Local)
- Speed Limit: 15-25 MPH
- Potential economic development and increased tourism traffic

Existing and Projected Traffic Conditions (Diamond Creek Road):

• Existing ADT: 1,008 Existing LOS: A
 2019 ADT: 1,321 2019 LOS: A

Average Daily Traffic (ADT) refers to a roadway's total traffic volume during a 24-hour period. Level of Service (LOS) is measurement of traffic congestion. LOS is expressed using letters "A" through "F", with LOS A representing free flow conditions and LOS F representing failed conditions.

Project Description:

Project ID	Location	Improvement	Cost Estimate	Purpose/Benefit
ST-1.1	BIA Lane (Section 200)/State Route 66 Intersection	Restripe intersection to include a stop bar	\$1,500	Increase driver awareness and safety
ST-1.2	High View Drive (Section 120)/State Route 66 Intersection	Restripe intersection to include a stop bar	\$1,500	Increase driver awareness and safety
ST-1.3	BIA 101 (Section 20)/Honaga Hill Road Intersection	Install "Yield" Sign on BIA 101 (Section 20)	\$500	Increase driver awareness and safety
ST-1.4	Ridge Road/Honaga Hill Road Intersection	Install "Yield" Sign on Honaga Hill Road	\$500	Increase driver awareness and safety
ST-1.5	Shandy Lane/Honaga Hill Road Intersection	Install "Yield" Sign on Honaga Hill Road	\$500	Increase driver awareness and safety
ST-1.6	Rodeo Way/Diamond Creek Road/Diamond Creek Circle Intersection	Install "Stop" Sign on Rodeo Way and "Yield" Sign on Diamond Creek Circle	\$1,000	Increase driver awareness and safety
ST-1.7	Sections 10, 20, 60, and 300	Install "Hill" Signs at steep hills	\$2,500	Increase driver awareness and safety
ST-1.8	Diamond Creek Road/BNSF Rail road Crossing	Coordinate with BNSF to conduct an at-grade crossing safety assessment to determine necessary improvements	\$8,000	Identify improvement scenarios to enhance safety
ST-1.9		Restripe roadway to include stop line and pavement marking symbols	\$1,500	Increase driver awareness and safety at railroad crossing



Project #ST-1. BIA Route 101 (Peach Springs) (Continued)

Project Description:

Project ID	Location	Improvement	Cost Estimate	Purpose/Benefit
ST-1.10	Diamond Creek Road (Section 100)	Extend School Zone from South of Shandy Lane to Indian Way	\$1,000	Enhance pedestrian safety
ST-1.11	Diamond Creek Road (Section 100 and 280);	Add pavement striping	\$2,600	Improve lane visibility; Enhance safety
ST-1.12	Hualapai Way (Section 70); High View Drive	Install street signs and wayfinding signs	\$3,000	Increase driver awareness and safety
ST-1.13	(Section 110)	Clear roadside vegetation	\$1,200	Improve driver visibility, drainage, and safety
ST-1.14	Sections 40, 70, 100, 160-180, 280 (2.6 miles)	Pavement Rehabilitation - Chip Seal	\$7,500	Extend pavement life; Improve driver experience
ST-1.15	Sections 20, 40-60, 90, 110, 130-190, 210-	Add pavement striping	\$8,500	Improve lane visibility; Enhance safety
ST-1.16	270	Install street signs and wayfinding signs	\$10,000	Improve lane visibility; Enhance safety
ST-1.17	Hualapai Lodge to Nelson Road	Extend concrete shared-use path to Nelson Road	\$40,000	Pedestrian/Bicycle mobility
ST-1.18	Diamond Creek Road: Rodeo Way to Canyon View Drive	Construct concrete shared-use path (one-direction)	\$175,000	Pedestrian/Bicycle mobility
ST-1.19	Hualapai Way: State Route 66 to Indian Way	Construct concrete shared-use path (one-direction)	\$50,000	Pedestrian/Bicycle mobility
ST-1.20	High View Drive: Diamond Creek Road to BIA Lane	Construct concrete shared-use path (one-direction)	\$42,000	Pedestrian/Bicycle mobility
ST-1.21	High View Drive: BIA Lane to State Route 66	Construct asphalt shared-use path (one-direction)	\$36,000	Pedestrian/Bicycle mobility
ST-1.22	Sections 30, 50, 70, 100, 120, 200 - 220, 260 - 290	Install street lighting	\$520,000	Increase nighttime visibility; pedestrian/bicycle safety

Environmental Overview: Area is developed; therefore environmental impacts are minimal. Consideration should be given to impacts on cultural resources, utilities, and noise receptors.

Issues Addressed: Roadway safety concerns; pavement conditions; railroad crossing safety; lack of street signage

Project Benefits: Improved motor vehicle, pedestrian, bicyclist safety conditions; improved pavement conditions

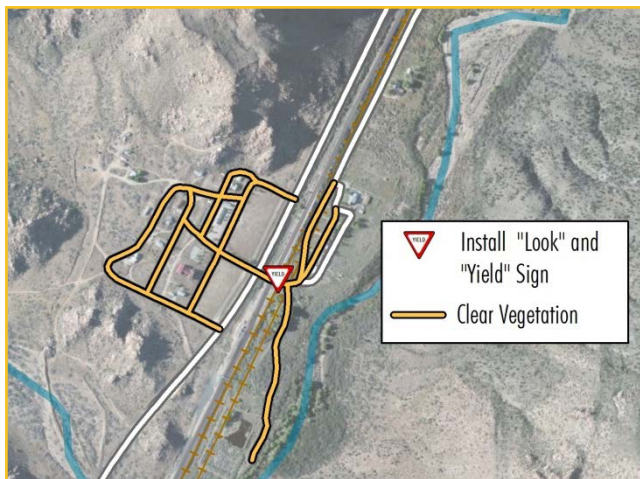
Potential Funding Sources: Tribal Transportation Program (TTP); TIGER Grant; Transportation Alternatives Program (TAP)

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Project #ST-2. BIA Route 103 (Valentine)

Route Name: BIA 103
 Section Number: 10 - 110
 Project Map:



Project Length: 1.30 miles

Existing and Future Conditions:

- Unpaved road; Residential area
- Functional Classification: 3 (City Local)
- Speed Limit: <25 MPH
- Potential residential development

Existing and Projected Traffic Conditions:

- Existing ADT: <100 Existing LOS: A
- 2019 ADT: <200 2019 LOS: A

Average Daily Traffic (ADT) refers to a roadway's total traffic volume during a 24-hour period. Level of Service (LOS) is measurement of traffic congestion. LOS is expressed using letters "A" through "F", with LOS A representing free flow conditions and LOS F representing failed conditions.

Project Description:

Project ID	Location	Improvement	Cost Estimate	Purpose/Benefit
ST-2.1	Section 70 and 80/BNSF Railroad Crossing	Coordinate with BNSF to conduct an at-grade crossing safety assessment to determine necessary improvements	\$8,000	Identify improvement scenarios to enhance safety
ST-2.2		Install "Look" and "Yield" sign at crossing	\$1,000	Increase driver awareness and safety at railroad crossing
ST-2.3	Sections 10 - 110	Clear roadside vegetation	\$1,000	Improve driver visibility, drainage, and safety

Environmental Overview: Area is developed; therefore environmental impacts are minimal. Consideration should be given to impacts on cultural resources, utilities, and noise receptors.

Issues Addressed: Roadway safety concerns; railroad crossing safety; vegetation limiting sight distance

Project Benefits: Improved driver awareness at railroad crossing; coordination and identification of improvements at the railroad crossing; increased driver visibility

Potential Funding Sources: Tribal Transportation Program (TTP); TIGER Grant

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Project #ST-3. Valentine Way (BIA Route 9103)

Route Name: BIA 9103

Section Number: 10

Project Map:



Project Length: 0.4 miles

Existing and Future Conditions:

- Unpaved Road; Alternative route to residential area
- Functional Classification: 3 (City Local)
- Speed Limit: <25 MPH
- Potential residential development

Existing and Projected Traffic Conditions:

- Existing ADT: <100 Existing LOS: A
2019 ADT: <200 2019 LOS: A

Average Daily Traffic (ADT) refers to a roadway's total traffic volume during a 24-hour period. Level of Service (LOS) is measurement of traffic congestion. LOS is expressed using letters "A" through "F", with LOS A representing free flow conditions and LOS F representing failed conditions.

Project Description:				
Project ID	Location	Improvement	Cost Estimate	Purpose/Benefit
ST-3.1	Section 10	Install "Do Not Enter When Flooded" sign	\$500	Alerts motorists of roadway conditions
Environmental Overview:		Sign placement is along established roadway; therefore environmental impacts are minimal. Consideration should be given to impacts on cultural resources.		
Issues Addressed:		Roadway safety concerns		
Project Benefits:		Alerts drivers of roadway conditions		
Potential Funding Sources:		Tribal Transportation Program (TTP); TIGER Grant		

★ Projects identified on Mohave County and ADOT maintained roads are recommendations only. These recommendations are based on stakeholder/public input, a roadway inventory, and analysis of deficiencies and needs. Route and Section Numbers refer to the BIA TTP roadway inventory route numbers.



Project #ST-4. Valentine Cemetery Road(BIA Route 8000)

Route Name: Valentine Cemetery Road

Section Number: BIA Route 8000

Project Map:



Project Length: 0.9 miles

Existing and Future Conditions:

- Unpaved Road
- Functional Classification: 3 (City Local)
- Speed Limit: <25 MPH
- No planned growth

Existing and Projected Traffic Conditions:

• Existing ADT: <100 Existing LOS: A
2019 ADT: <200 2019 LOS: A

Average Daily Traffic (ADT) refers to a roadway's total traffic volume during a 24-hour period. Level of Service (LOS) is measurement of traffic congestion. LOS is expressed using letters "A" through "F", with LOS A representing free flow conditions and LOS F representing failed conditions.

Project Description:

Project ID	Location	Improvement	Cost Estimate	Purpose/Benefit
ST-4.1	State Route 66 to Valentine Cemetery	Install "Do Not Enter When Flooded" sign	\$500	Increase driver awareness and safety
ST-4.2	Valentine Cemetery Road/BNSF Railroad Crossing	Install crossbucks	\$1,500	Increase driver awareness and safety at railroad crossing
ST-4.3		Coordinate with BNSF to conduct an at-grade crossing safety assessment to determine necessary improvements	\$8,000	Identify improvement scenarios to enhance safety

Environmental Overview: Sign placement is along established roadway; therefore environmental impacts are minimal. Consideration should be given to impacts on cultural resources and utilities.

Issues Addressed: Railroad crossing safety; Roadway safety concerns

Project Benefits: Improved driver awareness at railroad crossing; coordination and identification of improvements at the railroad crossing; alerts drivers of roadway conditions

Potential Funding Sources: Tribal Transportation Program (TTP); TIGER Grant

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Project #ST-5. Buck and Doe Road (BIA 1): State Route 66 to Mud Tank Road

Route Name:	BIA 1
Section Number:	10
Project Map:	
Project Length:	3.5 miles
Existing and Future Conditions:	• Paved Road; Residential Area • Functional Classification: 4 (Rural Major Collector) • Speed Limit: 45 MPH • Potential residential growth; Increased traffic due to development at Grand Canyon West
Existing and Projected Traffic Conditions:	• Existing ADT: 115 Existing LOS: A • 2019 ADT: 127 2019 LOS: A <i>Average Daily Traffic (ADT) refers to a roadway's total traffic volume during a 24-hour period. Level of Service (LOS) is measurement of traffic congestion. LOS is expressed using letters "A" through "F", with LOS A representing free flow conditions and LOS F representing failed conditions.</i>

Project Description:				
Project ID	Location	Improvement	Cost Estimate	Purpose/Benefit
ST-5.1	Buck and Doe Road (BIA 1)/ State Route 66 Intersection	Restripe intersection to include a stop bar	\$1,500	Increase driver awareness and safety
ST-5.2	State Route 66 to Mud Tank Road	Add pavement striping	\$15,000	Increase driver awareness and safety
ST-5.3		Install animal crossing warning signs	\$4,000	Increase driver awareness and safety
ST-5.4		Install roadside fencing to ADOT/AZGF standards	\$450,000	Restrict wildlife from entering right-of-way
ST-5.5		Install street lighting	\$400,000	Increase nighttime visibility; pedestrian/bicycle safety

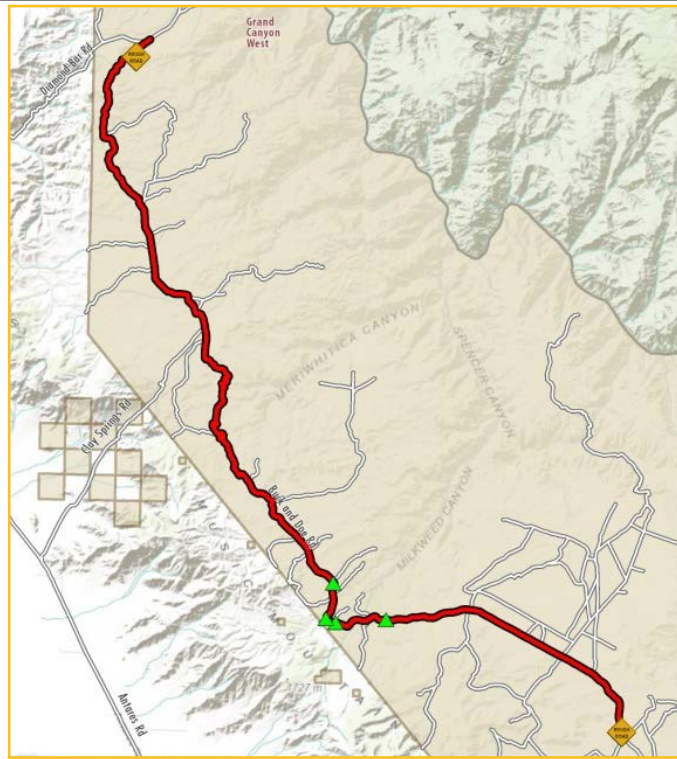
Environmental Overview:	Corridor is developed; therefore environmental impacts are minimal. Consideration should be given to impacts on cultural resources, utilities, wildlife, and noise receptors.
Issues Addressed:	Roadway safety concerns
Project Benefits:	Improved motor vehicle conditions; increased roadway safety
Potential Funding Sources:	Tribal Transportation Program (TTP); TIGER Grant

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Project #ST-6.Buck and Doe Road (BIA 1): Mud Tank Road to Diamond Bar Road

Route Name: BIA 1
 Section Number: 20 - 50
 Project Map:



Project Length: 44.9 miles

Existing and Future Conditions:

- Unpaved Road; Route to Grand Canyon West
- Functional Classification: 4 (Rural Major Collector)
- Speed Limit: 25-45 MPH
- Increased traffic due to development at Grand Canyon West

Existing and Projected Traffic Conditions:

- Existing ADT: 68 Existing LOS: A
 2019 ADT: 75 2019 LOS: A

Average Daily Traffic (ADT) refers to a roadway's total traffic volume during a 24-hour period. Level of Service (LOS) is measurement of traffic congestion. LOS is expressed using letters "A" through "F", with LOS A representing free flow conditions and LOS F representing failed conditions.

Project Description:				
Project ID	Location	Improvement	Cost Estimate	Purpose/Benefit
ST-6.1	MP 17 - MP 20	Install sharp curve ahead warning signs	\$2,000	Increase driver awareness and safety
ST-6.2		Install chevron signs at curves	\$2,000	Improves road visibility; Enhances safety
ST-6.3	MP 26 - MP 29	Install sharp curve ahead warning signs	\$2,000	Increase driver awareness and safety
ST-6.4		Install chevron signs at curves	\$2,000	Improves road visibility; Enhances safety
ST-6.5	MP 30 - MP 32	Install guardrails along sharp curves	\$4,300	Improves road visibility; Enhances safety
ST-6.6		Install sharp curve ahead warning signs	\$2,000	Increase driver awareness and safety
ST-6.7		Install chevron signs at curves	\$1,000	Improves road visibility; Enhances safety
ST-6.8	MP 34 - MP 36	Install guardrails along sharp curves	\$3,000	Improves road visibility; Enhances safety
ST-6.9		Install sharp curve ahead warning signs	\$2,000	Increase driver awareness and safety
ST-6.10		Install chevron signs at curves	\$1,000	Improves road visibility; Enhances safety
ST-6.11	Buck and Doe Road (BIA 1)/ Diamond Bar Road Intersection	Install guardrails along sharp curves	\$3,000	Improves road visibility; Enhances safety
ST-6.12		Install "Rough Road Travel At Your Own Risk" sign	\$500	Alert tourists of roadway conditions
ST-6.13	Buck and Doe Road (BIA 1)/ Mud Tank Road Intersection	Install "Rough Road Travel At Your Own Risk" sign	\$500	Alert tourists of roadway conditions



Project #ST-6.Buck and Doe Road (BIA 1): Mud Tank Road to Diamond Bar Road (Continued)

Project Description:

Project ID	Location	Improvement	Cost Estimate	Purpose/Benefit
ST-6.14	Mud Tank Road to Diamond Bar Road	Install animal crossing warning signs	\$15,000	Increase driver awareness and safety
ST-6.15	BIA Route 1, Section 22 (~MP 15.5)	Clear vegetation and cleanout structure	\$5,000	Improves drainage
ST-6.16	BIA Route 1, Section 27 (~MP 17.8)	Clear vegetation and cleanout structure	\$5,000	Improves drainage
ST-6.17	BIA Route 1, Section 30 (~MP 18.2)	Clear vegetation and cleanout structure	\$5,000	Improves drainage
ST-6.18	BIA Route 1, Section 52 (~MP 19.9)	Clear vegetation and cleanout structure	\$5,000	Improves drainage

Environmental Overview: Projects are along established roadway; therefore environmental impacts are minimal. Consideration should be given to impacts on cultural resources, utilities, wildlife, and noise receptors.

Issues Addressed: Roadway safety concerns; Drainage conditions; Tourists routed on roadway by GPS units

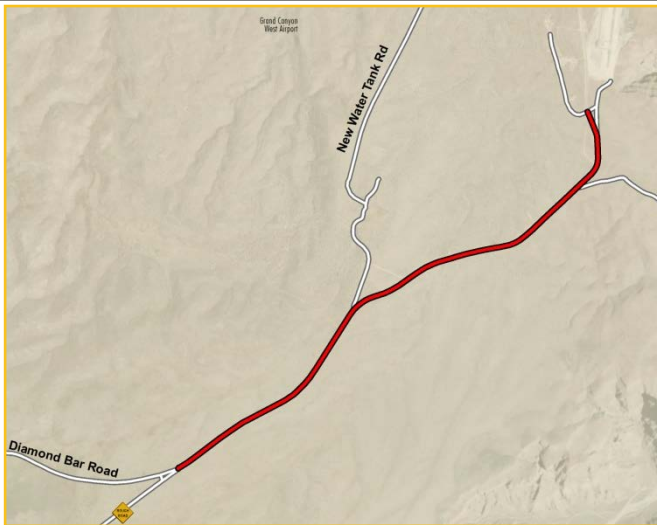
Project Benefits: Improved roadway safety conditions; improved roadway drainage; alerts tourists of poor roadway conditions

Potential Funding Sources: Tribal Transportation Program (TTP); TIGER Grant

★ Projects identified on Mohave County and ADOT maintained roads are recommendations only. These recommendations are based on stakeholder/public input, a roadway inventory, and analysis of deficiencies and needs. Route and Section Numbers refer to the BIA TTP roadway inventory route numbers.



Project #ST-7.Buck and Doe Road (BIA 1): Diamond Bar Road to Grand Canyon West

Route Name:	BIA 7
Section Number:	10
Project Map:	
Project Length:	3.7 miles
Existing and Future Conditions:	- Paved Roadway; Tourist Corridor to Grand Canyon West - Functional Classification: 2 (Rural Minor Arterial) (FHWA - Rural Major Collector) - Speed Limit: 45 MPH - Increased traffic due to development at Grand Canyon West
Existing and Projected Traffic Conditions:	- Existing ADT: 723 Existing LOS: A 2019 ADT: 796 2019 LOS: A <i>Average Daily Traffic (ADT) refers to a roadway's total traffic volume during a 24-hour period. Level of Service (LOS) is measurement of traffic congestion. LOS is expressed using letters "A" through "F", with LOS A representing free flow conditions and LOS F representing failed conditions.</i>

Project Description:				
Project ID	Location	Improvement	Cost Estimate	Purpose/Benefit
ST-7.1	Diamond Bar Road to Grand Canyon West	Restripe faded pavement striping	\$12,000	Improves lane visibility; Enhances safety
ST-7.2		Install recessed reflective pavement markers	\$2,500	Improve night time visibility; Enhance safety
ST-7.3		Install chevron signs at curves	\$5,000	Increase driver awareness and safety
ST-7.4		Add 5 FT unpaved shoulders	\$250,000	Provide safe area for vehicles to pull over
ST-7.5		Install roadside fencing to ADOT/AZGF standards	\$470,000	Restrict wildlife from entering right-of-way

Environmental Overview:	Corridor is developed; therefore environmental impacts are minimal. Consideration should be given to impacts on cultural resources, utilities, wildlife, and noise receptors.
Issues Addressed:	Roadway safety concerns
Project Benefits:	Improved driving conditions; increased roadway safety; enhanced night time driving conditions
Potential Funding Sources:	Tribal Transportation Program (TTP); TIGER Grant

* Projects identified on Mohave County and ADOT maintained roads are recommendations only. These recommendations are based on stakeholder/public input, a roadway inventory, and analysis of deficiencies and needs. Route and Section Numbers refer to the BIA TTP roadway inventory route numbers.



Project #ST-8.Diamond Bar Road (BIA 1): Hualapai Indian Reservation to Buck and Doe Road

Route Name: BIA 1

Section Number: 70

Project Map:



Project Length: 2.4 miles

Existing and Future Conditions:

- Paved Roadway; Tourist Corridor to Grand Canyon West
- Functional Classification: 2 (Rural Minor Arterial) (FHWA - Rural Major Collector)
- Speed Limit: 45 MPH
- Increased traffic due to development at Grand Canyon West

Existing and Projected Traffic Conditions:

- Existing ADT: 1,447 Existing LOS: A
- 2019 ADT: 864 2019 LOS: A

Average Daily Traffic (ADT) refers to a roadway's total traffic volume during a 24-hour period. Level of Service (LOS) is measurement of traffic congestion. LOS is expressed using letters "A" through "F", with LOS A representing free flow conditions and LOS F representing failed conditions.

Project Description:

Project ID	Location	Improvement	Cost Estimate	Purpose/Benefit
ST-8.1	Hualapai Indian Reservation to Buck and Doe Road	Install wayfinding signs for tourists	\$1,500	Provide directional information
ST-8.2		Install recessed reflective pavement markers	\$1,600	Improve night time visibility; Enhance safety
ST-8.3		Option 1: Install flashing, speed limit signs	\$30,000 per location	Alert drivers of speed conditions
ST-8.4		Option 2: Install speed limit pavement markings	\$3,000 per location	Alert drivers of speed conditions
ST-8.5		Install chevron signs at curves	\$5,000	Improve night time visibility; Enhance safety
ST-8.6		Install animal crossing warning signs	\$10,000	Increase driver awareness and safety
ST-8.7		Install roadside fencing to ADOT/AZGF standards	\$305,000	Restrict wildlife from entering right-of-way
ST-8.8		Conduct Roadway Safety Assessment	\$15,000	Identify improvement scenarios to enhance safety

Environmental Overview:

Projects are along established roadway; therefore environmental impacts are minimal. Consideration should be given to impacts on cultural resources, utilities, wildlife, and noise receptors.

Issues Addressed:

Roadway safety concerns; high vehicle speeds; Tourist accommodations

Project Benefits:

Improved motor vehicle conditions; reduced vehicle speeds; increased roadway safety; enhanced night time driving conditions; provides tourists with directional information

Potential Funding Sources:

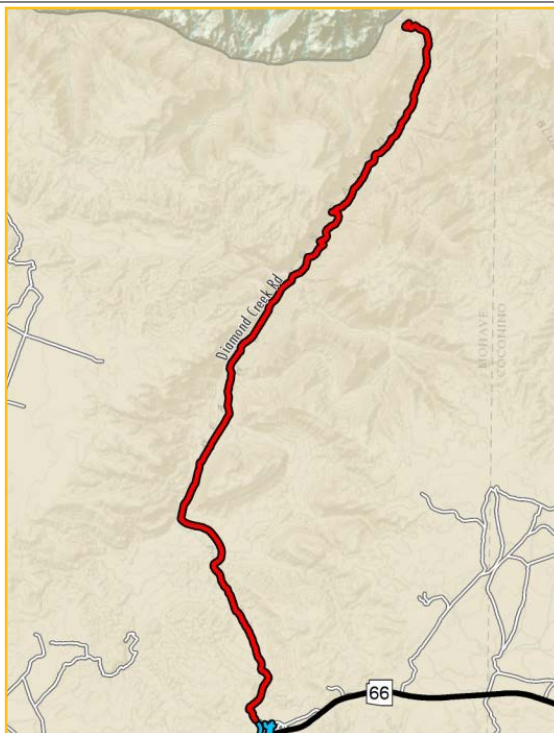
Tribal Transportation Program (TTP); TIGER Grant

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Project #ST-9. Diamond Creek Road (BIA 6): Pavement Ending to Colorado River

Route Name:	BIA 6
Section Number:	10
Project Map:	



Project Length:	19.0 miles
Existing and Future Conditions:	- Unpaved Gravel Roadway; Route to Hualapai Rivers Runners - Functional Classification: 5 (Rural Local) - Speed Limit: <25 MPH - Increased traffic due to increased commercial development by the Hualapai River Rafters
Existing and Projected Traffic Conditions:	- Existing ADT: <100 Existing LOS: A 2019 ADT: 383 2019 LOS: A <i>Average Daily Traffic (ADT) refers to a roadway's total traffic volume during a 24-hour period. Level of Service (LOS) is measurement of traffic congestion. LOS is expressed using letters "A" through "F", with LOS A representing free flow conditions and LOS F representing failed conditions.</i>

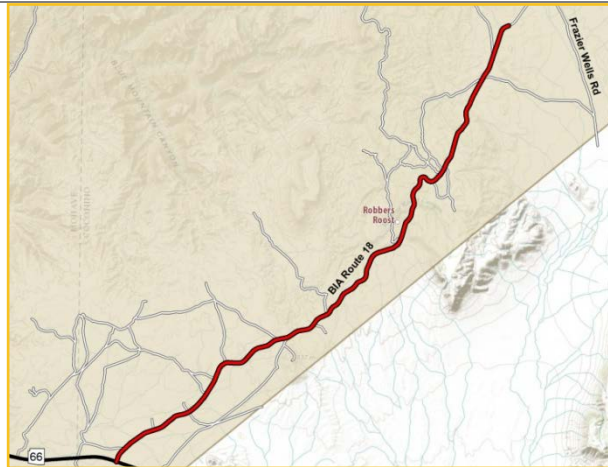
Project Description:				
Project ID	Location	Improvement	Cost Estimate	Purpose/Benefit
ST-9.1	Diamond Creek Road/ Pavement Ending Intersection	Install "Rough Road Travel At Your Own Risk" sign	\$500	Provide awareness to tourists of roadway conditions
ST-9.2	Pavement Ending to Colorado River	Install "Do Not Enter When Flooded" sign	\$500	Increase driver awareness and safety
Environmental Overview:		Sign placement is along established roadway; therefore environmental impacts are minimal. Consideration should be given to impacts on cultural resources, wildlife, and utilities.		
Issues Addressed:		Roadway safety concerns; Tourists driving on roadway		
Project Benefits:		Alerts tourists of poor roadway conditions		
Potential Funding Sources:		Tribal Transportation Program (TTP); TIGER Grant		

★ Projects identified on Mohave County and ADOT maintained roads are recommendations only. These recommendations are based on stakeholder/public input, a roadway inventory, and analysis of deficiencies and needs. Route and Section Numbers refer to the BIA TTP roadway inventory route numbers.



Project #ST-10. Supai Road (BIA 18): State Route 66 to MP 20

Route Name: BIA 18
 Section Number: 10
 Project Map:



Project Length: 20.1 miles

Existing and Future Conditions:

- Paved Roadway; Open Range Land; Tourist Corridor to Youth Camp and Havasupai Falls
- Functional Classification: 4 (Rural Major Collector)
- Speed Limit: 50 MPH
- Potential economic development

Existing and Projected Traffic Conditions:

• Existing ADT: 135 Existing LOS: A
 2019 ADT: 149 2019 LOS: A

Average Daily Traffic (ADT) refers to a roadway's total traffic volume during a 24-hour period. Level of Service (LOS) is measurement of traffic congestion. LOS is expressed using letters "A" through "F", with LOS A representing free flow conditions and LOS F representing failed conditions.

Project Description:

Project ID	Location	Improvement	Cost Estimate	Purpose/Benefit
ST-10.1	State Route 66 to MP 20	Install recessed reflective pavement markers	\$15,000	Improve driver visibility, drainage, and safety
ST-10.2		Install street signs and wayfinding signs to Youth Camp and Havasupai Indian Reservation	\$2,000	Provide directional information
ST-10.3		Install animal crossing warning signs	\$4,000	Increase driver awareness and safety
ST-10.4		Conduct a sign inventory and update signs that do not meet reflectivity standards or are in need of repair	\$15,000	Identify signs that are in need of replacement
ST-10.5		Replace signage	\$40,000	Increase driver awareness and safety
ST-10.6	MP 2.5 to MP 5.5	Upgrade existing roadside fencing to ADOT/AZGF standards	\$375,000	Restrict wildlife from entering right-of-way
ST-10.7	MP 13 to MP 15	Install "Sharp Curve Ahead" warning signs	\$1,000	Increase driver awareness and safety
ST-10.8		Install chevron signs at curves	\$2,500	Increase driver awareness and safety
ST-10.9	MP 17.5 to MP 20.5	Upgrade existing roadside fencing to ADOT/AZGF standards	\$375,000	Restrict wildlife from entering right-of-way

Environmental Overview:

Projects are along established roadway; therefore environmental impacts are minimal. Consideration should be given to impacts on cultural resources, utilities, wildlife, and noise receptors.

Issues Addressed:

Roadway safety concerns; signage conditions

Project Benefits:

Improved driving conditions; increased roadway safety; enhanced night time driving conditions

Potential Funding Sources:

Tribal Transportation Program (TTP); TIGER Grant

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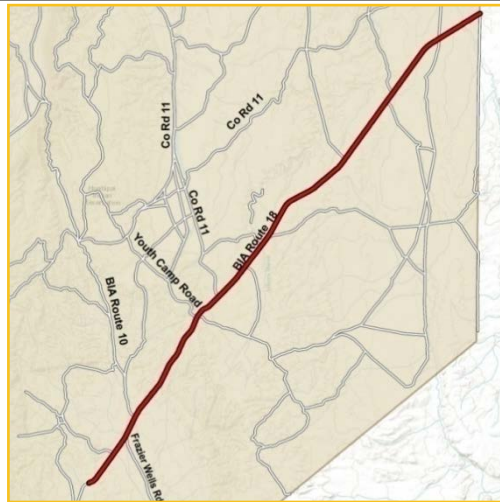


Project #ST-11. Supai Road (BIA 18): MP 20 to Hualapai Indian Reservation Boundary

Route Name: BIA 18

Section Number: 50

Project Map:



Project Length: 20.0 miles

Existing and Future Conditions:

- Paved Roadway; Open Range Land; Tourist Corridor to Youth Camp and Havasupai Falls
- Functional Classification: 4 (Rural Major Collector)
- Speed Limit: 50 MPH
- Potential economic development

Existing and Projected Traffic Conditions:

- Existing ADT: 135 Existing LOS: A
2019 ADT: 149 2019 LOS: A

Average Daily Traffic (ADT) refers to a roadway's total traffic volume during a 24-hour period. Level of Service (LOS) is measurement of traffic congestion. LOS is expressed using letters "A" through "F", with LOS A representing free flow conditions and LOS F representing failed conditions.

Project Description:

Project ID	Location	Improvement	Cost Estimate	Purpose/Benefit
ST-11.1	MP 20 to Hualapai Indian Reservation Boundary	Pavement Reconstruction - Structural Overlay	*Currently under Design	Improve driver experience and safety
ST-11.2		Install recessed reflective pavement markers	\$15,000	Improve night time visibility; Enhance safety
ST-11.3		Install street signs and wayfinding signs to Youth Camp and Havasupai Indian Reservation	\$2,000	Provide directional information
ST-11.4		Install animal crossing warning signs	\$4,000	Increase driver awareness and safety
ST-11.5		Conduct a sign inventory and update signs that do not meet reflectivity standards or are in need of repair	\$15,000	Identify signs that are in need of replacement
ST-11.7	MP 25.5 to MP 31.5	Replace signage	\$40,000	increase driver awareness and safety
ST-11.8		Upgrade existing roadside fencing to ADOT/AZGF standards	\$750,000	Restrict wildlife from entering right-of-way
ST-11.9	MP 20 to MP 40	Clear roadside vegetation to the fence line	\$14,000	Provide safe area for vehicles to pull over

Environmental Overview:

Projects are along established roadway; therefore environmental impacts are minimal. Consideration should be given to impacts on cultural resources, utilities, wildlife, and noise receptors.

Issues Addressed:

Roadway safety concerns; signage conditions

Project Benefits:

Improved driving conditions; increased roadway safety; enhanced night time driving conditions

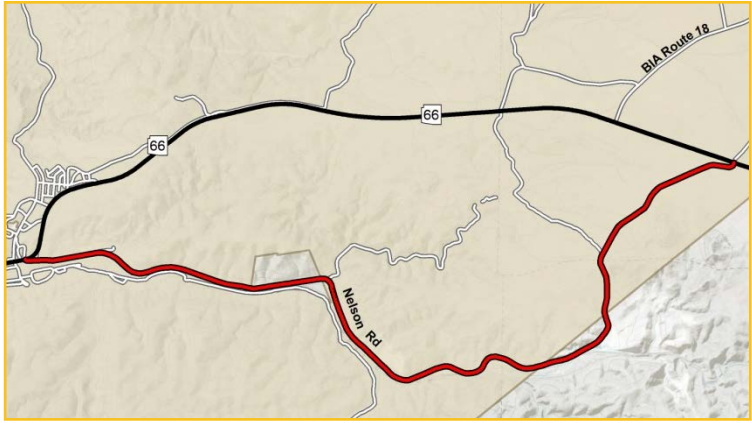
Potential Funding Sources:

Tribal Transportation Program (TTP); TIGER Grant

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Project #ST-12. Nelson Road

Route Name:	BIA 19
Section Number:	10-60
Project Map:	
Project Length:	9.8 miles
Existing and Future Conditions:	• Unpaved Roadway; Alternative Route to Lhoist Lime Plant • <u>Functional Classification</u>: 4 (Rural Major Collector) • <u>Speed Limit</u>: 15-35 MPH • No planned development
Existing and Projected Traffic Conditions:	• Existing ADT: 367 Existing LOS: A • 2019 ADT: 404 2019 LOS: A <i>Average Daily Traffic (ADT) refers to a roadway's total traffic volume during a 24-hour period. Level of Service (LOS) is measurement of traffic congestion. LOS is expressed using letters "A" through "F", with LOS A representing free flow conditions and LOS F representing failed conditions.</i>

Project Description:				
Project ID	Location	Improvement	Cost Estimate	Purpose/Benefit
ST-12.1	State Route 66 to Pavement Ending	Add pavement striping	\$1,200	Improve lane visibility; Enhance safety
ST-12.2	State Route 66/Nelson Road Intersection (Peach Springs)	Restripe intersection to include a lane markings and stop bar	\$1,500	Improve lane visibility; Enhance safety
ST-12.3	Lhoist Lime Plant to State Route 66	Install "Hill Blocks View" warning sign	\$2,500	Increase driver awareness and safety
Environmental Overview:		Corridor is developed; therefore environmental impacts are minimal. Consideration should be given to impacts on cultural resources, utilities, and noise receptors.		
Issues Addressed:		Roadway safety concerns; Lack of pavement striping		
Project Benefits:		Improved driving conditions; increased roadway safety		
Potential Funding Sources:		Tribal Transportation Program (TTP); TIGER Grant		

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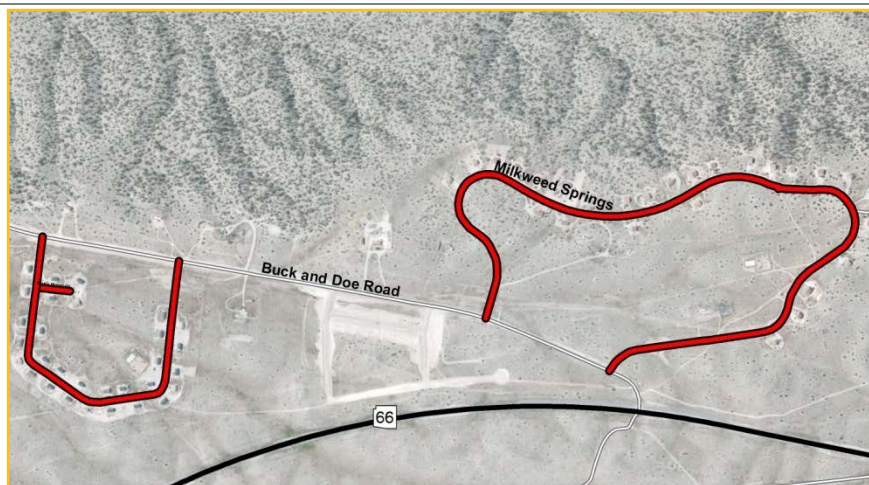


Project #ST-13. BIA Route 104

Route Name: BIA 104

Section Number: 10-30

Project Map:



Project Length: 2.1 miles

Existing and Future Conditions:

- Paved Roadway; Residential Development Area
- Functional Classification: 3 (City Local)
- Speed Limit: <25-45 MPH
- Potential residential development

Existing and Projected Traffic Conditions:

• Existing ADT: <100 Existing LOS: A
 2019 ADT: <200 2019 LOS: A

Average Daily Traffic (ADT) refers to a roadway's total traffic volume during a 24-hour period. Level of Service (LOS) is measurement of traffic congestion. LOS is expressed using letters "A" through "F", with LOS A representing free flow conditions and LOS F representing failed conditions.

Project Description:

Project ID	Location	Improvement	Cost Estimate	Purpose/Benefit
ST-13.1	Milkweed Springs Road and Buck Music Mountain Road	Add pavement striping	\$8,000	Improve lane visibility; Enhance safety
ST-13.2	Section 40 and Section 50	Install street lighting	\$80,000	Increase nighttime visibility; pedestrian/bicycle safety

Environmental Overview: Corridors are developed; therefore environmental impacts are minimal. Consideration should be given to impacts on cultural resources, utilities, and noise receptors.

Issues Addressed: Lack of pavement striping

Project Benefits: Increased roadway safety

Potential Funding Sources: Tribal Transportation Program (TTP); TIGER Grant

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Project #ST-14. Multi-Use Trail System

Route Name: N/A

Section Number: N/A

Project Map:



Project Length: 5.55 miles

Existing and Future Conditions:

- Projects in undeveloped areas between the established community of Peach Springs and the residential development area along Buck and Doe Road.
- Potential residential development along Buck and Doe Road

Project Description:

Project ID	Location	Improvement	Cost Estimate	Purpose/Benefit
ST-14.1	State Route 66: Peach Springs to Buck and Doe Road	Construct a multi-use trail offset from State Route 66 from Honaga Hill Road to Buck and Doe Road	\$160,000	Improve pedestrian mobility and safety
ST-14.2	Ridgeline Road: Peach Springs to Milkweed Springs Road	Construct a multi-use trail along Ridgeline Road from Shandy Lane to Milkweed Springs Road	\$160,000	Improve pedestrian mobility and safety
ST-14.3	Buck and Doe Road	Construct a multi-use path to connect Ridgeline Road trail to multi-use trail along State Route 66	\$45,000	Improve pedestrian mobility and safety

Environmental Overview: Multi-use trails follow existing man-made trails; therefore environmental impacts are minimal. Consideration should be given to impacts on cultural resources, utilities, and noise receptors.

Issues Addressed: Limited pedestrian facilities connecting Peach Springs and Buck and Doe Road

Project Benefits: Increased pedestrian mobility

Potential Funding Sources: Tribal Transportation Program (TTP); TIGER Grant; Transportation Alternatives Programs

★ Projects identified on Mohave County and ADOT maintained roads are recommendations only. These recommendations are based on stakeholder/public input, a roadway inventory, and analysis of deficiencies and needs. Route and Section Numbers refer to the BIA TTP roadway inventory route numbers.



Project #ST-15. Antares Road: State Route 66 to Pavement Ending

Route Name:	Antares Road
Section Number:	State Route 66 to Pavement Ending
Project Map:	
Project Length:	0.76 miles
Existing and Future Conditions:	- Paved Roadway; Residential Area; Route to Grand Canyon West - Functional Classification: 4 (Rural Major Collector) - Speed Limit: 45 MPH - Potential residential growth in Antares
Existing and Projected Traffic Conditions:	- Existing ADT: 231 Existing LOS: A 2019 ADT: 254 2019 LOS: A <i>Average Daily Traffic (ADT) refers to a roadway's total traffic volume during a 24-hour period. Level of Service (LOS) is measurement of traffic congestion. LOS is expressed using letters "A" through "F", with LOS A representing free flow conditions and LOS F representing failed conditions.</i>

Project Description:				
Project ID	Location	Improvement	Cost Estimate	Purpose/Benefit
ST-15.1	Antares Road/State Route 66 Intersection	Restripe intersection to include a stop bar	\$1,500	Improve lane visibility; Enhance safety
ST-15.2	State Route 66 to Pavement Ending	Add pavement striping	\$2,500	Improve lane visibility; Enhance safety
ST-15.3		Install street lighting <i>Technical analysis does not warrant installing street lighting; however, stakeholders and public expressed need for street lighting to improve safety.</i>	\$80,000	Improve nighttime visibility; Enhance safety

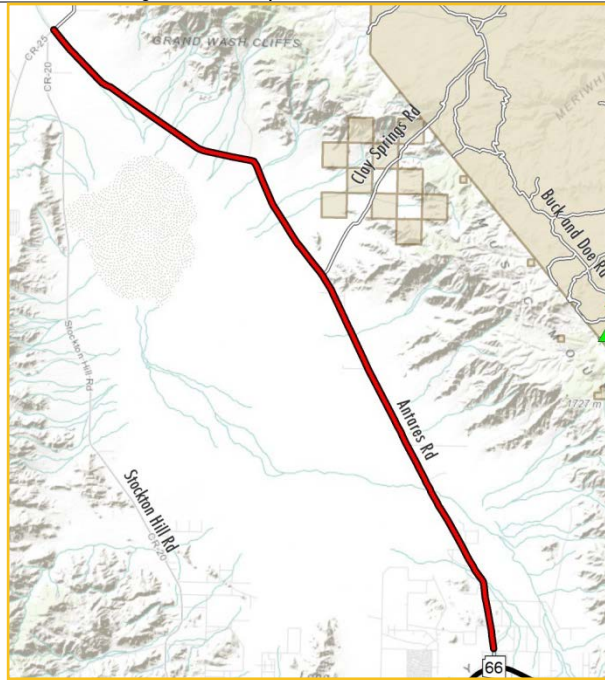
Environmental Overview:	Corridor is developed; therefore environmental impacts are minimal. Consideration should be given to impacts on cultural resources, utilities, and noise receptors.
Issues Addressed:	Lack of pavement striping, nighttime visibility, safety concerns
Project Benefits:	Increased roadway safety
Potential Funding Sources:	Surface Transportation Program (STP); Tribal Transportation Program (TTP); TIGER Grant

★ Projects identified on Mohave County and ADOT maintained roads are recommendations only. These recommendations are based on stakeholder/public input, a roadway inventory, and analysis of deficiencies and needs. Route and Section Numbers refer to the BIA TTP roadway inventory route numbers.



Project #ST-16. Antares Road: Pavement Ending to Pierce Ferry Road

Route Name:	Antares Road
Section Number:	Pavement Ending to Pierce Ferry Road
Project Map:	



Project Length:	31.6 miles
Existing and Future Conditions:	- Unpaved Roadway; Open Rangeland; Route to Grand Canyon West - Functional Classification: 4 (Rural Major Collector) - Speed Limit: 45 MPH - Increased traffic due to development at Grand Canyon West

Existing and Projected Traffic Conditions:	- Existing ADT: 38 Existing LOS: A 2019 ADT: 42 2019 LOS: A <i>Average Daily Traffic (ADT) refers to a roadway's total traffic volume during a 24-hour period. Level of Service (LOS) is measurement of traffic congestion. LOS is expressed using letters "A" through "F", with LOS A representing free flow conditions and LOS F representing failed conditions.</i>
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Project Description:				
Project ID	Location	Improvement	Cost Estimate	Purpose/Benefit
ST-16.1	Pavement Ending to Pierce Ferry Road	Conduct a drainage study to assess roadway to determine water flow patterns and possible culvert locations.	\$35,000	Conduct detailed analysis of drainage conditions to determine improvement scenarios
ST-16.2		Supplement existing W11-4 (Advance Cattle Crossing) signs at MPs 3.64 SB, 8.51 NB, 12.08 NB, and 31.66 SB	\$31,000	Increase driver awareness and safety

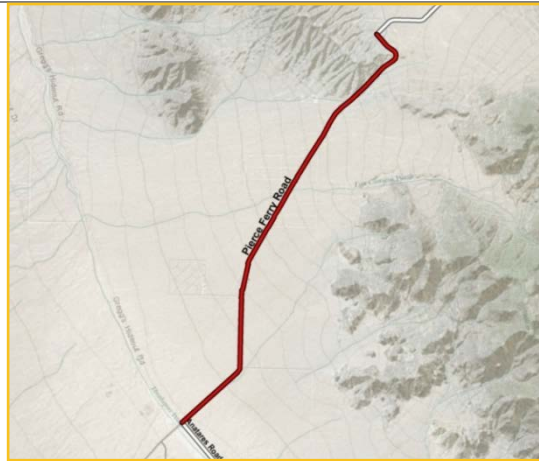
Environmental Overview:	Projects are along established roadway; therefore environmental impacts are minimal. Consideration should be given to impacts on cultural resources, utilities, wildlife, and noise receptors.
Issues Addressed:	Roadway safety concerns; Tourists routed on roadway by GPS units
Project Benefits:	Improved roadway safety conditions; alerts tourists of poor roadway conditions
Potential Funding Sources:	Surface Transportation Program (STP); Tribal Transportation Program (TTP); TIGER Grant

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Project #ST-17. Pierce Ferry Road: Antares Road to Diamond Bar Road

Route Name:	Pierce Ferry Road
Section Number:	Antares Road to Diamond Bar Road
Project Map:	



Project Length:	6.6 miles
Existing and Future Conditions:	- Paved County Roadway; Tourist Corridor to Grand Canyon West - Functional Classification: 2 (Rural Minor Arterial) (FHWA - Rural Major Collector) - Speed Limit: 55 MPH - Increased traffic due to development at Grand Canyon West
Existing and Projected Traffic Conditions:	- Existing ADT: 1,447 Existing LOS: B 2019 ADT: 1,592 2019 LOS: B <i>Average Daily Traffic (ADT) refers to a roadway's total traffic volume during a 24-hour period. Level of Service (LOS) is measurement of traffic congestion. LOS is expressed using letters "A" through "F", with LOS A representing free flow conditions and LOS F representing failed conditions.</i>

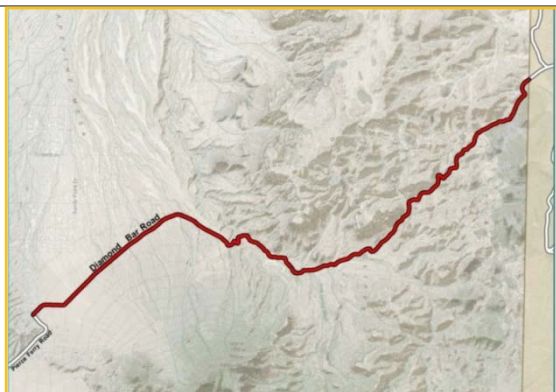
Project Description:				
Project ID	Location	Improvement	Cost Estimate	Purpose/Benefit
ST-17.1	Antares Road to Diamond Bar Road	Install recessed reflective pavement markers	\$5,000	Improve night time visibility; Enhance safety
ST-17.2		Mohave County successfully obtained a \$314,000 Highway Safety Improvement Program project to design, install, and evaluate the installation of 20 driver feedback speed limit signs countywide. Design is scheduled to commence this fiscal year with installation in FY 17.	\$30,000 per location	Alert drivers of speed conditions
ST-17.3		Supplement existing chevron signs as needed	\$6,000	Improve night time visibility; Enhance safety
ST-17.4		Supplement existing W11-4 (Advance Cattle Crossing) sign at MP 22.94 SB	\$6,000	Increase driver awareness and safety
ST-17.5		Conduct Roadway Safety Assessment	\$15,000	Identify improvement scenarios to enhance safety
ST-17.6		Install wayfinding signs for tourists	\$8,000	Provide directional information

Environmental Overview:	Projects are along established roadway; therefore environmental impacts are minimal. Consideration should be given to impacts on cultural resources, utilities, wildlife, and noise receptors.
Issues Addressed:	Roadway safety concerns; high vehicle speeds; lack of directional signage
Project Benefits:	Increased roadway safety; reduced vehicle speeds; enhanced night time driving conditions; provides tourists with directional information
Potential Funding Sources:	Surface Transportation Program (STP); Tribal Transportation Program (TTP); TIGER Grant

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Project #ST-18. Diamond Bar Road: Pierce Ferry Road to Hualapai Indian Reservation

Route Name:	BIA 1			
Section Number:	70			
Project Map:				
Project Length:	14.0 miles			
Existing and Future Conditions:	• Paved County Roadway; Tourist Corridor to Grand Canyon West • Functional Classification: 2 (Rural Minor Arterial) (FHWA - Rural Major Collector) • Speed Limit: 45 MPH • Increased traffic due to development at Grand Canyon West			
Existing and Projected Traffic Conditions:	• Existing ADT: 785 Existing LOS: A 2019 ADT: 864 2019 LOS: B <i>Average Daily Traffic (ADT) refers to a roadway's total traffic volume during a 24-hour period. Level of Service (LOS) is measurement of traffic congestion. LOS is expressed using letters "A" through "F", with LOS A representing free flow conditions and LOS F representing failed conditions.</i>			
Project Description:				
Project ID	Location	Improvement	Cost Estimate	Purpose/Benefit
ST-18.1	Pierce Ferry Road to Hualapai Indian Reservation	Install wayfinding signs for tourists	\$18,000	Provide directional information
ST-18.2		Install reflective pavement markers <i>Note: Mohave County secured a High Risk Rural Roads Program project to install centerline and shoulder rumble strips along the first 4.5 miles of Diamond Bar Road in 2015.</i>	\$10,000	Improve night time visibility; Enhance safety
ST-18.3		Mohave County successfully obtained a \$314,000 Highway Safety Improvement Program project to design, install, and evaluate the installation of 20 driver feedback speed limit signs countywide. Design is scheduled to commence this fiscal year with installation in FY 17.	-	Alert drivers of speed conditions
ST-18.5		Supplement existing chevron signs as needed	\$12,000	Improve night time visibility; Enhance safety
ST-18.6		Supplement existing animal crossing warning signs as needed	\$16,000	Increase driver awareness and safety
ST-18.7		Conduct Roadway Safety Assessment	\$30,000 per location	Identify improvement scenarios to enhance safety
Environmental Overview:		Projects are along established roadway; therefore environmental impacts are minimal. Consideration should be given to impacts on cultural resources, utilities, wildlife, and noise receptors.		
Issues Addressed:		Roadway safety concerns; high vehicle speeds; tourist accommodations		
Project Benefits:		Increased roadway safety; reduced vehicle speeds; enhanced night time driving conditions; provides tourists with directional information		
Potential Funding Sources:		Surface Transportation Program (STP); Tribal Transportation Program (TTP); TIGER Grant; Road Safety Assessment		

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Project #ST-19. State Route 66/Diamond Creek Road Intersection

Route Name:	State Route 66 / BIA 101 Section 100
Section Number:	N/A
Existing and Future Conditions:	• Paved State Highway; Major intersection in developed Peach Springs • <u>Functional Classification</u>: 6 (City Minor Arterial) (FHWA - Rural Major Collector) • <u>Speed Limit</u>: 35 MPH • Potential commercial development
Existing and Projected Traffic Conditions (Diamond Creek Road):	• Existing ADT: 2,275 Existing LOS: B • 2019 ADT: 2,503 2019 LOS: B <i>Average Daily Traffic (ADT) refers to a roadway's total traffic volume during a 24-hour period. Level of Service (LOS) is measurement of traffic congestion. LOS is expressed using letters "A" through "F", with LOS A representing free flow conditions and LOS F representing failed conditions.</i>

Project Description:				
Project ID	Improvement	Project Figure	Cost Estimate	Purpose/Benefit
ST-19.1	Option 1 (Traffic Signal): Install traffic signal; install raised medians on State Route 66; install pedestrian crosswalks and ADA compliant ramps; convert western entrance Hualapai Lodge to a right-in/right-out only; widen eastern entrance to Hualapai Lodge; restripe roadway; add pedestrian crosswalks; improve intersection signage		\$350,000	Improve overall safety and operations of the intersection
ST-19.2	Option 2 (Roundabout): Reconfigure intersection to include a roundabout; convert western entrance Hualapai Lodge to a right-in/right-out only; widen eastern entrance to Hualapai Lodge; installed raised medians; pedestrian crosswalks and sidewalks incorporated into design; improve intersection signage		\$750,000	Improve overall safety and operations of the intersection

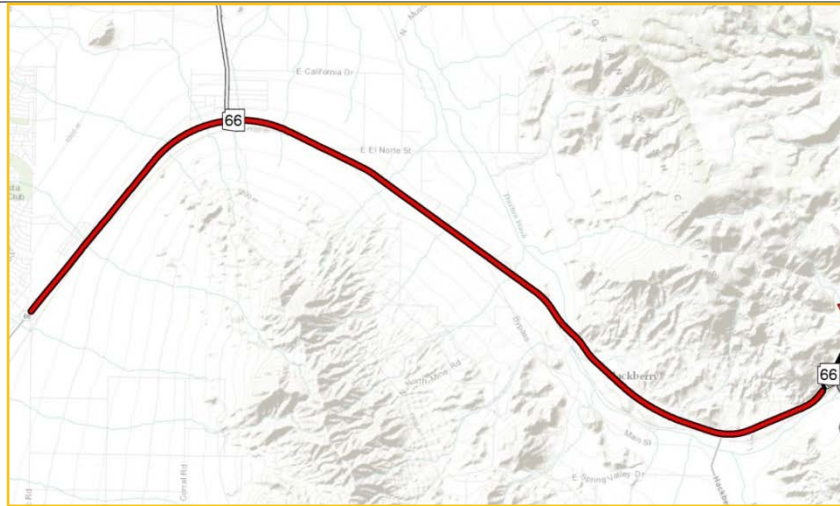
Environmental Overview:	Improvements are located at an existing intersection; therefore environmental impacts are minimal. Consideration should be given to impacts on cultural resources, utilities, wildlife, and noise receptors. Additionally, effort should be made to limit the impacts on Title VI populations during construction
Issues Addressed:	Intersection congestion; roadway safety concerns; high vehicle speeds; lack of street signage
Project Benefits:	Increased roadway safety; reduced vehicle speeds; reduced turning movement conflicts; improved driving experiences; enhanced streetscaping potential
Potential Funding Sources:	Tribal Transportation Program (TTP); Surface Transportation Program (STP); Highway Safety Improvement Program (HSIP); Transportation Alternatives Program (TAP)

★ Projects identified on Mohave County and ADOT maintained roads are recommendations only. These recommendations are based on stakeholder/public input, a roadway inventory, and analysis of deficiencies and needs. Route and Section Numbers refer to the BIA TTP roadway inventory route numbers.



Project #ST-20. State Route 66: MP 71 to MP 84

Route Name: State Route 66
 Section Number: MP 71 to MP84
 Project Map:



Project Length: 12.9

Existing and Future Conditions:

- Paved State Highway
- Functional Classification: 2 (Rural Minor Arterial) (FHWA - Rural Major Collector)
- Speed Limit: 65 MPH
- Potential residential growth in Antares

Existing and Projected Traffic Conditions:

- Existing ADT: 1,625 Existing LOS: B
 2019 ADT: 1,788 2019 LOS: B

Average Daily Traffic (ADT) refers to a roadway's total traffic volume during a 24-hour period. Level of Service (LOS) is measurement of traffic congestion. LOS is expressed using letters "A" through "F", with LOS A representing free flow conditions and LOS F representing failed conditions.

Project Description:				
Project ID	Location	Improvement	Cost Estimate	Purpose/Benefit
ST-20.1	MP 71 to MP 84	Install speed limit signs within 500 FT of major intersections	\$12,000	Alert drivers of speed conditions
ST-20.2		Install animal crossing warning signs	\$14,000	Increase driver awareness and safety
ST-20.3		Install roadside fencing to ADOT/AZGF standards	\$1,600,000	Restrict wildlife from entering right-of-way
ST-20.4		Install recessed reflective pavement markers	\$10,000	Improve night time visibility; Enhance safety
ST-20.5		Clean roadside clear zones	\$13,000	Provide safe area for vehicles to pull over
ST-20.6	State Route 66/ Antares Road Intersection	Install street signs and wayfinding signs	\$2,500	Provide directional information
ST-20.7	State Route 66/Valentine Cemetery Road Intersection	Install "Hidden Driveway" sign	\$500	Increase driver awareness and safety

Environmental Overview: Projects are along established roadway; therefore environmental impacts are minimal. Consideration should be given to impacts on cultural resources, utilities, wildlife, and noise receptors.

Issues Addressed: Roadway safety concerns; high vehicle speeds; lack of directional signage

Project Benefits: Increased roadway safety; reduced vehicle speeds; enhanced night time driving conditions; provides tourists with directional information

Potential Funding Sources: Surface Transportation Program (STP); Highway Safety Improvement Program (HSIP)

★ Projects identified on Mohave County and ADOT maintained roads are recommendations only. These recommendations are based on stakeholder/public input, a roadway inventory, and analysis of deficiencies and needs. Route and Section Numbers refer to the BIA TTP roadway inventory route numbers.



Project #ST-21. State Route 66: MP 84 to MP 86.5 (Valentine)

Route Name:	State Route 66
Section Number:	MP 84 to MP 86.5
Project Map:	
Project Length:	2.4
Existing and Future Conditions:	• Paved State Highway; Transverses Through Developed Valentine Community • Functional Classification: 2 (Rural Minor Arterial) (FHWA - Rural Major Collector) • Speed Limit: 65 MPH • Potential residential development
Existing and Projected Traffic Conditions:	• Existing ADT: 1,459 Existing LOS: B • 2019 ADT: 1,605 2019 LOS: B <i>Average Daily Traffic (ADT) refers to a roadway's total traffic volume during a 24-hour period. Level of Service (LOS) is measurement of traffic congestion. LOS is expressed using letters "A" through "F", with LOS A representing free flow conditions and LOS F representing failed conditions.</i>

Project Description:				
Project ID	Location	Improvement	Cost Estimate	Purpose/Benefit
ST-21.1	MP 85 to MP 86.5	Widen shoulders to 8 FT	\$160,000	Provide safe area for vehicles to pull over
ST-21.2		Install recessed reflective pavement markers	\$1,800	Improves lane visibility; Enhances safety
ST-21.3		Reduce speed limit to 45 MPH	\$2,500	Pedestrian/Bicycle safety; Reduce speeding
ST-21.4		Install street signs at intersections	\$4,000	Provide directional information
ST-21.5	MP 85.2 to MP 85.5	Install street lighting	\$40,000	Increase nighttime visibility; pedestrian/bicycle safety

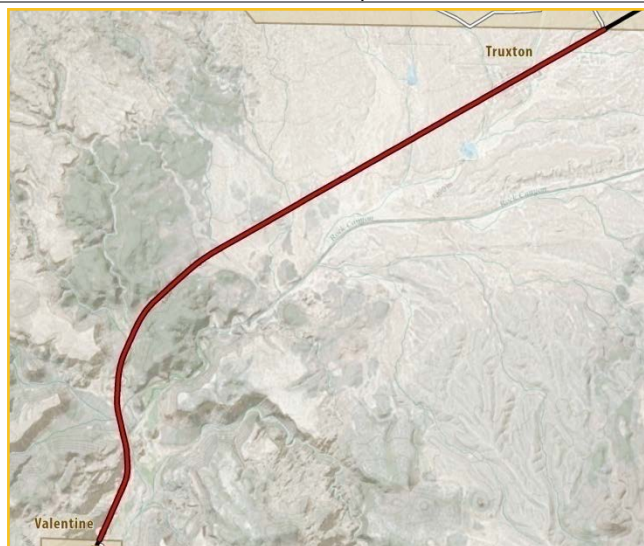
Environmental Overview:	Projects are along established roadway; therefore environmental impacts are minimal. Consideration should be given to impacts on cultural resources, utilities, wildlife, and noise receptors.
Issues Addressed:	Roadway safety concerns; pedestrian/bicycle safety; high vehicle speeds; narrow shoulders; lack of street signage
Project Benefits:	Increased roadway safety; reduced vehicle speeds; increased pedestrian and bicyclist safety conditions; enhanced night time driving conditions; provides motorists with directional information
Potential Funding Sources:	Surface Transportation Program (STP); Highway Safety Improvement Program (HSIP)

★ Projects identified on Mohave County and ADOT maintained roads are recommendations only. These recommendations are based on stakeholder/public input, a roadway inventory, and analysis of deficiencies and needs. Route and Section Numbers refer to the BIA TTP roadway inventory route numbers.



Project #ST-22. State Route 66: MP 86.5 to Western Reservation Boundary

Route Name:	State Route 66
Project Location:	MP 86.5 to Western Reservation Boundary
Project Map:	



Project Length:	9.7
Existing and Future Conditions:	- Paved State Highway; Transverses Through Developed Truxton Community - Functional Classification: 2 (Rural Minor Arterial) (FHWA - Rural Major Collector) - Speed Limit: 65 MPH - Potential residential growth in Truxton
Existing and Projected Traffic Conditions:	- Existing ADT: 1,459 Existing LOS: B 2019 ADT: 1,605 2019 LOS: B <i>Average Daily Traffic (ADT) refers to a roadway's total traffic volume during a 24-hour period. Level of Service (LOS) is measurement of traffic congestion. LOS is expressed using letters "A" through "F", with LOS A representing free flow conditions and LOS F representing failed conditions.</i>

Project Description:				
Project ID	Location	Improvement	Cost Estimate	Purpose/Benefit
ST-22.1	MP 86.5 to MP 90	Widen shoulders to 8 FT	\$2,000,000	Provide safe area for vehicles to pull over
ST-22.2	Bridge #141 (MP 91.6)	Bridge Rehabilitation	\$400,000	Structural sufficient bridge
ST-22.3	MP 86.5 to Western Reservation Boundary	Install speed limit signs within 500 FT of major intersection	\$10,000	Alert drivers of speed conditions
ST-22.4		Install animal crossing warning signs	\$10,000	Increase driver awareness and safety
ST-22.5		Install roadside fencing to ADOT/AZGF standards	\$1,300,000	Restrict wildlife from entering right-of-way
ST-22.6		Install recessed reflective pavement markers	\$8,000	Improve night time visibility; Enhance safety
ST-22.7		Install chevron signs at curves	\$9,000	Improve night time visibility; Enhance safety
ST-22.8		Install street signs and wayfinding signs	\$8,000	Provide directional information

Environmental Overview:	Projects are along established roadway; therefore environmental impacts are minimal. Consideration should be given to impacts on cultural resources, utilities, wildlife, and noise receptors.
Issues Addressed:	Roadway safety concerns; pedestrian/bicycle safety; high vehicle speeds; bridge conditions; narrow shoulders; lack of street signage
Project Benefits:	Increased roadway safety; reduced vehicle speeds; increased pedestrian and bicyclist safety conditions; enhanced night time driving conditions; provides motorists with directional information; improved bridge conditions
Potential Funding Sources:	Surface Transportation Program (STP); Highway Safety Improvement Program (HSIP)

★ Projects identified on Mohave County and ADOT maintained roads are recommendations only. These recommendations are based on stakeholder/public input, a roadway inventory, and analysis of deficiencies and needs. Route and Section Numbers refer to the BIA TTP roadway inventory route numbers.



Project #ST-23. State Route 66: Western Reservation Boundary to MP 101

Route Name:	State Route 66
Project Location:	Western Reservation Boundary to MP 101
Project Map:	
Project Length:	4.9 miles
Existing and Future Conditions:	• Paved State Highway • Functional Classification: 2 (Rural Minor Arterial) (FHWA - Rural Major Collector) • Speed Limit: 65 MPH • No planned growth
Existing and Projected Traffic Conditions:	• Existing ADT: 1,760 Existing LOS: B • 2019 ADT: 1,936 2019 LOS: B <i>Average Daily Traffic (ADT) refers to a roadway's total traffic volume during a 24-hour period. Level of Service (LOS) is measurement of traffic congestion. LOS is expressed using letters "A" through "F", with LOS A representing free flow conditions and LOS F representing failed conditions.</i>

Project Description:				
Project ID	Location	Improvement	Cost Estimate	Purpose/Benefit
ST-23.1	Western Reservation Boundary to MP 101	Install speed limit signs within 500 FT of major intersection	\$5,000	Alert drivers of speed conditions
ST-23.2		Conduct Roadway Safety Assessment	\$20,000	Identify improvement scenarios to enhance safety
ST-23.3		Install recessed reflective pavement markers	\$4,000	Improve night time visibility; Enhance safety
ST-23.4		Install street signs and wayfinding signs	\$4,000	Provide directional information
ST-23.5	State Route 66/ Buck and Doe Road Intersection	Install street signs and wayfinding signs	\$1,500	Provide directional information

Environmental Overview:	Projects are along established roadway; therefore environmental impacts are minimal. Consideration should be given to impacts on cultural resources, utilities, wildlife, and noise receptors.
Issues Addressed:	Roadway safety concerns; high vehicle speeds; lack of street signage
Project Benefits:	Increased roadway safety; reduced vehicle speeds; enhanced night time driving conditions; provides motorists with directional information
Potential Funding Sources:	Surface Transportation Program (STP); Highway Safety Improvement Program (HSIP); Road Safety Assessment

★ Projects identified on Mohave County and ADOT maintained roads are recommendations only. These recommendations are based on stakeholder/public input, a roadway inventory, and analysis of deficiencies and needs. Route and Section Numbers refer to the BIA TTP roadway inventory route numbers.



Project #ST-24. State Route 66: MP 101 to MP 103

Route Name:	State Route 66
Project Location:	MP 101 to MP 103
Project Map:	



Project Length:	2.0 miles
Existing and Future Conditions:	- Paved State Highway - Functional Classification: 2 (Rural Minor Arterial) (FHWA - Rural Major Collector) - Speed Limit: 35 MPH - No planned growth
Existing and Projected Traffic Conditions:	- Existing ADT: 2,275 Existing LOS: B 2019 ADT: 2,503 2019 LOS: B <i>Average Daily Traffic (ADT) refers to a roadway's total traffic volume during a 24-hour period. Level of Service (LOS) is measurement of traffic congestion. LOS is expressed using letters "A" through "F", with LOS A representing free flow conditions and LOS F representing failed conditions.</i>

Project Description:				
Project ID	Location	Improvement	Cost Estimate	Purpose/Benefit
ST-24.1	MP 101 to MP 103	Install recessed reflective pavement markers	\$2,000	Improve night time visibility; Enhance safety
ST-24.2		Install speed limit signs within 500 FT of major intersection	\$4,000	Alert drivers of speed conditions

Environmental Overview:	Projects are along established roadway; therefore environmental impacts are minimal. Consideration should be given to impacts on cultural resources, utilities, wildlife, and noise receptors.
Issues Addressed:	Roadway safety concerns; high vehicle speeds
Project Benefits:	Increased roadway safety; reduced vehicle speeds; enhanced night time driving conditions
Potential Funding Sources:	Surface Transportation Program (STP); Highway Safety Improvement Program (HSIP)

* Projects identified on Mohave County and ADOT maintained roads are recommendations only. These recommendations are based on stakeholder/public input, a roadway inventory, and analysis of deficiencies and needs. Route and Section Numbers refer to the BIA TTP roadway inventory route numbers.



Project #ST-25. State Route 66: MP 103 to Diamond Creek Road

Route Name:	State Route 66
Project Location:	MP 103 to Diamond Creek Road
Project Map:	
Project Length:	0.4 miles
Existing and Future Conditions:	- Paved State Highway; Transverses Through Developed Peach Springs Community - Functional Classification: 6 (City Minor Arterial) (FHWA - Rural Major Collector) - Speed Limit: 35 MPH - Potential commercial development
Existing and Projected Traffic Conditions:	- Existing ADT: 2,275 Existing LOS: B 2019 ADT: 2,503 2019 LOS: B <i>Average Daily Traffic (ADT) refers to a roadway's total traffic volume during a 24-hour period. Level of Service (LOS) is measurement of traffic congestion. LOS is expressed using letters "A" through "F", with LOS A representing free flow conditions and LOS F representing failed conditions.</i>

Project Description:				
Project ID	Location	Improvement	Cost Estimate	Purpose/Benefit
ST-25.1	MP 103 to Diamond Creek Road	Option 1: Install flashing, speed limit signs entering Peach Springs	\$30,000 per location	Alert drivers of speed conditions
ST-25.2		Option 2: Install speed limit pavement markings entering Peach Springs	\$3,000 per location	Alert drivers of speed conditions
ST-25.3		Install community gateway signs	\$4,000	Alert drivers that they are entering a residential area; Enhance aesthetics
ST-25.4		Conduct Roadway Safety Assessment	\$15,000	Identify improvement scenarios to enhance safety
ST-25.5		Install recessed reflective pavement markers	\$500	Improve night time visibility; Enhance safety
ST-25.6		Install street signs at Honaga Hill Road and Diamond Creek Road	\$2,000	Provide directional information

Environmental Overview:	Projects are along established roadway; therefore environmental impacts are minimal. Consideration should be given to impacts on cultural resources, utilities, wildlife, and noise receptors.
Issues Addressed:	Roadway safety concerns; high vehicle speeds; lack of street signage
Project Benefits:	Increased roadway safety; reduced vehicle speeds; enhanced night time driving conditions; provides motorists with directional information
Potential Funding Sources:	Surface Transportation Program (STP); Highway Safety Improvement Program (HSIP); Road Safety Assessment

* Projects identified on Mohave County and ADOT maintained roads are recommendations only. These recommendations are based on stakeholder/public input, a roadway inventory, and analysis of deficiencies and needs. Route and Section Numbers refer to the BIA TTP roadway inventory route numbers.



Project #ST-26. State Route 66: Diamond Creek Road to MP 105

Route Name:	State Route 66
Project Location:	Diamond Creek Road to MP 105
Project Map:	



Project Length:	1.6 miles
Existing and Future Conditions:	- Paved State Highway; Transverses Through Developed Peach Springs Community - Functional Classification: 6 (City Minor Arterial) (FHWA - Rural Major Collector) - Speed Limit: 45-65 MPH - Potential commercial development
Existing and Projected Traffic Conditions:	- Existing ADT: 1,996 Existing LOS: B 2019 ADT: 2,169 2019 LOS: B <i>Average Daily Traffic (ADT) refers to a roadway's total traffic volume during a 24-hour period. Level of Service (LOS) is measurement of traffic congestion. LOS is expressed using letters "A" through "F", with LOS A representing free flow conditions and LOS F representing failed conditions.</i>

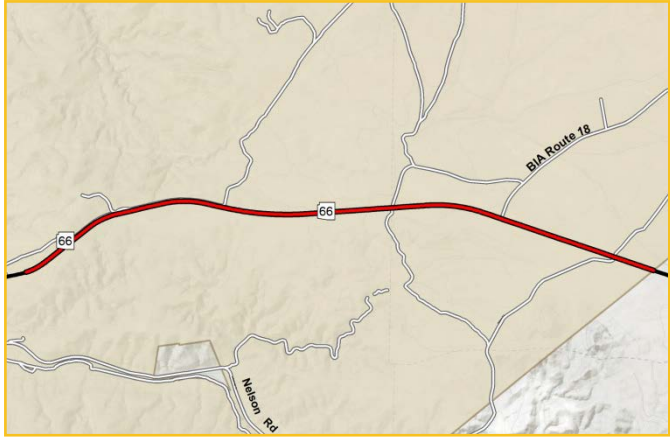
Project Description:				
Project ID	Location	Improvement	Cost Estimate	Purpose/Benefit
ST-26.1	Diamond Creek Road to MP 105	Option 1: Install flashing, speed limit signs entering Peach Springs	\$30,000 per location	Alert drivers of speed conditions
ST-26.2		Option 2: Install speed limit pavement markings entering Peach Springs	\$3,000 per location	Alert drivers of speed conditions
ST-26.3		Install community gateway signs	\$4,000	Alert drivers that they are entering a residential area; Enhance aesthetics
ST-26.4		Install street signs at Nelson Road, Wahanda Way, Hualapai Way, BIA Lane, and High View Drive	\$4,000	Provide directional information
ST-26.5		Conduct Roadway Safety Assessment	\$15,000	Identify improvement scenarios to enhance safety
ST-26.6		Install recessed reflective pavement markers	\$1,200	Improve night time visibility; Enhance safety
ST-26.7	Diamond Creek Road to Nelson Road	Upgrade street lighting, install wayfinding signs, enhance landscaping	\$75,000	Improve night time visibility; Enhance safety
ST-26.8	Nelson Road to East of High View Drive	Reduce speed limit to 35 MPH	\$2,500	Pedestrian/Bicycle safety; reduce speeding
ST-26.9	East of Hualapai Way to West of High View Drive	Repave and restripe roadway to include center turn lane	\$2,000	Provide safe area for motorist to turn on/off of State Route 66

Environmental Overview:	Projects are along established roadway; therefore environmental impacts are minimal. Consideration should be given to impacts on cultural resources, utilities, wildlife, and noise receptors.
Issues Addressed:	Roadway safety concerns; high vehicle speeds; turning movements to/from State Route 66; lack of street signage
Project Benefits:	Increased roadway safety; reduced vehicle speeds; provides motorists with directional information
Potential Funding Sources:	Surface Transportation Program (STP); Highway Safety Improvement Program (HSIP)

* Projects identified on Mohave County and ADOT maintained roads are recommendations only. These recommendations are based on stakeholder/public input, a roadway inventory, and analysis of deficiencies and needs. Route and Section Numbers refer to the BIA TTP roadway inventory route numbers.



Project #ST-27 State Route 66: MP 105 to Eastern Reservation Boundary

Route Name:	State Route 66
Project Location:	MP 105 to Eastern Reservation Boundary
Project Map:	
Project Length:	7.4 miles
Existing and Future Conditions:	• Paved State Highway • Functional Classification: 2 (Rural Minor Arterial) (FHWA - Rural Major Collector) • Speed Limit: 65 MPH • No planned growth
Existing and Projected Traffic Conditions:	• Existing ADT: 1,760 Existing LOS: B • 2019 ADT: 1,936 2019 LOS: B <i>Average Daily Traffic (ADT) refers to a roadway's total traffic volume during a 24-hour period. Level of Service (LOS) is measurement of traffic congestion. LOS is expressed using letters "A" through "F", with LOS A representing free flow conditions and LOS F representing failed conditions.</i>

Project Description:				
Project ID	Location	Improvement	Cost Estimate	Purpose/Benefit
ST-27.1	MP 105 to Eastern Reservation Boundary	Install speed limit signs within 500 FT of major intersection	\$7,000	Alert drivers of speed conditions
ST-27.2		Install roadside fencing to ADOT/AZGF standards	\$950,000	Restrict wildlife from entering right-of-way
ST-27.3		Install recessed reflective pavement markers	\$6,000	Increase driver awareness and safety
ST-27.4	State Route 66/Supai Road	Install street signs and wayfinding signs	\$2,000	Provide directional information
ST-27.5	State Route 66/Nelson Road	Install "Trucks Entering Highway" sign	\$1,500	Increase driver awareness and safety

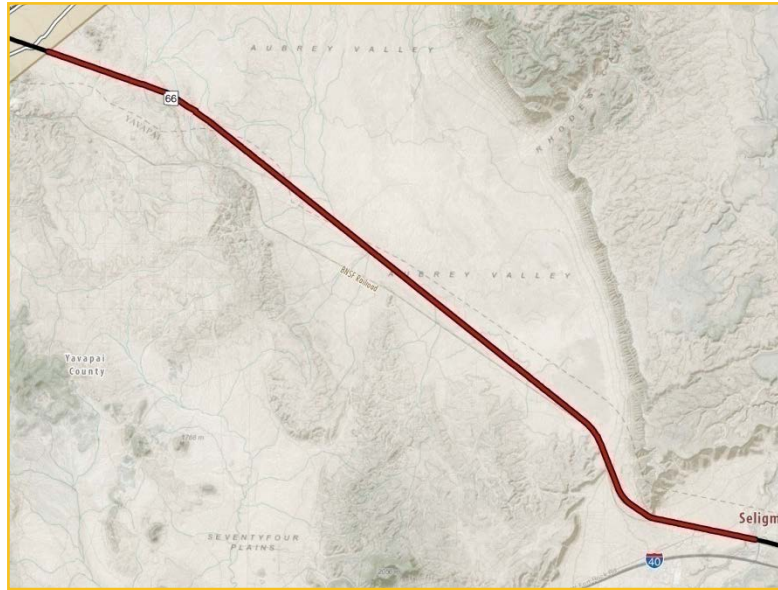
Environmental Overview:	Projects are along established roadway; therefore environmental impacts are minimal. Consideration should be given to impacts on cultural resources, utilities, wildlife, and noise receptors.
Issues Addressed:	Roadway safety concerns; high vehicle speeds; lack of street signage
Project Benefits:	Increased roadway safety; reduced vehicle speeds; enhanced night time driving conditions; provides motorists with directional information
Potential Funding Sources:	Surface Transportation Program (STP); Highway Safety Improvement Program (HSIP)

★ Projects identified on Mohave County and ADOT maintained roads are recommendations only. These recommendations are based on stakeholder/public input, a roadway inventory, and analysis of deficiencies and needs. Route and Section Numbers refer to the BIA TTP roadway inventory route numbers.



Project #ST-28. State Route 66: Eastern Reservation Boundary to Seligman

Route Name:	State Route 66
Project Location:	MP 105 to Eastern Reservation Boundary to MP 139
Project Map:	



Project Length:	27.3 miles
Existing and Future Conditions:	- Paved State Highway - Functional Classification: 2 (Rural Minor Arterial) (FHWA - Rural Major Collector) - Speed Limit: 65 MPH - No planned growth
Existing and Projected Traffic Conditions:	- Existing ADT: 905 Existing LOS: B 2019 ADT: 1,201 2019 LOS: B <i>Average Daily Traffic (ADT) refers to a roadway's total traffic volume during a 24-hour period. Level of Service (LOS) is measurement of traffic congestion. LOS is expressed using letters "A" through "F", with LOS A representing free flow conditions and LOS F representing failed conditions.</i>

Project Description:				
Project ID	Location	Improvement	Cost Estimate	Purpose/Benefit
ST-28.1	Eastern Reservation Boundary to Seligman	Install roadside fencing to ADOT/AZGF standards	\$3,500,000	Restrict wildlife from entering right-of-way
ST-28.2		Install recessed reflective pavement markers	\$20,000	Increase driver awareness and safety

Environmental Overview:	Projects are along established roadway; therefore environmental impacts are minimal. Consideration should be given to impacts on cultural resources, utilities, wildlife, and noise receptors.
Issues Addressed:	Roadway safety concerns
Project Benefits:	Increased roadway safety; enhanced night time driving conditions
Potential Funding Sources:	Surface Transportation Program (STP); Highway Safety Improvement Program (HSIP)

★ Projects identified on Mohave County and ADOT maintained roads are recommendations only. These recommendations are based on stakeholder/public input, a roadway inventory, and analysis of deficiencies and needs. Route and Section Numbers refer to the BIA TTP roadway inventory route numbers.



Mid-Term (2024) Improvements

Mid-term phase projects are recommended to be completed as the study area reaches year 2024. Table 8.2 presents a comprehensive list of the transportation recommendations for this phase, as well as the project number, location, description, and estimated costs for each project. Each project is assigned a unique project number that can be used to track project progress. Planning level cost estimates were developed based on typical per-mile/foot construction costs. *Estimated costs for each project are expressed in 2014 dollars and do not include ROW acquisition costs. Actual costs for projects could vary at the time of implementation; therefore, a detailed analysis should be performed on a case-by-case basis to determine actual costs. Unless otherwise noted, the recommended projects are not yet funded.*

Table 8.2: Mid-Term Recommendations

Project ID	Project Location	Project Description	Length (miles)	Cost
Hualapai Indian Tribe				
MT-1	BIA Route 101 (Peach Springs)			\$888,000
MT-1.1	Diamond Creek Road/BNSF Rail road Crossing	Establish Quiet Zone through Peach Springs Community	-	\$8,000
MT-1.2	Shandy Lane (Sections 50 and 30); BIA Lane (Section 260)	Grade and pave roadway	0.4	\$400,000
MT-1.3		Install street signs and wayfinding signs	0.4	\$20,000
MT-1.4	Rodeo Circle	Construct concrete shared-use path	0.57	\$100,000
MT-1.5	Shandy Lane: Diamond Creek Road to Hualapai Way	Construct concrete shared-use path	0.37	\$70,000
MT-1.6	Sections 90, 130 -190	Construct concrete shared-use path	1.88	\$290,000
MT-2	BIA Route 103 (Valentine)			\$1,563,000
MT-2.1	Sections 10 -110	Grade and pave roadway	1.3	\$1,200,000
MT-2.2		Construct asphalt shared-use path	1.7	\$350,000
MT-2.3	Section 70 and 80/BNSF Railroad Crossing	Coordinate with BNSF to level and widen roadway; install gates; and flashing light	-	\$8,000
MT-2.4		Establish Quiet Zone through Valentine	-	\$5,000
MT-3	BIA Route 9103 (Valentine)			\$375,000
MT-3.1	Section 10	Grade and pave roadway	0.4	\$375,000
MT-4	BIA Route 8000 (Valentine Cemetery Road)			\$8,000
MT-4.1	State Route 66 to Valentine Cemetery	Replace and widen cattleguards (2)	0.9	\$8,000
MT-5	BIA Route 104			\$590,000
MT-5.1	Milkweed Springs Road	Construct concrete shared-use path	0.2	\$40,000
MT-5.2	Section 40 and Section 50	Grade and pave roadway	0.6	\$550,000
MT-6	Buck and Doe Road (BIA 1): State Route 66 to Mud Tank Road			\$1,700,000
MT-6.1	State Route 66 to Mud Tank Road	Add 5 FT unpaved shoulders	3.5	\$1,500,000
MT-6.2	State Route 66 to Music Mountain Road	Construct asphalt shared-use path	1.1	\$200,000

★ Projects identified on Mohave County and ADOT maintained roads are recommendations only. These recommendations are based on stakeholder/public input, a roadway inventory, and analysis of deficiencies and needs.



Table 8.2: Mid-Term Recommendations (Continued)

Project ID	Project Location	Project Description	Length (miles)	Cost
Hualapai Indian Tribe				
MT-7	Buck and Doe Road (BIA 1): Mud Tank Road to Diamond Bar Road			\$725,000
MT-7.1	MP 4 to MP 17	Install roadside fencing to ADOT/AZGF standards	13.0	\$375,000
MT-7.2	Mud Tank Road to Diamond Bar Road	Install Culvert (22)	44.9	\$350,000
MT-8	Supai Road (BIA 18): State Route 66 to MP 20			\$5,000,000
MT-8.1	State Route 66 to MP 20	Add 5 FT unpaved shoulders	20.1	\$5,000,000
MT-9	Supai Road (BIA 18): MP 20 to Hualapai Indian Reservation Boundary			\$5,000,000
MT-9.1	MP 20 to Hualapai Indian Reservation Boundary	Add 5 FT unpaved shoulders	20	\$5,000,000
MT-10	Nelson Road (BIA 19): State Route 66 to State Route 66			\$900,000
MT-10.1	State Route 66/Nelson Road Intersection (Peach Springs)	Redesign and realign intersection to a T-intersection	-	\$400,000
MT-10.2	State Route 66/Nelson Road Intersection	Widen intersection so trucks turning EB can easily access State Route 66	-	\$500,000
MT-11	Youth Camp Road (BIA 17): State Route 66 to Youth Camp			\$350,000
MT-11.1	State Route 66 to Youth Camp	Grade and pave roadway	3.8	\$350,000
MT-12	Multi-Use Trail System			\$320,000
MT-12.1	Hualapai Lodge to BIA Lane	Construct a concrete shared-use path with trail side amenities	1.04	\$160,000
Mohave County				
MT-13	Antares Road: State Route 66 to Pavement Ending			\$390,000
MT-13.1	State Route 66 to Pavement Ending	Add 5 FT unpaved shoulders	0.76	\$200,000
MT-13.2		Install multi-use path	0.76	\$190,000
Arizona Department of Transportation				
MT-14	State Route 66: Buck and Doe Road to Diamond Creek Road			\$600,000
MT-14.1	MP 103 to Diamond Creek Road	Install Chicane to reduce speeds	-	\$300,000
MT-14.2	Honaga Hill Road to Diamond Creek Road	Consolidate driveways to the Cultural Center, Post Office, and Planning Department	0.25	\$300,000
MT-15	State Route 66: Diamond Creek Road to MP 105			\$463,000
MT-15.1	West of Hualapai Way to East of High View Drive	Restripe roadway to include a center turn lane	0.7	\$3,000
MT-15.2	East of High View Drive	Install Chicane to reduce speeds	-	\$300,000
MT-15.3	Hualapai Lodge to BIA Lane	Construct a concrete shared-use path with trail side amenities	1.04	\$160,000

* Projects identified on Mohave County and ADOT maintained roads are recommendations only. These recommendations are based on stakeholder/public input, a roadway inventory, and analysis of deficiencies and needs.



Long-Term (2034) Improvements

Long-term phase projects are recommended to be completed as the study area reaches year 2034. Table 8.3 presents a comprehensive list of the transportation recommendations for this phase, as well as the project number, location, description, and estimated costs for each project. Each project is assigned a unique project number that can be used to track project progress. Planning level cost estimates were developed based on typical per-mile/foot construction costs. *Estimated costs for each project are expressed in 2014 dollars and do not include ROW acquisition costs. Actual costs for projects could vary at the time of implementation; therefore, a detailed analysis should be performed on a case-by-case basis to determine actual costs. Unless otherwise noted, the recommended projects are not yet funded.*

Table 8.3: Long-Term Recommendations

Project ID	Project Location	Project Description	Length (miles)	Cost
Hualapai Indian Tribe				
LT-1	BIA Route 101 (Peach Springs)			\$3,150,000 to \$6,950,000
LT-1.1	Shandy Lane/Honaga Hill Road/Ridge Road Intersection	Reconfigure intersection	-	\$250,000
LT-1.2	Diamond Creek Road/BNSF Rail road Crossing	Option 1: Replace current at-grade crossing with new 500 FT overpass	-	\$3,700,000
LT-1.3		Option 2: Extend Rodeo Way to State Route 66 with a new 450 FT railroad overpass	-	\$3,800,000
LT-1.4		Option 3: Realign Rodeo Circle to connect to Nelson Road with a new 250 FT railroad overpass	-	\$2,200,000
LT-1.5		Option 4: Construct new railroad underpass west of existing at-grade crossing	-	\$6,000,000
LT-1.6	Truxton Wash Bridge (Section 290)	Widen Bridge	-	\$700,000
LT-2	BIA Route 9103 (Valentine)			\$250,000
LT-2.1	Section 20/State Route 66 Intersection	Level intersection	-	\$250,000
LT-3	BIA Route 8000 (Valentine Cemetery Road)			\$2,100,000
LT-3.1	State Route 66 to Valentine Cemetery	Grade and pave roadway	0.9	\$900,000
		Buildup roadway and install culvert (1) at Truxton Wash	0.9	\$1,200,000
LT-4	Buck and Doe Road (BIA 1): State Route 66 to Mud Tank Road			\$3,175,000
LT-4.1	State Route 66 Intersection	Widen intersection to include an exclusive left-turn lane	-	\$175,000
LT-4.2	State Route 66 to Mud Tank Road	Reconstruct roadway to include 5 FT shoulders, center turn lane, and 12 FT travel lanes	3.5	\$3,000,000
LT-5	Buck and Doe Road (BIA 1): Mud Tank Road to Diamond Bar Road			\$51,000,000
LT-5.1	MP 17.5 - 18.5	Realign roadway at sharp curves	1.5	\$9,000,000
LT-5.2	MP 26 - 29	Realign roadway at sharp curves	3	\$18,000,000
LT-5.3	MP 30 - 32	Realign roadway at sharp curves	2	\$12,000,000
LT-5.4	MP 34 - 36	Realign roadway at sharp curves	2	\$12,000,000

* Projects identified on Mohave County and ADOT maintained roads are recommendations only. These recommendations are based on stakeholder/public input, a roadway inventory, and analysis of deficiencies and needs.



Table 8.3: Long-Term Recommendations (Continued)

Project ID	Project Location	Project Description	Length (miles)	Cost
Hualapai Indian Tribe				
LT-6	Nelson Road: State Route 66 to State Route 66			\$5,040,000
LT-6.1	Residential area to Rodeo Ground	Extend concrete shared-use path to rodeo ground	0.6	\$40,000
LT-6.2	Pavement ending to Lhoist Lime Plant	Grade and pave roadway	5.6	\$5,000,000
LT-7	Multi-Use Trail System			\$950,000
LT-7.1	Ridgeline Road: Shandy Lane to Milkweed Springs Road	Construct unpaved multi-use trail	3.11	\$200,000
LT-7.2	Buck and Doe Road to Honaga Hill Road	Upgrade trail to a concrete shared-use path with trailside amenities	2.5	\$500,000
LT-7.3	Peach Springs Area	Construct unpaved multi-use trail system north of Peach Springs; west of Diamond Creek Road; and along Wahanda Way	4.2	\$250,000
Mohave County				
LT-8	Antares Road: State Route 66 to Pavement Ending			\$100,000
LT-8.1	State Route 66 to Pavement Ending	Install roadside fencing to ADOT and AZGF standards	0.76	\$100,000
LT-9	Antares Road: Pavement Ending to Pierce Ferry Road			
LT-9.1	Pavement Ending to Pierce Ferry Road	Grade and pave roadway	31.6	\$30,000,000
LT-9.2		Install drainage improvement recommended in the drainage study	31.6	\$30,000 per location
ST-9.3		Install roadside fencing to ADOT and AZGF standards <i>Fencing needs and standards should be re-evaluated after Antares Road is paved and updated animal crash data is analyzed.</i>	31.5	\$4,000,000
LT-9.4		Construct bridge over Truxton Wash		\$2,000,000
LT-10	Diamond Bar Road: Pierce Ferry Road to Hualapai Indian Reservation			\$1,800,000
LT-10.1	Pierce Ferry Road to Hualapai Indian Reservation	Install roadside fencing to ADOT and AZGF standards	14	\$1,800,000

★ Projects identified on Mohave County and ADOT maintained roads are recommendations only. These recommendations are based on stakeholder/public input, a roadway inventory, and analysis of deficiencies and needs.

PEDESTRIAN, BICYCLE, AND TRAIL IMPROVEMENT RECOMMENDATIONS

The Hualapai Indian Tribe study area's pedestrian facilities and trails were reviewed in relation to:

- The location of activity centers such as schools, retail establishments, medical facilities, recreation centers;
- Residential community developments; and
- Existing roadway alignments.

Analyzing the study area's existing pedestrian and trail facilities helped to identify locations that would benefit from these amenities and that would be closely integrated with the area's roadway system while maintaining pedestrian safety, and keeping in mind the priorities of the community.

The prioritization of the pedestrian and trail improvement projects is based on input from the TAC, stakeholders, and the public. Figure 8.1 places the improvements into short-, mid- and long- terms.

Short-Term (2019) Pedestrian, Bicycle, and Trail Improvement Recommendations

- Construct concrete shared-use path
 - o Nelson Road: extend sidewalk from Hualapai Lodge to end of pavement (0.25 miles)
 - o Diamond Creek Road: from Diamond Creek Circle to Canyon View Drive (1.16 miles)
 - o Hualapai Way: from Indian Way to State Route 66 (0.33 miles)
 - o High View Drive: from Diamond Creek Road to BIA Lane (0.26 miles)
- Construct asphalt shared-use path
 - o High View Drive: from BIA Lane to State Route 66 (0.22 miles)
- Construct multi-use trail system:
 - o State Route 66: Honaga Hill Road to Buck and Doe Road (2.50 miles)
 - o Ridgeline Road: from Shandy Lane to Milkweed Springs Road (2.40 miles)
 - o Connect Ridgeline Road trail and State Route 66 trail (0.65 miles)

Mid-Term (2024) Pedestrian, Bicycle, and Trail Improvement Recommendations

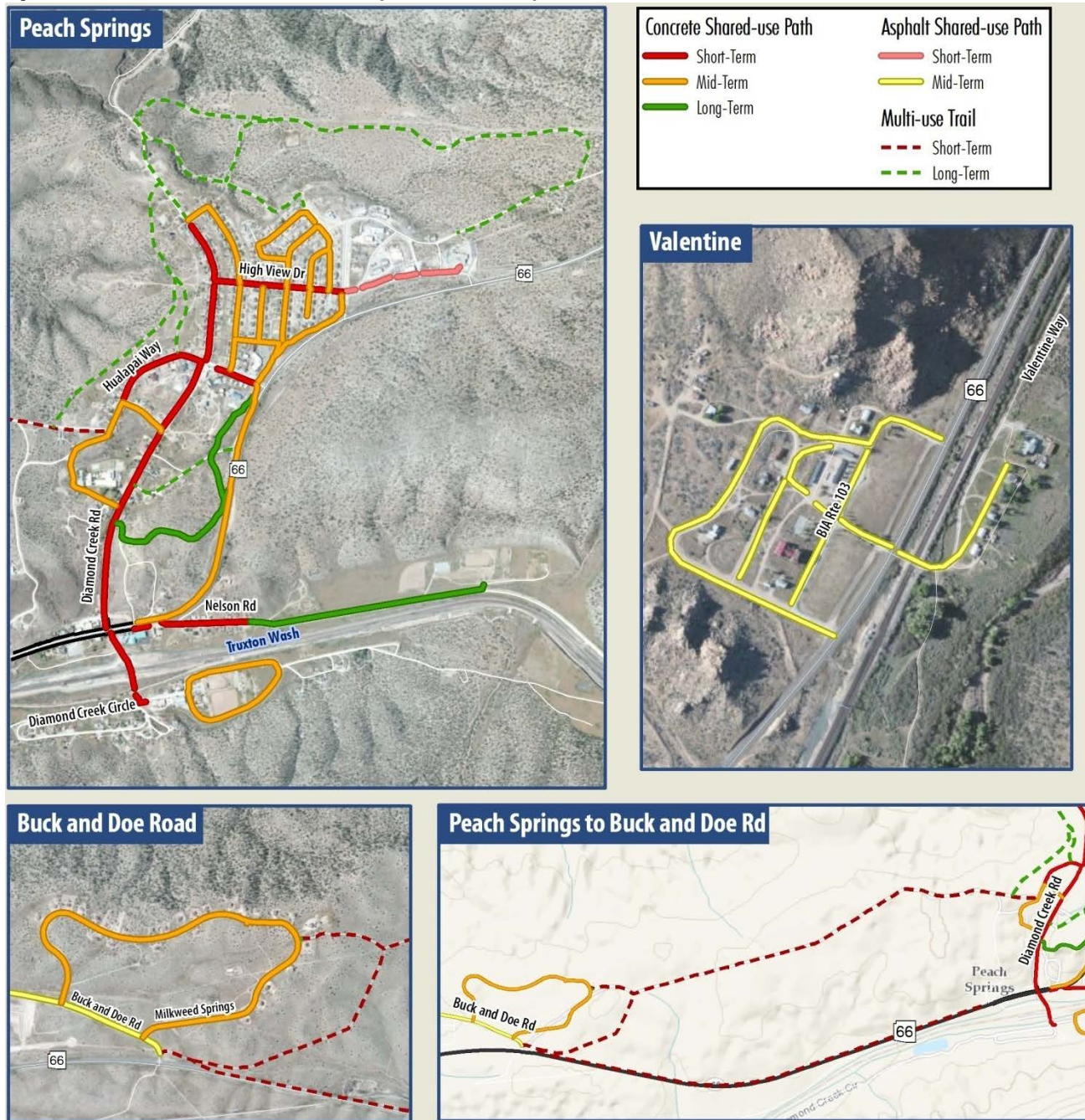
- Construct concrete shared-use path
 - o Milkweed Springs Road: Loop to and from Buck and Doe Road (0.21 miles)
 - o State Route 66: from Hualapai Lodge to BIA Lane (1.04 miles)
 - o Rodeo Circle (0.57 miles)
 - o Shandy Lane: from Diamond Creek Road to Hualapai Way (0.37 miles)
 - o BIA 101: Sections 90, 130 - 190 (1.88 miles)
- Construct asphalt shared-use path
 - o Valentine residential streets (1.08 miles)
 - o Buck and Doe Road: from State Route 66 to Music Mountain Road (1.01 miles)



Long-Term (2034) Pedestrian, Bicycle, and Trail Improvement Recommendations

- Construct concrete shared-use path
 - Nelson Road: end of pavement to Rodeo Ground (0.57 miles)
 - Upgrade trail on State Route 66 from Honaga Hill to Buck and Doe Road to a concrete shared-use path with trailside amenities (2.50)
- Expand multi-use trail system:
 - Trail system within Peach Springs: north of Peach Springs; west of Diamond Creek Road; and along Wahanda Way (4.20 miles)

Figure 8.1: Recommended Pedestrian, Bicycle, and Trail Improvements



TRANSIT IMPROVEMENT RECOMMENDATIONS

The identification of transit projects were based on input from the TAC, stakeholders, public input, Kingman Area Regional Transit (KART), and a review of previous planning studies.

Short-Term (2018) Transit Recommendations

- Establish a volunteer Transit Advisory Committee composed of residents, city officials, and stakeholders to guide the development of a local transit system.
- Designate a Tribal Transit Coordinator that plans, develops, and leads transit planning and grant administration for the Hualapai Indian Tribe.
- Conduct Transit Feasibility Study to determine the need and feasibility for implementing transit service within the Hualapai Indian Reservation.
- Conduct a transit ridership survey to determine the need for local transit service within Peach Springs.
- Upon completion of the Transit Feasibility Study, conduct a Transit Implementation Plan that identifies recommended transit services and serves as a guideline for the implementation of a local and regional transit system.
- Utilize current private transit funds expended by Grand Canyon West as Tribal match to obtain additional ADOT transit funding as well as 5311(c) FTA Tribal Transit funds to start a formal transit service.
- Establish a partnership between KART and the Havasupai Tribe to maximize return on investment.
- Establish a Local Circulator that operates daily between 8am – 5pm and connects government and activity centers within Peach Springs.
- Establish a Regional Circulator that operates daily and connects Peach Springs, Valentine, Truxton, Kingman, and Grand Canyon West
- Install shelters at bus stop locations to provide safety for waiting passengers and to encourage transit ridership.

Mid-Term (2024) Transit Recommendations

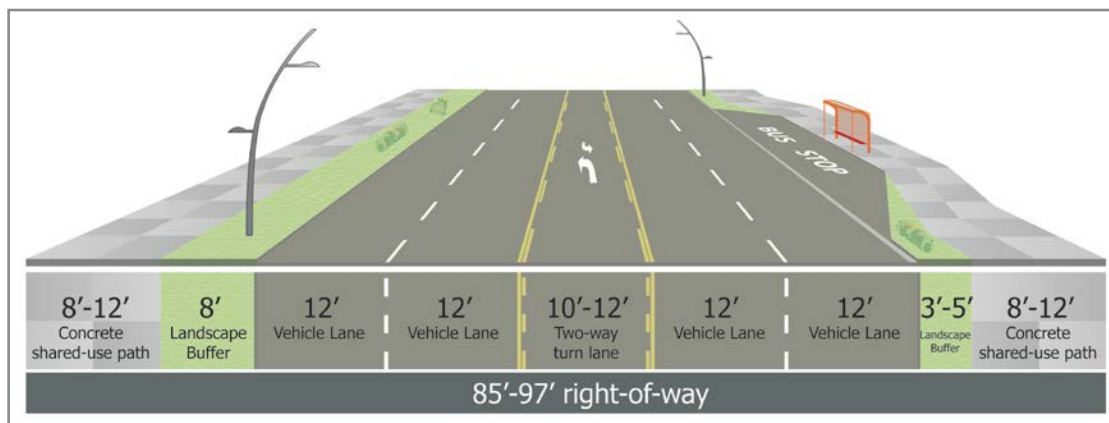
- Establish regional transit service that connects Peach Springs to Phoenix, Las Vegas, Laughlin, and Flagstaff.

Long-Term (2034) Transit Recommendations

- As transit service is implemented in the Hualapai Indian Reservation, bus pullouts will be required. Install bus pullouts and advanced warning signage at the pullouts to reduce delays and to lower the potential for rear-end collisions with motor vehicles. Figure 8.2 provides an illustration of a cross-section on a Minor Arterial roadway that includes a transit pull-out.



Figure 8.2: Recommended Cross-section with Transit Pull-Out



AVIATION AND MARITIME IMPROVEMENT RECOMMENDATIONS

The identification of aviation and maritime projects were based on a review of the draft Master Plan for Grand Canyon West and ADOT's *2014-2018 Five-Year Airport Capital Improvement Program*. Currently, the Grand Canyon West Corporation is in the process of developing an updated Master Plan for the Grand Canyon West area. Per details of the updated Master Plan, developed by PlanET, the Grand Canyon West airport's boundary may be expanded. Once completed, recommendations provided below may need to be updated to incorporate recommendations made in the Master Plan update.

Short-Term (2014) Recommendations

- Grand Canyon West Airport improvements:
 - Design of terminal building on west side of runway
 - Fog seal, crack seal, and remark runway
 - Construct terminal building
 - Design for Aircraft Rescue and Fire Fighting (ARFF) building
 - Construction of Aircraft Rescue and Fire Fighting (ARFF) building
 - Environmental Assessment for widening, strengthening, and extending runway

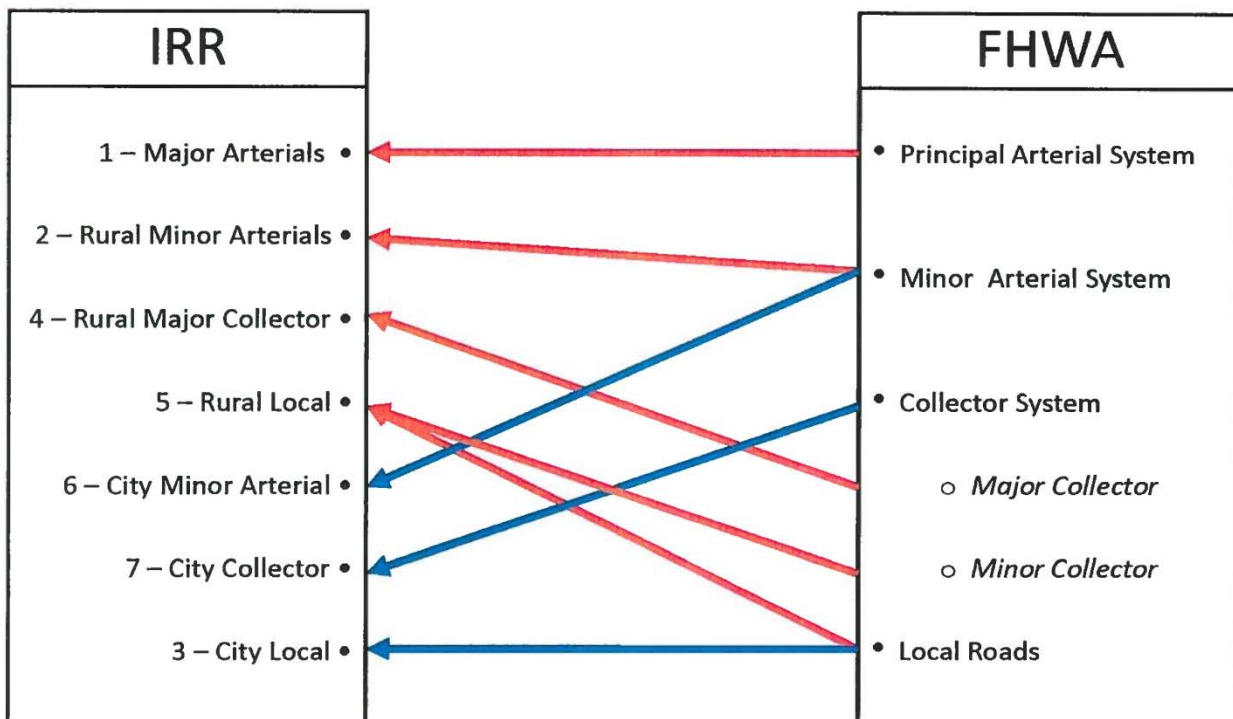
Mid-Term (2024) Recommendations

- Expand recreational opportunities at the Colorado River Recreation Area to include shelters, camping facilities, etc.
- Continue to coordinate with the FAA and ADOT to identify necessary airport improvements for inclusion in the Five-Year Airport Capital Improvement Program (ACIP).

FUNCTIONAL CLASSIFICATION RECOMMENDATIONS

Functional classification is the process by which streets and highways are grouped into classes according to their role of moving traffic through a roadway network. Planners and engineers utilize this hierarchy to establish a roadway's design standards, speed, capacity, access management features, and land use development. Functional classification also impacts a roadway's eligibility for federal transportation funds for road improvements and maintenance. Roads within the Hualapai Indian Reservation are classified by both FHWA and BIA functional classification system. Figure 8.3 illustrates the relationship between BIA and FHWA's functional classification systems; Figures 6.4 and 6.5 illustrate the recommended functional classifications for the Hualapai Indian Reservation by FHWA and BIA functional classification systems. Table 8.4 also presents the recommended functional classification.

Figure 8.3: BIA and FHWA Functional Classification Systems



Source: Bureau of Indian Affairs

Table 8.4: Recommended Roadway Functional Classification

Road	Beginning	Ending	Previous BIA Functional Classification	New BIA Functional Classification	FHWA Classification	~ AADT
State Route 66	MP 74	MP 103	N/A	2 (Rural Minor Arterial)	Rural Minor Arterial	1,400 - 1,800
	MP 103	MP 105	N/A	6 (City Minor Arterial)	Rural Minor Arterial	1,900 - 2,300
	MP 105	Seligman	N/A	2 (Rural Minor Arterial)	Rural Minor Arterial	1,400 - 1,800
Antares Road	State Route 66	Pierce Ferry Road	N/A	4 (Rural Major Collector)	Rural Minor Collector	40 - 200
Pierce Ferry Road	Antares Road	Diamond Bar Road	N/A	2 (Rural Minor Arterial)	Rural Major Collector	1,400
Diamond Bar Road	Pierce Ferry Road	Buck and Doe Road	N/A	2 (Rural Minor Arterial)	Rural Major Collector	700
Buck and Doe Road	State Route 66	Diamond Bar Road	4 (Rural Major Collector)	4 (Rural Major Collector)	Rural Minor Collector	60 - 400
	Diamond Bar Road	Grand Canyon West	4 (Rural Major Collector)	2 (Rural Minor Arterial)	Rural Major Collector	700
Supai Road	State Route 66	Hualapai Indian Reservation Boundary	4 (Rural Major Collector)	4 (Rural Major Collector)	Rural Major Collector	100 - 400
Diamond Creek Road	Rodeo Way	State Route 66	3 (City Local)	7 (City Collector)	Rural Minor Collector	1,000
	State Route 66	Pavement Ending	3 (City Local)	7 (City Collector)	Rural Minor Collector	300 - 1,200
	Pavement Ending	Colorado River	4 (Rural Major Collector)	5 (Rural Local)	N/A	-
Hualapai Way	State Route 66	Shandy Lane	3 (City Local)	7 (City Collector)	Rural Minor Collector	550
High View Drive	State Route 66	Diamond Creek Road	3 (City Local)	7 (City Collector)	Rural Minor Collector	500
Peach Springs Roadways (All Other Roads)			3 (City Local)	3 (City Local)	N/A	-
Milkweed Springs Road	Buck and Doe Road	Buck and Doe Road	3 (City Local)	3 (City Local)	N/A	-
Music Mountain Road	Buck and Doe Road	Buck and Doe Road	3 (City Local)	3 (City Local)	N/A	-
Valentine Roadways (All Roads)			3 (City Local)	3 (City Local)	N/A	-
Nelson Road	State Route 66	State Route 66	4 (Rural Major Collector)	4 (Rural Major Collector)	Rural Major Collector	100 - 400
Youth Camp Road	State Route 66	State Route 66	4 (Rural Major Collector)	5 (Rural Local)	N/A	-

Figure 8.4: Recommended BIA Functional Classification

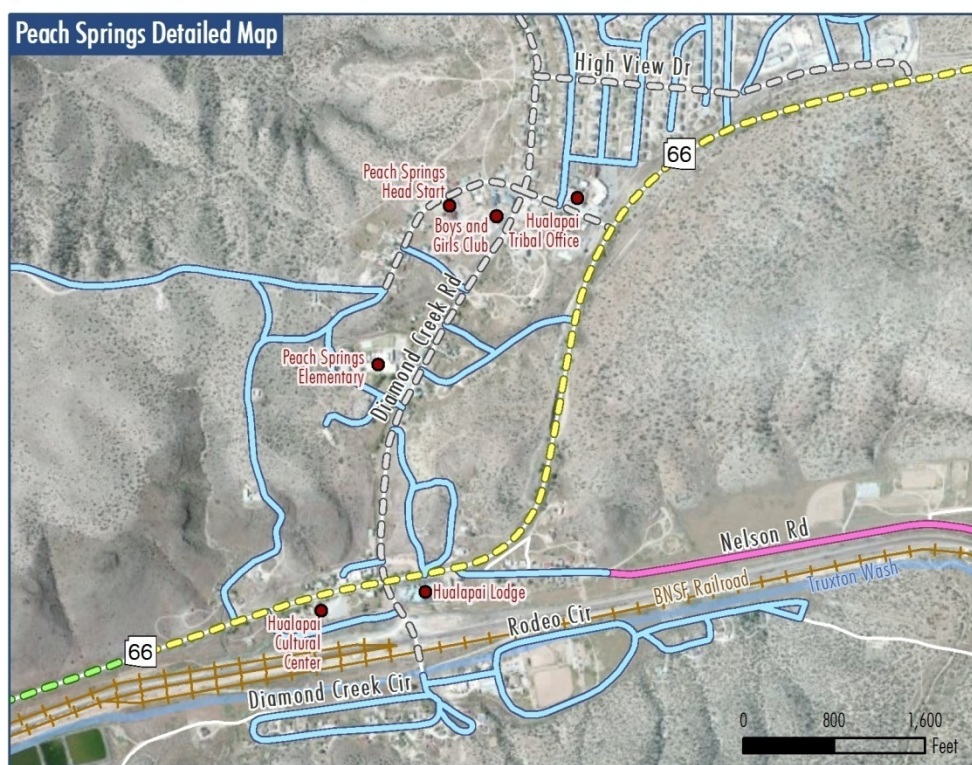
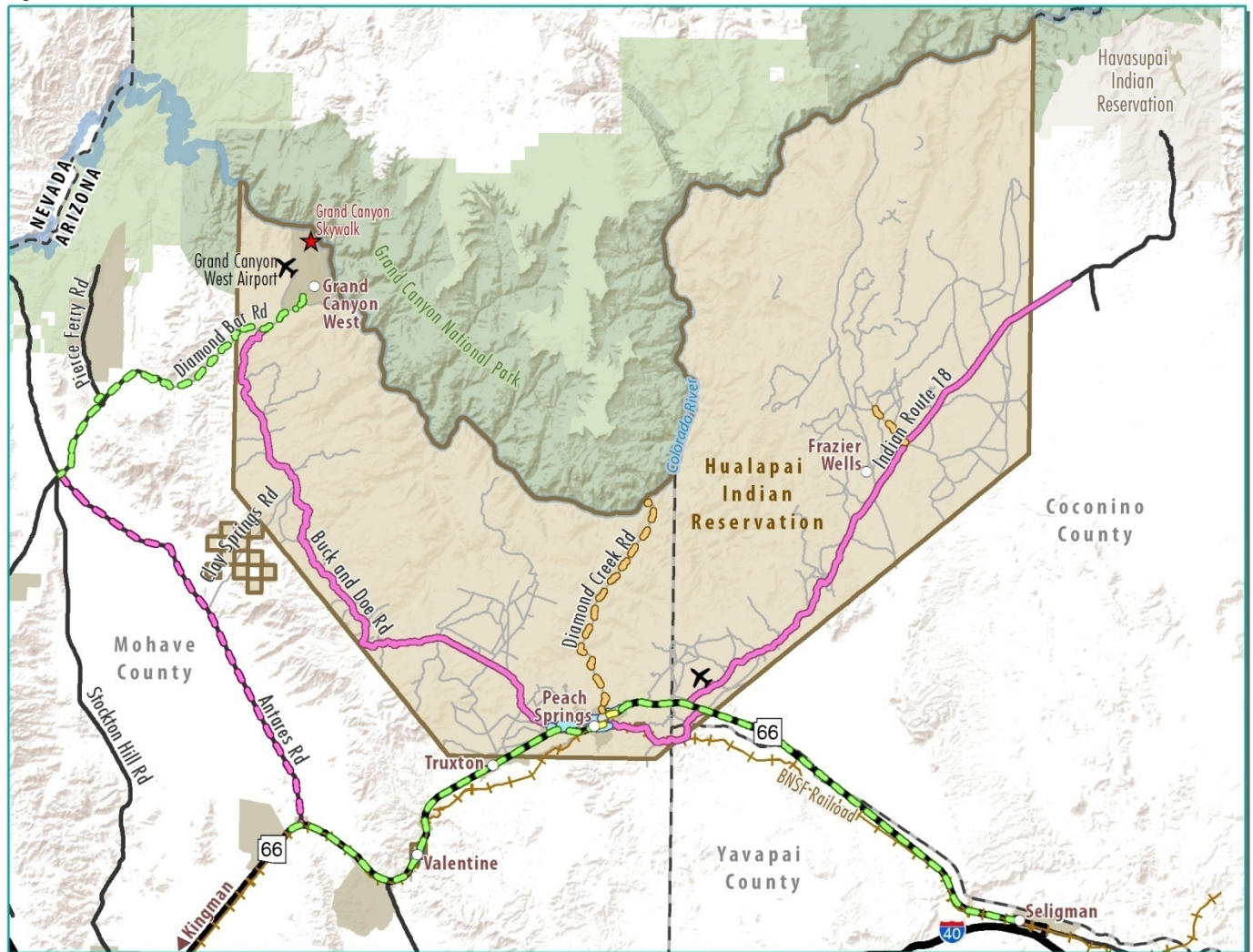
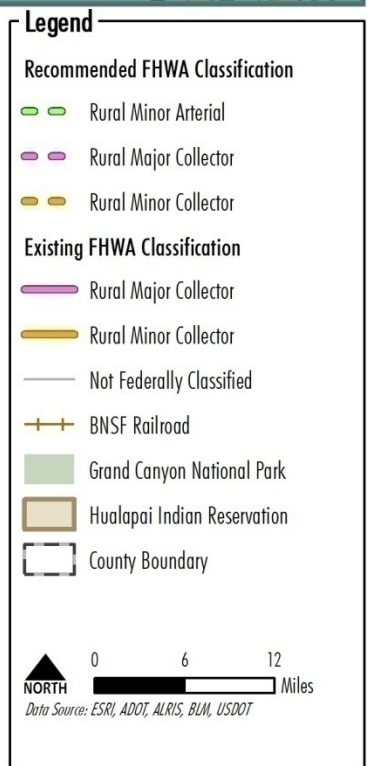
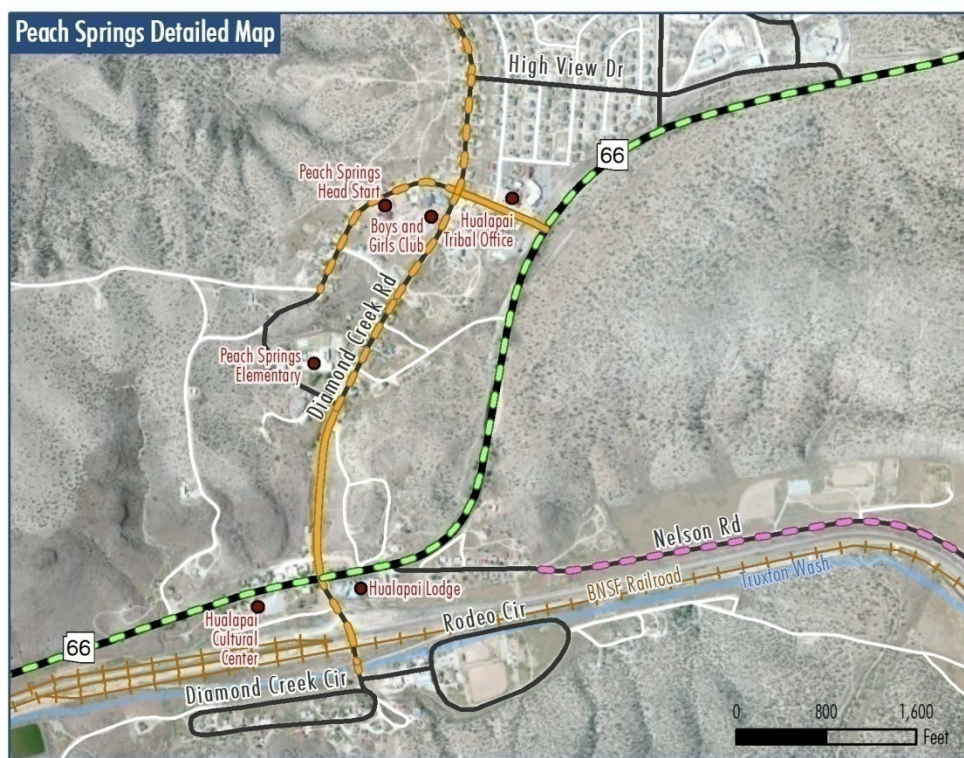
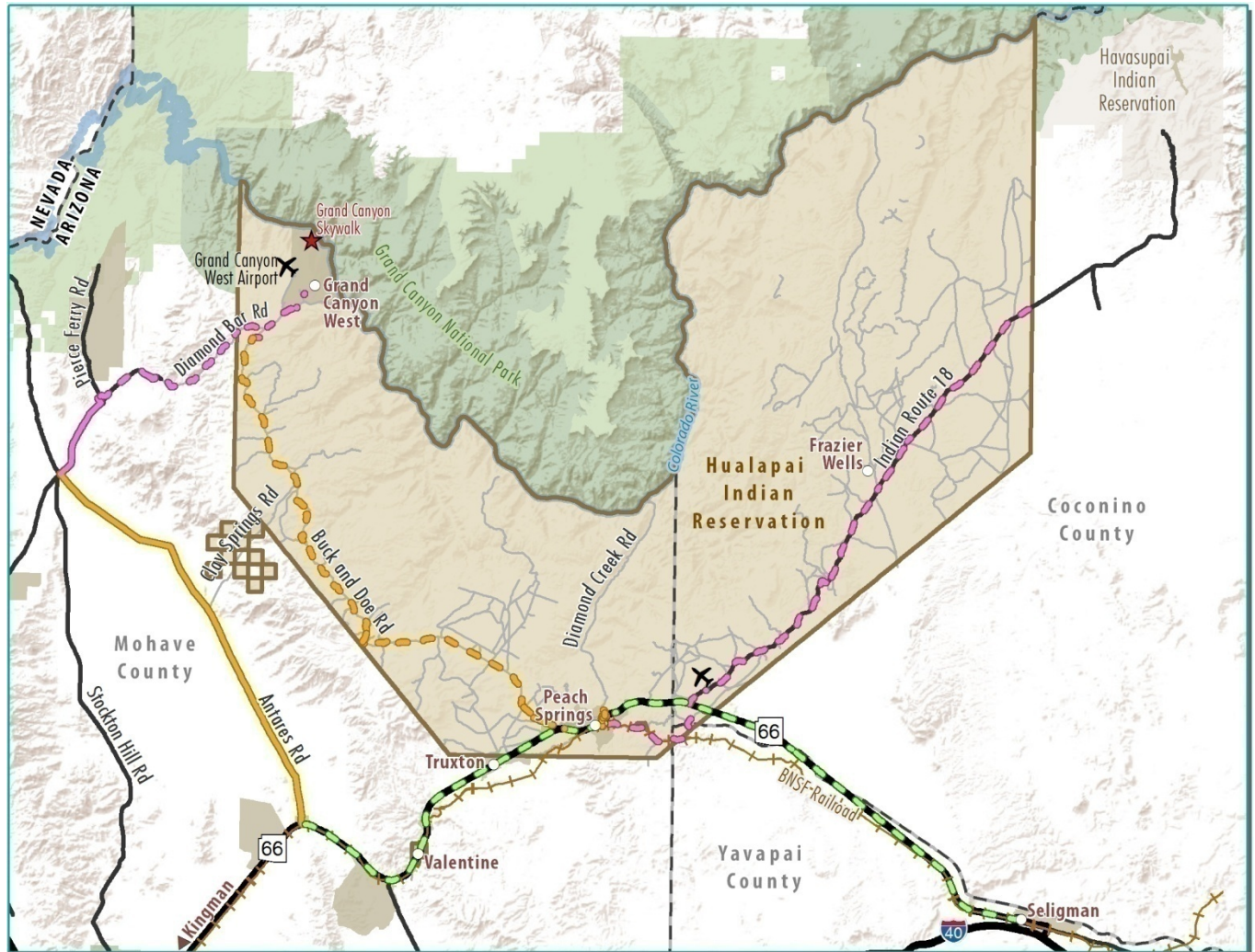


Figure 8.5: Recommended FHWA Functional Classification



TRIBAL TRANSPORTATION PROGRAM UPDATE RECOMMENDATIONS

The National Tribal Transportation Facility Inventory (NTTFI) is a comprehensive national inventory of all tribal transportation facilities that are eligible for TTP funding, and includes specific facility information, such as classification, route/bridge number, current and projected traffic volumes, pavement conditions, etc, and is utilized for the ongoing review of facility conditions. This inventory is utilized as the basis to identify a tribe's transportation system, determine the transportation needs of a tribe, and serves as a basis for apportioning federal funds.

In order to obtain funding and accurately report the status of the tribe's transportation system, the current NTTFI for the Hualapai Indian Tribe was reviewed against field review conditions and GIS analysis to identify necessary corrections and updates. Tables 8.5-8.7 provide summaries of the proposed mileage revisions to the Hualapai Tribe's NTTFI. Figures 8.6 and 8.7 illustrate the roadways recommended for inclusion in the NTTFI. Detailed mileage revision information can be found in Appendix E. Appendix E also provides an overview of the structures and AADT revisions recommended for inclusion in the Hualapai Indian Tribe's inventory.

Table 8.5: Summary of Proposed BIA Road System Mileage Revisions

	Miles
Existing BIA DOT Inventory	675.0
Roads to be Added to BIA System	0
Roads to be Deleted from BIA System	-23.4
Mileage Revisions to BIA System	12.7
Proposed BIA Road System	664.3

*Recommended mileage revisions are pending final field review calculation and final BIA approval

Table 8.6: Summary of Proposed Tribal Road System Mileage Revisions

	Miles
Existing Tribal System	3.8
Roads to be Added to Tribal System	144.2
Roads to be Deleted from Tribal System	-3.5
Mileage Revisions to Tribal System	0.7
Proposed Tribal System	145.2

*Recommended mileage revisions are pending final field review calculation and final BIA approval

Table 8.7: Summary of Proposed Non-BIA Road System Mileage Revisions

	Miles
Existing Non-BIA DOT Inventory	15
Roads to be Added to Non-BIA System	116.5
Roads to be Deleted from Non-BIA System	0
Mileage Revisions to Non-BIA System	-14.1
Proposed BIA Road System	117.4

*Recommended mileage revisions are pending final field review calculation and final BIA approval



Figure 8.6: Recommended NTTFI Updates

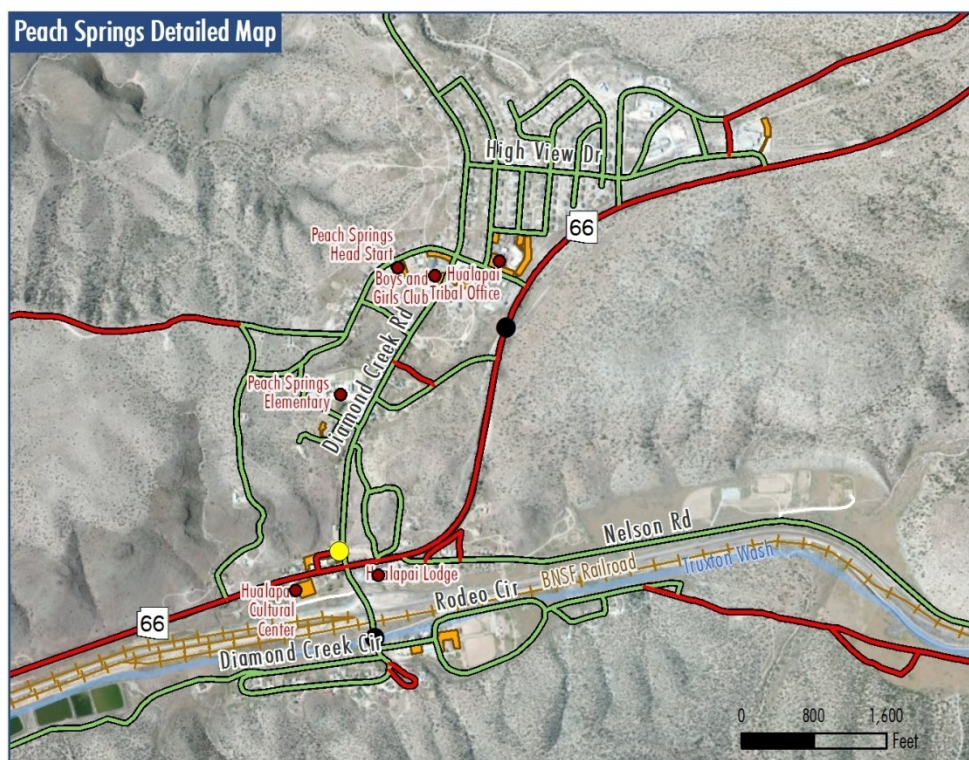
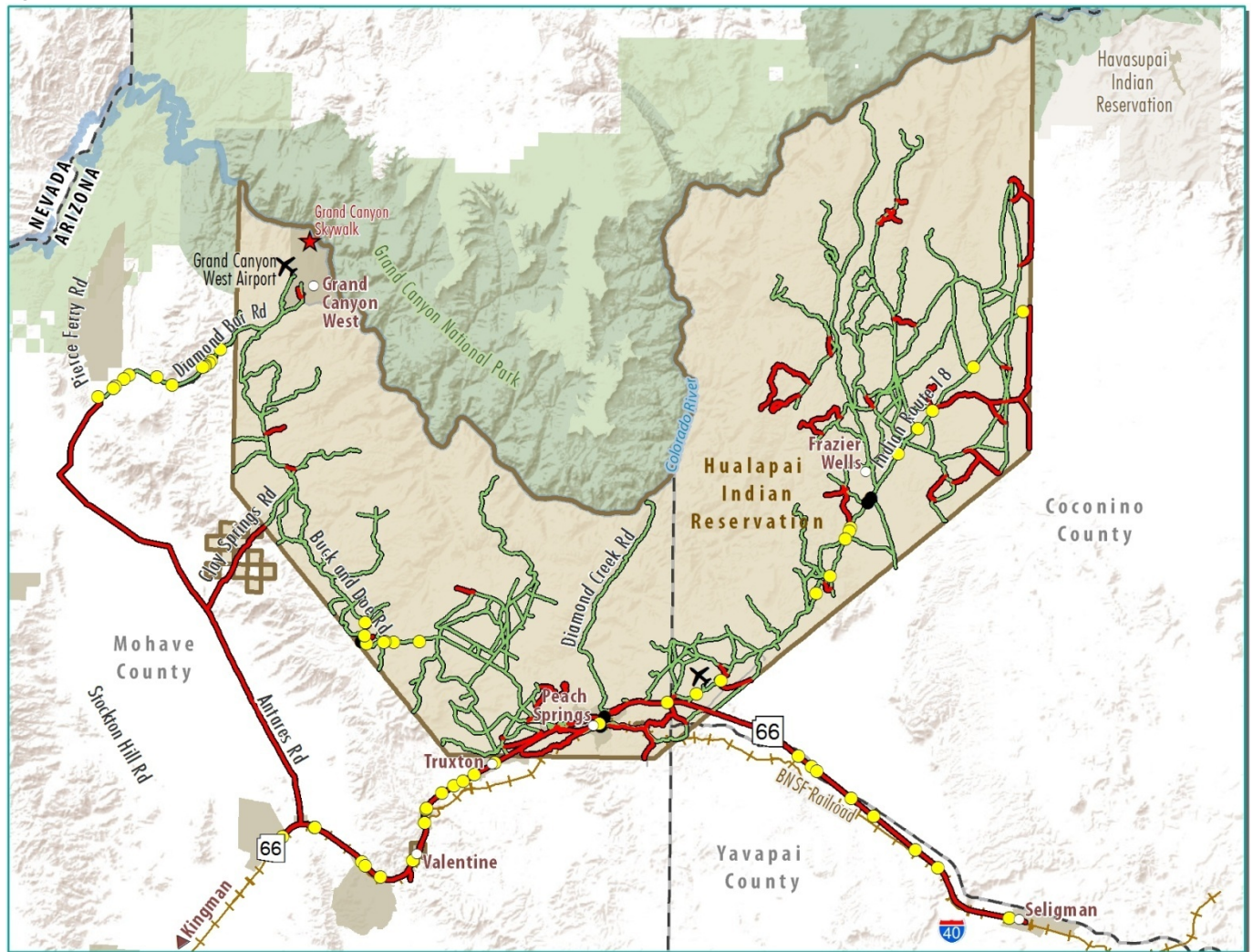
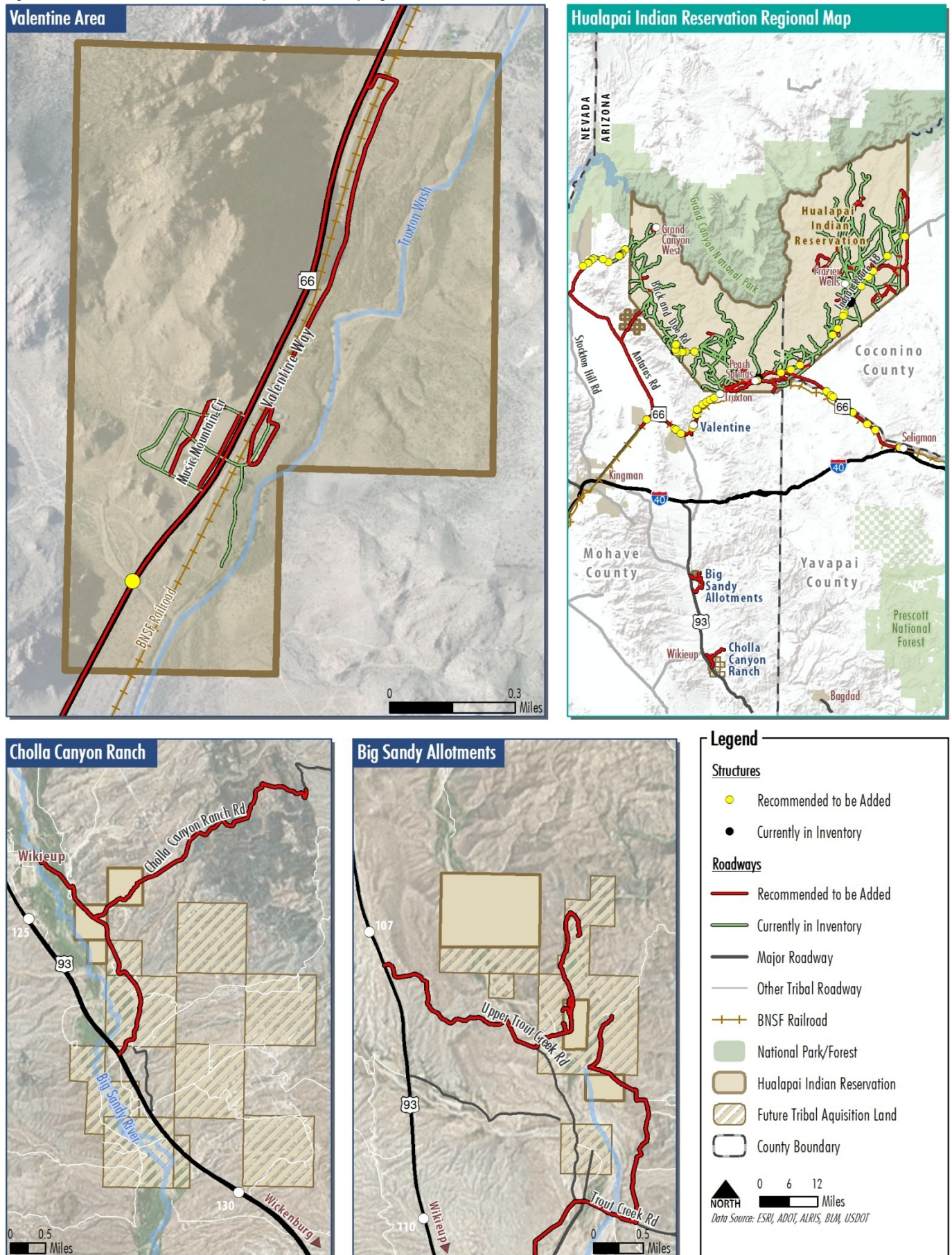


Figure 8.7: Recommended NTTFI Updates - Outlying Districts



TITLE VI IMPLICATIONS

To ensure that the recommended projects provide a fair distribution of benefits and burdens to all residents, an analysis of potential impacts on protected populations was conducted. Since the study is primarily located within the Hualapai Indian Reservation, the study area has a high percentage of Title VI populations. It is anticipated, however, that recommended transportation improvement projects will only have negative impacts during construction periods. Ultimately, this plan's recommendations will provide protected populations with enhanced, safer multimodal transportation. Table 8.8 provides an overview of potential impacts and benefits of recommended improvements on Title VI population groups.

Throughout the course of the study, efforts were made to include meaningful participation by all residents through stakeholder and public outreach. The two-phase public involvement process included two public meetings in which protected populations were invited to voice their opinion on the needs of the community and to comment on recommended improvements. As recommended projects are implemented, it is vital that on-going outreach efforts to protected populations continue. Furthermore, consideration should be given during project development and construction to minimize or mitigate adverse impacts to minority business owners, the mobility needs of the protected populations, and residential parcels of protected populations.

Table 8.8: Recommended Project Impacts and Advantages on Title VI Populations

Project Type	Project Number	Project Description	Impacted Populations	Disproportionate/ Adverse Impacts	Benefits of Recommended Improvement
Roadway Deficiencies	ST: 1, 5, 7, 8, 12, 13, 14, 15, 19, 21, 22 MT: 1, 2, 3, 5, 10, 11, 13, 18, LT: 1, 3, 4, 5, 6, 9	Pavement preservation, pavement rehabilitation, roadway striping, install shoulders, install bridge; bridge rehabilitation.	Minority, low-income, age 65 and older, and disabled populations.	Temporary constraints to access businesses, residential areas, and activity centers during construction. Increased noise during construction.	Improved overall safety and efficiency of roadway network. Improved road conditions and emergency response time. Improved pedestrian safety. Reduction in crashes and crash severity.
Roadside Safety Enhancements	ST: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28 MT: 1, 4, 5, 6, 7, 8, 9, 14, 15 LT: 1, 2, 8, 9	Install cattle guards, upgrade fencing, install street lighting; install roadway markers; remove vegetation; and install wayfinding signage.	Minority, low-income, age 65 and older, and disabled populations.	Temporary constraints and increased noise during construction.	Improved overall safety and efficiency of roadway network. Reduction in crashes and crash severity.
Intersection Traffic Control and Safety Enhancement	ST: 19 MT: 10, 16, 17 LT: 1, 2, 5, 6	Install traffic signals; consolidate driveway; add turn lanes, and reconfigure intersection to roundabout.	Minority, low-income, age 65 and older, and disabled populations.	Temporary constraints and increased noise during construction.	Improved overall safety and efficiency of roadway network. Improved road conditions and emergency response time. Improved pedestrian safety. Reduction in crashes and crash severity. Relieve traffic congestion.



Table 8.8: Recommended Project Impacts and Advantages on Title VI Populations (Continued)

Project Type	Project Number	Project Description	Impacted Populations	Disproportionate/ Adverse Impacts	Benefits of Recommended Improvement
Pedestrian Mobility	ST: 1, 14, 19 MT: 1, 2, 5, 12, 13, 18 LT: 4, 6, 7	Install shared-use paths, sidewalks, and multi-use trails.	Minority, low-income, age 65 and older, and disabled populations.	Temporary constraints and increased noise during construction.	Improved pedestrian, bicycle, and roadway safety. Promote safe mobility and exercise. Provide alternative means of transportation.
Traffic Calming and Community Safety Improvements	ST: 8, 17, 18, 20, 19, 20, 23, 24, 25, 26, MT: 16, 18	Install traffic calming devices such as chicane median, flashing speed limit signs, pavement markings, speed reduction, and speed limit signs	Minority, low-income, age 65 and older, and disabled populations.	Temporary constraints and increased noise during construction.	Improved pedestrian, bicycle, and roadway safety. Reduction in crashes and crash severity.
Railroad Crossing Safety	ST: 1, 2, 4 MT: 1, 2 LT: 1	Conduct safety assessment, install advance warning devices; upgrade at-grade crossing to an over or underpass; and establish a Quiet Zone.	Minority, low-income, age 65 and older, and disabled populations.	Temporary constraints to access businesses, residential areas, and activity centers during construction. Increased noise during construction.	Improved overall safety and efficiency of roadway network. Improved road conditions and emergency response time. Improved pedestrian safety. Quiet Zone will reduce noise pollution and improve overall community livability.



9. ACCESS MANAGEMENT GUIDELINES

Access management is a set of techniques used to proactively manage and regulate the design, spacing, and operation of intersections, driveways, and median openings along a roadway. Roadways with more access points and intersections have more opportunities for conflicts, and significant friction to through-traffic, which contributes to congestion and crashes. The objective of access management is to provide access to enhance the flow of traffic on a corridor or roadway system by improving safety, capacity, and speed.

Effective access management strategies control the number of driveways, decrease the number of crashes, reduce travel time and traffic congestion, preserve the flow of traffic, and improve access to properties. Access management includes several techniques that are designed to increase the capacity of roads, manage congestion, and reduce crashes, including:

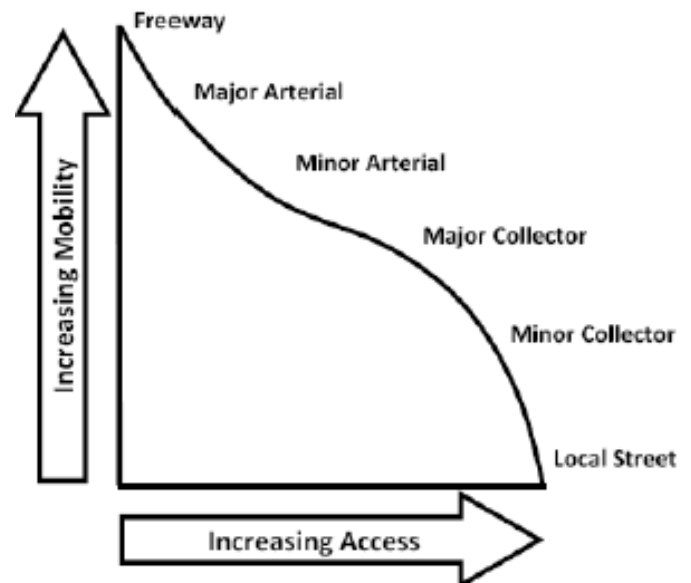
- Increasing the distance between traffic signals and interchanges to improve traffic flow and reduce congestion
- Increasing driveway spacing to reduce the number of vehicular conflict points
- Developing safe turning lanes to reduce conflicts at intersections
- Using service and frontage roads
- Constructing medians, which regulate access
- Preserving ROW for future widening and to maintain good driver sight distance

It is important to implement these controls without overly restricting reasonable access to property. Controlling access improves mobility and is linked to the function of a particular roadway. Figure 9.1 illustrates that the amount of appropriate access is related to the level of mobility and the specific function of a road, such as:

- Low volume and low speed facilities (such as local roads) serve to provide direct and frequent access to properties.
- Higher volumes and higher speed facilities (such as freeways) serve to provide mobility and restrict direct access to adjacent land uses.

The challenge of managing access is establishing a program of legal, administrative, and technical strategies with the appropriate balance between private property access rights and the need to control access to serve public need. Ideally, these strategies will be implemented through planning practices, rules, engineering standards, and procedures resulting in access decisions that successfully, fairly, and consistently determine access management for each unique situation.

Figure 9.1: Roadway Functional Classification Hierarchy



BENEFITS OF ACCESS MANAGEMENT

Roadways utilizing access management techniques are likely to be safer, provide better circulation, and improve travel times. The frequency of intersections greatly influences the capacity and function of roadways. Roadways with more access points and intersections have more opportunities for conflicts, and significant friction to through-traffic, which contributes to congestion and crashes. Examples of access management techniques include:

- Increasing driveway spacing
- Utilizing turning lanes
- Grade-separating intersections
- Installing medians

Applying access management techniques can also enhance the livability of a community, improve pedestrian/bicycle safety, enhance customer safety and convenience to businesses, provide additional areas for streetscaping, and promote efficient land and site design. The potential economic benefits of access management include reserving the market area for businesses, improving customer safety and convenience, providing more efficient freight movement, and raising property values. Communities that have implemented access management have more area for landscaping, while preserving community/scenic character and promoting more efficient land and site design. Additionally, access management can reduce emissions and fuel consumption due to improved traffic progression, and can help avoid substandard access to lot splits caused by excessive driveways.

EXISTING ACCESS MANAGEMENT

The Hualapai Indian Tribe currently does not have an access management policy in place. Access to State highways, such as State Route 66, is regulated by ADOT.

Access management guidelines for driveway spacing often range between 150 FT to over 300 FT. The Salt River Indian Community utilizes the City of Scottsdale's *Design Standards & Policies Manual* for managing access for high capacity corridors that provide commuter access to Scottsdale; minimum driveway spacing required by the City of Scottsdale includes 165 FT for minor collectors and 250 FT on minor arterials. The City of Somerton requires driveways along Major Arterials to have a minimum spacing of 200 FT in commercial and residential areas, while The City of Casa Grande requires a minimum driveway spacing of 200 FT on Major Arterials in commercial areas and 150 FT on minor arterials. Coconino County's *Engineering Design and Construction Manual* states that driveways are not permitted within 50 FT of a street intersection, 25 FT of a guardrail end, and within 100 FT of a bridge.

Within Peach Springs, driveway spacing on State Route 66 ranges between approximately 50 and 630 FT apart. The close driveway spacing increases potential conflicts, particularly coupled with limited sight distance issues caused by on-street parking. Guidelines for minimum driveway or local street spacing should consider the speed of the roadway, stopping sight distance, the elimination of right-turn conflicts in the area of the access points.



Approximate driveway spacing on SR 66 in Peach Springs.



ACCESS MANAGEMENT RECOMMENDATIONS

The challenge of managing access is establishing a program of legal, administrative, and technical strategies with the appropriate balance between private property access rights and the need to control access to serve public need. Ideally, these strategies will be implemented through planning practices, rules, engineering standards, and procedures resulting in access decisions that successfully, fairly, and consistently determine access management for each unique situation. As a long-term undertaking, the Hualapai Indian Reservation should work towards:

- Developing a comprehensive access management standards guidebook. This guidebook should comprehensively categorize the roadway system by access management categories, provide specific guidelines for each category, and define the design criteria for each category.
- Implementing an access management ordinance that provides the specific guidance for access to land uses.

In the interim, the Hualapai Indian Tribe could use access management strategies outlined in the following section and utilize FHWA's Access Management website for further guidance. (http://www.ops.fhwa.dot.gov/access_mgmt/resources.htm)

ACCESS MANAGEMENT TOOLS AND STRATEGIES

The following describes planning, design, and regulatory tools for managing land use and development.

Land Development Regulation

Access management can be implemented successfully in areas where local jurisdictions participate in managing development through comprehensive planning, land development regulation, and development review (*Listokin and Walker, 1989, Land Development and Subdivision Regulation that Support Access Management*). Local plans and ordinances provide a policy foundation for managing access, which is carried out through development review and permitting actions. The information contained in general and land use plans, for example, provides the overall guidance on how to balance mobility with access. A community's transportation plan, on the other hand, describes a community's future roadway network based on anticipated development patterns. Based on the anticipated future development and the future functional classification of the roadways, access management categories can be established. These categories provide guidance in regard to the application of access management strategies and help identify the type and number of access points required along a highway.

Flexible or Cluster Zoning

Flexible zoning is another way of achieving access control. Planned Unit Developments (PUD) incorporate flexible zoning concepts to cluster denser development in one portion of a development and provide open space in another portion. PUDs incorporate flexible zoning in order to achieve the same gross densities while avoiding encroachment of development into future ROW. Access points can be few in number, yet designed to optimally serve the more densely developed areas. In order to promote creative site design, land-use and lot dimensional zoning are relaxed.

Overlay Zones

Overlay zoning can add special requirements onto an existing zoning district. With overlay zoning, standards can be tailored by priority or intensity of access, safety, and congestion problems of a corridor.



Subdivision Regulations and Site Plan Review

Subdivision regulations provide guidance on the division or subdivision of land into lots, blocks, and public ways. These regulations complement the underlying zoning. The subdivision plat review can require documentation of all access points and the internal circulation system. Access and design standards can require such items as traffic signals, medians, and on-site circulation. The subdivision review process should result in an affirmative response to questions such as:

- Is the road system designed to meet the projected traffic demand and does the road network consist of a hierarchy of roads designed according to function?
- Is access properly placed in relation to sight distance, driveway spacing, and other related considerations?
- Do units front on residential access streets rather than major roadways?
- Does the project avoid areas unsuitable for development?
- Does the pedestrian path system link buildings with parking areas, entrances to the development, open space, and recreational and other community facilities?
- Have utilities been properly placed?

The site plan review process for large-scale uses on individual property parcels (such as large commercial developments) can include procedures similar to a subdivision review process.

Zoning Regulation

Zoning regulations provide information on the type of land use or development that can occur within each defined parcel. Zoning regulations work in conjunction with land use plans and subdivision regulations. Some types of lot configurations encourage inadequate spacing between access points. Zoning regulation can help reorient lots in order to access local streets instead of the main highway, as well as to ensure adequate spacing between access points. Controlling lot dimensions can have impacts on driveway spacing, on-site circulation, and driveway lengths.

Access Control Type

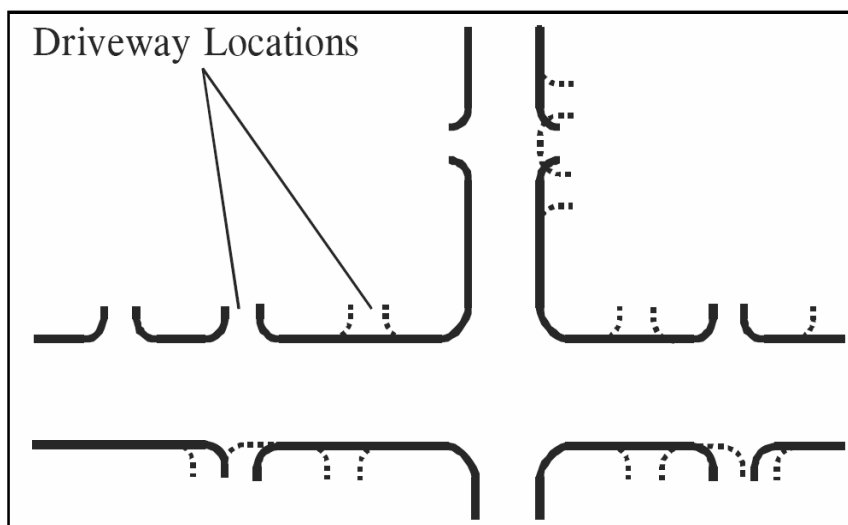
Driveway Consolidation

As shown in Figure 9.2, driveways are consolidated in order to limit the number of access points along a roadway and to provide adequate access spacing. Retrofit strategies include:

- Selectively relocate or reconstruct substandard driveways.
- Negotiate driveway closure, reconstruction, or relocation during roadway resurfacing or improvement projects.
- Require improvement of access during redevelopment or expansion of an existing use, including joint and cross access with abutting properties.
- Negotiate redesign of driveway access during sidewalk maintenance, reconstruction, or additions.
- Consolidate access when adjacent properties come under common ownership.
- Improve the traffic signal system through longer, more uniform intervals with advance traffic monitoring and control capabilities.
- Use raised medians or other traffic barriers at hazardous intersections, or along certain roadway segments to control mid-block turning movements and improve safety.
- Develop special corridor overlay zoning districts that are tailored to the circumstances of build-up areas.



Figure 9.2: Driveway Treatments



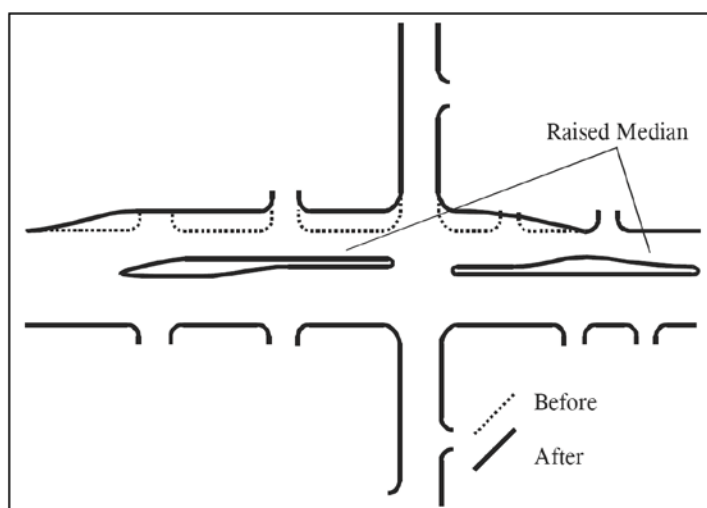
Joint Driveway/Cross-Access

Joint Driveway/Cross-Access provides for a unified on-site circulation plan serving several properties on a commercial corridor. Cross-access connects adjacent parcels and allows for circulation between the parcels without using the arterial street system. In the case that lot frontage is inadequate, joint access/cross access can achieve adequate driveway spacing. The method requires that joint-use driveways and cross access easements need to be established between the adjacent properties. Additionally building sites must reflect the circulation system. The jurisdiction with the zoning authority would need to adopt cross access standards.

Raised Medians at Intersections

As shown in Figure 9.3, raised medians at intersections provide a center barrier to prevent certain turning movements, such as left turn-in only/no left turn-out, which allows greater access to the adjacent property and leaves right turns unrestricted. Right-in and right-out driveways are also commonly used. The overall advantage of raised medians at intersections is the ability to define allowed movements while eliminating undesirable ones.

Figure 9.3: Raised Median at Intersections



Full Raised Medians

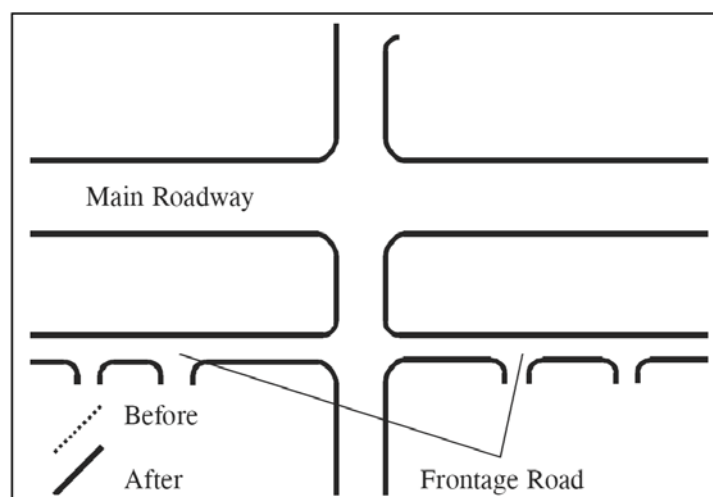
Medians are effective for the control and management of left turns and crossing movements and may be located at intersection approaches, or along the full length of a road between intersections (shown in Figure 9.3). A variety of designs allow for full or restricted turning movements. The presence or absence of a median barrier has a substantial effect on the safety and operations of major roadways. The main advantage of a raised median is that it reduces conflict points by restricting turn movements to right-in and right-out movements. In addition, it provides a means of controlling highway crossings to specific locations where sight distance and vehicle storage can be provided. A sufficiently wide median can provide shelter for vehicles or pedestrians crossing the roadway. The disadvantage of a raised median is that through the limitations of crossing movements, the number of U-turns will most likely increase, which might lead to an increase in rear-end crashes

Alternative Access Ways

The long-term planning objective for major corridors is to develop a system of side streets, parallel roads, and traffic control features to support existing and planned development. Main components of such a system are frontage or reverse access roads, which together with interparcel connections provide alternative routes for short local trips, thereby helping to reduce local traffic on the arterial. Frontage roads are typically constructed adjacent to the main corridor highway, but outside the highway ROW, providing access to properties fronting the highway. This allows funneling of local traffic to a common point gaining access to the highway. Figure 9.4 provides an example how a frontage road provides local access.

Reverse access roads, or backage roads, are also paralleling the highway, but are off-set from the ROW to provide site access at the back of the property rather than the highway side. Both concepts help to provide access to local properties while preserving the safety and capacity of the highway. One issue to consider is the provision for adequate separation between the highway and frontage road, especially in areas where cross streets intersect with the highway at at-grade intersections. If not properly designed, traffic might backup into the intersection of the backage road and cross street.

Figure 9.4: Frontage Road



Driveway Spacing

Adjacent driveways must be have adequate spacing to allow for safe queue, acceleration, deceleration, minimal interference to cross conflicting traffic or traffic using adjacent driveway. Table 9.1 lists the minimum driveway spacing for arterial and collector streets, with a design ADT greater than 5,000. Distances provided in Table 9.1 are measured from driveway center line to driveway centerline. If the proposed access does meet the spacing criteria, then joint access may be recommended for the two adjacent developments.

Table 9.1: Driveway Spacing

Land Use	Posted Speed (MPH)	Driveway Type*	Arterial/Collector Min. Spacing (Ft.)
Single Family	20	S-1	65
Single Family	25	S-1	65
Single Family	30	S-1	85
Single Family	35	S-1	85
Single Family	40	S-1	105
Single Family	45	S-1	105
Single Family	50 & >	S-1	105
Multi-Family	(Low volume)	M-1	65
Multi-Family	(High volume)	M-2	330
Commercial	All	CL-1	165
Commercial	All	CH-2	330
Industrial	All	CL-1	165

DRIVEWAY TYPE

*S-1: Single family;

M-1: Low volume residential

M-2: High volume residential

CL-1: Low volume commercial;

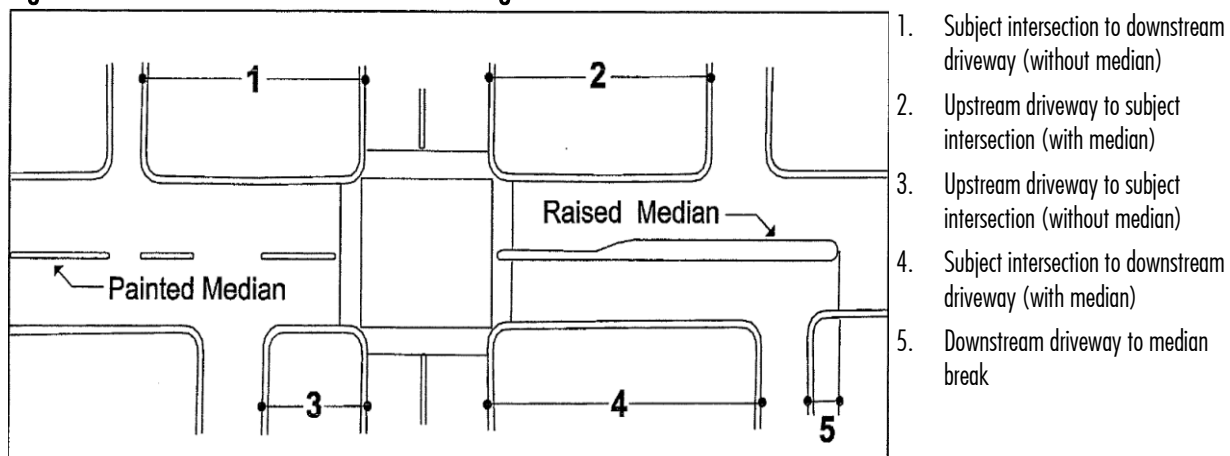
CH-2: High volume commercial opposite median openings

Source: MCDOT Major Streets and Routes Plan Policy Document

Driveway Corner Clearance

Figure 9.5 displays the minimum distance driveways should be when in proximity of a major intersection or median.

Figure 9.5: Minimum Corner Clearances for Signature Intersections



Item	Principal Arterial Minor Arterial	Major Collector Minor Collector	Local
1	230 / 115	175 / 75	50 / 50
2	115 / 115	85 / 85	50 / 50
3	230 / 85	175 / 85	50 / 50
4	230 / 115	175 / 75	50 / 50
5	75 / 75	75 / 0	0 / 0
X for Signalized Intersection		X for Un-signalized Intersection	

Source: City of Casa Grande Small Area Transportation Study

Driveway Location Restrictions

Situations where new driveways or altered driveways are not permitted include:

- Within 10 FT of any commercial property line, except when it is a joint-use driveway serving two abutting commercial properties and access agreements have been exchanged between and recorded by the two abutting property owners
- Within 25 FT of a guardrail ending
- Within 100 FT of a bridge or other structure, except canal service roads
- Within the minimum spacing as established in this section
- When adequate sight distance cannot be provided for vehicles on the driveway attempting to access the street, as those movements will be prohibited
- When the nearest edge of any driveway flare or radius must be at least 2 FT from the nearest projection of a fire hydrant, utility pole, drop inlet and/or appurtenances, traffic signal, or light standards
- For parking or loading areas that require backing maneuvers in a public ROW except for single-family or duplex residential uses on local roads

Driveway Location Coordination

Access points for properties on either side of a principal and/or minor arterial and major collector should be coordinated so there is minimal interference. Appropriate coordination includes:

- Driveways should be located directly opposite each other to ensure that they share a single access location.
- Where lots are not large enough to allow accesses on opposite sides of the street to be aligned, the center of driveways not in alignment will normally be offset a minimum of 150 FT on all collector roads, and 330 FT on major collector and arterial roads. Greater distances may be required if left turn storage lanes require them.



10. ROADWAY MAINTENANCE PLAN

The Hualapai Indian Tribe currently provides regular maintenance on 130.2 miles paved, gravel, and earth surface roads and occasional maintenance on 186.7 miles of gravel and earth surface roadways. Regular maintenance, per the Hualapai Indian Tribe's Road Department, is defined as performing surface pavement patching, surface blading, slope maintenance, weed control, repair to bridge railing, and ditch and culvert cleaning. Occasional maintenance refers to the performance of work on an intermittent basis to paved surface roadways, including the application of asphalt rejuvenating agents and seal coating. Table 10.1 provides a summary of existing roadways currently maintained by the Hualapai Indian Tribe.

As roadways are added to the Tribe's roadway inventory and roadway improvements are completed, additional maintenance will need to occur to ensure the preservation, repair, and restoration of Hualapai tribal roads. In effort to establish a standard schedule for which road shall be maintained, the following Roadway Maintenance Plan provides an overview of standard maintenance activities and frequency for which maintenance should occur.

STUDY ROADWAY MAINTENANCE NEEDS

Paved roads require routine maintenance such as patching; crack sealing; snow plowing; guardrail, sign and delineator replacements; repair, and cleaning; fence and gate repair; roadside clean-up and mowing; and striping. As identified by the *BIA Road Maintenance Manual*, the following is the minimum acceptable level for paved road maintenance:

- Maintaining all roadways, shoulders, traffic signs, drainage structures, and pavement markings;
- Patching potholes and localized failures is necessary;
- Sealing cracks in the pavement; and
- Pavement sealing when deterioration is moderate, with small areas rated as severe.

Table 10.2 provides an overview of standard road maintenance activities per the *BIA Road Maintenance Manual* and *ADOT Performance Guidelines Manual*.

Table 10.1: Current Road Maintenance

Route No.	Roate Name	Miles
Regular Maintenance		
1	Buck and Doe Road	51.3
6	Diamond Creek Road	19.6
17	Youth Camp Road	3.9
18	Supai Road	40.1
19	Nelson Road	9.8
101	Peach Springs Streets	5.5
Total		130.2
Occasional Maintenance		
2	Clay Springs Road	4.9
3	Meriwitka Road	7.8
4	Jackson Tank Road	6.4
5	Bridge Canyon Road	20.0
7	Buck and Doe Road	9.0
8	Milkweed Road	2.1
9	Mudd Tank Road	2.7
10	Prospect Valley Road	30.1
11	Township Corner Road	24.3
12	National Road	22.4
13	Manzanita Road	19.8
14	Dike Tank Road	8.3
15	Oak Tank Road	8.4
16	Hog Tank Road	6.5
18	Supai Road (reclamite)	5.0
20	Pipeline Road	5.0
21	X1 Road	2.2
22	Pine Tank Road	1.8
Total		186.7



Table 10.2: Road Maintenance Activities

Maintenance Activity	Description and Purpose	Guidelines	Season
Replace Surface / Base	The removal and replacement of badly cracked and broken asphalt surface and deteriorated base with new material.	Material shall be removed a minimum depth of 4" and a minimum thickness of 2" asphaltic premix surface material should be used.	Spring or Fall
Patching Surface	Patch potholes, severe depressions, edge breakup, and breaks in roadway and shoulder surfaces using premix materials.	- Potholes and localized failures are to be repaired as soon as scheduling permits, but no later than one week after notification, except when: - The speed limit on the road is 35 MPH or less. The hole or localized failure is not over 2" deep as measured from the adjacent pavement. Repair work is within existing schedules. - Sealing or resurfacing project is starting within the month. - Apply either temporary or permanent patches. Use permanent patching unless overlays or other general repairs are scheduled.	Can be performed year-round
Crack Sealing	Rout and/or clean 1/4" or greater expansion or working cracks and seal in AC or PCC pavements to prevent the passage of water through the surface crack into the pavement structure or sub-grade.	This should be done in cool weather when cracks are open (spring or fall). Not in inclement weather which would interfere with adherence of the asphalt.	Winter
Sand Seal Coat	Full-surface treatment on continuous sections of bituminous pavement with one application of liquid asphalt and cover material to seal and restore surface life, flexibility, and skid resistance. Sand seals enrich weathered pavements and fills fine cracks in the pavement surface.	This should be done when deterioration is moderate, with perhaps small areas rated as severe. Severe deterioration requires a decision of whether to return the road to gravel or repave; and may require a report on why deterioration was allowed to progress so far.	Spring or Fall
Chip Seal	Full-surface treatment on continuous sections of bituminous pavement with one application of liquid asphalt and cover material to seal and restore surface life, flexibility and skid resistance.	Section of surface to be treated must be large enough to utilize at least twenty-one tons of liquid asphalt spread by the supplier. This should be done when deterioration is moderate, with perhaps small areas rated as severe. Severe deterioration requires a decision of whether to return the road to gravel or repave; and may require a report on why deterioration was allowed to progress so far	Spring or Fall

Source: BIA Road Maintenance Manual; ADOT Performance Guidelines Manual



Table 10.2: Road Maintenance Activities (Continued)

Maintenance Activity	Description and Purpose	Guidelines	Season
Tight Blading	The application of premix with a blade to fill ruts and raveling in asphaltic pavement and/or ACFC finishing course. (1-1/2 inches deep or less)	Schedule seal coat at least one month after completion to allow to cure and to get additional traffic compaction. Should be coordinated with the District Traffic Engineer to avoid covering recently painted stripe and allow for restriping schedule.	Spring or Fall
Surface Blading and Reshaping	Grade unpaved roads, including frontage roads, to restore proper shape, smoothness and drainage. This activity includes forming or reforming of drainage gutters, removal of berms, and placement of cut material on the roadway.	Grading is best performed after rain or when surface materials are moist to insure proper compaction.	Spring or Fall
Soil Stabilization Unpaved Roads	Apply magnesium chloride soil stabilizers to promote compaction and dust control on dirt or gravel roads	Apply magnesium chloride at recommended rate for dust control or compaction on gravel or dirt roads; do not exceed 300 gallons per lane mile per day.	Can be performed year-round
Dust Control	Apply water to reinforce soil characteristics for dust control and maintenance of unpaved surfaces, stockpiles, etc.	Apply a sufficient amount of water to settle dust or form a crust	Can be performed year-round
Blade Unpaved Shoulders	Blade and reshape shoulders & drainage ditches including fill & cut sections, if necessary, to correct pavement drop-off, rutting of shoulders, build-up of shoulder material, and to restore a smooth, safe surface with proper drainage.	Grading is best performed when shoulder material is moist to insure maximum workability of material.	Can be performed year-round
Repair Shoulders	Add or remove material to shoulder and slope to eliminate pavement drop-off, rutted or eroded conditions.	Should be scheduled before rutting along the edge of the pavement affects the integrity of the roadway or when slope erosion, if left unrepaired, will deteriorate into major damage.	Spring or Fall
Reconstruction	When a roadway has reached the end of its life cycle and can no longer be rehabilitated, a new road must be constructed. All existing pavement will be removed and recycled for use as a new sub-base. The old sub-base will be re-graded and compacted and a new hot-mix asphalt surface applied.	Material shall be removed a minimum depth of 4" and a minimum thickness of 2" asphaltic premix surface material should be used. The base shall be replaced when unstable.	Spring or Fall

Source: BIA Road Maintenance Manual; ADOT Performance Guidelines Manual



Table 10.2: Road Maintenance Activities (Continued)

Maintenance Activity	Description and Purpose	Guidelines	Season
Pavement Striping	Paint traffic lines which include center lines, lane lines, no passing stripes, gore stripes and edge stripes on roadways, frontage roads, all re-paved or sealed roadways and other pavement markings.	Striping should be scheduled to follow seal coats.	Spring or Fall
Asphalt Sidewalks and Shared-Use Paths	Repair pop-outs; potholes, buckled sidewalks, broken curbs, sunken pavement, root infiltration.	Check drainage components for proper function; Identify and complete joint and crack sealing and patching; perform seal coating. If widespread subgrade issues are suspected, removal and replacement is the only option	Can be performed year-round
Concrete Sidewalk and Shared-Use Paths	Repair potholes, buckled sidewalks, broken curbs, crumbling concrete, sunken pavement.	Check drainage components for proper function, no pooling water; Identify and complete joint and crack sealing and patching. If widespread subgrade issues are suspected, removal and replacement is the only option	Can be performed year-round
Guardrail Replacement, Repair, and Cleaning	Replace and upgrade guardrail systems	Maintenance work is scheduled as required and as necessary to replace and upgrade guardrail system	Can be performed year-round
Cattle Guard Maintenance and Clean-Out	Replace, repair grills and/or clean cattle guards.	When damaged, cattle guards become a traffic safety hazard or allow livestock to enter right-of-way, this activity should be treated as an emergency.	Can be performed year-round
Drainage Maintenance and Clean-Out	Clean inlet and outlet drainage ditches within right-of-way and drainage easements, including those for roadway dips. Clean catch basins, drop right-of-way and drainage easements, including those for roadway dips. Clean catch basins, drop inlets and down drains.	This work shall be performed on drainage installations, as required.	Can be performed year-round
Fencing and Gate Repair	Inspect, maintain, repair or replace all fencing and gates	Maintenance work is as necessary to replace and upgrade fence system, including installation and maintenance of gates.	Can be performed year-round
Sign Clean/ Wash/ Inspect	Inspect and clean to maintain unit at optimum designed efficiency.		Can be performed year-round
Sign Repair and Replacement	Repair and replace existing signs due to graffiti, accident, weather damage, or retroreflectivity	The BIA shall install and replace signs in accordance with the current edition of the MUTCD.	Can be performed year-round
Sweeping	Sweeping of the curbed and other portions of the roadway with a mechanical sweeper	Sweeping shall be accomplished when possible during times of low traffic volume and in accordance with the applicable route schedule.	Can be performed year-round

Source: BIA Road Maintenance Manual; ADOT Performance Guidelines Manual



Table 10.2: Road Maintenance Activities (Continued)

Maintenance Activity	Description and Purpose	Guidelines	Season
Roadside Mowing	Machine mow road edge on road shoulders to improve sight distance, control weeds, tree seedlings, eliminate snowdrift, reduce summer fire fuels and enhance view of hazard markers, guardrails and delineators.	Vegetation is not to be mowed unless average height of plants is greater than 17". In order to preserve perennial grasses needed for shoulder stability, do not mow lower than 4".	Can be performed year-round
Brush and Tree Removal	Trim shrubs and ground cover in landscaped areas to maintain sight distance, or to improve plant barrier density.	Various conditions and/or shrub varieties require pruning at different times during the year.	Can be performed year-round
Roadside Clean-up	Pick up and disposal of all litter within the right-of-way. Includes removal of all unsightly objects and items which could cause damage to roadside mowing equipment.	Work shall be accomplished as needed to preserve the aesthetic appearance of the highway and assure safety of roadside mowing equipment.	Can be performed year-round
Removal of Traffic Obstacles	During routine maintenance and roadway inspection, immediately remove all obstacles within the right-of-way that is potentially hazardous to roadway users.	Obstacles include fallen trees and posts, rocks, brush, trash, dead animals, unauthorized signs, etc.	Can be performed year-round
Winter Preparation	Conduct winter patrol of snow and ice areas of the road to determine the possible development of hazardous conditions requiring maintenance attention.	Winter storm patrol shall be used as weather forecasts and conditions warrant. Remove deicer from equipment to prevent excessive corrosion.	Fall and Winter
Snow and Ice Control	Plow snow and/or apply de-icing agents to the roadway as conditions warrant	Plow and/or apply abrasives / deicers to locations where needed. Abrasive material may be treated with de-icing agents.	Winter
Bridge Clean and Inspect	Inspect, clean, remove graffiti from, and otherwise maintain decks, joints, footings, abutments, wing walls, superstructure, and rails	Scheduling shall become an emergency when conditions require immediate attention for public safety.	Can be performed year-round

Source: BIA Road Maintenance Manual; ADOT Performance Guidelines Manual

Within the Hualapai Indian Reservation the maintenance of minor arterials and major collectors is a high priority since they serve traffic between population centers and carry high volumes of local traffic. To prioritize maintenance, a road classification system was developed based on a road's function, land use, and traffic conditions. This classification system, referred to as "Level of Development", serves as a guide for determining the type and timetable of maintenance activities within the Hualapai Indian Reservation. Table 10.3 outlines LOD Classification System utilized in this study as well as corresponding study roadways.

Table 10.3: Level of Development

LOD	Roadway Context	Study Roadways
LOD 1	• Arterial roadway • Moderate to high traffic volumes • Regional and local traffic • Major tourist route	• State Route 66 • Diamond Bar Road • Supai Road • Buck and Doe Road
LOD 2	• Arterial roadway • Moderate to low traffic volumes • Regional and local traffic • Tourist Route • School bus route	• Diamond Creek Road • Hualapai Way • High View Drive
LOD 3	• Collector roadway • Moderate to low traffic volumes • Provides access to residence and businesses • School bus route	• Peach Springs roadways • Milkweed Springs Road • Music Mountain Road and Music Mountain Circle • Nelson Road
LOD 4	• Gravel or earth surface • Low traffic volumes • Tourist and local traffic • Rural area	• Valentine Roadways • Diamond Creek Road • Youth Camp Road • Nelson Road
LOD 5	• Gravel or earth surface • Very low traffic volumes • Rural area	• All Other BIA Routes

For each LOD classified roadway, a specific maintenance schedule should be followed in order to maintain the safety of the traveling public. Tables 10.4 - 10.8 illustrate the recommended maintenance schedule for roadways classified as LOD 1-5, respectively.

Table 10.4: Level of Development 1 Maintenance Activities and Frequency

Maintenance Activity	Frequency	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Crack Sealing	5 years		■					■					■					■				
Shoulder Maintenance	10 years							■										■				
Drainage Structure Clean-Out and Repair	2 years	■		■		■		■		■		■		■		■		■		■		■
Guardrail Replacement, Repair, and Cleaning	2 years	■		■		■		■		■		■		■		■		■		■		■
Fence, Cattleguard, and Gate Clean-Out and Repair	2 years	■		■		■		■		■		■		■		■		■		■		■
Chip Sealing	7 years	■						■							■							■
Sign Replacement	7 years	■						■							■							■
Overlay	20 years	■										■										
Reconstruction	40 years																					
Surface Blading	N/A																					
Maintenance Performed Once a Year		×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
Patching Surface	Should be performed in Spring or Fall																					
Surface Inspection	Can be performed year-round																					
Pavement Striping	Can be performed year-round																					
Drainage Structure Inspection	Can be performed year-round																					
Guardrail Inspection	Can be performed year-round																					
Fence, Cattleguard, and Gate Inspection	Can be performed year-round																					
Maintenance Performed Twice a Year		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Surface Cleaning	Can be performed year-round																					
Roadside Cleanup	Can be performed year-round																					
Roadside Mowing	Can be performed year-round																					
Sign Inspection	Can be performed year-round																					
Brush and Tree Removal	Can be performed year-round																					

Table 10.5: Level of Development 2 Maintenance Activities and Frequency

Maintenance Activity	Frequency	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Crack Sealing	5 years		■					■					■					■				
Shoulder Maintenance	10 years							■										■				
Drainage Structure Clean-Out and Repair	2 years	■		■		■		■		■		■		■		■		■		■		■
Guardrail Replacement, Repair, and Cleaning	2 years	■		■		■		■		■		■		■		■		■		■		■
Fence, Cattleguard, and Gate Clean-Out and Repair	2 years	■		■		■		■		■		■		■		■		■		■		■
Chip Sealing	7 years	■						■							■							■
Sign Replacement	7 years	■						■							■							■
Overlay	30 years	■																				
Reconstruction	40 years																					
Surface Blading	N/A																					
Maintenance Performed Once a Year		×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
Patching Surface	Should be performed in Spring or Fall																					
Surface Inspection	Can be performed year-round																					
Pavement Striping	Can be performed year-round																					
Drainage Structure Inspection	Can be performed year-round																					
Guardrail Inspection	Can be performed year-round																					
Fence, Cattleguard, and Gate Inspection	Can be performed year-round																					
Surface Cleaning	Can be performed year-round																					
Roadside Cleanup	Can be performed year-round																					
Roadside Mowing	Can be performed year-round																					
Sign Inspection	Can be performed year-round																					
Brush and Tree Removal	Can be performed year-round																					

Table 10.6: Level of Development 3 Maintenance Activities and Frequency

Maintenance Activity	Frequency	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Crack Sealing	5 years		■					■					■					■				
Shoulder Maintenance	10 years							■										■				
Drainage Structure Clean-Out and Repair	3 years	■			■			■			■			■			■			■		
Guardrail Replacement, Repair, and Cleaning	3 years	■			■			■			■			■			■			■		
Fence, Cattleguard, and Gate Clean-Out and Repair	3 years	■			■			■			■			■			■			■		
Chip Sealing	7 years	■						■							■							■
Sign Replacement	7 years	■						■							■							■
Overlay	30 years	■																				
Reconstruction	30 years																					
Maintenance Performed Once a Year		×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
Patching Surface	Should be performed in Spring or Fall																					
Surface Inspection	Can be performed year-round																					
Pavement Striping	Can be performed year-round																					
Drainage Structure Inspection	Can be performed year-round																					
Guardrail Inspection	Can be performed year-round																					
Fence, Cattleguard, and Gate Inspection	Can be performed year-round																					
Surface Cleaning	Can be performed year-round																					
Roadside Cleanup	Can be performed year-round																					
Roadside Mowing	Can be performed year-round																					
Sign Inspection	Can be performed year-round																					
Brush and Tree Removal	Can be performed year-round																					
Surface Blading	Where Needed, Once Every 6 Weeks																					

Table 10.7: Level of Development 4 Maintenance Activities and Frequency

Maintenance Activity	Frequency	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Surface Blading	Every 17 Weeks	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Dust Control																						
Soil Stabilization																						
Drainage Structure Clean-Out and Repair	4 years	■				■				■				■				■				■
Guardrail Replacement, Repair, and Cleaning	4 years	■				■				■				■				■				■
Fence, Cattleguard, and Gate Clean-Out and Repair	4 years	■				■				■				■				■				■
Sign Replacement	10 years	■										■										■
Maintenance Performed Once a Year		×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
Surface Inspection	Can be performed year-round																					
Drainage Structure Inspection	Can be performed year-round																					
Guardrail Inspection	Can be performed year-round																					
Fence, Cattleguard, and Gate Inspection	Can be performed year-round																					
Roadside Cleanup	Can be performed year-round																					
Sign Inspection	Can be performed year-round																					
Brush and Tree Removal	Can be performed year-round																					

Table 10.8: Level of Development 5 Maintenance Activities and Frequency

Maintenance Activity	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Maintenance Performed As Needed	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Surface Inspection	Can be performed year-round																				
Surface Blading and Reshaping	Can be performed in Spring or Fall																				
Drainage Structure Inspection	Can be performed year-round																				
Drainage Structure Clean-Out and Repair	Can be performed year-round																				
Guardrail Inspection	Can be performed year-round																				
Guardrail Replacement, Repair, and Cleaning	Can be performed year-round																				
Fence, Cattleguard, and Gate Inspection	Can be performed year-round																				
Fence, Cattleguard, and Gate Clean-Out and Repair	Can be performed year-round																				
Sign Inspection	Can be performed year-round																				
Sign Replacement	Can be performed year-round																				
Roadside Cleanup	Can be performed year-round																				
Brush and Tree Removal	Can be performed year-round																				



ROADWAY MAINTENANCE ESTIMATES

Table 10.9 outlines typical maintenance procedures and planning cost estimates for each. These costs estimates should be used for planning purposes and initial project budgeting only; during the design phase of a project engineering estimates should be developed. Cost estimates provided in this section do not include right-of-way acquisition, utility relocation costs, or purchasing new equipment.

Table 10.9: Road Maintenance Cost Estimates

Maintenance Item	Cost Per Installation	Cost Per Linear Unit	Cost Per Mile
Replace Surface / Base			\$80,000
Patching Surface		\$150 per sqft	\$15,000
Crack Sealing			\$30,000 per location
Chip Seal		\$0.416 x pavement width	\$2,204 x pavement width
Surface Blading and Reshaping			\$20,000
Dust Control			\$125,000
Asphalt-Concrete Overlay (1 1/2")		\$0.706 x pavement width + \$1.69 x length	\$3,768 x pavement width + \$10,223
Asphalt Grinding		\$0.476 x pavement width	\$2,520 x pavement width
Repair Shoulders			\$15,000 per lane mile to reshape. Additional \$5,000 per mile to place millings
Pavement Striping - Continuous or Broken		\$0.30	\$1,600 per mile per lane
Pavement Markings	\$420 Per Marking (Symbol or Word)		
Raised Pavement Markers (reflectors)	\$6.25 each	\$6.25	\$825 per lane
Guardrail Replacement	\$40 per linear foot; Additional \$1,500 per end terminal		
Fencing - Chain Link (6-FT high)		\$23.10	\$122,000
Sign Replacement	\$485 each installation		
Sidewalk (5-foot, one side only)		\$16.38	\$86,500
Bike Path (8-foot asphalt-concrete; separate from road)		\$18.08	\$95,500
Fencing - Chain Link (6-FT high)		\$23.10	\$122,000



11. TRANSPORTATION PLAN IMPLEMENTATION

This section discusses available funding sources and implementation actions to help execute the Plan for Improvements.

FUNDING SOURCES

The successful implementation of the *Long-Range Transportation Plan for the Hualapai Indian Tribe* is contingent upon the availability of funding for design and construction of the improvement projects. Primary funding sources for the area include Federal programs, BIA, ADOT, and other regional government agencies.

Passed in July 2012, the Moving Ahead for Progress in the 21st Century Act (MAP-21) reauthorized surface transportation programs through fiscal year 2014. The program was enacted to create a streamlined, performance-based, and multimodal program to address the many challenges facing the Nation's transportation system. MAP-21 authorizes Federal-aid highway programs for the next two-years while maintaining current spending levels by consolidating core highway programs of SAFETEA-LU.

Under MAP-21, the new Tribal Transportation Program (TTP) provides \$450 million annually with the ultimate goal to provide safe and adequate transportation and public road access to and within Indian reservations and Indian lands. While generally following the existing Indian Reservation Roads program, the TTP also includes new standards that a certain percentage of funds should be allocated for tribal bridge and tribal safety projects. Funds through the TTP are allocated to Tribes utilizing a statutory formula based on tribal population, road mileage, and average tribal shares of SAFETEA-LU funding. In accordance with MAP-21, Tribes may utilize up to 25% or \$500,000 of their TTP funds, whichever is greater, for eligible road maintenance activities identified in 25 CFR 170.800.

Included in MAP-21 is a new program called Tribal High Priority Projects Program (THPP). The THPP is a special funding pool that may be utilized for tribes or governmental subdivisions whose annual allocation is insufficient to complete its highest priority project; or for emergency/disasters on any TTP facilities. MAP-21 authorizes \$30 million per year from the General Fund (subject to appropriation) for this new program.

In addition, MAP-21 gives FTA significant new authority to strengthen the safety of public transportation systems throughout the United States. The Act aims to align Federal funding to progress towards the goals of restoring and replacing aged public transportation infrastructure, supporting development, and improving the efficiency of administering grant programs by consolidating and streamlining several programs. MAP-21 provides federal funding for public transit assistance through the Tribal Transit Program (TTP). The TTP is a set-aside from the Formula Grants for Rural Areas program and consists of a \$25 million formula program and a \$5 million discretionary grant program.

**MAP-21 Funding
\$450,000,000**

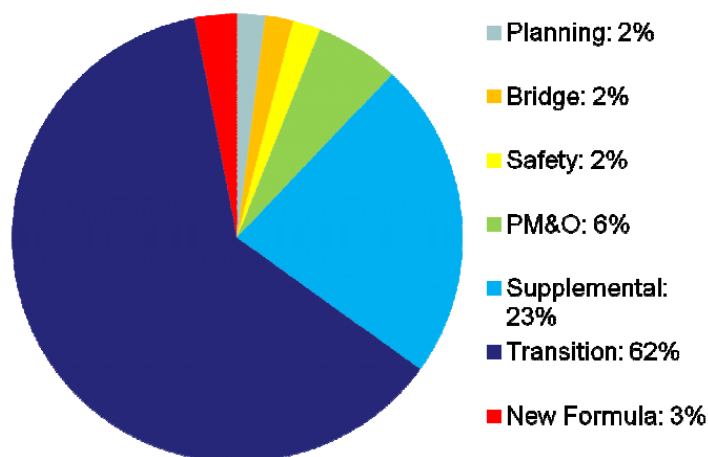


Table 11.1 presents a comprehensive matrix of potential funding sources for roadway, safety, pedestrian and bicycle, and transit improvements that the Hualapai Indian Tribe can apply for funding to implement the Plan for Improvements. The following resources also provide additional information related to funding sources.

Local Public Agency Projects Manual for Federal-aid Funded Projects

The ADOT Local Public Agency Projects Manual provides information and guidance to assist local public agencies (i.e., counties, cities, towns) and tribal governments with projects funded through the Federal Highway Administration's (FHWA) Federal-Aid Highway Program (FAHP), from planning to final acceptance. The manual outlines the ADOT and FHWA policies and procedures when developing, delivering, and administering transportation projects. The Manual is available at the following website link:

<http://www.azdot.gov/business/programs-and-partnerships/LocalPublicAgency/lpa-projects-manual>

Additionally, another available tool is the Federal-aid Essentials. It is web-based and can be accessed at:

<http://www.fhwa.dot.gov/federal-aidessentials/index.cfm>

Arizona Tribal Transportation Website Funding Resources Links

The Arizona Tribal Transportation website is hosted by ADOT and provides a central location for state-tribal transportation related partnerships, projects, activities, groups, links, and other related information. The website contains a listing of transportation related funding resources, which can be found at the following link:

<http://www.aztribaltransportation.com/funding.asp>



Table 11.1: Potential Funding Sources

Funding Program	Eligible Uses	Administering Agency	Program and Funding Details	Application Deadline	Contact Information
Roadway and Safety Projects					
Tribal Transportation Program (TTP)	TTP funds may be used by the Tribe to pay the costs of the following activities: Transportation planning, research, maintenance, engineering, rehabilitation, restoration, construction, and reconstruction of tribal transportation facilities; Operation and maintenance of transit programs and facilities that are located on, or provide access to, tribal land, or are administered by a tribal government.	Federal Funds Allocated to BIA-DOT Western Regional Office on a formula basis	Funding formula is based on each tribe's total population and mileage. Improvement projects must be included in the Hualapai Indian Tribe's TIP.	Improvement projects must be submitted to FHWA by August	Bob Maxwell Regional Transportation Planner BIA-DOT Western Regional Office Division of Transportation 4th Floor Mailroom, MS 370 Phoenix, AZ 85004 Phone: 602- 379-6782 Email: robert.maxwell@bia.gov
Tribal High Priority Projects (THPP)	Repair or reconstruction of eligible facilities in the national inventory of tribal transportation facilities. Funds may not be used for transportation planning; research; routine maintenance activities; structures and erosion protection; landscaping and irrigation systems; purchasing equipment; or condemnation of land for recreational trails.	Federal Funds are allocated to the Regional Office based on approved Tribal Applications for these funds.	Funds appropriated from the Federal General Fund, to remain available until September 30 of the third fiscal year after the year appropriated. An applicant may have only one application for assistance pending at any one time. Project funding is limited to a \$1 million per application.		Bob Maxwell Regional Transportation Planner BIA-DOT Western Regional Office Division of Transportation 4th Floor Mailroom, MS 370 Phoenix, AZ 85004 Phone: 602- 379-6782 Email: robert.maxwell@bia.gov
Tribal Transportation Planning Program	Transportation planning procedures for the TTP must be consistent with Statewide and Metropolitan planning processes.	Federal Funds Allocated to BIA-DOT Western Regional Office on a formula basis and distributed on a project by project basis	Funded by a set-aside of up to 2% from TTP funds. Funds are allocated directly to Tribe based on a formula, and distributed on a project by project basis.		Bob Maxwell Regional Transportation Planner BIA-DOT Western Regional Office Division of Transportation 4th Floor Mailroom, MS 370 Phoenix, AZ 85004 Phone: 602- 379-6782 Email: robert.maxwell@bia.gov
Tribal Transportation Program Safety Funds (TTPSF)	MAP-21 established Tribal Safety funds by setting aside not more than 2 percent of the funds made available under the Tribal Transportation Program for each fiscal year. Eligible activities include: Tribal Safety Plans; Enforcement and EMS; Education Programs; Engineering Improvements; Data Collection; Data analysis and improvement; Road Safety Audits; and funding goals for each category.	Federal Funds are allocated to the Regional Office based on approved Tribal Applications for these funds.	Projects ranked by BIA, FHWA and Tribes. Funded by a set-aside of up to 2% from TTP funds. Maximum of \$9,000,000 could be made available in each of FYs 2013 and 2014 for TTPSF.		Russell Garcia TTPSF Program Manager Federal Highway Administration 1200 New Jersey Avenue SE., Washington, DC 20590 Phone: (202) 366-9815 Email: russell.garcia@dot.gov

Source: FHWA, ADOT, USDOT, AmeriCorps, USDA, Arizona State Parks



Table 11.1: Potential Funding Sources (Continued)

Funding Program	Eligible Uses	Administering Agency	Program and Funding Details	Application Deadline	Contact Information
Tribal Bridge Program	Funds may be used for planning, design, engineering, preconstruction, construction, and inspection of a project to replace, rehabilitate, seismically retrofit, paint, or for anti-icing and deicing, or to implement any countermeasures (including multiple-pipe culverts) for eligible tribal transportation facility bridges. To be eligible, a bridge must have an opening of at least 20 FT, be classified as a tribal transportation facility, and be structurally deficient or functionally obsolete.	Federal Funds are allocated to the Regional Office based on approved applications from the Region for these funds.	Funded by a set-aside of up to 2% from TTP funds.		Bob Maxwell Regional Transportation Planner BIA-DOT Western Regional Office Division of Transportation 4th Floor Mailroom, MS 370 Phoenix, AZ 85004 Phone: 602- 379-6782 Email: robert.maxwell@bia.gov
Surface Transportation Program (STP)	States and metropolitan regions may use these funds for highway, bridge, transit (including intercity bus terminals), and pedestrian and bicycle infrastructure projects. Eligible projects include, but are not limited to: • Construction, reconstruction, rehabilitation, resurfacing, restoration, preservation, or operational improvements for highways, bridges, and tunnels on any public roadway • Construction of new bridges and tunnels on a Federal-aid highway • Inspection and evaluation of bridges, tunnels and other highway assets as well as training for bridge and tunnel inspectors • Transit capital projects • Bicycle, pedestrian, and recreational trails • Environmental mitigation efforts	Federal Highway Administration Funds Administered Through ADOT and Planning Organizations	In general, STP projects may not be on local or rural minor collectors. Special rule allows States to use up to 15% of funds sub allocated for areas with a population of 5,000 or less on rural minor collectors. Project is scoped and request for funding submitted to NACOG.		Craig Raborn WACOG Transportation Planner 208 N. 4th Street Kingman, AZ 86401 Phone: 928-377-1070 Email: craigr@wacog.com
Surface Transportation Program (STP) -Off-System Bridges	From the State's STP apportionment, States are required to obligate a portion of funds (not from sub allocated amounts) for bridges not on Federal-aid highways (off-system bridges). Eligible projects include, but are not limited to: replacement, deicing, construction, inspection and evaluation of bridges.	Federal Highway Administration Funds Administered through ADOT and Regional Planning Organizations	For projects to replace or rehabilitate deficient off-system bridges funded wholly by State/local sources, any amounts spent post-enactment that are in excess of 20% of project costs may be credited to the non-Federal share of eligible bridge projects in the State.	Project is scoped and request for funding submitted to WACOG. Project is scoped and request for funding submitted to Planning Organization.	Craig Raborn WACOG Transportation Planner 208 N. 4th Street Kingman, AZ 86401 Phone: 928-377-1070 Email: craigr@wacog.com

Source: FHWA, ADOT, USDOT, AmeriCorps, USDA, Arizona State Parks



Table 11.1: Potential Funding Sources (Continued)

Funding Program	Eligible Uses	Administering Agency	Program and Funding Details	Application Deadline	Contact Information
Federal Lands Transportation Program (FLTP)	Eligible projects include, but are not limited to: • Program administration, transportation planning, research, preventive maintenance, engineering, rehabilitation, restoration, construction, and reconstruction of Federal lands transportation facilities • Operations and maintenance of transit facilities • Any transportation project eligible under title 23 of the United States Code that is within or adjacent to, or that provides access to Federal lands open to the public.	Funded by contract authority from the Highway Account of the Highway Trust Fund	On October 1 of each fiscal year, funds will be allocated among Federal Land Management Agency (FLMA) partners		Arizona Division Federal Highway Administration 4000 N. Central Avenue, Ste. 1500 Phoenix, Arizona 85012-3500 Phone: (602) 379-3646 Fax: (602) 382-8998 For information, visit: http://www.fhwa.dot.gov/azdiv
Federal Lands Access Program	Eligible projects include, but are not limited to: • Transportation planning, research, engineering, preventive maintenance, rehabilitation, restoration, construction, and reconstruction of Federal Lands Access Transportation Facilities • Operation and maintenance of transit facilities • Any transportation project eligible under title 23 of the United States Code that is within or adjacent to, or that provides access to Federal lands open to the public.	Funded by contract authority from the Highway Account of the Highway Trust Fund	The funds made available under this program will be available for the current year plus three additional years. Funds are distributed by formula among States that have Federal lands		Allen Grasmick Central Federal Lands Highway Division 12300 West Dakota Avenue Lakewood, CO 80228 Phone: (720) 963-3500 Email: Allen.Grasmick@dot.gov For general program information, visit: http://www.cflhd.gov/programs/flap/AZ/index.cfm
Highway Safety Improvement Program (HSIP)	The HSIP is a core Federal-aid program with the purpose of achieving a significant reduction in fatalities and serious injuries on all public roads, including non-State-owned public roads and roads on tribal lands. Any project on a public road, trail or path that is consistent with the state's Strategic Highway Safety Plan and corrects a safety problem is eligible for HSIP funding. Eligible projects include, but are not limited to: • Intersection improvements • Construction of shoulders • Traffic calming • Improvements for bicyclists, pedestrians, and individuals with disabilities. • Minimum standards of retro-reflectivity of traffic signs and pavement markings	Federal Highway Administration Funds Administered Through ADOT and Planning Organizations	Project is scoped and request for funding submitted to Regional Planning Organization. The HSIP Local Government Coordinator provides assistance to local agencies throughout the process of identifying and developing the projects. 5.7% for most projects	Applications due in May	Mona Aglan-Swick HSIP Manager ADOT Statewide HSIP Program Phone: (602) 712-7374 Email: maglan@azdot.gov

Source: FHWA, ADOT, USDOT, AmeriCorps, USDA, Arizona State Parks



Table 11.1: Potential Funding Sources (Continued)

Funding Program	Eligible Uses	Administering Agency	Program and Funding Details	Application Deadline	Contact Information
Governor's Office of Highway Safety	Finances State and local government highway safety projects. Eligible projects include: inventories, need studies, engineering studies, system development, program implementation, or for purchasing equipment. Cannot be used for the construction, design, or maintenance of highways or for highway construction research papers.	Arizona Governor's Office of Highway Safety (GOHS)	Project funding is limited to a maximum of \$50,000 per project contract	Applications due in February	Director Alberto Gutier Governor's Office of Highway Safety 3030 North Central Ave #1550 Phoenix, Arizona 85012
National Priority Safety Program	Programs include: • Section 405(b): Occupant Protection • Section 405(c): State Traffic Safety Information System Improvements • Section 405(d): Impaired Driving Countermeasures • Section 405(e): Distracted Driving • Section 405(f): Motorcyclist Safety • Section 405(g): Graduated Driver Licensing	National Highway Traffic Safety Administration (NHTSA) at the federal level and Arizona Governor's Office of Highway Safety at the state level		Applications due in July	Director Alberto Gutier Governor's Office of Highway Safety 3030 North Central Ave #1550 Phoenix, Arizona 85012
Section 402 State and Community Highway Safety Grant Program	Funds can be spent in accordance with national guidelines for programs such as reducing impaired driving; reducing speeding; encouraging the use of occupant protection; improving motorcycle safety; improving pedestrian and bicycle safety; improving enforcement of traffic safety laws; improving traffic records; and emergency services.	Arizona Governor's Office of Highway Safety	MAP-21 authorizes funding for the 402 program at \$235 million each year in FY 2013 and FY 2014.	Proposals due to the Arizona Governor's Office of Highway Safety in April/May	Director Alberto Gutier Governor's Office of Highway Safety 3030 North Central Ave #1550 Phoenix, Arizona 85012
Road Safety Assessment	The Road Safety Assessments (RSA) program conducts Road Safety Assessments on state, local and tribal road facilities. An RSA is defined as a formal examination of user safety of a future or existing roadway by an independent multidisciplinary audit team, which includes qualified and experienced members.	ADOT Traffic Safety Section	Technical assistance, no actual awarding of funds	On-going	Richard S. Weeks, PE, PTOE Program Manager Road Safety Assessment 1615 West Jackson St., Mail Drop 065R Phoenix, AZ 85007-3217 Phone: 602-712-4382 Fax: 602-712-3243 Email: rweeks@azdot.gov
Federal Railroad Administration (FRA) Grants	FRA supports passenger and freight railroading through a variety of competitive grant, dedicated grant, and loan programs to develop safety improvements, relieve congestion, and encourage the expansion and upgrade of passenger and freight rail infrastructure and services.	Federal Railroad Administration (FRA)	All applicants must also submit a Statement of Work (SOW), scope, schedule, and budget.	On-going	Additional information can be found at: www.fra.dot.gov/Page/P0021

Source: FHWA, ADOT, FRA, USDOT, AmeriCorps, USDA, Arizona State Parks



Table 11.1: Potential Funding Sources (Continued)

Funding Program	Eligible Uses	Administering Agency	Program and Funding Details	Application Deadline	Contact Information
Railway-Highways Crossing (Section 130) Program	The Section 130 program funds are eligible for projects at all public crossings including roadways, bike trails and pedestrian paths. Fifty percent of a State's apportionment is dedicated for the installation of protective devices at crossings. The remainder of the funds apportionment can be used for any hazard elimination project, including protective devices.	ADOT Utility & Railroad Engineering Group	Project selection is based on input from the ADOT Railroad crossing database.	On-going	Robert Travis ADOT Railroad Liaison Phone: 602-712-6193 Email: rtravis@azdot.gov www.azdot.gov/business/engineering-and-construction/utility-and-railroad-engineering/railroad
AmeriCorps Indian Tribes Planning Grants	AmeriCorps planning grants provide up to \$75,000 for a one-year period to provide support to an Indian Tribe for the development of an AmeriCorps program that will engage AmeriCorps members in order to address pressing community problems.	AmeriCorps	AmeriCorps State and National sets aside one percent of grant funds to support programs operated by American Indian Tribes		For general program information, contact: Phone: (202) 606-7508 Email: americorpsgrants@cns.gov http://www.nationalservice.gov/build-your-capacity/grants/
USDA Community Facility Grants	Grant funds may be used to assist in the development of essential community facilities. Grant funds can be used to construct, enlarge, or improve community facilities for health care, public safety, and community and public services. This can include the purchase of equipment required for a facility's operation.				USDA Rural Development 230 N 1st Avenue, Suite 509 Phoenix, AZ 85003 Phone: (602) 280-8701 Fax: (602) 280-8770 For general program information, visit: http://www.rurdev.usda.gov/RD_grants.html
Planning Assistance for Rural Areas (PARA) Program	PARA funds are limited to planning applications and may not be used for the design or construction of transportation facilities. PARA funds may be applied to address a broad range of planning issues related to roadway and non-motorized transportation modes. Funds may also be applied to studies dedicated solely to the planning of public transportation services.	Federal funds administered through ADOT	The PARA program is funded 100% by ADOT using Federal Statewide Planning and Research (SPR) funds. The awarded funding is a limit or cap of \$250,000 for each PARA study process. Applications for projects are submitted to ADOT MPD on an annual basis.	Applications for planning projects are submitted to ADOT on an annual basis in early summer.	Justin Feek, Program Manager Arizona Department of Transportation - MPD 206 S. 17th Ave., MD 310B Phoenix, AZ 85007 Phone: 602.712.6196 Fax: 602.712.6412 Email: jfeek@azdot.gov
Accelerated Innovation Deployment (AID) Demonstration	Eligible projects include, but are not limited to: • Accelerate adoption of innovative technologies in all aspects of highway transportation • Construct longer-lasting highways • Improve highway efficiency, safety, mobility, reliability, service life, environmental protection, and sustainability	Federal Highway Administration Funds	Award recipients must obligate awarded funds to project within 6 months of allocation.	Open, rolling solicitation. Applicants must submit applications electronically through Grants.gov.	For general program information, visit: http://www.fhwa.dot.gov/accelerating/grants/

Source: FHWA, ADOT, USDOT, AmeriCorps, USDA, Arizona State Parks



Table 11.1: Potential Funding Sources (Continued)

Funding Program	Eligible Uses	Administering Agency	Program and Funding Details	Application Deadline	Contact Information
TIGER Grants	Eligible projects include, but are not limited to: - Highway or bridge projects eligible under title 23, United States Code; - Public transportation projects eligible under chapter 53 of title 49, United States Code; - Freight rail projects; - High speed and intercity passenger rail projects; and - Port infrastructure investments	United States Department of Transportation	\$1 million minimum grant - No match requirement, though competitive - applications often feature a match - Tribal Transportation Program (TTP) Funds are eligible to match/complete financing	Applications must be submitted through Grants.gov	Office of the Under Secretary for Policy Office of the Secretary of Transportation 1200 New Jersey Ave, SE Washington, DC 20590 Phone: 202-366-4544 For general program information, visit: http://www.dot.gov/tiger
Transportation Alternatives Program (TAP)	Eligible projects include, but are not limited to: - Bicycle and pedestrian facilities - Safe routes projects for non-drivers - Construction of turnouts and overlooks - Community improvement activities including vegetation management and historic preservation - Environmental mitigation activity including NEPA compliance	Federal Highway Administration Funds Administered Through ADOT and Regional Planning Organizations	TAP funds are available for obligation for a period of 3 years after the last day of the fiscal year for which the funds are authorized.		Patrick Stone TE Section Manager Department of Transportation 1615 W. Jackson Street, MD EM10 Phoenix, AZ 85226 Phone: 602-712-4428 Email: pstone@azdot.gov
Pedestrian, Bicycle, and Trail Projects					
Transportation Alternatives Program (TAP) - Safe Routes to School	Safe Routes to School (SRTS) eligible projects and activities include: - Infrastructure-related projects. - No infrastructure-related activities. - Safe Routes to School coordinator		80 percent Federal/20 percent State or local match subject to the sliding scale adjustment		Kristin Myers Arizona Department of Transportation Local Public Agency Section 1615 W. Jackson St., Mail Drop EM11 Phoenix, AZ 85007 Phone: (602) 712-6166 Email: KMyers@azdot.gov
Transportation Alternatives Program (TAP) - Recreational Trails Program (RTP)	Recreational Trails Program (RTP) provides funds to the States to develop and maintain recreational trails and trail-related facilities for both nonmotorized and motorized recreational trail uses.	FHWA Administered through Arizona State Parks			Robert Baldwin State Trails Coordinator Arizona State Parks Resources Management Section 1300 W Washington St Phoenix AZ 85007-2932 Phone: 602-542-7130 Email: rbb2@azstateparks.gov

Source: FHWA, ADOT, USDOT, AmeriCorps, USDA, Arizona State Parks



Table 11.1: Potential Funding Sources (Continued)

Funding Program	Eligible Uses	Administering Agency	Program and Funding Details	Application Deadline	Contact Information
Transit Projects					
Tribal Transit Program (TTP)	Eligible projects include public transportation capital projects for start-ups, replacement or expansion, operating costs for start-ups, and planning.	Federal Transit Administration	In FY 13 approximately \$5 million in funding was available for the TTP. The federal share for projects selected under the TTP discretionary program was up to a 90 percent federal share of project costs, unless the Indian tribe could demonstrate a financial hardship in their application. Eligible applicants could also apply for planning grants of up to \$25,000 for planning studies.	Check the TTP Notice of Funding Availability upon publication in the Federal Register. The FY 13 TTP NOFA was published on May 9, 2013 and TTP project applications were due July 8, 2013.	Contact the appropriate FTA Regional Office at http://www.fta.dot.gov for proposal-specific information and issues. For general program information, contact : Lorna Wilson, Office of Program Management, (202) 366-0893, Email: lorna.wilson@dot.gov Elan Flippin, Office of Program Management, (202) 366-3800, Email: elan.flippin@dot.gov .
Enhanced Mobility of Seniors and Individuals with Disabilities (Section 5310)	Program funds are used for capital assistance, the purchase of vehicles, related equipment and operating funds statewide. Eligible recipients include private nonprofit and public agencies that provide transportation to the elderly and disabled.	Federal funds administered through ADOT	Using these funds for operating expenses requires a 50 percent local match while using these funds for capital expenses (including acquisition of public transportation services) requires a 20 percent local match.	Applications due to WACOG in March	Michele Walker WACOG Mobility Manager 208 N. 4th Street Kingman, AZ 86401 Phone: (928) 753-1374 Email: michelew@wacog.com
Rural Area Formula Grants (Section 5311)	The Rural Program provides funding to States for the purpose of supporting public transportation in rural areas including funding for Tribal Transit, Appalachian region, Intercity Bus and technical assistance programs and services. Rural areas are locations with populations less than 50,000, where many residents often rely on public transit to reach their destinations.	Federal funds administered through ADOT	The Tribal program now consists of a \$25 million formula program and a \$5 million discretionary grant program. Formula factors include vehicle revenue miles and the number of low-income individuals residing on tribal lands. Federal share may exceed 85% for certain projects related to ADA, CAA, and for certain bicycle projects.	Applications are submitted in December, and awards are generally made in July of each year.	Sara Allred 5311 Program Manager 206 S 17th Ave MD 340B Phoenix, AZ 85007 Phone: 602-712-4498 Email: sallred@azdot.gov
Rural Transit Assistance Program	Training, technical assistance, research, and outreach funding to all 5310, 5311, 5316, and 5317 grantees statewide.	Federal funds administered through ADOT	To be eligible to receive a RTAP Scholarship, applicants must be an active Arizona grantee receiving 5311 and 5310 FTA program funding.	All grantees must submit a RTAP Application at least 30 days prior to the training event.	Sara Allred 5311 Program Manager 206 S 17th Ave MD 340B Phoenix, AZ 85007 Phone: 602-712-4498 Email: sallred@azdot.gov

Source: FHWA, ADOT, USDOT, AmeriCorps, USDA, Arizona State Parks



IMPLEMENTATION GUIDELINES

Implementation of the Plan for Improvements requires active participation from local citizens, private entities, and local, County, and State government officials. The following actions are recommended in order to successfully implement the Plan for Improvements developed as part of this study.

- The Hualapai Tribal Council needs to formally approve this plan in order to initiate the process of requesting project inclusion in the BIA TTP TIP and to subsequently receive Federal Lands Highway Program funds or other MAP-21 funds.
- Incorporate high priority improvement projects in the State Transportation Improvement Program (STIP), if needed to acquire federal funding.
- Coordinate with the BIA the entry of updated Hualapai road inventory data into the Road Inventory Field Data System (RIFDS) for inclusion in the National Tribal Transportation Facility Inventory (NTTFI).
- Establish a partnership with Mohave County, ADOT, and the Grand Canyon West Corporation for the on-going planning, maintenance, improvement, and funding for roadways that provide access to the Grand Canyon West and other tourist locations.
- Establish a partnership with the Havasupai Tribe for on-going planning, maintenance, and funding for improvements to Supai Road.
- Work with Mohave County, ADOT, and BIA to confirm existing ROW widths and identify areas where additional ROW is required. It is important that as existing roads are reconstructed that right-of-way descriptions are prepared as part of the design surveys. If needed, purchase required ROW from property owners.
- Traffic calming devices should be considered in the design of new roads serving housing, governmental facilities, or commercial developments.
- Solicit grants for bicycle and pedestrian improvements to add bicycle lanes, enhance connections to existing facilities, and to construct new facilities in deficient locations.
- Develop policies and procedures to promote alternative modes of transportation.
- Further research and apply for funding for each project identified in the Plan for Improvements.



APPENDIX A.

PUBLIC MEETING 1 SUMMARY REPORT



Hualapai Indian Tribe Long Range Transportation Plan

June 2014

Prepared by
Arizona Department of Transportation

Introduction

The purpose of this project is to update the Hualapai Indian Tribe's long range transportation plan. The plan will provide recommendations to improve automobile, bus, bicycle, equestrian, pedestrian, aviation and marine transportation for the next five, 10 and 20 years.

Public Meeting

To inform and involve community members in the study, ADOT hosted a public open house at the Hualapai Gym, 930 Rodeo way, Peach Springs, AZ 86434 on Thursday, May 1, 2014 from 4:30 to 6:30 p.m. Staff present at the meeting included Vamshi Yellisetty and Rick Powers (Jacobs Engineering), Misty Klann and Michele Beggs (ADOT), Philip Wisely and Kevin Davidson (Hualapai Indian Tribe). During the open house, a presentation was given followed by an opportunity for Q&A, comments and recommendations on areas for improvement. In total, 12 members of the community were in attendance.

A copy of the sign-in sheets can be found in Appendix A

Newspaper Advertisements and Announcements

A newspaper advertisement providing the date and location of the public meeting was published in the following newspaper:

- Gamyu Newsletter published on March 28, April 11, and April 25
- Kingman Daily Miner (weeks of April 14 and 21)

A copy of the advertisements can be found in Appendix B.

Presentation and Meeting Materials

A presentation was given at the open house and a comment form was provided to each attendee of the meeting. During the Earth Day celebration on April 25th, a booth was set up with the presentation boards and comment forms available

A copy of the comment form can be found in Appendix C of this report.

Comment Summary

The following comments were made and noted during the public meeting forum and through written submissions:

What do you see as the top three transportation issues in and around the Hualapai Indian Reservation?

- Intersection downtown Peach Springs traffic speeding/pedestrians
- Railroad crossing and pedestrians crossing tracks
- Need a red light four way stop sign or roundabout
- Diamond Creek Road and Rt. 66 intersections need lighting or roundabout

Public Meeting Summary

- Traffic congestion due to all new infrastructure in central Peach Springs
- Flooding of roads gets bad during monsoon season
- The roads to Kingman need to be fixed (rough road)
- Roads to Seligman need to be fixed (rough road)
- Vegetation on sides of Route 66/reflectors needed
- Stop lights at main intersection
- Pave dirt roads for tourism
- Walkway at railroad tracks

What do you feel are the major pedestrian, bicycle and trail issues in the Hualapai Indian Reservation?

- We need room on Route 66 for biking/walking
- Crossing Route 66 and the railroad crossing-pedestrians are on our paved roads because of no sidewalks
- Limited to no area for any pedestrians to walk along road, especially in central Peach Springs; in years back majority of pedestrians would use man-made dirt trails but recent infrastructure has cut off most dirt trails and forced pedestrians to walk main roads and is highly dangerous, especially with fast drivers

Please identify what you feel are the priority public transportation needs

- Sidewalks for public to utilize, especially with the lighting so that pedestrians may feel safe and use them adequately and good reliance
- Transportation to building for elders and youth to and from departments
- Cut vegetation on Route 66
- Fix roads Route 66 to Kingman/Seligman
- Reflectors for roadway

What solutions would you suggest for the issues presented?

- For someone to listen to our needs, only work on main roads, do not work on off roads
- The maintenance of our roads needs to be revisited and maintained often, for the safety of all traffic
- The downtown intersection needs major attention as well as Diamond Creek Road as it harms tourism in the summer (high tourism time)

Do you have any additional comments you wish to share with the project team?

- Keep up the good research!
- Phil Wisely does not know what Peach Springs needs, he does not live here, he comes and goes. Residents need to be heard! We know what's needed for our future and present!

Appendix A

Hualapai Tribe Long Range Transportation Plan

Thursday, May 1, 2014 • 4:30- 6:30 P.M.

Hualapai Gym • 930 Rodeo Way • Peach Springs, AZ 86434

Completion of this sign-in sheet is completely voluntary and helps the project team keep an accurate record of meeting attendees. Under state law, any identifying information provided below will become part of the public record and, as such, must be released to any individual upon request. Please print clearly.

NAME	ADDRESS	PHONE	EMAIL
Craig Rabon	208 N. 4th. Kingman, AZ	(928) 377-1070	CraigR@wagay.com
Michele Walker	208 N. 4th St. Kingman, AZ	(928) 753-1374	michale@wagay.com
Philip G. Wierch	941 Hualapai Way Peach Springs, AZ	(928) 715-8246	pwierch@hualapai-nsn.gov
Philbert Watahomigie Jr	P.O. Box 179 Peach Springs, AZ 86434	(928) 769-2216	pwatahomigiejr@hualapai-nsn.gov
Drake Havatone	P.O. Box 3 Peach Springs, AZ 86434	(928) 769-2234 work	
Kevin Davidson	557 W. Hwy 66	(928) 769-1310	KDavidson@Hualapai-nsn.gov
Ron Quasula Jr	P.O. Box 311 Peach Springs	(928) 769-2152	ronquasula@hualapai-nsn.gov
Orlando Quasula	P.O. Box 311 Peach Springs	928-769-2652	orlandoq@hualapai-nsn.gov
Tony Tapia	P.O. Box 461 Peach Springs, AZ	928 769 21044	inwalbax-hman@hualapai-nsn.gov
Misty Klann	206 S. 17th Ave, Phoenix, AZ	602-712-7029	mklann@azdot.gov
Rick Powers	101 N. 1st Ave, Phoenix, AZ	602-530-1662	rick.powers@azdot.gov
Nichole Bengtson	3600 E Andy Devine Ave	928.609.6054	Nbengtson@azdot.gov

ADOT

FOR MORE INFORMATION:

azdot.gov/HualapaiLtrn

Hualapai Tribe Long Range Transportation Plan

Thursday, May 1, 2014 • 4:30- 6:30 P.M.

Hualapai Gym • 930 Rodeo Way • Peach Springs, AZ 86434

Completion of this sign-in sheet is completely voluntary and helps the project team keep an accurate record of meeting attendees. Under state law, any identifying information provided below will become part of the public record and, as such, must be released to any individual upon request. Please print clearly.

NAME	ADDRESS	PHONE	EMAIL
Celeste Quasula	1302 W. Thimbo Peach Springs, AZ	928 769-1506	CelesteQuasula@yahoo
Vamsli Yelisetty	101 N. 1 st Ave, 3100, Phoenix	602-530-1603	Vamsli.Yelisetty@jacobs.com
Dion Walker	535 Pine Street	928 769-2652	
Monique Alvin	PO Box 291 Peach Springs, AZ 86434	928-225-5328	monique2monique@yahoo.com
Joyce Pong	110 Ten Pine St	928 660-0380	Joycepong@gmail.com
Tiffany Ponskey	Box 1092		
Arnell Ponskey Sr.	" "		
Colleen Mahone	PO Box 1001 Peach Springs, AZ	928-769-2419	Colleen.Mahone@gmail.com

ADOT

FOR MORE INFORMATION:

ardot.arv/hualapai.lrtm

Appendix B

Please Join Us

Hualapai Indian Tribe Public Meeting

Long Range Transportation Plan

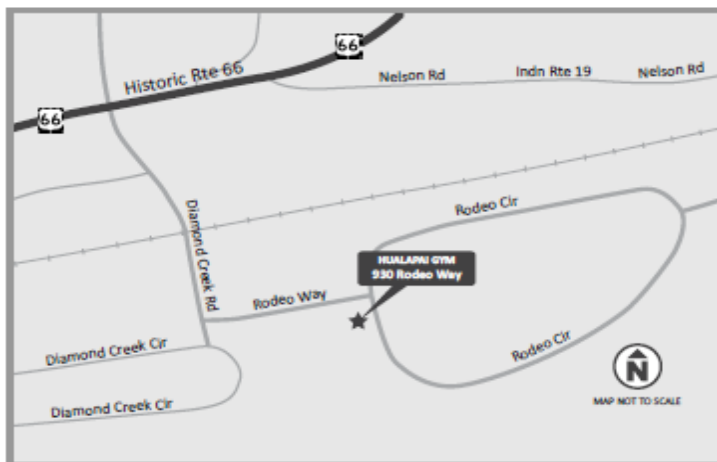
The Hualapai Indian Tribe in collaboration with the Arizona Department of Transportation (ADOT) is updating the Tribe's long range transportation plan funded through ADOT's Planning Assistance for Rural Areas (PARA) program. The plan will provide recommendations to improve automobile, bus, bicycle, equestrian, pedestrian, aviation and marine transportation for the next five, 10 and 20 years. Your knowledge and experience on recommendations for future transportation improvements for the community is needed.

WE WANT TO HEAR FROM YOU

Join us on **Thursday, May 1, 2014 from 4:30 to 6:30 p.m.** at the public meeting to learn more about the study and share your ideas on Hualapai Indian Reservation transportation improvement needs. Your input will help develop a comprehensive long-range transportation plan for the tribal community.

Meeting Location

Hualapai Gym, 930 Rodeo Way, Peach Springs, AZ 86434



If you require special assistance in order to participate in the public meeting, please contact projects@azdot.gov or 855.712.8530. Requests should be made as soon as possible to allow time to arrange the accommodation.

ADOT



FOR MORE INFORMATION:
855.712.8530 or 928.769.2216
azdot.gov/hualapai-lrtp

Public Meeting Summary

Appendix C

LONG RANGE TRANSPORTATION PLAN FOR THE HUALAPAI INDIAN TRIBE				
Public Meeting Comment Form				
YOUR THOUGHTS, IDEAS, AND COMMENTS		Do you have any additional comments you wish to share with the project team? _____ _____ _____ _____ _____ _____ _____		
1. What do you see as the top three transportation <u>issues</u> in and around the Hualapai Indian Reservation? (examples: pavement conditions, no street lights, congestion, etc.) 1) _____ 2) _____ 3) _____				
2. What do you feel are the major pedestrian, bicycle, and trail issues in the Hualapai Indian Reservation? (examples: limited sidewalks, no bike lanes, etc.) _____ _____ _____ _____ _____				
3. Please identify what you feel are the priority public transportation needs? _____ _____ _____ _____ _____				
4. What solutions would you suggest for the issues presented? _____ _____ _____ _____ _____		YOUR INPUT IS REQUESTED Completion of this form is completely voluntary. All input will be incorporated into the study's documentation. Comment forms will be accepted until May 16th, 2014 and can be submitted to the project team or mailed/e-mailed to: <table border="1"><tr><td>Philip Wisely Hualapai Indian Tribe Public Services P.O. Box 179 Peach Springs, AZ 86434 Email: pwisely@hualapai-nsn.gov Phone: (928) 769-2216</td><td>Misty Klann Arizona Department of Transportation Multimodal Planning Division 206 South 17th Avenue, MD 310B Phoenix, AZ 85007 Email: mklann@azdot.gov Phone: (602) 712-7029</td></tr></table>	Philip Wisely Hualapai Indian Tribe Public Services P.O. Box 179 Peach Springs, AZ 86434 Email: pwisely@hualapai-nsn.gov Phone: (928) 769-2216	Misty Klann Arizona Department of Transportation Multimodal Planning Division 206 South 17th Avenue, MD 310B Phoenix, AZ 85007 Email: mklann@azdot.gov Phone: (602) 712-7029
Philip Wisely Hualapai Indian Tribe Public Services P.O. Box 179 Peach Springs, AZ 86434 Email: pwisely@hualapai-nsn.gov Phone: (928) 769-2216	Misty Klann Arizona Department of Transportation Multimodal Planning Division 206 South 17th Avenue, MD 310B Phoenix, AZ 85007 Email: mklann@azdot.gov Phone: (602) 712-7029			
More information can be found by visiting the project website: http://www.azdot.gov/hualapai-LRTP <u>THANK YOU FOR YOUR PARTICIPATION</u>				



APPENDIX B.

PUBLIC MEETING 2 SUMMARY REPORT



Hualapai Indian Tribe Long Range Transportation Plan

September 2014

Prepared by
Arizona Department of Transportation

Introduction

The purpose of this project is to update the Hualapai Indian Tribe's long range transportation plan. The plan will provide recommendations to improve automobile, bus, bicycle, equestrian, pedestrian, aviation and marine transportation for the next five, 10 and 20 years.

Public Meeting

To inform and involve community members of the study, ADOT in coordination with Hualapai Planning and Public Works Departments hosted a second (in a series of two for this study) public open house at the Hualapai Gym, 930 Rodeo Way, Peach Springs, AZ 86434 on Wednesday, August 20, 2014 from 4:00 to 6:00 p.m. Staff present at the meeting included Vamshi Yellisetty and Rick Powers (Jacobs Engineering), Misty Klann and Michele Beggs (ADOT), and Kevin Davidson (Hualapai Indian Tribe). During the open house, a presentation was given followed by an opportunity for Q&A, comments and recommendations on areas for improvement. In total, 17 members of the community were in attendance.

A copy of the sign-in sheets can be found in Appendix A

Newspaper Advertisements and Announcements

A newspaper/newsletter advertisement providing the date and location of the public meeting was published in the following:

- Gamyu Newsletter published on July 18, August 1, August 15
- Kingman Daily Miner Newspaper (weeks of July 20 and August 17)

A copy of the advertisements can be found in Appendix B.

Presentation and Meeting Materials

A presentation was given at the open house and a comment form was provided to each attendee of the meeting.

A copy of the comment form can be found in Appendix C of this report.

Comment Summary

The following comments were made and noted during the public meeting forum and through written submissions:

Safety – Intersection Improvement: Option 1 Traffic Signal and Option 2 Roundabout

- Traffic signal
- Traffic light will be the only way to go
- I like Option #2 Roundabout. I would suggest creating more parking areas for lodge & GCW employees. Restaurant parking can get very congested during lunch time. Suggest to add a "Pick up" parking lot for take-out orders. Or 15 min. parking.

Public Meeting 2 Summary

- Option 2: Roundabout, less maintenance on traffic lights.
- I have a concern with the roundabout in so far as commercial vehicle traffic is concerned. They will impede truck and bus traffic in the downtown area. Additionally the locals will use other areas to get on Route 66 rather than drive the roundabout. People are lazy and will find easier ways to get around this area.
- I feel this roundabout is a good option to slow traffic in a high pedestrian area seems the most efficient option for the area and the amount of vehicle traffic.
- I think that Option 2 would be good for the traffic for Peach Springs
- Option 1 Traffic Signal
- Roundabout, maybe help with traffic and improve flow of cars
- Restrict parking on 66 near intersection (to hard to see when crossing/pulling on to 66)
- Parking area across street beside old gas station. No parking on street – can't see oncoming traffic. Make a roundabout
- Option 1 I like. Option 2 not good for the amount of traffic
- Option 1: Traffic Signal
- Traffic light
- Roundabout to slow down traffic
- If we have to pick one I would like #1 traffic signal - #2 is crazy! No no no no Dangerous!
- Option 1 – traffic signal good
- Option 1 would be a lot better vs the roundabout

Safety – Traffic Calming (Pavement Markings, Flashing Speed Sign, Rumble Strips, Double Chicane

- Rumble strips, great idea. Always late night travelers neither out of towners, locals coming from work late (GCW). As a personal view coming home from Grand Canyon West after work I've almost gone off the road a couple times being tired, always though the rumble strips would be a good idea around Peach Springs and Diamond Bar area.
- Highly visible working & good enough
- Flashing speed sign
- Rumble strips to alert driver inside vehicle. Place where needed.
- The rumble strips would be a good option prior to reaching the roundabout to get the attention of drivers.
- I think Double Chicane would be good for it.
- Flashing speed sign.
- Rumble strips so I can feel the rumble while driving
- Rumble strips – people ignore the rest!
- I like pavement markings & rumble strips
- Rumble strips will wake up drivers
- Pavement markings
- All of the above
- Yes to all of the above

Public Meeting 2 Summary

- Flashing speed sign or pavement markings
- Flashing speed sign would work wonders
- Flashing speed signs would be great

Safety – Railroad Crossing (Flashing Light Signal, Automatic Gates, Pedestrian Bridge, Quiet Zone)

- Option 1
- The flashing light signal, gates, and quiet zone would be a great addition to the RR crossings. As a previous resident you would have these concerns.
- Automatic gates
- I like #1 overpass bridge for both vehicles and people who are walking. Save \$\$\$\$
- Quiet zone needed at Peach Springs and Valentine. At times the train blows horn 12 times or more. Place automatic gates in Peach Springs, Valentine and to grave yard in Valentine.
- This is a public safety issue, however, no real opinion on this as it will take big \$ and neg. by all means to do
- #2 for overpass
- Quiet zone at night
- Option 4 would be the better option for pedestrian traffic. Elimination of train horn use, and emergency response to the community south of the tracks.
- Don't know
- Pedestrian Bridge, so I can walk over the train and look at the emptiness of Peach Springs, AZ.
- Pedestrian Bridge
- Quiet zone for both
- Pedestrian
- Bridge for traffic & pedestrians

Pedestrian, Bicycle, and Trail Facilities (Roadside Sidewalk, Offset Asphalt Shared-Use-Path, Unpaved Multi-Use Trail, Unpaved Multi-Use Trail with Amenities, Paved Multi-use Path)

- Roadside sidewalks, I do see a need, especially up Diamond Creek Rd. with children walking to and from school in crowds on the pavement you often see vehicles driving on the opposite side to avoid accidents causing grounds for potential danger.
- Stay on main roads only
- Looks good!
- Unpaved multi-use trail
- Paved multi-use path
- Just make a roadside sidewalk all the way to Truxton, and put roadside lights for the late night walkers.
- Need a safe sidewalk for kids walking through whole community!
- Bike path & trail for Buck & Doe & 66 Rd. Bike path & sidewalk for Diamond Creek
- Roadside sidewalk would be nice
- Sidewalks with amenities through Peach Springs AZ

Public Meeting 2 Summary

- Peach Springs to Buck N Doe Rd would be good
- Peach Springs to Buck N Doe Rd. for walk – great!
- I think the road needs to have a sidewalk from Peach Springs to Buck and Doe for safety of the people who exercise and the ones who ride bikes.

Transit Improvements (Recommended Transit Service)

- I don't know, don't ever go that way
- Continue putting gravel on road to GCW – Buck-N-Doe Road (look at implementing identified Short-Term services)
- Short term would be nice
- Short term to Kingman and local service within Peach Springs

Do you have any additional comments you wish to share with the project team?

- Roads to Kingman need to be worked on, also roads to Seligman need to be fixed.
- Sidewalks from 66 up Diamond Creek would help school students' safety. Right now they walk in the middle of the street.
- I like local service within Peach Springs. Set up a KART service for the local area. Transit to Kingman only. Also maybe to Truxton Gas & Grub.
- Roundabout needed at intersection to tribal office.
- Unpaved multi-use trail for Peach Springs to Buck & Doe.
- Having pedestrian facilities for community members and visitors would be great. Would be a positive for the tribe and could be good for tourism & revenue for the tribe as well.
- Don't know???
- Need more visual signs for the tourists
- Fix the bridge to Hackberry (66), make turning lanes at Tribal Office and at Roads dept. entrance. Turning lane at Hackberry General Store & Valentine.
- Make a road to GCW (paved).
- Turning lanes to Tribal Office, Roads Dept., Valentine, AZ, Hackberry Store. No parking on Rt. 66. Have to pull into middle of Rt. 66 to get on main road.
- NO PARKING Rt. 66 have to pullout in the middle of street to cross
- Peach Springs to Kingman, Peach Springs to Grand Canyon West, Peach Spring to Phoenix, Peach Springs to Laughlin
- We have many tribal members without transportation
- **From:** Nancy Echeverria [<mailto:Nancy.Echeverria@grandcanyonresort.com>]

Sent: Tuesday, September 09, 2014 3:27 PM

To: Kevin Davidson; Philip Wisely

Subject: Submittal of Comments regarding Safety-Railroad Crossing

Hello,

Public Meeting 2 Summary

Thank you for the opportunity to submit our thoughts on this important topic of Safety-Railroad Crossing at Diamond Creek Road in Peach Springs. I have been the GM of Hualapai Lodge for the past 9 years and support the Quiet Zone. We have numerous complaints daily regarding the noise of the train from our guests lodging at our property. If you go to our Trip Advisor page and look at the comments you will see that most people complain about the train noise. This effects our ability to sell out our hotel as we only have 22 rooms on road side and now that is what most people want; so we loose a lot of business due to train noise or loose the reservation entirely as they stay away due to the train noise.

I also feel that in providing the upgraded safety fittings that must go in for a quiet zone would also assist in keeping this area safe and draw more attention that the train crossing is there.

I appreciate the opportunity to support this important project for both the community and Hualapai Lodge.

Best Regards,

Nancy Echeverria

Property Manager, Hualapai Lodge

General Manager, Hualapai Tourism Reservation Center

900 Historic Route 66

Peach Springs, AZ 86434-0538

work-928 769 2344

fax-928 769 2331

Appendix A

Hualapai Tribe Long Range Transportation Plan			
Wednesday, August 20, 2014 • 4-6 P.M.			
Hualapai Gym • 930 Rodeo Way • Peach Springs, AZ 86434			
Completion of this sign-in sheet is completely voluntary and helps the project team keep an accurate record of meeting attendees. Under state law, any identifying information provided below will become part of the public record and, as such, must be released to any individual upon request. Please print clearly.			
NAME	ADDRESS	PHONE	EMAIL
Misty Klann	206 S. 17th Ave Phoenix, AZ	602-712-7029	mklann@azdot.gov
Arturo Montana	326 S N-Roosevelt St ^{Kingman AZ 86401}	928 308 5060	
Rick Powers	101 N 1st Ave	602-530-1662	
Vamshi Yellisetty	"	602-530-1603	Vamshi.yellisetty@jackson
Craig Roben	28 N 4th St. Kingman, AZ 86401	928-377-1070	Craig@wacog.com
Harper	403 Diamond Creek	928-769-9044	halbertg@PSUS08.ORG
Philbert Watahomigie Jr.	P.O. Box 179 Peach Springs, AZ 86434	928-769-2216	pwatahomigiejr@hualapai-nsn.gov
Karin Dauter	P.O. Box 179 Peach Springs AZ 86434	928-769-1310	Kelvink@hualapai-nsn.gov
Shannon Watahomigie	P.O. Box 506 Peach Springs, AZ 86434		
Frances E. Bradley, Jr	P.O. Box 179 Peach Springs, AZ	(928) 769-1021	FBradley@hualapai-nsn.gov
Richard Krett			richard.krett@hualapai-nsn.gov
Fredley Watahomigie	P.O. Box 694 Peach Springs, AZ 86434	928 769 1950	fwata@ymail.com
✓ Hualapai Housing ADOT Box Campus Subdivision (Anthony)			
FOR MORE INFORMATION: azdot.gov/Hualapai-Itm			

Public Meeting 2 Summary

Hualapai Tribe Long Range Transportation Plan

Wednesday, August 20, 2014 • 4-6 P.M.

Hualapai Gym • 930 Rodeo Way • Peach Springs, AZ 86434

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NAME	ADDRESS	PHONE	EMAIL
Misty Watahomigie	Box 158 Peach Springs, AZ 86434	928-853-0726	watahomigie.24@gmail.com
Billie Imus	POB 631 PS AZ 86434	928-755-462	billieimus@yahoo.com
Colleen Mahone	POB 601 Peach Springs, AZ	928-769-2216	Colleen V. H. Mahone@yahoo.com Colleen V. H. Mahone@yahoo.com



FOR MORE INFORMATION:

adot.gov/Hualapai.htm

Public Meeting 2 Summary

Hualapai Tribe Long Range Transportation Plan

Wednesday, August 20, 2014 • 4-6 P.M.

Hualapai Gym • 930 Rodeo Way • Peach Springs, AZ 86434

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NAME	ADDRESS	PHONE	EMAIL
Dion Walker	P.O. Box 601	(928) 606-0312	dionquintinwalker@yahoo.com
Lela Purvis	P.O. Box 625 P.S.AZ	(928) 769-2419 Y-HI	



FOR MORE INFORMATION:

adot.gov/hualapai-ltrp

Appendix B

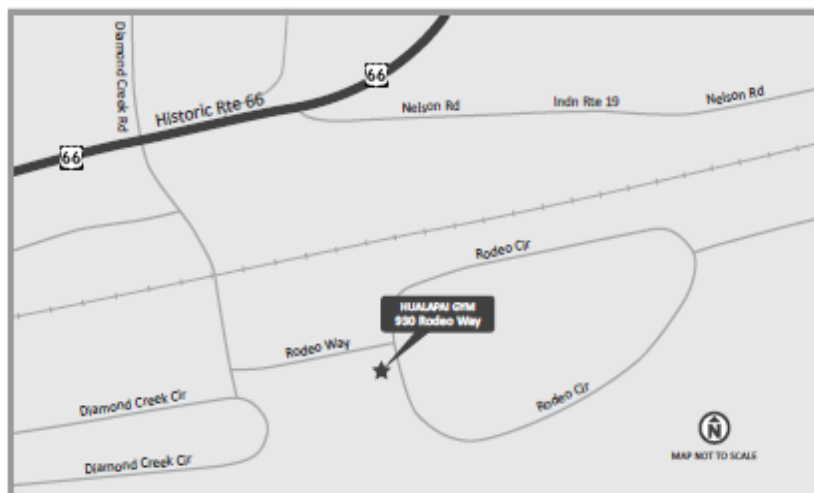
Please Join Us Hualapai Indian Tribe Public Meeting Long Range Transportation Plan

The Hualapai Indian Tribe in collaboration with the Arizona Department of Transportation (ADOT) is updating the Tribe's long range transportation plan funded through ADOT's Planning Assistance for Rural Areas (PARA) program. The plan will provide recommendations to improve automobile, bus, bicycle, equestrian, pedestrian, aviation and marine transportation for the next five, 10 and 20 years. Your knowledge and experience on the proposed recommended improvements for future transportation needs for the community is needed.

WE WANT TO HEAR FROM YOU

Join us on **Wednesday, August 20, 2014** from 4 to 6 p.m. at the second and final public meeting of this study to learn more about the recommended improvements and share your ideas on those recommendations for the Hualapai Indian Reservation community

Meeting Location
Hualapai Gym, 930 Rodeo Way, Peach Springs, AZ 86434



Persons that require a reasonable accommodation based on language or disability should contact ADOT at projects@azdot.gov or 855.712.8530. Requests should be made as early as possible to ensure the state has an opportunity to address the accommodation.



FOR MORE INFORMATION:
855.712.8530 or 928.769.2216
azdot.gov/hualapai-lrtp

34-423

Appendix C

Long Range Transportation Plan for the Hualapai Indian Tribe
Public Meeting Comment Form

YOUR INPUT IS REQUESTED

Your input will help us develop a better transportation improvement plan. Please review and complete each section. Feel free to utilize the last page to provide any additional comments.

SAFETY – INTERSECTION IMPROVEMENTS

State Route 66/Diamond Creek Road

Option 1: Traffic Signal

Advantages

- No additional right-of-way needed
- No learning curve for motorists
- Improves safety

Disadvantages

- Current traffic levels do not require a traffic signal
- High maintenance costs
- May not reduce speeding
- Minor loss of on-street parking

Option 2: Roundabout

Advantages

- Forces drivers to slow down on approach
- Improves safety
- Provides opportunities for landscaping
- Facilitates traffic calming

Disadvantages

- Additional right-of-way needed
- High implementation costs
- Loss of on-street parking

Comments: _____

ADOT JACOBS

Long Range Transportation Plan
for the Hualapai Indian Tribe

Long Range Transportation Plan for the Hualapai Indian Tribe
Public Meeting Comment Form

TRANSIT IMPROVEMENTS

Recommended Transit Service

Short-Term

- Peach Springs to Grand Canyon West
- Peach Springs to Kingman
- Peach Springs to Valentine
- Kingman to Grand Canyon West
- Local Service within Peach Springs

Mid-Term

- Peach Springs to Phoenix
- Peach Springs to Las Vegas
- Peach Springs to Laughlin
- Peach Springs to Flagstaff

Long-Term

- Install bus pullouts

Comments: _____

ADOT JACOBS

Long Range Transportation Plan
for the Hualapai Indian Tribe

Long Range Transportation Plan for the Hualapai Indian Tribe
Public Meeting Comment Form

Do you have additional comments?

ADOT JACOBS

Long Range Transportation Plan
for the Hualapai Indian Tribe

Long Range Transportation Plan for the Hualapai Indian Tribe
Public Meeting Comment Form

Please submit comment forms at the end of the meeting or mail/email forms by September 5, 2014 to:

Philip Wisely
 Hualapai Indian Tribe
 Email: pwisely@hualapai-nsn.gov
 Mail: P.O. Box 179, Peach Springs, AZ 86434

Misty Klann
 Arizona Department of Transportation
 Email: mklann@azdot.gov
 Mail: ADOT - Multimodal Planning Division
 205 South 13th Avenue, Phoenix, AZ 85007

ADOT JACOBS

Long Range Transportation Plan
for the Hualapai Indian Tribe

APPENDIX C.

STAKEHOLDER PHASE 1 SUMMARY REPORT





Date: February 12 & 13, 2014
Time: 9:00 AM - 4:00 PM
Location: Health, Education, and
Wellness Center
488 Hualapai Way
Peach Springs, Arizona

Stakeholder Meetings - Round 1

Meeting 1 & 2 Summary (Combined): Environmental Agencies & Non-Tribal Government Agencies (February 12th, 9:00 AM to 12:00 PM)

Attendees: See attached sign in sheet. Alex Cabillo, Shane Charley, Drake Havatone, Philip Bravo Jr, Michele Walker, Serena Nodman, Alvin Crook, Danny Powsey Sr, Philip Wisely, Kevin Davidson, Misty Klann, Rick Powers, Vamshi Yellisetty

Introductions:

Misty Klann asked the attendees to introduce themselves. Misty then provided a brief overview and purpose of the Study. Rick reviewed the study objectives, study process, expectations, and schedule. The meeting was then open for discussion.

Stakeholder Comments:

- **Railroad Crossings:** Overpass/underpass is needed at the Valentine railroad crossing. It could be located northeast of the current location. At a minimum, railroad crossing arms should be installed at all crossings within the reservation. The RR crossing to access the cemetery is a big safety concern, especially when there are funeral processions. Both crossings have experienced crashes and in some cases fatalities. Noise and safety is a concern at the railroad crossing along Diamond Creek Road. Access to the south side of Peach Springs is restricted when a train is stopped at the crossing for an extended period of time. Coordination with BNSF on a frequent basis is needed to address safety and noise issues along the railroad.
- **IR 18:** IR 18 needs major repairs. Complete reconstruction of some segments is preferred. Large sections of IR 18 have slope stability issues. Flooding is an issue at MP 1, 3 and 5.5. Fencing is needed on both sides along IR 18. Fencing should be to ADOT standards (taller) and not NRCS fencing standards. Wildlife signage should be considered where appropriate. Better signage is needed along the whole corridor. Elk Jump crossings should be installed along the route. Shoulders need to be improved. Better delineators and reflectors are needed on IR 18 for night travel. The pavement also needs restriping.
- **Route 66:** On Route 66, when guard rail is damaged, it should be repaired within two weeks. It seems to take months in some cases. Drainage issues on US 66 near the county line. Some flood events top the roadway. Hydroplaning occurs on US 66 near the Valentine area; roadway surface needs to be reshaped with adequate cross slope. Closures of I-40 result in traffic diverted through Peach Springs, along Route 66 resulting in increased traffic and safety concerns.
- **Transit:** Transit services are needed to Kingman and locally. Limited drivers are available for the existing medical transport service provided on an on-call basis. Sandra Irwin at the Health Center currently manages the 5310 program and funding. They have 2 vehicles from ADOT and other vehicles that are used for medical and shopping needs. The Tribe should consider hiring a full-time transit coordinator to manage and expand transit service operations to serve the tribal members. In the interim, the Tribe should identify a transit CHAMPION to push the transit related needs, funding, and grant applications. 5310 funds could be used to fund the transit manager position. If it is an operations position, a set of matching funds may be required from the Tribe.



Long Range Transportation Plan for the Hualapai Indian Tribe

- **Trails:** Pedestrians walking along Route 66 from the Milkweed and Buck and Doe areas towards Peach Springs is a concern. A trail system between these areas should be considered utilizing existing man-made trails as much as possible. Trail system could be modeled after the trail system in Laughlin. Standards should be developed for trails. Mountain bike trails in and around Peach Springs are needed. Healthy Heart, a local organization, is looking into bicycle routes. Equestrian trails should be developed to promote tourism.
- **IR 6:** Maintenance of IR 6 is a priority since it is the only access to the Colorado River and where the rafting tours begin. IR 6 should be considered for limited use by tourists. Last mile is a culturally sensitive area.
- **Other:**
 - Improvements are planned at the youth camp near the eastern boundary of the reservation.
 - Better signage is needed along major tribal roads.
 - Roundabout at the intersection of Route 66 and Diamond Creek road should be evaluated.
 - Concern of the short distance between the 15 mph school zone signs, they should be further apart.
 - Occasionally snow plowing of local roads and IR 18 is performed.
 - Work on Big Sandy Wash needs to be completed. Run-off from the hills causes flooding on some roads.
 - Not enough parking in the Peach Springs area.
 - Future roads planned in the Box Canyon subdivision could be added to the BIA inventory. Future parking lots could also be added to the BIA inventory.
 - During flooding, Truxton wash cuts off part of the community.
 - Cattle guard is too low on Nelson Rd at US 66.
 - The Hualapai Tribe's land boundary needs to be surveyed and documented.

Lunch Meeting at the Senior Center

(February 12th, 12:15 PM – 1:15 PM)

Attendees: Approximately 32 members and 5 project team members attended the lunch meeting.

Introductions:

Misty provided a brief overview and purpose of the Study. Rick led a question and answer session with the attendees. Below is a summary of comments. A large size map of the study area was posted in the dining area for residents to make comments. Kevin will pick up and mail the map to Jacobs in a week or two.

Stakeholder Comments:

- Most attendees said that transit service from Peach Springs to Kingman was very important for them and the community to access medical, shopping, entertainment, and other services.
- Regional transit service to Phoenix, Flagstaff, Las Vegas, Laughlin, Tucson, and other major areas would be beneficial.
- Local transit would also benefit community members especially the elderly.
- Question: Will the cost of these services be affordable? Response: It is difficult to assess cost of service at this stage. The rates are usually affordable. For example, San Carlos Apache Tribe's rates range from \$2.5 to \$14 per roundtrip based on the length of the trip.
- Members requested the ability to have access to specific destinations using transit that don't necessarily have to be tied into Kingman's KART system. Coordination with KART could limit options.
- Sidewalks and lighting is needed in the local Peach Springs area.



Long Range Transportation Plan for the Hualapai Indian Tribe

- Vegetation along roadways needs to be cleared for safety especially at intersections. Stakeholders commented that IR 18/Route 66 intersection often has vegetation overgrowth causing visibility/sight distance issues.
- Railroad overpass has to be built in Valentine along the crossing.
- Intersection at the Lodge in Peach Springs is unsafe.
- Culverts in the proximity of existing homes should be repaired and driveways need repair also. Flooding from the hills is an issue also.

Meeting 3 Summary: Education and Youth Agencies

(February 12th, 1:30 PM – 3:00 PM)

Attendees: Pete Imus, Jean Imus, Kevin Davidson, Misty Klann, Rick Powers, Vamshi Yellisetty

Introductions:

Misty and Rick provided a brief overview and purpose of the Study. The meeting was then open for discussion.

Stakeholder Comments:

- Sidewalks in the community will encourage kids to walk to/from schools.
- Crosswalks at the Route 66/Diamond Creek Road intersection will improve safety for pedestrians.
- Railroad crossings are an issue. Overpass/underpass should be constructed at all crossings.
- Kids go to either Kingman or Seligman for High School.
- Seligman High School bus only goes up to the Caverns to pick up kids. Family members have to drop kids off at the Caverns to board the bus to school.
- Flooding often cuts-off parts of the community in Peach Springs.
- Kids from Milkweed and Buck and Doe areas use the pathways behind the homes to access school.
- Street name signs are needed throughout the reservation.
- Significant number of tribal members travel to Kingman for employment.
- Grand Canyon West (GCW) has buses that pick up employees from Kingman and the Lodge at Peach Springs. These buses are often full and employees arrive early at the stop to get a seat on the bus. Buses break down frequently.
- One member suggested paving only the mostly utilized roads.
- Dust and air quality is an issue on tribal roads and primarily on Buck and Doe Road.
- Transit service is needed from Peach Springs to Kingman Hospital. Several dialysis patients go to Kingman. 5310 funds managed by Sandra Irwin's group are utilized to transport patients to the Kingman Hospital.

Meeting 4 Summary: Health Board

(February 12th, 3:00 PM – 4:00 PM)

Attendees: Sandra Irwin, Mary Whatorame, Doris Butler, Drake Havatone, Philip Wisely, Kevin Davidson, Misty Klann, Rick Powers, Vamshi Yellisetty

Introductions:

Misty and Rick provided a brief overview and purpose of the Study. The meeting was then open for discussion.



Stakeholder Comments:

- Public transportation is needed from Peach Springs to Kingman to access stores, hospital, shopping, and other basic needs.
- Coordinate with Havasupai Tribe to discuss shared transit options. Regional transit coordination should include Kingman and Havasupai Tribe.
- Walking paths are needed in the Peach Springs area.
- Transit services are needed so parents can attend extracurricular activities of their children.
- There is a need for sidewalks in the local area, several students walk to school.
- Walking and bike trails would also be a benefit to the community. The Healthy Heart group is promoting exercise and trails would help.
- A roundabout at Route 66 and Diamond Creek Road should be evaluated to help slow down vehicles.
- Access to the ball fields is an issue, so most school sporting events are conducted and attended in the Kingman area.
- Tribal members use IR 18 - IR 17 (Youth Camp Road) to attend special events at the youth camp. This road is muddy and hard to travel especially during flooding events. The youth camp is scheduled for expansion that could result in more traffic.
- Lighting on Buck and Doe Road is important because it is dangerous for pedestrians to walk along the road at night. There was a night-time fatality last year.
- Lighting is needed on BIA Lane.
- Speed bumps or other means of traffic calming is needed on Buck and Doe by Music Mountain School.
- Cattle guard at Buck and Doe seems very slick when wet.
- Speed bumps are needed on Nelson Road to slow down traffic.
- Paving Antares Road and using that as the primary way to access GCW from Peach Springs would be a preferred option compared to Buck and Doe Road.
- Health Center vans accommodate 5 people and are wheel chair accessible. Dialysis patients are picked up at their houses and transported to Kingman. Service provided 3 days per week and twice per day. Non-medical users are charged \$10 per roundtrip. A total of 5 vehicles are available, one new and four old vehicles. Other departments also load vehicles to the Health Center in case of emergencies. The Center sometimes provides local service also. Service to Phoenix is provided twice a week. Service to Las Vegas is provided two to three times a week. Service to Tuba City (to access specialized medical services at IHS facilities) is provided twice a month or more if needed.
- Sandra Irwin provided ridership summary reports to the Project Team (See Appendix E).

Meeting 5 Summary: Tourism and Economic Development

(February 13th, 9:00 AM – 10:30 AM)

Attendees: Rory Majenty, Monty Dalton, Travissia Tapija, Isabihel Pacheco, Gerald Powsey, Skyler Tartsah, Peter Bungart, Kevin Davidson, Misty Klann, Rick Powers, Vamshi Yellisetty

Introductions:

Misty introduced the study and asked to participants to introduce themselves. Rick reviewed the study process and schedule. The meeting was then open for discussion.

Stakeholder Comments:

- IR 18 has really bad pavement conditions, no shoulders, and not enough signage
- Uneven road condition on Route 66 at Milepost 95 and in the vicinity of the bridge causes a severe bump.



- Tourist maps would benefit visitors since GPS/Online mapping systems such as Google Maps and Bing Maps are inaccurate especially with respect to driving directions. Adding information about attractions, road restrictions would be beneficial. Members expressed concern about showing all the Hualapai roads on a map. Showing only roads that are accessible to the general public is preferable to preserve cultural resources along minor roadways. At a minimum, IR 10, 11, 23, 67, 68, 3 and 15 should not be displayed on maps. Philip and Rory should work together to identify which roads should not be displayed on maps.
- IR 59 provides access to the sewage pond for GCW.
- GCW employs approximately 550 employees; 400 at Grand Canyon West; 100 at Skywalk; and 50 in Peach Springs.
- Grand Canyon West roads should be kept separate and not included in the inventory since they are not public roads and GCW can take on the maintenance of those roads.
- GCW operates two shuttle buses, each carrying 60 passengers each way daily. The service is so popular that people must arrive early to obtain a seat on the bus. If people miss the bus they also miss work for the day if they cannot find alternate transportation.
- Approximately 800,000 visitors come to GCW each year and this is a major economic operation for the Hualapai Tribe.
- Large signs on US 93 direct visitors to GCW but tourists still miss the turnoff to GCW.
- The GCW master plan study is also underway.
- Trails and bike paths are needed between Milkweed and Peach Springs.
- Railroad crossing at Valentine is hazardous. The crossing experiences 80 trains a day. Tribe should consult with BNSF about possibly rerouting the train tracks south of the reservation.
- Paving Antares Road and using that as the primary way to access GCW from Peach Springs would be a preferred option compared to Buck and Doe Road. Paving Buck and Doe Road would be extremely expensive and may not be financially feasible. This would also keep tourist traffic away from culturally sensitive roadways on the reservation.
- Flooding is an issue on Nelson Road by the limestone area.

Meeting 6 Summary: Health and Emergency Services

(February 13th, 10:30 AM – 12:00 PM)

Attendees: Duane Clarke and Coby Covington representing Ronald Quasula Sr, Tricia Hunter, Kevin Davidson, Misty Klann, Rick Powers, Vamshi Yellisetty

Introductions:

Misty and Rick provided a brief overview and purpose of the Study. The meeting was then open for discussion.

Stakeholder Comments:

- Transit services are greatly needed in the community. About 17% of patients miss appointments due to the lack of transportation.
- Patients are refusing to be taken by ambulance to Kingman for emergency services because they do not have transportation back home. On an average, 20 patients are transferred to Kingman Hospital and about 5 of them refuse to go for treatment because of lack of transportation to get back.
- The Peach Springs Indian Health Center gets about 85 patients each day. The Center has 5 doctors and 6 nurses.
- Some patients walk to their appointments, so sidewalks would be helpful.



Long Range Transportation Plan for the Hualapai Indian Tribe

- Walking and bike paths would be beneficial.
- Speeding is a concern on Route 66 road through Peach Springs.
- Heavy train traffic can cause problems at the intersection of roads and at crossings. Overpass / underpass is needed at the railroad crossings in Peach Springs and Valentine. Emergency response to the other side of the track is delayed if the train blocks/stops at the crossing.
- There was a fatality on IR 18 about a year ago at MP 18.
8 of 10 crashes on IR 18 are animal related. Fencing is needed along the entire stretch of roadway.
- Most of the emergency calls are related to Route 66, IR 18, Buck and Doe, and IR 6 (Diamond Creek Road).
- Intersection improvements (left turn lanes, reduced speed signs, etc) at US 66/Hualapai Way and Route 66/Diamond Creek Road are needed. Police department was unsure how well a roundabout at Route 66/Diamond Creek Road would work in case of emergencies. They did agree that the traffic will definitely slow down.
- Peach Springs built a dialyses center but was unable to staff so patients must travel to Kingman for service.
- A new EMS/fire station is planned on Buck and Doe and at GCW.
- Paving Antares Road and using that as the primary way to access GCW from Peach Springs would be a preferred option compared to Buck and Doe Road.
- There are a lot of elk and animal related crashes on IR 18. More signage is required.
- IR 18 is the only roadway on the Tribe that does not require a permit to drive on the Tribal road.

Meeting 7 Summary: Tribal Public Service Agencies

(February 12th, 1:30 – 2:30 pm)

Attendees: Michelle Zephier, Leo Watahomigie, Olin Beecher, Nuce Marshall, Stanley Dashee, Joseph T Ramo, Kevin Davidson, Misty Klann, Rick Powers, Vamshi Yellisetty

Introductions:

Misty introduced the study and asked to participants to introduce themselves. R Rick reviewed the study process and schedule. The meeting was then open for discussion.

Stakeholder Comments:

- IR 18, Route 66, Buck and Doe Road, and Antares Road are the primary roads used by tribal members.
- Diamond Creek Road can be maintained for the first 18 miles. The last mile is prone to flooding and hard to maintain.
- IR 18 needs delineators and reflectors for safe night travel.
- IR 18 could be a good candidate to apply for TIGER grant since that road is shared between two reservations and is the only way to access to Havasupai from Hualapai.
- Paving Antares Road and using that as the primary way to access GCW from Peach Springs would be a preferred option compared to Buck and Doe Road. Only minor improvements to Buck and Doe should be made. Continue blading the minor roads; no major improvements are needed.
- GPS/Online mapping systems often steer drivers along the wrong roads.
- Trails between Milkweed and Peach Springs would be beneficial.
- There is definitely a need for transit but the feasibility to maintain it in the future is questionable.
- The railroad overpass on Diamond Creek road is really needed for the community.



Long Range Transportation Plan for the Hualapai Indian Tribe

- Trucks speed along US 66.
- Street lighting is needed on Buck and Doe Road, road to the detention center, and other major roads the Peach Springs area. Tribal office areas would also benefit from lighting.
- There was mixed opinion on the use of a round-about at US 66 and Diamond Creek road.
- IR 18 MP 13-15 has sub grade problems and needs reconstructed.



SIGN IN SHEETS



Date: February 12, 2014
Time: 9:00 AM - 10:30 AM
Location: Health, Education and Wellness Center

Stakeholder Meeting 1: Sign-in Sheet

Name / Title	Title	Organization	Email	Phone	Initial
Loretta Jackson-Kelly	Director	Hualapai Department of Cultural Resources	lorjac@frontiernet.net	928-769-2223	
Dawn Hubbs	Program Manager/Anthropologist	Hualapai Department of Cultural Resources	dawn.hubbs101@gmail.com	928-769-2223	
Donald Bay	Director	Hualapai Department of Natural Resources	donbay@citilink.net	928-769-2254	
Alex Cabillo	Water Resources Manager	Hualapai Department of Natural Resources	acabillo@hotmail.com	928-769-2254	
Scott Crozier	Director	Game & Fish	sscrozier2001@yahoo.com	928-225-5073	
John Reid	Environmental Protection Specialist	Bureau of Land Management	jreid@blm.gov	928-718-3735	
Winkie Crooks		Hualapai Wildlife Mgmt Dept	w_crook@yahoo.com	928-769-2254	
Teresa Honga	District Coordinator	Soil & Water Conservation	hongas@msn.com	928-716-2367	



Long Range Transportation Plan for the Hualapai Indian Tribe

Name / Title	Title	Organization	Email	Phone	Initial
Misty Klann	Transportation Planner and Tribal Liaison	ADOT - MPD	mklann@azdot.gov	602-712-7029	MK
Philip Wisely	Public Services Director	Hualapai Indian Tribe	pwisely@hualapai-nsn.gov	928-769-2216	Ph
Kevin Davidson	Planning Director	Hualapai Indian Tribe	kdavidson@hualapai-nsn.gov	928-769-1310	KD
Toni Staffaroni	Community Relations Project Manager	ADOT Communications	astaffaroni@azdot.gov	602-245-4051	
Rick Powers	Project Manager	Jacobs	Rick.Powers@jacobs.com	602-530-1662	✓
Vamshi Yellisetty	Sr. Transportation Planner	Jacobs	Vamshi.Yellisetty@jacobs.com	602-530-1603	✓
Shane Charley	Program Director	Elderly Services	shane_charley@yahoo.com	928 769-2375	SC
Drake Hawatone	Tech II	Hualapai Cultural Resources		928 769 2234	DB
PHILIP BRAVO JR	RANCHER		philipbravo@yahoo.com	928 769 2241	PB



Long Range Transportation Plan for the Hualapai Indian Tribe

Name / Title	Title	Organization	Email	Phone	Initial
Michele Walker	WACOG Mobility Manager	WACOG	michele.walker@wacog.com	928-753-1374	MW
Serena Norman					
Rep for HEW/Sandra Irwin	^{HEW} HEW - Transp	HEW	SandraIrwin@hualapai.org	928/769-2207	SI
Alvin Crank	Water Resources Assistant Manager	HDNR	ACrank87co@yahoo.com	928/769/2954	AC
Danny Powsey Sr	Water & Air tech II	HDNR	PowseySr@yahoo.com	928-769-2254	DP



Long Range Transportation Plan for the Hualapai Indian Tribe

Date: February 12, 2014
Time: 10:30 AM - 12:00 PM
Location: Health, Education and Wellness Center

Stakeholder Meeting 2: Sign-in Sheet

Name / Title	Title	Organization	Email	Phone	Initial
Bob Maxwell	Regional Roads Planner	BIA Western Regional Office, BIA Division of Transportation	bob.maxwell@bia.gov	602-379-6782	
James E. Williams	Superintendent	Bureau of Indian Affairs - Truxton Canyon Agency	James.Williams@bia.gov	928-769-2286	
Richard Robinson	Civil Engineer	Mohave County	richard.robinson@mohavecounty. us	928-757-0910	
Kara Lavertue	Development TES	ADOT Kingman District Office	klavertue@azdot.gov	928-681-6023	
John Dalby		ADOT Flagstaff District Office	jdalby@azdot.gov	928-779-7553	
Michele Walker	Mobility Manager	WACOG Transit	michelew@wacog.com	928-753-1374	
Sheri Furr	Transit Coordinator	Kingman Transit - KART	sfurr@cityofkingman.gov	928-681-7433	
Melvin Thomas	Manager Public Projects	BNSF Railway	melvin.thomas@bnsf.com	(909) 386-4472	



Long Range Transportation Plan for the Hualapai Indian Tribe

Name / Title	Title	Organization	Email	Phone	Initial
Rex Tilousi	Tribal Chairman	Havasupai Tribe	htchair@havasupai-nsn.gov	928 448 2731	
Misty Klann	Transportation Planner and Tribal Liaison	ADOT - MPD	mklann@azdot.gov	602-712-7029	✓
Philip Wisely	Public Services Director	Hualapai Indian Tribe	pwisely@hualapai-nsn.gov	928-769-2216	✓
Kevin Davidson	Planning Director	Hualapai Indian Tribe	kdauidson@hualapai-nsn.gov	928-769-1310	✓
Toni Staffaroni	Community Relations Project Manager	ADOT Communications	astaffaroni@azdot.gov	602-245-4051	
Rick Powers	Project Manager	Jacobs	Rick.Powers@jacobs.com	602-530-1662	✓
Vamshi Yellisetty	Sr. Transportation Planner	Jacobs	Vamshi.Yellisetty@jacobs.com	602-530-1603	✓



Long Range Transportation Plan for the Hualapai Indian Tribe

Date: February 12, 2014
Time: 1:30 PM - 3:00 PM
Location: Health, Education and Wellness Center

Stakeholder Meeting 3: Sign-in Sheet

Name / Title	Title	Organization	Email	Phone	Initial
Lucille Watahomigie	Director	Department of Hualapai Education and Training	Lwatahomigie@hualapai-nsn.gov	928-769-2200	
Anthony Perkins	Superintendent/Principal	Peach Springs Unified School District / Peach Springs Elementary	perkinsa@psusd8.org	928-769-2202	
Sheila Halbart	Director	Hualapai Head Start Program	headstrt@frontiernet.net	928-769-2244	
Jolene Decker	Branch Director	Boys & Girls Club	jdecker@bcgs.org	928-769-1801	
Lucille Watahomigie	Director	Department of Hualapai Education and Training	Lwatahomigie@hualapai-nsn.gov	928-769-2200	
Anthony Perkins	Superintendent/Principal	Peach Springs Unified School District / Peach Springs Elementary	perkinsa@psusd8.org	928-769-2202	
Sheila Halbart	Director	Hualapai Head Start Program	headstrt@frontiernet.net	928-769-2244	
Misty Klann	Transportation Planner and Tribal Liaison	ADOT - MPD	mklann@azdot.gov	602-712-7029	✓

Gary Halbart Transportation



Long Range Transportation Plan for the Hualapai Indian Tribe

Name / Title	Title	Organization	Email	Phone	Initial
Philip Wisely	Public Services Director	Hualapai Indian Tribe	pwisely@hualapai-nsn.gov	928-769-2216	✓
Kevin Davidson	Planning Director	Hualapai Indian Tribe	kdavidson@hualapai-nsn.gov	928-769-1310	✓
Toni Staffaroni	Community Relations Project Manager	ADOT Communications	astaffaroni@azdot.gov	602-245-4051	
Rick Powers	Project Manager	Jacobs	Rick.Powers@jacobs.com	602-530-1662	✓
Vamshi Yellisetty	Sr. Transportation Planner	Jacobs	Vamshi.Yellisetty@jacobs.com	602-530-1603	✓
Pete Imus	Youth Services Coordinator	Youth Services	pete.imus@gmail.com	928-769-2207	pi
Drake Havatone	TECH II	Waiapai Cultural Re- source		928-769-2234	DB
Jean Imus	WIA Coordinator	Edu & Trngctr	hualwia@yahoo.com	928-769-2200	jme



Long Range Transportation Plan for the Hualapai Indian Tribe

Date: February 12, 2014
Time: 3:00 PM - 4:00 PM
Location: Health, Education and Wellness Center

Stakeholder Meeting 4: Sign-in Sheet

Name / Title	Title	Organization	Email	Phone	Initial
Sandra Irwin	Director	Health Education & Wellness Center	hualapai.hew@gmail.com	928-769-2207	
<i>Sandra Irwin</i>					
Misty Klann	Transportation Planner and Tribal Liaison	ADOT - MPD	mklann@azdot.gov	602-712-7029	✓
Philip Wisely	Public Services Director	Hualapai Indian Tribe	pwisely@hualapai-nsn.gov	928-769-2216	
Kevin Davidson	Planning Director	Hualapai Indian Tribe	kdavidson@hualapai-nsn.gov	928-769-1310	✓
Toni Staffaroni	Community Relations Project Manager	ADOT Communications	astaffaroni@azdot.gov	602-245-4051	
Rick Powers	Project Manager	Jacobs	Rick.Powers@jacobs.com	602-530-1662	✓
Vamshi Yellisetty	Sr. Transportation Planner	Jacobs	Vamshi.Yellisetty@jacobs.com	602-530-1603	✓
<i>Gary Whelaname</i>	<i>Driver</i>	<i>Hualapai Indian Tribe Transportation Dept.</i>			



Long Range Transportation Plan for the Hualapai Indian Tribe

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Long Range Transportation Plan for the Hualapai Indian Tribe

Date: February 13, 2014
Time: 9:00 AM - 10:30 AM
Location: Health, Education and Wellness Center

Stakeholder Meeting 5: Sign-in Sheet

Name / Title	Title	Organization	Email	Phone	Initial
Jennifer Turner	Chief Executive Officer	Grand Canyon Resort Corporation	Jennifer.Turner@grandcanyonresort.com	928-769-2419	
Ruby Steele	General Manager	Grand Canyon Resort Corporation	rubysteele@grancanyonresort.com	928-769-2627, Ext 214	
Rory Majenty	Project Manager	Grand Canyon Resort Corporation	rorymajenty@grandcanyonresort.com	928-769-2419	RM
Debra Wilkerson	GCW General Manager	Grand Canyon West		928-769-2419	
Earlene Havatone	General Manager	Hualapai River Running	Earlene.Havatone@grandcanyonresort.com	928-769-2266	
Misty Klann	Transportation Planner and Tribal Liaison	ADOT - MPD	mklann@azdot.gov	602-712-7029	ME
Philip Wisely	Public Services Director	Hualapai Indian Tribe	pwisely@hualapai-nsn.gov	928-769-2216	✓
Kevin Davidson	Planning Director	Hualapai Indian Tribe	kdauidson@hualapai-nsn.gov	928-769-1310	KD ✓



Long Range Transportation Plan for the Hualapai Indian Tribe

Name / Title	Title	Organization	Email	Phone	Initial
Toni Staffaroni	Community Relations Project Manager	ADOT Communications	astaffaroni@azdot.gov	602-245-4051	
Rick Powers	Project Manager	Jacobs	Rick.Powers@jacobs.com	602-530-1662	
Vamshi Yellisetty	Sr. Transportation Planner	Jacobs	Vamshi.Yellisetty@jacobs.com	602-530-1603	✓
Monty Deltor	Laborer Public Works	Hualapai Indian Tribe			MD
Travissia Tapija	Laborer Public work	Hualapai Tribe			TT
Gabriel Pacheco	P.W. labor solid waste	Hualapai tribe			
Gerald Powsey	Driver	Hualapai Tribe			GP
Skyler Tartsah	laborer public works	Hualapai Tribe			
Peter Bungart	Archaeologist	Hualapai Cultural Resources Dept.	pbungart@circaculture.com	769-2223	pb



Long Range Transportation Plan for the Hualapai Indian Tribe

Date: February 13, 2014
Time: 10:30 AM - 12:00 PM
Location: Health, Education and Wellness Center

Stakeholder Meeting 6: Sign-in Sheet

Name / Title	Title	Organization	Email	Phone	Initial
Francis Bradley Sr	Chief of Police	Hualapai Nation Police Department	ppolice@hualapai-nsn.gov	928-769-1024	
Ronald Quasula Sr <i>Diane ? copy for</i> ↗	Director/Fire Chief	Hualapai Emergency Medical Services	nativefie1@yahoo.com	928-769-2656	<i>DC</i>
Carmen Cosme	Clinical Director	Peach Springs Indian Health Services	carmen.cosme@ihs.gov	928-769-2900	<i>CC</i> <i>Cosme</i>
Tricia Hunter	Health Systems Specialist	Peach Springs Indian Health Services	tricia.hunter@ihs.gov	928-769-2900	<i>Parker</i>
Misty Klann	Transportation Planner and Tribal Liaison	ADOT - MPD	mklann@azdot.gov	602-712-7029	✓
Philip Wisely	Public Services Director	Hualapai Indian Tribe	pwisely@hualapai-nsn.gov	928-769-2216	
Kevin Davidson	Planning Director	Hualapai Indian Tribe	kdavidson@hualapai-nsn.gov	928-769-1310	✓
Toni Staffaroni	Community Relations Project Manager	ADOT Communications	astaffaroni@azdot.gov	602-245-4051	



Long Range Transportation Plan for the Hualapai Indian Tribe

Name / Title	Title	Organization	Email	Phone	Initial
Rick Powers	Project Manager	Jacobs	Rick.Powers@jacobs.com	602-530-1662	✓
Vamshi Yellisetty	Sr. Transportation Planner	Jacobs	Vamshi.Yellisetty@jacobs.com	602-530-1603	✓
Coby Covington	EMS Program Manager	Hualapai Nation Emergency Services	ems1hnes@gmail.com	928-769-2656	CC
DUANÉ CLARKE	Emergency Services	HUALAPAI NATION DEPT. OF Emergency Services	azdaugacole@gmail.com azdaug	928 769 2656	DC



Long Range Transportation Plan for the Hualapai Indian Tribe

Date: February 13, 2014
Time: 1:30 PM - 3:00 PM
Location: Health, Education and Wellness Center

Stakeholder Meeting 7: Sign-in Sheet

Name / Title	Title	Organization	Email	Phone	Initial
Michelle Zephier	Planner I	Hualapai Planning and Economic Department	mzephier@hualapai-nsn.gov	928-769-1310	MZ
Flora Hunter	Tribal Grant Writer	Hualapai Planning and Economic Department	flora02@frontiernet.net	928-769-1310	
Darwin honga	Roads Manager	Hualapai Public Services Department	dhonga@hualapai-nsn.gov	928-769-2216	
Dennis Juan	Public Works Manager	Hualapai Public Services Department	djuan@hualapai-nsn.gov	928-769-2216	
Sheri YellowHawk	Director	Hualapai Housing	syellowhawk@hualapai-nsn.gov	928-769-2274	
Clara Mahone	Program Manager	Tribal Enrollment	Cmahone@hualapai-nsn.gov	928-769-2216, Ext 110	
Everette Manakaja Jr	Director	Tribal Employment Rights Ordinance (TERO)	emanakaja@hualapai-nsn.gov	928-769-2216	
Misty Klann	Transportation Planner and Tribal Liaison	ADOT - MPD	mklann@azdot.gov	602-712-7029	MK



Long Range Transportation Plan for the Hualapai Indian Tribe

Philip Wisely	Public Services Director	Hualapai Indian Tribe	pwisely@hualapai-nsn.gov	928-769-2216	
Kevin Davidson	Planning Director	Hualapai Indian Tribe	kdavidson@hualapai-nsn.gov	928-769-1310	KD
Toni Staffaroni	Community Relations Project Manager	ADOT Communications	astaffaroni@azdot.gov	602-245-4051	
Rick Powers	Project Manager	Jacobs	Rick.Powers@jacobs.com	602-530-1662	✓
Vamshi Yellisetty	Sr. Transportation Planner	Jacobs	Vamshi.Yellisetty@jacobs.com	602-530-1603	✓
Leo Watahomigie	public works	milton Hoaglen	public works		
Olin Beecher	PUBLIC WORKS				
Nice Marshall	Public works				
STANLEY DASHEE	Public Works				
Joseph T Remo	Public Works		Jremo@hualapai-nsn.gov	928-769-6169	



STAKEHOLDER QUESTIONNAIRE

STAKEHOLDER QUESTIONNAIRE

Long Range Transportation Plan for the Hualapai Indian Tribe



NAME (OPTIONAL): _____

COMPANY/AGENCY: _____

Please identify transportation issues, challenges, and needs in the Hualapai Indian Reservation. Also identify future growth areas. If necessary, please use the map on the back page to highlight areas you feel need improvement.

Criteria	Existing Issues/Deficiencies	Future Needs
Safety and Infrastructure Concerns Examples: High accident locations; unsafe roadways and intersections; unsafe speed locations; sight distance issues; drainage; signage and lighting; poor pavement conditions; bridges/culverts conditions; unpaved roadways; emergency response time; narrow lanes; striping; steep grades		
Congestion and Mobility Conditions Examples: Congested roads and intersections; times of congestion; heavy truck traffic; internal roadways circulation; regional travel options; connectivity between modes; roadway continuity		
Pedestrian, Bicycle, Transit, Trails Examples: Pedestrian crossings; sidewalks; pedestrian sidewalks on bridges; bicycle lanes/paths; trails; signage; public transit options; transit routes; bus stops/pullouts		
Future Developments and Transportation Impacts Examples: Planned residential, commercial, and industrial growth areas; community's vision for growth; impacts of growth on transportation system		
Coordination and Partnership Opportunities Examples: Coordination/partnering with adjacent jurisdictions and agencies such as Mohave County, KART, Coconino County, Havasupai Tribe, etc		

Additional Comments

Please submit comment forms to the project team at the end of the meeting or mail/email forms by **Wednesday, February 27, 2014** to:

Philip Wisely,

Hualapai Indian Tribe

Mail: P.O. Box 179; Peach Springs, AZ 86434

Phone: (928) 769-2216

Email: pwisely@hualapai-nsn.gov

- O R -

Misty Klann,

Arizona Department of Transportation

Mail: ADOT - Multimodal Planning Division,
206 South 17th Avenue, MD 310B, Phoenix, AZ 85007

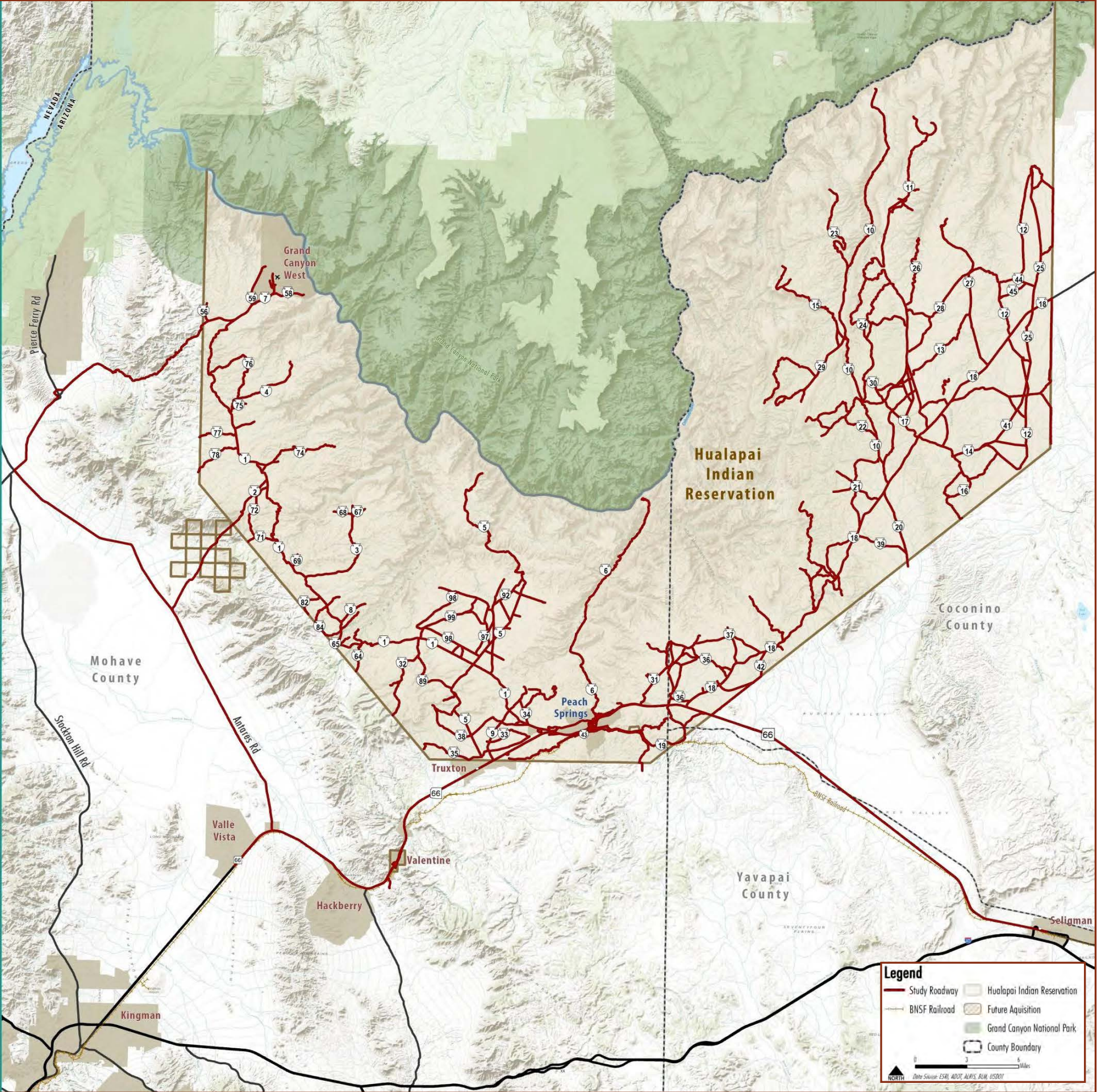
Phone: (602) 712-7029

Email: mklann@azdot.gov

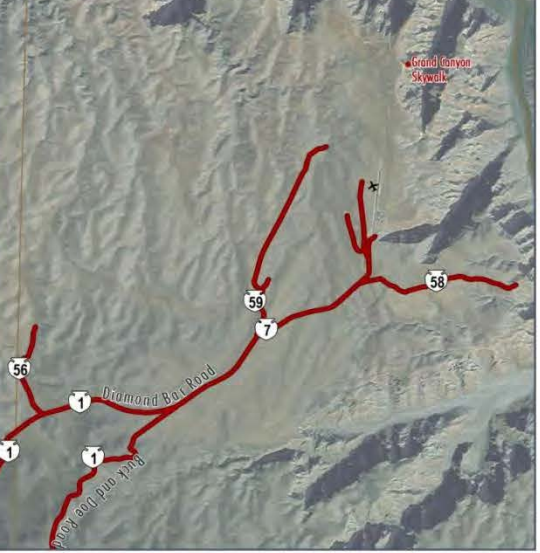
More information can be found by visiting: <http://www.azdot.gov/hualapai-LRTP>

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Study Area



Grand Canyon West



Valentine



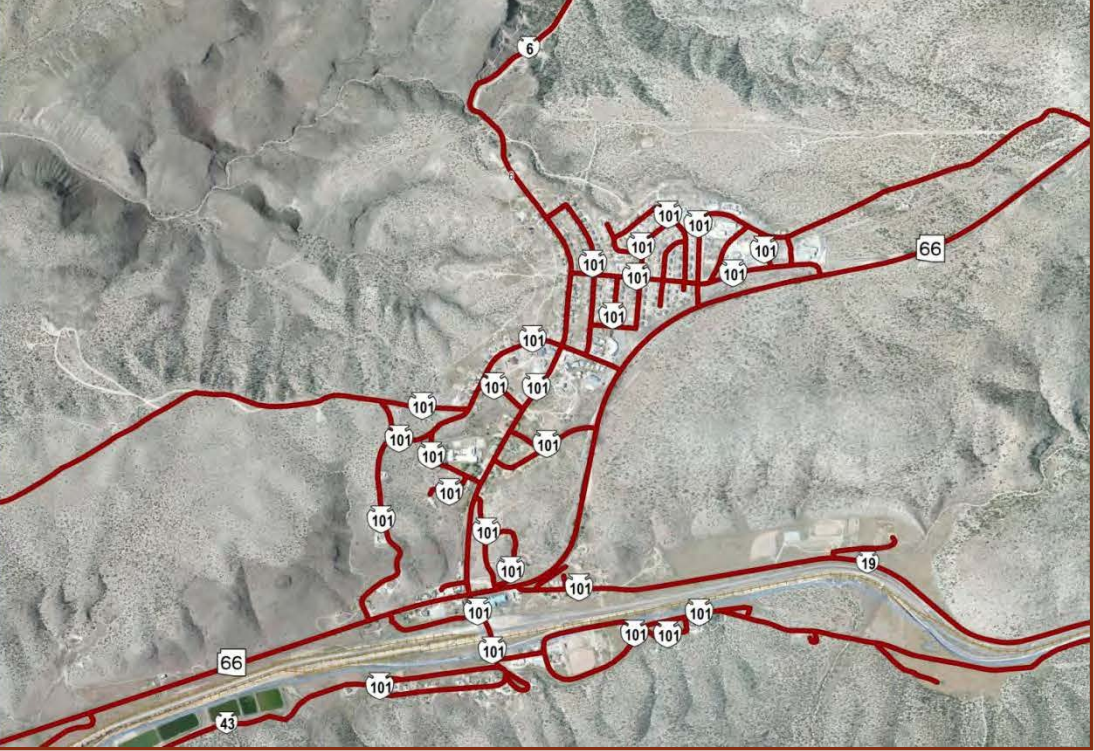
Big Sandy Allotments



Cholla Canyon Ranch



Peach Springs





STAKEHOLDER QUESTIONNAIRE RESPONSES

STAKEHOLDER QUESTIONNAIRE

Long Range Transportation Plan for the Hualapai Indian Tribe



NAME (OPTIONAL): _____

COMPANY/AGENCY: Natural Resources

Please identify transportation issues, challenges, and needs in the Hualapai Indian Reservation. Also identify any areas of cultural, environmental, and natural resources concerns. If necessary, please use the map on the back page to highlight areas you feel need improvement.

Criteria	Existing Issues/Deficiencies	Future Needs
Safety and Infrastructure Concerns Examples: High accident locations; unsafe roadways and intersections; unsafe speed locations; sight distance issues; drainage; signage and lighting; poor pavement conditions; bridges/culverts conditions; unpaved roadways; emergency response time; narrow lanes; striping; steep grades	<i>Rail road crossing on Diamond Creek Road.</i>	<i>over pass / under pass</i>
Congestion and Mobility Conditions Examples: Congested roads and intersections; times of congestion; heavy truck traffic; internal roadways circulation; regional travel options; connectivity between modes; roadway continuity		
Pedestrian, Bicycle, Transit, Trails Examples: Pedestrian crossings; sidewalks; pedestrian sidewalks on bridges; bicycle lanes/paths; trails; signage; public transit options; transit routes; bus stops/pullouts	<i>Pedestrian travel</i>	
Cultural, Environmental, and Natural Conditions Examples: areas of cultural significance; endangered species; roadways that experience high vehicular collisions with wildlife		
Planned Improvements, Coordination, and Partnership Opportunities Examples: impact of new roadways and future growth on environment; need for partnership and coordination		

Additional Comments

Please submit comment forms to the project team at the end of the meeting or mail/email forms by **Wednesday, February 27, 2014** to:

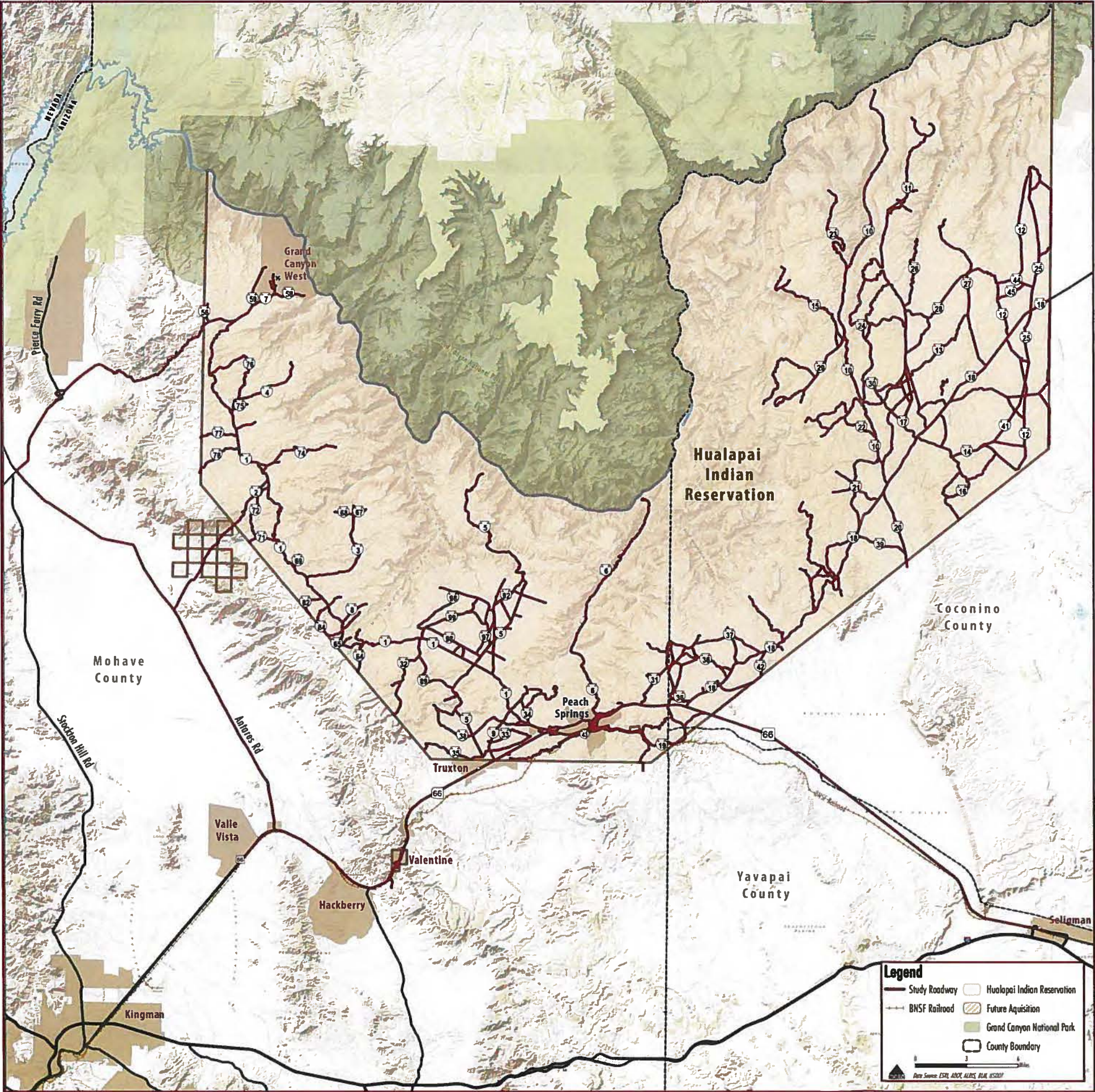
Philip Wisely,
Hualapai Indian Tribe
Mail: P.O. Box 179; Peach Springs, AZ 86434
Phone: (928) 769-2216
Email: pwisely@hualapai-nsn.gov

- O R -

Misty Klann,
Arizona Department of Transportation
Mail: ADOT - Multimodal Planning Division,
 206 South 17th Avenue, MD 310B, Phoenix, AZ 85007
Phone: (602) 712-7029
Email: mklann@azdot.gov

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Study Area



Grand Canyon West



Valentine



Big Sandy Allotments



Cholla Canyon Ranch



Peach Springs



STAKEHOLDER QUESTIONNAIRE

Long Range Transportation Plan for the Hualapai Indian Tribe



NAME (OPTIONAL): _____

COMPANY/AGENCY: Health, Education & Wellness Bus Driver.

Please identify transportation issues, challenges, and needs in the Hualapai Indian Reservation. Also identify future growth areas. If necessary, please use the map on the back page to highlight areas you feel need improvement.

Criteria	Existing Issues/Deficiencies	Future Needs
Safety and Infrastructure Concerns Examples: High accident locations; unsafe roadways and intersections; unsafe speed locations; sight distance issues; drainage; signage and lighting; poor pavement conditions; bridges/culverts conditions; unpaved roadways; emergency response time; narrow lanes; striping; steep grades	<u>street lights on Buck and Doe, Road.</u> <u>Music Mt. Circle and Milkweed Rd.</u> <u>Speed bumps out in the music Mt Circle</u> <u>and Milkweed area - also the Nelson Rd.</u> <u>Sidewalks on Buck and Doe area.</u>	<u>Nelson Rd. needs speed bumps very bad.</u> <u>Due to Nelson Workers are Driving to</u> <u>work. More children on Road (Nelson)</u> <u>Due to families getting bigger.</u>
Congestion and Mobility Conditions Examples: Congested roads and intersections; times of congestion; heavy truck traffic; internal roadways circulation; regional travel options; connectivity between modes; roadway continuity		
Pedestrian, Bicycle, Transit, Trails Examples: Pedestrian crossings; sidewalks; pedestrian sidewalks on bridges; bicycle lanes/paths; trails; signage; public transit options; transit routes; bus stops/pullouts		
Future Developments and Transportation Impacts Examples: Planned residential, commercial, and industrial growth areas; community's vision for growth; impacts of growth on transportation system		
Coordination and Partnership Opportunities Examples: Coordination/partnering with adjacent jurisdictions and agencies such as Mohave County, KART, Coconino County, Havasupai Tribe, etc		

Additional Comments

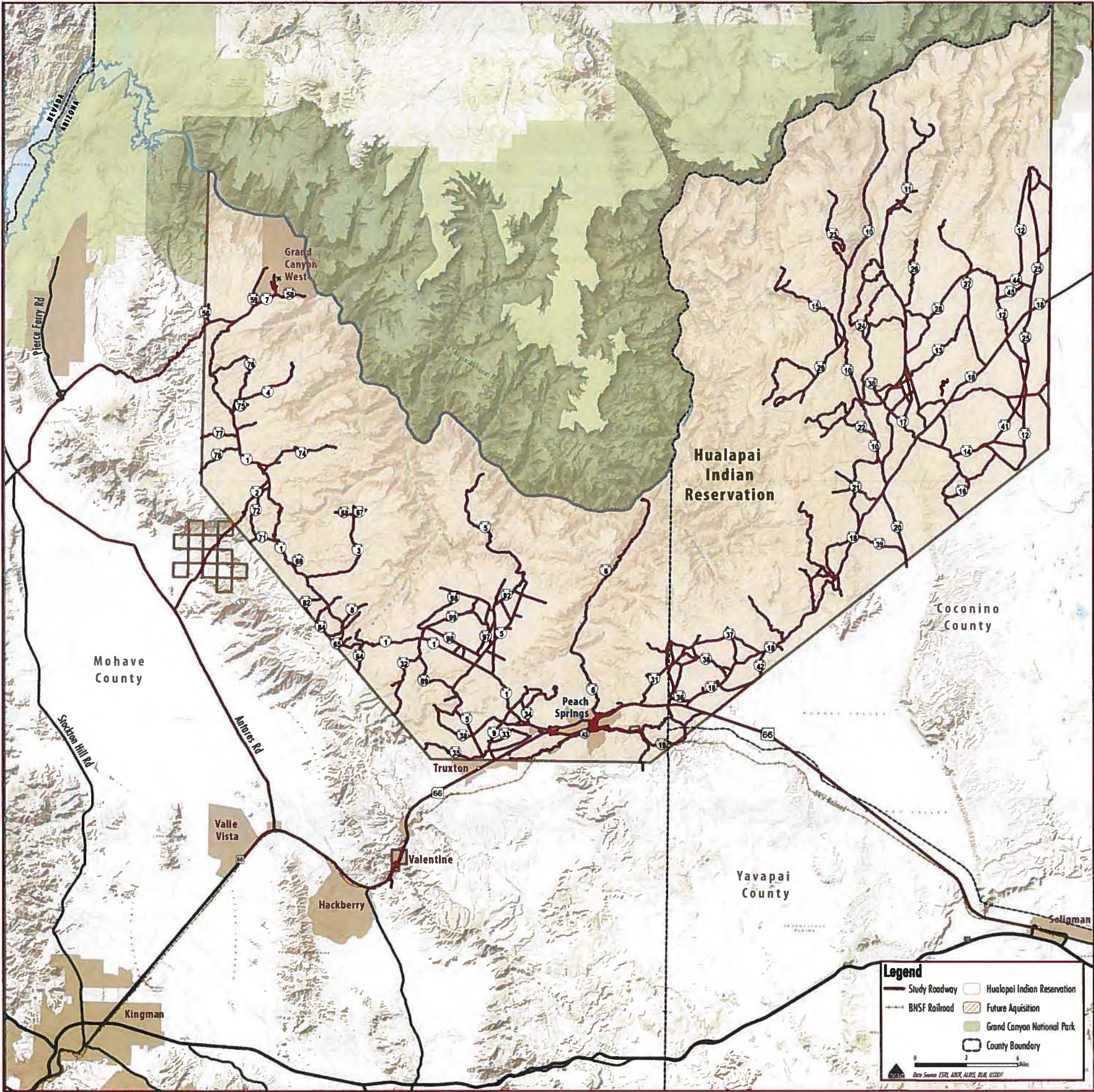
Maybe a Walk Way over the Roundabout. Nice bronze cast sculptures in center. DONE By Local ARTIST.

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Philip Wisely, Hualapai Indian Tribe Mail: P.O. Box 179; Peach Springs, AZ 86434 Phone: (928) 769-2216 Email: pwisely@hualapai-nsn.gov	- O R -	Misty Klann, Arizona Department of Transportation Mail: ADOT - Multimodal Planning Division, 206 South 17th Avenue, MD 310B, Phoenix, AZ 85007 Phone: (602) 712-7029 Email: mklann@azdot.gov
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Study Area



Grand Canyon West



Valentine



Big Sandy Allotments



Cholla Canyon Ranch



Peach Springs



STAKEHOLDER QUESTIONNAIRE

Long Range Transportation Plan for the Hualapai Indian Tribe



NAME (OPTIONAL): Peter Bungart

COMPANY/AGENCY: Hualapai Cultural Resources Dept

Please identify transportation issues, challenges, and needs in the Hualapai Indian Reservation. Also identify future growth areas. If necessary, please use the map on the back page to highlight areas you feel need improvement.

Criteria	Existing Issues/Deficiencies	Future Needs
Safety and Infrastructure Concerns Examples: High accident locations; unsafe roadways and intersections; unsafe speed locations; sight distance issues; drainage; signage and lighting; poor pavement conditions; bridges/culverts conditions; unpaved roadways; emergency response time; narrow lanes; striping; steep grades	<u>Peach Springs intersection: cross-walk / lights to slow traffic down</u> <u>round-about? decorative opportunity</u> <u>Route 18 poor condition</u>	
Congestion and Mobility Conditions Examples: Congested roads and intersections; times of congestion; heavy truck traffic; internal roadways circulation; regional travel options; connectivity between modes; roadway continuity		
Pedestrian, Bicycle, Transit, Trails Examples: Pedestrian crossings; sidewalks; pedestrian sidewalks on bridges; bicycle lanes/paths; trails; signage; public transit options; transit routes; bus stops/pullouts	<u>Trail between Milkweed housing & Peach</u>	
Future Developments and Transportation Impacts Examples: Planned residential, commercial, and industrial growth areas; community's vision for growth; impacts of growth on transportation system		
Coordination and Partnership Opportunities Examples: Coordination/partnering with adjacent jurisdictions and agencies such as Mohave County, KART, Coconino County, Havasupai Tribe, etc		

Additional Comments

I 900 miles of roads (includes Antares, 66, + other roads off reservation)
Route 1 (Buck n Doe) cited as priority for paving by one attendee, although if Antares could be paved, that would be even better (possibility of partnering with County or other agencies?)

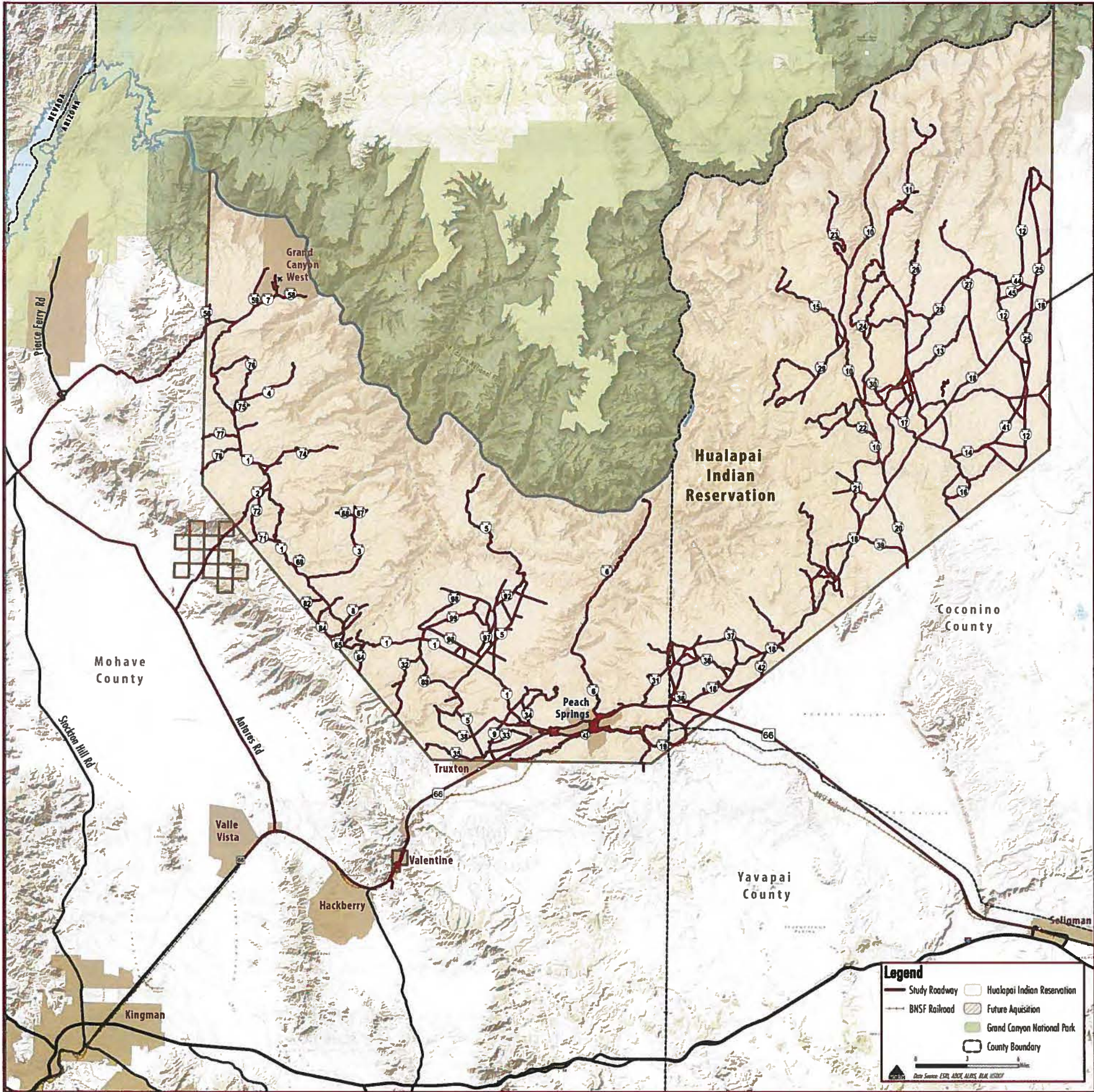
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please email scan to pbungart@circaculture.com

Study Area



Grand Canyon West



Valentine



Big Sandy Allotments



Cholla Canyon Ranch



Peach Springs



STAKEHOLDER QUESTIONNAIRE
Long Range Transportation Plan for the Hualapai Indian Tribe



NAME (OPTIONAL): Michelle E. COMPANY/AGENCY: _____

Please identify transportation issues, challenges, and needs in the Hualapai Indian Reservation. Also identify future growth areas. If necessary, please use the map on the back page to highlight areas you feel need improvement.

Criteria	Existing Issues/Deficiencies	Future Needs
Safety and Infrastructure Concerns Examples: High accident locations; unsafe roadways and intersections; unsafe speed locations; sight distance issues; drainage; signage and lighting; poor pavement conditions; bridges/culverts conditions; unpaved roadways; emergency response time; narrow lanes; striping; steep grades	ask R.R. or annette about the elk crossing and times of the crossing. fix wash boards and G.C.W. 010 66-96-105	
Congestion and Mobility Conditions Examples: Congested roads and intersections; times of congestion; heavy truck traffic; internal roadways circulation; regional travel options; connectivity between modes; roadway continuity		
Pedestrian, Bicycle, Transit, Trails Examples: Pedestrian crossings; sidewalks; pedestrian sidewalks on bridges; bicycle lanes/paths; trails; signage; public transit options; transit routes; bus stops/pullouts		
Future Developments and Transportation Impacts Examples: Planned residential, commercial, and industrial growth areas; community's vision for growth; impacts of growth on transportation system		
Coordination and Partnership Opportunities Examples: Coordination/partnering with adjacent jurisdictions and agencies such as Mohave County, KART, Coconino County, Havasupai Tribe, etc		

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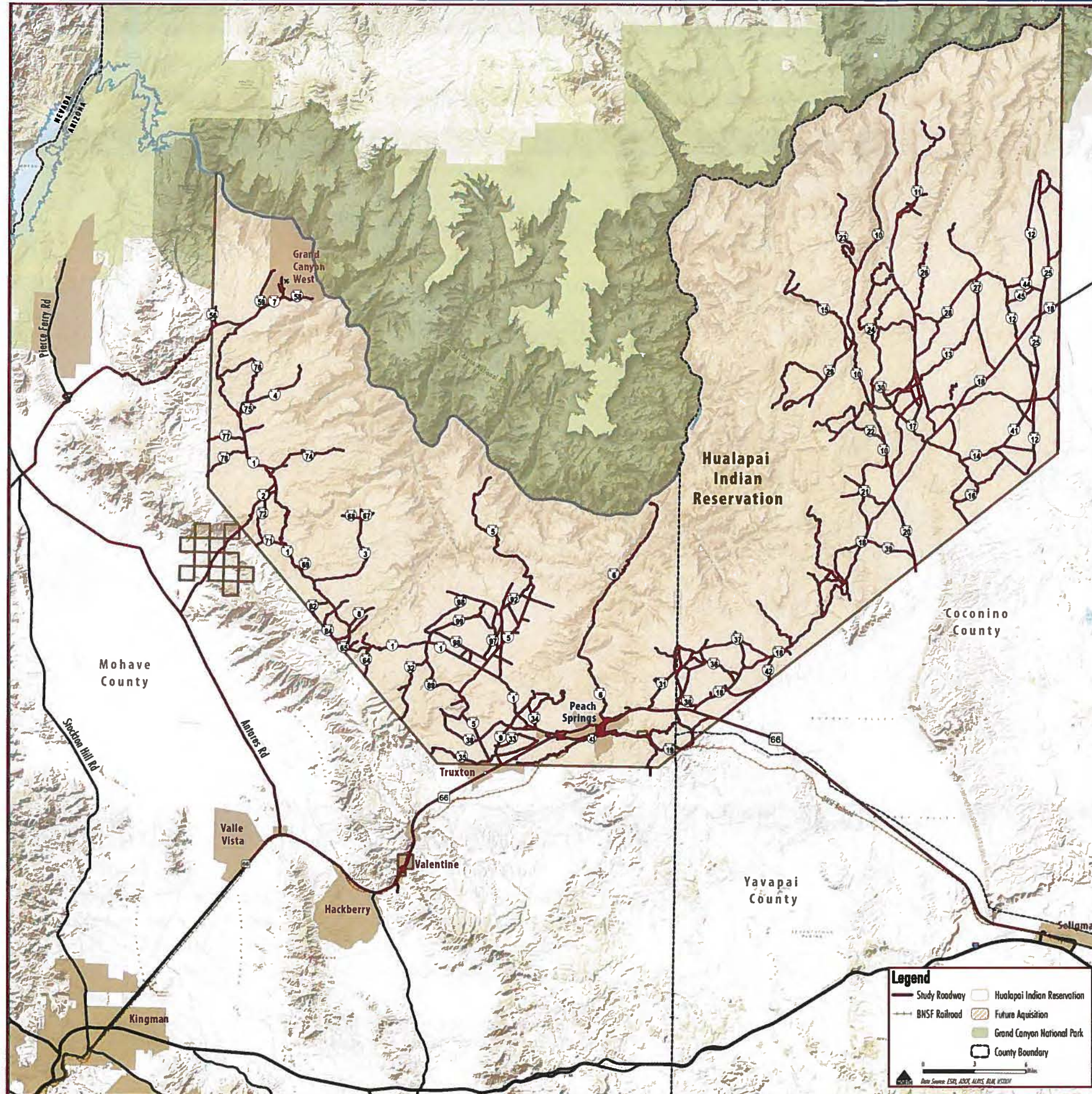
Philip Wisely,
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Mail: P.O. Box 179; Peach Springs, AZ 86434
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Study Area



ROUTE 1 GCU

Grand Canyon West



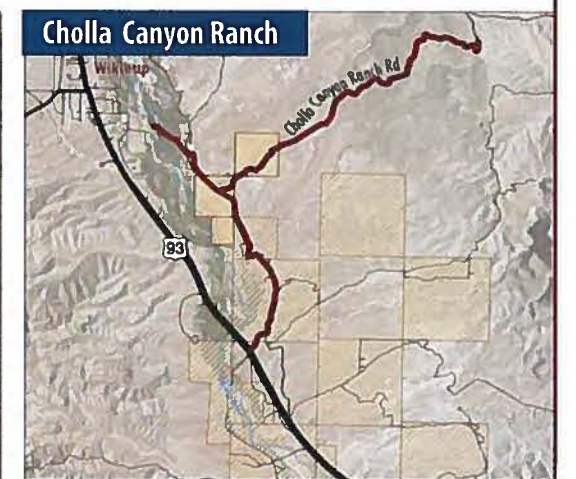
Valentine



Big Sandy Allotments



Cholla Canyon Ranch



Peach Springs





STAKEHOLDER POWERPOINT PRESENTATION



Long Range Transportation Plan for the Hualapai Indian Tribe

Stakeholder Meetings



Overview and Purpose

□ Primary purpose of this study:

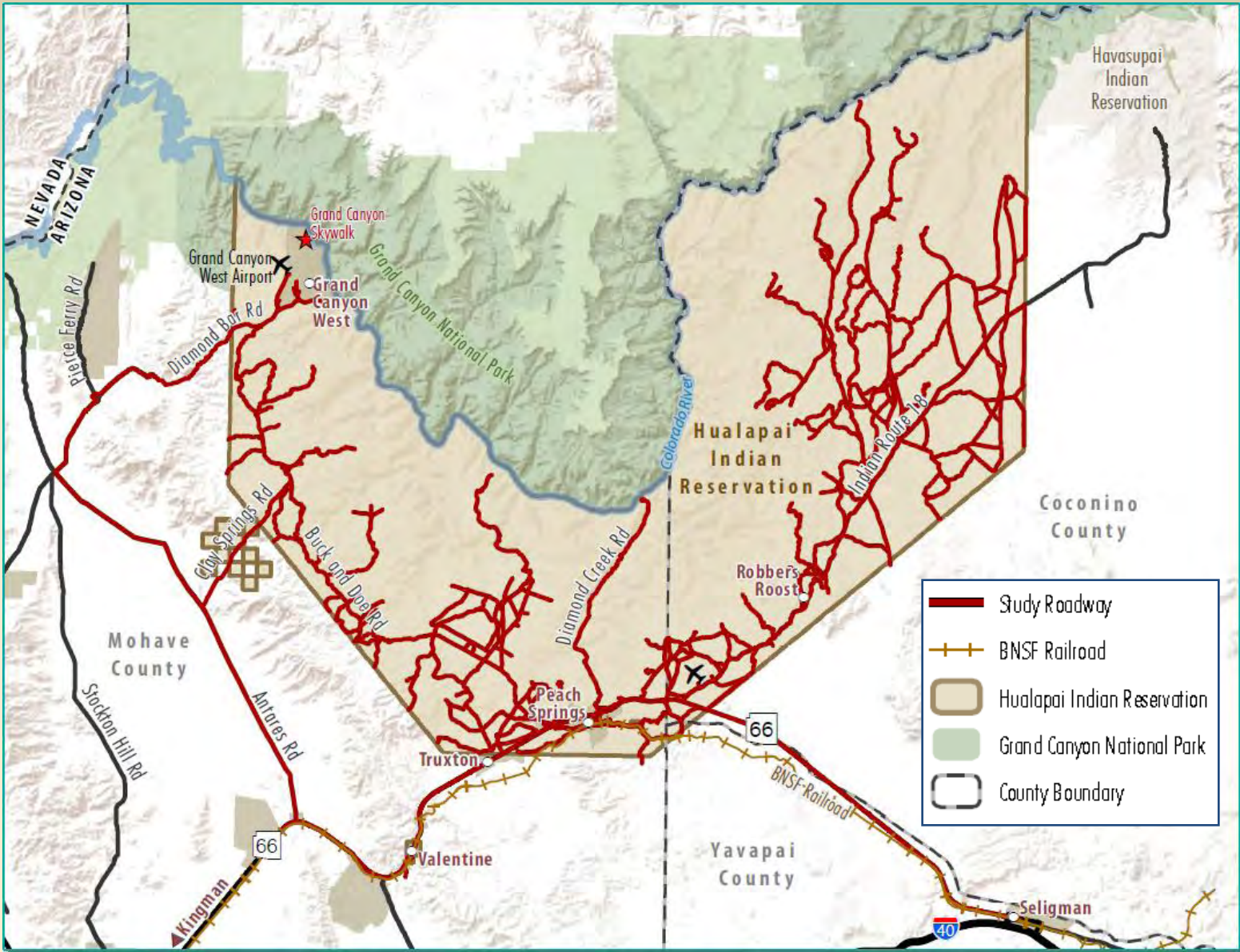
- ***Conduct a comprehensive evaluation*** of the multimodal transportation network within the Hualapai Indian Reservation.
- ***Develop a three-phased Improvement Plan*** that promotes safety and mobility, supports economic development, and improves community livability.
- ***Identify specific improvement strategies*** to address the transportation needs of the study area.

□ The study will:

- Evaluate vehicular traffic congestion and circulation issues
- Identify multimodal needs; pedestrian, bicycle, aviation, transit, and marine
- Develop roadway design standards
- Identify methods to preserve existing transportation infrastructure
- Prepare a maintenance plan



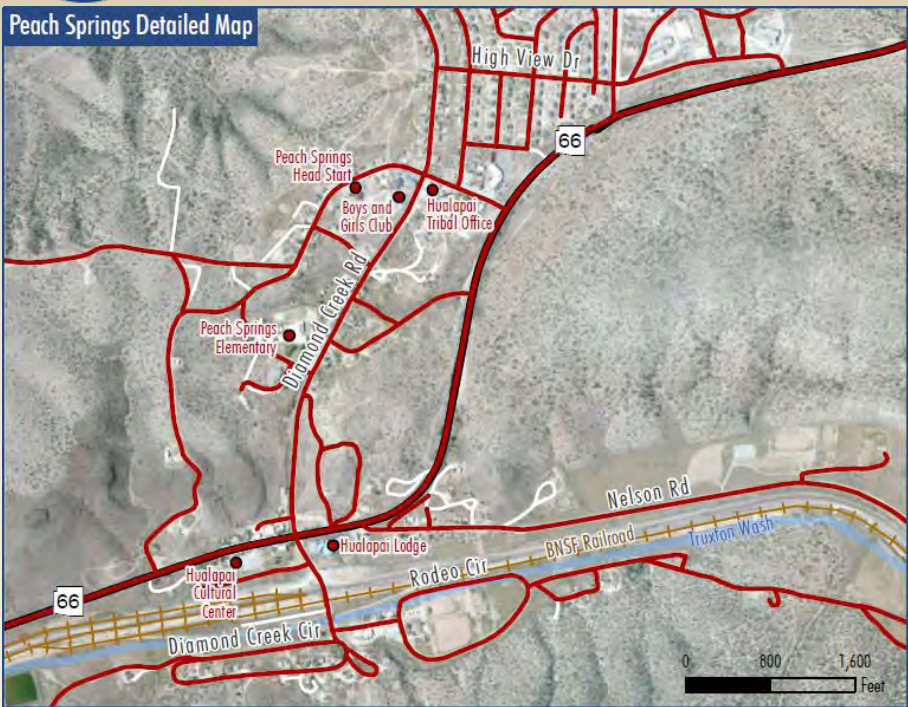
STUDY AREA



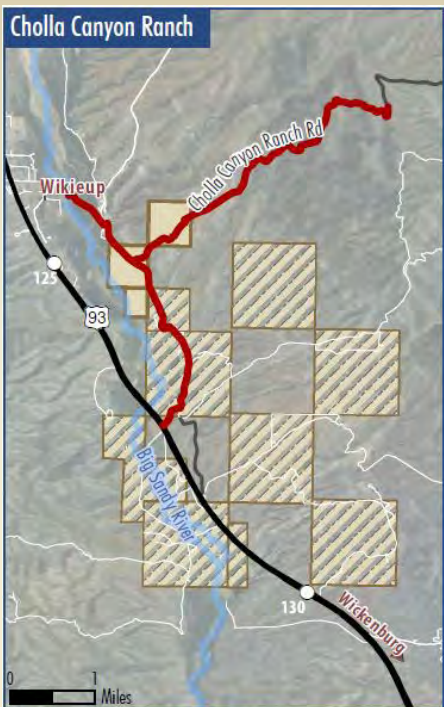


STUDY AREA (Continued)

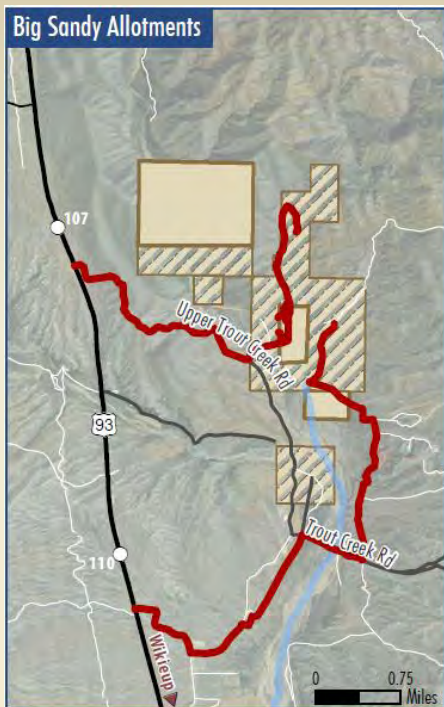
Peach Springs Detailed Map



Cholla Canyon Ranch



Big Sandy Allotments



Valentine Area





Study Expectations

What this study WILL do

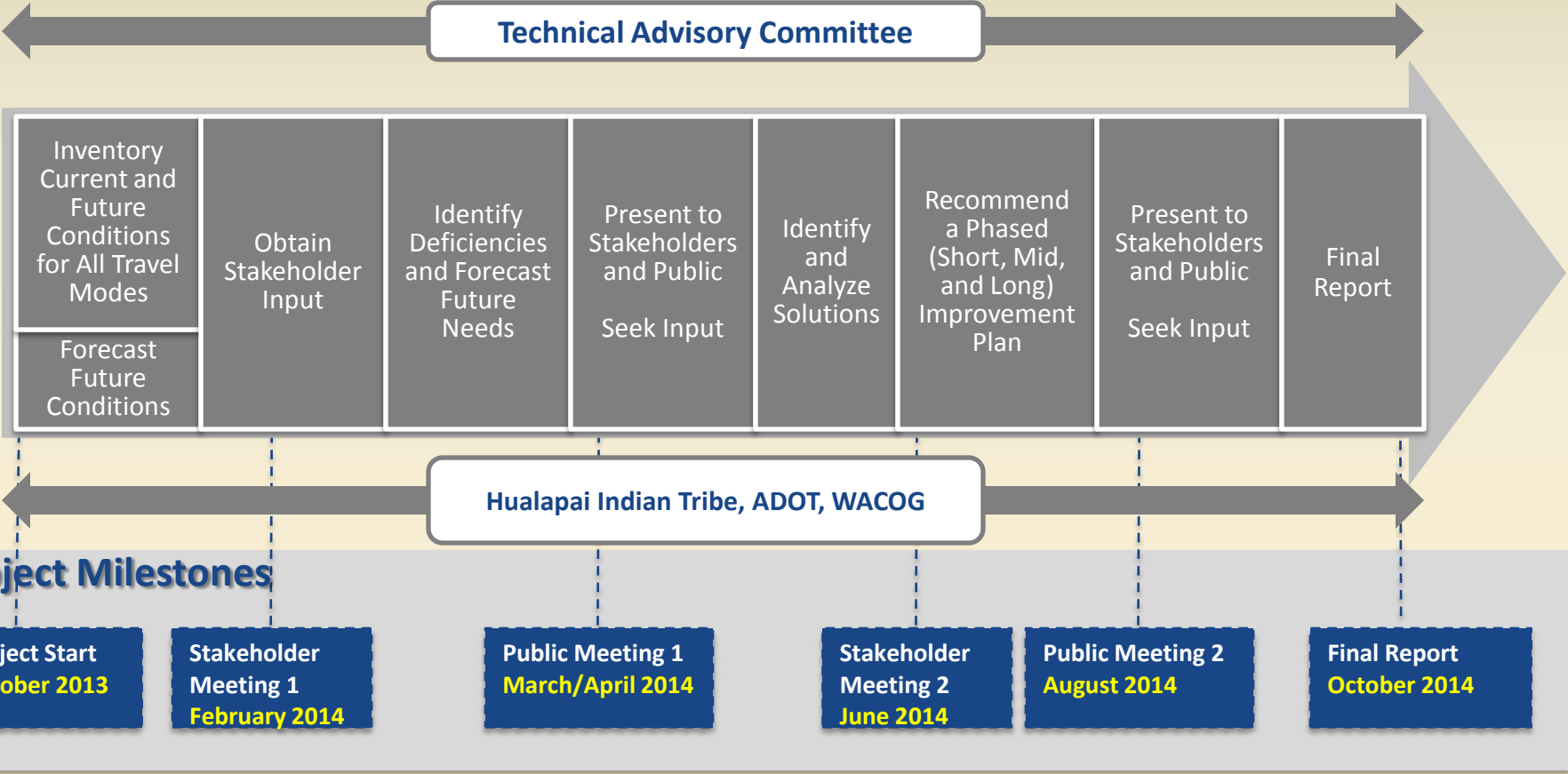
- ✓ Identify current and future transportation deficiencies
- ✓ Provide transportation recommendations
- ✓ Identify potential funding sources
- ✓ Provide the Tribe with a phased transportation implementation plan

What this study WON'T do

- ✗ Provide instantaneous solutions to current transportation issues
- ✗ Recommend exact alignments and design drawings for any proposed new roads
- ✗ Provide funding to implement the recommendations
- ✗ Conduct detailed environmental analysis



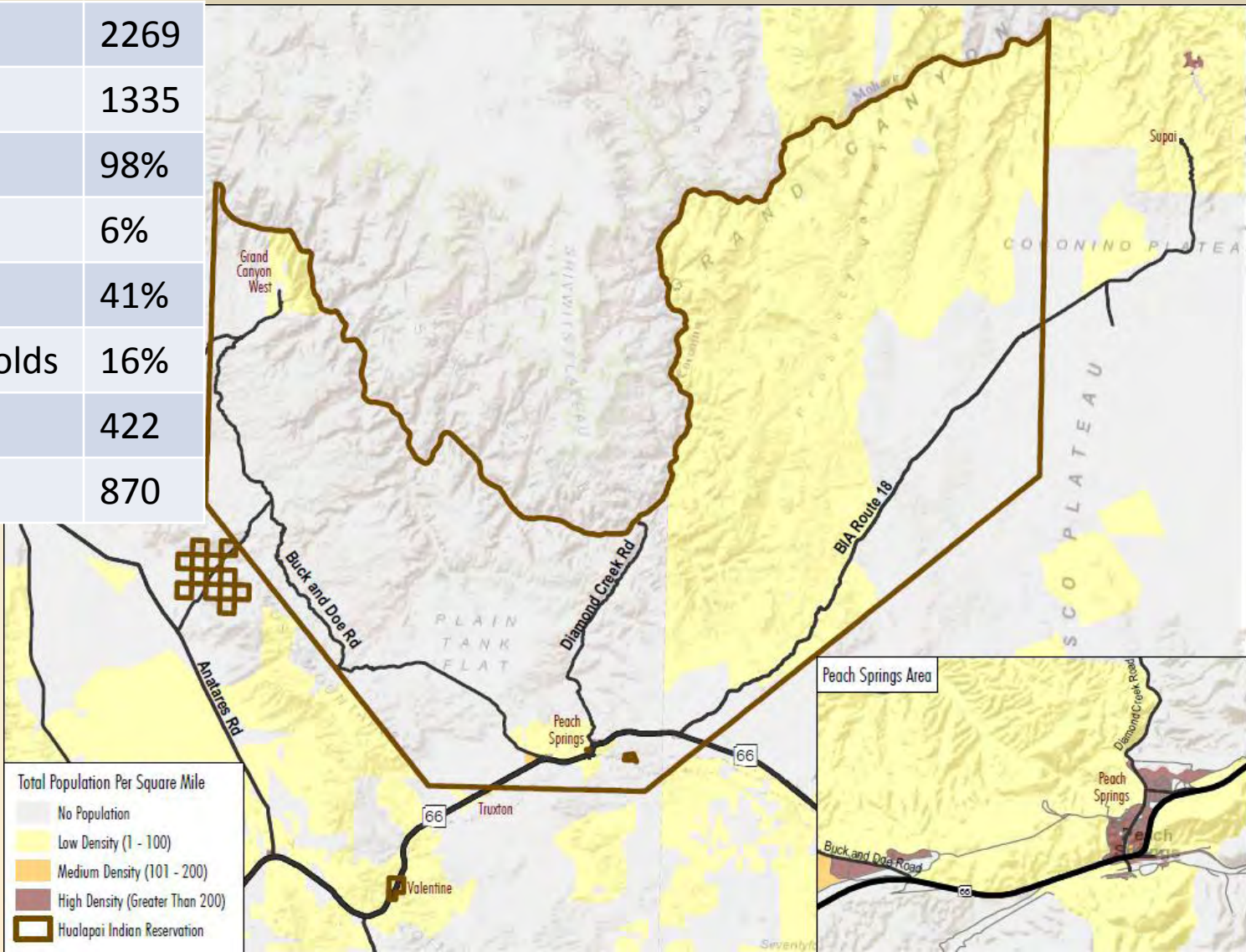
Study Approach and Schedule





Socioeconomic Overview

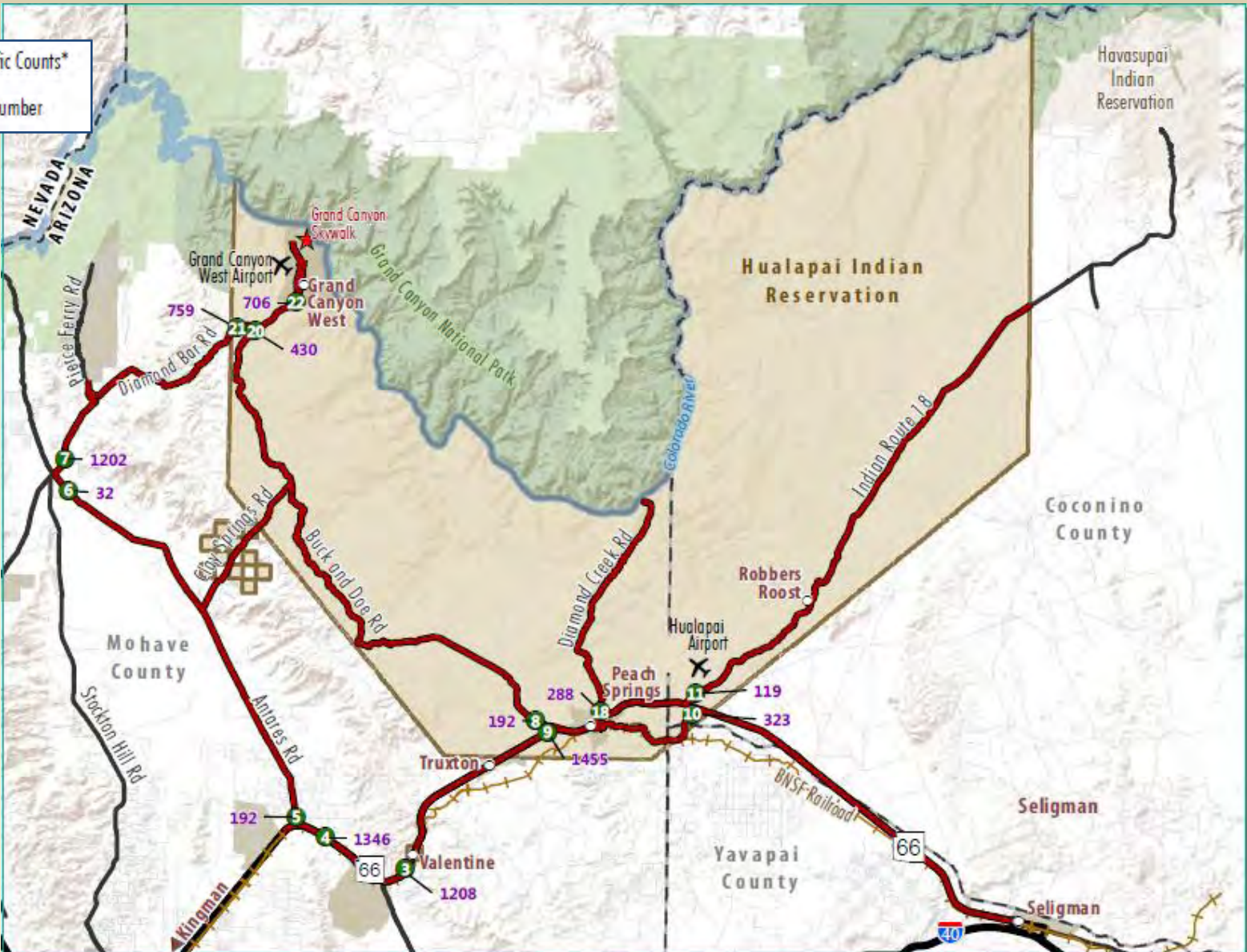
Tribal Enrollment	2269
Population on Res.	1335
Minority	98%
Elderly	6%
Below Poverty	41%
No Vehicle Households	16%
Housing Units	422
Employment	870





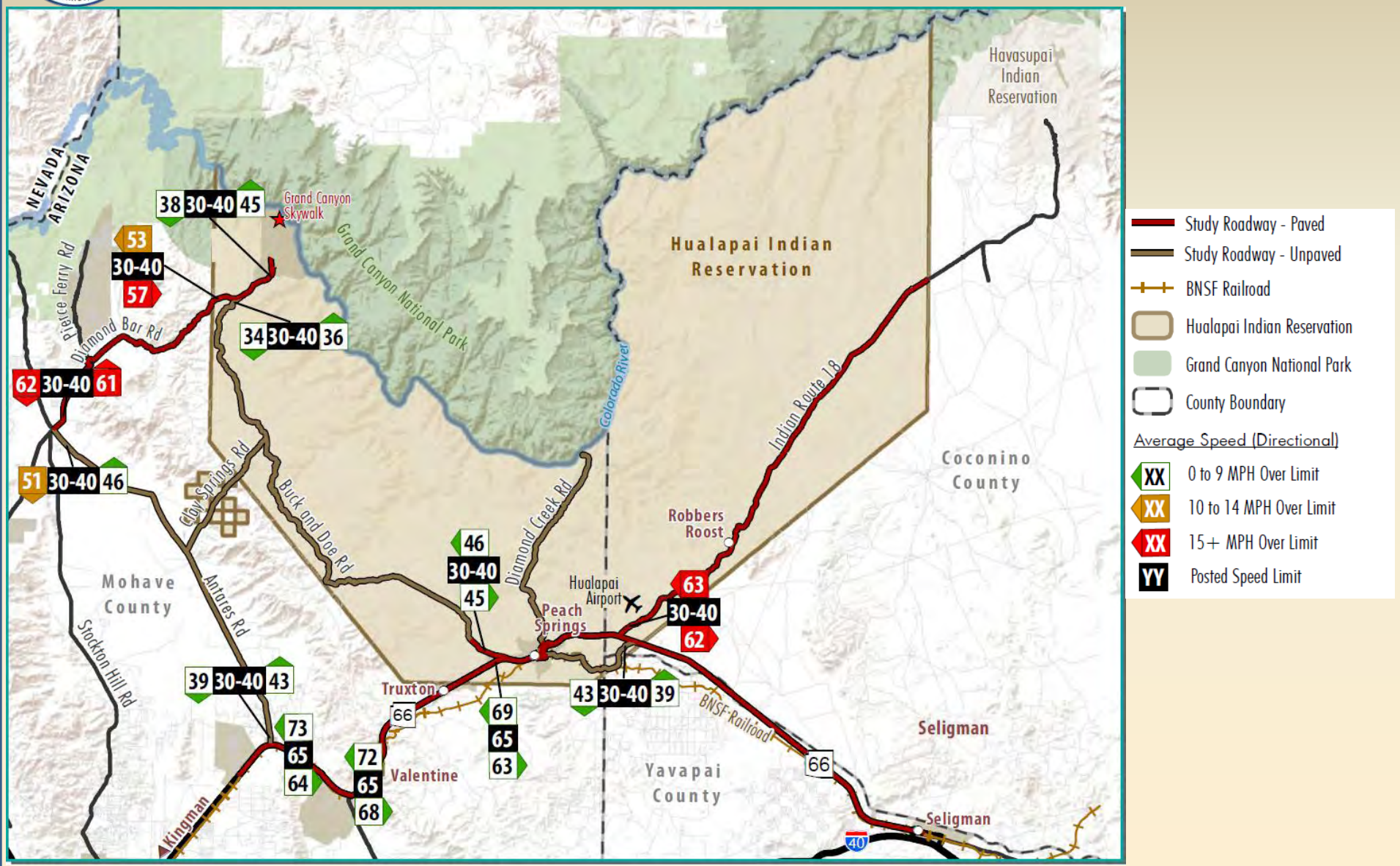
Traffic Counts

- xxx Average Raw Daily Traffic Counts*
- ⊗ Traffic Count Location Number





Posted Speed Vs Actual Travel Speed





Key Issues Currently Identified

- ☐ Majority of roads on reservation are UNPAVED
- ☐ Daily travel along unpaved roads has a significant wear and tear on vehicles and causes air quality issues
- ☐ Excessive speeding and high crash rates
- ☐ Lack of transit service within reservation and to regional activity centers
 - ☐ 41% below poverty; 16% households without a vehicle
- ☐ Lack of safe pedestrian and bicycle facilities
- ☐ Route 66 through Peach Springs is used as an alternate route when I-40 is closed during crash related and emergency events
- ☐ Access to nearest emergency medical facilities in Kingman
- ☐ Traveling on tribal roads during adverse weather conditions is difficult
- ☐ Drainage issues and low water crossings along several roadways can result in prohibiting road access certain communities
- ☐ Grade separated crossings may be needed at railroad crossings along Diamond Creek Road (Peach Springs) and Valentine Way (Valentine). Trains pass at 15-20 minute intervals.



Stakeholder Questionnaire

Your Input is Needed



GAMYU ADVERTISEMENT

Please Join Us

Hualapai Indian Tribe Stakeholder Meetings

Long Range Transportation Plan for the Hualapai Indian Tribe

The Hualapai Indian Tribe in collaboration with the Arizona Department of Transportation (ADOT) is developing the *Long Range Transportation Plan for the Hualapai Indian Tribe*. The plan will provide multimodal recommendations for the next 5, 10, and 20 years. Stakeholder input provides valuable insight into the Tribe's existing transportation deficiencies and needs and recommendations for future improvements.

WE WANT TO HEAR FROM YOU

Formal invitations will be emailed to stakeholders directly.

Wednesday, February 12th

- 9:00 – 10:30 am
Environmental Agencies
- 10:30 am – 12:00 pm
Non-Tribal Government Agencies
- 1:30 – 3:00 pm
Education and Youth Agencies

Thursday, February 13th

- 9:00 – 10:30 am
Economic Development
- 10:30 am – 12:00 pm
Health and Emergency Services
- 1:30 – 3:00 pm
Tribal Public Service Agencies

Stakeholder meetings will be held at:

Health, Education, and Wellness Center
488 Hualapai Way
Peach Springs, AZ 86434

If you are able to attend
please RSVP to:

Kevin Davidson
928-769-1310
KDavidson@Hualapai-nsn.gov

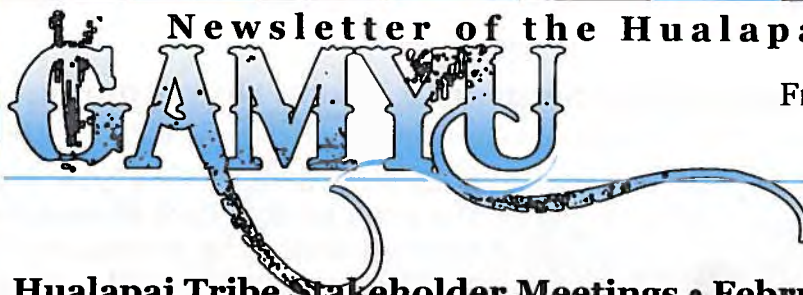


For More Information Contact:

Philip Wisely, 928-769-2216

Kevin Davidson, 928- 769-1310

azdot.gov/planning/CurrentStudies/PARASudies



Friday, January 31, 2014

Issue #03

Hualapai Tribe Stakeholder Meetings • February 12 & 13, 2014

Please Join Us

Hualapai Indian Tribe Stakeholder Meetings

Long Range Transportation Plan for the Hualapai Indian Tribe

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For More Information Contact:

Philip Wisely, 928-769-2216

Kevin Davidson, 928- 769-1310

azdot.gov/planning/CurrentStudies/PARASTudies



Inside this issue:

Information & Events

Resolutions & Council Minutes

Education & Training

2 Health & Safety

14 Community Messages

27

32

23



RIDERSHIP SUMMARY FROM HEALTH CENTER



WACOG 5300 PROGRAM DATA

AGENCY:		Hualapai Tribe-Health, Education & Wellness-Transportation			PHONE:	928-769-2207	NAME:	Sirwin/Doris Butler	
	MONTH:		FY YEAR:	2012-13		Regular and Dialysis Clients			
RIDES-TRIPS-MILES						ELDERLY/DISABLED DATA			
							# Of Elderly who are Disabled		
Month	# of Rides	# of Jobs	# of Trips	# of Hours	# of Miles	# Of Elderly		# Of Disabled	# Of Other
January	246	0	477	919	17481.5	13	112	64	53
February	249	1	500	1254	11959.1	9	118	71	50
March	241	0	501	1389	16279.1	11	117	52	61
April	297	0	555	1788	16202.2	21	153	47	75
May	213	0	451	1241	13634.2	10	86	79	36
June	202	0	399	1265	14304	3	119	51	37
July	190	0	394	1403	16737	4	128	35	23
August	237	0	467	1600	20791.8	5	148	53	31
September	183	0	338	1096	14776.1	10	79	53	33
October	295	0	541	1129	15814.1	6	105	109	64
November	146	0	266	851	22560.4	9	126	24	39
December	203	0	351	1291	17165.5	8	104	62	40
Totals	2702	1	5240	15226	197705	109	1395	700	542

Driver Trainings

Month	PASS	Defensive Driving	CPR & First Aide	Drug & Alcohol	0	0	0	0
January	0	0	0					
February	0	0	0					
March	0	0	0					
April	0	0	0					
May	0	0	2					
June	0	0	0					
July	0	0	0					
August	0	0	4					
September	0	0	0					
October	0	0	0					
November	0	0	0					
December	0	0	0					
Annual Total	0	0	6					

DATE	NAME	TYPE	GROUP	TRIPS	LOCATION	OTHER LOC	OTHER LOC	OTHER HOSP	RIDES	TRIPS	TIME/HR	MILES	REMARKS
2-Dec-13	Jeremy Watahomigle	Non-Medical	Other	One Way			Out of Town		1	1	5.81	250	
2-Dec-13	Leroy Talayumptewa Sr	Medical	Elderly	Round Trip			Out of Town	VA HOSP - PHX AZ	1	2	8.75	409	
2-Dec-13	Mary Jane Manakaja	Non-Medical	Elderly	One Way			Out of Town		1	1	3.5	204	
2-Dec-13	Rose Wescogame	Local	Other	One Way		Court			1	1	0.07	3.9	
5-Dec-13	Allene Davis	Local	Other	One Way			Lodge		1	1	0.8	0.1	
5-Dec-13	Jason Havatone	Local	Other	Round Trip	Store/P.O.				1	2	0.9	0.3	
5-Dec-13	Patrica Kopelva	Local	Other	Round Trip	Store/P.O.				1	2	0.11	0.3	
5-Dec-13	Seymour Smith	Local	Elderly	Round Trip	Store/P.O.				1	2	0.11	0.3	
6-Dec-13	Durasta Crook	Non-Medical	Other	Round Trip			Out of Town/Shopping		1	2			No data for time or mileage
7-Dec-13	Allene Davis	Local	Elderly	One Way			Lodge		1	1	0.2	1	
9-Dec-13	Halimah Rivera	Local	Other	Round Trip	I.H.S. Clinic				1	2	1.05	38.2	
10-Dec-13	Leon Beecher	Medical	Other	Round Trip				I.H.S. Parker, AZ	1	2	3.43	302	
10-Dec-13	Norman Havatone	Local	Other	One Way			OTHER		1	1	0.21	19.4	
10-Dec-13	Phyllis Powsey	Local	Other	One Way			H.E.W		1	1	0.6	4.3	
11-Dec-13	Augustine Crozier	Medical	Elderly	Round Trip	I.H.S. Clinic				1	2	10	11	
11-Dec-13	Augustine Hanna	Medical	Elderly Disabled	Round Trip	I.H.S. Clinic				1	2	1.01	4.9	Transport from Kingman
11-Dec-13	Becky Randall	Local	Elderly Disabled	Round Trip			OTHER		1	2	6.6	9.2	
11-Dec-13	Clara Hanna	Medical	Elderly Disabled	Round Trip	I.H.S. Clinic				1	2	1.01	49	Transport from Kingman
11-Dec-13	John Walema	Local	Elderly Disabled	Round Trip	I.H.S. Clinic		OTHER		1	2	0.14	1	
11-Dec-13	Patricia Kopelva	Local	Other	One Way	Store/P.O.				1	1	0.3	3	
11-Dec-13	Truman Talleje	Local	Other	Round Trip			Out of Town/Shopping		1	4	3.3	104	
12-Dec-13	Allene Davis	Non-Medical	Elderly	One Way	Store/P.O.				1	1	6	2	
12-Dec-13	Frankie Manakaja	Non-Medical	Elderly Disabled	Round Trip			Out of Town/Shopping		1	3	2.77	102	Need \$10 for transport
13-Dec-13	Lana Clarke	Local	Elderly	Round Trip	Store/P.O.				1	2	6	18	
13-Dec-13	Rosie Wescogame	Local	Other	One Way		School/Hdst			1	1	0.14	4.8	
13-Dec-13	Sue Sinyella	Local	Other	Round Trip	Store/P.O.				1	3	0.08	0.9	
13-Dec-13	Veronica Alexander	Medical	Other	One Way			Kindred Hosp, Las Ve		1	1	3.3	155	
14-Dec-13	Allene Davis	Local	Elderly	One Way			Lodge		1	1	0.1	3	
16-Dec-13	John Walema												Rider paid fee \$10; no drvr scheduled no transport.
16-Dec-13	Mary Jo Mahone	Local	Other	Round Trip	Store/P.O.		OTHER		1	3	0.08	2.4	
17-Dec-13	Jason Havatone	Local	Other	Round Trip	Store/P.O.	Court			1	2	0.25	3.9	
18-Dec-13	Becky Randall	Local	Elderly Disabled	Round Trip	Store/P.O.				1	2	0.25	3.7	
18-Dec-13	Maybeline Mahone	Medical	Elderly	One Way	I.H.S. Clinic		OTHER		1	1	0.22	0.06	
18-Dec-13	Maybeline Mahone	Medical	Elderly	One Way	I.H.S. Clinic				1	1	0.13	0.05	
18-Dec-13	Rosie Wescogame	Local	Other	One Way			Lodge		1	1	0.7	4.3	
20-Dec-13	Josephine Roundy	Medical	Other	Round Trip	I.H.S. Clinic			PIMC -Phx AZ	1	2	7.88	418	
23-Dec-13	John Walema	Local	Elderly Disabled	Round Trip	Store/P.O.		Lodge		1	2	0.23	2.3	
30-Dec-13	Durasta Crook	Local	Other	Round Trip	Store/P.O.		OTHER		1	2	7.4	0.04	
30-Dec-13	Patricia Kopelva	Local	Other	Round Trip	Store/P.O.				1	2	0.15	0.1	
30-Dec-13	Truman Talleje	Medical	Other	Round Trip	Store/P.O.	Court			1	2	0.1	0.02	
30-Dec-13	Truman Talleje	Local	Other	Round Trip		Social Services			1	2	0.5	0	
30-Dec-13	Truman Talleje	Local	Other	One Way	Store/P.O.				1	1	0.08	0.04	
31-Dec-13	Frankie Manakaja	Non-Medical	Elderly Disabled	Round Trip			Out of Town/Shopping		1	2	5.69	108	
31-Dec-13	Layota Havatone	Non-Medical	Other	One Way			Phx Cildrens Hosp		1	1	3.35	410	
TOTALS									43	74	93.3	2653.51	

1 - Rosi W - 3
1 - Allene D - 4
1 - Jason H - 2

27 / Rider ship - $\frac{-1}{42}$ $\frac{-2}{72}$ ✓
at 1 per tm

DATE	NAME	TYPE	GROUP	TRIPS	LOCATION	OTHER LOC	OTHER LOC	OTHER HOSP	RIDES	TRIPS	TIME/HR	MILES	REMARKS
2-Dec-13	Jeremy Watahomigle	Non-Medical	Other	One Way				Out of Town	1	1	5.81	250	
2-Dec-13	Leroy Talayumtewa Sr	Medical	Elderly	Round Trip				Out of Town VA HOSP - PHX AZ	1	2	8.75	409	
2-Dec-13	Mary Jane Manakaja	Non-Medical	Elderly	One Way				Out of Town	1	1	3.5	204	
2-Dec-13	Rose Wescogame	Local	Other	One Way		Court			1	1	0.07	3.9	
									4	5	18.13	866.9	
5-Dec-13	Allene Davis	Local	Other	One Way			Lodge		1	1	0.8	0.1	
5-Dec-13	Jason Havatone	Local	Other	Round Trip	Store/P.O.				1	2	0.9	0.3	
5-Dec-13	Patrica Kopelva	Local	Other	Round Trip	Store/P.O.				1	2	0.11	0.3	
5-Dec-13	Seymour Smlth	Local	Elderly	Round Trip	Store/P.O.				1	2	0.11	0.3	
									4	7	1.92	1	
6-Dec-13	Durasta Crook	Non-Medical	Other	Round Trip				Out of Town/Shopping	1	2			No data for time or mileage
7-Dec-13	Allene Davis	Local	Elderly	One Way			Lodge		1	1	0.2	1	
9-Dec-13	Hallmah Rivera	Local	Other	Round Trip	I.H.S. Clinic				1	2	1.05	38.2	
									3	5	1.25	39.2	
10-Dec-13	Leon Beecher	Medical	Other	Round Trip				I.H.S. Parker, AZ	1	2	3.43	302	
10-Dec-13	Norman Havatone	Local	Other	One Way			OTHER		1	1	0.21	19.4	
10-Dec-13	Phyllis Powsey	Local	Other	One Way			H.E.W		1	1	0.6	4.3	
									3	4	4.24	325.7	
11-Dec-13	Augustine Crozier	Medical	Elderly	Round Trip	I.H.S. Clinic				1	2	10	11	
11-Dec-13	Augustine Hanna	Medical	Elderly Disabled	Round Trip	I.H.S. Clinic				1	2	1.01	4.9	Transport from Kingman
11-Dec-13	Becky Randall	Local	Elderly Disabled	Round Trip			OTHER		1	2	6.6	9.2	
11-Dec-13	Clara Hanna	Medical	Elderly Disabled	Round Trip	I.H.S. Clinic				1	2	1.01	49	Transport from Kingman
11-Dec-13	John Walema	Local	Elderly Disabled	Round Trip	I.H.S. Clinic		OTHER		1	2	0.14	1	
11-Dec-13	Patricia Kopelva	Local	Other	One Way	Store/P.O.				1	1	0.3	3	
11-Dec-13	Truman Talleje	Local	Other	Round Trip			Out of Town/Shopping		1	4	3.3	104	
									7	15	22.36	182.1	
12-Dec-13	Allene Davis	Non-Medical	Elderly	One Way	Store/P.O.				1	1	6	2	
12-Dec-13	Frankie Manakaja	Non-Medical	Elderly Disabled	Round Trip			Out of Town/Shopping		1	3	2.77	102	Need \$10 for transport
									2	4	8.77	104	
13-Dec-13	Lana Clarke	Local	Elderly	Round Trip	Store/P.O.				1	2	6	18	
13-Dec-13	Rosie Wescogame	Local	Other	One Way		School/Hdst			1	1	0.14	4.8	
13-Dec-13	Sue Sinyella	Local	Other	Round Trip	Store/P.O.				1	3	0.08	0.9	
13-Dec-13	Veronica Alexander	Medical	Other	One Way			Kindred Hosp, Las Ve		1	1	3.3	155	
									4	7	9.52	178.7	
14-Dec-13	Allene Davis	Local	Elderly	One Way			Lodge		1	1	0.1	3	
16-Dec-13	John Walema												Rider paid fee \$10; no drvr scheduled no transport.
16-Dec-13	Mary Joe Mahone	Local	Other	Round Trip	Store/P.O.		OTHER		1	3	0.08	2.4	
									2	4	0.09	2.7	
17-Dec-13	Jason Havatone	Local	Other	Round Trip	Store/P.O.	Court			1	2	0.25	3.9	
18-Dec-13	Becky Randall	Local	Elderly Disabled	Round Trip	Store/P.O.				1	2	0.25	3.7	
18-Dec-13	Maybeline Mahone	Medical	Elderly	One Way	I.H.S. Clinic		OTHER		1	1	0.22	0.06	
18-Dec-13	Maybeline Mahone	Medical	Elderly	One Way	I.H.S. Clinic				1	1	0.13	0.05	
18-Dec-13	Rosie Wescogame	Local	Other	One Way			Lodge		1	1	0.7	4.3	
									4	5	1.3	8.11	
20-Dec-13	Josephine Roundy	Medical	Other	Round Trip	I.H.S. Clinic			PIMC -Phx AZ	1	2	7.88	418	
23-Dec-13	John Walema	Local	Elderly Disabled	Round Trip	Store/P.O.		Lodge		1	2	0.23	2.3	

DATE	NAME	TYPE	GROUP	TRIPS	LOCATION	OTHER LOC	OTHER LOC	OTHER HOSP	RIDES	TRIPS	TIME/HR	MILES	REMARKS
30-Dec-13	Durasta Crook	Local	Other	Round Trip	Store/P.O.		OTHER		1.00	2.00	7.40	0.04	
30-Dec-13	Patricia Kopelva	Local	Other	Round Trip	Store/P.O.				1.00	2.00	0.15	0.10	
30-Dec-13	Truman Talleje	Medical	Other	Round Trip	Store/P.O.	Court			1.00	2.00	0.10	0.02	
30-Dec-13	Truman Talleje	Local	Other	Round Trip		Social Services			1.00	2.00	0.50	0.00	
30-Dec-13	Truman Talleje	Local	Other	One Way	Store/P.O.				1.00	1.00	0.08	0.04	
									5.00	9.00	8.23	0.20	
31-Dec-13	Frankie Manakaja	Non-Medical	Elderly Disabled	Round Trip			Out of Town/Shopping		1	2	5.69	108	
31-Dec-13	Layota Havatone	Non-Medical	Other	One Way			Phx Cildrens Hosp		1	1	3.35	410	
									2	3	9.04	518	
TOTALS									79	135	169.02	4359.42	

APPENDIX D.

STAKEHOLDER PHASE 2 SUMMARY REPORT





Stakeholder Meetings - Round 2

MEETING SUMMARIES

Date: July 9 & 10, 2014
Time: 8:30 AM - 4:00 PM
Location: Health, Education, and Wellness Center, 488 Hualapai Way, in Peach Springs, Arizona

PMT Work Session (July 9th, 8:30 am to 11:45 am)

Attendees: Misty Klann, Rick Powers, Vamshi Yellisetty, Philip Wisely, Kevin Davidson, Richard Knott

Rick and Vamshi presented the project evaluation and prioritization Criteria to the PMT. The evaluation categories include Safety, preservation/maintenance, mobility/accessibility, economic development, environmental impacts, and implementation feasibility. The evaluation and prioritization criterion was summarized by objective and performance measure with the impact rated high, medium or low. A sample project criteria and evaluation matrix was presented and discussed (see PowerPoint presentation). There was extensive discussion regarding the safety and the measurement of benefits and determination of the high, medium and low priorities. Vamshi indicated that the PMT and the TAC will need to provide input and feedback to assure these are the accurate ratings for the projects. The remainder of the improvements was presented to the PMT (see PowerPoint for details).

- The PMT expressed the need for a quiet zone through Peach Springs for the trains.
- Railroad overpass/under pass is big priority.
- The round-about looks like a good option but will probably be hard to get understanding and support from the community.
- Paving option of Antares is supported.
- The tribe is already planning improvements on Buck and Doe road to improve soft spots and curves.
- Route 18 has 19 miles of bad pavement; adjust the map on the PowerPoint.
- Antares Road, consider the road stabilizer option with chip seal in lieu of full AC paving. The county may not support fencing along Antares road. The Truxton Wash channel will be a challenge to bridge since it moves after flood events.
- Suggested that grid-tied solar lights be used for liability during power outages.
- PMT supported all other improvement recommendations.

Lunch Meeting (February 12th, 12:00 – 1:15 pm) Elderly Center

Attendees: 19 Senior Tribal Members, Misty Klann, Philip Wisely, Kevin Davidson, Rick Powers, Vamshi Yellisetty.

Introductions:

Misty introduced the study process and asked to participants to introduce themselves. Display boards were set up at the front of the lunch room. A project questionnaire hand was distributed and a brief overview of the potential recommendations was made by Phillip, the Senior Center director then translated the information in the native Hualapai language for the residents.



Discussion Key Comments:

- The attendees were interested in public transportation (transit) options and surprised there was not a strong demand.
- They were most interested in the improvements to the railroad crossing.
- Several comments and discussion on the noise the train whistle makes when going through town. Phillip indicated one of the recommendations is to establish a “quite zone” through town.
- The residents were not overly excited for the round-about alternative suggested for Diamond Creek and US 66. They did not understand this concept, but are concern about the amount of traffic that would need to pass this during I-40 re-route and is large trucks (doubles) would be able to make it through the intersection.

Several of the residents completed comment sheets as summarized below:

- The seniors were split on the US 66/Diamond Creek intersection slightly favoring the signal in lieu of the round-about.
- Pave Diamond Creek Road (10 miles).
- Railroad overpass is the TOP priority; there have been accidents near the railroad tracks.
- Overpass for cars in Valentine is needed to the cemetery.
- All were in favor of safety improvements including LED lighting, wildlife fencing and way finding signs. Tourist signs are needed. Need way finding by the lodge.
- Street lights are needed on all our roads.
- They were very supportive of sidewalks and pathways to be completed. Need sidewalk on Nelson Street. Sidewalks are needed on all local streets. Trails are needed for exercise purposes.
- Transit services are needed. Top priority is within Peach Springs, Peach Springs to GCW for work, Peach Springs to Kingman for shopping and medical, and Peach Spring to Valentine.

Stakeholder Session 1 (Environmental/Cultural Departments) - July 9th, 1:15 PM to 2:30 PM

Attendees: *There were no participants for this stakeholder study session.*

Stakeholder Session 2 (Non-Tribal Government Agencies) - July 9th, 2:45 PM to 4:00 PM

Attendees: *Misty Klann, Rick Powers, Vamshi Yellisetty, Philip Wisely, Kevin Davidson, Kara Lavertue, Michelle Beggs, Walker & Craig Radborn - WACOG (phone)*

Rick and Vamshi gave a PowerPoint presentation summarizing the recommended improvement options.

- ADOT was in favor of the round-about at the Diamond Creek/US 66 intersection, it would be the first one in the district. Additional right-of-way will be needed to implement this option.
- ADOT was opposed to painting “Historic Route 66” on the pavement, since tourists stop to take pictures causing safety concerns.
- ADOT noted the bridge surface repairs for US 66 are scheduled to be done soon.
- ADOT has completed vegetation removal and treatment along US 66.



- Utilization of wildlife fencing normally requires the installation of crossings to allow safe passage at culverts or other structures.
- ADOT Traffic section is in the process of updating the PGP to allow communities to use way finding signage.
- Street lighting is a big safety concern for the Peach Springs area.
- With the new federal funding Transportation Enhancement funds are combined and what little funds remain is very limited.
- Transit funding may be available but also may be limited.
- Show graphic of shelters with pullouts.

Stakeholder Session 3 (Education, Youth, Housing, Recreation, and Other Departments) - July 10th, 9:00 AM to 10:15 AM

Attendees: Misty Klann, Kevin Davidson, Rick Powers, Vamshi Yellisetty, Philbert Watahomigie (Hualapai Tribe), Ashley Pasqual & Sandy Smith from First Things First.

Rick and Vamshi gave a PowerPoint presentation summarizing the recommended improvement options.

- The community is in favor of sidewalks and pathways for the children. Priority is Diamond Creek Road and Hualapai Way due to high usage by school children and local community members. A path from Peach Springs to Buck and Doe is needed to connect the two communities.
- The group was split on the round-about option at US 66/Diamond Creek.
- Transit services are needed, priority to get people to activities. Also need transportation from food bank to their homes.
- Street lighting is needed along Diamond Creek Road.
- Way Finding signs are needed throughout the community.
- Traffic calming on Diamond creek, especially near the school is needed.
- Need safe locations for bus stops.
- Pedestrian safety crossing the railroad tracks is a big need.

Stakeholder Session 4 (Tourism and Economic Development; Emergency Services) - July 10th, 10:30 AM to 11:45 AM

Attendees: This study session was canceled and will be rescheduled at a later date.

END OF STAKEHOLDER MEETING SUMMARY



Sign-In Sheets



Long Range Transportation Plan for the Hualapai Indian Tribe

Work Session

Date: July 9th, 2014

Time: 9:30 AM - 11:45 AM

Location: Health, Education and Wellness Center

Name / Title	Title	Organization	Email	Phone	Initial
Michelle Zephier	Planner I	Hualapai Indian Tribe	mzephier@hualapai-nsn.gov	928-769-1310	
Flora Hunter	Tribal Grant Writer	Hualapai Indian Tribe	flora02@frontiernet.net	928-769-1310	
Misty Klann	Transportation Planner and Tribal Liaison	ADOT - MPD	mklann@azdot.gov	602-712-7029	WZD
Philip Wisely	Public Services Director	Hualapai Indian Tribe	pwisely@hualapai-nsn.gov	928-769-2216	PK
Kevin Davidson	Planning Director	Hualapai Indian Tribe	kdauidson@hualapai-nsn.gov	928-769-1310	KD
Tony Staffaroni	Community Relations Project Manager	ADOT Communications	astaffaroni@azdot.gov	602-245-4051	
Rick Powers	Project Manager	Jacobs	Rick.Powers@jacobs.com	602-530-1662	
Vamshi Yellisetty	Sr. Transportation Planner	Jacobs	Vamshi.Yellisetty@jacobs.com	602-530-1603	YVU



Stakeholder Meeting at Hualapai Senior Center: Sign-in Sheet

[illegible]



Long Range Transportation Plan for the Hualapai Indian Tribe

Stakeholder Meeting 4: Sign-in Sheet

Date: July 10th, 2014
Time: 10:30 AM - 11:45 AM
Location: Health, Education and Wellness Center

NO SHOW

Name / Title	Title	Organization	Email	Phone	Initial
Jennifer Turner	Chief Executive Officer	Grand Canyon Resort Corporation	Jennifer.Turner@grandcanyonresort.com	928-769-2419	
Ruby Steele	General Manager	Grand Canyon Resort Corporation	rubysteele@grandcanyonresort.com	928-769-2627, Ext 214	
Rory Majenty	Project Manager	Grand Canyon Resort Corporation	rorymajenty@grandcanyonresort.com	928-769-2419	
Debra Wilkerson	GCW General Manager	Grand Canyon West		928-769-2419	
Earlene Havatone	General Manager	Hualapai River Running	Earlene.Havatone@grandcanyonresort.com	928-769-2266	
Monty Dalton	Laborer Public Works	Hualapai Indian Tribe			
Travissia Tapia	Laborer Public Works	Hualapai Indian Tribe			
Gabriel Pacheco	Labor Solid Waste - Public Works	Hualapai Indian Tribe			



Long Range Transportation Plan for the Hualapai Indian Tribe

Date: July 10th, 2014
Time: 9:00 AM – 10:15 AM
Location: Health, Education and Wellness Center

Stakeholder Meeting 3: Sign-in Sheet

Name / Title	Title	Organization	Email	Phone	Initial
Lucille Watahomigie	Director	Department of Hualapai Education and Training	Lwatahomigie@hualapai-nsn.gov	928-769-2200	
Anthony Perkins	Superintendent/Principal	Peach Springs Unified School District / Peach Springs Elementary	perkinsa@psusd8.org	928-769-2202	
Sheila Halbart	Director	Hualapai Head Start Program	headstrt@frontiernet.net	928-769-2244	
Jolene Decker	Branch Director	Boys & Girls Club	jdecker@bcgs.org	928-769-1801	
Pete Imus	Youth Services Coordinator	Hualapai Youth Services	pete.imus@gmail.com	928-769-2207	
Don Nelson	Superintendent	Valentine Elementary	dnelson@mcss.k12.az.us	928-769-2310	
Shadow Benson	Program Director	Recreation	shadowbenson@yahoo.com	928-769-2216	
Jean Imus	WIA Coordinator	Education and Training Center	hualwia@yahoo.com	928-769-2200	



Long Range Transportation Plan for the Hualapai Indian Tribe

Name / Title	Title	Organization	Email	Phone	Initial
Sandra Irwin	Director	Health Education & Wellness Center	hualapai.hew@gmail.com	928-769-2207	
Gary Whatoname	Driver	Hualapai Indian Tribe Transportation Department		928-769-2207 Ext.224	
Doris Butler	Driving Supervisor	Hualapai Indian Tribe Transportation Department		928-769-2207 Ext.225	
Serena Nodman	HEW Transportation	HEW	sandraIrwin@hualapai.org	928-769-2207	
Sheri YellowHawk	Director	Hualapai Housing	syellowhawk@hualapai-nsn.gov	928-769-2274	
Clara Mahone	Program Manager	Tribal Enrollment	Cmahone@hualapai-nsn.gov	928-769-2216, Ext 110	
Everette Manakaja Jr	Director	Tribal Employment Rights Ordinance (TERO)	emanakaja@hualapai-nsn.gov	928-769-2216	
Misty Klann	Transportation Planner and Tribal Liaison	ADOT - MPD	mklann@azdot.gov	602-712-7029	MK
Philip Wisely	Public Services Director	Hualapai Indian Tribe	pwisely@hualapai-nsn.gov	928-769-2216	



Long Range Transportation Plan for the Hualapai Indian Tribe

Name / Title	Title	Organization	Email	Phone	Initial
Kevin Davidson	Planning Director	Hualapai Indian Tribe	kdauidson@hualapai-nsn.gov	928-769-1310	KD
Tony Staffaroni	Community Relations Project Manager	ADOT Communications	astaffaroni@azdot.gov	602-245-4051	
Rick Powers	Project Manager	Jacobs	Rick.Powers@jacobs.com	602-530-1662	RP
Vamshi Yellisetty	Sr. Transportation Planner	Jacobs	Vamshi.Yellisetty@jacobs.com	602-530-1603	VY
Philbert Watahomigie Jr Data Management	Data Manager	Hualapai Tribe	pwtahomigiejr@hualapai-nsn.gov	928-769-2216	PWJ
Ashley Pascual/ Regional Director →		First Things First Hualapai Tribe Regional Partnership Council	apascual@aztfh.gov	928.854.8732	AP
SANDY SMITH	ADMIN	FIRST THINGS FIRST	SASMITH@AZTFH.GOV	928 854 8732	SS



Long Range Transportation Plan for the Hualapai Indian Tribe

Date: July 9th, 2014
Time: 2:45 PM – 4:00 PM
Location: Health, Education and Wellness Center

Stakeholder Meeting 2: Sign-in Sheet

Name / Title	Title	Organization	Email	Phone	Initial
Bob Maxwell	Regional Roads Planner	BIA Western Regional Office, BIA Division of Transportation	bob.maxwell@bia.gov	602-379-6782	
James E. Williams	Superintendent	Bureau of Indian Affairs - Truxton Canyon Agency	James.Williams@bia.gov	928-769-2286	
Richard Robinson	Civil Engineer	Mohave County	richard.robinson@mohavecounty.us	928-757-0910	
Kara Lavertue	Development TES	ADOT Kingman District Office	klavertue@azdot.gov	928-681-6023	KBC
John Dalby		ADOT Flagstaff District Office	jdalby@azdot.gov	928-779-7553	
Craig Raborn	WACOG Transportation Program Manager		craigr@wacog.com	928-377-1070	Phone
Michele Walker	WACOG Mobility Manager	WACOG Transit	michelew@wacog.com	928-753-1374	Phone
Sheri Furr	Transit Coordinator	Kingman Transit - KART	sfurr@cityofkingman.gov	928-681-7433	



Long Range Transportation Plan for the Hualapai Indian Tribe

Name / Title	Title	Organization	Email	Phone	Initial
Melvin Thomas	Manager Public Projects	BNSF Railway	melvin.thomas@bnsf.com	909 386-4472	
Rex Tilousi	Tribal Chairman	Havasupai Tribe	htchair@havasupai-nsn.gov	928 448-2731	
John Reid	Environmental Protection Specialist	Bureau of Land Management	jreid@blm.gov	928-718-3735	
Misty Klann	Transportation Planner and Tribal Liaison	ADOT - MPD	mklann@azdot.gov	602-712-7029	
Philip Wisely	Public Services Director	Hualapai Indian Tribe	pwisely@hualapai-nsn.gov	928-769-2216	PL
Kevin Davidson	Planning Director	Hualapai Indian Tribe	kdavidson@hualapai-nsn.gov	928-769-1310	KD
Tony Staffaroni	Community Relations Project Manager	ADOT Communications	astaffaroni@azdot.gov	602-245-4051	
Nichole E. Beags	Community Relations Officer	Jacobs	mbeags@azdot.gov	928.681.6054	
Rick Powers	Project Manager	Jacobs	Rick.Powers@jacobs.com	602-530-1662	
Vamshi Yellisetty	Sr. Transportation Planner	Jacobs	Vamshi.Yellisetty@jacobs.com	602-530-1603	YN



7/9/2014 2:45(3)



Long Range Transportation Plan for the Hualapai Indian Tribe

Stakeholder Meeting 1: Sign-in Sheet

ND-54000

Date: July 9th, 2014
Time: 1:15 PM - 2:30 PM
Location: Health, Education and Wellness Center

Name / Title	Title	Organization	Email	Phone	Initial
Loretta Jackson-Kelly	Director	Hualapai Department of Cultural Resources	lorjac@frontier.net	928-769-2223	
Dawn Hubbs	Program Manager/Anthropologist	Hualapai Department of Cultural Resources	dawn.hubbs101@gmail.com	928-769-2223	
Donald Bay	Director	Hualapai Department of Natural Resources	donbay@citilink.net	928-769-2254	
Alex Cabillo	Water Resources Manager	Hualapai Department of Natural Resources	acabillo@hotmail.com	928-769-2254	
Scott Crozier	Director	Game & Fish	sscrozier2001@yahoo.com	928-225-5073	
Winkie Crooks		Hualapai Wildlife Mgmt Dept	w_crook@yahoo.com	928-769-2254	
Teresa Honga	District Coordinator	Soil & Water Conservation	hongas@msn.com	928-716-2367	
Drake Havatone	Tech II	Hualapai Department of Natural Resources		928-769-2234	



Long Range Transportation Plan for the Hualapai Indian Tribe

19 members present. See handouts.

Stakeholder Meeting at Hualapai Senior Center: Sign-in Sheet

Date: July 9th, 2014
Time: 12:00 PM - 1:00 PM
Location: Hualapai Senior Center
Peach Springs

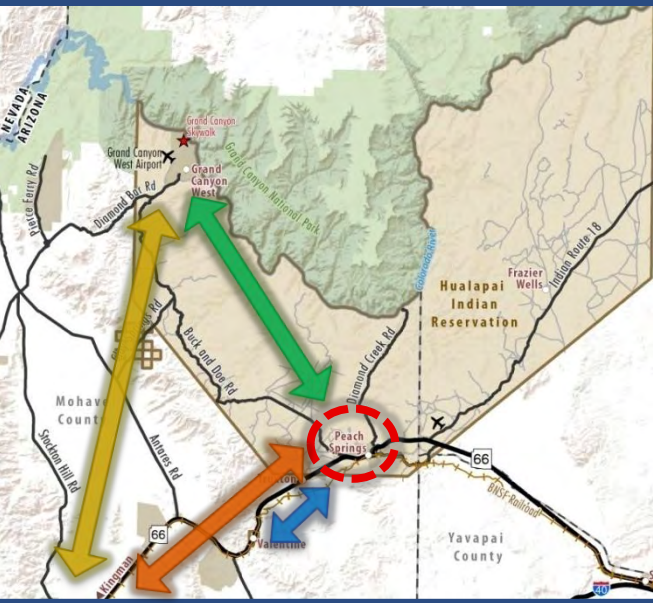
Name / Title	Title	Organization	Email	Phone	Initial
Shane Charley	Program Manager	Hualapai Elderly Program	hualapaielderlycenter@yahoo.com	928-769-2375	
Misty Klann	Transportation Planner and Tribal Liaison	ADOT - MPD	mklann@azdot.gov	602-712-7029	
Philip Wisely	Public Services Director	Hualapai Indian Tribe	pwisely@hualapai-nsn.gov	928-769-2216	
Kevin Davidson	Planning Director	Hualapai Indian Tribe	kdavidson@hualapai-nsn.gov	928-769-1310	
Tony Staffaroni	Community Relations Project Manager	ADOT Communications	astaffaroni@azdot.gov	602-245-4051	
Rick Powers	Project Manager	Jacobs	Rick.Powers@jacobs.com	602-530-1662	
Vamshi Yellisetty	Sr. Transportation Planner	Jacobs	Vamshi.Yellisetty@jacobs.com	602-530-1603	



Stakeholder Questionnaire

TRANSIT IMPROVEMENTS

Please rank the following transit service options



Service Area	Priority	Trip Purpose (medical, work, shopping, etc.)
Within Peach Springs		
Peach Springs - Valentine		
Peach Springs – Grand Canyon West		
Peach Springs – Kingman		
Kingman – Grand Canyon West		
Peach Springs – Phoenix		
Peach Springs – Las Vegas		
Peach Springs – Laughlin		
Peach Springs – Flagstaff		

Comments: _____

Do you have additional comments?

Please submit comment forms at the end of the meeting or mail/email forms by July 25, 2014 to:

Philip Wisely
Hualapai Indian Tribe
Email: pwisely@hualapai-nsn.gov
Mail: P.O. Box 179; Peach Springs, AZ 86434

Misty Klann
Arizona Department of Transportation
Email: mklann@azdot.gov
Mail: ADOT – Multimodal Planning Division
206 South 17th Avenue, MD 310B; Phoenix, AZ 85007

STAKEHOLDER QUESTIONNAIRE
Long Range Transportation Plan for the Hualapai Indian Tribe



NAME (OPTIONAL): _____ COMPANY/AGENCY: _____

YOUR INPUT IS REQUESTED

Your input will help us develop a better transportation improvement plan. Please review and complete each section. Feel free to utilize the last page to provide any additional comments.

SAFETY IMPROVEMENTS – INTERSECTION IMPROVEMENTS

Which of these intersection options would you like to see? (Please mark your preference)

State Route 66/Diamond Creek Road

Option 1 :Traffic Signal

- New traffic signal
- Restripe lanes
- Crosswalks and sidewalks

Advantages

- No additional ROW
- No learning curve for motorists
- Improves safety

Disadvantages

- High maintenance costs
- May not reduce speeding
- Loss of on-street parking

Option 2: Roundabout

- One-lane roundabout
- Pedestrian refuge islands
- Crosswalks and sidewalks

Advantages

- Forces drivers to slow down on approach
- Improves safety
- Provides opportunities for landscaping

Disadvantages

- May need additional ROW
- High implementation costs
- Loss of on-street parking

SAFETY IMPROVEMENTS – ROADSIDE IMPROVEMENTS

What type of roadway safety improvements would you like to see, and where?

Street Lighting

- Dark skies friendly, LED lighting
- Moderate maintenance costs

Top 3 Priority Locations:

Wildlife Fencing

- Restricts wildlife from entering right-of-way

Top 3 Priority Locations:

Road and Wayfinding Signs

- Provides motorists/tourists with navigational information

Top 3 Priority Locations:

SAFETY IMPROVEMENTS – TRAFFIC CALMING

What type of traffic calming countermeasures would you like to see, and where?



- Highly visible pavement markings that are also visible at night



- Alerts drivers of their vehicle speed



- Grooves in the roadway surface designed to alert drivers



- Curved raised medians designed to slow down vehicles

	Diamond Bar Road	State Route 66 (Valentine)	State Route 66 (Peach Springs)	Supai Road	Other Locations
Pavement Markings	☒	☒	☒	☒	
Flashing Speed Sign	☒	☒	☒	☒	
Rumble Strips	☒	☒	☒	☒	
Double Chicane	☒	☒	☒	☒	
Reduce Speed	45 to ___mph	65 to ___mph	45 to ___mph	50 to ___mph	
Other:					

SAFETY IMPROVEMENTS – RAILROAD CROSSING

What railroad crossing improvements would you like to see?



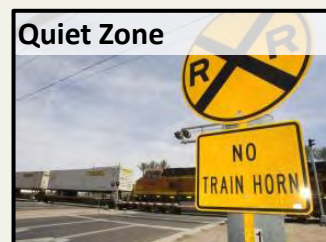
- ☒ Valentine
- ☒ Valentine Cemetery Rd



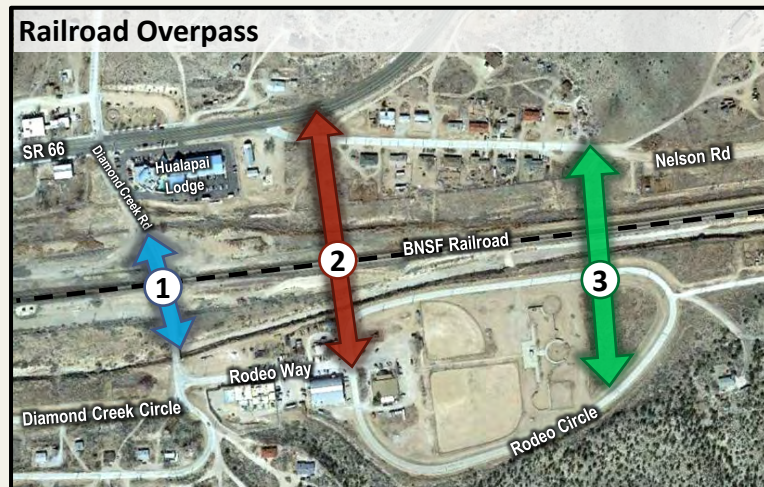
- ☒ Valentine
- ☒ Valentine Cemetery Rd



- ☒ Diamond Creek Road
- ☒ Valentine



- ☒ Diamond Creek Road
- ☒ Valentine

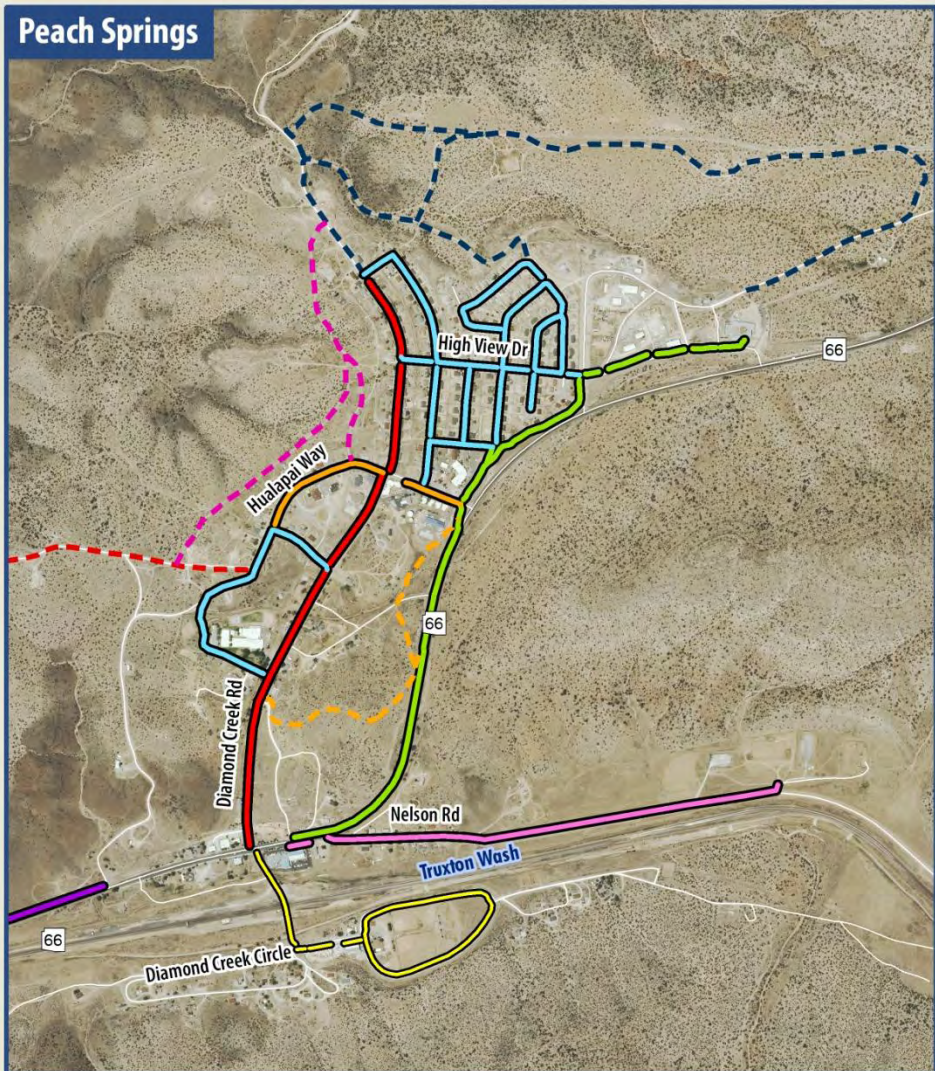


- ☒ ① Diamond Creek Road (~ \$3.7 million)
- ☒ ② Rodeo Way to State Route 66 (~ \$3.8 million)
- ☒ ③ Rodeo Circle to Nelson Road (~ \$2.2 million)

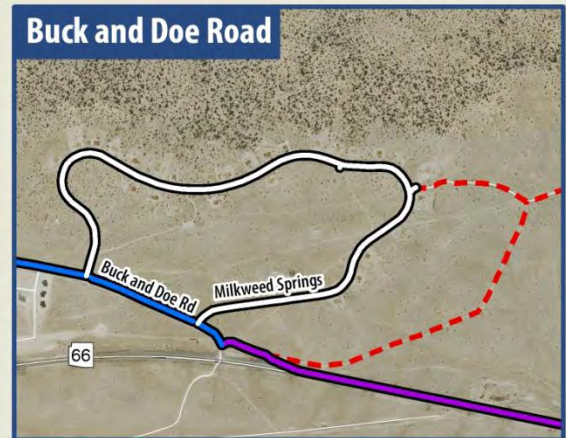
Comments: _____

PEDESTRIAN, BICYCLE, AND TRAIL FACILITIES

What pedestrian, bicycle, and trail facilities would you like to see? Please prioritize below.



Peach Springs



Buck and Doe Road



Valentine

Sidewalks or shared-use paths	Priority	Reason
☒ Diamond Creek Road		
☒ Hualapai Way		
☒ Nelson Road		
☒ Residential Streets (Peach Springs)		
☒ South of SR 66 (Peach Springs)		
☒ SR 66: To Juvenile Detention Center		
☒ SR 66: Peach Springs to Buck and Doe Road		
☒ Buck and Doe Road		
☒ Milkweed Springs Road		
☒ Valentine		
Other:		
Trails	Priority	Reason
☒ Trail Connection to Milkweed Springs Road		
☒ Trail System: East of Diamond Creek Road		
☒ Trail System: West of Diamond Creek Road		
☒ Trail System: North of Peach Springs		
Other:		



Stakeholder Questionnaire Responses

YOUR THOUGHTS, IDEAS, AND COMMENTS

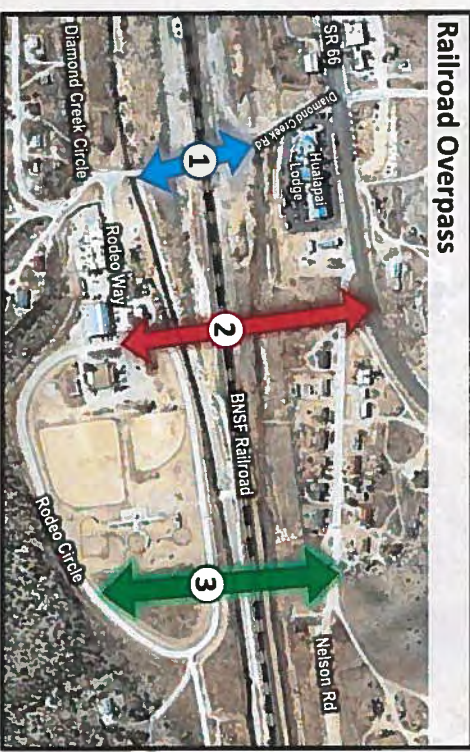
SAFETY IMPROVEMENTS – TRAFFIC CALMING

What type of traffic calming countermeasures would you like to see, and where?

					
Highly visible pavement markings that are also visible at night	Alerts drivers of their vehicle speed	Grooves in the roadway surface designed to alert drivers	Curved raised medians designed to slow down vehicles		
Pavement Markings Flashing Speed Sign Rumble Strips Double Chicane Reduce Speed Other:	☒ ☐ ☐ ☐ ☐ ☐	☒ ☐ ☐ ☐ ☐ ☐	☒ ☐ ☐ ☐ ☐ ☐		
	Diamond Bar Road	State Route 66 (Valentine)	State Route 66 (Peach Springs)	Supai Road	Other Locations

SAFETY IMPROVEMENTS – RAILROAD CROSSING

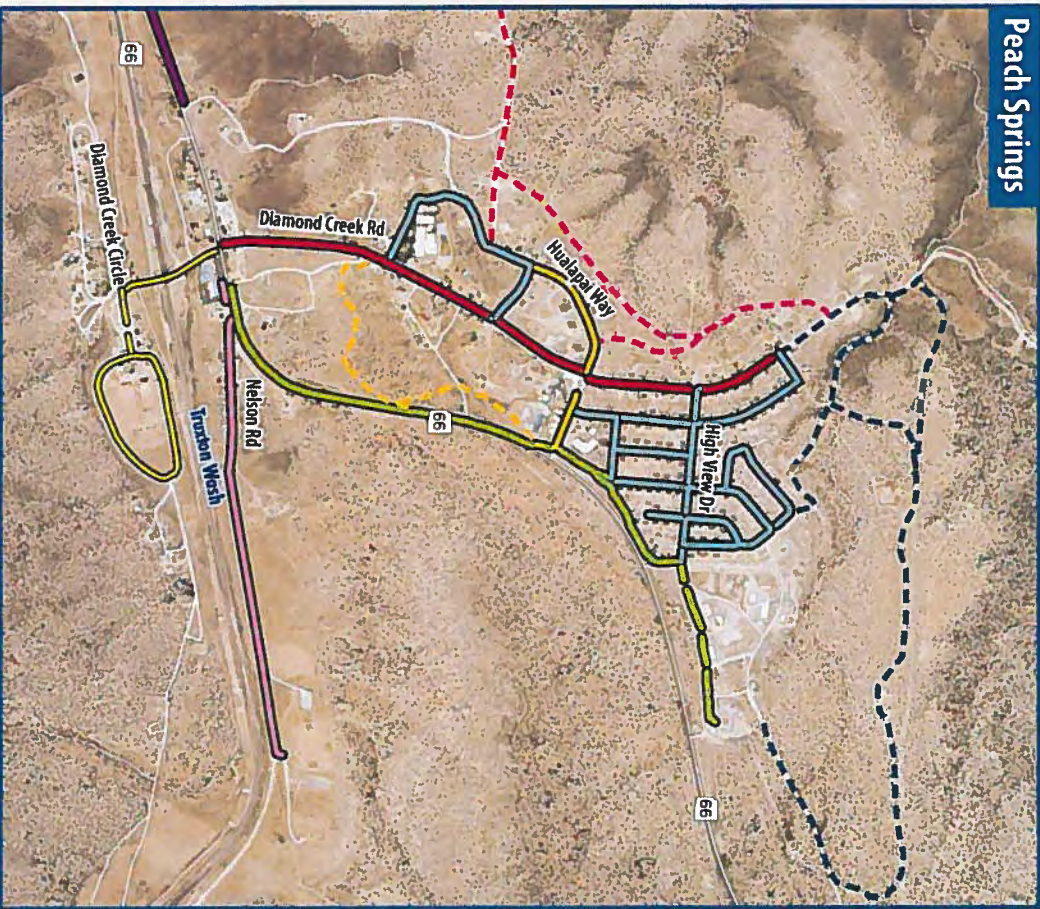
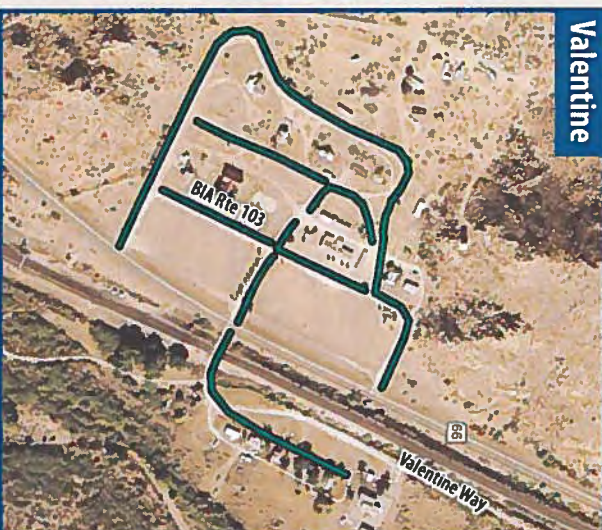
What railroad crossing improvements would you like to see?

		
Valentine Valentine Cemetery Rd	Valentine Valentine Cemetery Rd	
		
Diamond Creek Road Valentine	Diamond Creek Road Valentine	
Comments:		

YOUR THOUGHTS, IDEAS, AND COMMENTS

PEDESTRIAN, BICYCLE, AND TRAIL FACILITIES

What pedestrian, bicycle, and trail facilities would you like to see? Please prioritize below.

		
Sidewalks or shared-use paths Diamond Creek Road Hualapai Way Nelson Road Residential Streets (Peach Springs) South of SR 66 (Peach Springs) SR 66: To Juvenile Detention Center SR 66: Peach Springs to Buck and Doe Road Buck and Doe Road Milkweed Springs Road Valentine Other:	Priority Reason ★ Children & families should have safe path to school & other activities. ★ families walking between two communities.	Priority Reason ★ ★

YOUR THOUGHTS, IDEAS, AND COMMENTS

SAFETY IMPROVEMENTS – TRAFFIC CALMING

What type of traffic calming countermeasures would you like to see, and where?

			
• Highly visible pavement markings that are also visible at night	• Alerts drivers of their vehicle speed	• Grooves in the roadway surface designed to alert drivers	• Curved raised medians designed to slow down vehicles
Pavement Markings	Diamond Bar Road	State Route 66 (Valentine)	State Route 66 (Peach Springs)
Flashing Speed Sign	☒	☒	☒
Rumble Strips	☒	☒	☒
Double Chicane	☒	☒	☒
Reduce Speed	45 to __ mph	65 to __ mph	45 to __ mph
Other:			

SAFETY IMPROVEMENTS - RAILROAD CROSSING

What railroad crossing improvements would you like to see?

		
Valentine Valentine Cemetery Rd	Valentine Valentine Cemetery Rd	1 Diamond Creek Road (~ \$3.7 million) 2 Rodeo Way to State Route 66 (~ \$3.8 million) 3 Rodeo Circle to Nelson Road (~ \$2.2 million)
Pedestrian Bridge	Quiet Zone	
Diamond Creek Road Valentine	Diamond Creek Road Valentine	

YOUR THOUGHTS, IDEAS, AND COMMENTS

PEDESTRIAN, BICYCLE, AND TRAIL FACILITIES

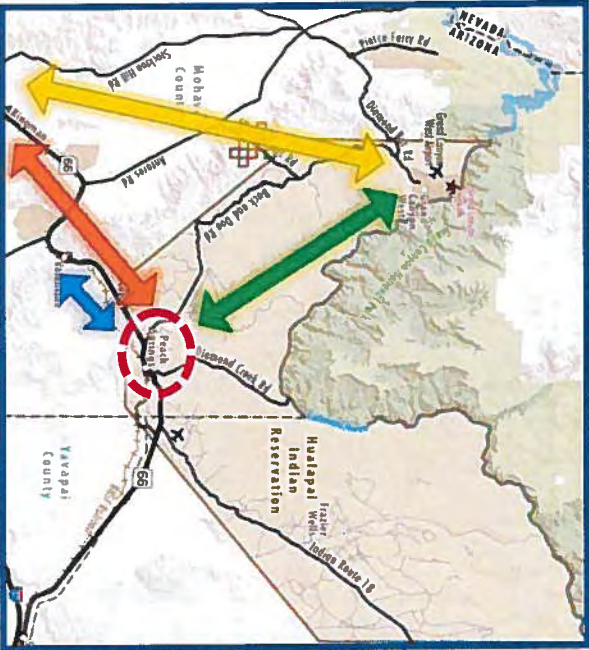
What pedestrian, bicycle, and trail facilities would you like to see? Please prioritize below.

Trails	Priority	Reason
Trail Connection to Milkweed Springs Road		
Trail System: East of Diamond Creek Road		
Trail System: West of Diamond Creek Road	1	CONNECT DIAMOND CREEK + BUCK AND DOE
Trail System: North of Peach Springs		
Other:		

TRANSIT IMPROVEMENTS

Please rank the following transit service options

Service Area	Priority	Trip Purpose (medical, work, shopping, etc.)
 Within Peach Springs	1	School/Medical/Food Bank
 Peach Springs - Valentine		
 Peach Springs - Grand Canyon West	2	Work
 Peach Springs - Kingman	3	Shopping
 Kingman - Grand Canyon West		
Peach Springs - Phoenix		
Peach Springs - Las Vegas		
Peach Springs - Laughlin		
Peach Springs - Flagstaff		



Comments:

Do you have additional comments?

Families need transit to get to activities, and we know they have a big need to get to the monthly food bank and transport the food home

Please submit comment forms at the end of the meeting or mail/email forms by July 25, 2014 to:

Philip Wisely
Hualapai Indian Tribe
Email: pwisely@hualapai-nsn.gov
Mail: P.O. Box 179, Peach Springs, AZ 86434

Misty Klann
Arizona Department of Transportation
Email: mklann@azdot.gov
Mail: ADOT - Multimodal Planning Division
206 South 17th Avenue, MD 310B, Phoenix, AZ 85007

STAKEHOLDER QUESTIONNAIRE

Long Range Transportation Plan for the Hualapai Indian Tribe



NAME (OPTIONAL): SANDIE COMPANY/AGENCY: _____

YOUR INPUT IS REQUESTED

Your input will help us develop a better transportation improvement plan. Please review and complete each section. Feel free to utilize the last page to provide any additional comments.

SAFETY IMPROVEMENTS – INTERSECTION IMPROVEMENTS

Which of these intersection options would you like to see? (Please mark your preference)

State Route 66/Diamond Creek Road

Option 1 :Traffic Signal



- New traffic signal
- Restripe lanes
- Crosswalks and sidewalks

Advantages

- No additional ROW
- No learning curve for motorists
- Improves safety

Disadvantages

- High maintenance costs
- May not reduce speeding
- Loss of on-street parking

Option 2: Roundabout



- One-lane roundabout
- Pedestrian refuge islands
- Crosswalks and sidewalks

Advantages

- Forces drivers to slow down on approach
- Improves safety
- Provides opportunities for landscaping

Disadvantages

- May need additional ROW
- High implementation costs
- Loss of on-street parking

SAFETY IMPROVEMENTS – ROADSIDE IMPROVEMENTS

What type of roadway safety improvements would you like to see, and where?

Street Lighting



- Dark skies friendly, LED lighting
- Moderate maintenance costs

Top 3 Priority Locations:

SAFETY @ DIAMOND CREEK

Wildlife Fencing



- Restricts wildlife from entering right-of-way

Top 3 Priority Locations:

Road and Wayfinding Signs



- Provides motorists/tourists with navigational information

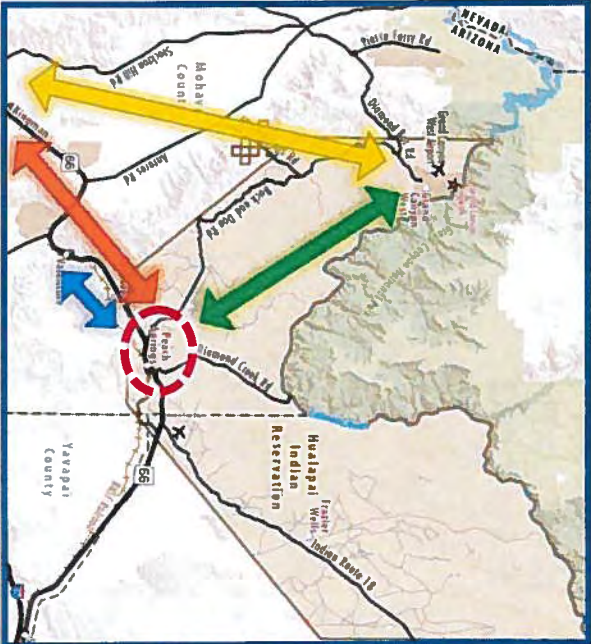
Top 3 Priority Locations:

DIAMOND CREEK

TRANSIT IMPROVEMENTS

Please rank the following transit service options

Service Area	Priority	Trip Purpose (medical, work, shopping, etc.)
 Within Peach Springs		
 Peach Springs - Valentine		
 Peach Springs - Grand Canyon West		
 Peach Springs - Kingman		
 Kingman - Grand Canyon West		
Peach Springs - Phoenix		
Peach Springs - Las Vegas		
Peach Springs - Laughlin		
Peach Springs - Flagstaff		



Comments:

Do you have additional comments?

* Safe locations (with weather protection) for bus stop areas.

* Sidewalks and/or walking paths for children from residential areas to schools,

DI shelter, gym & the lodge.

* Thanks!

Please submit comment forms at the end of the meeting or mail/email forms by July 25, 2014 to:

Philp Wisely
Hualapai Indian Tribe
Email: pwisely@hualapai-nsn.gov
Mail: P.O. Box 179; Peach Springs, AZ 86434

Misty Klann
Arizona Department of Transportation
Email: mklann@azdot.gov
Mail: ADOT - Multimodal Planning Division
206 South 17th Avenue, MD 310B; Phoenix, AZ 85007

STAKEHOLDER QUESTIONNAIRE

Long Range Transportation Plan for the Hualapai Indian Tribe



NAME (OPTIONAL): Ashley Pascual COMPANY/AGENCY:

YOUR INPUT IS REQUESTED

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SAFETY IMPROVEMENTS – INTERSECTION IMPROVEMENTS

Which of these intersection options would you like to see? (Please mark your preference)

State Route 66/Diamond Creek Road

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Disadvantages

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Option 2: Roundabout



- One-lane roundabout
- Pedestrian refuge islands
- Crosswalks and sidewalks

Advantages

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- Improves safety
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Disadvantages

- May need additional ROW
- High implementation costs
- Loss of on-street parking

SAFETY IMPROVEMENTS – ROADSIDE IMPROVEMENTS

What type of roadway safety improvements would you like to see, and where?

Street Lighting



- Dark skies friendly, LED lighting
- Moderate maintenance costs

Top 3 Priority Locations:

Wildlife Fencing



- Restricts wildlife from entering right-of-way

Top 3 Priority Locations:

Road and Wayfinding Signs



- Provides motorists/tourists with navigational information

Top 3 Priority Locations:

YOUR THOUGHTS, IDEAS, AND COMMENTS

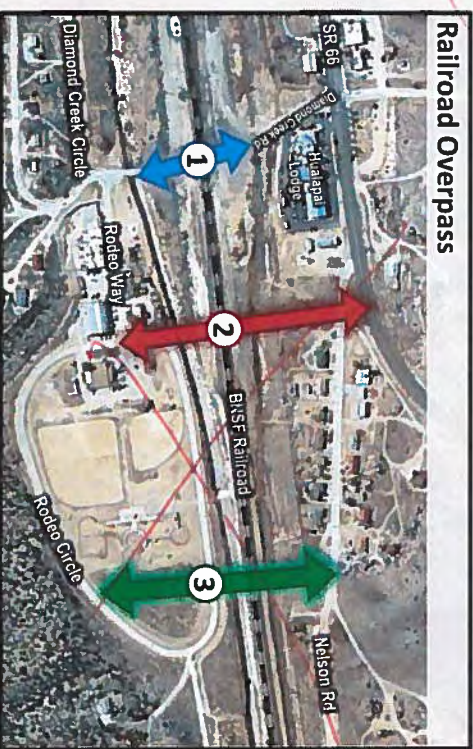
SAFETY IMPROVEMENTS – TRAFFIC CALMING

What type of traffic calming countermeasures would you like to see, and where?

			
• Highly visible pavement markings that are also visible at night	• Alerts drivers of their vehicle speed	• Grooves in the roadway surface designed to alert drivers	• Curved raised medians designed to slow down vehicles
Diamond Bar Road	State Route 66 (Valentine)	State Route 66 (Peach Springs)	Supai Road
Other Locations			
Pavement Markings	☒	☒	☒
Flashing Speed Sign	☒	☒	☒
Rumble Strips	☒	☒	☒
Double Chicane	☒	☒	☒
Reduce Speed	45 to ___ mph	65 to ___ mph	45 to ___ mph
50 to ___ mph			
Other:			

SAFETY IMPROVEMENTS – RAILROAD CROSSING

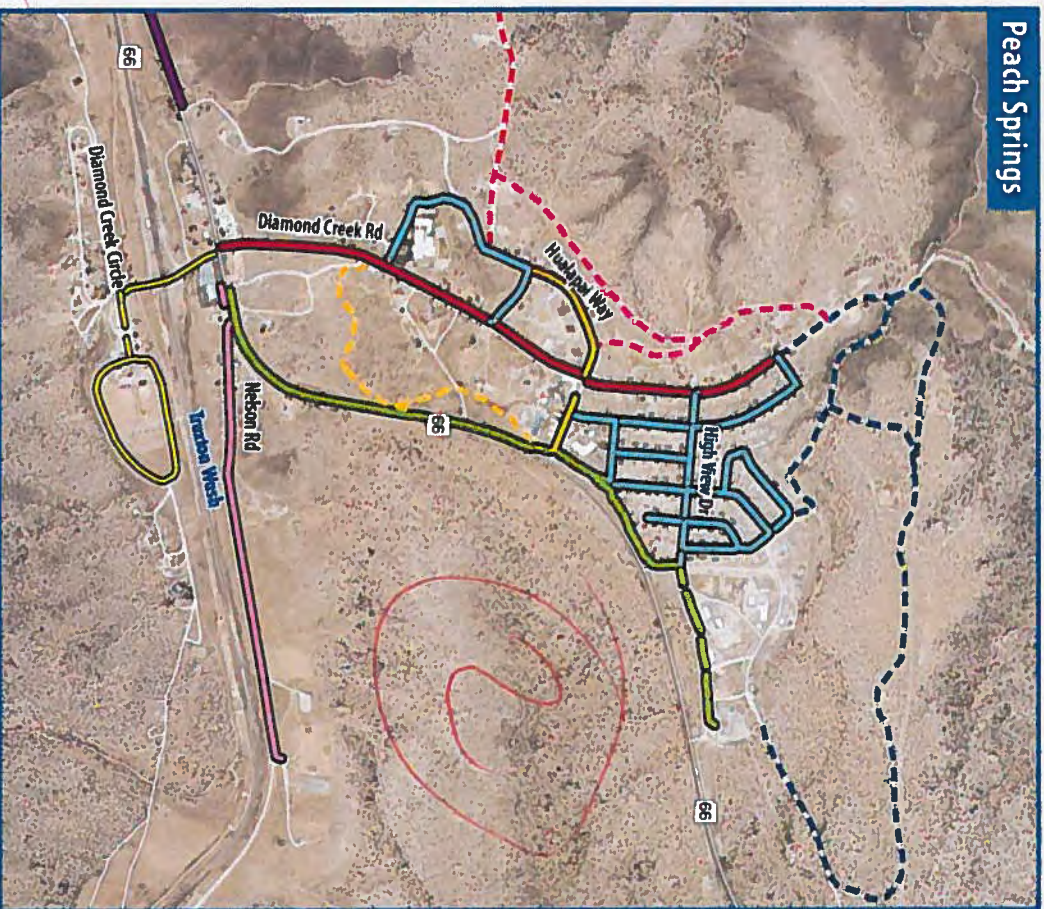
What railroad crossing improvements would you like to see?

		
Valentine	Valentine	1 Diamond Creek Road (~ \$3.7 million)
Valentine Cemetery Rd	Valentine Cemetery Rd	2 Rodeo Way to State Route 66 (~ \$3.8 million)
		3 Rodeo Circle to Nelson Road (~ \$2.2 million)
		
Diamond Creek Road	Diamond Creek Road	
Valentine	Valentine	
Comments:		

YOUR THOUGHTS, IDEAS, AND COMMENTS

PEDESTRIAN, BICYCLE, AND TRAIL FACILITIES

What pedestrian, bicycle, and trail facilities would you like to see? Please prioritize below.

																																																								
Peach Springs	Buck and Doe Road	Valentine																																																						
<table><tr><th>Sidewalks or shared-use paths</th><th>Priority</th><th>Reason</th></tr><tr><td>Diamond Creek Road</td><td></td><td></td></tr><tr><td>Hualapai Way</td><td></td><td></td></tr><tr><td>Nelson Road</td><td></td><td></td></tr><tr><td>Residential Streets (Peach Springs)</td><td></td><td></td></tr><tr><td>South of SR 66 (Peach Springs)</td><td></td><td></td></tr><tr><td>SR 66: To Juvenile Detention Center</td><td></td><td></td></tr><tr><td>SR 66: Peach Springs to Buck and Doe Road</td><td></td><td></td></tr><tr><td>Buck and Doe Road</td><td></td><td></td></tr><tr><td>Milkweed Springs Road</td><td></td><td></td></tr><tr><td>Valentine</td><td></td><td></td></tr><tr><td>Other:</td><td></td><td></td></tr><tr><th>Trails</th><th>Priority</th><th>Reason</th></tr><tr><td>Trail Connection to Milkweed Springs Road</td><td></td><td></td></tr><tr><td>Trail System: East of Diamond Creek Road</td><td></td><td></td></tr><tr><td>Trail System: West of Diamond Creek Road</td><td></td><td></td></tr><tr><td>Trail System: North of Peach Springs</td><td></td><td></td></tr><tr><td>Other:</td><td></td><td></td></tr></table>			Sidewalks or shared-use paths	Priority	Reason	Diamond Creek Road			Hualapai Way			Nelson Road			Residential Streets (Peach Springs)			South of SR 66 (Peach Springs)			SR 66: To Juvenile Detention Center			SR 66: Peach Springs to Buck and Doe Road			Buck and Doe Road			Milkweed Springs Road			Valentine			Other:			Trails	Priority	Reason	Trail Connection to Milkweed Springs Road			Trail System: East of Diamond Creek Road			Trail System: West of Diamond Creek Road			Trail System: North of Peach Springs			Other:		
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YOUR THOUGHTS, IDEAS, AND COMMENTS

SAFETY IMPROVEMENTS – TRAFFIC CALMING

What type of traffic calming countermeasures would you like to see, and where?

Pavement Markings	Flashing Speed Sign	In-Road Rumble Strips	Double Chicane
			
Highly visible pavement markings that are also visible at night	Alerts drivers of their vehicle speed	Grooves in the roadway surface designed to alert drivers	Curved raised medians designed to slow down vehicles
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Flashing Speed Sign			Supai Road
Rumble Strips			Other Locations
Double Chicane			
Reduce Speed	45 to ___ mph	65 to ___ mph	45 to ___ mph
50 to ___ mph			
Other:			

SAFETY IMPROVEMENTS – RAILROAD CROSSING

What railroad crossing improvements would you like to see?

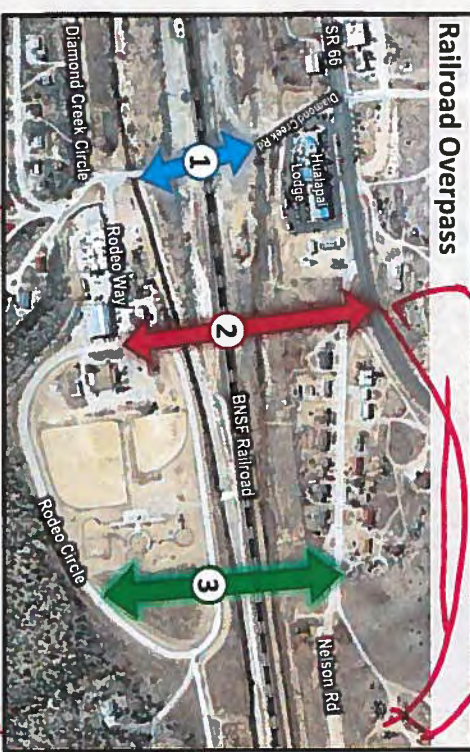
Flashing Light Signal



Automatic Gates



Railroad Overpass



Valentine

Valentine Cemetery Rd

Valentine

Valentine Cemetery Rd

Pedestrian Bridge



Quiet Zone



Diamond Creek Road

Valentine

Diamond Creek Road

Valentine

Comments:

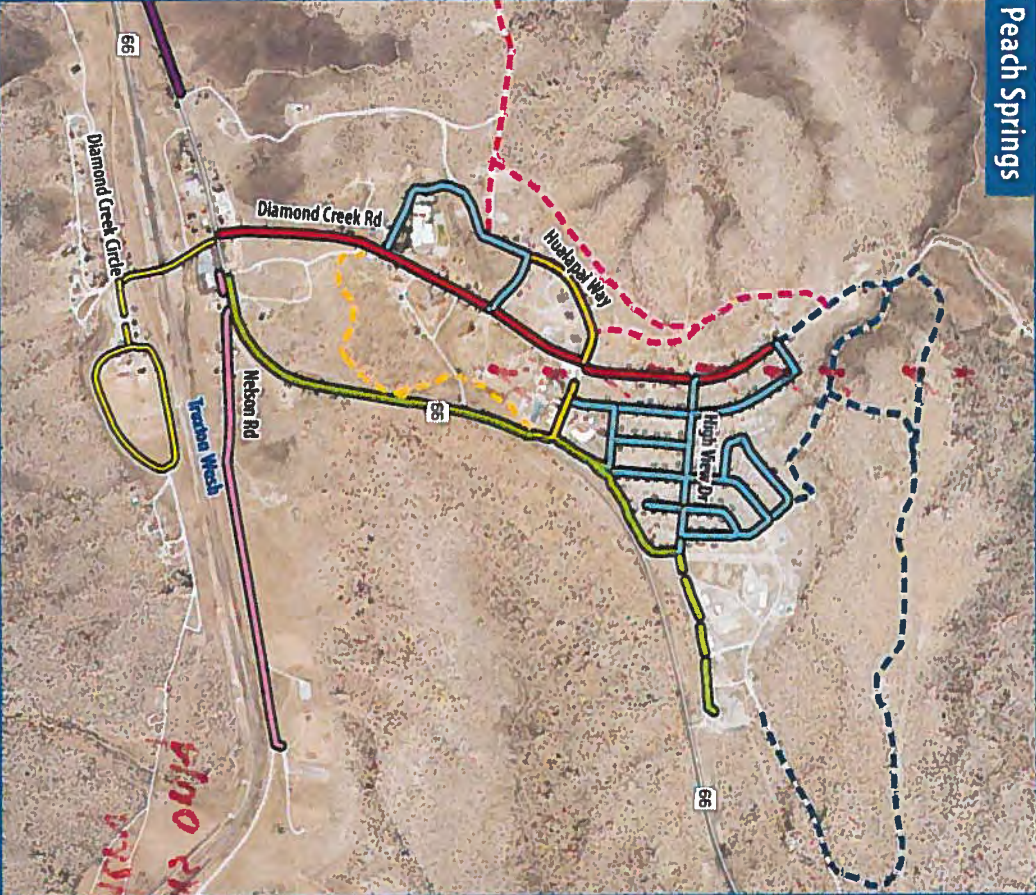
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YOUR THOUGHTS, IDEAS, AND COMMENTS

PEDESTRIAN, BICYCLE, AND TRAIL FACILITIES

What pedestrian, bicycle, and trail facilities would you like to see? Please prioritize below.

Peach Springs



Buck and Doe Road



Valentine



Sidewalks or shared-use paths

Diamond Creek Road

Hualapai Way

Nelson Road

Residential Streets (Peach Springs)

South of SR 66 (Peach Springs)

SR 66: To Juvenile Detention Center

SR 66: Peach Springs to Buck and Doe Road

Buck and Doe Road

Milkweed Springs Road

Valentine

Other:

Priority

Reason

Trails

Trail Connection to Milkweed Springs Road

Trail System: East of Diamond Creek Road

Trail System: West of Diamond Creek Road

Trail System: North of Peach Springs

Other:

Priority

Reason

TRANSIT IMPROVEMENTS

Please rank the following transit service options

Service Area	Priority	Trip Purpose (medical, work, shopping, etc.)
 Within Peach Springs	☒	
 Peach Springs - Valentine	☒	
 Peach Springs – Grand Canyon West	☒	
 Peach Springs – Kingman	☒	
 Kingman – Grand Canyon West	☒	
Peach Springs – Phoenix	☒	
Peach Springs – Las Vegas	☒	
Peach Springs – Laughlin	☒	
Peach Springs – Flagstaff	☒	



Comments:

Do you have additional comments?

*over pass e Valentine for cars only
cemetery

Please submit comment forms at the end of the meeting or mail/email forms by July 25, 2014 to:

Philip Wisely
Hualapai Indian Tribe
Email: pwisely@hualapai-nsn.gov
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STAKEHOLDER QUESTIONNAIRE

Long Range Transportation Plan for the Hualapai Indian Tribe



NAME (OPTIONAL): COMPANY/AGENCY:

YOUR INPUT IS REQUESTED

Your input will help us develop a better transportation improvement plan. Please review and complete each section. Feel free to utilize the last page to provide any additional comments.

SAFETY IMPROVEMENTS – INTERSECTION IMPROVEMENTS

Which of these intersection options would you like to see? (Please mark your preference)

State Route 66/Diamond Creek Road

Option 1 : Traffic Signal



- New traffic signal
- Restripe lanes
- Crosswalks and sidewalks

Advantages

- No additional ROW
- No learning curve for motorists
- Improves safety

Disadvantages

- High maintenance costs
- May not reduce speeding
- Loss of on-street parking

Option 2: Roundabout



- One-lane roundabout
- Pedestrian refuge islands
- Crosswalks and sidewalks

Advantages

- Forces drivers to slow down on approach
- Improves safety
- Provides opportunities for landscaping

Disadvantages

- May need additional ROW
- High implementation costs
- Loss of on-street parking

SAFETY IMPROVEMENTS – ROADSIDE IMPROVEMENTS

What type of roadway safety improvements would you like to see, and where?

Street Lighting



- Dark skies friendly, LED lighting
- Moderate maintenance costs

Top 3 Priority Locations:

Wildlife Fencing



- Restricts wildlife from entering right-of-way

Top 3 Priority Locations:

Road and Wayfinding Signs

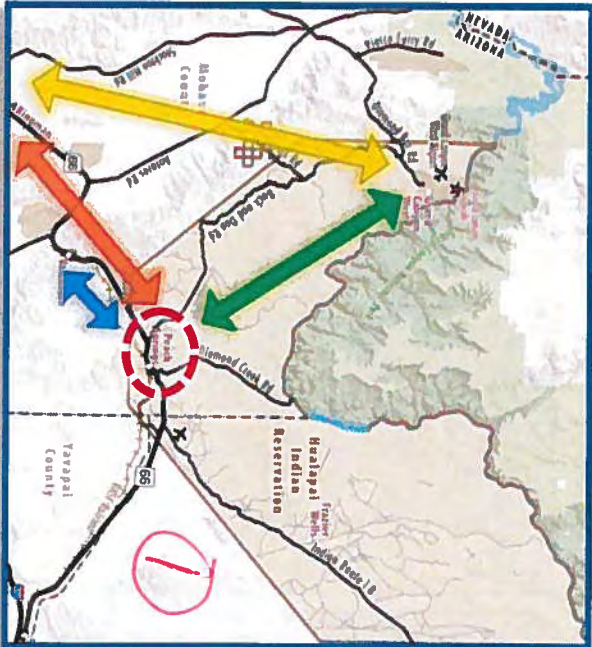


- Provides motorists/tourists with navigational information

Top 3 Priority Locations:

TRANSIT IMPROVEMENTS

Please rank the following transit service options



Service Area	Priority	Trip Purpose (medical, work, shopping, etc.)
Within Peach Springs		
Peach Springs - Valentine		
Peach Springs – Grand Canyon West		
Peach Springs – Kingman		
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Peach Springs – Phoenix		
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Peach Springs – Laughlin		
Peach Springs – Flagstaff		

Comments:

Do you have additional comments?

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206 South 17th Avenue, MD 310B, Phoenix, AZ 85007

STAKEHOLDER QUESTIONNAIRE

Long Range Transportation Plan for the Hualapai Indian Tribe



NAME (OPTIONAL):

COMPANY/AGENCY:

YOUR INPUT IS REQUESTED

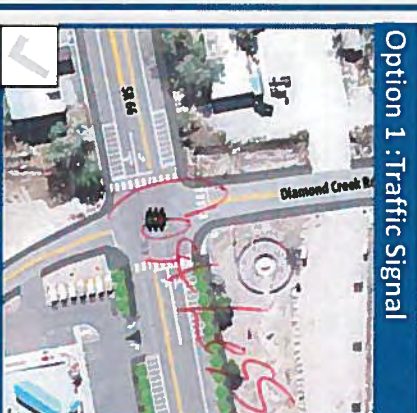
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SAFETY IMPROVEMENTS – INTERSECTION IMPROVEMENTS

Which of these intersection options would you like to see? (Please mark your preference)

State Route 66/Diamond Creek Road

Option 1 :Traffic Signal



- New traffic signal
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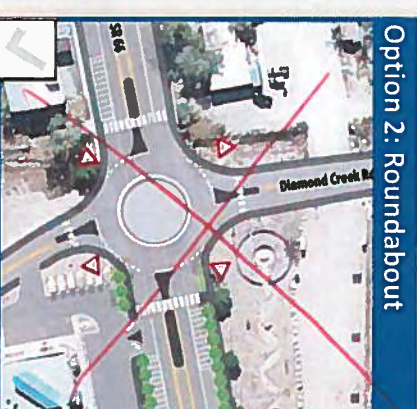
Advantages

- No additional ROW
- No learning curve for motorists
- Improves safety

Disadvantages

- High maintenance costs
- May not reduce speeding
- Loss of on-street parking

Option 2: Roundabout



- One-lane roundabout
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Disadvantages

- May need additional ROW
- High implementation costs
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SAFETY IMPROVEMENTS – ROADSIDE IMPROVEMENTS

What type of roadway safety improvements would you like to see, and where?

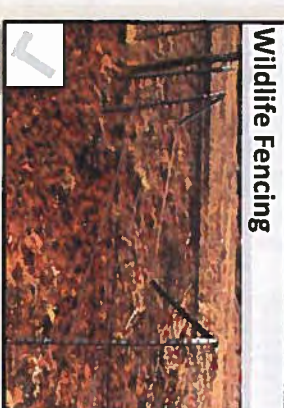
Street Lighting



- Dark skies friendly, LED lighting
- Moderate maintenance costs

Top 3 Priority Locations:

Wildlife Fencing



- Restricts wildlife from entering right-of-way

Top 3 Priority Locations:

Road and Wayfinding Signs



- Provides motorists/tourists with navigational information

Top 3 Priority Locations:

YOUR THOUGHTS, IDEAS, AND COMMENTS

PEDESTRIAN, BICYCLE, AND TRAIL FACILITIES

What pedestrian, bicycle, and trail facilities would you like to see? Please prioritize below.

[illegible]

An aerial photograph of a desert landscape. A yellow boundary line runs vertically through the center of the image. To the left of the yellow line, there is a green boundary line that forms a large, irregular shape. The terrain is arid and sandy, with some sparse vegetation and small structures visible. A road or path runs horizontally across the middle of the image, intersecting the yellow boundary line.

65			
Sidewalks or shared-use paths		Priority	Reason
	Diamond Creek Road		SIDEWALKS & PATHS ARE NEEDED.
	Hualapai Way		
	Nelson Road		
	Residential Streets (Peach Springs)		
	South of SR 66 (Peach Springs)		
	SR 66: To Juvenile Detention Center		
	SR 66: Peach Springs to Buck and Doe Road		
	Buck and Doe Road		
	Milkweed Springs Road		
	Valentine		
Other:			
Trails		Priority	Reason
	Trail Connection to Milkweed Springs Road		TRAILS NEEDED - EXERCISE PURPOSE
	Trail System: East of Diamond Creek Road		

* RAILROAD OVERPASS WOULD BE THE 1ST PRIORITY.

YOUR THOUGHTS, IDEAS, AND COMMENTS

SAFETY IMPROVEMENTS – TRAFFIC CALMING

What type of traffic calming countermeasures would you like to see, and where?

Pavement Markings	Flashing Speed Sign	In-Road Rumble Strips	Double Chicane	
• Highly visible pavement markings that are also visible at night	• Alerts drivers of their vehicle speed	• Grooves in the roadway surface designed to alert drivers	• Curved raised medians designed to slow down vehicles	
Diamond Bar Road	State Route 66 (Valentine)	State Route 66 (Peach Springs)	Supai Road	Other Locations
Pavement Markings	✓	✓	✓	
Flashing Speed Sign	✓	✓	✓	
Rumble Strips	✓	✓	✓	
Double Chicane	✓	✓	✓	
Reduce Speed	45 to __ mph	65 to __ mph	45 to __ mph	50 to __ mph
Other:				

SAFETY IMPROVEMENTS – RAILROAD CROSSING

What railroad crossing improvements would you like to see?

Flashing Light Signal	Automatic Gates	Railroad Overpass
✓ Valentine	✓ Valentine	
✓ Valentine Cemetery Rd	✓ Valentine Cemetery Rd	
Pedestrian Bridge	Quiet Zone	
✓ Diamond Creek Road	✓ Diamond Creek Road	✓ 1 Diamond Creek Road (~ \$3.7 million)
✓ Valentine	✓ Valentine	✓ 2 Rodeo Way to State Route 66 (~ \$3.8 million)
		✓ 3 Rodeo Circle to Nelson Road (~ \$2.2 million)
Comments:		

YOUR THOUGHTS, IDEAS, AND COMMENTS

PEDESTRIAN, BICYCLE, AND TRAIL FACILITIES

What pedestrian, bicycle, and trail facilities would you like to see? Please prioritize below.

Peach Springs	Buck and Doe Road	Valentine
Sidewalks or shared-use paths	Priority	Reason
Diamond Creek Road		
Hualapai Way		
Nelson Road		
Residential Streets (Peach Springs)		
South of SR 66 (Peach Springs)		
SR 66: To Juvenile Detention Center		
SR 66: Peach Springs to Buck and Doe Road		
Buck and Doe Road		
Milkweed Springs Road		
Valentine		
Other:		
Trails	Priority	Reason
Trail Connection to Milkweed Springs Road		
Trail System: East of Diamond Creek Road		
Trail System: West of Diamond Creek Road		
Trail System: North of Peach Springs		
Other:		

YOUR THOUGHTS, IDEAS, AND COMMENTS

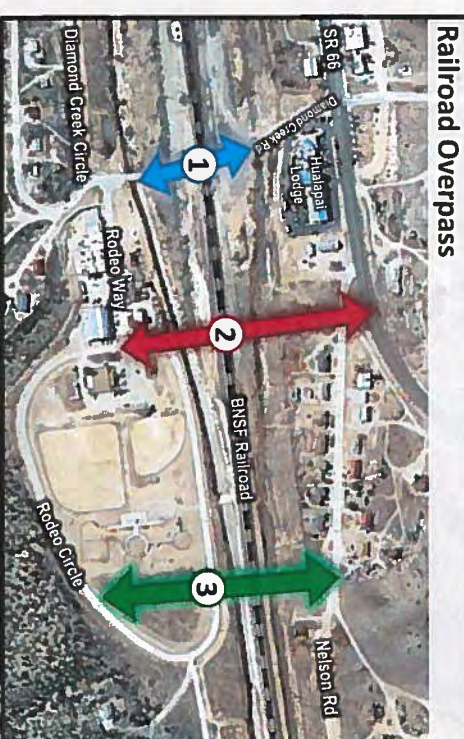
SAFETY IMPROVEMENTS – TRAFFIC CALMING

What type of traffic calming countermeasures would you like to see, and where?

Pavement Markings	Flashing Speed Sign	In-Road Rumble Strips	Double Chicane
			
Highly visible pavement markings that are also visible at night	Alerts drivers of their vehicle speed	Grooves in the roadway surface designed to alert drivers	Curved raised medians designed to slow down vehicles
	Diamond Bar Road	State Route 66 (Valentine)	State Route 66 (Peach Springs)
Pavement Markings	✓	✓	✓
Flashing Speed Sign	✓	✓	✓
Rumble Strips	✓	✓	✓
Double Chicane	✓	✓	✓
Reduce Speed	45 to ___ mph	65 to ___ mph	45 to ___ mph
50 to ___ mph			
Other:			

SAFETY IMPROVEMENTS – RAILROAD CROSSING

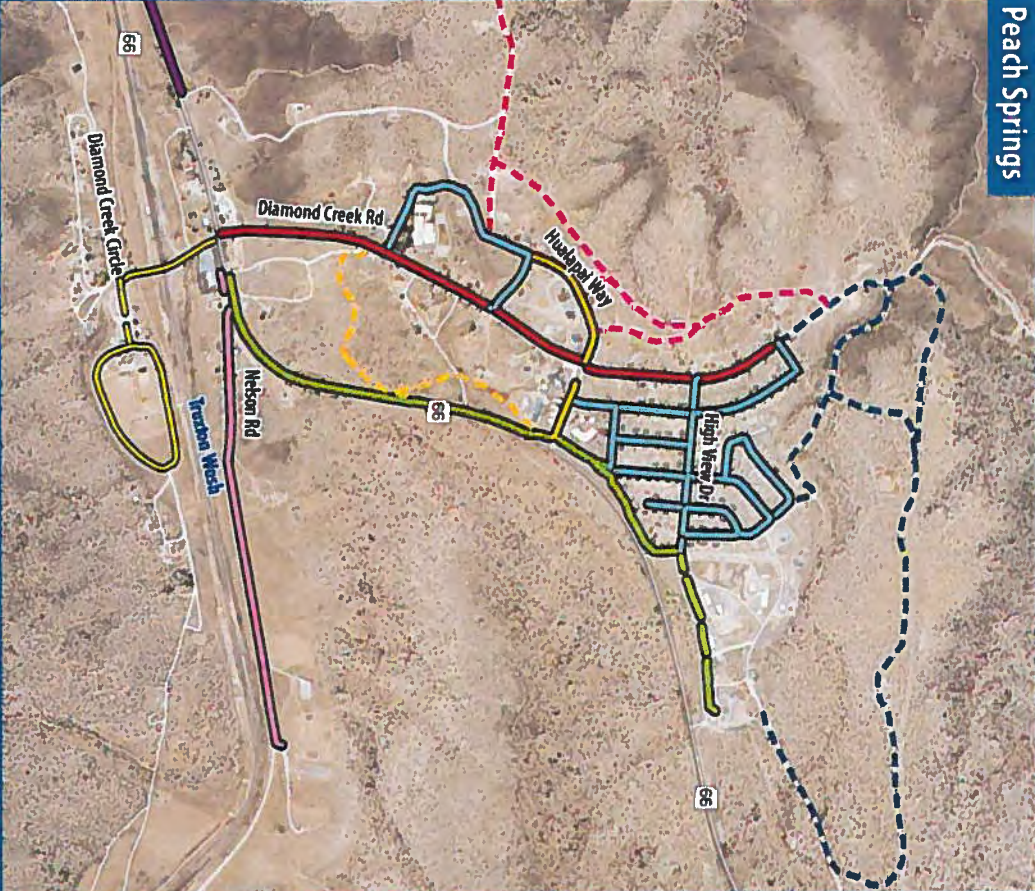
What railroad crossing improvements would you like to see?

Flashing Light Signal	Automatic Gates	Railroad Overpass
		
- Valentine - Valentine Cemetery Rd	- Valentine - Valentine Cemetery Rd	1 Diamond Creek Road (~\$3.7 million) 2 Rodeo Way to State Route 66 (~\$3.8 million) 3 Rodeo Circle to Nelson Road (~\$2.2 million)
Pedestrian Bridge	Quiet Zone	
		
- Diamond Creek Road - Valentine	- Diamond Creek Road - Valentine	
Comments:		

YOUR THOUGHTS, IDEAS, AND COMMENTS

PEDESTRIAN, BICYCLE, AND TRAIL FACILITIES

What pedestrian, bicycle, and trail facilities would you like to see? Please prioritize below.

Peach Springs		Buck and Doe Road		Valentine	
					
Sidewalks or shared-use paths	Priority	Reason			
Diamond Creek Road					
Hualapai Way					
Nelson Road					
Residential Streets (Peach Springs)					
South of SR 66 (Peach Springs)					
SR 66: To Juvenile Detention Center					
SR 66: Peach Springs to Buck and Doe Road					
Buck and Doe Road					
Milkweed Springs Road					
Valentine					
Other:					
Trails	Priority	Reason			
Trail Connection to Milkweed Springs Road					
Trail System: East of Diamond Creek Road					
Trail System: West of Diamond Creek Road					
Trail System: North of Peach Springs					
Other:					

YOUR THOUGHTS, IDEAS, AND COMMENTS

SAFETY IMPROVEMENTS – TRAFFIC CALMING

What type of traffic calming countermeasures would you like to see, and where?

				
- Highly visible pavement markings that are also visible at night - Alerts drivers of their vehicle speed - Grooves in the roadway surface designed to alert drivers - Curved raised medians designed to slow down vehicles				
Pavement Markings	☒	☒	☒	☒
Flashing Speed Sign	☒	☒	☒	☒
Rumble Strips	☒	☒	☒	☒
Double Chicane	☒	☒	☒	☒
Reduce Speed	45 to ___ mph	65 to ___ mph	45 to ___ mph	50 to ___ mph
Other:				

SAFETY IMPROVEMENTS – RAILROAD CROSSING

What railroad crossing improvements would you like to see?

Comments:

Comments: Railroad pass - PS A, & Valentine.
Skele park for the youth Buck & Dee Rd.

YOUR THOUGHTS, IDEAS, AND COMMENTS

PEDESTRIAN, BICYCLE, AND TRAIL FACILITIES

What pedestrian, bicycle, and trail facilities would you like to see? Please prioritize below.

The figure consists of three separate aerial maps, each with a title in a blue box at the top. The top map, titled "Peach Springs", shows a network of roads including Diamond Creek Rd, Hookah Way, Nolson Rd, and Fugate New Dr, with various colored lines indicating proposed projects. The bottom-left map, titled "Valentine", shows a road layout with "BIA Rte 103" and "Valentine Way". The bottom-right map, titled "Buck and Doe Road", shows a road layout with "Buck and Doe Rd" and "Millwood Springs".

Sidewalks or shared-use paths		Priority	Reason
	Diamond Creek Road		
	Hualapai Way		
	Nelson Road		
	Residential Streets (Peach Springs)		
	South of SR 66 (Peach Springs)		
	SR 66: To Juvenile Detention Center		
	SR 66: Peach Springs to Buck and Doe Road		
	Buck and Doe Road		
	Milkweed Springs Road		
	Valentine		
Other:			
Trails		Priority	Reason
   	Trail Connection to Milkweed Springs Road		
   	Trail System: East of Diamond Creek Road		
    	Trail System: West of Diamond Creek Road		
    	Trail System: North of Peach Springs		
Other:			

YOUR THOUGHTS, IDEAS, AND COMMENTS

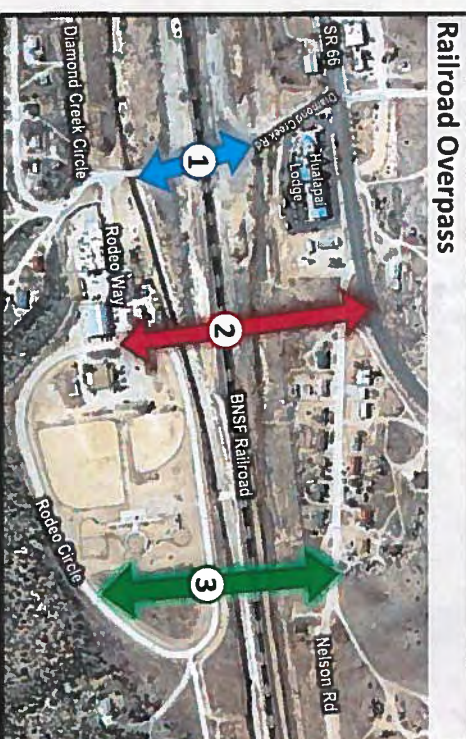
SAFETY IMPROVEMENTS – TRAFFIC CALMING

What type of traffic calming countermeasures would you like to see, and where?

			
Highly visible pavement markings that are also visible at night	Alerts drivers of their vehicle speed	Grooves in the roadway surface designed to alert drivers	Curved raised medians designed to slow down vehicles
Pavement Markings	Diamond Bar Road	State Route 66 (Valentine)	State Route 66 (Peach Springs)
Flashing Speed Sign			Supai Road
Rumble Strips			Other Locations
Double Chicane			
Reduce Speed	45 to ___ mph	65 to ___ mph	45 to ___ mph
			50 to ___ mph
Other:			

SAFETY IMPROVEMENTS – RAILROAD CROSSING

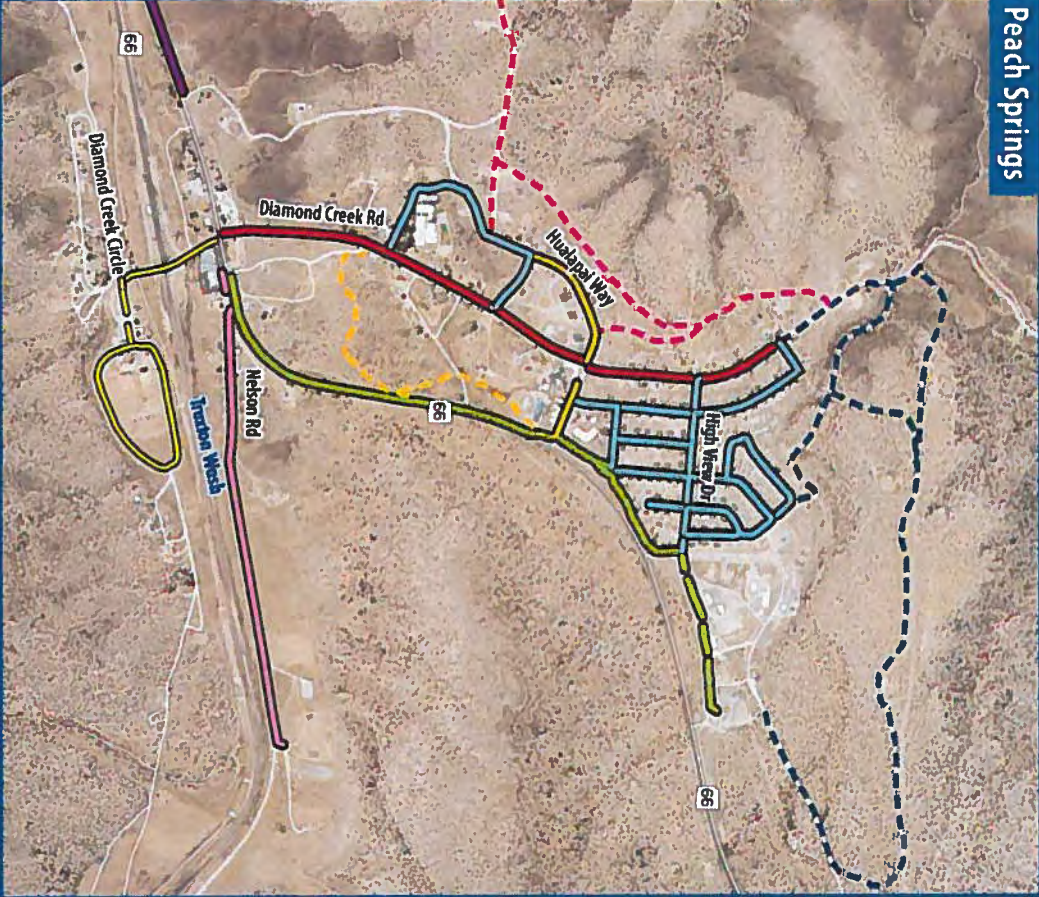
What railroad crossing improvements would you like to see?

		
Valentine	Valentine	1 Diamond Creek Road (~\$3.7 million)
Valentine Cemetery Rd	Valentine Cemetery Rd	2 Rodeo Way to State Route 66 (~\$3.8 million)
		3 Rodeo Circle to Nelson Road (~\$2.2 million)
Pedestrian Bridge	Quiet Zone	
Diamond Creek Road	Diamond Creek Road	
Valentine	Valentine	
Comments:		

YOUR THOUGHTS, IDEAS, AND COMMENTS

PEDESTRIAN, BICYCLE, AND TRAIL FACILITIES

What pedestrian, bicycle, and trail facilities would you like to see? Please prioritize below.

																																						
	Buck and Doe Road	Valentine																																				
<table><tr><th>Sidewalks or shared-use paths</th><th>Priority</th><th>Reason</th></tr><tr><td>Diamond Creek Road</td><td></td><td></td></tr><tr><td>Hualapai Way</td><td></td><td></td></tr><tr><td>Nelson Road</td><td></td><td></td></tr><tr><td>Residential Streets (Peach Springs)</td><td></td><td></td></tr><tr><td>South of SR 66 (Peach Springs)</td><td></td><td></td></tr><tr><td>SR 66: To Juvenile Detention Center</td><td></td><td></td></tr><tr><td>SR 66: Peach Springs to Buck and Doe Road</td><td></td><td></td></tr><tr><td>Buck and Doe Road</td><td></td><td></td></tr><tr><td>Milkweed Springs Road</td><td></td><td></td></tr><tr><td>Valentine</td><td></td><td></td></tr><tr><td>Other:</td><td></td><td></td></tr></table>	Sidewalks or shared-use paths	Priority	Reason	Diamond Creek Road			Hualapai Way			Nelson Road			Residential Streets (Peach Springs)			South of SR 66 (Peach Springs)			SR 66: To Juvenile Detention Center			SR 66: Peach Springs to Buck and Doe Road			Buck and Doe Road			Milkweed Springs Road			Valentine			Other:				
Sidewalks or shared-use paths	Priority	Reason																																				
Diamond Creek Road																																						
Hualapai Way																																						
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Other:																																						
<table><tr><th>Trails</th><th>Priority</th><th>Reason</th></tr><tr><td>Trail Connection to Milkweed Springs Road</td><td></td><td></td></tr><tr><td>Trail System: East of Diamond Creek Road</td><td></td><td></td></tr><tr><td>Trail System: West of Diamond Creek Road</td><td></td><td></td></tr><tr><td>Trail System: North of Peach Springs</td><td></td><td></td></tr><tr><td>Other:</td><td></td><td></td></tr></table>	Trails	Priority	Reason	Trail Connection to Milkweed Springs Road			Trail System: East of Diamond Creek Road			Trail System: West of Diamond Creek Road			Trail System: North of Peach Springs			Other:																						
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YOUR THOUGHTS, IDEAS, AND COMMENTS

PEDESTRIAN, BICYCLE, AND TRAIL FACILITIES

What pedestrian, bicycle, and trail facilities would you like to see? Please prioritize below.

The figure consists of three separate aerial maps, each with a colored title bar at the top. The top map, titled 'Peach Springs' in a blue bar, shows a network of roads including Diamond Creek Rd, Highway 66, and High View Dr, with various colored lines (red, blue, yellow, green) indicating proposed projects. The middle map, titled 'Buck and Doe Road' in a blue bar, shows a road project along Buck and Doe Rd near Millwood Springs, with a red dashed line indicating a boundary. The bottom map, titled 'Valentine' in a blue bar, shows a road project along Valentine Way, with a green line indicating the proposed project.

An aerial photograph of a desert landscape. A prominent yellow and black striped boundary line runs diagonally across the frame. To the right of this line, there is a green line. The terrain is arid and sandy, with some sparse vegetation and small structures visible in the distance.

Sidewalks or shared-use paths		Priority	Reason
	Diamond Creek Road	3	
	Hualapai Way	2	
	Nelson Road	9	
	Residential Streets (Peach Springs)	4	
	South of SR 66 (Peach Springs)	5	
	SR 66: To Juvenile Detention Center	1	
	SR 66: Peach Springs to Buck and Doe Road	6	
	Buck and Doe Road	7	
	Milkweed Springs Road	8	
	Valentine	10	
Other:			
Trails		Priority	Reason
	Trail Connection to Milkweed Springs Road	4	
	Trail System: East of Diamond Creek Road	3	
	Trail System: West of Diamond Creek Road	2	
	Trail System: North of Peach Springs	1	
Other:			

YOUR THOUGHTS, IDEAS, AND COMMENTS

SAFETY IMPROVEMENTS – TRAFFIC CALMING

What type of traffic calming countermeasures would you like to see, and where?

				
- Highly visible pavement markings that are also visible at night - Alerts drivers of their vehicle speed - Grooves in the roadway surface designed to alert drivers - Curved raised medians designed to slow down vehicles				
Highly visible pavement markings that are also visible at night				
Alerts drivers of their vehicle speed				
Grooves in the roadway surface designed to alert drivers				
Curved raised medians designed to slow down vehicles				

SAFETY IMPROVEMENTS – RAILROAD CROSSING

What railroad crossing improvements would you like to see?

Railroad Overpass

- 1 Diamond Creek Road (~\$3.7 million)
- 2 Rodeo Way to State Route 66 (~\$3.8 million)
- 3 Rodeo Circle to Nelson Road (~\$2.2 million)

YOUR THOUGHTS, IDEAS, AND COMMENTS

PEDESTRIAN, BICYCLE, AND TRAIL FACILITIES

What pedestrian, bicycle, and trail facilities would you like to see? Please prioritize below.

Peach Springs

Buck and Doe Road

Valentine

Legend:

- Sidewalks or shared-use paths**
 - Diamond Creek Road
 - Hualapai Way
 - Nelson Road
 - Residential Streets (Peach Springs)
 - South of SR 66 (Peach Springs)
 - SR 66: To Juvenile Detention Center
 - SR 66: Peach Springs to Buck and Doe Road
 - Buck and Doe Road
 - Milkweed Springs Road
 - Valentine
- Trails**
 - Trail Connection to Milkweed Springs Road
 - Trail System: East of Diamond Creek Road
 - Trail System: West of Diamond Creek Road
 - Trail System: North of Peach Springs
- Other:**

YOUR THOUGHTS, IDEAS, AND COMMENTS

PEDESTRIAN, BICYCLE, AND TRAIL FACILITIES

What pedestrian, bicycle, and trail facilities would you like to see? Please prioritize below.

The image contains three separate aerial maps, each with a title in a blue box at the top. The top map, titled "Peach Springs", shows a proposed road network in a desert landscape. A red dashed line indicates a new road segment, while yellow and blue dashed lines show other planned routes. Existing roads like "Diamond Creek Rd" and "High View Dr" are labeled. Highway markers for 96 and 66 are visible. The bottom-left map, titled "Valentine", shows a proposed road (green dashed line) connecting to "Valentine Way". The bottom-right map, titled "Buck and Doe Road", shows a proposed road (red dashed line) near "Millwood Springs" and "Buck and Doe Rd". Highway markers for 66 are present in all three maps.

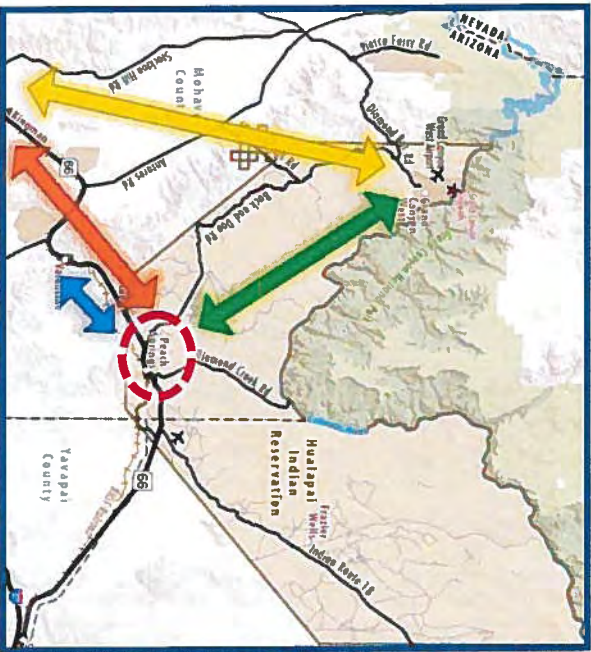
An aerial photograph of a desert landscape. A yellow boundary line is drawn on the ground, enclosing a rectangular area. A purple line is also visible, running diagonally across the top of the image. The terrain is arid and sandy, with some sparse vegetation and small structures scattered throughout.

Sidewalks or shared-use paths		Priority	Reason
 Diamond Creek Road			
 Hualapai Way			
 Nelson Road	✓		we need street side walk
 Residential Streets (Peach Springs)			
 South of SR 66 (Peach Springs)			
 SR 66: To Juvenile Detention Center			
 SR 66: Peach Springs to Buck and Doe Road			
 Buck and Doe Road	✓		we need of a small bus for transportation.
 Milkweed Springs Road			
 Valentine			
Other:			
Trails		Priority	Reason
 Trail Connection to Milkweed Springs Road			
 Trail System: East of Diamond Creek Road			

Trail System: West of Diamond Creek Road		
Trail System: North of Peach Springs		
Other:		

TRANSIT IMPROVEMENTS

Please rank the following transit service options



Service Area	Priority	Trip Purpose (medical, work, shopping, etc.)
Within Peach Springs		
Peach Springs - Valentine		
Peach Springs - Grand Canyon West		
Peach Springs - Kingman		
Kingman - Grand Canyon West		
Peach Springs - Phoenix		
Peach Springs - Las Vegas		
Peach Springs - Laughlin		
Peach Springs - Flagstaff		

Comments:

Do you have additional comments?

Please submit comment forms at the end of the meeting or mail/email forms by July 25, 2014 to:

Philip Wisely
Hualapai Indian Tribe
Email: pwisely@hualapai-nsn.gov
Mail: P.O. Box 179; Peach Springs, AZ 86434

Misty Klann
Arizona Department of Transportation
Email: mklann@azdot.gov
Mail: ADOT - Multimodal Planning Division
206 South 17th Avenue, MD 310B, Phoenix, AZ 85007

STAKEHOLDER QUESTIONNAIRE

Long Range Transportation Plan for the Hualapai Indian Tribe



NAME (OPTIONAL): _____ COMPANY/AGENCY: _____

YOUR INPUT IS REQUESTED

Your input will help us develop a better transportation improvement plan. Please review and complete each section. Feel free to utilize the last page to provide any additional comments.

SAFETY IMPROVEMENTS – INTERSECTION IMPROVEMENTS

Which of these intersection options would you like to see? (Please mark your preference)

State Route 66/Diamond Creek Road

Option 1: Traffic Signal



- New traffic signal
- Restripe lanes
- Crosswalks and sidewalks

Advantages

- No additional ROW
- No learning curve for motorists
- Improves safety

Disadvantages

- High maintenance costs
- May not reduce speeding
- Loss of on-street parking

Option 2: Roundabout



- One-lane roundabout
- Pedestrian refuge islands
- Crosswalks and sidewalks

Advantages

- Forces drivers to slow down on approach
- Improves safety
- Provides opportunities for landscaping

Disadvantages

- May need additional ROW
- High implementation costs
- Loss of on-street parking

SAFETY IMPROVEMENTS – ROADSIDE IMPROVEMENTS

What type of roadway safety improvements would you like to see, and where?

Street Lighting



- Dark skies friendly, LED lighting
- Moderate maintenance costs

Top 3 Priority Locations:

Wildlife Fencing



- Restricts wildlife from entering right-of-way

Top 3 Priority Locations:

Road and Wayfinding Signs



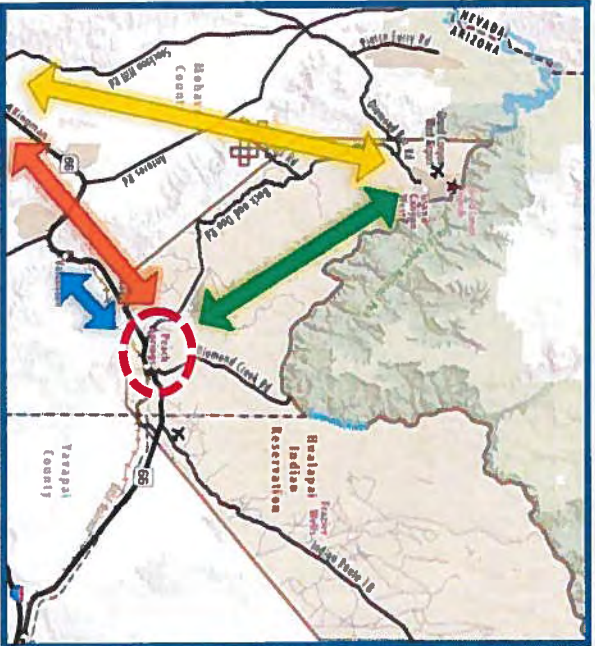
- Provides motorists/tourists with navigational information

Top 3 Priority Locations:

We need signs for tourists.

TRANSIT IMPROVEMENTS

Please rank the following transit service options



Service Area	Priority	Trip Purpose (medical, work, shopping, etc.)
Within Peach Springs		
Peach Springs - Valentine		
Peach Springs - Grand Canyon West		
Peach Springs - Kingman		
Kingman - Grand Canyon West		
Peach Springs - Phoenix		
Peach Springs - Las Vegas		
Peach Springs - Laughlin		
Peach Springs - Flagstaff		

Comments: *31 Million Diamond Bar*

Do you have additional comments?

Hualapai tribe has no money so we have to raise our

Please submit comment forms at the end of the meeting or mail/email forms by July 25, 2014 to:

Philp Wisely
Hualapai Indian Tribe
Email: pwisely@hualapai-nsn.gov
Mail: P.O. Box 179, Peach Springs, AZ 86434

Misty Klann
Arizona Department of Transportation
Email: mklann@azdot.gov
Mail: ADOT - Multimodal Planning Division
206 South 17th Avenue, MD 310B, Phoenix, AZ 85007

STAKEHOLDER QUESTIONNAIRE

Long Range Transportation Plan for the Hualapai Indian Tribe



NAME (OPTIONAL): _____ COMPANY/AGENCY: _____

YOUR INPUT IS REQUESTED

Your input will help us develop a better transportation improvement plan. Please review and complete each section. Feel free to utilize the last page to provide any additional comments.

SAFETY IMPROVEMENTS - INTERSECTION IMPROVEMENTS

Which of these intersection options would you like to see? (Please mark your preference)

State Route 66/Diamond Creek Road

Option 1: Traffic Signal

- New traffic signal
- Restripe lanes
- Crosswalks and sidewalks

Advantages

- No additional ROW
- No learning curve for motorists
- Improves safety

Disadvantages

- High maintenance costs
- May not reduce speeding
- Loss of on-street parking

Option 2: Roundabout

- One-lane roundabout
- Pedestrian refuge islands
- Crosswalks and sidewalks

Advantages

- Forces drivers to slow down on approach
- Improves safety
- Provides opportunities for landscaping

Disadvantages

- May need additional ROW
- High implementation costs
- Loss of on-street parking

SAFETY IMPROVEMENTS - ROADSIDE IMPROVEMENTS

What type of roadway safety improvements would you like to see, and where?

Street Lighting

- Dark skies friendly, LED lighting
- Moderate maintenance costs

Top 3 Priority Locations:
LED lighting

Wildlife Fencing

- Restricts wildlife from entering right-of-way

Top 3 Priority Locations:
wildlife fencing

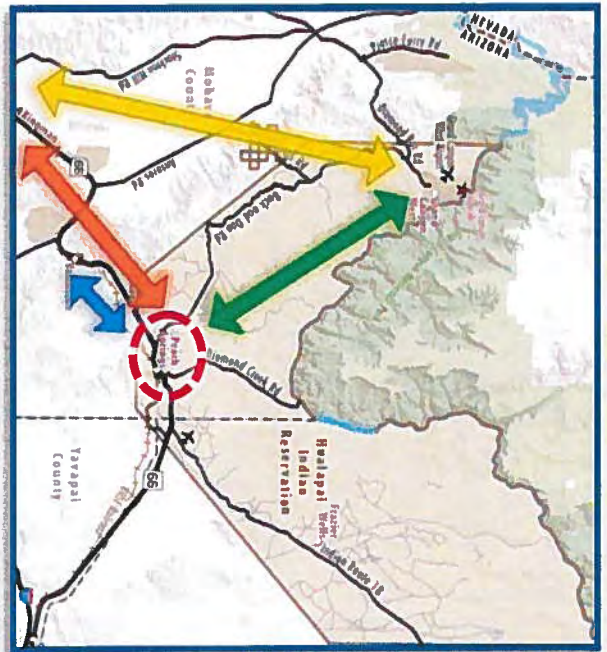
Road and Wayfinding Signs

- Provides motorists/tourists with navigational information

Top 3 Priority Locations:
wayfinding signs

TRANSIT IMPROVEMENTS

Please rank the following transit service options



Service Area	Priority	Trip Purpose (medical, work, shopping, etc.)
Within Peach Springs	1	medical, other
Peach Springs - Valentine	2	shopping, etc.
Peach Springs - Grand Canyon West	4	work
Peach Springs - Kingman	3	medical, shopping
Kingman - Grand Canyon West	5	medical, shopping
Peach Springs - Phoenix	8	medical, other
Peach Springs - Las Vegas	9	shopping
Peach Springs - Laughlin	6	shopping
Peach Springs - Flagstaff	7	medical, shopping

Comments:

Do you have additional comments?

Please submit comment forms at the end of the meeting or mail/email forms by July 25, 2014 to:

Philp Wisely
Hualapai Indian Tribe
Email: pwisely@hualapai-nsn.gov
Mail: P.O. Box 179; Peach Springs, AZ 86434

Misty Klann
Arizona Department of Transportation
Email: mklann@azdot.gov
Mail: ADOT - Multimodal Planning Division
206 South 17th Avenue, MD 310B, Phoenix, AZ 85007

STAKEHOLDER QUESTIONNAIRE

Long Range Transportation Plan for the Hualapai Indian Tribe



NAME (OPTIONAL): Lisa Grub COMPANY/AGENCY: Tribal member

YOUR INPUT IS REQUESTED

Your input will help us develop a better transportation improvement plan. Please review and complete each section. Feel free to utilize the last page to provide any additional comments.

SAFETY IMPROVEMENTS – INTERSECTION IMPROVEMENTS

Which of these intersection options would you like to see? (Please mark your preference)

State Route 66/Diamond Creek Road Roundabout with a signal light.

Option 1: Traffic Signal

Option 2: Roundabout

Advantages

- New traffic signal
- Restripe lanes
- Crosswalks and sidewalks
- No additional ROW
- No learning curve for motorists
- Improves safety

Disadvantages

- High maintenance costs
- May not reduce speeding
- Loss of on-street parking

Advantages

- One-lane roundabout
- Pedestrian refuge islands
- Crosswalks and sidewalks
- Forces drivers to slow down on approach
- Improves safety
- Provides opportunities for landscaping

Disadvantages

- May need additional ROW
- High implementation costs
- Loss of on-street parking

SAFETY IMPROVEMENTS – ROADSIDE IMPROVEMENTS

What type of roadway safety improvements would you like to see, and where?

Street Lighting

Wildlife Fencing

Road and Wayfinding Signs

- Dark skies friendly, LED lighting
- Moderate maintenance costs

Top 3 Priority Locations: ALL STREET IN PEACH & VALENTINE.

- Restricts wildlife from entering right-of-way

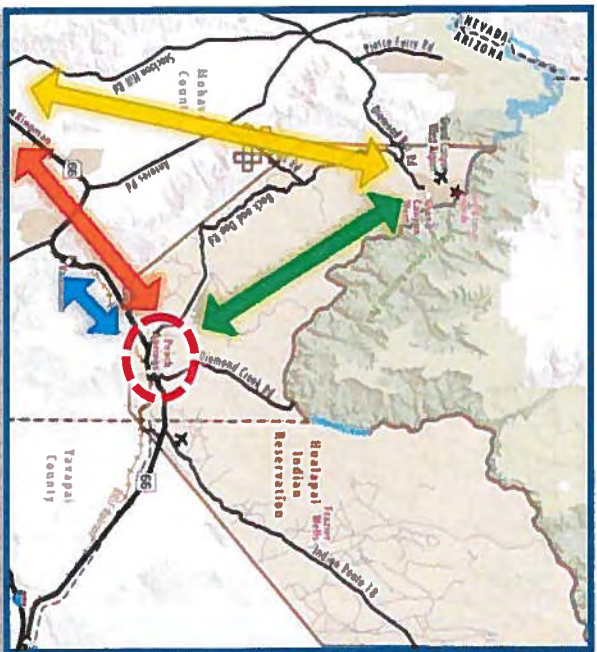
Top 3 Priority Locations: UPDATE THE WILDLIFE FENCING.

- Provides motorists/tourists with navigational information

Top 3 Priority Locations: GREAT IDEAS! PUT BY THE LODGE.

TRANSIT IMPROVEMENTS

Please rank the following transit service options



Service Area	Priority	Trip Purpose (medical, work, shopping, etc.)
Within Peach Springs		
Peach Springs - Valentine		
Peach Springs - Grand Canyon West		
Peach Springs - Kingman		
Kingman - Grand Canyon West		
Peach Springs - Phoenix		
Peach Springs - Las Vegas		
Peach Springs - Laughlin		
Peach Springs - Flagstaff		

Comments:

Do you have additional comments?

Road to Diamond Creek Road need to pave just about 10 miles down.

Thank you!

Seymour Smith

Please submit comment forms at the end of the meeting or mail/email forms by July 25, 2014 to:

Philipp Wisely
Hualapai Indian Tribe
Email: pwisely@hualapai-nsn.gov
Mail: P.O. Box 179; Peach Springs, AZ 86434

Misty Klann
Arizona Department of Transportation
Email: mklann@azdot.gov
Mail: ADOT - Multimodal Planning Division
206 South 17th Avenue, MD 310B, Phoenix, AZ 85007

STAKEHOLDER QUESTIONNAIRE

Long Range Transportation Plan for the Hualapai Indian Tribe



NAME (OPTIONAL): Seymour Smith COMPANY/AGENCY:

YOUR INPUT IS REQUESTED

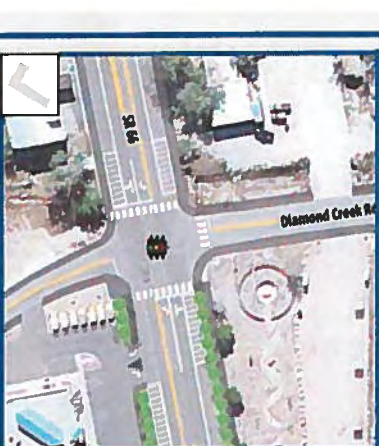
Your input will help us develop a better transportation improvement plan. Please review and complete each section. Feel free to utilize the last page to provide any additional comments.

SAFETY IMPROVEMENTS – INTERSECTION IMPROVEMENTS

Which of these intersection options would you like to see? (Please mark your preference)

State Route 66/Diamond Creek Road

Option 1: Traffic Signal



- New traffic signal
- Restripe lanes
- Crosswalks and sidewalks

- Advantages
- No additional ROW
 - No learning curve for motorists
 - Improves safety

- Disadvantages
- High maintenance costs
 - May not reduce speeding
 - Loss of on-street parking

Option 2: Roundabout



- One-lane roundabout
- Pedestrian refuge islands
- Crosswalks and sidewalks

- Advantages
- Forces drivers to slow down on approach
 - Improves safety
 - Provides opportunities for landscaping

- Disadvantages
- May need additional ROW
 - High implementation costs
 - Loss of on-street parking

SAFETY IMPROVEMENTS – ROADSIDE IMPROVEMENTS

What type of roadway safety improvements would you like to see, and where?

Street Lighting



- Dark skies friendly, LED lighting
- Moderate maintenance costs

Top 3 Priority Locations:

Wildlife Fencing



- Restricts wildlife from entering right-of-way

Top 3 Priority Locations:

Road and Wayfinding Signs

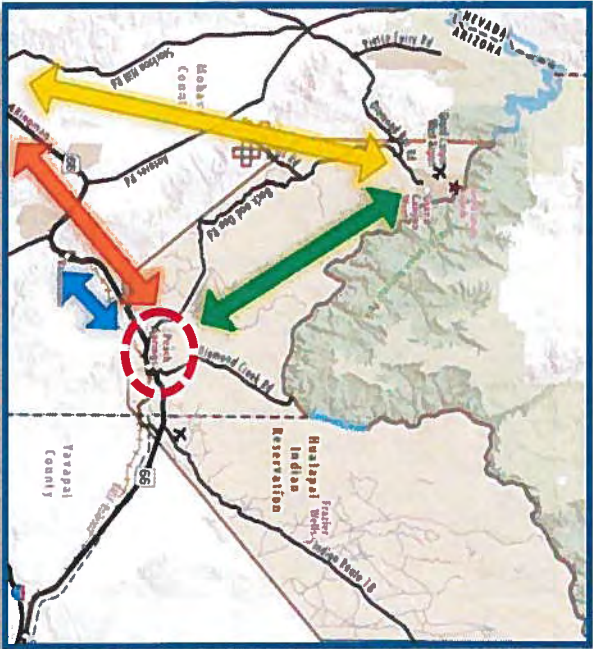


- Provides motorists/tourists with navigational information

Top 3 Priority Locations:

TRANSIT IMPROVEMENTS

Please rank the following transit service options



Service Area	Priority	Trip Purpose (medical, work, shopping, etc.)
Within Peach Springs		
Peach Springs - Valentine		
Peach Springs - Grand Canyon West		
Peach Springs - Kingman	1	
Kingman - Grand Canyon West		
Peach Springs - Phoenix	2	
Peach Springs - Las Vegas		
Peach Springs - Laughlin		
Peach Springs - Flagstaff	3	

Comments:

Do you have additional comments?

Please submit comment forms at the end of the meeting or mail/email forms by July 25, 2014 to:

Philip Wisely
Hualapai Indian Tribe
Email: pwisely@hualapai-nsn.gov
Mail: P.O. Box 179, Peach Springs, AZ 86434

Misty Klann
Arizona Department of Transportation
Email: mklann@azdot.gov
Mail: ADOT - Multimodal Planning Division
206 South 17th Avenue, MD 310B, Phoenix, AZ 85007

STAKEHOLDER QUESTIONNAIRE

Long Range Transportation Plan for the Hualapai Indian Tribe



NAME (OPTIONAL): COMPANY/AGENCY:

YOUR INPUT IS REQUESTED

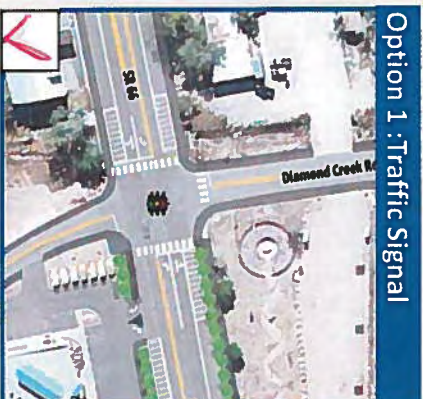
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SAFETY IMPROVEMENTS - INTERSECTION IMPROVEMENTS

Which of these intersection options would you like to see? (Please mark your preference)

State Route 66/Diamond Creek Road

Option 1 :Traffic Signal



- New traffic signal
- Restripe lanes
- Crosswalks and sidewalks

Advantages

- No additional ROW
- No learning curve for motorists
- Improves safety

Disadvantages

- High maintenance costs
- May not reduce speeding
- Loss of on-street parking

Option 2: Roundabout



- One-lane roundabout
- Pedestrian refuge islands
- Crosswalks and sidewalks

Advantages

- Forces drivers to slow down on approach
- Improves safety
- Provides opportunities for landscaping

Disadvantages

- May need additional ROW
- High implementation costs
- Loss of on-street parking

Sign on Top of Hill -Traffic light ahead

SAFETY IMPROVEMENTS - ROADSIDE IMPROVEMENTS

What type of roadway safety improvements would you like to see, and where?

Street Lighting



- Dark skies friendly, LED lighting
- Moderate maintenance costs

Top 3 Priority Locations:

Wildlife Fencing



- Restricts wildlife from entering right-of-way

Top 3 Priority Locations:

Road and Wayfinding Signs

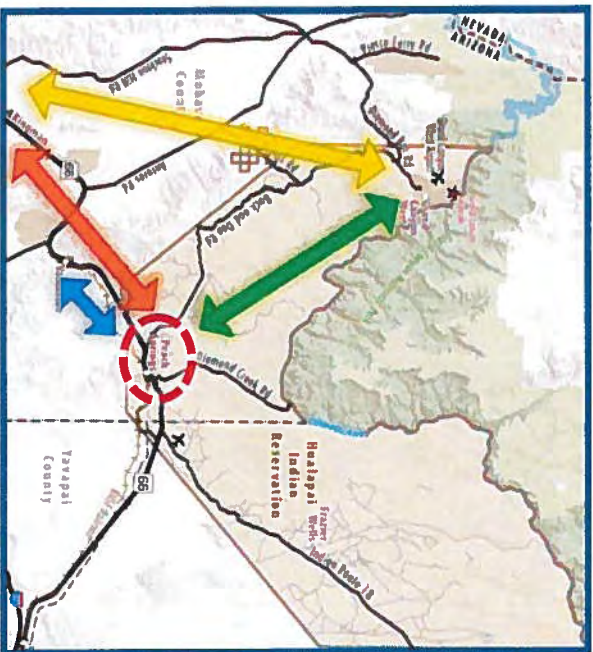


- Provides motorists/tourists with navigational information

Top 3 Priority Locations:

TRANSIT IMPROVEMENTS

Please rank the following transit service options



Service Area	Priority	Trip Purpose (medical work, shopping, etc.)
Within Peach Springs		
Peach Springs - Valentine		
Peach Springs – Grand Canyon West		
Peach Springs – Kingman		
Kingman – Grand Canyon West		
Peach Springs – Phoenix		
Peach Springs – Las Vegas		
Peach Springs – Laughlin		
Peach Springs – Flagstaff		

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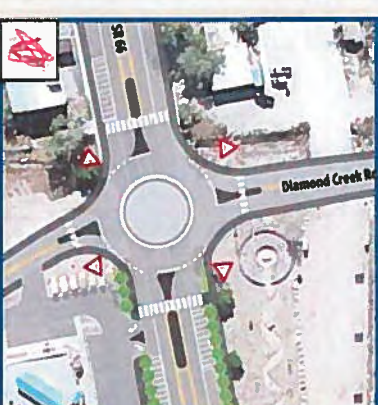
Advantages

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SAFETY IMPROVEMENTS – ROADSIDE IMPROVEMENTS

What type of roadway safety improvements would you like to see, and where?

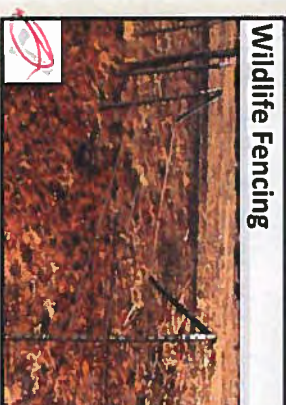
Street Lighting



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Top 3 Priority Locations:

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Top 3 Priority Locations:

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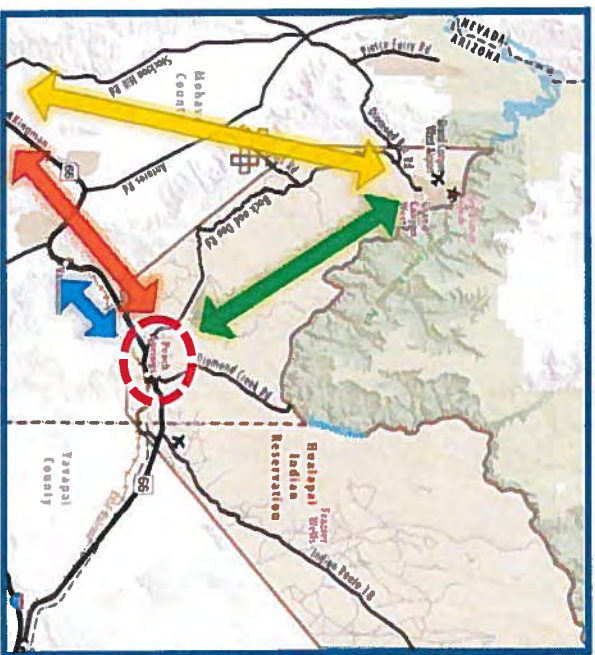


- Provides motorists/tourists with navigational information

Top 3 Priority Locations:

TRANSIT IMPROVEMENTS

Please rank the following transit service options



Service Area	Priority	Trip Purpose (medical, work, shopping, etc.)
Within Peach Springs		
Peach Springs - Valentine		
Peach Springs - Grand Canyon West		
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Kingman - Grand Canyon West		
Peach Springs - Phoenix		
Peach Springs - Las Vegas		
Peach Springs - Laughlin		
Peach Springs - Flagstaff		

Comments: _____

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STAKEHOLDER QUESTIONNAIRE

Long Range Transportation Plan for the Hualapai Indian Tribe



NAME (OPTIONAL): _____ COMPANY/AGENCY: _____

YOUR INPUT IS REQUESTED

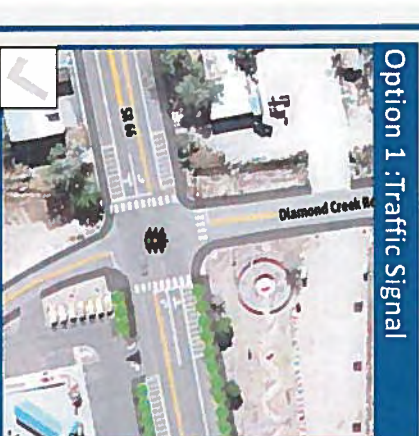
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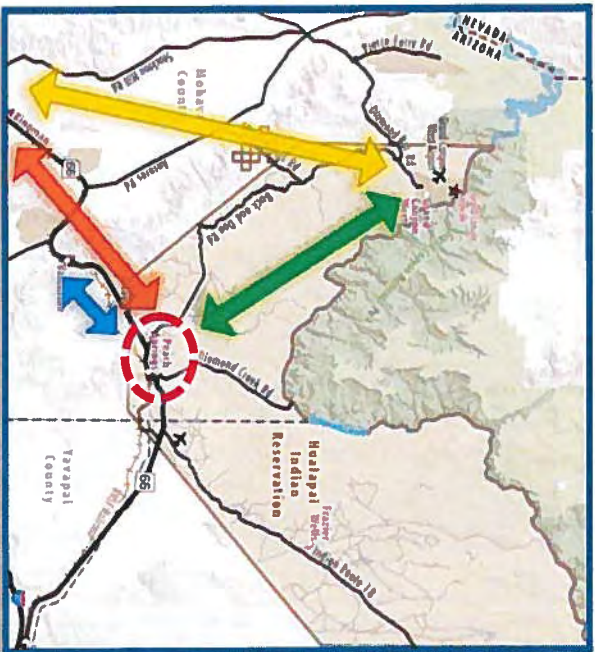


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Top 3 Priority Locations:

TRANSIT IMPROVEMENTS

Please rank the following transit service options



Service Area	Priority	Trip Purpose (medical, work, shopping, etc.)
Within Peach Springs	✓	
↔ Peach Springs - Valentine	✓	
↔ Peach Springs - Grand Canyon West	✓	
↔ Peach Springs - Kingman	✓	
↔ Kingman - Grand Canyon West	✓	
↔ Peach Springs - Phoenix	✓	
↔ Peach Springs - Las Vegas	✓	
↔ Peach Springs - Laughlin	✓	
↔ Peach Springs - Flagstaff	✓	

Comments:

Do you have additional comments?

#1 PRIORITY

1. RAILROAD OVERPASS

2. FLASH LIGHTENING SIGNS - IN TOWN

3. TRAFFIC SIGNALS

4. SIDEWALKS

5. TRAIL PATHS

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Hualapai Indian Tribe

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206 South 17th Avenue, MD 310B, Phoenix, AZ 85007

STAKEHOLDER QUESTIONNAIRE

Long Range Transportation Plan for the Hualapai Indian Tribe



NAME (OPTIONAL): JOEL T. QUERTA COMPANY/AGENCY:

YOUR INPUT IS REQUESTED

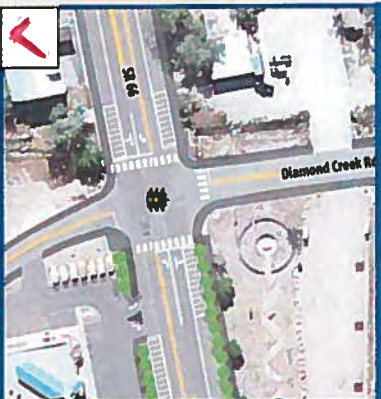
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SAFETY IMPROVEMENTS - ROADSIDE IMPROVEMENTS

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Top 3 Priority Locations:

Road and Wayfinding Signs



- Provides motorists/tourists with navigational information

Top 3 Priority Locations:

APPENDIX E.

BIA TRIBAL TRANSPORTATION INVENTORY UPDATE RECOMMENDATIONS

Note: Recommended revisions are pending final field review calculation and final BIA approval



Hualapai Indian Reservation
INVENTORY COMPARISON LISTING

Summary of Proposed BIA Road System Mileage Revisions

	Miles
Existing BIA DOT Inventory	675.0
Roads to be Added to BIA System	0
Roads to be Deleted from BIA System	-23.4
Mileage Correction to BIA System	12.7
Proposed BIA Road System	664.3

Summary of Proposed Tribal Road System Mileage Revisions

	Miles
Existing Tribal System Inventory	3.8
Roads to be Added to Tribal System	144.2
Roads to be Deleted from Tribal System	-3.5
Mileage Correction to Tribal System	0.7
Proposed BIA Road System	145.2

Summary of Proposed Non-BIA Road System Mileage Revisions

	Miles
Existing BIA DOT Inventory	15
Roads to be Added to BIA System	116.5
Roads to be Deleted from BIA System	0
Mileage Correction to Tribal System	-14.1
Proposed BIA Road System	117.4

Miles of Road by Organizational Responsibility and Surface Type

H - Western
H68 - Truxton Canyon
H68606 - Hualapai

Mileage* (mi) with CN of 0, 1, 2, or 3 Classified by Existing Surface Type Code									Mileage* (mi) with CN = 4 Classified by Future Surface Type Code				Total (mi) CN 0 1 2 3 4	Bridges	
Ownership	Proposed** (0)	Earth (1)	Gravel (3)	< 2 inch (4)	> 2 inch (5)	Concrete (6)	Trail (9)	None (null)	Earth (E)	Gravel (G)	Paved (P)	None (null)		Count	Length (ft)
1 - BIA	5.0	374.8	33.0	0.3	69.2	0.2	181.8		0.0	0.0	0.0	0.0	664.3	24	864.0
2 - Tribe	11.3	129.7	4.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	145.2	1	26.0
3 - State	0.0	0.0	1.4	0.0	69.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	70.8	25	1,521.0
4 - Urban	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0
8 - Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0
7 - Other Federal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0
6 - Other BIA Offices	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0
5 - County And Township	0.0	39.2	0.0	0.0	7.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	46.6	0	0.0
Total									0.0	0.0	0.0	0.0	926.9	50.0	2,411.0

Note: Recommended revisions are pending final field review calculation and final BIA approval

Miles of Road by Class and Organizational Responsibility

H - Western
H68 - Truxton Canyon
H68606 - Hualapai

Mileage* (mi) Classified According to Class Code with class 11 (overlap) excluded*												Total Mileage (mi)		
Ownership	Major Arterial (1)	Rural Minor Arterial (2)	City Local (3)	Rural Major Collector (4)	Rural Local (5)	City Minor Arterial (6)	City Collector (7)	Trail (8)	Other Trans Fac (9)	Airstrip (10)	None (null)	Classes 1 2 3 4 5 6 7 8	Classes 9 10 none	Classes 1 2 3 4 5 6 7 5 9 10 none
1 - BIA	0.0	15.5	12.1	100.8	526.8	0.0	2.4	5.0	0.0	0.0	0.0	662.5	0.0	662.5
2 - Tribe	0.0	0.0	3.6	0.6	129.6	0.0	0.0	11.3	0.0	0.0	0.0	145.1	0.0	145.1
3 - State	0.0	0.0	0.0	1.7	67.1	2.0	0.0	0.0	0.0	0.0	0.0	70.8	0.0	70.8
4 - Urban	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8 - Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7 - Other Federal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6 - Other BIA Offices	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5 - County And Township	0.0	6.6	0.0	32.3	7.7	0.0	0.0	0.0	0.0	0.0	0.0	46.6	0.0	46.6
Total	0.0	22.1	15.7	135.4	731.2	2.0	2.4	16.3	0.0	0.0	0.0	925.1	0.0	925.1

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Hualapai Indian Reservation
INVENTORY COMPARISON LISTING

TOTAL BIA SYSTEM

Inventory Update		Existing DOT Inventory		Inventory Update	Existing DOT	Inventory Update	Existing DOT	Inventory Update	Existing DOT	Inventory Update	Existing DOT	
Route	Section	Route	Section	Class		Length		Surface Type		Constr. Need		Section Name
0001	010	0001	10	4	4	3.1	3.1	5	5	1	0	
0001	015	0001	10	4	4	0.3	0.4	5	5	1		Buck and Doe Road
0001	020	0001	20	4	4	11.9	11.9	3	3	1	0	Buck and Doe Road
0001	022	0001	20	4								H900
0001	024	0001	20	4	4	0.8	0.8	3	3	1	1	Buck and Doe Road
0001	025	0001	20									H901
0001	026	0001	20	4	4	1.4	1.4	3	3	1	1	Buck and Doe Road
0001	027	0001	20	4								H902
0001	028	0001	20	4	4	0.4	0.4	3	3	1	1	Buck and Doe Road
0001	030	0001	30									H232
0001	040	0001	40	4	4	0.5	0.5	3	3	1	0	Buck and Doe Road
0001	042	0001	40									H903
0001	044	0001	40	4	4	0.4	0.4	3	3	1	1	Buck and Doe Road
0001	050	0001	50	4	4	0.5	0.5	1	1	1	0	Buck and Doe Road
0001	052	0001	50									H904
0001	054	0001	50	4	4	28.8	28.6	1	1	1	0	Buck and Doe Road
0001	060	0001	60	2	4	2.4	2.2	5	5	1	0	Diamond Bar Road
0001	070	0001	70	2	4	1.2	0	5	1	1	0	Diamond Bar Road
0001	080	0001	70									H920
0001	090	0001	70	2	4	0.6	0.0	5	1	0	0	Diamond Bar Road
0001	100	0001	70									H921
0001	110	0001	70	2	4	0.7	0.0	5	1	0	0	Diamond Bar Road
0001	120	0001	70									H922
0001	130	0001	70	2	4	0.4	0.0	5	1	0	0	Diamond Bar Road
0001	140	0001	70									H923
0001	150	0001	70	2	4	0.3	0.0	5	1	0	0	Diamond Bar Road
0001	160	0001	70									H924
0001	170	0001	70	2	4	0.3	0.0	5	1	0	0	Diamond Bar Road
0001	180	0001	70									H925
0001	190	0001	70	2	4	0.1	0.0	5	1	0	0	Diamond Bar Road
0001	200	0001	70									H926
0001	210	0001	70	2	4	0.2	0.0	5	1	0	0	Diamond Bar Road
0001	220	0001	70									H927
0001	230	0001	70	2	4	2.7	0.0	5	1	0	0	Diamond Bar Road
0001	240	0001	70									H928
0001	250	0001	70	2	4	1.3	0.0	5	1	0	0	Diamond Bar Road
0001	260	0001	70									H929
0001	270	0001	70									H930
0001	280	0001	70	2	4	0.8	0.0	1	1	1	0	Diamond Bar Road
0001	290	0001	70	2	4	1.5	0.0	5	1	0	0	Diamond Bar Road
0001	300	0001	70									H931
0001	310	0001	70	2	4	0.5	0.0	5	1	0	0	Diamond Bar Road
0001	320	0001	70									H932
0001	330	0001	70	2	4	0.8	0.0	5	1	0	0	Diamond Bar Road
0001	340	0001	70					3				H933
0001	350	0001	70	2	4	0.2	0.0	5	1	0	0	Diamond Bar Road
0001	360	0001	70					3				H934
0001	370	0001	70	2	4	1.3	0.0	5	1	0	0	Diamond Bar Road
0001	380	0001	70					3				H935
0001	390	0001	70	2	4	0.2	0.0	3	1	0	0	Diamond Bar Road

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Hualapai Indian Reservation
INVENTORY COMPARISON LISTING

Inventory Update		Existing DOT Inventory		Inventory Update	Existing DOT	Inventory Update	Existing DOT	Inventory Update	Existing DOT	Inventory Update	Existing DOT	
Route	Section	Route	Section	Class		Length		Surface Type		Constr. Need		Section Name
Subtotal						63.6	50.2					
0002	010	0002	10	5	5	1.5	1.6	1	1	1	1	Clay Springs Ranch Road
0002	020	0002	20	5	4	2.6	2.6	1	1	1	1	Clay Springs Ranch Road
0002	030			11		0.8		1		0		Clay Springs Ranch Road
0002	040	0002	40	5	4	1.4	1.4	1	1	1	1	Clay Springs Ranch Road
Subtotal						6.3	5.6					
0003	010	0003	10	5	4	8.2	8.3	1	1	1	1	Meriwitka Road
Subtotal						8.2	8.3					
0004	010	0004	10	5	4	6.9	6.4	3	9	1	1	Jackson Tank Road
Subtotal						6.9	6.4					
0005	010	0005	10	5	4	5.2	5.5	1	9	1	1	Bridge Canyon Road
0005	020	0005	20	5	4	2.6	2.6	1	1	1	1	Bridge Canyon Road
0005	030	0005	30	5	4	7.7	7.2	1	9	1	1	Bridge Canyon Road
0005	040	0005	40	5	4	11.8	11.8	1	9	1	1	Bridge Canyon Road
Subtotal						27.3	27.1					
0006	010	0006	10	5	4	17.8	17.4	1	1	1	1	Diamond Creek Road
Subtotal						17.8	17.4					
007	010	0007	10	4	4	4.7	4.4	5	5	1	1	Buck and Doe Road
Subtotal						4.7	4.4					
0008	010	0008	10	5	4	2.3	2.5	1	1	1	1	Milkweed Road
Subtotal						2.3	2.5					
0009	010	0009	10	5	4	4.0	4	1	1	1	1	Mudd Tank Road
0009	020	0009	20	5	4	2.0	2	1	1	1	1	Mudd Tank Road
0009	030	0009	30	5	4	1.8	0.7	1	9	1	1	Mudd Tank Road
Subtotal						7.8	6.7					
0010	010	0010	10	5	4	11.7	11.4	1	1	1	1	
0010	020	0010	20	5	4	20	19.8	1	1	1	1	
Subtotal						31.7	31.2					
0011	010	0011	10	5	4	25.4	25.3	1	1	1	1	Township Corner Road
Subtotal						25.4	25.3					
0012	010	0012	10	5	4	9.9	9.9	1	1	1	1	National Road
0012	020	0012	20	11		0.3		1		0		National Road
0012	030	0012	30	5	4	13.2	13.3	1	9	1	1	National Road
Subtotal						23.4	23.2					
0013	010	0013	10	5	4	6.6	6.6	1	1	1	1	Manzanita Road
0013	020	0013	10	11	4	0.3	0.3	1	1	1	1	Manzanita Road
0013	030	0013	10	5	4	4.3	4.3	1	1	1	1	Manzanita Road
0013	040	0013	10	11	4	0.3	0.3	1	1	1	1	Manzanita Road
0013	050	0013	10	5	4	4.6	9.6	1	1	1	1	Manzanita Road
Subtotal						16.1	21.1					
0014	010	0014	10	5	4	3.1	3.1	1	1	1	1	Dyke Tank Road
0014	020	0014	20	5	4	5.3	5.2	1	1	1	1	Dyke Tank Road
Subtotal						8.4	8.3					
0015	010	0015	10	5	4	9.0	9.2	1	1	1	1	Oak Tank Road
Subtotal						9.0	9.2					

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Hualapai Indian Reservation
INVENTORY COMPARISON LISTING

Inventory Update		Existing DOT Inventory		Inventory Update	Existing DOT	Inventory Update	Existing DOT	Inventory Update	Existing DOT	Inventory Update	Existing DOT	
Route	Section	Route	Section	Class		Length		Surface Type		Constr. Need		Section Name
0016	010	0016	10	5	4	6.5	6.4	1	1	1	1	Hog Tank Road
Subtotal						6.5	6.4					
0017	010	0017	10	5	4	3.8	3.8	1	1	1	1	Youth Camp Road
Subtotal						3.8	3.8					
0018	010	0018	10	4	4	21.3	21.1	5	5	1	1	Supai Road
0018	020	0018	20	4	4							H233
0018	030	0018	30	4	4	0.4	0.3	5	5	1	1	Supai Road
0018	040	0018	40	4	4							H234
0018	050	0018	50	4	4	18.3	18.5	5	5	1	1	Supai Road
Subtotal						40.0	39.9					
0019	010	0019	10	4	4	2.3	2.3	3	3	1	1	Nelson Road
0019	012	0019	10	4	4	0.0	0.8	3	3	1	1	Nelson Road
0019	014	0019	10	4	4	2.6	2.6	3	3	1	1	Nelson Road
0019	020	0019	20	4	4	0.5	0.4	3	3	1	1	Nelson Road
0019	060	0019	60	4	4	0.6	0.5	3	3	1	1	Nelson Road
0019	070	0019	60	4	4	1.9	1.9	3	3	1	1	Nelson Road
Subtotal						7.9	8.5					
0020	010	0020	10	5	4	5.5	5.1	1	1	1	1	
Subtotal						5.5	5.1					
0021	010	0021	10	5	4	3.8	5.3	1	1	1	1	XI Road
Subtotal						3.8	5.3					
0022	010	0022	10	5	4	3.2	3.1	1	1	1	1	Pine Springs Road
Subtotal						3.2	3.1					
0023	010	0023	10	5	4	9.0	9.3	1	1	1	1	Ridenour Road
Subtotal						9.0	9.3					
0024	010	0024	10	5	4	14.0	14	1	1	1	1	Turkey Tank Road
Subtotal						14.0	14.0					
0025	010	0025	10	5	4	15.3	14.8	9	9	1	1	Sink Tank Road
Subtotal						15.3	14.8					
0026	010	0026	10	5	4	6.4	6.3	9	9	1	1	Mohawk Road
Subtotal						6.4	6.3					
0027	010	0027	10	5	4	12.1	12.1	1	1	1	1	Wild Horse Canyon Road
Subtotal						12.1	12.1					
0028	010	0028	10	5	4	7.6	7.4	9	9	1	1	Lower Lagoon Road
0028	020	0028	20	5	4	2.9	2.8	9	9	1	1	Lower Lagoon Road
0028	020	0028	20	11		0.1		9		1		Lower Lagoon Road
Subtotal						10.6	10.2					
0029	010	0029	10	5	4	5.7	4.7	1	1	1	1	DS Tank Road
Subtotal						5.7	4.7					
0030	010	0030	10	5	4	2.7	2.7	1	1	1	1	Bear Tank Road
Subtotal						2.7	2.7					
0031	010	0031	10	5	4	4.5	2.6	1	1	1	1	Limestone Road
0031	020	0031	20	5	4	2.2	3.2	9	9	1	1	Limestone Road
Subtotal						6.7	5.8					
0032	010	0032	10	5	4	4.8	5.1	1	1	1	1	Boston Patch Road
Subtotal						4.8	5.1					
0033	010	0033	10	5	4	3.4	3.2	9	9	1	1	
Subtotal						3.4	3.2					

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Hualapai Indian Reservation
INVENTORY COMPARISON LISTING

Inventory Update		Existing DOT Inventory		Inventory Update	Existing DOT	Inventory Update	Existing DOT	Inventory Update	Existing DOT	Inventory Update	Existing DOT	
Route	Section	Route	Section	Class		Length		Surface Type		Constr. Need		Section Name
0034	010	0034	10	5	4	1.8	1.8	9	9	1	1	
Subtotal						1.8	1.8					
0035	010	0035	10	5	4	5.4	5.5	9	9	1	1	
Subtotal						5.4	5.5					
0036	010	0036	10	5	4	9.3	8.5	1	1	1	1	Limestone Tank Road
Subtotal						9.3	8.5					
0037	010	0037	10	5	4	4.9	5	9	9	1	1	
Subtotal						4.9	5.0					
0038	010	0038	10	5	4	8.5	8.5	9	9	1	1	
Subtotal						8.5	8.5					
0039	010	0039	10	5	4	3.8	3.8	1	1	1	1	
Subtotal						3.8	3.8					
		0040	10		4		1.1		1		1	DELETE
Subtotal							1.1					
0041	010	0041	10	5	4	4.8	4.6	9	9	1	1	Pipeline Road
Subtotal						4.8	4.6					
0042	010	0042	10	5	4	5.2	5.1	9	9	1	1	
0042	020	0042	20	5	4	0.8	1.4	9	9	1	1	
0042	030	0042	30	5	4	0.9	0.6	9	9	1	1	
Subtotal						6.9	7.1					
0043	010	0043	10	3	3	1.2	1.1	9	9	1	1	Peach Springs Cemetery Road
Subtotal						1.2	1.1					
0044	010	0044	10	5	4	1.4	1.5	9	9	1	1	
Subtotal						1.4	1.5					
0045	010	0045	10	5	4	2.2	2.2	9	9	1	1	
Subtotal						2.2	2.2					
0056	010	0056	10	5	4	1.4	1.4	9	9	1	1	
Subtotal						1.4	1.4					
		0058	10		4		2.3	1	1	1	1	DELETE
Subtotal							2.3					
0059	010	0059	10	5	4	1.0	0.9	1	1	1	1	
Subtotal						1.0	0.9					
0063	010	0063	10	5	4	0.5	0.7	1	1	1	1	
Subtotal						0.5	0.7					
0064	010	0064	10	5	4	2.2	2.2	1	1	1	1	
Subtotal						2.2	2.2					
0065	010	0065	10	5	4	0.3	0.3	1	1	1	1	
Subtotal						0.3	0.3					
0067	010	0067	10	5	4	1.1	1.2	9	9	1	1	
Subtotal						1.1	1.2					
0068	010	0068	10	5	4	1.3	1.4	1	1	1	1	
Subtotal						1.3	1.4					
0069	010	0069	10	5	4	1.1	1.1	9	9	1	1	
Subtotal						1.1	1.1					
0072	010	0072	10	5	4	4.1	4.1	9	9	1	1	
Subtotal						4.1	4.1					
0074	010	0074	10	5	4	5.6	5.8	1	1	1	1	
Subtotal						5.6	5.8					

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Hualapai Indian Reservation
INVENTORY COMPARISON LISTING

Inventory Update		Existing DOT Inventory		Inventory Update	Existing DOT	Inventory Update	Existing DOT	Inventory Update	Existing DOT	Inventory Update	Existing DOT	
Route	Section	Route	Section	Class		Length		Surface Type		Constr. Need		Section Name
0075	010	0075	10	5	4	1.0	1.1	9	9	1	1	
Subtotal						1.0	1.1					
0076	010	0076	10	5	4	6.8	6.7	9	9	1	1	
Subtotal						6.8	6.7					
0077	010	0077	10	5	4	2.6	2.6	9	9	1	1	
Subtotal						2.6	2.6					
0078	010	0078	10	5	4	3.3	2.8	9	9	1	1	
Subtotal						3.3	2.8					
0082	010	0082	10	5	4	1.4	1.3	9	9	1	1	
Subtotal						1.4	1.3					
0084	010	0084	10	5	4	1.8	1.8	9	9	1	1	
0084	020	0084	20	5	4	4.4	4.8	9	9	1	1	
0084	030	0084	30	5	4	1.1	1.2	1	1	1	1	
Subtotal						7.3	7.8					
0089	010	0089	10	5	4	4.5	4.5	1	1	1	1	
Subtotal						4.5	4.5					
0092	010	0092	10	5	4	3.2	3.2	9	9	1	1	
Subtotal						3.2	3.2					
0097	010	0087	10	5	4	3.3	2.7	9	9	1	1	
Subtotal						3.3	2.7					
0098	010	0098	10	5	4	16.1	16.1	1	1	1	1	
Subtotal						16.1	16.1					
0099	010	0099	10	5	4	5.8	5.8	9	9	1	1	
Subtotal						5.8	5.8					
0101	010	0101	10	3	3	0.7	0.6	1	1	1	1	Honaga Hill Road
0101	020	0101	20	3	3	0.1	0.1	1	1	1	1	Honaga Hill Road
0101	030	0101	30	3	3	0.2	0.2	1	1	1	1	Shandy Lane
0101	040	0101	40	3	3	0.1	0.1	5	4	1	1	Shandy Lane
0101	050	0101	50	3	3	0.1	0.1	1	1	1	1	
0101	060	0101	60	3	3	0.3	0.3	5	4	1	1	Wahanda Way
0101	070	0101	70	7	3	0.5	0.5	5	5	1	1	Hualapai Way
0101	080	0101	80	3	3	0.1	0.2	1	1	1	1	Hualapai Drive
0101	090	0101	90	3	3	0.1	0.1	5	5	1	1	Indian Way
0101	100	0101	100	7	3	1.1	1.1	5	5	1	1	Diamond Creek Road
0101	110	0101	110	7	3	0.3	0.3	5	5	1	1	High View Drive
0101	120	0101	120	7	3	0.3	0.3	4	4	1	1	High View Drive
0101	130	0101	130	3	3	0.5	0.5	5	5	1	1	Canyon View Drive
0101	140	0101	140	3	3	0.1	0.1	5	5	1	1	Oak Drive
0101	150	0101	150	3	3	0.1	0.1	5	5	1	1	Pine Street
0101	160	0101	160	3	3	0.3	0.3	5	5	1	1	Tall Pine Street
0101	170	0101	170	3	3	0.1	0.1	5	5	1	1	Eagle Street
0101	180	0101	180	3	3	0.2	0.2	5	5	1	1	Coyote Street
0101	190	0101	190	3	3	0.4	0.4	5	5	1	1	Blue Mountain Street
0101	200	0101	200	3	3	0.5	0.5	5	5	1	1	Mesa View Drive
0101	210	0101	210	3	3	0.7	0.7	5	5	1	1	Diamond Creek Circle
0101	220	0101	220	3	3	0.1	0.1	5	5	1	1	Rodeo Way
0101	225	0101	220	3	3	0.6	0.6	5	5	1	1	Rodeo Way
0101	230	0101	230	3	3	0.4	0.3	1	1	1	1	
0101	240	0101	240	3	3	0.2	0.2	1	1	1	1	
0101	250	0101	250	3	3	0.2	0.2	1	1	1	1	
0101	260	0101	260	3	3	0.1	0.1	1	1	1	1	

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Hualapai Indian Reservation
INVENTORY COMPARISON LISTING

Inventory Update		Existing DOT Inventory		Inventory Update	Existing DOT	Inventory Update	Existing DOT	Inventory Update	Existing DOT	Inventory Update	Existing DOT	
Route	Section	Route	Section	Class		Length		Surface Type		Constr. Need		Section Name
0101	270	0101	270	3	3	0.2	0.2	5	5	1	1	
0101	280	0101	280	7	3	0.2	0.2	5	5	1	1	Diamond Creek Road
0101	290	0101	290	7	3							H940
0101	300	0101	300	3	3	0.3	0.3	1	1	1	1	
0101	310	0101	310	3	3	0.3	0.2	5	5	1	1	Nelson Road
Subtotal						9.3	9.2					
0103	010	0103	10	3	3	0.4	0.4	1	1	1	1	
0103	020	0103	20	3	3	0.1	0.1	6	6	1	1	
0103	030	0103	30	3	3	0.3	0.3	1	1	1	1	
0103	040	0103	40	3	3	0.2	0.2	1	1	1	1	
0103	050	0103	50	3	3	0.1	0.1	1	1	1	1	
0103	052	0103	50	3	3	0.1	0	6	1	1	1	
0103	054	0103	50	3	3	0.1	0	1	1	1	1	
0103	060	0103	60	3	3	0.1	0.1	1	1	1	1	
0103	070	0103	70	3	3	0.1	0.2	1	1	1	1	
0103	080	0103	80	3	3	0.2	0.2	9	9	1	1	
Subtotal						1.7	1.6					
0104	010	0104	10	3	3	0.7	0.7	3	4	1	1	Music Mountain Road
0104	020	0104	20	3	3	0.1	0.1	3	4	1	1	Music Mountain Circle
0104	030	0104	30	3	3	1.5	1.5	3	4	1	1	Milkweed Springs Road
Subtotal						2.3	2.3					
1010	010	1010	10	5	4	6.6	6.5	1	1	1	1	
Subtotal						6.6	6.5					
1020	010	1020	10	5	4	3.9	3.8	1	1	1	1	
Subtotal						3.9	3.8					
1110	010	1110	10	5	4	1.4	0.8	1	1	1	1	
Subtotal						1.4	0.8					
1310	010	1310	10	5	4	8.0	9.3	9	9	1	1	Manzanita Point Road
Subtotal						8.0	9.3					
1320	010	1320	10	5	4	3.9	4.0	9	9	1	1	
Subtotal						3.9	4.0					
1330	010	1330	10	5	4	1.7	1.7	9	9	1	1	
1330	020	1330	20	5	4	0.2	0.2	9	9	1	1	
Subtotal						1.9	1.9					
1340	010	1340	10	5	4	0.8	0.8	9	9	1	1	
Subtotal						0.8	0.8					
1510	010	1510	10	5	4	2.4	2.4	9	9	1	1	Oak Tank Road
Subtotal						2.4	2.4					
1710	010	1710	10	5	4	1.6	1.6	9	9	1	1	
1710	020	1710	20	5	4	2.5	2.5	1	1	1	1	
1710	030			5		0.4		9		1		
Subtotal						4.5	4.1					
1720	010	1720	10	5	4	2.1	2.1	9	9	1	1	
Subtotal						2.1	2.1					
1730	010	1730	10	5	4	0.9	0.9	9	9	1	1	
Subtotal						0.9	0.9					
1740	010	1740	10	5	4	1.8	1.8	1	1	1	1	
Subtotal						1.8	1.8					

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Hualapai Indian Reservation
INVENTORY COMPARISON LISTING

Inventory Update		Existing DOT Inventory		Inventory Update	Existing DOT	Inventory Update	Existing DOT	Inventory Update	Existing DOT	Inventory Update	Existing DOT	
Route	Section	Route	Section	Class	Length	Surface Type	Constr. Need	Section Name				
1810	010	1810	10	5	4	0.3	0.3	3	3	1	1	
Subtotal						0.3	0.3					
1820	010	1820	10	5	4	2.1	2.1	9	9	1	1	
1820	020	1820	10	5	4	0.6	0.8	9	9	1	1	
Subtotal						2.7	2.9					
1830	010	1830	10	5	4	0.5	0.6	9	9	1	1	
Subtotal						0.5	0.6					
1840	010	1840	10	5	4	2.3	3.4	1	1	1	1	
Subtotal						2.3	3.4					
1850	010	1850	10	5	4	1.5	1.5	9	9	1	1	
Subtotal						1.5	1.5					
1860	010	1860	10	5	4	4.5	4.4	9	9	1	1	
Subtotal						4.5	4.4					
1870	010	1870	10	5	4	2.5	2.5	1	1	1	1	
Subtotal						2.5	2.5					
1880	010	1880	10	5	4	2.4	2.4	9	9	1	1	
Subtotal						2.4	2.4					
2410	010	2410	10	5	4	4.2	4.3	1	1	1	1	
Subtotal						4.2	4.3					
2420	010	2420	10	5	4	4.0	4.1	1	1	1	1	
Subtotal						4.0	4.1					
2430	010	2430	10	5	4	1.9	1.9	1	1	1	1	
Subtotal						1.9	1.9					
3110	010	3110	10	5	4	1.0	1.0	1	1	1	1	
Subtotal						1.0	1.0					
3120	010	3120	10	5	4	0.2	0.3	9	9	1	1	
Subtotal						0.2	0.3					
3130	010	3130	10	5	4	2.8	2.7	9	9	1	1	
Subtotal						2.8	2.7					
3140	010	3140	10	5	4	0.9	1.0	9	9	1	1	
Subtotal						0.9	1.0					
3150	010	3150	10	5	4	2.7	2.7	9	9	1	1	
Subtotal						2.7	2.7					
3210	010	3210	10	5	4	2.8	2.8	1	1	1	1	
Subtotal						2.8	2.8					
3610	010	3610	10	5	4	4.1	3.8	9	9	1	1	
Subtotal						4.1	3.8					
3620	010	3620	10	5	4	0.5	0.5	9	9	1	1	
Subtotal						0.5	0.5					
3630	010	3630	10	5	4	0.7	0.7	9	9	1	1	
Subtotal						0.7	0.7					
3810	010	3810	10	5	4	1.7	1.7	9	9	1	1	
Subtotal						1.7	1.7					
5010	010	5010	10	5	4	0.6	0.3	9	9	1	1	
Subtotal						0.6	0.3					
5020	010	5020	10	5	4	1.6	1.6	9	9	1	1	
Subtotal						1.6	1.6					
5030	010	5030	10	5	4	0.5	0.6	9	9	1	1	
Subtotal						0.5	0.6					

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Hualapai Indian Reservation
INVENTORY COMPARISON LISTING

Inventory Update		Existing DOT Inventory		Inventory Update	Existing DOT	Inventory Update	Existing DOT	Inventory Update	Existing DOT	Inventory Update	Existing DOT	
Route	Section	Route	Section	Class	Length	Surface Type	Constr. Need	Section Name				
5040	010	5040	10	5	4	3.3	3.3	9	9	1	1	
Subtotal						3.3	3.3					
		5720	10		8		15		0		4	DELETE
Subtotal							15.0					
5910	010	5910	10	5	4	2.4	2.5	9	9	1	1	
Subtotal						2.4	2.5					
6610	010	6610	10	5	4	0.5	0.6	9	9	1	1	
Subtotal						0.5	0.6					
6620	010	6620	10	8	8	5.0	5	0	0	4	4	Yampai Canyon Loop Trail
Subtotal						5.0	5.0					
		7010	10	5	4		5		0		4	DELETE
Subtotal							5.0					
8910	010	8910	10	5	4	1.1	1.1	1	1	1	1	
Subtotal						1.1	1.1					
9210	010	9210	10	5	4	2.0	2.0	9	9	1	1	
Subtotal						2.0	2.0					
9810	010	9810	10	5	4	0.9	0.9	9	9	1	1	
Subtotal						0.9	0.9					
9820	010	9820	10	5	4	0.8	0.8	9	9	1	1	
Subtotal						0.8	0.8					
9830	010	9830	10	5	4	2.6	2.6	9	9	1	1	
Subtotal						2.6	2.6					
9840	010	9840	10	5	4	1.4	1.3	9	9	1	1	
Subtotal						1.4	1.3					
9910	010	9910	10	5	4	1.5	1.5	9	9	1	1	
Subtotal						1.5	1.5					

Total BIA System 664.3 675.0

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Hualapai Indian Reservation
INVENTORY COMPARISON LISTING

MILEAGE CORRECTION TO THE THE BIA SYSTEM

Inventory Update		Existing DOT Inventory		Inventory Update	Existing DOT	Inventory Update	Existing DOT	Inventory Update	Existing DOT	Inventory Update	Existing DOT	
Route	Section	Route	Section	Class		Length		Surface Type		Constr. Need		Section Name
0001	015	0001	10	4	4	0.3	0.4	5	5	1		Buck and Doe Road
0001	054	0001	50	4	4	28.8	28.6	1	1	1	0	Buck and Doe Road
0001	060	0001	60	2	4	2.4	2.2	5	5	1	0	Diamond Bar Road
0001	070	0001	70	2	4	1.2	0	5	1	1	0	Diamond Bar Road
0001	080	0001	70									H920
0001	090	0001	70	2	4	0.6	0.0	5	1	0	0	Diamond Bar Road
0001	100	0001	70									H921
0001	110	0001	70	2	4	0.7	0.0	5	1	0	0	Diamond Bar Road
0001	120	0001	70									H922
0001	130	0001	70	2	4	0.4	0.0	5	1	0	0	Diamond Bar Road
0001	140	0001	70									H923
0001	150	0001	70	2	4	0.3	0.0	5	1	0	0	Diamond Bar Road
0001	160	0001	70									H924
0001	170	0001	70	2	4	0.3	0.0	5	1	0	0	Diamond Bar Road
0001	180	0001	70									H925
0001	190	0001	70	2	4	0.1	0.0	5	1	0	0	Diamond Bar Road
0001	200	0001	70									H926
0001	210	0001	70	2	4	0.2	0.0	5	1	0	0	Diamond Bar Road
0001	220	0001	70									H927
0001	230	0001	70	2	4	2.7	0.0	5	1	0	0	Diamond Bar Road
0001	240	0001	70									H928
0001	250	0001	70	2	4	1.3	0.0	5	1	0	0	Diamond Bar Road
0001	260	0001	70									H929
0001	270	0001	70									H930
0001	280	0001	70	2	4	0.8	0.0	1	1	1	0	Diamond Bar Road
0001	290	0001	70	2	4	1.5	0.0	5	1	0	0	Diamond Bar Road
0001	300	0001	70									H931
0001	310	0001	70	2	4	0.5	0.0	5	1	0	0	Diamond Bar Road
0001	320	0001	70									H932
0001	330	0001	70	2	4	0.8	0.0	5	1	0	0	Diamond Bar Road
0001	340	0001	70					3				H933
0001	350	0001	70	2	4	0.2	0.0	5	1	0	0	Diamond Bar Road
0001	360	0001	70					3				H934
0001	370	0001	70	2	4	1.3	0.0	5	1	0	0	Diamond Bar Road
0001	380	0001	70					3				H935
0001	390	0001	70	2	4	0.2	0.0	3	1	0	0	Diamond Bar Road
Subtotal						44.6	31.2					
0002	030			11		0.8		1		0		Clay Springs Ranch Road
0002	010	0002	10	5	5	1.5	1.6	1	1	1	1	Clay Springs Ranch Road
Subtotal						2.3	1.6					
0003	010	0003	10	5	4	8.2	8.3	1	1	1	1	Meriwitka Road
Subtotal						8.2	8.3					
0004	010	0004	10	5	4	6.9	6.4	3	9	1	1	Jackson Tank Road
Subtotal						6.9	6.4					
0005	010	0005	10	5	4	5.2	5.5	1	9	1	1	Bridge Canyon Road
0005	030	0005	30	5	4	7.7	7.2	1	9	1	1	Bridge Canyon Road
Subtotal						12.9	12.7					

Note: Recommended revisions are pending final field review calculation and final BIA approval

Hualapai Indian Reservation
INVENTORY COMPARISON LISTING

Inventory Update		Existing DOT Inventory		Inventory Update	Existing DOT	Inventory Update	Existing DOT	Inventory Update	Existing DOT	Inventory Update	Existing DOT	
Route	Section	Route	Section	Class		Length		Surface Type		Constr. Need		Section Name
0006	010	0006	10	5	4	17.8	17.4	1	1	1	1	Diamond Creek Road
Subtotal						17.8	17.4					
007	010	0007	10	4	4	4.7	4.4	5	5	1	1	Buck and Doe Road
Subtotal						4.7	4.4					
0008	010	0008	10	5	4	2.3	2.5	1	1	1	1	Milkweed Road
Subtotal						2.3	2.5					
0009	030	0009	30	5	4	1.8	0.7	1	9	1	1	Mudd Tank Road
Subtotal						1.8	0.7					
0010	010	0010	10	5	4	11.7	11.4	1	1	1	1	
0010	020	0010	20	5	4	20	19.8	1	1	1	1	
Subtotal						31.7	31.2					
0011	010	0011	10	5	4	25.4	25.3	1	1	1	1	Township Corner Road
Subtotal						25.4	25.3					
0012	020	0012	20	11		0.3		1		0		National Road
0012	030	0012	30	5	4	13.2	13.3	1	9	1	1	National Road
Subtotal						13.5	13.3					
0013	050	0013	10	5	4	4.6	9.6	1	1	1	1	Manzanita Road
Subtotal						4.6	9.6					
0014	020	0014	20	5	4	5.3	5.2	1	1	1	1	Dyke Tank Road
Subtotal						5.3	5.2					
0015	010	0015	10	5	4	9.0	9.2	1	1	1	1	Oak Tank Road
Subtotal						9.0	9.2					
0016	010	0016	10	5	4	6.5	6.4	1	1	1	1	Hog Tank Road
Subtotal						6.5	6.4					
0018	010	0018	10	4	4	21.3	21.1	5	5	1	1	Supai Road
0018	030	0018	30	4	4	0.4	0.3	5	5	1	1	Supai Road
0018	050	0018	50	4	4	18.3	18.5	5	5	1	1	Supai Road
Subtotal						40.0	39.9					
0019	012	0019	10	4	4	0.0	0.8	3	3	1	1	Nelson Road
0019	020	0019	20	4	4	0.5	0.4	3	3	1	1	Nelson Road
0019	060	0019	60	4	4	0.6	0.5	3	3	1	1	Nelson Road
Subtotal						1.1	1.7					
0020	010	0020	10	5	4	5.5	5.1	1	1	1	1	
Subtotal						5.5	5.1					
0021	010	0021	10	5	4	3.8	5.3	1	1	1	1	XI Road
Subtotal						3.8	5.3					
0022	010	0022	10	5	4	3.2	3.1	1	1	1	1	Pine Springs Road
Subtotal						3.2	3.1					
0023	010	0023	10	5	4	9.0	9.3	1	1	1	1	Ridenour Road
Subtotal						9.0	9.3					
0025	010	0025	10	5	4	15.3	14.8	9	9	1	1	Sink Tank Road
Subtotal						15.3	14.8					
0026	010	0026	10	5	4	6.4	6.3	9	9	1	1	Mohawk Road
Subtotal						6.4	6.3					
0028	010	0028	10	5	4	7.6	7.4	9	9	1	1	Lower Lagoon Road
0028	020	0028	20	5	4	2.9	2.8	9	9	1	1	Lower Lagoon Road
0028	020	0028	20	11		0.1		9		1		Lower Lagoon Road
Subtotal						10.6	10.2					

Note: Recommended revisions are pending final field review calculation and final BIA approval

Hualapai Indian Reservation
INVENTORY COMPARISON LISTING

Inventory Update		Existing DOT Inventory		Inventory Update	Existing DOT	Inventory Update	Existing DOT	Inventory Update	Existing DOT	Inventory Update	Existing DOT	
Route	Section	Route	Section	Class		Length		Surface Type		Constr. Need		Section Name
0029	010	0029	10	5	4	5.7	4.7	1	1	1	1	DS Tank Road
Subtotal						5.7	4.7					
0031	010	0031	10	5	4	4.5	2.6	1	1	1	1	Limestone Road
0031	020	0031	20	5	4	2.2	3.2	9	9	1	1	Limestone Road
Subtotal						6.7	5.8					
0032	010	0032	10	5	4	4.8	5.1	1	1	1	1	Boston Patch Road
Subtotal						4.8	5.1					
0033	010	0033	10	5	4	3.4	3.2	9	9	1	1	
Subtotal						3.4	3.2					
0035	010	0035	10	5	4	5.4	5.5	9	9	1	1	
Subtotal						5.4	5.5					
0036	010	0036	10	5	4	9.3	8.5	1	1	1	1	Limestone Tank Road
Subtotal						9.3	8.5					
0037	010	0037	10	5	4	4.9	5	9	9	1	1	
Subtotal						4.9	5.0					
0041	010	0041	10	5	4	4.8	4.6	9	9	1	1	Pipeline Road
Subtotal						4.8	4.6					
0042	010	0042	10	5	4	5.2	5.1	9	9	1	1	
0042	020	0042	20	5	4	0.8	1.4	9	9	1	1	
0042	030	0042	30	5	4	0.9	0.6	9	9	1	1	
Subtotal						6.9	7.1					
0043	010	0043	10	3	3	1.2	1.1	9	9	1	1	Peach Springs Cemetery Road
Subtotal						1.2	1.1					
0044	010	0044	10	5	4	1.4	1.5	9	9	1	1	
Subtotal						1.4	1.5					
0059	010	0059	10	5	4	1.0	0.9	1	1	1	1	
Subtotal						1.0	0.9					
0063	010	0063	10	5	4	0.5	0.7	1	1	1	1	
Subtotal						0.5	0.7					
0067	010	0067	10	5	4	1.1	1.2	9	9	1	1	
Subtotal						1.1	1.2					
0068	010	0068	10	5	4	1.3	1.4	1	1	1	1	
Subtotal						1.3	1.4					
0074	010	0074	10	5	4	5.6	5.8	1	1	1	1	
Subtotal						5.6	5.8					
0075	010	0075	10	5	4	1.0	1.1	9	9	1	1	
Subtotal						1.0	1.1					
0076	010	0076	10	5	4	6.8	6.7	9	9	1	1	
Subtotal						6.8	6.7					
0078	010	0078	10	5	4	3.3	2.8	9	9	1	1	
Subtotal						3.3	2.8					
0082	010	0082	10	5	4	1.4	1.3	9	9	1	1	
Subtotal						1.4	1.3					
0084	020	0084	20	5	4	4.4	4.8	9	9	1	1	
0084	030	0084	30	5	4	1.1	1.2	1	1	1	1	
Subtotal						5.5	6.0					
0097	010	0087	10	5	4	3.3	2.7	9	9	1	1	
Subtotal						3.3	2.7					
0101	010	0101	10	3	3	0.7	0.6	1	1	1	1	Honaga Hill Road
0101	080	0101	80	3	3	0.1	0.2	1	1	1	1	Hualapai Drive
0101	230	0101	230	3	3	0.4	0.3	1	1	1	1	
0101	310	0101	310	3	3	0.3	0.2	5	5	1	1	Nelson Road
Subtotal						1.4	1.3					

Note: Recommended revisions are pending final field review calculation and final BIA approval

Hualapai Indian Reservation
INVENTORY COMPARISON LISTING

Inventory Update		Existing DOT Inventory		Inventory Update	Existing DOT	Inventory Update	Existing DOT	Inventory Update	Existing DOT	Inventory Update	Existing DOT	
Route	Section	Route	Section	Class		Length		Surface Type		Constr. Need		Section Name
0103	052	0103	50	3	3	0.1	0	6	1	1	1	
0103	054	0103	50	3	3	0.1	0	1	1	1	1	
0103	070	0103	70	3	3	0.1	0.2	1	1	1	1	
Subtotal						0.3	0.2					
1010	010	1010	10	5	4	6.6	6.5	1	1	1	1	
Subtotal						6.6	6.5					
1020	010	1020	10	5	4	3.9	3.8	1	1	1	1	
Subtotal						3.9	3.8					
1110	010	1110	10	5	4	1.4	0.8	1	1	1	1	
Subtotal						1.4	0.8					
1310	010	1310	10	5	4	8.0	9.3	9	9	1	1	Manzanita Point Road
Subtotal						8.0	9.3					
1320	010	1320	10	5	4	3.9	4.0	9	9	1	1	
Subtotal						3.9	4.0					
1710	030			5		0.4		9		1		
Subtotal						0.4	0.0					
1820	020	1820	10	5	4	0.6	0.8	9	9	1	1	
Subtotal						2.7	2.9					
1830	010	1830	10	5	4	0.5	0.6	9	9	1	1	
Subtotal						0.5	0.6					
1840	010	1840	10	5	4	2.3	3.4	1	1	1	1	
Subtotal						2.3	3.4					
1860	010	1860	10	5	4	4.5	4.4	9	9	1	1	
Subtotal						4.5	4.4					
2410	010	2410	10	5	4	4.2	4.3	1	1	1	1	
Subtotal						4.2	4.3					
2420	010	2420	10	5	4	4.0	4.1	1	1	1	1	
Subtotal						4.0	4.1					
3120	010	3120	10	5	4	0.2	0.3	9	9	1	1	
Subtotal						0.2	0.3					
3130	010	3130	10	5	4	2.8	2.7	9	9	1	1	
Subtotal						2.8	2.7					
3140	010	3140	10	5	4	0.9	1.0	9	9	1	1	
Subtotal						0.9	1.0					
3610	010	3610	10	5	4	4.1	3.8	9	9	1	1	
Subtotal						4.1	3.8					
5010	010	5010	10	5	4	0.6	0.3	9	9	1	1	
Subtotal						0.6	0.3					
5030	010	5030	10	5	4	0.5	0.6	9	9	1	1	
Subtotal						0.5	0.6					
5910	010	5910	10	5	4	2.4	2.5	9	9	1	1	
Subtotal						2.4	2.5					
6610	010	6610	10	5	4	0.5	0.6	9	9	1	1	
Subtotal						0.5	0.6					
9840	010	9840	10	5	4	1.4	1.3	9	9	1	1	
Subtotal						1.4	1.3					

Mileage Correction in Tribal System 12.7

Note: Recommended revisions are pending final field review calculation and final BIA approval

Hualapai Indian Reservation
INVENTORY COMPARISON LISTING

TO BE DELETED FROM THE BIA SYSTEM

Inventory Update		Existing DOT Inventory		Inventory Update	Existing DOT	Inventory Update	Existing DOT	Inventory Update	Existing DOT	Inventory Update	Existing DOT	
Route	Section	Route	Section	Class		Length		Surface Type		Constr. Need		Section Name
		0040	10		4		1.1		1		1	
Subtotal							1.1					
		0058	10		4		2.3		1		1	DELETE
Subtotal							2.3					
		5720	10		8		15.0		0		4	DELETE
Subtotal							15.0					
		7010	10		4		5.0		0		4	DELETE
Subtotal							5.0					

Total to be Deleted from BIA System 23.4

Note: Recommended revisions are pending final field review calculation and final BIA approval

Hualapai Indian Reservation
INVENTORY COMPARISON LISTING

TOTAL TRIBAL SYSTEM

Inventory Update		Existing DOT Inventory		Inventory Update	Existing DOT	Inventory Update	Existing DOT	Inventory Update	Existing DOT	Inventory Update	Existing DOT	
Route	Section	Route	Section	Class		Length		Surface Type		Constr. Need		Section Name
0002	050			5		0.6		1		1		
Subtotal						0.6						
0017	020			11		0.1		1		1		Youth Camp Road
0017	030			5		1.0		1		1		Youth Camp Road
Subtotal						1.1						
0033	020			5		1.3		1		1		
Subtotal						1.3						
0035	020			5		3.0		1		1		
Subtotal						3.0						
0038	020			5		0.4		1		1		
Subtotal						0.4						
		0057	10		4		3.5		5		2	DELETE
Subtotal							3.5					
0061	010	0061	10	5	4	1.0	0.3	3	1	2	2	Diamond Creek Road
Subtotal						1.0	0.3					
0066	010			5		1.0		1		1		Milkweed Road
Subtotal						1.0						
0079	010			5		1.4		1		1		
Subtotal						1.4						
0091	010			5		4.2		1		1		
0091	020			5		1.0		1		1	1	
Subtotal						5.3						
0101	320			3		0.1		1		1		
0101	330			3		0.1		1		1		
0101	340			3						1		H940
0101	350			3		0.1		1		1		
0101	360			3		0.1		1		1		
Subtotal						0.4						
0103	090			3		0.2		1		1		
0103	100			3		0.2		1		1		
0103	110			3		0.2		1		1		
Subtotal						0.6						
0104	040			3		0.3		3		1		
0104	050			3		0.4		3		1		
Subtotal						0.7						
0105	010			5		0.2		3		1		
0105	020			5		2.2		3		1		
Subtotal						2.4						
0111	010			5		1.9		1		1		
0111	020			5		0.2		1		1		
Subtotal						2.0						
0112	010			5		1.3		1		1		
Subtotal						1.3						
0113	010			5		0.7		1		1		
Subtotal						0.7						
0131	010			5		4.6		1		1		
0131	020			5		1.1		1		1		
Subtotal						5.7						

Note: Recommended revisions are pending final field review calculation and final BIA approval

Hualapai Indian Reservation
INVENTORY COMPARISON LISTING

0141	010			5		3.2		1		1		
0141	020			5		3.0		1		1		
Subtotal						6.2						
0161	010			5		2.5		1		1		
Subtotal						2.5						
0181	010			5		6.6		1		1		
0181	020			5		7.1		1		1		
Subtotal						13.7						
0210	010			5		0.2		1		1		
0210	020			5		0.1		1		1		
0210	030			5		1.3		1		1		
Subtotal						1.6						
0251	010			5		5.3		1		1		
Subtotal						5.3						
0252	010			5		2.8		1		1		
Subtotal						2.8						
0281	010			5		2.0		1		1		
Subtotal						2.0						
0290	010			5		3.8		1		1		
Subtotal						3.8						
0291	010			5		7.2		1		1		
Subtotal						7.2						
0292	010			5		1.3		1		1		
Subtotal						1.3						
0661	010			5		6.1		1		1		
Subtotal						6.1						
0662	010			5		1.0		1		1		
Subtotal						1.0						
0665	010			3		0.4		1		1		
Subtotal						0.4						
0710	010			5		0.7		1		1		
Subtotal						0.7						
0980	010			5		1.3		1		1		
Subtotal						1.3						
1201	010			4		0.6		1		1		
Subtotal						0.6						
1801	010			5		2.6		1		1		
1801	020			5		0.3		1		1		
Subtotal						2.9						
1802	010			5		0.9		1		1		
Subtotal						0.9						
1803	010			5		0.9		1		1		
Subtotal						0.9						
1804	010			5		3.2		1		1		
1804	020			5		0.1		1		1		
1804	030			5		0.2		1		1		
Subtotal						3.5						
1810	030			5		0.3		1		1		
Subtotal						0.3						
1811	010			5		0.8		1		1		
1811	020			5		0.1		1		1		
1811	030			5		1.1		1		1		
Subtotal						2.0						
1812	010			5		3.8		1		1		

Note: Recommended revisions are pending final field review calculation and final BIA approval

Hualapai Indian Reservation
INVENTORY COMPARISON LISTING

Subtotal						3.8						
1881	010			5		2.0		1		1		
Subtotal						2.0						
1901	010			5		0.1		1		1		
1901	020			5		5.6		1		1		
Subtotal						5.7						
1902	010			5		3.2		1		1		
1902	020			5		2.2		1		1		
Subtotal						5.4						
8000	010			5		0.9		1		1		Valentine Cemetery Road
Subtotal						0.9						
9000	010			5		3.0		1		1		
9000	020			5		1.6		1		1		
9000	030			5		1.0		1		1		
Subtotal						5.6						
9002	010			5		2.2		1		1		
9002	020			5		1.0		1		1		
9002	030			5		0.1		1		1		
9002	040			5		0.9		1		1		
9002	050			5		0.1		1		1		
9002	060			5		0.1		1		1		
9002	070			5		0.1		1		1		
Subtotal						4.5						
9010	010			5		3.5		1		1		
9010	020			5		4.3		1		1		
Subtotal						7.8						
9101	010			3		1.5		1		1		Mesa View Drive
Subtotal						1.5						
9103	010			5		1.0		1		1		Valentine Way
9103	020			5		0.1		4		1		Valentine Way
Subtotal						1.1						
T066	010			8		2.5		0		4		
T066	020			8		1.2		0		4		
Subtotal						3.7						
T103	010			8		2.5		0		4		
T103	020			8		0.7		0		4		
Subtotal						3.1						
T901	010			8		0.7		0		4		
T901	020			8		1.9		0		4		
Subtotal						2.6						
T902	010			8		0.5		0		4		
T902	020			8		0.5		0		4		
Subtotal						0.9						
T903	010			8		0.7		0		4		
Subtotal						0.7						
T904	010			8		0.3		0		4		
Subtotal						0.3						
P101	010			9				3		1		Hualapai Detention Center
P101	020			9				4		1		Hualapai Tribal Court
P101	030			9				3		1		Hualapai Cultural Center
P101	040			9				1		1		Best Market and Deli
P101	050			9				5		0		Health Center
P101	060			9				5		0		Peach Springs Head Start
P101	070			9				5		0		Boys and Girls Club

Note: Recommended revisions are pending final field review calculation and final BIA approval

Hualapai Indian Reservation INVENTORY COMPARISON LISTING

P101	044			9				5		1		Hualapai Municipal Building
P101	050			9				5		0		Health Education & Wellness Center
P101	100			9				5		0		Transitional Living Center
P101	110			9				5		1		Hualapai Tribal Office
P101	120			9				5		1		US Department of Health Education
P101	070			9				5		1		Hualapai Prosecutors Office
P101	140			9				5		1		Hualapai Elderly Center

Total Tribal System 145.2 3.8

Note: Recommended revisions are pending final field review calculation and final BIA approval

Hualapai Indian Reservation
INVENTORY COMPARISON LISTING

TO BE ADDED TO THE TRIBAL SYSTEM

Inventory Update		Existing DOT Inventory		Inventory Update	Existing DOT	Inventory Update	Existing DOT	Inventory Update	Existing DOT	Inventory Update	Existing DOT	
Route	Section	Route	Section	Class		Length		Surface Type		Constr. Need		Section Name
0002	050			5		0.6		1		1		
Subtotal						0.6						
0017	020			11		0.1		1		1		Youth Camp Road
0017	030			5		1.0		1		1		Youth Camp Road
Subtotal						1.1						
0033	020			5		1.3		1		1		
Subtotal						1.3						
0035	020			5		3.0		1		1		
Subtotal						3.0						
0038	020			5		0.4		1		1		
Subtotal						0.4						
0066	010			5		1.0		1		1		Milkweed Road
Subtotal						1.0						
0079	010			5		1.4		1		1		
Subtotal						1.4						
0091	010			5		4.2		1		1		
0091	020			5		1.0		1		1		
Subtotal						5.3						
0101	320			3		0.1		1		1		
0101	330			3		0.1		1		1		
0101	340			3						1		H940
0101	350			3		0.1		1		1		
0101	360			3		0.1		1		1		
Subtotal						0.4						
0103	090			3		0.2		1		1		
0103	100			3		0.2		1		1		
0103	110			3		0.2		1		1		
Subtotal						0.6						
0104	040			3		0.3		3		1		
0104	050			3		0.4		3		1		
Subtotal						0.7						
0105	010			5		0.2		3		1		
0105	020			5		2.2		3		1		
Subtotal						2.4						
0111	010			5		1.8		1		1		
0111	020			5		0.2		1		1		
Subtotal						2.0						
0112	010			5		1.3		1		1		
Subtotal						1.3						
0113	010			5		0.7		1		1		
Subtotal						0.7						
0131	010			5		4.6		1		1		
0131	020			5		1.1		1		1		
Subtotal						5.7						
0141	010			5		3.2		1		1		
0141	020			5		3.0		1		1		
Subtotal						6.2						
0161	010			5		2.5		1		1		

Note: Recommended revisions are pending final field review calculation and final BIA approval

Hualapai Indian Reservation
INVENTORY COMPARISON LISTING

Subtotal						2.5						
0181	010			5		6.6		1		1		
0181	020			5		7.1		1		1		
Subtotal						13.7						
0210	010			5		0.2		1		1		
0210	020			5		0.1		1		1		
0210	030			5		1.3		1		1		
Subtotal						1.6						
0251	010			5		5.3		1		1		
Subtotal						5.3						
0252	010			5		2.8		1		1		
Subtotal						2.8						
0281	010			5		2.0		1		1		
Subtotal						2.0						
0290	010			5		3.8		1		1		
Subtotal						3.8						
0291	010			5		7.2		1		1		
Subtotal						7.2						
0292	010			5		1.3		1		1		
Subtotal						1.3						
0661	010			5		6.1		1		1		
Subtotal						6.1						
0662	010			5		1.0		1		1		
Subtotal						1.0						
0665	010			3		0.4		1		1		
Subtotal						0.4						
0710	010			5		0.7		1		1		
Subtotal						0.7						
0980	010			5		1.3		1		1		
Subtotal						1.3						
1201	010			5		0.6		1				
Subtotal						0.6						
1801	010			5		2.6		1		1		
1801	020			5		0.3		1		1		
Subtotal						2.9						
1802	010			5		0.9		1		1		
Subtotal						0.9						
1803	010			5		0.9		1		1		
Subtotal						0.9						
1804	010			5		3.2		1		1		
1804	020			5		0.1		1		1		
1804	030			5		0.2		1		1		
Subtotal						3.5						
1810	030			5		0.3		1		1		
Subtotal						0.3						
1811	010			5		0.8		1		1		
1811	020			5		0.1		1		1		
1811	030			5		1.1		1		1		
Subtotal						2.0						
1812	010			5		3.8		1		1		
Subtotal						3.8						
1881	010			5		2.0		1		1		
Subtotal						2.0						
1901	010			5		0.1		1		1		

Note: Recommended revisions are pending final field review calculation and final BIA approval

Hualapai Indian Reservation
INVENTORY COMPARISON LISTING

1901	020			5		5.6		1		1		
Subtotal						5.7						
1902	010			5		3.2		1		1		
1902	020			5		2.2		1		1		
Subtotal						5.4						
8000	010			5		0.9		1		1		Valentine Cemetery Road
Subtotal						0.9						
9000	010			5		3.0		1		1		
9000	020			5		1.6		1		1		
9000	030			5		1.0		1		1		
Subtotal						5.6						
9002	010			5		2.2		1		1		
9002	020			5		1.0		1		1		
9002	030			5		0.1		1		1		
9002	040			5		0.9		1		1		
9002	050			5		0.1		1		1		
9002	060			5		0.1		1		1		
9002	070			5		0.1		1		1		
Subtotal						4.5						
9010	010			5		3.5		1		1		
9010	020			5		4.3		1		1		
Subtotal						7.8						
9101	010			3		1.5		1		1		Mesa View Drive
Subtotal						1.5						
9103	010			5		1.0		1		1		Valentine Way
9103	020			5		0.1		4		1		Valentine Way
Subtotal						1.1						
T066	010			8		2.5		0		4		
T066	020			8		1.2		0		4		
Subtotal						3.7						
T103	010			8		2.5		0		4		
T103	020			8		0.7		0		4		
Subtotal						3.1						
T901	010			8		0.7		0		4		
T901	020			8		1.9		0		4		
Subtotal						2.6						
T902	010			8		0.5		0		4		
T902	020			8		0.5		0		4		
Subtotal						0.9						
T903	010			8		0.7		0		4		
Subtotal						0.7						
T904	010			8		0.3		0		4		
Subtotal						0.3						
P101	010			9				3		1		Hualapai Detention Center
P101	020			9				4		1		Hualapai Tribal Court
P101	030			9				3		1		Hualapai Cultural Center
P101	040			9				1		1		Best Market and Deli
P101	050			9				5		0		Health Center
P101	060			9				5		0		Peach Springs Head Start
P101	070			9				5		0		Boys and Girls Club
P101	044			9				5		1		Hualapai Municipal Building
P101	050			9				5		0		Health Education & Wellness Center
P101	100			9				5		0		Transitional Living Center
P101	110			9				5		1		Hualapai Tribal Office

Note: Recommended revisions are pending final field review calculation and final BIA approval

Hualapai Indian Reservation
INVENTORY COMPARISON LISTING

P101	120			9				5		1		US Department of Health Education
P101	070			9				5		1		Hualapai Prosecutors Office
P101	140			9				5		1		Hualapai Elderly Center

Total to be Added to Tribal System 144.2

Note: Recommended revisions are pending final field review calculation and final BIA approval

Hualapai Indian Reservation
INVENTORY COMPARISON LISTING

TO BE DELETED FROM THE TRIBAL SYSTEM

Inventory Update		Existing DOT Inventory		Inventory Update	Existing DOT	Inventory Update	Existing DOT	Inventory Update	Existing DOT	Inventory Update	Existing DOT	
Route	Section	Route	Section	Class		Length		Surface Type		Constr. Need		Section Name
		0057	10		4		3.5		5		2	
Subtotal							3.5					

Total to be Deleted from Tribal System 3.5

MILEAGE CORRECTION IN THE TRIBAL SYSTEM

Inventory Update		Existing DOT Inventory		Inventory Update	Existing DOT	Inventory Update	Existing DOT	Inventory Update	Existing DOT	Inventory Update	Existing DOT	
Route	Section	Route	Section	Class		Length		Surface Type		Constr. Need		Section Name
0061	010	0061	10	5	4	1.0	0.3	3	1	2	2	Diamond Creek Road
Subtotal						1.0	0.3					

Mileage Correction in Tribal System 0.7

Note: Recommended revisions are pending final field review calculation and final BIA approval

Hualapai Indian Reservation
INVENTORY COMPARISON LISTING

TOTAL NON-BIA SYSTEM

Inventory Update		Existing DOT Inventory		Inventory Update	Existing DOT	Inventory Update	Existing DOT	Inventory Update	Existing DOT	Inventory Update	Existing DOT	
Route	Section	Route	Section	Class		Length		Surface Type		Constr. Need		Section Name
0001	070	0001	70		4	0.0	14.1		1		0	
Subtotal						0.0	14.1					
0019	012	0019	10	4	4	0.8	0.8	3	3	1	1	Nelson Road
0019	030	0019	30	4	4	0.4	0.4	3	3	1	1	Nelson Road
0019	040	0019	40	4	4	0.3	0.3	5	5	1	1	Nelson Road
0019	050	0019	50	4	4	0.2	0.2	3	3	1	1	Nelson Road
Subtotal						1.7	1.7					
0002	060			5		7.7		1		1		Clay Springs Ranch Road
Subtotal						7.7						
C025	010			2		6.6		5		0		Pierce Ferry Road
Subtotal						6.6						
C149	010			4		0.8		5		2		Antares Road
C149	020			4		16.4		1		2		Antares Road
C149	030			4		8.9		1		2		Antares Road
C149	040			4		6.3		1		2		Antares Road
Subtotal						32.3						
S066	010			5		0.7		5		0		State Route 66
S066	020			5		0.5		5		0		State Route 66
S066	030			5						0		H7758
S066	040			5		6.9		5		0		State Route 66
S066	050			5						0	0	H7757
S066	060			5		2.1		5		0	0	State Route 66
S066	070			5						0		H7756
S066	080			5		3.9		5		0		State Route 66
S066	090			5						0		H7755
S066	100			5		2.1		5		0		State Route 66
S066	110			5						0		H7754
S066	120			5		1.4		5		0		State Route 66
S066	130			5		1.7		5		0		State Route 66
S066	140			5		0.4		5		0		State Route 66
S066	150			5		0.1		5		0		State Route 66
S066	160			5						0		H4238
S066	170			5		1.3		5		0		State Route 66
S066	180			5						0		H4237
S066	190			5		1.1		5		0		State Route 66
S066	200			5		6.1		5		0		State Route 66
S066	210			5		3.0		5		0		State Route 66
S066	220			5		0.3		5		0		State Route 66
S066	230			5						0		H4236
S066	240			5		4.0		5		0		State Route 66
S066	250			6		0.9		5		0		State Route 66
S066	260			6						0		H6077
S066	270			6		1.1		5		0		State Route 66
S066	280			5		6.9		5		0		State Route 66
S066	290			5		1.1		5		0		State Route 66
S066	300			5						0		H142
S066	310			5		1.7		5		0		State Route 66
S066	320			5						0		H4235

Note: Recommended revisions are pending final field review calculation and final BIA approval

Hualapai Indian Reservation
INVENTORY COMPARISON LISTING

Inventory Update		Existing DOT Inventory		Inventory Update	Existing DOT	Inventory Update	Existing DOT	Inventory Update	Existing DOT	Inventory Update	Existing DOT	
S066	330			5		0.9		5		0		State Route 66
S066	340			5						0		H134
S066	350			5		0.7		5		0		State Route 66
S066	360			5						0		H141
S066	370			5		1.0		5		0		State Route 66
S066	380			5						0		H4234
S066	390			5		1.6		5		0		State Route 66
S066	400			5						0		H4233
S066	410			5		0.1		5		0		State Route 66
S066	420			5				5		0		H4232
S066	430			5		1.0		5		0		State Route 66
S066	440			5						0		H192
S066	450			5		1.6		5		0		State Route 66
S066	460			5		1.4		5		0		State Route 66
S066	470			5						0		H4231
S066	480			5		0.2		5		0		State Route 66
S066	490			5		2.8		5		0		State Route 66
S066	500			5						0		H4230
S066	510			5		1.4		5		0		State Route 66
S066	520			5				5		0		H4229
S066	530			5		0.4		5		0		State Route 66
S066	540			5						0		H738
S066	550			5		4.2		5		0		State Route 66
S066	560			5						0		H227
S066	570			5		0.1		5		0		State Route 66
S066	580			5						0		H4226
S066	590			5		2.7		5		0		State Route 66
S066	600			5						0		H4225
S066	610			5		2.0		5		0		State Route 66
Subtotal						69.1						

Total to be Added to Tribal System 117.4

Note: Recommended revisions are pending final field review calculation and final BIA approval

Hualapai Indian Reservation
INVENTORY COMPARISON LISTING

TO BE ADDED TO THE NON-BIA SYSTEM

Inventory Update		Existing DOT Inventory		Inventory Update	Existing DOT	Inventory Update	Existing DOT	Inventory Update	Existing DOT	Inventory Update	Existing DOT	
Route	Section	Route	Section	Class		Length		Surface Type		Constr. Need		Section Name
0002	060			5		7.7		1		1		Clay Springs Ranch Road
Subtotal						7.7						
0019	012	0019	10	4	4	0.8	0.8	3	3	1	1	Nelson Road
Subtotal						0.8						
C025	010			2		6.6		5		0		Pierce Ferry Road
Subtotal						6.6						
C149	010			4		0.8		5		2		Antares Road
C149	020			4		16.4		1		2		Antares Road
C149	030			4		8.9		1		2		Antares Road
C149	040			4		6.3		1		2		Antares Road
Subtotal						32.3						
S066	010			5		0.7		5		0		State Route 66
S066	020			5		0.5		5		0		State Route 66
S066	030			5						0		H7758
S066	040			5		6.9		5		0		State Route 66
S066	050			5						0		H7757
S066	060			5		2.1		5		0		State Route 66
S066	070			5						0		H7756
S066	080			5		3.9		5		0		State Route 66
S066	090			5						0		H7755
S066	100			5		2.1		5		0	0	State Route 66
S066	110			5						0	0	H7754
S066	120			5		1.4		5		0		State Route 66
S066	130			5		1.7		5		0		State Route 66
S066	140			5		0.4		5		0		State Route 66
S066	150			5		0.1		5		0		State Route 66
S066	160			5						0		H4238
S066	170			5		1.3		5		0		State Route 66
S066	180			5						0		H4237
S066	190			5		1.1		5		0		State Route 66
S066	200			5		6.1		5		0		State Route 66
S066	210			5		3.0		5		0		State Route 66
S066	220			5		0.3		5		0		State Route 66
S066	230			5						0		H4236
S066	240			5		4.0		5		0		State Route 66
S066	250			6		0.9		5		0		State Route 66
S066	260			6						0		H6077
S066	270			6		1.1		5		0		State Route 66
S066	280			5		6.9		5		0		State Route 66
S066	290			5		1.1		5		0		State Route 66
S066	300			5						0		H142
S066	310			5		1.7		5		0		State Route 66
S066	320			5						0		H4235
S066	330			5		0.9		5		0		State Route 66
S066	340			5						0		H134
S066	350			5		0.7		5		0		State Route 66
S066	360			5						0		H141
S066	370			5		1.0		5		0		State Route 66

Note: Recommended revisions are pending final field review calculation and final BIA approval

Hualapai Indian Reservation
INVENTORY COMPARISON LISTING

Inventory Update		Existing DOT Inventory		Inventory Update	Existing DOT	Inventory Update	Existing DOT	Inventory Update	Existing DOT	Inventory Update	Existing DOT	
Route	Section	Route	Section	Class	Length	Surface Type	Constr. Need	Section Name				
S066	380			5				0		H4234		
S066	390			5	1.6	5		0		State Route 66		
S066	400			5				0		H4233		
S066	410			5	0.1	5		0		State Route 66		
S066	420			5		5		0		H4232		
S066	430			5	1.0	5		0		State Route 66		
S066	440			5				0		H192		
S066	450			5	1.6	5		0		State Route 66		
S066	460			5	1.4	5		0		State Route 66		
S066	470			5				0		H4231		
S066	480			5	0.2	5		0		State Route 66		
S066	490			5	2.8	5		0		State Route 66		
S066	500			5				0		H4230		
S066	510			5	1.4	5		0		State Route 66		
S066	520			5		5		0		H4229		
S066	530			5	0.4	5		0		State Route 66		
S066	540			5				0		H738		
S066	550			5	4.2	5		0		State Route 66		
S066	560			5				0		H227		
S066	570			5	0.1	5		0		State Route 66		
S066	580			5				0		H4226		
S066	590			5	2.7	5		0		State Route 66		
S066	600			5				0		H4225		
S066	610			5	2.0	5		0		State Route 66		
Subtotal					69.1							

Total to be Added to Tribal System 116.5

Note: Recommended revisions are pending final field review calculation and final BIA approval

Hualapai Indian Reservation
INVENTORY COMPARISON LISTING

TO BE DELETED FROM THE NON-BIA SYSTEM

Inventory Update		Existing DOT Inventory		Inventory Update	Existing DOT	Inventory Update	Existing DOT	Inventory Update	Existing DOT	Inventory Update	Existing DOT	
Route	Section	Route	Section	Class		Length		Surface Type		Constr. Need		Section Name
0001	070	0001	70		4	0.0	14.1		1		0	DELETE
Subtotal						0.0	14.1					

Total to be Deleted from Non-BIA System 14.1

Note: Recommended revisions are pending final field review calculation and final BIA approval

Route	Section	~ MP	Length (FT)	Image	Bridge #
0001 Buck and Doe Road	022	15.50	44		H900
0001 Buck and Doe Road	025	16.40	50		H901
0001 Buck and Doe Road	027	17.80	33		H902
0001 Buck and Doe Road	030	18.03	66		H232

Note: Recommended revisions are pending final field review calculation and final BIA approval

Route	Section	~ MP	Length (FT)	Image	Bridge #
0001 Buck and Doe Road	042	18.75	44	IMG_3998 	H903
0001 Buck and Doe Road	052	19.90	34	IMG_4001 	H904
0001 Diamond Bar Road	080	19.8	22		H920

Note: Recommended revisions are pending final field review calculation and final BIA approval

Route	Section	~ MP	Length (FT)	Image	Bridge #
0001 Diamond Bar Road	100	19.15	20		H921
0001 Diamond Bar Road	120	18.4	25		H922
0001 Diamond Bar Road	140	18	30		H923

Note: Recommended revisions are pending final field review calculation and final BIA approval

Route	Section	~ MP	Length (FT)	Image	Bridge #
0001 Diamond Bar Road	160	17.6	52		H924
0001 Diamond Bar Road	180	17.3	30		H925
0001 Diamond Bar Road	200	17.15	38		H926

Note: Recommended revisions are pending final field review calculation and final BIA approval

Route	Section	~ MP	Length (FT)	Image	Bridge #
0001 Diamond Bar Road	220	16.9	30		H927
0001 Diamond Bar Road	240	14.0	26		H928
0001 Diamond Bar Road	260	12.4	20		H929

Note: Recommended revisions are pending final field review calculation and final BIA approval

Route	Section	~ MP	Length (FT)	Image	Bridge #
0001 Diamond Bar Road	270	12.4	120		H930
0001 Diamond Bar Road	300	7.2	24	IMG_4044 	H931
0001 Diamond Bar Road	320	8.5	22	IMG_4042 	H932

Note: Recommended revisions are pending final field review calculation and final BIA approval

Route	Section	~ MP	Length (FT)	Image	Bridge #
0001 Diamond Bar Road	340	8.75	20		H933
0001 Diamond Bar Road	360	9.5	23		H934
0001 Diamond Bar Road	380	10	22		H925

Note: Recommended revisions are pending final field review calculation and final BIA approval

Route	Section	~ MP	Length (FT)	Image	Bridge #
101	340		26		H940
00018 Supai Road	20		36		H233
00018 Supai Road	40		33		H234

Note: Recommended revisions are pending final field review calculation and final BIA approval

Route	Section	~ MP	Length (FT)	Image	Bridge #
State Route 66 - Bridge # 4225	600	73.09	21	ADOT_4225 	4225
State Route 66 - Bridge #4226	580	75.82	21	ADOT_4226 	4226
State Route 66 - Bridge #4227	560	75.90	21	ADOT_4227 	4227

Note: Recommended revisions are pending final field review calculation and final BIA approval

Route	Section	~ MP	Length (FT)	Image	Bridge #
State Route 66 - Bridge #738	540	80.10	351	ADOT_0738 	738
State Route 66 - Bridge #4229	520	80.51	37	ADOT_4229 	4229
State Route 66 - Bridge #4230	500	81.90	21	ADOT_4230 	4230
State Route 66 - Bridge #4231	470	84.94	43	ADOT_4231 	4231

Note: Recommended revisions are pending final field review calculation and final BIA approval

Route	Section	~ MP	Length (FT)	Image	Bridge #
State Route 66 - Bridge #192	440	87.91	115	ADOT_192 	192
State Route 66 - Bridge #4232	420	88.90	49	ADOT_4232 	4232
State Route 66 - Bridge #4233	400	89.00	49	ADOT_4233 	4233
State Route 66 - Bridge #4234	380	90.57	43		4234

Note: Recommended revisions are pending final field review calculation and final BIA approval

Route	Section	~ MP	Length (FT)	Image	Bridge #
State Route 66 - Bridge #141	360	91.61	110	ADOT_0141 	141
State Route 66 - Bridge #134	340	92.37	110	ADOT_0134 	134
State Route 66 - Bridge #4235	320	93.32	32	ADOT_4235 	4235

Note: Recommended revisions are pending final field review calculation and final BIA approval

Route	Section	~ MP	Length (FT)	Image	Bridge #
State Route 66 - Bridge #142	300	95.02	110	ADOT_0142 	142
State Route 66 - Bridge #6077	260	104.15	21	ADOT_6077 	6077
State Route 66 - Bridge #4236	230	109.02	64	ADOT_4236 	4236
State Route 66 - Bridge #4237	180	119.51	32		4237

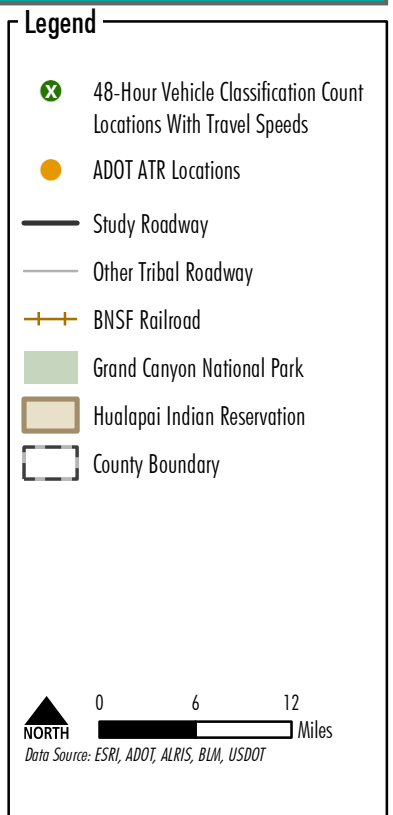
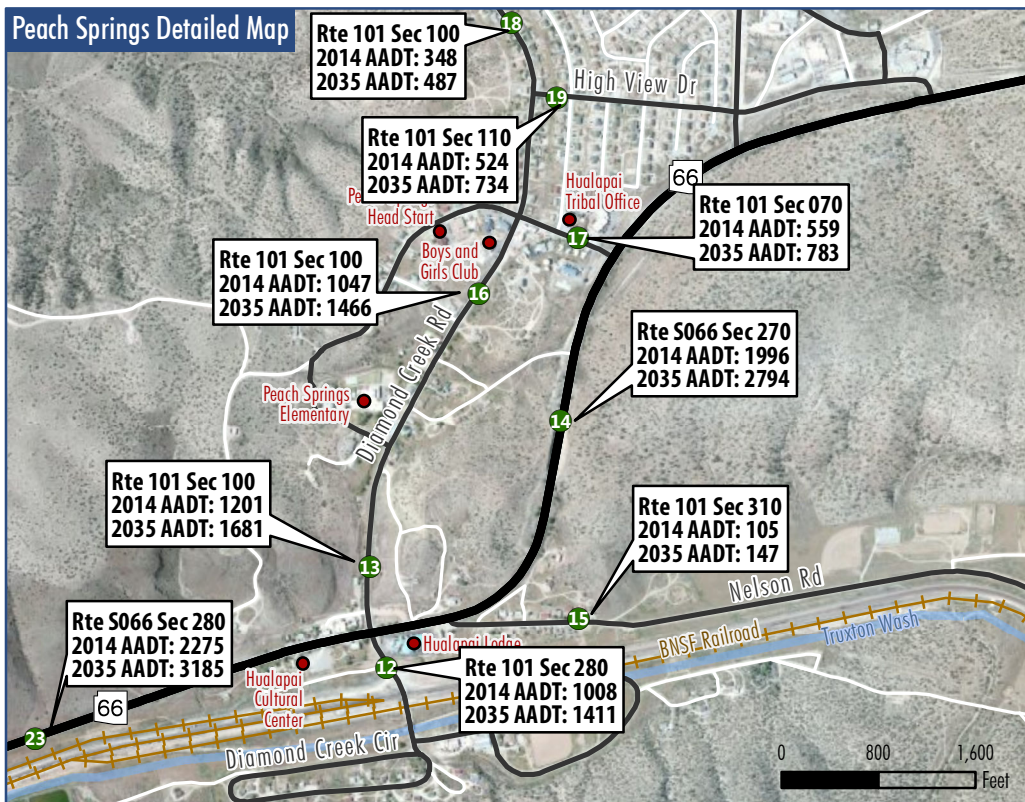
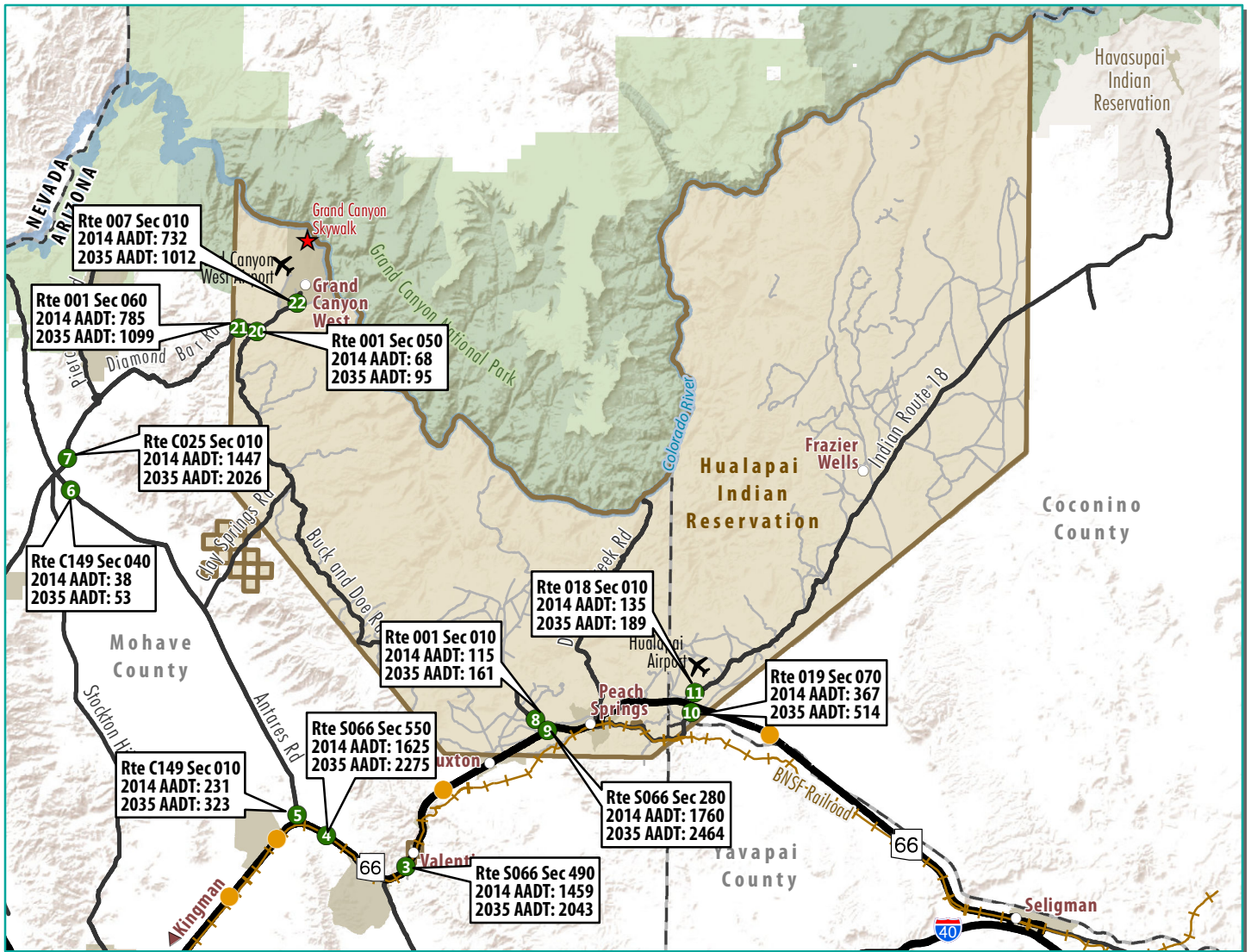
Note: Recommended revisions are pending final field review calculation and final BIA approval

Route	Section	~ MP	Length (FT)	Image	Bridge #
State Route 66 - Bridge #4238	160	120.78	32	ADOT_4238 	4238
State Route 66 - Bridge #4239	110	121.27	21	ADOT_4239 	4239
State Route 66 - Bridge #7754	090	124.70	64	ADOT_7754 	7754
State Route 66 - Bridge #7755	090	126.60	43		7755

Note: Recommended revisions are pending final field review calculation and final BIA approval

Route	Section	~ MP	Length (FT)	Image	Bridge #
State Route 66 - Bridge #7756	070	130.42	43		7756
State Route 66 - Bridge #7757	050	132.49	43		7757
State Route 66 - Bridge #7758	030	139.40	25	Can't obtain photo	7758

Note: Recommended revisions are pending final field review calculation and final BIA approval



Note: Recommended revisions are pending final field review calculation and final BIA approval