



City of Tombstone



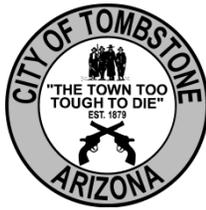
SR 80 Alternative Route Study Final Report



**City of Tombstone State Route 80
Alternate Route PARA Study**

Final Report

Prepared for:



**Arizona Department of Transportation
And
City of Tombstone**

Prepared by:



May 21, 2012



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List of Acronyms

AASHTO	American Association of State Highway and Transportation Officials
ADA	Americans with Disabilities Act
ADEQ	Arizona Department of Environmental Quality
ADOT	Arizona Department of Transportation
ADT	Average Daily Traffic
APS	Arizona Public Service
ASLD	Arizona State Land Department
BFO	Board Funding Obligation
BLM	Bureau of Land Management
BNSF	Burlington Northern Santa Fe Railway
CC	Cochise County
CFR	Code of Federal Regulations
CMAQ	Congestion Mitigation and Air Quality
DES	(Arizona) Department of Economic Security
DHV	Design Hour Volume
EB	Eastbound
GAN	Grant Application Notes
HCM	Highway Capacity Manual
HCS	Highway Capacity Software
HELP	Highway Expansion and Extension Loan Program
HES	Hazard Elimination Program
HSIP	Highway Safety Improvement Program
HURF	Highway User Revenue Fund
I-10	Interstate 10
IM	Interstate Maintenance
LOS	Level of Service
MPH (or mph)	Miles per Hour
NB	Northbound
NHS	National Highway System
NRHP	National Register of Historic Places
OD	Origin-Destination
OHV	Off-Highway Vehicle
PARA	Planning Assistance for Rural Areas
PGP	(Traffic Engineering) Policies, Guidelines and Procedures
PHF	Peak Hour Factor(s)
R/W	Right-of-Way
RDG	(ADOT) Roadway Design Guidelines
RMA	Rural Minor Arterial
RMC	Rural Major Collector



City of Tombstone State Route 80
Alternate Route PARA Study



RV	Recreational Vehicle
SB	Southbound
SHPO	State Historic Preservation Office
SIB	State Infrastructure Bank
SR 80	State Route 80
SR 82	State Route 82
SSVEC	Sulfur Springs Valley Electric Company
TAC	Technical Advisory Committee
TAZ	Transportation Analysis Zone
TIGER	Transportation Investment Generating Economic Recovery
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service
UTV	Utility Vehicle
UPRR	Union Pacific Railroad
vpd	Vehicles per Day
WB	Westbound



EXECUTIVE SUMMARY

Background: The purpose of the City of Tombstone State Route 80 Alternate Route study is to assess the issues and opportunities for a potential realignment of State Route 80 (SR 80). The study was initiated by the City of Tombstone City Council when they requested planning assistance from ADOT through the Planning Assistance for Rural Areas (PARA) program. The study would determine if there is a long range need for an alternate route.

The study area along SR 80 extends from SR 82 through the City of Tombstone and ends at Davis Road southeast of Tombstone. SR 80 bisects the Tombstone historic district and there are several historic buildings along Fremont Street (SR 80). As highway traffic increases along Fremont Street, the historic buildings become more vulnerable to vibration damage.

Project Need: Based on its current configuration as well as input from the TAC, interested members of the public, and investigation of the study area, there were numerous reasons identified for pursuing potential SR 80 alternate alignment possibilities. Key elements in identifying the project need include:

- The current traffic volume on SR 80 through the Tombstone Historic District is approximately 4,000 vehicles per day (vpd). Due to growth in the region and the state, the traffic volumes are expected to double by 2040.
- Twenty percent of the current traffic is passing through the city with no particular destination in the study area. Trucks comprise approximately 10% of the traffic stream on a typical day. With growth in the region and state projected to increase faster than in the City of Tombstone, the through traffic and truck traffic is expected to become a higher percentage in the future.
- The mix of through traffic with local and tourist traffic and with pedestrian and bicycle traffic in the Tombstone Historic District creates conflict that diminishes the experience of the tourist and inflicts delays and unexpected traffic conditions on the through rural highway traveler.
- Special events held in the Tombstone Historic District, which occur a few times throughout the year, attract large numbers of tourists which increases pedestrian traffic throughout the Historic District. During these events, conflicts between pedestrians and through traffic along SR 80 are more likely to occur and may diminish the tourist experience.
- The existing traffic conditions in Tombstone do not meet the expectations of the through rural highway traveler because the speed limit on SR 80 changes from 65 mph at either end of the City to 30 mph within the Tombstone Historic Landmark. Motorists and truckers do not always fully transition from rural highway speeds to very restricted speeds in such a short distance. There are also limited passing opportunities within the study area which are atypical of a rural highway.



- The historic buildings and structures throughout the City may be adversely affected by vibration from higher-speed or heavy vehicle traffic;
- Growth in Tombstone has been somewhat stagnant and there is a desire to provide and enhance opportunities for economic growth by providing an improved roadway system with access to developable vacant land.

Project Purpose: The purpose of a potential alternative corridor is to divert through traffic from the historic district to enhance the tourist experience and protect historic resources, enhance development opportunities in other parts of Tombstone and to provide a route that meets the expectations of the through traveler by providing a route with a consistent design speed and minimal interruptions due to traffic signals and unrestricted access.

Corridors Selected for Further Study: Seven alternate corridors were identified through the study process and were evaluated based on how well they met the project purpose and need and other evaluation criteria such as neighborhood impacts and safety (see section 11). Corridors S4 and Corridor N2 were selected for further study in addition to the No-Build option through input from stakeholders, Technical Advisory Committee members and members of the public.

Corridor S4 diverges from SR 80 in the vicinity of Middlemarch Road near the municipal solid waste landfill and heads south across a new bridge over Walnut Gulch west of the existing SR 80 bridge (see Figure 14). It then curves to the southeast near the Sulphur Springs Valley Electrical Cooperative, Inc. (SSVEC) Tombstone Substation and crosses the west end of Allen Street and follows the SSVEC power line. Corridor S4 then crosses Charleston Road and curves east along the old runway south of Tombstone and north of the hills and near the southern City boundary. The alternate corridor would curve northeast just south of the Skyline neighborhood, curve around on the north side of the open pit mining area before it reconnects with SR 80 southeast of the City.

Proximity to abandoned mine sites could create structural or cost considerations to address subsidence potential and/or impacts on bat habitats. A key stakeholder along Corridor S4 is the owner of a large open pit mine who was very receptive to Corridor S4. In addition, Corridor S4 provides a very nice view of the historic downtown Tombstone which is highly desirable to key stakeholders as a way to attract tourists into Tombstone. Corridor S4 meets the purpose and need of the study, has relatively good separation from most residential areas, has good access to the historic district, provides good opportunity for new economic development meets the expectations of regional trip travel and enhances safety.

Corridor N2 avoids known historic and current mining activities. Corridor N2 diverges from SR 80 in the vicinity of Middlemarch Road near the municipal solid waste landfill and heads east north of Walnut Gulch and the north Tombstone City limits (see Figure 9). Near the northeast corner of the Tombstone City limits Corridor N2 curves south crossing Camino San Rafael Road and Gleeson Road and Walnut Gulch as it heads south to rejoin SR 80 southeast of



Tombstone. Corridor N2 is located almost entirely on state trust lands which could mitigate the negative impact of right-of-way acquisition. Corridor N2 meets the purpose and need of the study, provides good opportunity for new economic development, meets the expectations of regional trip travel and enhances safety.

Although the No-build alternative would not meet the purpose and need of the study, this option would be carried forward to the next phase of study and analysis until final approvals are obtained to move forward with the alternate. The no-build options would leave SR 80 on its current alignment on Fremont Street in Tombstone. It would also include the planned narrowing of Fremont Street between 3rd Street and 6th Street.

Cost and Funding: The cost of final design, right-of-way acquisition and construction of Corridor S4 is estimated to be approximately \$15 million while Corridor N2 is estimated to cost approximately \$19 million. If a 20% factor was added for mining contingencies, then the project cost for S4 would be approximately \$18 million.

No funding source is currently available for the design and construction of an alternate route. Although the realignment of SR 80 is recommended, current conditions are not favorable for further action at this time to move the project forward. Future activities related to the realignment of SR 80 will occur at a time that is mutually beneficial and agreeable to both ADOT and the City of Tombstone.

Public and Agency Involvement:

The ADOT study team and the city council made a considerable effort to involve stakeholder agencies, stakeholders and the public during the study process. Five Technical Advisory Meetings consisting of agency stakeholders were held along with five stakeholder interviews and two public meetings. Issues including truck traffic, neighborhood impacts, business impacts and safety were expressed. Many residents who attended the public meetings expressed a preference for the No-Build option.



1.0 INTRODUCTION

The purpose of the City of Tombstone State Route 80 (SR 80) Alternate Route Planning Assistance for Rural Areas (PARA) Study is to assess the issues and opportunities for a potential realignment of SR 80. The intent of a potential realignment would be to serve future regional traffic, improve regional connectivity, and support efforts to retain and enhance the historic features within the City of Tombstone. This study will serve as the gateway for any future scoping documents and engineering design.

The main goals and objectives of the study include:

- Document and analyze existing conditions along SR 80;
- Analyze anticipated future conditions within the study area;
- Determine the need for and feasibility of a realignment of SR 80; and
- Develop and identify a preferred corridor for a SR 80 realignment.

This report provides an inventory and analysis of existing and future land use, socioeconomic, transportation, historic and environmental conditions in a study area that encompasses the City of Tombstone and the surrounding area. The information about the characteristics of the study area will provide the foundation for the identification of alternative SR 80 corridors to address community needs and anticipated deficiencies.

1.1 STUDY AREA OVERVIEW

SR 80 is an east-west route traversing southeastern Arizona beginning in Benson and ending at the New Mexico state line. SR 80 provides a direct connection from Benson to Bisbee and serves as a rural minor arterial. Locally, SR 80 travels through the corporate limits of the City of Tombstone from approximate milepost 315.4 to 318.6 where it is known as Fremont Street. Within the City it serves as a collector for local streets and offers access for fronting businesses and residences. Figure 1 provides an overview of the study area characteristics.

Its current location was established in 1964 when SR 80, then US 80, was moved one block north to Fremont Street from Allen Street. The purpose of the 1964 realignment was to provide more right-of-way and better accommodate the operations of motorized vehicles. Fremont Street is narrow, providing only 80 feet of right-of-way nominally between the faces of fronting buildings. When the highway was constructed in 1964, the pre-existing boardwalks and porches were removed to accommodate the new 4-lane roadway. In 2007, the 4-lane undivided street section was changed to two lanes with a center turn lane as a means to mitigate higher operating speeds that were prevalent in the historic district.

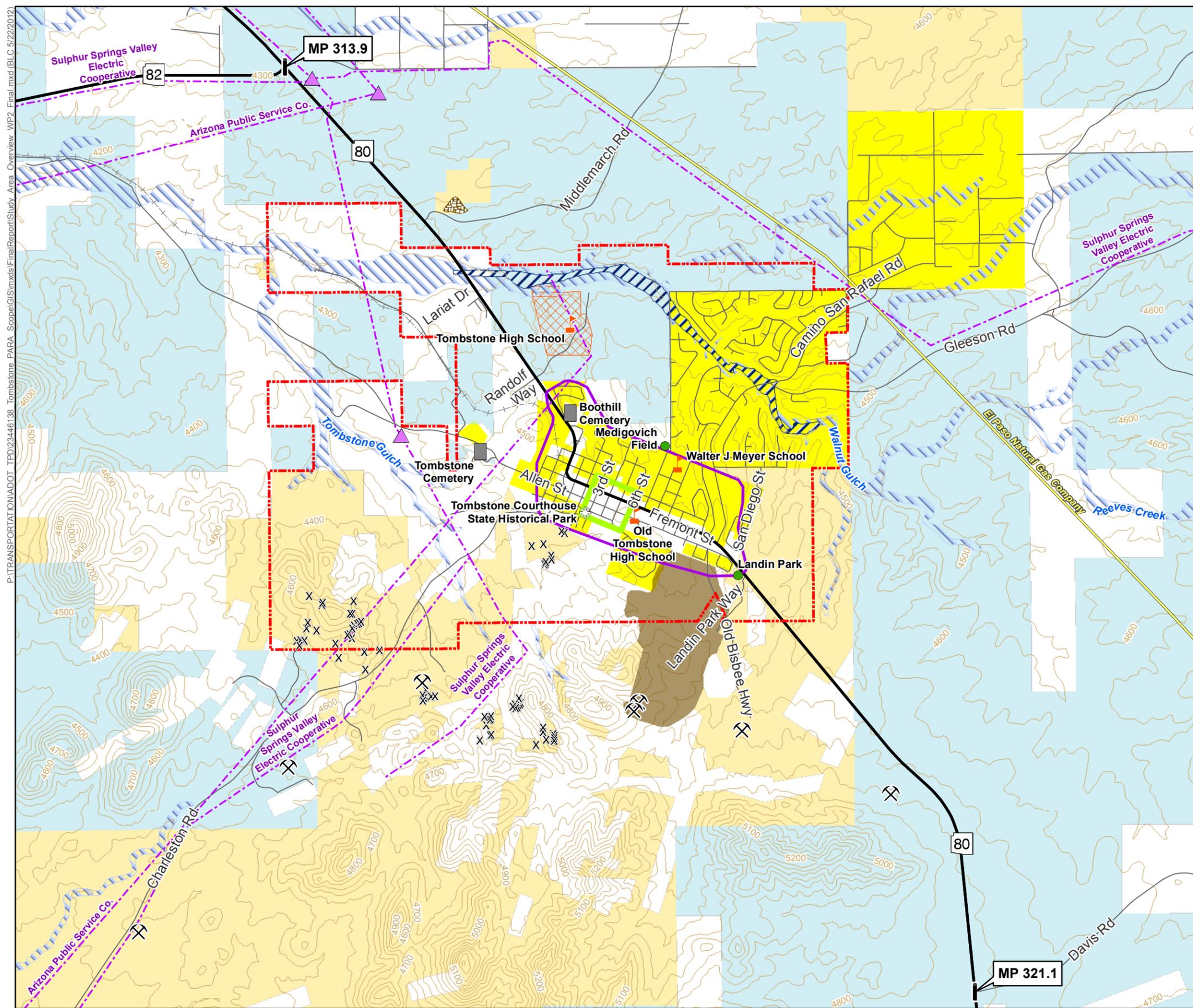


Several historic buildings are present along both sides of SR 80 as it bisects the City of Tombstone historic district. As traffic increases along the current alignment, the historic buildings become more vulnerable due to the increased vibrations of truck traffic in addition to natural deterioration. In addition, the City of Tombstone is an important tourist destination where several special events are conducted every year celebrating its Old West heritage. The largest of these special events can attract crowds of nearly 100,000 from around the world over a week-long period.

The City of Tombstone is surrounded by mining claims and active and abandoned mines. Mining activity is ongoing and is largely located immediately south of the City on both private land and Bureau of Land Management (BLM) land, south of SR 80.

ADOT is now working with the City through the Highway Safety Improvements Program (HSIP) and Transportation Enhancements (TE) Program to construct safety improvements, implement enhancement, and perform certain historic rehabilitations on Fremont Street (SR 80) from 3rd Street to 6th Street. These improvements include narrowing the highway to make room for pedestrian facilities. These facilities will include sidewalks, landscaping and pedestrian lighting, street lights, and, where appropriate, the construction of historically consistent boardwalks and porches. Completion of these improvements is expected in 2013. Although the highway will remain a three-lane section, a consequence of this work is that there will be no room to add lanes for future vehicular capacity or safety upgrades, such as traffic or pedestrian signals, in the future.

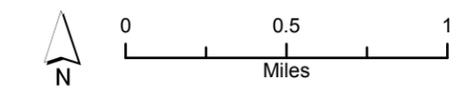
Figure 1 Study Area Overview



SR 80 Alternate Route PARA Study

- Legend**
- City of Tombstone Boundary
 - Tombstone Historic District National Historic Landmark / National Register of Historic Places District
 - Tombstone Historic District (AZSITE)
 - 100-year Floodplain
 - Floodway
 - Closed Municipal Solid Waste Landfill
 - Mine Permitting Activity
 - Abandoned Mine
 - Cemetery
 - School / School Facility
 - Park
 - State Park
 - Tombstone High School / Waste-Water Treatment Plant (ASLD Lease)
 - Residential Area
 - Approximate Open Pit Mining Area
- Surface Management**
- Bureau of Land Management
 - State Trust Land (ASLD)
 - Private
- General Features**
- Milepost Marker
 - State Route
 - Local Road
 - Abandoned Railroad
 - Substation
 - Transmission Line
 - Natural Gas Pipeline
 - 50-foot Contour

Source:
 Historic Districts: AZSITE 2011
 Hazmat: ADEQ Website 2011 (<http://gisweb.azdeq.gov>)
 State Trust Lease: ASLD 2011
 Abandoned Mine: BLM 2011
 Residential Area: City of Tombstone 2011, Cochise County 2011
 Approximate Open Pit Mining Area: URS 2011
 Floodplains: FEMA 2008
 Roads: ADOT 2009
 Pipelines: Rextag Pipelines 2009
 Transmission Lines/Substations: SSVEC 2011,
 Platts, A Division of the McGraw-Hill Companies, Inc. -
 POWERmap (Platts analytical database: 2009)
 Base: ALRIS 1997 - 2010, BTS 2011



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2.0 REVIEW OF RELEVANT PREVIOUS STUDIES

There are several studies and plans that pertain to the study area. This section provides a summary for each plan or study and notes the applicability to the City of Tombstone State Route 80 Alternate Route Study.

2.1 FINAL PROJECT ASSESSMENT, SR 80 – FREMONT STREET BETWEEN 3RD STREET AND 6TH STREET (2011)

As described in Section 1.1 above, a TE and HISP project is planned for construction in 2013 in Tombstone along SR 80. The TE project would address previous recommendations regarding safety and the enhancement of the historic landmark district, including constructing boardwalks or other pedestrian facilities on both sides of Fremont Street between 3rd and 6th streets, reconstructing porches along the road as historically appropriate, constructing historic district entry monuments, and landscaping and lighting improvements.

As part of this project, the roadway would be narrowed from the current 68-foot width to 44 feet. On-street parking will be eliminated, and the remnants of a pedestrian bridge along Fremont Street will be removed. The new street section will have one 16-foot through lane in each direction, a continuous 12-foot center left turn lane, and curbs and gutters on each side.

2.2 HISTORIC STREETScape ASSESSMENT REPORT FOR A ROADWAY TRANSPORTATION ENHANCEMENT PROJECT ON SR 80, FREMONT STREET IN THE SCHIEFFELIN HISTORIC DISTRICT, TOMBSTONE, COCHISE COUNTY, ARIZONA (2011)

This report assesses the historic character of the streetscape along SR 80 between 3rd Street and 6th Street. The purpose of the study was to better inform the project design of the evolution of Fremont Street and properties adjacent to the corridor. Recommendations included the restoration of porches and boardwalks to buildings (pre-1960) as well as rehabilitation and preservation of any intact character-defining features of the Landmark through rehabilitation of the roadway and streetscape.

2.3 PEDESTRIAN SAFETY ANALYSIS FOR SR 80, HIGHWAY ENHANCEMENTS FOR SAFETY (HES), TOMBSTONE, ARIZONA (2010)

This report documents a comprehensive Highway Enhancement Pedestrian Safety Analysis performed for SR 80 in downtown Tombstone. The purpose of the analysis was to evaluate conditions affecting the safety of pedestrians crossing SR 80 and to recommend improvements. Selected recommendations from the safety study are planned for the project described in the previous section (2.1).



2.4 COCHISE COUNTY COMPREHENSIVE PLAN (2006)

The Comprehensive Plan sets forth goals and development policies for land use, transportation, and other elements throughout the unincorporated areas of Cochise County. Transportation policies within the Plan address overall circulation and access management to ensure safe and smooth traffic flow, particularly as future development occurs.

Within the land use plan for Cochise County, Tombstone is identified within a Category B Growth Area boundary. This suggests potential for moderately paced rural residential type development, particularly to the northeast of Tombstone City limits. Land uses within the City are regulated by Tombstone in accordance with its zoning ordinance, as discussed in Section 3.1.

2.5 TOMBSTONE CIVIC TOWN PLAN (2005)

This Plan documents the outcome of a 3-day charrette that was conducted in 2005. The purpose of this charrette was to consider strategies for historic preservation issues within the context of overall community and economic development goals. The charrette was partially a response to notification from the National Park Service that Tombstone's status as a national landmark was threatened due to inappropriate alterations and new construction.

The charrette produced a set of recommendations. The most pertinent to this study is the recommendation to eliminate regional traffic from Fremont Street, traffic calming on Fremont Street, and minimizing the separation of Fremont Street from the historic district. The conceptual alignment for a regional route shown in this document continues south toward Sierra Vista and Bisbee, suggesting improvement of Charleston Road. This Plan is addressed in more detail in Section 4.2.

2.6 PLAN FOR THE CREATION OF A HISTORIC ENVIRONMENT (1972)

Although the City of Tombstone is not required to maintain a General Plan under Arizona law, this 1972 plan was identified by City officials as a key guide to land use and other decisions in the City. The purpose of the Plan is to outline procedures for preserving and enhancing the physical record of Tombstone's history within a community that is active with residents and tourists. The Plan is a summary of the goals of the Tombstone Restoration Commission.

The Plan proposed a Schieffelin Historic Conservation District, which generally encompasses the area within the current historic district. SR 80, which was moved to Fremont Street from Allen Street in the 1960s, was identified as a potential threat to historic resources on the basis of intrusion into the historic district area. The Plan shows improvement of Charleston Road, extension of Fremont Street to the west, and development of a major arterial perpendicular to the highway at 9th Street.



3.0 LAND USE AND DEVELOPMENT PATTERNS

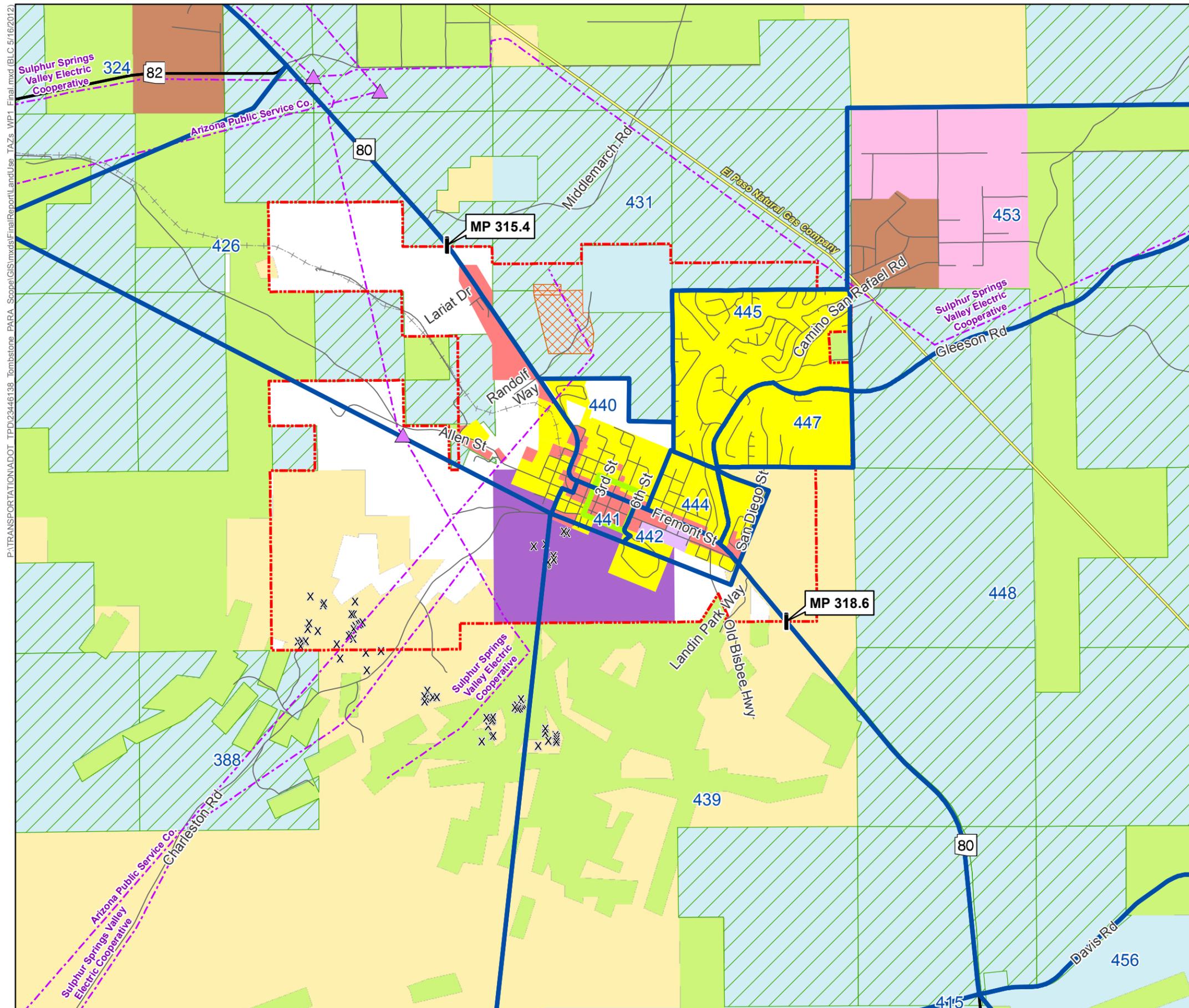
Existing and planned land uses within the study area are shown in Figure 2. Existing commercial land uses are clustered along SR 80 near the historic core of Tombstone, where a National Historic District Landmark has been designated. Low-density residential development has occurred north of the historic core and continues to the northeast toward Walnut Gulch. Arizona State Trust land located to the north, east, and west of downtown Tombstone is generally leased for grazing. The Tombstone High School is located along SR 80 northwest of downtown on leased State Trust land.

Historic and ongoing mines or mining operations are located to the south of historic Tombstone. The southern portion of the study area is largely land managed by the BLM. This area is mostly subject to mining claims and includes a large number of abandoned mines. Figure 2 shows the current inventory of abandoned mines; this inventory is incomplete and is still ongoing by BLM.

The City's zoning reinforces the existing land use patterns and guides future development. The majority of the city (over 60 percent) is zoned for residential uses. Centered on Fremont and Allen Streets, the Business designations cover the central portion of the city including the Tombstone Historic District Landmark, as identified on Figure 2. There are some Business zones identified along SR 80 in the northwestern portion of the city as well. The land area south of the historic district is identified as an Industrial/Mining zoning district. The majority of the study area stretching between SR 82 to the north and Davis Road to the south is undeveloped private land, Arizona State Trust Land, or federal land managed by the BLM. Existing parcel boundaries within the City of Tombstone are illustrated in Figure 3.

There are multiple transmission lines located throughout the study area, as shown in Figure 2. Additionally, there is a natural gas pipeline that spans the project study area from the north to the eastern edge. The pipeline does not cross within city limits as shown in Figure 2.

Figure 2 Existing and Planned Land Use



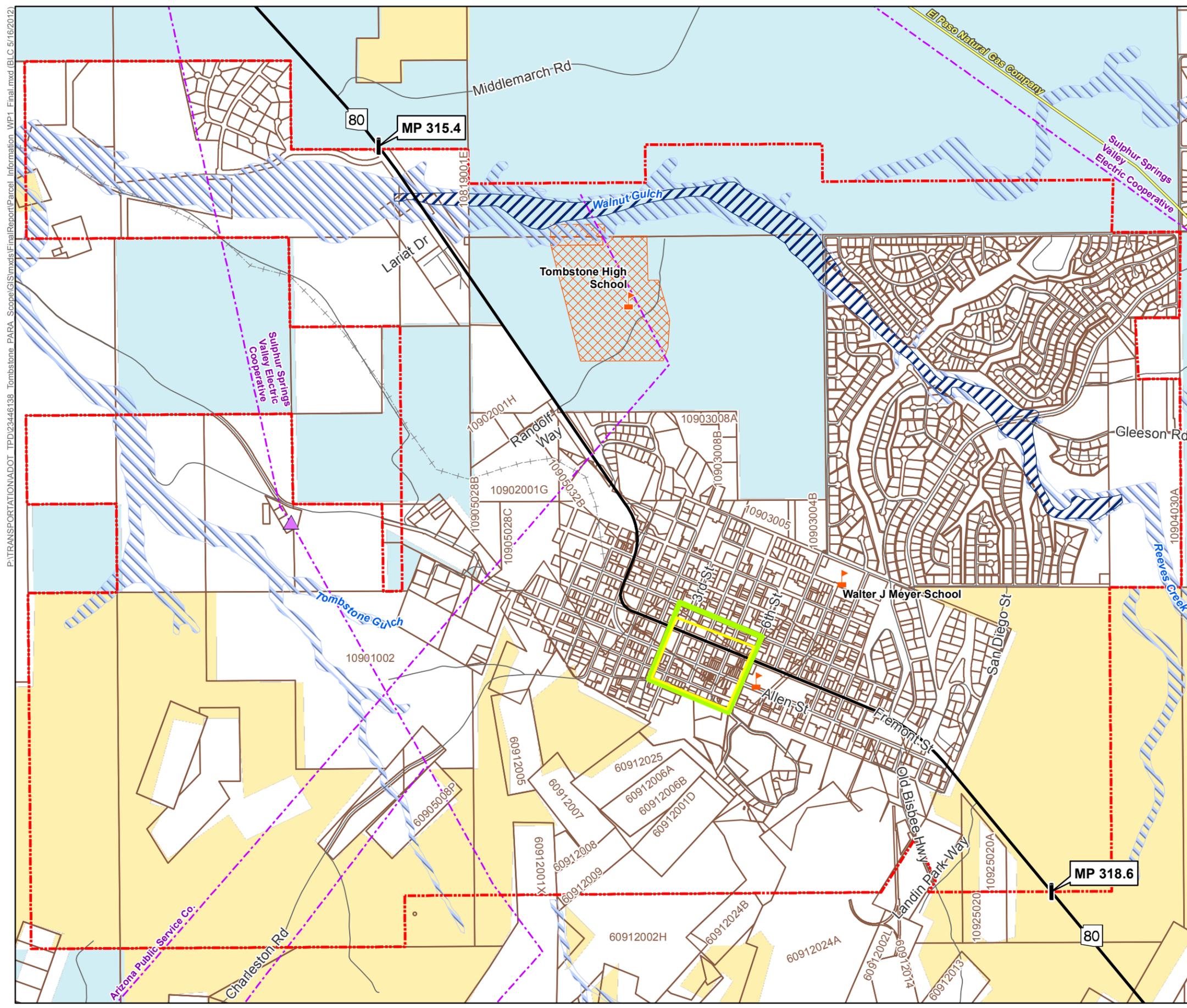
SR 80 Alternate Route PARA Study

- Legend**
- City of Tombstone Boundary
 - Tombstone Historic District National Historic Landmark / National Register of Historic Places District
 - 447 Traffic Analysis Zones (TAZ)
 - X Abandoned Mine
- Tombstone Zoning**
- Residential
 - Business
 - Industrial and Warehouse
 - Industrial and Mining
- Cochise County Zoning**
- RU-4 (Rural Residential, 1 unit per 4 acres)
 - TR-36 (Transitional Residential, 1 unit per 36,000 square feet)
 - Mixed
- Surface Management**
- Bureau of Land Management
 - State Trust Land
 - Private
- State Trust Land Lease Status**
- Tombstone High School / Waste-Water Treatment Plant
 - Grazing Lease
- General Features**
- Milepost Marker
 - State Route
 - Local Road
 - Abandoned Railroad
 - Substation
 - Transmission Line
 - Natural Gas Pipeline

Source:
 Historic District: AZSITE 2011
 Zoning: City of Tombstone 2011, Cochise County 2011
 State Trust Lease: ASLD 2011
 Abandoned Mine: BLM 2011
 TAZ: Cochise County 2011
 Roads: ADOT 2009
 Pipelines: Rextag Pipelines 2009
 Transmission Lines/Substations: SSVCC 2011,
 Platts, A Division of the McGraw-Hill Companies, Inc. -
 POWERmap (Platts analytical database: 2009)
 Base: ALRIS 1997 - 2010, BTS 2010



Figure 3 Parcel Information



SR 80 Alternate Route PARA Study

Legend

- City of Tombstone Boundary
- Tombstone Historic District National Historic Landmark / National Register of Historic Places District
- Schiefelin Historic District
- Parcel
- 100-year Floodplain
- Floodway
- ▲ School / School Facility
- Bureau of Land Management
- State Trust Land
- Private
- Tombstone High School / Waste-Water Treatment Plant
- Milepost Marker
- State Route
- Local Road
- Abandoned Railroad
- ▲ Substation
- Transmission Line
- Natural Gas Pipeline

Surface Management

- Bureau of Land Management
- State Trust Land
- Private

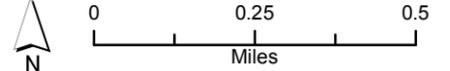
State Trust Land Lease Status

- Tombstone High School / Waste-Water Treatment Plant

General Features

- Milepost Marker
- State Route
- Local Road
- Abandoned Railroad
- ▲ Substation
- Transmission Line
- Natural Gas Pipeline

Source:
 Historic District: AZSITE 2011
 Parcel: Cochise County 2011
 State Trust Lease: ASLD 2011
 Floodplains: FEMA 2008
 Roads: ADOT 2009
 Pipelines: Rextag Pipelines 2009
 Transmission Lines/Substations: SSVEC 2011,
 Platts, A Division of the McGraw-Hill Companies, Inc. -
 POWERmap (Platts analytical database: 2009)
 Base: ALRIS 1997 - 2010, BTS 2010



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4.0 SOCIOECONOMIC CHARACTERISTICS

A review of existing and future population and employment growth trends was conducted to understand the demographic and socioeconomic characteristics in the City of Tombstone. Data were collected from Cochise County and the US Census for this analysis. Cochise County data are organized by Transportation Analysis Zones (TAZs) within the City of Tombstone while the US Census data are broken down by census blocks.

4.1 EXISTING POPULATION

According to Census data, Cochise County had population of 131,346 people in 2010. The study area had a 2010 population of 1,788 people; of which 77 percent reside within Tombstone City limits (US Census Bureau 2011). As shown in Table 1, Tombstone has lost population over the past decade even while Cochise County population grew by over 11 percent.

Table 1 Existing Population

Area	2000	2010	Percent Growth
Tombstone	1,506	1,380	-8.40%
Study Area	1,747	1,788	2.3%
Cochise County	117,755	131,346	11.5%
Arizona	5,130,632	6,392,017	24.6%

Source: US Census Bureau, 2010 Census

4.2 CURRENT DEMOGRAPHIC CHARACTERISTICS AND ENVIRONMENTAL JUSTICE CONSIDERATIONS

The potential for environmental justice considerations within the study area was assessed based on an analysis of the minority and/or low-income populations within the study area. Table 2 shows a breakdown of the population by race and ethnicity based on 2010 Census data. Data are shown for the City of Tombstone, Cochise County, and the State of Arizona to identify where there might be a disproportionately large environmental justice population. Minority populations are defined as those residents who are not reported as White/Non-Hispanic in the Census. Of the 1,380 people living in Tombstone as of the 2010 Census, over 90 percent are White. In comparison, Cochise County population is about 78 percent White. The Hispanic population in Tombstone comprises about 21 percent of the population. The Hispanic youth population in Tombstone, or persons under 18 years of age, account for approximately 39 percent of the population. Comparatively, Cochise County is approximately 32 percent Hispanic and the State of Arizona is nearly 30 percent Hispanic. It appears that the City of Tombstone does not have a disproportionate minority population relative to Cochise County as a whole.



Table 2 Minority Population

Location	White	African American	Native American	Asian	Pacific Islander	Other Race	Multi Race	Total	Hispanic
Tombstone	1,269	6	9	9	1	39	47	1,380	288
Cochise County	103,085	5,465	1,589	2,525	418	12,989	5,275	131,346	42,543
Arizona	4,667,121	259,008	296,529	176,695	12,648	761,716	218,300	6,392,017	1,895,149

Source: US Census Bureau, 2010 Census

The disabled population includes those who suffer from conditions such as blindness, deafness, other severe vision and/or hearing impairments, and limited mobility. According to available data, approximately 24 percent of the population of the City of Tombstone is living with a disability, which is a higher percent of the total when compared to Cochise County (19 percent) as identified in Table 3.

As show in Table 3, over 26 percent of the Tombstone population is over the age of 65 and 21 percent are living below the poverty level, compared to 17 percent and 15 percent, respectively, throughout Cochise County.

Table 3 Population Characteristics

	Total Male Population	Total Female Population	Persons with Disability*	Persons 65+	Persons Living Below Poverty Level
Tombstone	683	697	359	362	297
Cochise County	66,977	64,369	22,467	22,688	19,351
Arizona	3,175,823	3,216,194	902,252	881,831	933,113

Source: US Census Bureau, 2010 Census

*Data from 2000 Census, since 2010 data not available

4.3 FUTURE POPULATION

The analysis of future population is based on Cochise County total household projections, which are based on 2000 Census data at the time of this writing. Transportation planning in Cochise County is generally based on data summarized by TAZs which includes Cochise County projections for future population growth. Cochise County’s population estimates for 2020 and 2040 show growth to over 90,000 households countywide and over 1,300 households in the City of Tombstone. It should be noted that the number of households identified in this analysis for the study area include data from all TAZs that intersect and may extend partially beyond the study area boundary. Table 4 summarizes the Cochise County projections for future household growth from 2007 to 2040.



Table 4 Total Number of Households – 2020 and 2040 Projections

Area	2007	2020	2040	Future Growth Percentage
Tombstone	1,039	1,312	1,359	31%
Study Area	1,041	1,432	1,584	52%
Cochise County	45,546	74,031	98,386	116%

Source: Cochise County, 2010

4.4 EMPLOYMENT

According to Cochise County data, the City of Tombstone provided roughly 2 percent of all employment in Cochise County in 2007, supplying over 650 jobs. Future growth projections suggest that Tombstone will increase the total number of jobs to nearly 1,000 by 2040. Due to the rural nature of the study area there are no employment centers outside of the city limits. Table 5 identifies the existing and future employment projections for the City and study area based on Cochise County data.

Table 5 Employment Change – 2020 and 2040 Projections

Area	2007	2020	2040	Percent Change
Tombstone	661	808	989	50%
Study Area	661	808	989	50%
Cochise County	40,920	57,083	83,673	104%

Source: Cochise County, 2010

Tourism-related businesses comprise an important segment of the City of Tombstone’s economy and provide many jobs in the area. The City of Tombstone is the largest single employer with nearly 60 part-time and full-time employees.



5.0 TRANSPORTATION

An inventory of the current transportation system throughout the City of Tombstone was conducted to assess current conditions at study locations and to identify any current or anticipated deficiencies at the study locations.

5.1 EXISTING ROADWAYS

SR 80 provides regional connectivity to the City of Tombstone, connecting to Benson and I-10 to the north and Bisbee to the south and providing connectivity to the Arizona/New Mexico border. SR 80 is also known as Fremont Street throughout the City limits and serves as a rural minor arterial with varying posted speed limits. The posted speed limit on SR 80 south of State Route 82 (SR 82) is 65 miles per hour (mph), and then reduces to 55 mph north of Middlemarch Road. The posted speed limit is reduced to 45 mph just north of Randolph Way and to 35 mph just south of Randolph Way.

The 35 mph posted speed limit continues on SR 80 until 3rd Street, where the posted speed limit is reduced to 30 mph. Between 3rd Street and 6th Street, there are historic buildings located at the right-of-way line in close proximity to Fremont Street traffic. The posted speed limit increases to 35 mph south of 6th Street and increases to 45 mph north of Landin Parkway. The posted speed limit increases to 55 mph just south of Landin Parkway and then increases to 65 mph north of Davis Road. Figure 4 illustrates the street network.

SR 80 consists of a two-lane roadway north of Lariat Drive consisting of one lane in each direction of travel, flaring to a three-lane section to provide a two-way left-turn lane south of Lariat Drive. The three-lane section continues to San Diego Street. South of San Diego Street SR 80 reduces to a two-lane section flaring at Davis Road to provide a southbound left-turn lane.

The remainder of the streets in Tombstone are minor collectors and local streets providing access to commercial and residential areas of the city. Typically, none of these streets provide regional connectivity. Most of these streets are two lanes with a speed limit of 30 mph or less.

5.2 INTERSECTION CONTROLS

All of the intersections within the City of Tombstone are unsignalized. The minor streets are stop controlled along SR 80 with SR 80 operating as free-flow. In the downtown area, primarily between 3rd Street and 6th Street, pedestrian crossing signs are present in both directions of travel along SR 80.



5.3 PARKING

Parking areas are located throughout the Tombstone downtown area. SR 80 serves as the regional access to these parking lots and one parking lot is located directly along SR 80. SR 80 does not provide on-street parking between 3rd Street and 6th Street. On-street parking is provided between 1st Street and 3rd Street, then again between 6th Street and 10th Street. During normal business hours, the existing parking is sufficient to accommodate the demand.

5.4 CRASH DATA

Crash data along SR 80 within the City of Tombstone limits (MP 315.4 to MP 318.6) were obtained from ADOT Traffic Records Section. It should be noted that crash data from the City of Tombstone were not provided and therefore not included within the analysis. The crash data acquired were for a five-year period from January 2006 through December 2010. Table 6 summarizes the total number of crashes per year.

Table 6 Crash Data Summary

	Year						Yearly Average
	2006	2007	2008	2009	2010	Total	
Number of Crashes	3	0	0	3	1	7	1.4

Source: Arizona Department of Transportation 2011

As illustrated in Table 6, a total of 7 crashes have occurred between January 2006 and December 2010 with an average of 1.4 crashes occurring yearly along SR 80 within the City of Tombstone limits. The highest number of crashes occurred in 2006 and 2009 with 3 crashes. However, of the 7 crashes 3 have resulted in fatalities, or 43 percent. Two of the 3 fatal crashes occurred with pedestrians.

5.5 PROGRAMMED NETWORK IMPROVEMENTS

Signing and striping improvements were completed in July 2010 on SR 80 which eliminated on-street parking from 3rd Street to 6th Street, provided additional signs directing visitors to parking areas and reduced the speed limit to 30 mph. A traffic enhancement project will construct boardwalks along both sides of SR 80 from approximately 3rd Street to 6th Street. The construction of the boardwalks will include wider walkways, overhead canopies and landscaping. Additional destination signage will also be installed along SR 80 to assist in directing patrons to the historic locations.

5.6 REGIONAL PLANNED IMPROVEMENTS

SR 80 in Benson is planned to be widened by horizon year 2040 to provide two lanes per direction of travel through the Benson City limits. No regional widening improvements are planned within the City of Tombstone in the five year plan.



5.7 EXISTING LOCAL TRAFFIC VOLUMES AND LEVEL OF SERVICE

Daily traffic counts were conducted by Traffic Research and Analysis, Inc. (TRA) on Thursday, August 25th and Saturday, August 27th of 2011. Daily (24-hour) traffic counts and Scheme F classification counts were recorded for each day at four locations, beginning at 12:00 AM and ending at 11:59 PM:

- SR 80 north of Randolph Way;
- SR 80 south of Landin Parkway;
- SR 80 south of Davis Road; and
- Davis Road east of SR 80.

In addition, TRA collected origin and destination (OD) data at two locations along SR 80 on the same days beginning at 6:00 AM and ending at 4:59 PM:

- SR 80 south of Randolph Way; and
- SR 80 north of Landin Parkway.

Table 7 presents the 2011 existing traffic volumes at the study locations. Figure 4 identifies the roadway network throughout the City of Tombstone and illustrates the existing traffic volumes. In general, traffic volumes are higher at the north end of Tombstone compared to the southern extents. The highest 24-hour volume recorded was approximately 4,000 vehicles per day on SR 80 just north of Randolph Way.

It should be noted that incomplete data were obtained on Thursday, August 25th at the SR 80, north of Randolph Way location in the southbound direction. A malfunction in the tube occurred resulting in inaccurate data collection. The malfunction occurred from 4:15 PM on August 25th through 10:30 AM on August 26th. Traffic count data were collected after 10:30 AM on August 26th through Saturday, August 27th. Therefore, traffic counts obtained on Friday, August 26th from 4:15 PM through 11:45 PM were used in place of the malfunction time period. This results in a more conservative analysis as traffic volumes on Friday, August 26th were slightly higher at other locations than on Thursday, August 25th.

ADOT MPD provided seasonal adjustment factors for SR 80 near the Tombstone area. The month of August had an adjustment factor of 0.998; therefore an adjustment factor of 1.0 was applied to all traffic volumes obtained.



Table 7 Existing Area Arterial Highway Volumes

HWY	Location	Direction	Class	Traffic Counts		
				24 Hour	AM Peak Hour	PM Peak Hour
Thursday August 25, 2011						
SR 80	North of Randolph Way	SB*	RMA	2,088	127	157
SR 80	North of Randolph Way	NB	RMA	1,861	108	169
SR 80	South of Landin Park Way	SB	RMA	1,202	85	92
SR 80	South of Landin Park Way	NB	RMA	1,202	86	96
SR 80	South of Davis Road	SB	RMA	736	57	60
SR 80	South of Davis Road	NB	RMA	747	42	71
Davis Rd	East of SR 80	WB	RMC	553	52	41
Davis Rd	East of SR 80	EB	RMC	449	44	47
Saturday August 27, 2011				24 Hour	Mid-day Peak Hour	
SR 80	North of Randolph Way	SB	RMA	2,125	191	
SR 80	North of Randolph Way	NB	RMA	1,898	149	
SR 80	South of Landin Park Way	SB	RMA	1,474	119	
SR 80	South of Landin Park Way	NB	RMA	1,321	118	
SR 80	South of Davis Road	SB	RMA	862	81	
SR 80	South of Davis Road	NB	RMA	829	80	
Davis Rd	East of SR 80	WB	RMC	529	48	
Davis Rd	East of SR 80	EB	RMC	653	43	

Source: TRA, 2011

* Combination of 8/26/11 and 8/27/11 traffic volumes.

RMA: Rural Minor Arterial

RMC: Rural Major Collector

The existing AM and PM peak hour factors (PHF) for the study locations are summarized in Table 8. A PHF is the peak hour traffic volume divided by four times the highest 15-minute peak count. The PHF is used to gauge the platooning, or arrival of vehicles during the peak hour. The lower the PHF, the more concentrated the peak hour flow.

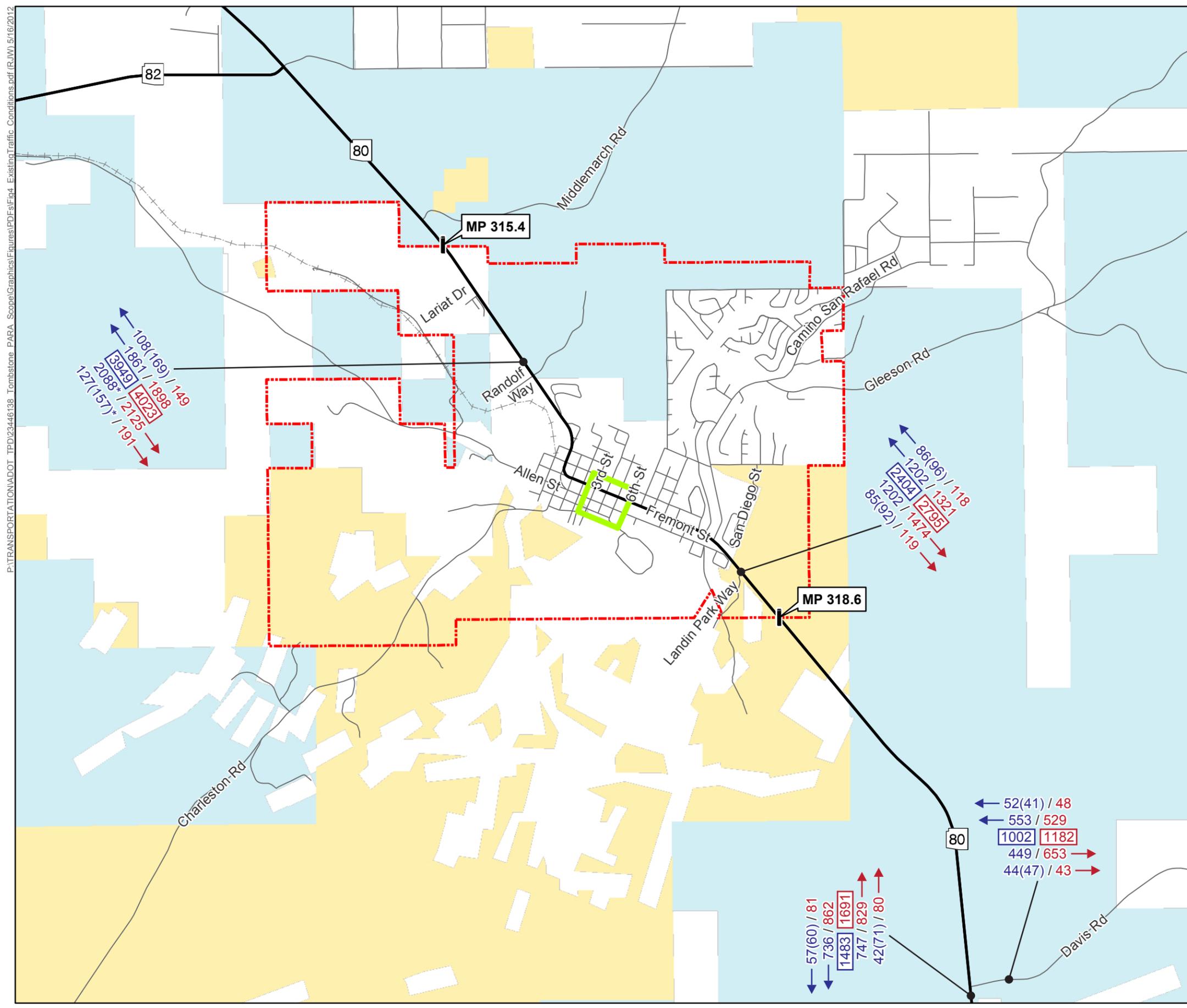
Table 8 Existing Peak Hour Factors

HWY	Location	Peak Hour Factor	
		AM Peak Hour	PM Peak Hour
SR 80	North of Randolph Way	0.65	0.67
SR 80	South of Landin Park Way	0.72	0.79
SR 80	South of Davis Road	0.68	0.77
Davis Rd	East of SR 80	0.59	0.65

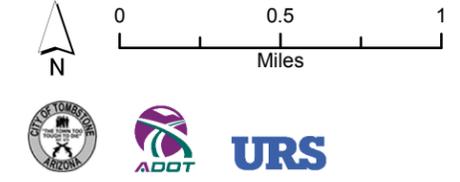
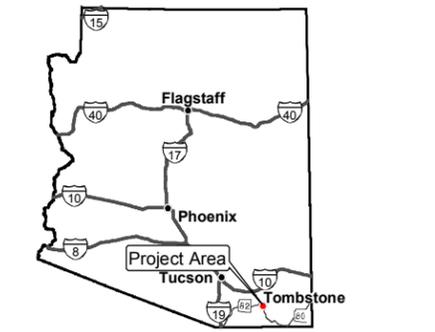
Figure 4 Existing Traffic Conditions

SR 80 Alternate Route PARA Study

- Legend**
- City of Tombstone Boundary
 - Tombstone Historic District National Historic Landmark / National Register of Historic Places District
- Surface Management**
- Bureau of Land Management
 - State Trust Land
 - Private
- General Features**
- Milepost Marker
 - State Route
 - Local Road
 - Abandoned Railroad
- 1234 1234 Weekday / Weekend Daily Traffic
- 1234 / 1234 Weekday / Weekend Directional Daily Traffic
- 123(123) / 123 Weekday AM(PM) / Weekend Peak Hour Traffic
- * Partial Friday counts utilized



Source:
Historic District: AZSITE 2011
Roads: ADOT 2009
Base: ALRIS 1997 - 2010, BTS 2011



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Of the amount of traffic throughout the Tombstone area, the majority is classified by the Federal Highway Administration (FHWA) as passenger cars. Due to the absence of alternative routes between SR 82 and Davis Road, regional truck traffic including oversize loads along SR 80 from Benson and I-10 to Bisbee and Douglas are frequently routed through Tombstone. For the purposes of this evaluation, FHWA’s 10 truck vehicle classifications have been grouped into two categories as follows:

- Single Unit Trucks – Includes buses and single unit trucks without trailers; and
- Multiple Unit Trucks – Includes single unit trucks or multiple trailer trucks, recreational vehicles (RV’s) and RV trailers, and buses

To analyze the amount of truck traffic in the vicinity of Tombstone an analysis was conducted over a three-day period within the city limits. Table 9 summarizes the breakdown between vehicle classifications within the City of Tombstone.

Table 9 Vehicle Classification

HWY	Location	Direction	Truck Traffic				
			Single Unit (SU)	SU % of Total	Multiple Unit (MU)	MU % of Total	Total % of Trucks
Thursday August 25, 2011							
SR 80	North of Randolph Way	SB*	55	2.6%	78	3.7%	6.3%
SR 80	North of Randolph Way	NB	59	3.2%	92	4.9%	8.1%
SR 80	South of Landin Parkway	SB	30	2.5%	81	6.7%	9.2%
SR 80	South of Landin Parkway	NB	29	2.4%	84	7.0%	9.4%
SR 80	South of Davis Road	SB	25	3.4%	34	4.6%	8.0%
SR 80	South of Davis Road	NB	19	2.5%	35	4.7%	7.2%
Davis Rd	East of SR 80	WB	26	4.7%	42	7.6%	12.3%
Davis Rd	East of SR 80	EB	18	4.0%	36	8.0%	12.0%
Saturday August 27, 2011							
SR 80	North of Randolph Way	SB	23	1.1%	30	1.4%	2.5%
SR 80	North of Randolph Way	NB	15	0.8%	35	1.8%	2.6%
SR 80	South of Landin Parkway	SB	13	0.9%	20	1.4%	2.3%
SR 80	South of Landin Parkway	NB	10	0.8%	27	2.0%	2.8%
SR 80	South of Davis Road	SB	11	1.3%	12	1.4%	2.7%
SR 80	South of Davis Road	NB	8	1.0%	15	1.8%	2.8%
Davis Rd	East of SR 80	WB	6	1.1%	14	2.6%	3.7%
Davis Rd	East of SR 80	EB	7	1.1%	11	1.7%	2.8%

Source: TRA, 2011

* Combination of 8/26/11 and 8/27/11 traffic volumes.

Origin and destination (OD) data were also collected via license plate recognition in which the last four digits of license plates were noted. These digits were then compiled in a database and matched to determine the beginning and ending location of each. The purpose of collecting the



OD data was to determine the amount of traffic traveling through the City. In addition, the OD data collection efforts recorded vehicles in a simplistic classification: class 4 truck (single unit truck) and larger or passenger vehicle. The data were collected from 6:00 AM to 6:00 PM.

Of the vehicles traveling south, approximately 20 percent entering Tombstone continue through the City with minimal stops during the typical weekday and Saturday. Approximately 26 percent of the vehicles traveling northbound entering Tombstone continue through the City with minimal stops during a typical weekday and Saturday.

More specifically, approximately 8 percent of southbound truck traffic is through-put traffic, or traffic that makes minimal stops within the City during the typical weekday and Saturday. Approximately 50 percent of the northbound truck traffic is through-put traffic during a typical weekday while approximately 20 percent of the northbound truck traffic is through-put traffic during a typical Saturday. It should be noted that the OD data collection location on SR 80 at the southern end of Tombstone was just north of the main entrance to the mine, or just north of Landin Parkway. In addition several parking lots south of SR 80 accommodate RV's, RV trailers, and buses which may attract many visitors entering Tombstone from the north (southbound traffic) and then return to the north. These parking lots and Charleston Road absorb RV's, RV trailers, and buses which are believed to account for a majority of the truck trips on SR 80 within the study area. Table 10 summarizes the OD data collection.

Table 10 Origin-Destination Data Collection Summary

Location	% Pass Thru Traffic			
	Weekday		Weekend	
	Total	Truck	Total	Truck
SB SR 80	19%	9%	21%	7%
NB SR 80	30%	51%	24%	20%

Source: TRA, 2011

Existing level of service (LOS) is a function of the roadway capacity and existing traffic volumes. Table 11 provides LOS definitions as related to the daily volume thresholds for each roadway classification.

Table 11 Level of Service Upper Limit Thresholds for Roadway Segments (ADT)

Classification	Level of Service				
	A	B	C	D	E
Rural Minor Arterial (2-lane w/ TWLTL)	<5,000	7,000	10,000	13,000	15,000
Rural Minor Collector w/2 lanes	<4,000	5,500	7,500	9,000	10,000
Rural Highway w/ 2-lanes	<1,500	3,500	6,600	11,200	19,000

Sources: ITE Guidelines, 2000

TWLTL: Two-way left-turn lane



Daily levels of service serve as a very good planning tool to identify segment needs based on daily traffic volumes. Peak hour analyses are more robust and account for several factors not included in the daily analyses. For this reason, infrastructure improvements are generally guided by peak hour analyses. The detailed peak hour roadway segment level of service analysis is determined considering factors such as number of lanes, the width of each lane and the width of each shoulder, the peak hour factor (PHF), the percent passing zones available, the percent trucks, buses and RVs, the existing traffic volumes, the posted or measured speed limit and the overall roadway terrain.

The daily levels of service for SR 80 at the study locations were based on the ADT and thresholds identified in Table 11 for a rural minor arterial and the results are shown in Table 13. In general, SR 80 in the City of Tombstone operates with a daily LOS of A under existing conditions. The daily levels of service for Davis Road at the study location were based on the ADT and thresholds identified in Table 11 for a rural minor collector.

The posted speed limit on SR 80 within the City limits changes from 55 mph at the edges to 30 mph in the downtown area. The traffic counts conducted within the City limits were located where the posted speed limit changed from 35 mph to 45 mph. For purposes of peak hour analyses, SR 80 at the study locations is classified as a Class III highway per the Highway Capacity Manual 2010 (HCM 2010). A Class III highway is classified as a highway serving moderately developed areas that may pass through small towns or developed recreational areas. Local traffic often mixes with through (regional) traffic and the density of unsignalized roadside access points is noticeably higher than in a purely rural area. Such segments often contain reduced speed limits that reflect higher levels of activities (pedestrian and vehicular).

Davis Road east of SR 80 is posted with a 55 mph speed limit and would be classified as a Class II highway. The posted speed limit on Davis Road where the traffic counts were conducted is 25 mph and is near the stop controlled intersection with SR 80. Therefore, for purposes of peak hour analyses, Davis Road is classified as a Class III highway due to the lower posted speed limit at the location where traffic counts were conducted.

The HCM 2010 establishes methods and criteria to determine the roadway segment level of service. Table 12 illustrates the level of service criteria thresholds for a two-lane highway with vehicles traveling at lower speeds for a Class II and Class III highway.



Table 12 Peak Hour Level of Service Thresholds for Two-Lane Class II & III Highways

LOS	Class II	Class III
	Percent of Time Spent Following	Percent of Free-Flow Speed
A	≤40	>91.7
B	>40-55	>83.3-91.7
C	>55-70	>75.0-83.3
D	>70-85	>66.7-75.0
E	>85	≤66.7
F	When demand flow exceeds segment capacity	When demand flow exceeds segment capacity

Sources: 2010 HCM

Peak hour levels of service were calculated using the Highway Capacity Software (HCS), the posted speed limits at the count locations, the traffic volumes and percent trucks obtained, the peak hour factors identified in Table 8 and the roadway geometrics. As identified in Table 13, the LOS is the same in the AM and PM peak hours.

SR 80 between 3rd Street and 6th Street will likely result in decreased levels of service when compared to study segments as a higher concentration of vehicles and turning movements and the interaction of pedestrian traffic occur.

Table 13 Existing Level of Service

HWY	Location	Class	Daily	AM Peak Hour	PM Peak Hour
SR 80	North of Randolph Way	RMA	A	C	C
SR 80	South of Landin Parkway	RMA	A	B	B
SR 80	South of Davis Road	RMA	A	A	A
Davis Rd	East of SR 80	RMC	A	B	B

RMA: Rural Minor Arterial

RMC: Rural Major Collector

5.8 FUTURE NO-BUILD TRAFFIC VOLUMES AND LEVEL OF SERVICE

The traffic volumes in the Tombstone area are expected to increase based on growth forecasts in the Cochise County Comprehensive Plan and projected traffic forecasts at a rate of approximately 2 percent per year. Historic traffic counts yield in approximately 1.8 percent growth over the last 10 years, which corresponds to the Cochise County projected growth rate.

The 2020 and horizon year 2040 traffic forecasts were obtained from Cochise County for use in this study. The 2030 traffic forecasts were interpolated utilizing the 2020 and horizon year 2040 traffic volumes. Future 2020, 2030 and horizon year 2040 forecasts for the study locations are provided in Table 14 and are illustrated in Figure 5. It should be noted that the growth rates



between 2020 and 2030 and between 2020 and horizon year 2040 very closely approximate the 2 percent per year growth rate.

The growth rate between existing (2011) and the year 2020 is higher than the 2 percent per year. Due to the rural nature of Tombstone and the surrounding area, minor changes in employment or development could result in an increase in traffic demand and generation. It is anticipated that development will occur within the next 9 years resulting in the larger growth rate as reflected in Table 14. In addition, the existing traffic volume data collected are lower than the 2007 traffic volume data utilized to calibrate the Cochise County modeling efforts, which results in a larger growth rate.

Table 14 No-Build Daily Traffic Volumes

HWY	Location	Daily Traffic								
		Exst Wkdy	Exst Wknd	2020	Annual Growth from Existing	2030	Annual Growth from 2020	2040	Annual Growth from 2020	
SR 80	North of Randolph Way	3949	4023	6150	4.8%	7267	1.7%	8384	1.6%	
SR 80	South of Landin Parkway	2404	1795	4548	7.3%	5611	2.1%	6673	1.9%	
SR 80	South of Davis Road	1483	1691	2388	3.9%	3254	3.1%	4120	2.8%	
Davis Rd	East of SR 80	1002	1182	2194	7.1%	2743	2.3%	3292	2.0%	

Source: Cochise County, 2010 Transportation Model

Design hourly volumes were developed by applying the following hourly (K) and directional (D) factors to the projected 2020, 2030 and 2040 daily traffic volumes. The hourly factors were based on the existing traffic counts, which yielded 7 percent during the AM peak hour and 8 percent during the PM peak hour. The directional factors were determined based on the existing traffic counts, which show a 55 percent/45 percent split. The directional factor implies that each peak hour has a higher percent of traffic traveling on the roadway in a certain direction. During the AM peak hour the majority of traffic is traveling in the southbound direction along SR 80 and the westbound direction along Davis Road. During the PM peak hour the majority of traffic is traveling in the northbound direction along SR 80 and eastbound direction along Davis Road. The projected future peak hour traffic volumes are depicted in Table 15.

Figure 5 Future Traffic Conditions

SR 80 Alternate Route PARA Study

Legend

- City of Tombstone Boundary
- Tombstone Historic District National Historic Landmark / National Register of Historic Places District

Surface Management

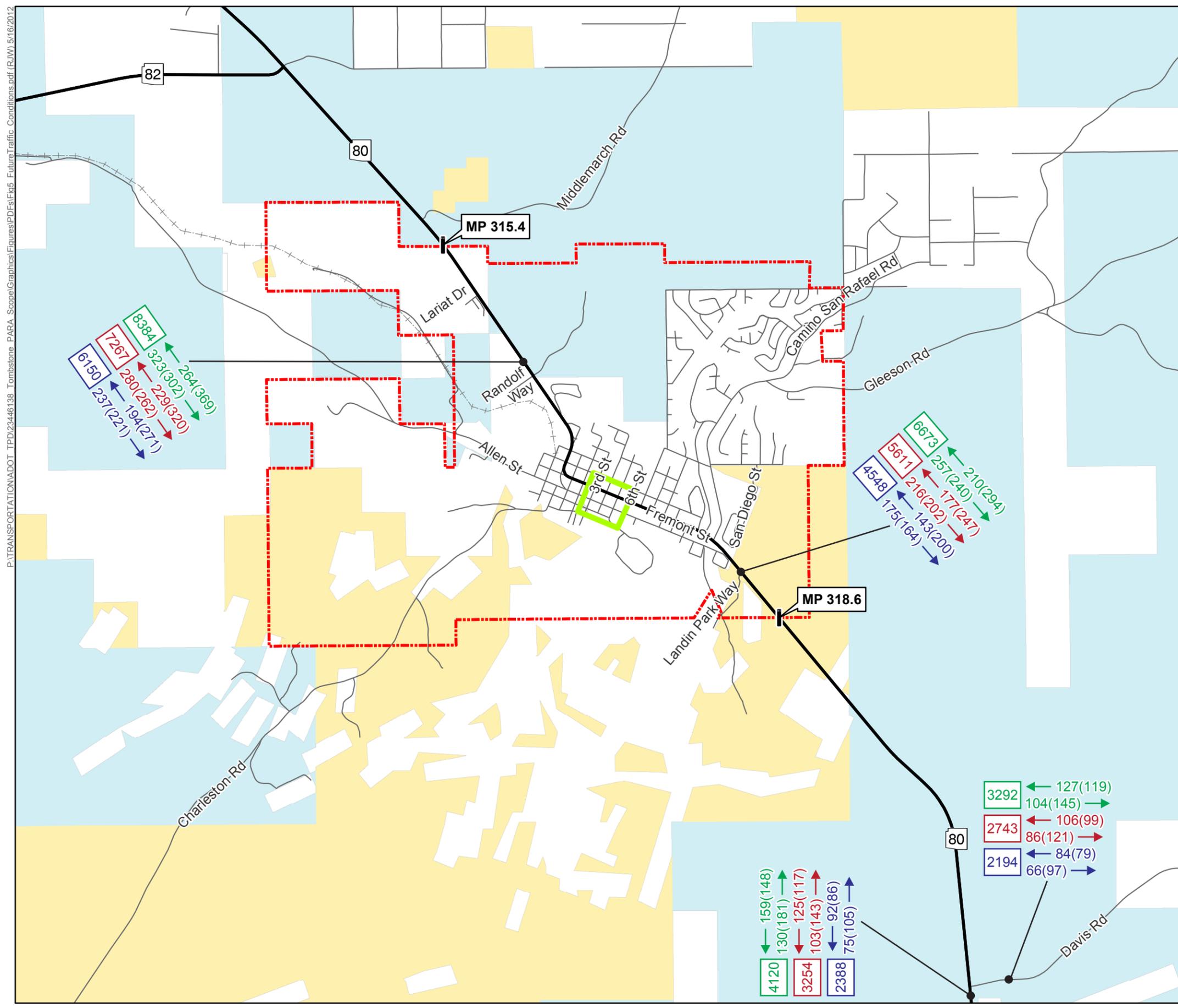
- Bureau of Land Management
- State Trust Land
- Private

General Features

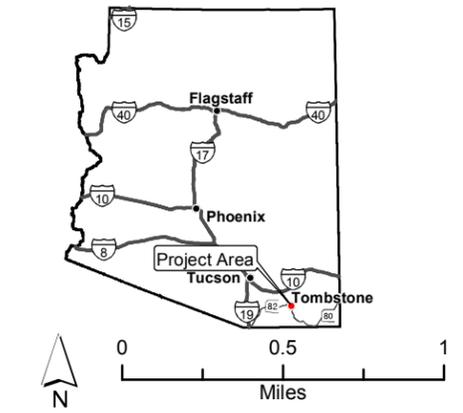
- Milepost Marker
- State Route
- Local Road
- Abandoned Railroad

Traffic Volume Legend

- 1234 2040 Daily Traffic Volumes
- 1234 2030 Daily Traffic Volumes
- 1234 2020 Daily Traffic Volumes
- 123(123) 2040 AM(PM) Peak Hour Traffic Volumes
- 123(123) 2030 AM(PM) Peak Hour Traffic Volumes
- 123(123) 2020 AM(PM) Peak Hour Traffic Volumes



Source:
Historic District: AZSITE 2011
Roads: ADOT 2009
Base: ALRIS 1997 - 2010, BTS 2010



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Table 15 Future No-Build Peak Hour Traffic Volumes

HWY	Location	Direction	Existing		2020		2030		2040	
			AM	PM	AM	PM	AM	PM	AM	PM
SR 80	North of Randolph Way	SB	127	157	237	221	280	262	323	302
SR 80	North of Randolph Way	NB	108	169	194	271	229	320	264	369
SR 80	South of Landin Parkway	SB	85	92	175	164	216	202	257	240
SR 80	South of Landin Parkway	NB	86	96	143	200	177	247	210	294
SR 80	South of Davis Road	SB	57	60	92	86	125	117	159	148
SR 80	South of Davis Road	NB	42	71	75	105	103	143	130	181
Davis Rd	East of SR 80	WB	52	41	84	79	106	99	127	119
Davis Rd	East of SR 80	EB	44	47	69	97	86	121	104	145

The future segment level of service analyses for the horizon year 2020 are summarized in Table 16. For purposes of this analysis, the existing PHFs summarized in Table 8 at each location were utilized. All of the study locations are projected to operate with acceptable levels of service (LOS C or better) during the peak hours. No mitigation is warranted based on LOS criteria.

Table 16 2020 No-Build LOS

HWY	Location	Class	Daily	AM Peak Hour	PM Peak Hour
SR 80	North of Randolph Way	RMA	C	C	C
SR 80	South of Landin Parkway	RMA	B	C	C
SR 80	South of Davis Road	RMA	A	B	B
Davis Rd	East of SR 80	RMC	A	B	B

RMA: Rural Minor Arterial
RMC: Rural Major Collector

The future segment level of service analyses for the horizon year 2030 were performed using the existing PHFs summarized in Table 8 and are summarized in Table 17. All of the study locations are projected to operate with acceptable levels of service (LOS C or better) during the peak hours. No mitigation is warranted based on LOS criteria.

Table 17 2030 No-Build LOS

HWY	Location	Class	Daily	AM Peak Hour	PM Peak Hour
SR 80	North of Randolph Way	RMA	C	C	C
SR 80	South of Landin Parkway	RMA	C	C	C
SR 80	South of Davis Road	RMA	A	B	B
Davis Rd	East of SR 80	RMC	A	B	B

RMA: Rural Minor Arterial
RMC: Rural Major Collector



The future segment level of service analyses for the horizon year 2040 were performed using the existing PHFs summarized in Table 8 and are summarized in Table 18. All of the study locations are projected to operate with acceptable levels of service (LOS C or better) during the peak hours with the exception of the PM peak hour on SR 80 north of Randolph Way, which is projected to operate with a LOS D. Per ADOT Policies, Guidelines and Procedures (PGP) Section 430, mitigation is warranted on rural roadways in which the levels of service are worse than a LOS C.

Table 18 2040 No-Build LOS

HWY	Location	Class	Daily	AM Peak Hour	PM Peak Hour
SR 80	North of Randolph Way	RMA	D	C	D
SR 80	South of Landin Parkway	RMA	C	C	C
SR 80	South of Davis Road	RMA	B	B	B
Davis Rd	East of SR 80	RMC	A	C	C

RMA: Rural Minor Arterial
RMC: Rural Major Collector

5.9 FUTURE BUILD TRAFFIC VOLUMES AND LEVELS OF SERVICE

The projected levels of service for the horizon year 2020 and 2030 indicated that additional mitigation is not warranted based on traffic volumes alone. In the horizon year 2040 the PM peak hour level of service on SR 80 drops to a LOS D. Per the ADOT PGP, mitigation is warranted based on traffic volumes.

The OD data collection and summarized in Table 10 indicate that approximately 20 percent of the existing traffic on SR 80 pass-through the City with minimal delay. It is anticipated that this same percentage would pass through Tombstone in the horizon year 2040. If an alternate corridor for SR 80 were proposed, it is estimated that approximately 20 percent of the 2040 traffic volumes would utilize this corridor instead of the current SR 80 alignment. In doing so, a 20 percent reduction of traffic utilizing the existing SR 80 alignment would occur. Considering the 20 percent shift of traffic, the 2040 daily build volumes for the existing SR 80 segment and the alternate corridor are illustrated in Table 19.

Table 19 2040 Daily Build Traffic Volumes

HWY	Location	2040 No-Build	2040 Existing Roadway	2040 Alternate Corridor
SR 80	North of Randolph Way	8384	6707	1677
SR 80	South of Landin Parkway	6673	5338	1335
SR 80	South of Davis Road	4120	3296	824
Davis Rd	East of SR 80	3292	2634	658



Based on the projected 2040 daily traffic volumes summarized in Table 19 and the daily capacities for various roadways illustrated in Table 11, the alternate corridor will operate under capacity with a single lane in each direction as a rural highway.

Design hourly volumes were developed by applying the following hourly (K) and directional (D) factors to the projected 2040 daily traffic volumes. The hourly factors were based on the existing traffic counts, which yielded 7 percent during the AM peak hour and 8 percent during the PM peak hour. The directional factors were determined based on the existing traffic counts conducted, which resulted in a 55 percent/45 percent split. The directional factor implies that each peak hour has a higher percent of traffic traveling on the roadway in a certain direction. During the AM peak hour the majority of traffic is traveling in the southbound direction along SR 80 and the westbound direction along Davis Road. During the PM peak hour the majority of traffic is traveling in the northbound direction along SR 80 and eastbound direction along Davis Road. The projected 2040 build peak hour traffic volumes along the existing SR 80 roadway are depicted in Table 20.

Table 20 Future Build Peak Hour Traffic Volumes – Existing SR 80 Roadway

HWY	Location	Direction	Existing		2040	
			AM	PM	AM	PM
SR 80	North of Randolph Way	SB	127	157	258	241
SR 80	North of Randolph Way	NB	108	169	211	295
SR 80	South of Landin Parkway	SB	85	92	206	192
SR 80	South of Landin Parkway	NB	86	96	168	235
SR 80	South of Davis Road	SB	57	60	127	119
SR 80	South of Davis Road	NB	42	71	104	145
Davis Rd	East of SR 80	WB	52	41	101	95
Davis Rd	East of SR 80	EB	44	47	83	116

The projected 2040 build peak hour traffic volumes along the alternate corridor of SR 80 are depicted in Table 21.

Table 21 Future Build Peak Hour Traffic Volumes – Alternate SR 80 Corridor

HWY	Location	Direction	2040	
			AM	PM
SR 80	North of Randolph Way	SB	65	60
SR 80	North of Randolph Way	NB	53	74
SR 80	South of Landin Parkway	SB	51	48
SR 80	South of Landin Parkway	NB	42	59
SR 80	South of Davis Road	SB	32	30
SR 80	South of Davis Road	NB	26	36
Davis Rd	East of SR 80	WB	25	24
Davis Rd	East of SR 80	EB	21	29



The future level of service analyses for the existing segment of SR 80 and the alternate corridor for SR 80 during the horizon year 2040 are summarized in Table 22. For purposes of peak hour analyses, the existing PHFs at each location were utilized and the alternate corridor was analyzed as a two-lane Class II highway. Class II highways generally have no-passing zones and function as access routes to Class I highways serving as scenic or recreational routes. The LOS criteria for Class II highways are identified in Table 12.

All of the study locations are projected to operate with acceptable levels of service (LOS C or better) during the peak hours with the addition of the future SR 80 corridor.

Table 22 2040 Build LOS

HWY	Location	Existing Roadway			Alternate Corridor		
		Daily	AM Peak Hour	PM Peak Hour	Daily	AM Peak Hour	PM Peak Hour
SR 80	North of Randolph Way	C	C	C	A	B	B
SR 80	South of Landin Parkway	B	C	C	A	A	A
SR 80	South of Davis Road	B	B	B			
Davis Rd	East of SR 80	A	C	C			

In addition to improving the level of service on the existing SR 80 segment, an alternate corridor would also reduce the travel time that a regional commuter would endure as the posted speed limit on the alternate corridor could be as high as 65 mph, as is the case on most rural arterial roadways in the ADOT system. It takes approximately 6 minutes to travel through the City of Tombstone limits, or where the posted speed limit changes from 65 mph, assuming no stops occur for pedestrian crossings or for vehicles entering SR 80 from access points within the City limits. If a future corridor were developed with similar extents, it would take approximately 4 minutes to traverse the same distance, resulting in a time savings of 2 minutes per vehicle. This translates to approximately 56 hours of savings per day using the projected future corridor daily traffic volumes shown in Table 19. This assumes the alternate corridor will be access controlled and of similar length to the existing segment.

5.10 EXISTING AND PLANNED TRANSIT SERVICE

There are no public transit operations in the study area. The closest public transportation options are located in Benson, approximately 20 miles northwest of the City of Tombstone which offers Amtrak and Greyhound bus service. Benson Area Transit (BAT) provides deviated fixed route bus service throughout the City of Benson and to Cochise College, Mescal/J6, St David and Pomerene. Although no services operate exclusively within the City of Tombstone, there are companies that operate shuttles with stops in Tombstone providing service to Tucson International and Sierra Vista Municipal Airports.



5.11 RAILROAD CHARACTERISTICS

Regional railroad connections do not exist within the City of Tombstone limits. An abandoned railroad line exists in the northwest City limits, west of SR 80. There are no future plans for construction of new railroad lines within the City.

5.12 PEDESTRIAN

The City of Tombstone is rural in nature and has a history of pedestrian access and activity along Fremont and Allen Streets in the city. From 3rd Street to 6th Street, Allen Street is not open to traffic and serves as a pedestrian only thoroughfare. Upon the 1964 realignment of SR 80, pedestrian activity along Fremont Street was reduced when historic boardwalks and porches were removed for construction of the new roadway. ADOT is working with the City to improve the pedestrian facilities along Fremont Street by narrowing the highway and reconstructing new sidewalks, boardwalks and porches. These improvements are anticipated to create a more pedestrian friendly environment and represent a more historically accurate configuration of the City of Tombstone.



6.0 HISTORIC AND CULTURAL RESOURCE CONSIDERATIONS

Given the importance of historic and cultural resources to the evaluation of a potential realignment, specific focus was provided to inventorying historic and cultural resources in the study area. Cultural resources include archaeological sites, historical buildings and structures, and places that have significance for traditional groups that have cultural affiliations with the study area. When an individual project advances, ADOT considers effects on properties listed in or eligible for the Arizona Register of Historic Places (Arizona Register) pursuant to the State Historic Preservation Act and the Arizona Antiquities Act. If Federal Highway Administration approval is required or if federal funds are used, effects on properties listed in or eligible for the National Register of Historic Places (National Register) also would be considered pursuant to Section 106 of the National Historic Preservation Act and Section 4(f) of the Department of Transportation Act.

Criteria for inclusion in the Arizona Register and in the National Register are identical (Arizona Administrative Code, Title 12, Chapter 8, Article 3, R12-8-302; Title 36, Code of Federal Regulations, Part 60). To be eligible, properties must be at least 50 years old (unless they have special significance) and have national, state, or local significance in American history, architecture, archaeology, engineering, or culture. They also must possess integrity of location, design, setting materials, workmanship, feeling, and association, and meet at least one of four criteria:

- Criterion A: be associated with significant historical events or trends
- Criterion B: be associated with historically significant people
- Criterion C: have distinctive characteristics of a style or type, or have artistic value, or represent a significant entity whose components may lack individual distinction
- Criterion D: have yielded or have potential to yield important information

The State Historic Preservation Officer, in consultation with the Arizona Historic Sites Review Committee, has authority to list properties in the Arizona Register. The Keeper of the National Register (a position within the National Park Service [NPS]) has authority to list properties in the National Register, but for purposes of Section 106, consensus determinations of eligibility usually are made between the lead federal agency and the State Historic Preservation Officer.

Specific historic and cultural resources for the study area are listed in Table 23 and Table 24.



6.1 RECORDS REVIEW

6.1.1 Methods

A records review was conducted to identify and compile information about prior cultural resource studies and previously recorded archaeological and historical sites within the study area and a 1-mile buffer. A primary source of data was the AZSITE Cultural Resource Inventory, a geographic information system database that includes information compiled by the AZSITE Consortium members (State Historic Preservation Office [SHPO], Arizona State Museum, Arizona State University, Museum of Northern Arizona) and other participating agencies. Information on file at SHPO provided additional data about the Tombstone Historic District National Historic Landmark. The ADOT Historic Preservation Team Portal, a web-based geographical information system, also was checked.

Prior planning documents also were reviewed, including:

- *Plan for the Creation of a Historic Environment*, prepared by Billy G. Garrett and James W. Garrison with the Tombstone Restoration Commission Inc., 1972
- *Tombstone Civic Town Plan*, prepared by City of Tombstone, National Parks Service, Arizona State Historic Preservation Office, and Arizona State University Design Studio, September 2005

6.1.2 Prior Cultural Resource Studies

The records review identified 32 prior cultural resource studies within the study area and a 1-mile buffer (Table 23; Figure 6). These studies were either linear surveys or surveys of limited block areas, and most of the study area has not been surveyed for cultural resources.

Table 23 Prior Studies within 1 Mile of the Study Area

	Project Name/Number	Scope	Results	Reference
1	Pioneer National Title Lease State Trust land survey 1980-51.ASM	3 acres	no sites	Madsen 1980
2	materials pit # 5388 survey 1980-202.ASM	40 acres	no sites	Gibb 1980
3	Willow Wash materials source and processing area survey 1983-177.ASM	14 acres	no sites	Stone 1983
4	State Trust land survey (application #16-91361) 1985-95.ASM	28 acres	no sites	Rozen 1985
5	San Rafael transmission line alternate route corridors survey 1985-213.ASM	unknown	18 sites, none in records review area	Dosh and Stebbins 1985
6	State Trust land survey (application #11-92569) 1986-56.ASM	81 acres	no sites	Rozen 1986



City of Tombstone State Route 80
Alternate Route PARA Study



	Project Name/Number	Scope	Results	Reference
7	U.S. Highway 80 and Gleeson Road intersection widening survey	less than 1 acre	1 previously recorded site in records review area, Tombstone Historic District [AZ EE:8:73(ASM)]	Elson 1988
8	Fairbank-Tombstone underground cable State Trust land survey 1989-60.ASM	10 feet x 3 miles	no sites	Adams 1989
9	Casa Loma Triangle Housing survey	3 acres	1 previously recorded site in the records review area, Tombstone Historic District [AZ EE:8:73(ASM)]	Douglas 1990
10	U.S. West Communications buried cable alignment survey 1993-308.ASM	less than 1 acre	no sites	Roth 1994
11	Sulphur Springs Valley Electric Cooperative power line right-of-way survey 1995-434.ASM	20 feet x 6,000 feet	no sites	Heuett 1995
12	Arizona Department of Transportation bridge survey 1996-314.ASM	16 acres	no sites	Kwiatkowski 1996
13	U.S. Highway 80 (Tombstone to intersection with State Route 90) survey 1997-392.ASM	405 acres	3 sites, 2 in records review area, AZ EE:8:289 and 290(ASM)	Stone and Palus 1997
14	Henderson right-of-Way survey BLM-060-SP-99-16	unknown	no sites	Childress 1998
15	materials pit survey 1999-310.ASM/11-85.BLM	47 acres	no sites	Jones 1999
16	U.S. Highway 80 (Clifford Wash to Tombstone) survey 2000-270.ASM	163 acres	5 sites found in records review area, AZ EE:4:76(ASM) and AZ EE:8:300 to 303(ASM)	Punzmann and Jackman 2000
17	Tombstone quarry survey SHPO-2000-1718	unknown	no sites	Hammack 2000
18	Bachmann Springs Project access road survey 2001-155.ASM	79 acres	1 site, not in records review area	Plummer 2001
19	Bachmann Springs Project access road reroute survey 2001-430.ASM	73 acres	no sites	Plummer 2001
20	southeastern Arizona fiber-optic corridor survey	1,723 acres	51 previously recorded sites, none in records review area; 5 sites discovered, 1 in records review area [AZ EE:8:305(ASM)]	Knoblock 2001
21	State Route 80 (milepost 318) survey 2002-234.ASM	less than 1 acre	no sites	Klune 2002
22	State Route 80 segments survey	229 acres	7 previously recorded sites, 2 in records review area, Tombstone Historic District [AZ EE:8:73(ASM)] and U.S. Highway 80 [AZ FF:9:17(ASM)]	Shepard and Turner 2002



City of Tombstone State Route 80
Alternate Route PARA Study



	Project Name/Number	Scope	Results	Reference
23	State Route 82 survey	22 acres	1 previously recorded site, not in records review area	Shepard 2002
24	Winters right-of-Way survey BLM-069-02-39	unknown	no sites	Childress 2002
25	360Network fiber-optic cable survey 2003-910.ASM	227 acres	3 previously recorded sites in the records review area, AZ EE:8:289, 290, and 291(ASM); 24 sites discovered, 1 in records review area, AZ EE:8:312(ASM)	Railey and Yost 2001
26	Tombstone school site survey 2003-1294.ASM	61 acres	2 sites in records review area, AZ EE:8:335 and 336(ASM)	Bauer and Hill 2002
27	Tombstone high school gas pipeline survey 2004-236.ASM	1 acre	no sites	Moses 2004
28	Tombstone Red Rock Phase II drill pads and access roads survey 2004-416.ASM	15 acres	no sites	Barr 2004
29	AZ Tombstone 2 telecommunications tower survey 2005-142.ASM	1 acre	no sites	Payette 2005
30	Bachmann Springs electrical services survey 2005-893.ASM	27 acres	no sites	Gavioli and Hesse 2005
31	Southern Silver Exploration drill pad locations and access roads survey 2007-745.ASM	24 acres	no sites	Barr 2008
32	Fremont Street/State Route 80 historic streetscape assessment report	not applicable	3 previously recorded sites in records review area, Tombstone Historic District [AZ EE:8:73(ASM)], Tombstone City Hall [AZ EE:8:75(ASM)], and U.S. Highway 80 [AZ FF:9:17(ASM)]	Leonard and others 2011

Many of the prior studies were conducted along or near the SR 80, State Route 82, and Davis Road corridors for highway, fiber-optic, and utility projects. The SR 80 right-of-way has been completely surveyed within the study area, with the exception of the segment that runs through Tombstone (Punzmann and Jackman 2000; Stone and Palus 1997). The most recent study was a historic streetscape assessment of SR 80/Fremont Street for a roadway transportation enhancement project (Leonard and others 2011). Five surveys were completed for materials pits, quarries, drill pads, and associated access roads, and 5 others were small surveys for proposed rights-of-way and leases on State Trust land or public land administered by BLM. Other surveys were conducted for a telecommunications tower, the Tombstone High School and associated pipeline, roads and electrical services for the Bachmann Springs residential development project (abandoned), and another small housing project within Tombstone city limits.



6.1.3 Previously Recorded Cultural Resources

The records review identified 28 previously recorded cultural resources within the study area and 1-mile buffer (Figure 6). Twelve of those resources are historic districts, buildings, and structures and 16 are archaeological sites.

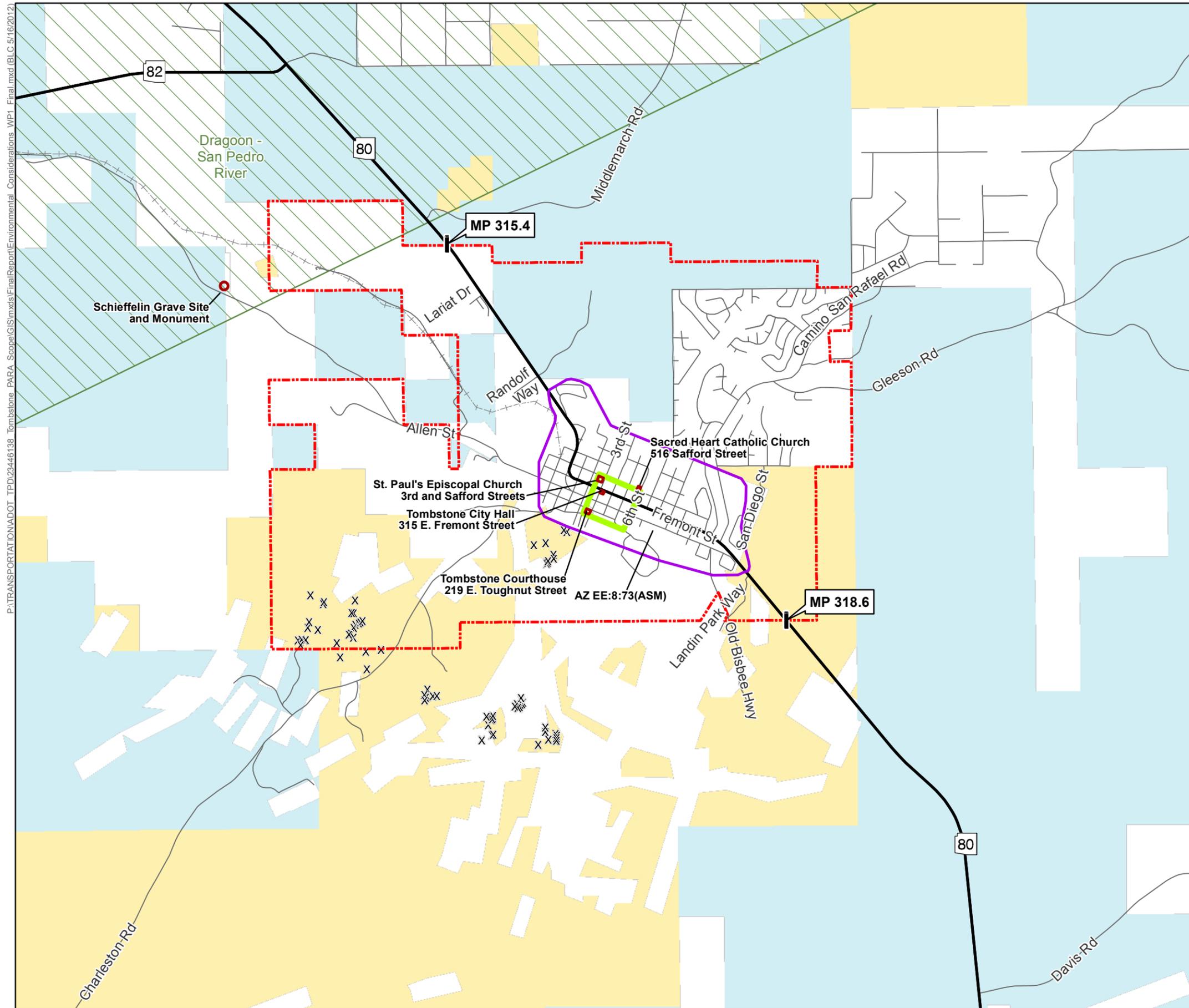
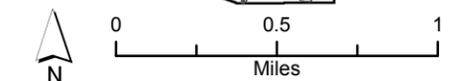
Figure 6 Environmental Considerations

SR 80 Alternate Route PARA Study

Legend

- City of Tombstone Boundary
- Tombstone Historic District National Historic Landmark / National Register of Historic Places District
- Tombstone Historic District (AZSITE)
- Previously Recorded Historical Structure
- Arizona Wildlife Linkages
- X Abandoned Mine
- Surface Management**
- Bureau of Land Management
- State Trust Land
- Private
- General Features**
- Milepost Marker
- State Route
- Local Road
- Abandoned Railroad

Source:
 Cultural Resources: AZSITE 2011
 Historic District: AZSITE 2011
 Abandoned Mine: BLM 2011
 Roads and Wildlife Linkage: ADOT 2009
 Base: ALRIS 1997 - 2010, BTS 2010



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Historic Districts, Buildings, and Structures

The historic resources identified within the study area and 1-mile buffer include the Tombstone Historic District National Historic Landmark; the locally designated Schieffelin Historic Conservation District; four buildings individually listed in the National Register; four highways, roads, or road segments; one railroad; and one grave site (Table 24).

Table 24 Previously Recorded Historic Districts, Buildings and Structures within the Records Review Area

Site Number	Description	Register Eligibility	Reference
Historic Districts			
1	Tombstone Historic District NHL	district roughly bounded by Safford Street, Toughnut Street, Third Street, and Sixth Streets	listed, Criterion A Larew 1978
2	Schieffelin Historic Conservation District	district roughly bounded by Fremont Street, Toughnut Street, Third Street, and Sixth Streets	locally designated conservation district within the Tombstone Historic District NHL Garrett and Garrison 1972
Historic Buildings			
3	Sacred Heart Church 516 Safford Street	Gothic Revival-style church constructed in 1947	listed, Criteria A and C SHPO files
4	St. Paul's Episcopal Church 3 rd and Safford Streets	Gothic Revival-style church constructed in 1882	listed, Criteria A, B, and C; within Tombstone Historic District NHL SHPO files
5	Tombstone City Hall 315 E. Fremont Street	late Victorian-style building constructed in 1883	listed, Criterion C; within Tombstone Historic District NHL SHPO files
6	Tombstone Courthouse 219 E. Toughnut Street	Territorial Victorian-style building constructed in 1882	listed, Criteria A and C; within Tombstone Historic District NHL SHPO files
Historic Structures			
7	Schieffelin Grave Site and Monument AZ EE:8:18(ASM)	large historic stone monument marking the grave site of Ed Schieffelin, founder of Tombstone	determined eligible, Criterion B and Criteria Consideration C Austin 2006
8	Tombstone to Benson Road segment AZ EE:8:290(ASM)	historic road segment	segments determined eligible, Criterion D Stone and Palus 1997; Railey and Yost 2001
9	Middle March Road AZ EE:8:302(ASM)	historic road alignment	determined ineligible Punzmann and Jackman 2000
10	El Paso & Southwestern Railroad, Tombstone Branch AZ EE:8:307(ASM)	historic railroad between Fairbank and Tombstone constructed between 1902 and 1903; abandoned in 1960	recommended eligible, Criterion A Childress 2003; Myrick 1975
11	old State Route 82 AZ EE:8:312(ASM)	old highway alignment	recommended ineligible Railey and Yost 2001
12	U.S. Highway 80 AZ FF:9:17(ASM) AZ EE:8:291(ASM)	historic highway	determined eligible, Criterion D Railey and Yost 2001; ADOT 2002

NOTES: Register = National Register, NHL = National Historic Landmark, SHPO = State Historic Preservation Office, ADOT = Arizona Department of Transportation



Tombstone began as a boom town that resulted from Ed Schieffelin's 1877 discovery of rich silver deposits in the San Pedro Valley and the subsequent "mining rush" that followed. The Tombstone town site claim was filed in April 1879. By 1881, the population was about 6,000 and Tombstone was named the seat of Cochise County. In the early 1880s, Tombstone was the largest town in Arizona Territory with a population of about 10,000. That population included miners, speculators, prospectors, rustlers, and gamblers, as well people who operated and worked at the multiple saloons, gambling houses, dance halls, general stores, and other businesses. Tombstone also was known as one of the more cultured cities west of the Mississippi River. Schieffelin Hall hosted some of the world's best actors and musicians, and the town also had four churches, two newspapers, schools, and libraries. The Tombstone business district was rebuilt twice in 1881 and 1882 after fires destroyed much of the town site. The town began to decline in the second half of the 1880s as a result of union strikes and flooding of the mine tunnels. In 1929, the Cochise County seat was moved to Bisbee (City of Tombstone, NPS, Arizona State Historic Preservation Office, and Arizona State University Community Design Studio 2005; Garrett and Garrison 1972; Granger 1983; Larew 1978).

Tombstone is best known as the location of the famous gunfight at the O.K. Corral where the Earp brothers and Doc Holiday squared off against the Clantons in October 1881. After the county seat was relocated to Bisbee in 1929, the mystique of that gunfight combined with a growing interest in the "old West," inspired the Tombstone community to reinvent itself as a tourist destination (City of Tombstone, NPS, Arizona State Historic Preservation Office, and Arizona State University Community Design Studio 2005; Garrett and Garrison 1972; Sheridan 1995).

In 1936, NPS completed a preliminary report on historic Tombstone, and five years later completed a special report, which recommended that Tombstone be classified and designated as a national historic site (Neasham 1941). In July 1961, the Tombstone Historic District was designated a National Historic Landmark. National Historic Landmarks are nationally significant historic places designated by the Secretary of the Interior because they possess exceptional value or quality in illustrating or interpreting the heritage of the United States (NPS 2010). The Tombstone Historic District was considered nationally significant when it was designated because it was "one of the best preserved specimens of the rugged frontier town of the 1870s and 1880s," the "site of one of the West's richest silver strikes and the gunfight at the O.K. Corral," and because it "epitomizes the legendary reputation of the Wild West and lawlessness of the 19th century mining camps" (NPS 2011).

The Tombstone Historic District National Historic Landmark is roughly bounded by Safford Street and Toughnut Street on the north and south, and Third and Sixth streets to the east and west. Because the Tombstone Historic District was designated a National Historic Landmark in 1961, it was automatically listed in the National Register when Congress established the National Register in 1966 with the passage of the National Historic Preservation Act. A National Register nomination form was not prepared until 12 years after the landmark district was officially listed (Larew 1978). There are at least 25 buildings within the Tombstone Historic



District National Historic Landmark that are considered to be contributing properties to the district. Those properties include:

1. Buford House
2. Tombstone Courthouse (also individually listed in the National Register)
3. Goodspeed House
4. Morman (Mike) House
5. Aztec Boarding House
6. St. Paul's Episcopal Church (also individually listed in the National Register)
7. Residence at 101 N. 3rd Street
8. Milton (Jeff) House
9. Tombstone City Library (formerly the Tombstone railroad station)
10. Rose Tree Museum
11. Tombstone City Hall (also individually listed in the National Register)
12. Schieffelin Hall
13. Russ House (now Café Margarita)
14. San Jose Boarding House
15. public swimming pool
16. Birdcage Theater
17. Marlowe House
18. Sacred Heart Catholic Church (also individually listed in the National Register)
19. Pioneer House
20. English (Allen) House
21. Attorney's offices (across the street from the courthouse)
22. Engine Company #1 Fire Station
23. Grand Hotel
24. OK Corral
25. Herring Offices

The Schieffelin Historic Conservation District is a locally-designated district that has essentially the same southern, western, and eastern boundaries as the Tombstone Historic District National Historic Landmark, but the northern boundary only extends to Fremont Street and excludes the properties on Safford Street. The district was established as part of a preservation plan for the City of Tombstone that was completed in 1972 (Garrett and Garrison 1972).

Three buildings that are individually listed in the National Register are within the boundaries of the Tombstone Historic District National Historic Landmark. Those buildings are St. Paul's Episcopal Church, Tombstone City Hall, and Tombstone Courthouse. The courthouse also is an



Arizona State Park. The church was listed in 1971 and the city hall and courthouse were listed in 1972. The other individually listed building is the Sacred Heart Church, which was listed in the National Register in 2002.

Four of the previously recorded cultural resources are historic highways or road segments and one is a historic railroad grade. Site AZ EE:8:290(ASM) is a segment of the old Tombstone to Benson Road that was in use by 1882. The road was later replaced by SR 80 and most segments have been obliterated. Segments of the road are considered eligible for the National Register for their information potential (Railey and Yost 2001; Stone and Palus 1997). An old alignment of Middle March Road [AZ EE:8:302(ASM)] and an old segment of State Route 82 also are in the records review area. The segment of Middle March Road was determined to be ineligible for the National Register and the recorders of the segment of old State Route 82 recommended it be considered ineligible (Punzmann and Jackman 2000; Railey and Yost 2001).

U.S. Highway 80 [AZ FF:9:17(ASM)] was one of the first transcontinental highways in the country, extending from Tybee Island, Georgia, to San Diego, California. In Arizona, U.S. Highway 80 connected Douglas, in the southeastern part of the state, with Phoenix, and Gila Bend and Yuma to the southwest. Portions of this highway were developed originally as wagon roads during the Arizona territorial era. U.S. Highway 80 has been defunct in Arizona since 1987, but a segment of U.S. Highway 80 was converted into the eastbound lanes of Interstate 8 in the Yuma vicinity, and a segment between Buckeye and Gila Bend is now a Maricopa County road known as Old U.S. Highway 80. The segment in the study area is now designated as SR 80. As part of the historical state highway system developed between 1912 and 1955, U.S. Highway 80/SR 80 is considered eligible for the National Register under Criterion D (Arizona Department of Transportation 2002). The historic railroad is the Tombstone Branch of the El Paso & Southwestern Railroad [AZ EE:8:307(ASM)], which was constructed between Tombstone and Fairbank between 1902 and 1903. The railroad was abandoned in 1960 (Myrick 1975). The railroad is considered eligible for the National Register under Criterion A.

Another historical structure in the records review area is the Schieffelin Grave Site and Monument [AZ EE:8:18(ASM)], which is a large stone monument marking the grave site of Tombstone founder Ed Schieffelin. The monument was determined to be eligible for the National Register under Criterion B and Criteria Consideration C for its outstanding significance to the community of Tombstone and as the only remaining property directly associated with Schieffelin (Austin 2006).

Archaeological Sites

Sixteen previously recorded cultural resources in the study area and 1-mile buffer are archaeological sites. Five of the sites are prehistoric, nine sites are historic, and two sites include both prehistoric and historic components.



The prehistoric sites are scatters of flaked stone. One of the multi-component sites is scatter of prehistoric flaked stone and a historic mine shaft, and the other site is a scatter of prehistoric flaked stone, rock rings, and remnants of a historic structure. Eight of the historic archaeological sites are trash dumps and scatters associated with Tombstone and another site includes the remnants of a hard rock mine.

Table 25 Previously Recorded Cultural Resources within the Records Review Area

	Site Number	Description	Register Eligibility	Reference
Prehistoric and Historic Archaeological Sites				
1	AZ EE:4:76(ASM)	historic trash scatter, 1930s to 1940s	determined not eligible	Punzmann and Jackman 2000
2	AZ EE:4:91(ASM)	scatter of Archaic (Cochise) flaked stone	unevaluated; surface collection completed	Whalen 1975
3	AZ EE:4:92(ASM)	scatter of Archaic (Cochise) flaked stone	unevaluated; surface collection completed	Whalen 1975
4	AZ EE:4:93(ASM)	scatter of Archaic (Cochise) flaked stone	unevaluated; surface collection completed	Whalen 1975
5	AZ EE:4:94(ASM)	scatter of Archaic (Cochise) flaked stone	unevaluated; surface collection completed	Whalen 1975
6	Walnut Gulch AZ EE:8:22(ASM)	scatter of prehistoric flaked stone, rock rings, remnants of historic structure	unevaluated	Herring 1963
7	Tombstone Historic District AZ EE:8:73(ASM)	archaeological remnants of historic Tombstone	determined significant, eligibility dependent on particular feature	Douglas 1990; Elson 1988; Shepard and Turner 2002
8	AZ EE:8:289(ASM)	late nineteenth to early twentieth century hard rock mining site	recommended eligible, Criterion D	Stone and Palus 1997; Railey and Yost 2001
9	AZ EE:8:300(ASM)	historic trash scatter, possibly Tombstone town dump between the 1880s and 1930s	determined eligible, Criterion D	Punzmann and Jackman 2000
10	AZ EE:8:301(ASM)	historic trash scatter	determined ineligible	Punzmann and Jackman 2000
11	AZ EE:8:303(ASM)	historic trash scatter	determined eligible, Criterion D	Punzmann and Jackman 2000
12	AZ EE:8:305(ASM)	historic trash scatter, 1900s to World War II	recommended eligible, Criterion D	Knoblock 2001
13	AZ EE:8:321(ASM)	scatter of Archaic (Cochise) flaked stone and potsherds	unevaluated; surface collection completed	Whalen 1975
14	AZ EE:8:335(ASM)	historic trash dump	recommended eligible, Criterion D	Bauer and Hill 2002
15	AZ EE:8:336(ASM)	historic trash dump	recommended eligible, Criterion D	Bauer and Hill 2002
16	Agave Trespass AZ EE:8:338(ASM)	scatter of prehistoric flaked stone and possible rock feature; historic mine shaft	recommended eligible, Criterion D	Childress and Cook 2003

The other historic archaeological site is the Tombstone Historic District, which was assigned a number in the Arizona State Museum site survey system in 1976 [AZ EE:8:73(ASM)]. The site boundary associated with the ASM number encompasses the Tombstone city limits and is much



larger than the Tombstone Historic District National Historic Landmark boundary. Because of the historical location and association, archaeological features found within the city limits generally are considered historically significant, but the National Register eligibility of individual features is evaluated on a case-by-case basis. For example, a 3-acre survey conducted in 1990 within the Tombstone city limits for the Casa Loma Triangle Housing project found a scatter of historic artifacts and three features, including a possible prospecting pit, a concrete slab, and a concrete block, which were identified as remnants of a hospital constructed in the first decade of the twentieth century. Because of the poor condition of the features and the lack of associated artifacts, the site recorder recommended that those features had no additional potential to yield important information and warranted no further consideration.

6.2 TOMBSTONE HISTORIC DISTRICT NATIONAL HISTORIC LANDMARK STATUS

In 1963, two years after the Tombstone Historic District National Historic Landmark was designated, the NPS conducted a biennial visit to Tombstone and reported that although the historic buildings were well preserved, the historical integrity of the landmark was being compromised by commercial development and a proposed routing of U.S. Highway 80 through the center of the landmark on Fremont Street (Brown 1963). The Tombstone Restoration Commission, which had been incorporated in 1949, drafted City Ordinance No. 146 that was enacted in April 1954. That ordinance established a restoration zone and a zoning commission, and stipulated that all new buildings be complementary to Tombstone as it appeared in 1883 (Garrett and Garrison 1972). Although Fremont Street was within the restoration zone established by the ordinance, many merchants and citizens in Tombstone feared that a highway bypassing the town would discourage tourists from stopping and disrupt residential areas north of the commercial district (Garrett and Garrison 1972).

U.S. Highway 80 was constructed through the landmark district in 1964 and the historical integrity of the district continued to decline. The Tombstone Restoration Commission recognized the importance of tourism to the local economy, and in 1972, commissioned the preparation of a historic preservation plan to facilitate implementation of their program. That plan established 1885 as the baseline for restoration and introduced the proposed Schieffelin Historic Conservation District. The plan also recognized that other historically significant sites, buildings, and structures were located outside of the Schieffelin Historic Conservation District (including Boot Hill) and recommended that the commission extend its historic conservation district to these areas in order to expand tourism and improve the overall impression of the city (Garrett and Garrison 1972).

Despite the commission's best efforts, the restoration ordinance was not adequately enforced and extensive alterations to buildings within the landmark district occurred. In 1985 the NPS and State Parks Board began the process of reviewing Tombstone's National Historic Landmark status (Hess 1985). If National Historic Landmarks do not retain a high level of historic integrity consistent with their period of significance, NPS can revoke landmark designations. The



National Historic Landmarks Program uses four levels for characterizing the integrity of landmarks:

1. Satisfactory: in good condition, exhibiting no current or potential threat
2. Watch: landmarks face actions or circumstances that likely will cause a loss of integrity
3. Threatened: landmarks have suffered, or are in imminent danger or, a severe loss of integrity
4. Emergency: recent catastrophic damage has occurred that requires immediate intervention (NPS 2010)

In 2004, the U.S. Department of the Interior classified the Tombstone Historic District National Historic Landmark as “threatened,” with a possible loss of landmark designation. In 2005, the City of Tombstone, NPS, SHPO, and Arizona State University Community Design Studio sponsored a charrette to discuss measures to prevent more damage to the historical integrity of the district. Charrette participants pointed out that the 1881 gunfight at the O.K. Corral is not the only basis for Tombstone’s historical significance, and that the national significance recognized by the National Historic Landmark status is based on the broader history of Tombstone as a mining boom town, from its founding in 1879 to the time the county seat was moved to Bisbee in 1929 (City of Tombstone, NPS, Arizona State Historic Preservation Office, and Arizona State University Community Design Studio 2005).

The charrette resulted in the development of a civic town plan (City of Tombstone, NPS, Arizona State Historic Preservation Office, and Arizona State University Community Design Studio 2005). One of the recommendations included in the plan involves the revision of Tombstone’s historic preservation strategy, which would be accomplished by:

- developing new design guidelines for infill construction, which includes the extension of Tombstone’s period of historical significance to 1931 (when the town reinvented itself as a tourist attraction after the Cochise County seat was moved)
- pursuing Certified Local Government status under the State Historic Preservation Program
- identifying and designating historic preservation districts
- revising the historic preservation ordinance

The plan recommended that historic preservation districts be zoned for historic use and that the Schieffelin Historic Conservation District area be enlarged to include areas of expansion where additional related infill construction could occur and be zoned as the Central Commercial Historic District. The plan also recommended two additional areas for historic preservation zoning—a residential and mixed-use district north of the commercial district and a mining district to the south.



City of Tombstone State Route 80
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The plan also recommended that Tombstone pursue an alternate route for SR 80 to eliminate regional traffic and develop traffic calming on Fremont Street, and minimize Fremont Street's separation from the Central Commercial Historic District.

As a result of the 2005 charrette and the resulting plan, NPS changed the status of the Tombstone Historic District National Historic Landmark to "watch." The NPS, Arizona State Parks, and SHPO continue to monitor the landmark and provide advice and guidance to the City of Tombstone and property owners (NPS 2011; De Journett 2006).



7.0 ENVIRONMENTAL CONSIDERATIONS

This environmental overview highlights additional natural and physical resources present in the study area that may require consideration in planning future transportation projects.

Due to extensive historic mining south of Tombstone, there are concerns about subsidence in this area. Data from the AZ Geological Survey and Arizona Department of Water Resources for areas of fissures and active subsidence were reviewed. No portion of the study area was identified as an active uplift or fissure area in these databases. However, emerging data from the BLM on abandoned mines (shown in Figure 6) suggest clustering of mining activity to the southwest of downtown.

Data from the Arizona Game and Fish Department were reviewed to assess potential constraints due to habitat or special status species considerations. As shown in Figure 6, a wildlife linkage area is identified in the northwestern corner of the study area and connects with the San Pedro river corridor.

A review was conducted of the Arizona Department of Environmental Quality (ADEQ) and U.S. Environmental Protection Agency (EPA) online databases for sites of environmental concern within the study area. It should be noted that a site reconnaissance has not been conducted as part of this limited environmental database review. A summary of this review is provided in Table 26.

Table 26 Summary of Environmental Concerns

Township/ Range/ Section	Site Name	Location	Description	Significant Environmental Concern
19 South/ 22 East/ 32	Walnut Valley Ranch Subdivision Onsite Wastewater Treatment Plant	No address	No specific details identified	No
19 South/ 22 East/ 34	City of Tombstone Middlemarch Landfill	No address, northwest of S.R. 80 and Middlemarch Road	Closed Municipal Solid Waste Landfill	No
19 South/ 22 East/ 34	Bachman Springs	2338 Middlemarch Road	No specific details identified, NPDES permit	No
19 South/ 22 East/ 35	City of Tombstone Wastewater Treatment Plant	No address	No specific details identified, NPDES permit	No
20 South/ 22 East/ 2	Tombstone Transfer Station	No address	No specific details identified	No



City of Tombstone State Route 80
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Township/ Range/ Section	Site Name	Location	Description	Significant Environmental Concern
20 South/ 22 East/ 2	Circle K #2701310	Southeast corner of Sumner & Bruce	One LUST incident (facility 0-001393) identified in 2004. File closed by ADEQ in 2005 without reported groundwater impacts. Four USTs listed as currently in service.	No
20 South/ 22 East/ 11	Tombstone Texaco	84 East Fremont Street	Four USTs (facility 0- 000459) permanently removed from service in 1994. Although ADEQ eMaps shows this site as a LUST, this site is not listed on ADEQ's online LUST database.	No
20 South/ 22 East/ 11	Tombstone Chevron #9-5452	191 East Fremont Street	Three USTs (facility 0-001062) listed as currently in service. Five USTs permanently removed in 1988 without a reported fuel release.	No
20 South/ 22 East/ 12	Apache Market	1007 East Fremont Street	Two USTs (facility 0- 004052), currently in service. No LUST incident identified.	No
20 South/ 22 East/ 13	Emerald Mine – Tombstone	No address	Sand and gravel mine	No
20 South/ 22 East/ 14	Red Mountain Pit – Tombstone	1037 South Old Bisbee Highway	No specific details identified	No
20 South/ 22 East/ 14	Contention Mine	No address	No specific details identified, NPDES permit	No
20 South/ 22 East/ 15	Helday G Plant Mine	No address	No specific details identified	No
20 South/ 22 East/ 16	State of Maine – Tombstone Silver Mine Inc.	No address	No specific details identified, NPDES permit	No
20 South/ 22 East/ 20	Alanco Ltd – Armco Mill Facility	No address	No specific details identified	No
20 South/ 23 East/ 18	Silver Tech Mines	No address	No specific details identified	No
NPDES – National Pollutant Discharge Elimination System LUST – leaking underground storage tank UST – underground storage tank				

Source: ADEQ, 2011; EPA, 2011.



8.0 STAKEHOLDER AND PUBLIC INPUT

8.1 TECHNICAL ADVISORY COMMITTEE

ADOT and the City of Tombstone have coordinated on this study with a Technical Advisory Committee (TAC). The TAC includes representatives from the following agencies and organizations:

- City of Tombstone
- Cochise County
- Southeastern Arizona Governments Organization (SEAGO)
- Arizona State Land Department (ASLD)
- Arizona Game and Fish Department (AZGFD)
- Arizona Department of Transportation
 - Safford Engineering District
 - Multimodal Planning Division (MPD)
 - Intermodal Transportation Division (ITD)
 - Communication and Community Partnerships Division (CCP)

8.2 OTHER STAKEHOLDERS

Additional key stakeholders identified include:

- City of Tombstone Mayor and Council
- City of Tombstone School District
- City of Tombstone Marshal
- State Historic Preservation Office (SHPO)
- National Parks Service (NPS)
- Bureau of Land Management (BLM)
- US Customs and Border Protection
- Private mine owners
- Transmission Line Utility Owners
- United States Fish and Wildlife (USFW)

Several stakeholder interviews were conducted with key project Stakeholders. Interviews were held with the National Park Service, Tombstone mayor and council, Tombstone School District, Arizona State Parks and Arizona State Land Department. Preserving the historic integrity of the



City of Tombstone is a key issue identified by stakeholders to date. Vibrations from truck traffic and an increase in vehicle traffic are of major concern to the stakeholders. In addition, safety for pedestrians throughout the City is of a critical concern. The City of Tombstone wants to resolve these issues by reducing the speed and volume of traffic traveling through the City on Fremont Street (SR 80).

During the interview with the mayor and council, an alternative was suggested that turned into Corridor S4. The mayor expressed the importance of good visibility from the new corridor of the historic district and tourist attractions. He suggested that Bisbee is a good example of good visibility of historic features from a highway. They also indicated during the interview that there are pending annexations on the west side of the City and that this area has good potential for growth.

Valuable information was obtained during the interview with the Superintendent of the Tombstone Unified School District. The district operates two schools in Tombstone. Tombstone High School has about 400 students primarily bused in from Huachuca City at their new school campus. The old high school is currently used for athletic games and bus parking. Sale of the old high school is pending. A developer plans to construct 140 high end hotel rooms on the property and will construct new athletic fields at the new high school as part of the agreement. Walter Meyer Elementary school is a very small K-4 school located at North and 9th streets. Most of the students walk or are bused to school. Very few students live south of SR 80 (Fremont Street) so school children generally do not cross SR 80.

The National Parks Service expressed their desire to keep the alternate routes as far away from the historic district as possible. Arizona State Parks/State Historic Preservation Office also expressed their desire to remove SR 80 from the historic district. They had identified a bypass route in previous studies. SHPO also indicated that certain mines may be considered as Historic landmarks including the Schieffelin, Grand Central, and Contention mines under the theme of western Expansion Mines.

ALSD expressed support for Alternate Corridor N2 during their stakeholder interview. This alternative would allow development of state trust land. They cautioned that as the area developed, access to state land would need to be maintained. Subsequent to the ALSLD stakeholder meeting another representative of ALSLD expressed support for Corridor N3 in addition to Corridor N2.

8.3 PUBLIC INVOLVEMENT

Two (2) public meetings were conducted as part of this project. Each public meeting was held at the Schieffelin Hall located at 4th Street and Fremont Street in Tombstone. The first meeting was held on Thursday, November 3, 2011. The second meeting was held on Wednesday, March 21, 2012. Meeting summaries are included in Appendix A and Appendix B.



9.0 PURPOSE AND NEED FOR AN ALTERNATE CORRIDOR

9.1 PROJECT NEED

Based on its current configuration as well as input from the TAC, interested members of the public, and investigation of the study area characteristics, there were numerous reasons identified for pursuing potential SR 80 alternate corridor possibilities. Key elements in identifying the project need include:

- The current traffic volume on SR 80 through the Tombstone Historic District is approximately 4,000 vehicles per day (vpd). Due to growth in the region and the state, the traffic volumes are expected to double by 2040.
- Approximately 20% of the current traffic is passing through the city with no particular destination in the study area. Trucks comprise approximately 10% of the traffic stream on a typical day. With growth in the region and state projected to increase faster than in the City of Tombstone, the through traffic and truck traffic is expected to become a higher percentage in the future.
- The mix of through traffic with local and tourist traffic and with pedestrian and bicycle traffic in the Tombstone Historic District creates conditions that may diminish the experience of the tourist and induce delays resulting in increased crash potential.
- Special events held in the Tombstone Historic District, which occur a few times throughout the year, attract large numbers of tourists which increases pedestrian traffic throughout the Historic District. During these events, conflicts between pedestrians and through traffic along SR 80 are more likely to occur and may diminish the tourist experience.
- The existing traffic conditions in Tombstone do not meet the expectations of the through rural highway traveler because the speed limit on SR 80 changes from 65 mph at either end of the City to 30 mph within the Tombstone Historic Landmark. Motorists and truckers do not always fully transition from rural highway speeds to very restricted speeds in such a short distance. There are also limited passing opportunities within the study area which are atypical of a rural highway.
- The historic buildings and structures throughout the City may be adversely affected by vibration from higher-speed or heavy vehicle traffic;
- With expected future growth in the study area, there is a potential need to provide for utility corridor expansion along the regional highway ROW; and,
- Growth in Tombstone has been somewhat stagnant and there is a desire to provide and enhance opportunities for economic growth by providing an improved roadway system with access to developable vacant land.



- The Plan for the creation of a historic environment (1972) indicated that SR 80 was moved from Allen Street to Fremont Street in the 1960s as it was identified as a potential threat to historic resources on the basis of intrusion into the historic district area. As such, the current location along Fremont Street may now be threatening historic resources.

9.2 PROJECT PURPOSE

The purpose of a potential alternative corridor is to divert through traffic from the historic district to enhance the tourist experience and protect historic resources, enhance development opportunities in other parts of Tombstone and to provide a route that meets the expectations of the through traveler by providing a route with a consistent design speed and minimal interruptions due to traffic signals and unrestricted access.

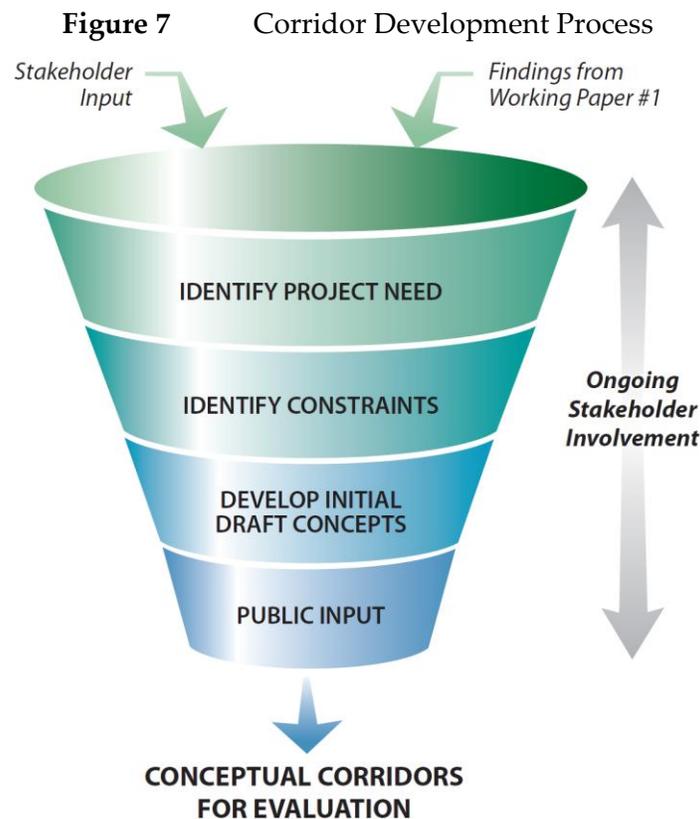


10.0 POTENTIAL CORRIDORS

Potential alternate corridor options for SR 80 were identified through consultation with the City of Tombstone, members of the TAC, stakeholders, the public, and ADOT. Each proposed alternate route responds to the project purpose and need identified in Section 9.0. These alternate route corridors were evaluated and analyzed based on specific evaluation criteria.

10.1 CORRIDOR DEVELOPMENT PROCESS

The corridor development process utilized throughout this study included four steps that allowed the project team to identify and create multiple alternate route scenarios that respond to the need of the project. As shown in the exhibit below, this process included the identification of corridor constraints as well as review and input on preliminary corridor concepts. These concepts were presented to interested members of the public and key stakeholders at a public meeting on November 3, 2011 after which additional refinements were made.



The potential alternative corridors considered through the corridor analysis process are described in the following sections. A comparative analysis of the corridors against the evaluation criteria is provided in Section 11.0.



10.2 NO-BUILD

The No-Build option is the existing SR 80 corridor with the planned improvements identified in previous studies, which include the addition of boardwalks on both sides of SR 80 between 3rd Street and 6th Street and reducing the roadway width from 68 feet to 44 feet. No additional lanes or capacity would be provided while overall traffic volumes will likely double by 2040. Additional R/W would not be required and, for purposes of this study, it is assumed that the existing posted speed limits would remain in effect. Continued use of Fremont Street as SR 80 with increased traffic volumes, especially large vehicles, may impact the integrity of the historic district and certain historic resources within the district.

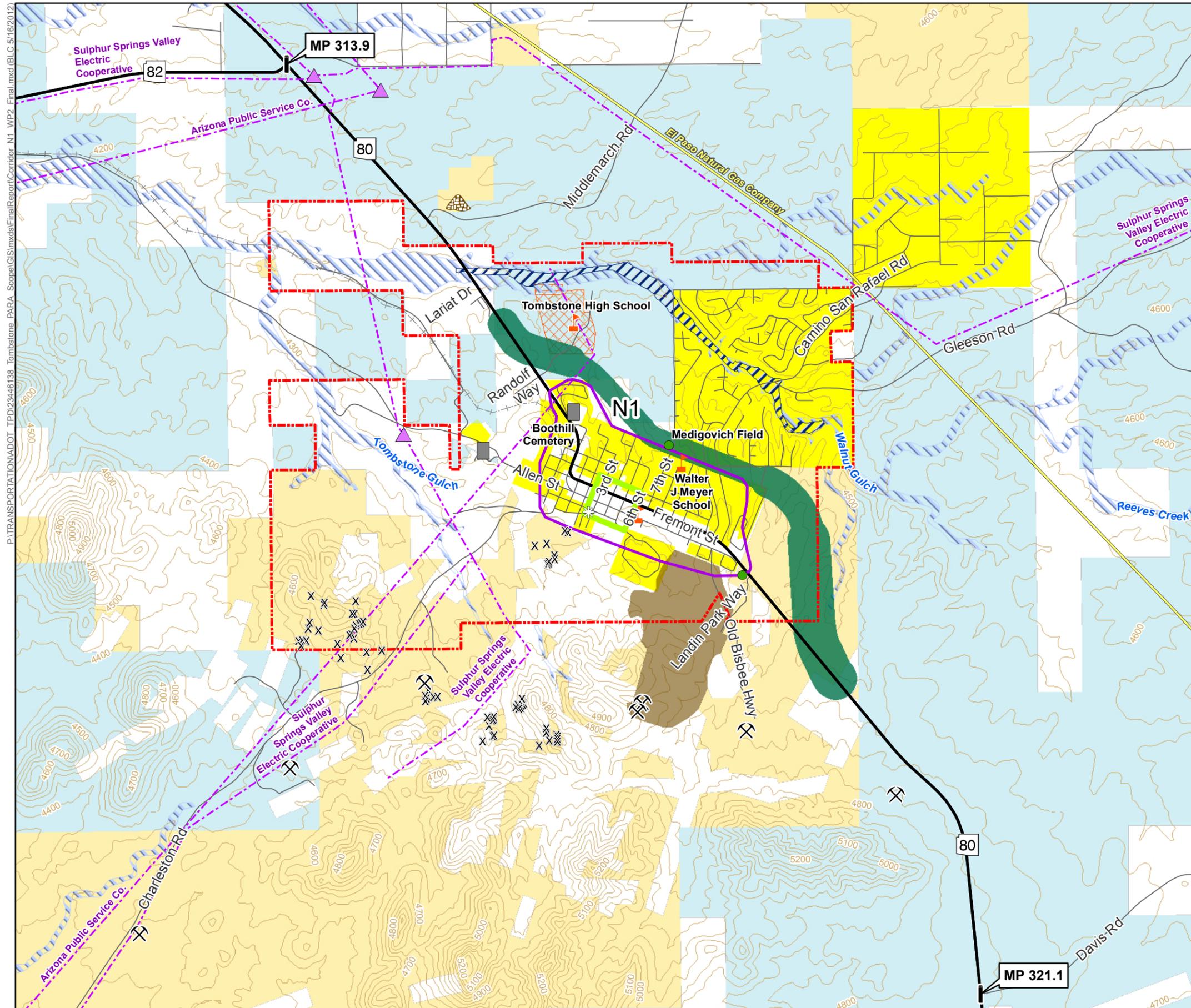
10.3 CORRIDOR N1

Alternate Corridor N1 is the first corridor north of the existing SR 80 alignment as shown in Figure 8. As proposed, Corridor N1 would split from the SR 80 alignment northwest of the City of Tombstone Historic District near the Tombstone High School and reconnect near the southeast corner of the city limits. Corridor N1 is approximately 3 miles long and would be positioned along the northern border of the Tombstone Historic District boundary along the North Street alignment. The proposed corridor would be located on public land managed by the BLM, State Trust land, and private land. Specific R/W acquisition requirements would be determined in later preliminary design stage of corridor development. Although a specific alignment has not been identified, it appears likely that existing homes may be acquired and Medigovich Field may be affected. Medigovich Field is a City-owned baseball and softball facility shared with the Tombstone School District.

Due to its proposed location just north of the historic residential district and adjacent to multiple schools and residential areas, the roadway would need to be designed for lower speeds to ensure proper ADOT and American Association of State Highway and Transportation Officials (AASHTO) safety standards. Corridor N1 could provide direct secondary access into the City of Tombstone via north/south local streets such as Yellow Jacket Way, 7th Street, 9th Street, and Camino San Rafael. The location of access points and full movement intersections would be designed and determined per the ADOT Roadway Design Guidelines (RDG). This alternate corridor would cross one transmission line southeast of Tombstone High School before realigning with the current SR 80 configuration.

Corridor N1 is located relatively close to the Tombstone Historic Landmark so that tourists can easily find their way, yet the secondary access route transverses existing residential areas. Corridor N1 would divide the primary residential neighborhoods of Tombstone and requires pedestrian crossings of a larger roadway. The pedestrian crossings would include grade school children from Walter J. Meyer Elementary School and high school students and would likely require parallel sidewalks or bike paths. Corridor N1 would provide good bus access to both schools.

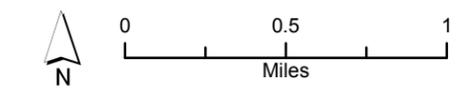
Figure 8
Corridor N1



SR 80 Alternate Route PARA Study

- Legend**
- City of Tombstone Boundary
 - Potential Corridor N1
 - Tombstone Historic District National Historic Landmark / National Register of Historic Places District
 - Tombstone Historic District (AZSITE)
 - 100-year Floodplain
 - Floodway
 - Closed Municipal Solid Waste Landfill
 - Mine Permitting Activity
 - Abandoned Mine
 - Cemetery
 - School / School Facility
 - Park
 - State Park
 - Tombstone High School / Waste-Water Treatment Plant (ASLD Lease)
 - Residential Area
 - Approximate Open Pit Mining Area
- Surface Management**
- Bureau of Land Management
 - State Trust Land (ASLD)
 - Private
- General Features**
- Milepost Marker
 - State Route
 - Local Road
 - Abandoned Railroad
 - Substation
 - Transmission Line
 - Natural Gas Pipeline
 - 50-foot Contour

Source:
 Historic Districts: AZSITE 2011
 Hazmat: ADEQ Website 2011 (<http://gisweb.azdeq.gov>)
 State Trust Lease: ASLD 2011
 Abandoned Mine: BLM 2011
 Residential Area: City of Tombstone 2011, Cochise County 2011
 Approximate Open Pit Mining Area: URS 2011
 Floodplains: FEMA 2008
 Roads: ADOT 2009
 Pipelines: Rextag Pipelines 2009
 Transmission Lines/Substations: SSVEC 2011,
 Platts, A Division of the McGraw-Hill Companies, Inc. -
 POWERmap (Platts analytical database: 2009)
 Base: ALRIS 1997 - 2010, BTS 2011



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Specific evaluation criteria and a comparative analysis of Corridor N1 to other proposed alternate corridors are provided in Section 11.0.

10.4 CORRIDOR N2

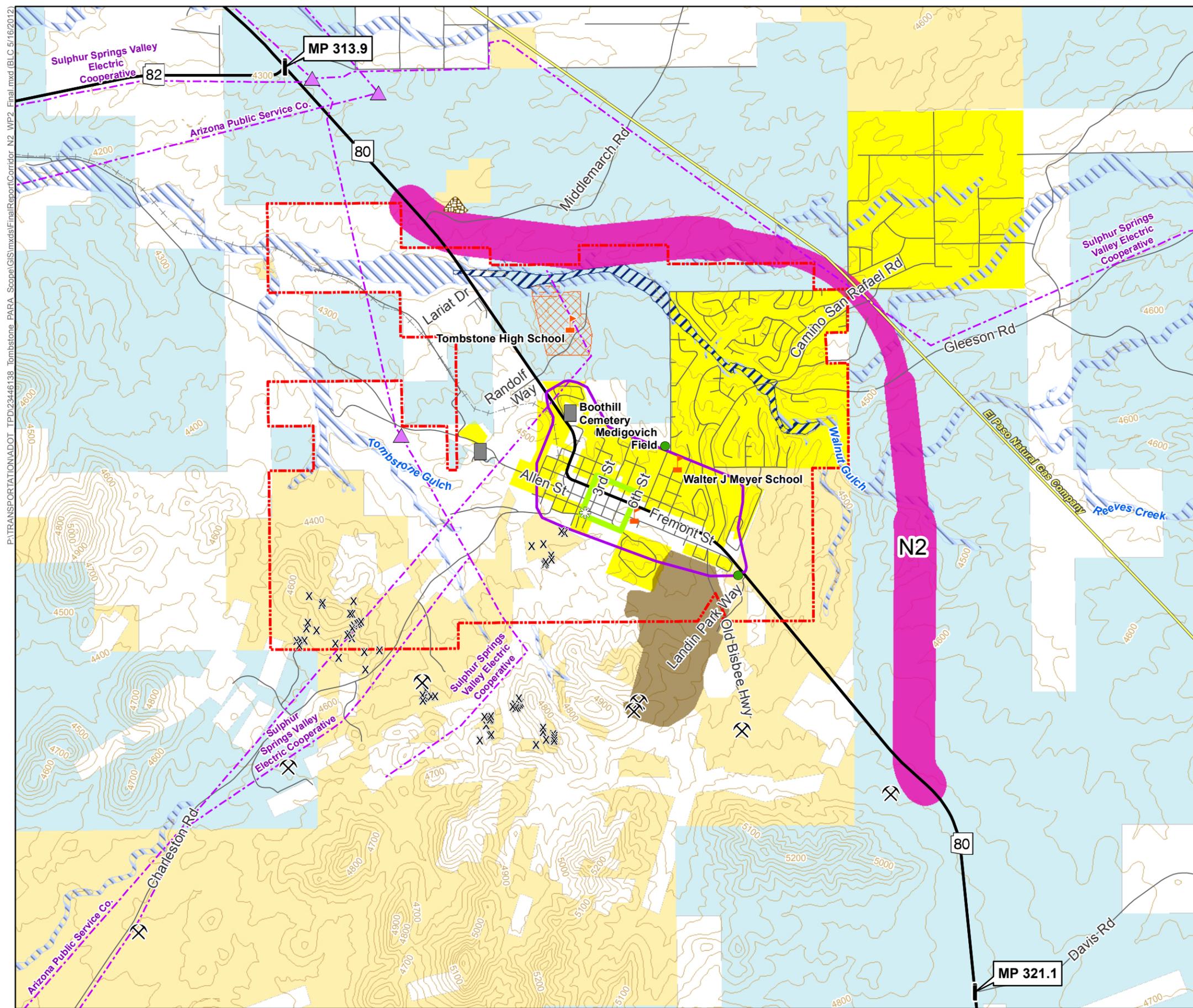
Alternate Corridor N2 is located mostly on State Trust Land and extends east from SR 80 near Middlemarch Road and north of Walnut Gulch. The corridor then traverses an existing residential area as it curves south near the northeast corner of the Tombstone city limits and rejoins SR 80 southeast of the City of Tombstone, as shown in Figure 9. The proposed alternate alignment is nearly 5.5 miles long.

Specific R/W requirements would include the acquisition of the necessary State Trust Lands and potentially minor land acquisition from very few private properties, as well as coordination with the El Paso Natural Gas Company who operates an interstate high pressure natural gas pipeline in the vicinity of the proposed alternate corridor and the Sulfur Springs Valley Electric Company (SSVEC). Due to the distance of the corridor away from the City, the roadway could be designed to accommodate higher vehicle speeds. However, Corridor N2 would provide limited secondary direct access into the center of Tombstone but could provide some access via Gleeson and Camino San Rafael Roads through existing residential areas. Access to the Tombstone Historic Landmark and tourist destinations would primarily be at intersections with existing SR 80. Access to tourist destinations would be over one mile from the new corridor.

Corridor N2 would provide a route that could divert through traffic from the Tombstone Historic District and meet the expectations of the through traveler. The new route could have few intersections and access control may be easier to achieve than on some other corridors because most of the R/W would be acquired from a single property owner - State Land Department. This corridor would have potentially higher overall cost due to several wash crossings and overall length of the new route.

Specific evaluation criteria and a comparative analysis of Corridor N2 to other proposed alternate routes are provided in Section 11.0

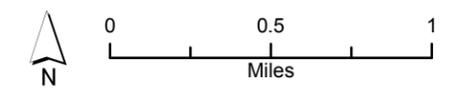
Figure 9 Corridor N2



SR 80 Alternate Route PARA Study

- Legend**
- City of Tombstone Boundary
 - Potential Corridor N2
 - Tombstone Historic District National Historic Landmark / National Register of Historic Places District
 - Tombstone Historic District (AZSITE)
 - 100-year Floodplain
 - Floodway
 - Closed Municipal Solid Waste Landfill
 - Mine Permitting Activity
 - Abandoned Mine
 - Cemetery
 - School / School Facility
 - Park
 - State Park
 - Tombstone High School / Waste-Water Treatment Plant (ASLD Lease)
 - Residential Area
 - Approximate Open Pit Mining Area
- Surface Management**
- Bureau of Land Management
 - State Trust Land (ASLD)
 - Private
- General Features**
- Milepost Marker
 - State Route
 - Local Road
 - Abandoned Railroad
 - Substation
 - Transmission Line
 - Natural Gas Pipeline
 - 50-foot Contour

Source:
 Historic Districts: AZSITE 2011
 Hazmat: ADEQ Website 2011 (<http://gisweb.azdeq.gov>)
 State Trust Lease: ASLD 2011
 Abandoned Mine: BLM 2011
 Residential Area: City of Tombstone 2011, Cochise County 2011
 Approximate Open Pit Mining Area: URS 2011
 Floodplains: FEMA 2008
 Roads: ADOT 2009
 Pipelines: Rextag Pipelines 2009
 Transmission Lines/Substations: SSVEC 2011,
 Platts, A Division of the McGraw-Hill Companies, Inc. -
 POWERmap (Platts analytical database: 2009)
 Base: ALRIS 1997 - 2010, BTS 2011



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10.5 CORRIDOR N3

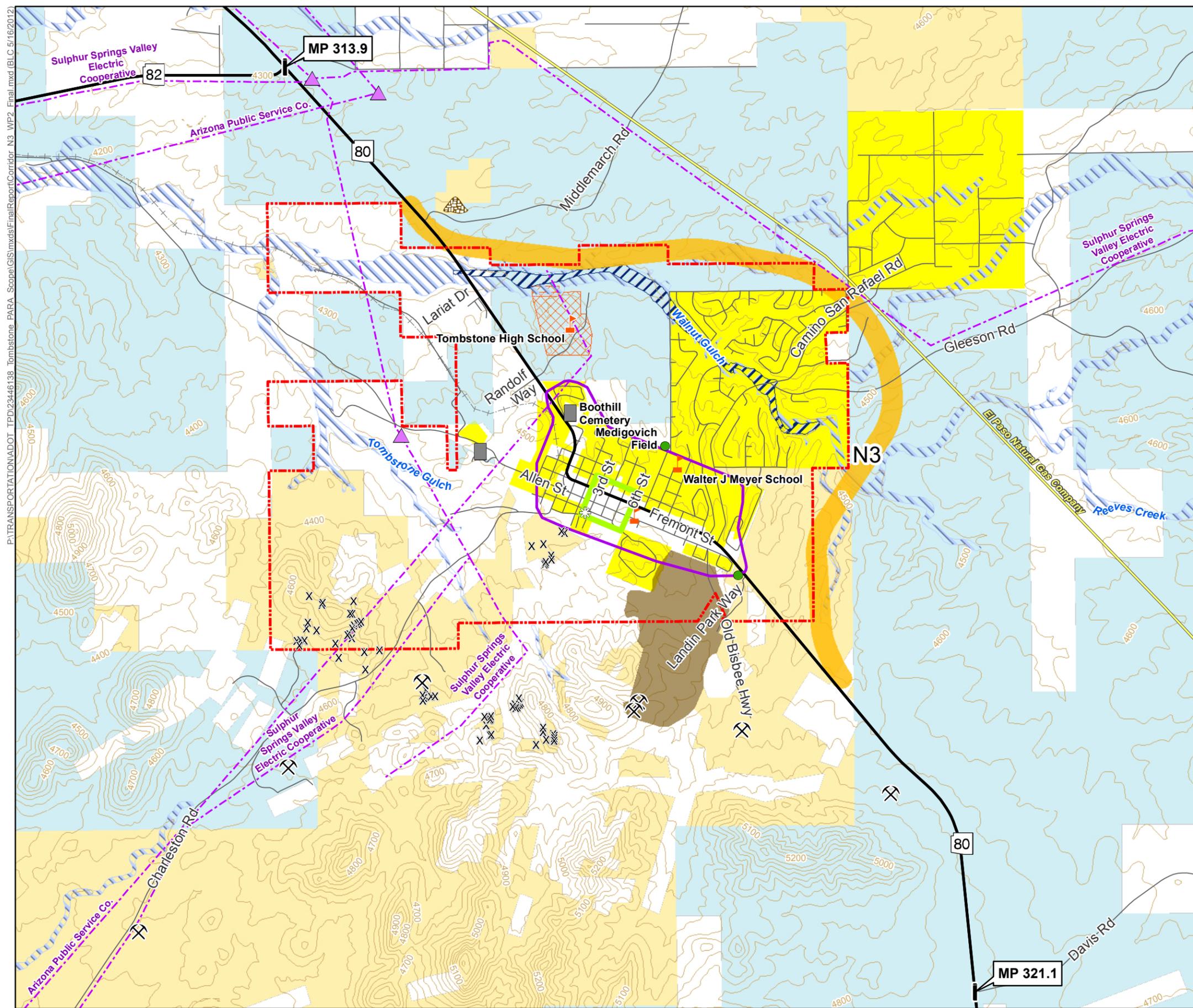
Alternate Corridor N3 provides a hybrid option between Corridors N1 and N2 and is over 5.5 miles in length. Corridor N3 extends east from SR 80 near Middlemarch Road and north of Walnut Gulch. The corridor then traverses an existing residential area as it curves south near the northeast corner of the Tombstone city limits. The corridor then curves to the southwest hugging the city limits before rejoining with SR 80 just southeast of the city limits as shown in Figure 10. The goal of Corridor N3 was to allow a closer southern connection of SR 80 to the city limits while providing a higher speed corridor.

The proposed Corridor N3 alignment is located on both BLM and State Trust Lands and would require coordination with both agencies as well as very few private properties for specific R/W acquisition requirements. In addition, similar to Corridor N2, this proposed alternate route would require coordination with the El Paso Natural Gas Company and SSVEC. Furthermore, Corridor N3 could provide higher vehicle speeds similar to Corridor N2 due to its location outside the City limits. However, it would not provide much direct secondary access to the Tombstone Historic District similarly to Corridor N2. Access to the Tombstone Historic District and tourist destinations would primarily be at intersections with existing SR 80.

The route would also utilize some BLM land which could be less expensive to obtain for R/W than State Trust Land. The overall cost of Corridor N3 due to wash crossings and overall length of the new corridor would potentially be high.

Specific evaluation criteria and a comparative analysis of Corridor N3 to other proposed alternate routes are provided in Section 11.0.

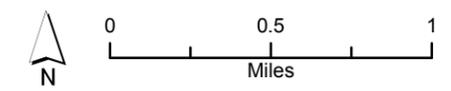
Figure 10
Corridor N3



SR 80 Alternate Route PARA Study

- Legend**
- City of Tombstone Boundary
 - Potential Corridor N3
 - Tombstone Historic District National Historic Landmark / National Register of Historic Places District
 - Tombstone Historic District (AZSITE)
 - 100-year Floodplain
 - Floodway
 - Closed Municipal Solid Waste Landfill
 - Mine Permitting Activity
 - Abandoned Mine
 - Cemetery
 - School / School Facility
 - Park
 - State Park
 - Tombstone High School / Waste-Water Treatment Plant (ASLD Lease)
 - Residential Area
 - Approximate Open Pit Mining Area
- Surface Management**
- Bureau of Land Management
 - State Trust Land (ASLD)
 - Private
- General Features**
- Milepost Marker
 - State Route
 - Local Road
 - Abandoned Railroad
 - Transmission Line
 - Natural Gas Pipeline
 - 50-foot Contour
 - Substation

Source:
 Historic Districts: AZSITE 2011
 Hazmat: ADEQ Website 2011 (<http://gisweb.azdeq.gov>)
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 Abandoned Mine: BLM 2011
 Residential Area: City of Tombstone 2011, Cochise County 2011
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 Roads: ADOT 2009
 Pipelines: Rextag Pipelines 2009
 Transmission Lines/Substations: SSVEC 2011,
 Platts, A Division of the McGraw-Hill Companies, Inc. -
 POWERmap (Platts analytical database: 2009)
 Base: ALRIS 1997 - 2010, BTS 2011



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10.6 CORRIDOR S1

Alternate Corridor S1 is the first corridor south of the existing SR 80 alignment. Corridor S1 would diverge from the SR 80 alignment northwest of the City of Tombstone Historic District near the Tombstone High School in the same vicinity as Corridor N1 as shown in Figure 11. It would extend south across Allen Street just east of the Tombstone Cemetery then head east after crossing Charleston Road. Corridor S1 is over 2.5 miles long and would be positioned along the southern boundary of the Tombstone Historic District, just north of the open pit mining area and just south of the existing historic residential area and north of the existing Skyline residential area. Corridor S1 would be located primarily on private land and includes BLM land as well and specific R/W requirements would include the acquisition of necessary lands which would be determined during the preliminary design stage of corridor development.

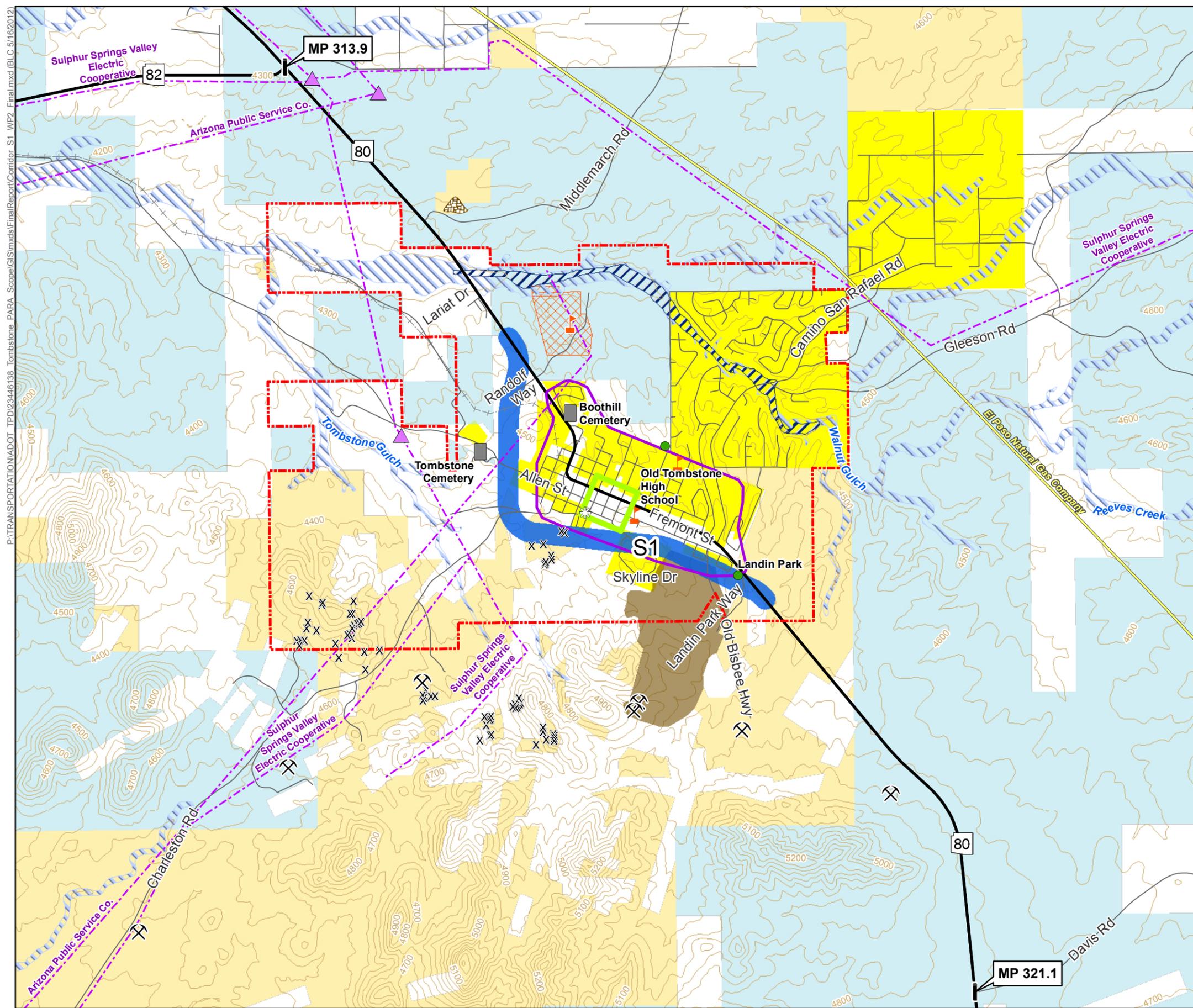
Due to its proposed location just south of the historic residential district and old Tombstone High School site, the roadway would need to be designed for lower speeds to ensure proper ADOT and AASHTO safety standards. Corridor S1 would provide direct secondary access into the Tombstone Historic District via local roads such as Allen Street, Charleston Road/Sumner Street, Old Bisbee Highway, Skyline Drive/6th Street, and would be designed per the ADOT RDG. This alternate corridor would cross an Arizona Public Service (APS) transmission line north of Allen Street and passes multiple abandoned mining locations south of the Tombstone Historic District.

Corridor S1 provides a relatively close-in route with several existing street connections into the Tombstone Historic District and yet it provides a route that could divert the through traffic from the existing SR 80. It's close to and possibly divides the residential areas south of the Tombstone Historic District. Corridor S1 would require several intersections on the new roadway that would reduce speed and impede through traffic.

The proximity to abandoned mine sites could create structural or cost considerations to address subsidence potential and/or affect bat habitats. Although Figure 11 illustrates available data on the locations of abandoned mines, inventory of these areas is ongoing and may be greater than what is shown.

Specific evaluation criteria and a detail comparative analysis of Corridor S1 to other proposed alternate routes are provided in Section 11.0

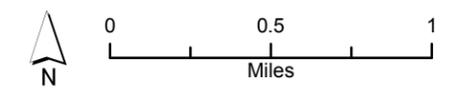
Figure 11
Corridor S1



SR 80 Alternate Route PARA Study

- Legend**
- City of Tombstone Boundary
 - Potential Corridor S1
 - Tombstone Historic District National Historic Landmark / National Register of Historic Places District
 - Tombstone Historic District (AZSITE)
 - 100-year Floodplain
 - Floodway
 - Closed Municipal Solid Waste Landfill
 - Mine Permitting Activity
 - Abandoned Mine
 - Cemetery
 - School / School Facility
 - Park
 - State Park
 - Tombstone High School / Waste-Water Treatment Plant (ASLD Lease)
 - Residential Area
 - Approximate Open Pit Mining Area
- Surface Management**
- Bureau of Land Management
 - State Trust Land (ASLD)
 - Private
- General Features**
- Milepost Marker
 - State Route
 - Local Road
 - Abandoned Railroad
 - Transmission Line
 - Natural Gas Pipeline
 - 50-foot Contour
 - Substation

Source:
 Historic Districts: AZSITE 2011
 Hazmat: ADEQ Website 2011 (<http://gisweb.azdeq.gov>)
 State Trust Lease: ASLD 2011
 Abandoned Mine: BLM 2011
 Residential Area: City of Tombstone 2011, Cochise County 2011
 Approximate Open Pit Mining Area: URS 2011
 Floodplains: FEMA 2008
 Roads: ADOT 2009
 Pipelines: Rextag Pipelines 2009
 Transmission Lines/Substations: SSVEC 2011,
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 POWERmap (Platts analytical database: 2009)
 Base: ALRIS 1997 - 2010, BTS 2011



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10.7 CORRIDOR S2

Corridor S2 is located on parts of State Trust, BLM, and private lands and extends southwest from SR 80 near Middlemarch Road in the vicinity of the municipal solid waste landfill and crosses Walnut Gulch, as shown in Figure 12. The proposed alternate corridor is over 5.5 miles long and would curve southeast to align adjacent to the SSVEC Transmission Line. Corridor S2 continues following the SSVEC Transmission Line alignment across Charleston Road through a pass in the hills south of Tombstone, and then would extend east connecting to SR 80 south of the city limits. The corridor passes through numerous known abandoned mine locations within the hills south of Tombstone.

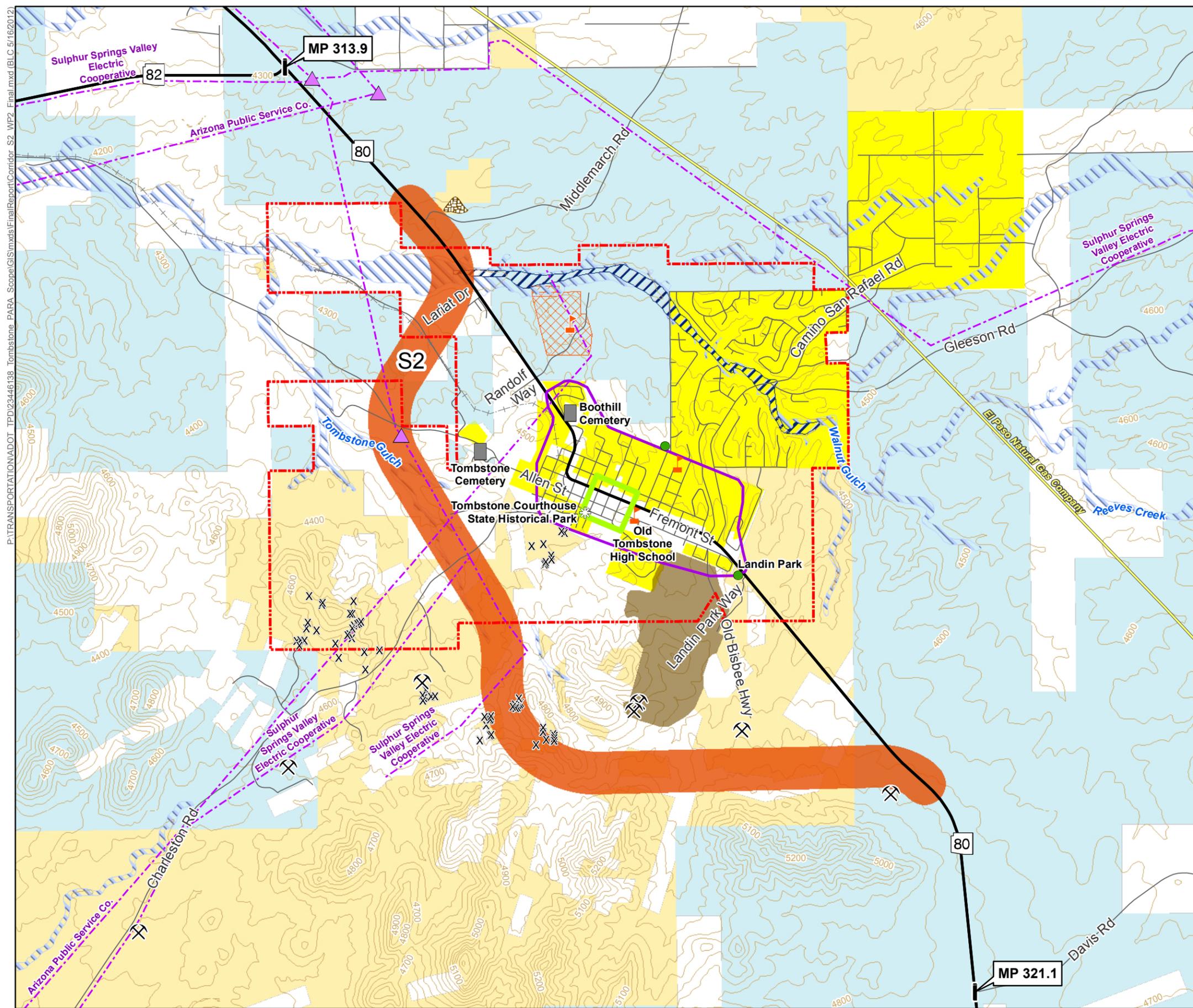
Specific R/W requirements would include the acquisition of the necessary State Trust, large portions of private, and some BLM lands as well as coordination with the SSVEC who operates a transmission line in the vicinity of the proposed alternate corridor. Due to the proposed alignment away from the center of the City, the roadway could be designed to support higher vehicle speeds per ADOT and AASHTO safety standards. Corridor S2 would not provide much direct secondary access to the Tombstone Historic District but could provide access into the City via Allen Street and Charleston Road.

Corridor S2 would provide a route that could divert through traffic from the Tombstone Historic District and meet the expectations of the through rural highway traveler. The new route could have few intersections. Corridor S2 has potentially higher overall cost due to rough terrain and overall length of the new corridor.

Proximity to abandoned mine sites could create structural or cost considerations to address subsidence potential and/or impacts on bat habitats. Although Figure 12 illustrates available data on the locations of abandoned mines, inventory of these areas is ongoing and may be greater than what is shown.

Specific evaluation criteria and a detailed analysis of Corridor S2 compared to other alternate routes are provided in Section 11.0

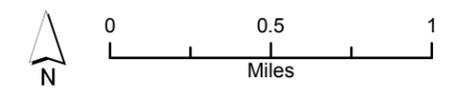
Figure 12
Corridor S2



SR 80 Alternate Route PARA Study

- Legend**
- City of Tombstone Boundary
 - Potential Corridor S2
 - Tombstone Historic District National Historic Landmark / National Register of Historic Places District
 - Tombstone Historic District (AZSITE)
 - 100-year Floodplain
 - Floodway
 - Closed Municipal Solid Waste Landfill
 - Mine Permitting Activity
 - Abandoned Mine
 - Cemetery
 - School / School Facility
 - Park
 - State Park
 - Tombstone High School / Waste-Water Treatment Plant (ASLD Lease)
 - Residential Area
 - Approximate Open Pit Mining Area
- Surface Management**
- Bureau of Land Management
 - State Trust Land (ASLD)
 - Private
- General Features**
- Milepost Marker
 - State Route
 - Local Road
 - Abandoned Railroad
 - Transmission Line
 - Natural Gas Pipeline
 - 50-foot Contour
 - Substation

Source:
 Historic Districts: AZSITE 2011
 Hazmat: ADEQ Website 2011 (<http://gisweb.azdeq.gov>)
 State Trust Lease: ASLD 2011
 Abandoned Mine: BLM 2011
 Residential Area: City of Tombstone 2011, Cochise County 2011
 Approximate Open Pit Mining Area: URS 2011
 Floodplains: FEMA 2008
 Roads: ADOT 2009
 Pipelines: Rextag Pipelines 2009
 Transmission Lines/Substations: SSVEC 2011,
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10.8 CORRIDOR S3

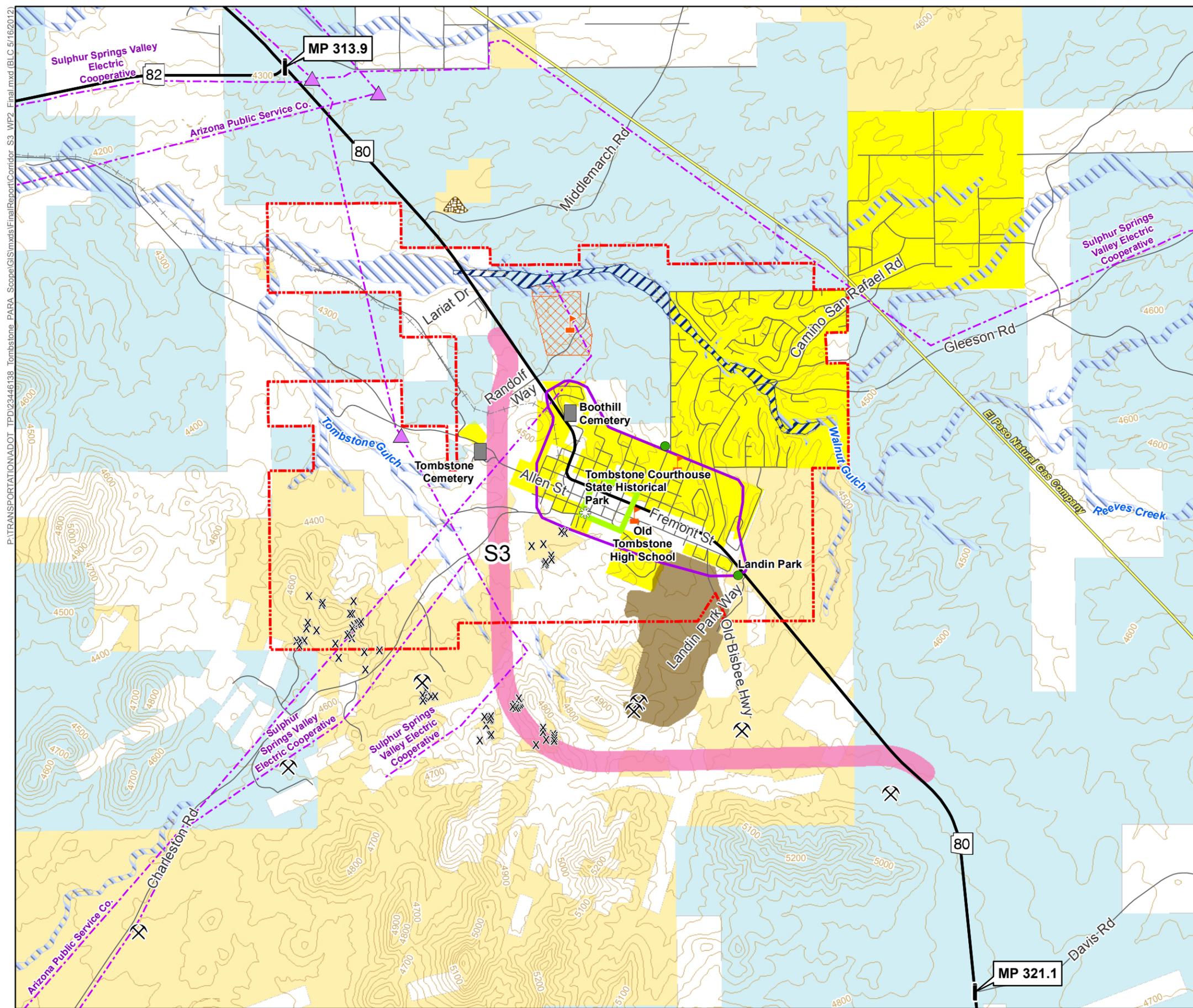
Proposed Alternate Corridor S3 provides a hybrid option between Corridors S1 and S2. It separates from the existing SR 80 alignment northwest of the Tombstone Historic District and near the Tombstone High School similar to Corridor S1. Corridor S3 is over 4.5 miles long and extends south in between the edge of the Historic District and Tombstone Cemetery along privately held lands, as shown in Figure 13. The proposed corridor aligns with the Alternate Route Corridor S2 near the city limits and transitions to the east through the hills on the south side of the City before it realigns with SR 80 southeast of Tombstone.

The proposed Corridor S3 alignment is located on portions of State Trust, BLM, and significant amounts of private lands and would involve coordination with those agencies and individual land holders for specific R/W acquisition requirements. In addition, similar to Corridor S2, this proposed alternate route would require coordination with SSVEC and could be designed to accommodate higher vehicle speeds south of the Tombstone Historic District. Direct access to the Tombstone Historic District would be provided at Allen Street and Charleston Road. The relative proximity to the Tombstone Historic District in the northern portions of Corridor S3 may limit its ability to provide typical highway speeds.

Proximity to abandoned mine sites could create structural or cost considerations to address subsidence potential and/or impacts on bat habitats. Although Figure 13 illustrates available data on the locations of abandoned mines, inventory of these areas is ongoing and may be greater than what is shown.

Specific evaluation criteria and detailed analysis of Corridor S3 compared to other alternate route corridors are provided in Section 11.0.

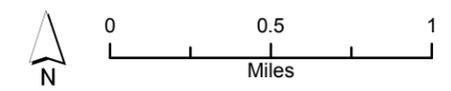
Figure 13
Corridor S3



SR 80 Alternate Route PARA Study

- Legend**
- City of Tombstone Boundary
 - Potential Corridor S3
 - Tombstone Historic District National Historic Landmark / National Register of Historic Places District
 - Tombstone Historic District (AZSITE)
 - 100-year Floodplain
 - Floodway
 - Closed Municipal Solid Waste Landfill
 - ⌘ Mine Permitting Activity
 - x Abandoned Mine
 - Cemetery
 - ⌘ School / School Facility
 - Park
 - ⊙ State Park
 - Tombstone High School / Waste-Water Treatment Plant (ASLD Lease)
 - Residential Area
 - Approximate Open Pit Mining Area
- Surface Management**
- Bureau of Land Management
 - State Trust Land (ASLD)
 - Private
- General Features**
- | Milepost Marker
 - ⌘ State Route
 - ⌘ Local Road
 - ⌘ Abandoned Railroad
 - ▲ Substation
 - Transmission Line
 - Natural Gas Pipeline
 - 50-foot Contour

Source:
 Historic Districts: AZSITE 2011
 Hazmat: ADEQ Website 2011 (<http://gisweb.azdeq.gov>)
 State Trust Lease: ASLD 2011
 Abandoned Mine: BLM 2011
 Residential Area: City of Tombstone 2011, Cochise County 2011
 Approximate Open Pit Mining Area: URS 2011
 Floodplains: FEMA 2008
 Roads: ADOT 2009
 Pipelines: Rextag Pipelines 2009
 Transmission Lines/Substations: SSVEC 2011,
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 POWERmap (Platts analytical database: 2009)
 Base: ALRIS 1997 - 2010, BTS 2011



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10.9 CORRIDOR S4

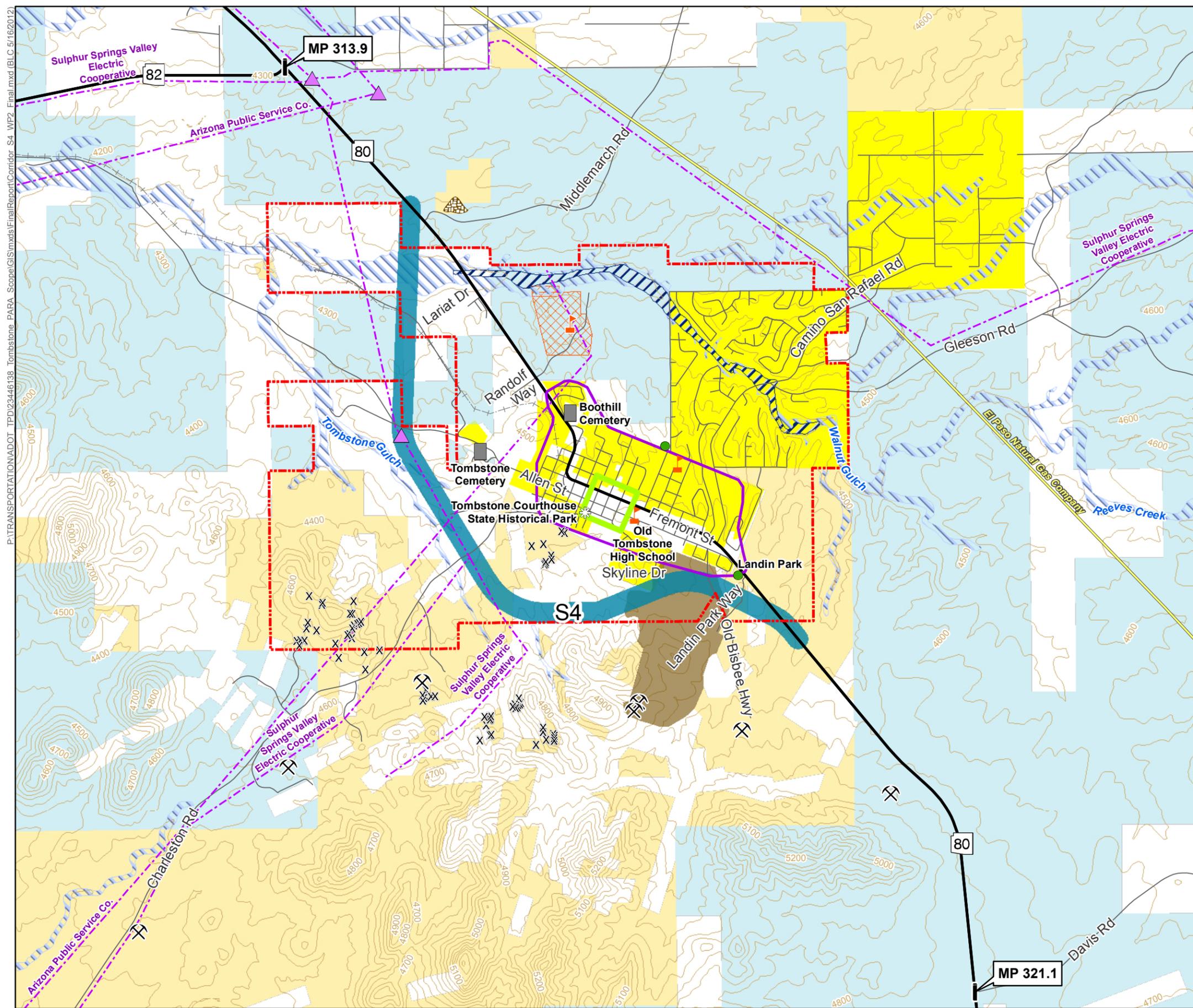
Alternate Corridor S4 is a combination of Corridor S1 and S2 and was developed after the public meeting held on November 3, 2011 from input received from stakeholders. It is proposed to follow a similar alignment as Corridor S2 from the north where it diverges from SR 80 in the vicinity of Middlemarch Road near the municipal solid waste landfill, as shown in Figure 14. Corridor S4 is over 4 miles long and follows the SSVEC line to the west of the Tombstone Historic District similar to Corridor S2. Near the southern City boundary, the alternate corridor would curve east, north of the hills and along an old runway, then continue east just south of the Skyline neighborhood, and align in the vicinity of the Corridor S1 configuration north of the open pit mining area before it reconnects with SR 80 southeast of the City.

The proposed Corridor S4 alignment is located primarily on private lands but also includes State Trust and BLM lands and would require coordination with each agency and individual land owner for specific R/W acquisition needs. In addition, similar to Corridor S2, Corridor S4 will involve coordination with SSVEC who operates a transmission line in the vicinity of the proposed alternate corridor. Due to the proposed alignment away from the Historic District, the roadway could be designed to support higher vehicle speeds per ADOT and AASHTO regulations. However, near the east end of the corridor, proximity to residential areas may limit potential higher speeds. Corridor S4 could provide direct secondary access to the Tombstone Historic District via Allen Street, Charleston Road, and Old Bisbee Highway.

Possible proximity to abandoned mine sites could create structural or cost considerations to address subsidence potential and/or impacts on bat habitats. Although Figure 14 illustrates available data on the locations of abandoned mines, inventory of these areas is ongoing and may be greater than what is shown. In addition, potential encroachment of the large open pit mine site south of town could present challenges to this corridor.

Specific evaluation criteria and a detailed analysis of Corridor S4 compared to other proposed alternate routes are provided in Section 11.0.

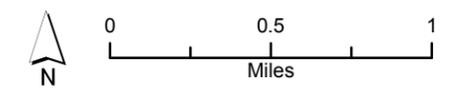
Figure 14
Corridor S4



SR 80 Alternate Route PARA Study

- Legend**
- City of Tombstone Boundary
 - Potential Corridor S4
 - Tombstone Historic District National Historic Landmark / National Register of Historic Places District
 - Tombstone Historic District (AZSITE)
 - 100-year Floodplain
 - Floodway
 - Closed Municipal Solid Waste Landfill
 - Mine Permitting Activity
 - Abandoned Mine
 - Cemetery
 - School / School Facility
 - Park
 - State Park
 - Tombstone High School / Waste-Water Treatment Plant (ASLD Lease)
 - Residential Area
 - Approximate Open Pit Mining Area
- Surface Management**
- Bureau of Land Management
 - State Trust Land (ASLD)
 - Private
- General Features**
- Milepost Marker
 - Substation
 - State Route
 - Transmission Line
 - Local Road
 - Natural Gas Pipeline
 - Abandoned Railroad
 - 50-foot Contour

Source:
 Historic Districts: AZSITE 2011
 Hazmat: ADEQ Website 2011 (<http://gisweb.azdeq.gov>)
 State Trust Lease: ASLD 2011
 Abandoned Mine: BLM 2011
 Residential Area: City of Tombstone 2011, Cochise County 2011
 Approximate Open Pit Mining Area: URS 2011
 Floodplains: FEMA 2008
 Roads: ADOT 2009
 Pipelines: Rextag Pipelines 2009
 Transmission Lines/Substations: SSVEC 2011,
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11.0 ALTERNATE CORRIDOR EVALUATION

The alternate corridors were compared against each other and to the No Build Alternative using qualitative and quantitative evaluation criteria established through coordination with the TAC and the public meetings. A ranking system was used to indicate the relative performance of each alternate corridor for each specific criterion. The evaluation criteria used for this analysis include:

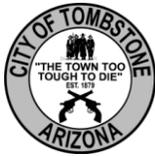
- Length of the corridor;
- Minimizes number of land owners affected;
- Minimizes wash crossings;
- Avoids major utilities;
- Terrain and topography of corridor;
- Potential cost;
- Provides route for through traffic that meets their expectations for long trip travel;
- Diverts through traffic from the Tombstone Historic District;
- Provides through put travel time savings;
- Increases roadway capacity;
- Improves safety;
- Convenient access to the City and tourist destinations;
- Visibility of tourist destinations;
- Preserves City's historic sites;
- Avoids historic and/or current mining activities;
- Proximity to residences and neighborhoods; and,
- Supports and/or creates economic development opportunities for the City.

The following sections provide the measures used for each criterion to evaluate the alternatives.

11.1 LENGTH OF THE CORRIDOR

Each alternate corridor was evaluated based on its length in miles. The following criterion was used:

- ○ = The new route is less than 3.0 miles in total length;
- ◐ = The new route is between 3.0 and 5.5 miles in total length; and,
- ● = The new route is longer than 5.5 miles in total length.



11.2 MINIMIZES NUMBER OF LAND OWNERS AFFECTED

Each alternate corridor was evaluated based on the need for R/W and the potential private parcels that may be acquired for the R/W. The following criterion was used:

- ○ = R/W can likely be obtained as the corridor traverses through 1 or less publicly owned lands and will likely affect few residential and/or private parcels;
- ● = R/W can likely be obtained as the corridor traverses through 2 or more publicly owned lands and will likely affect a moderate number of residential and/or private parcels; and,
- ● = R/W can likely be obtained as the corridor traverses through 2 or more publicly owned lands, will likely affect substantial residential and/or private parcels.

11.3 MINIMIZE WASH CROSSINGS

Each alternate corridor was evaluated based on its conceptual location and the number of wash crossings that may be required to construct the corridor. The following criterion was used:

- ○ = No additional wash crossing structures are likely required beyond the existing SR 80 route;
- ● = Between 1 and 3 wash crossings are likely required along the total length of the corridor; and,
- ● = Four or more wash crossings are likely required along the total length of the corridor.

11.4 AVOID MAJOR UTILITIES

Each alternate corridor was evaluated based on its conceptual location and the number of major utilities that may be crossed or affected or require relocation to construct the corridor. The following criterion was used:

- ○ = No major utility relocations are likely required beyond the existing SR 80 route;
- ● = Potential 2 or less major utility relocations are likely required along the total length of the corridor; and,
- ● = More than 2 major utility relocations are likely required along the total length of the corridor.



11.5 TERRAIN AND TOPOGRAPHY

Each alternate corridor was evaluated based on its conceptual location and the terrain and topography in which it traverses. The following criterion was used:

- ○ = The corridor is already established and minimal earthwork would be required;
- ● = The corridor traverses through a slightly hilly terrain and may require moderate earthwork to construct the corridor; and,
- ● = The corridor traverses through moderately hilly terrain and may require extensive earthwork to construct the corridor.

11.6 POTENTIAL OVERALL CORRIDOR COST

Each alternate corridor was evaluated based on a rudimentary cost evaluation which incorporated length of the new corridor, potential acquisition of residential units and/or private property, number of wash crossings and the terrain and topography of the corridor. The following criterion was used:

- ○ = No additional costs beyond the planned and funded improvements to the existing SR 80 route;
- ● = Moderate costs are anticipated due to the minor length of the corridor, the number of wash crossings and/or the terrain along the corridor yet the number of residential and private parcels impacted are quite high; and,
- ● = Moderately high to significant costs are anticipated due to the length of the corridor and the number of wash crossings/bridge structures required, although the number of residential and private parcels the corridor traverses are minimal.

11.7 PROVIDES ROUTE FOR THROUGH TRAFFIC THAT MEETS THEIR EXPECTATIONS FOR LONG TRIP TRAVEL

The State highway system is intended to provide safe and efficient movement of traffic from one point to another by providing continuity and consistency in the State highway system. SR 80 to the north and south of Tombstone is posted with a speed limit of 65 mph and provides one lane per direction of travel. Each alternate corridor was evaluated to determine if the corridor would allow for a similar posted speed limit (65 mph) and at least one-lane per direction of travel while promoting SR 80 connectivity. Posted speed limits are assumed for each alternate corridor for comparative analysis purposes only. Design speeds will be determined later in the study process for the recommended corridor. The following criterion was used:

- ○ = Greater than 55 mph posted speed limit could likely be designed for at least 1-lane per direction and promotes SR 80 connectivity;
- ● = 40-55 mph posted speed limit could likely be designed for at least 1-lane per direction and promotes SR 80 connectivity; and,



- = Below 35 mph posted speed limit could likely be designed for at least 1-lane per direction yet SR 80 connectivity is not promoted.

11.8 DIVERTS THROUGH TRAFFIC FROM THE HISTORIC DISTRICT

Each alternate corridor was evaluated to determine if the corridor would assist in preserving the rural and historic character of the City by diverting through traffic from passing through the Tombstone Historic District. The following criterion was used:

- = Will likely remove the majority of through and heavy vehicle traffic from the Tombstone Historic District allowing enhanced pedestrian, equestrian and bicycle circulation within the Historic District
- ◐ = Will likely remove the majority of through and heavy vehicle traffic from the Tombstone Historic District allowing enhanced pedestrian, equestrian and bicycle circulation within the Historic District and moderate potential for noise and aesthetic impacts to the district; and,
- = Will not remove the majority of through and heavy vehicle traffic from the Tombstone Historic District.

11.9 THROUGHPUT TRAVEL TIME SAVING

Each alternate corridor was evaluated based on its conceptual length and assumed posted speed limit in comparison to the time it takes to travel along existing SR 80 corridor. The travel time savings was calculated per vehicle traveling the corridor. The following criterion was used:

- = Saves more than 40 seconds of travel time compared to the existing SR 80 route;
- ◐ = Saves less than 40 seconds of travel time compared to the existing SR 80 route; and,
- = New route will require more time than the existing SR 80 route.

11.10 INCREASES ROADWAY CAPACITY

Each alternate corridor was evaluated based on its conceptual ability to accommodate additional lanes and supply additional capacity, if required in the future. The capacity of a roadway is a function of the assumed posted speed limit and number of potential access points along the corridor. The following criterion was used:

- = Able to provide additional capacity along the majority of the corridor with few restrictions;
- ◐ = Able to provide additional capacity along the majority of the corridor, with property restrictions along the remaining portion limiting capacity increases; and,
- = Cannot exceed existing capacity.



11.11 IMPROVES SAFETY

Each alternate corridor was evaluated based on its ability to provide a route that can be designed to meet current safety design guidelines and that separates pedestrian and vehicle traffic. The following criterion was used:

- ○ = A higher potential posted speed limit will likely restrict access points and negate the need for sidewalks and attract regional traffic diversion;
- ◐ = A moderate potential posted speed limit will likely restrict access points and may need sidewalks for some of the corridor and will likely attract moderate regional traffic diversion; and,
- ● = Does not increase safety beyond the existing SR 80 configuration with pedestrian boardwalks.

11.12 PROVIDES CONVENIENT ACCESS TO THE CITY

Through discussions with the City staff and ADOT, it is anticipated that all new corridors considered will provide access to the City and Historic District through appropriate signing and design of the intersection between the new corridor and existing SR 80. Each alternate corridor was evaluated to determine the availability of access routes to the Tombstone Historic Landmark less than one mile in length. The following criterion was used:

- ○ = Abundant opportunities for potential direct routes to the Historic District;
- ◐ = Moderate opportunities for potential direct routes to the Historic District; and,
- ● = Minimal opportunities for potential direct routes to the Historic District.

11.13 VISIBILITY OF TOMBSTONE HISTORIC LANDMARK

Each alternate corridor was evaluated based on the conceptual location of the corridor and the respective terrain which would allow for the driver clear visibility of the Tombstone Historic Landmark from the new corridor. Visibility of the Tombstone Historic Landmark from the new corridor is desired for tourist attraction. The following criterion was used:

- ○ = Several locations along the corridor allow for visibility of the Tombstone Historic Landmark to the driver;
- ◐ = A moderate number of locations along the corridor allow for visibility of the Tombstone Historic Landmark to the driver; and,
- ● = Few locations along the corridor allow for visibility of the Tombstone Historic Landmark to the driver.



11.14 PRESERVES CITY'S HISTORIC SITES

Each alternate corridor was evaluated based on its conceptual location and proximity to the Tombstone Historic District. The following criterion was used:

- = The corridor is not adjacent to the Historic District;
- ◐ = The corridor is within ¼ mile of the Historic District; and,
- = The corridor traverses through the Historic District.

11.15 AVOIDS HISTORIC AND/OR CURRENT MINING ACTIVITIES

Each alternate corridor was evaluated based on its conceptual location and the number of historic, abandoned or current mining activities that are in close proximity to the corridor that may restrict the corridor construction. The following criterion was used:

- = No mining activities have been identified along the corridor that would restrict construction activities;
- ◐ = Mining activities may be located along a small portion of the corridor and will likely not restrict the corridor construction; and,
- = Mining activities may be located along a large portion of the corridor and may restrict the corridor construction.

11.16 PROXIMITY TO RESIDENCES AND NEIGHBORHOODS

Each alternate corridor was evaluated to determine if the corridor would affect the residences of Tombstone. The following criterion was used:

- = Minimal residential units are immediately adjacent to the corridor or community separation would be limited;
- ◐ = Some residential units may be acquired and/or moderate community separation may occur; and,
- = Moderate residential units may be acquired and/or extensive community separation may occur.

11.17 SUPPORTS AND/OR CREATES ECONOMIC DEVELOPMENT OPPORTUNITIES FOR THE CITY

Each alternate corridor was evaluated to determine if the corridor would assist in supporting and/or creating economic development opportunities for the City. The following criterion was used:

- = Will provide a new roadway corridor that may serve developable vacant property on both sides of the corridor along most of the corridor length while providing limited access per ADOT guidelines;



- ○ = Will provide a new roadway corridor that may serve developable vacant property on both sides of the corridor at certain locations along the corridor length with limited access per ADOT guidelines; and,
- ● = Will not provide a new roadway corridor that may or may not provide new development opportunities on vacant property.

11.18 MEETING THE PURPOSE AND NEED

Each alternate corridor was evaluated to determine if the corridor meets the purpose and needs of the study. The following criterion was used:

- ○ = The corridor meets the purpose and needs as established in this study;
- ● = The corridor contains qualities that meet most of the purpose and needs as established in this study; and,
- ● = The corridor contains few qualities that meet the purpose and needs as established in this study.



The matrix below summarizes the evaluation of each alternate corridor and the existing SR 80 corridor based on the aforementioned criteria.

Table 27 Alternate Corridor Evaluation Table

Evaluation Criteria	Existing SR 80 (No-Build)	Corridor N1	Corridor N2	Corridor N3	Corridor S1	Corridor S2	Corridor S3	Corridor S4
Criteria Related to Potential Cost								
Length of corridor	○	○	●	●	○	●	○	○
Land ownership & R/W needs	○	●	○	○	●	○	●	●
Minimize wash crossings	○	○	●	●	○	○	○	○
Avoid major utilities	○	○	○	○	○	○	○	○
Terrain and topography	○	○	○	○	○	●	●	○
Overall Corridor Cost	○	○	●	●	○	●	●	○
Criteria Related to Traffic Flow								
Meets expectations for long trip travel	●	○	○	○	○	○	○	○
Diverts through traffic from Tombstone Historic District	●	○	○	○	●	○	○	○
Throughput travel time savings	○	○	○	●	○	○	○	○
Increases capacity for traffic	●	○	○	○	○	○	○	○
Improves safety	●	○	○	○	○	○	○	○
Other Miscellaneous Criteria								
Provides convenient access to the City	○	○	●	●	○	○	○	○
Visibility of Tombstone Historic District	○	●	●	●	○	○	○	○
Preserve historic sites	●	○	○	○	○	○	○	○
Avoid of historic or current mining	○	○	○	○	●	●	●	●
Proximity to residences	○	●	○	○	●	○	○	○
Support/create economic development	●	○	○	○	○	○	○	○
Meets the Purpose and Needs	●	○	○	○	●	○	○	○



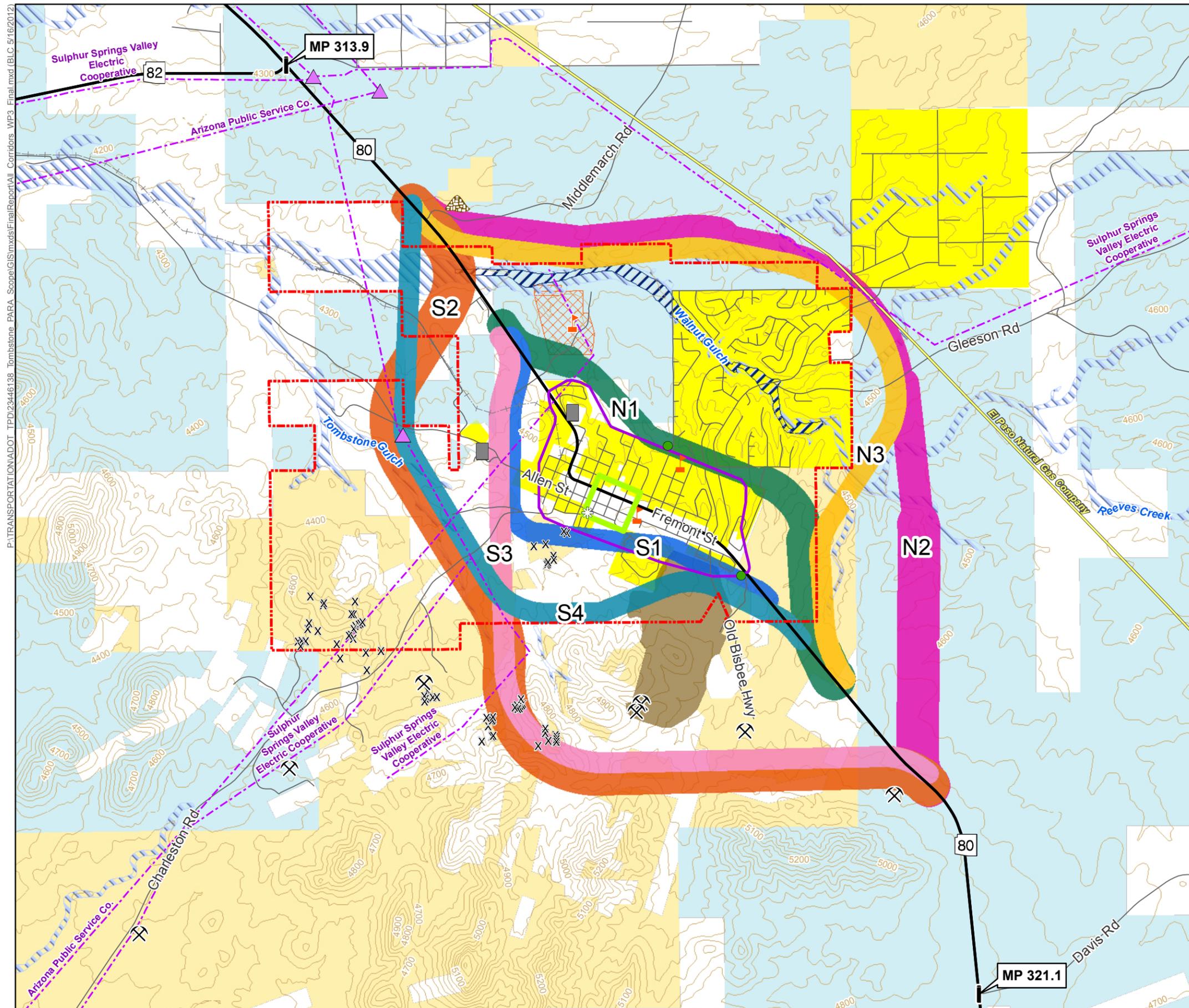
11.19 SUMMARY OF OBSERVATIONS

Each of the alternate corridors has unique characteristics and potential as comparatively illustrated in Figure 15. Corridors S1 and N1 are the shortest in length, but will likely require the slowest posted speed and have the most impacts on residential areas and the Tombstone Historic District. Corridors N2 and N3 are the longest corridors which traverse through slightly rolling terrain and required the most wash crossings, which may lead to increased cost. They may provide for the highest posted speeds and avoid known and unknown mining activities while shifting regional traffic furthest from the Tombstone Historic District.

Corridors S2 and S3 are moderate in length and traverse through the roughest terrain which may add to cost while each shift regional traffic away from the Tombstone Historic District and away from residential areas. Corridor S2 and S3 also traverse through heavily mined areas which have unknown impacts and only partial known data. Corridor S4 traverses through moderately rough terrain yet allows for the most visibility of the Tombstone Historic Landmark.

All of the corridors have an added benefit to safety, the potential to increase roadway capacity, assist in the preservation of the Tombstone Historic Landmark, and all provide travel time savings, with the exception of Corridor N3, while providing a better regional connection in comparison to the No-Build option. Additionally, each alternate corridor traverses through vacant land which may add to the economic development of the City.

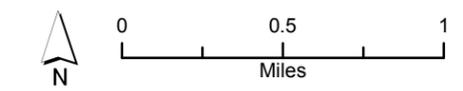
Figure 15
Conceptual Alternate Corridors



SR 80 Alternate Route PARA Study

- Legend**
- City of Tombstone Boundary
 - Potential Corridors (Various Colors)
 - Tombstone Historic District National Historic Landmark / National Register of Historic Places District
 - Tombstone Historic District (AZSITE)
 - 100-year Floodplain
 - Floodway
 - Closed Municipal Solid Waste Landfill
 - Mine Permitting Activity
 - Abandoned Mine
 - Cemetery
 - School / School Facility
 - Park
 - State Park
 - Tombstone High School / Waste-Water Treatment Plant (ASLD Lease)
 - Residential Area
 - Approximate Open Pit Mining Area
- Surface Management**
- Bureau of Land Management
 - State Trust Land (ASLD)
 - Private
- General Features**
- Milepost Marker
 - State Route
 - Local Road
 - Abandoned Railroad
 - Substation
 - Transmission Line
 - Natural Gas Pipeline
 - 50-foot Contour

Source:
 Historic Districts: AZSITE 2011
 Hazmat: ADEQ Website 2011 (<http://gisweb.azdeq.gov>)
 State Trust Lease: ASLD 2011
 Abandoned Mine: BLM 2011
 Residential Area: City of Tombstone 2011, Cochise County 2011
 Approximate Open Pit Mining Area: URS 2011
 Floodplains: FEMA 2008
 Roads: ADOT 2009
 Pipelines: Rextag Pipelines 2009
 Transmission Lines/Substations: SSVEC 2011,
 Platts, A Division of the McGraw-Hill Companies, Inc. -
 POWERmap (Platts analytical database: 2009)
 Base: ALRIS 1997 - 2010, BTS 2011





12.0 CORRIDORS RECOMMENDED FOR FURTHER STUDY

12.1 SUMMARY OF OBSERVATIONS

As detailed in the previous section, each of the alternate corridors developed has unique characteristics and potential (see Figure 15). In comparison to the No-Build option, all of the corridors have an added benefit to safety, the potential to increase roadway capacity, assist in the preservation of the Tombstone Historic Landmark, and all provide travel time savings, with the exception of Corridor N3, while providing a better regional connection. Additionally, each alternate corridor traverses through vacant land which may add economic development potential for the City.

The TAC members and the public generally preferred alternate corridors located south of the City of Tombstone due to neighborhood concerns. The alternate corridors located south of the City of Tombstone all share a significant unknown related to potential complications due to past and current mining operations. The unknown could significantly increase cost of construction and right-of-way (R/W) acquisition. Due to this unknown, both a southern and a northern alternate route were selected for further study in addition to the No-Build option.

12.2 SELECTION OF A SOUTH CORRIDOR

The following is a brief discussion of the pros and cons of each south alternative route and the rationale for selecting one as the preferred for further study.

Corridor S1 is the shortest southern corridor in length, but will likely require the slowest posted speed limit and have the most impacts on residential area, historic mining areas, and the Tombstone Historic District. Corridor S1 would be located primarily on private land but includes some BLM land. Specific R/W requirements would include the acquisition of necessary lands which would be determined during the preliminary design stage of corridor development. This alternate corridor would cross an APS transmission line north of Allen Street and pass near multiple abandoned mining locations south of the Tombstone Historic District. It would be close to and possibly divide the residential areas south of the Tombstone Historic District. Corridor S1 would require several intersections on the new roadway that would require a reduced speed limit and impede through traffic.

In addition, the proximity of Corridor S1 to abandoned mine sites could create structural or cost considerations to address subsidence potential and/or affect bat habitats. As a result of input from stakeholders, TAC members and members of the public, Corridor S1 was eliminated from further study due to its proximity to the Tombstone Historic District and residential areas, the amount of private land that would be impacted, and the uncertainty of costs associated with historic and active mining.

Corridor S2 is moderate in length and is located on parts of State Trust, BLM, and private lands. In addition, portions of Corridor S2 could be located adjacent to the SSVEC Transmission Line. Specific R/W requirements would include the acquisition of the necessary State Trust, large



portions of private, and some BLM lands as well as coordination with the SSVEC who operates a transmission line in the vicinity of the proposed alternate corridor. Due to the proposed alignment away from the center of the City, the roadway could be designed to support higher vehicle speeds per ADOT and AASHTO safety standards. Corridor S2 would provide a route that could divert through traffic from the Tombstone Historic District and meet the expectations of the through rural highway traveler.

Corridor S2 passes through numerous known abandoned mine locations within the hills south of Tombstone. Proximity to abandoned mine sites could create structural or cost considerations to address subsidence potential and/or impacts on bat habitats. As a result of input from stakeholders, TAC members and members of the public, Corridor S2 was eliminated from further study due to the amount of private land that would be impacted, the rugged terrain that it would pass through which may increase cost, and the uncertainty of costs associated with historic and active mining.

Corridor S3 provides a hybrid option between Corridors S1 and S2. It separates from the existing SR 80 alignment northwest of the Tombstone Historic District and near the Tombstone High School similar to Corridor S1. The proposed corridor aligns with the Alternate Route Corridor S2 near the southern city limits and transitions to the east through the hills on the south side of the City before it realigns with SR 80 on State Trust land. In all, Corridor S3 is very similar to Corridor S2 in general length and traverses through the roughest terrain.

Corridor S3 passes through numerous known abandoned mine locations within the hills south of Tombstone. Proximity to abandoned mine sites could create structural or cost considerations to address subsidence potential and/or impacts on bat habitats. As a result of input from stakeholders, TAC members and members of the public, Corridor S3 was eliminated from further study due to the amount of private land that would be impacted, the rugged terrain that it would pass through which may increase cost, the corridor separates the western portion of Tombstone from the downtown Tombstone area, and the uncertainty of costs associated with historic and active mining.

Corridor S4 is also a combination of Corridor S1 and S2 and was developed from input received from stakeholders prior to the public meeting held on November 3, 2011. It is proposed to follow a similar alignment as Corridor S2 from the north where it diverges from SR 80 in the vicinity of Middlemarch Road near the municipal solid waste landfill and follows the SSVEC line to the west of the Tombstone Historic District similar to Corridor S2. Near the southern City boundary, the alternate corridor would curve east, north of the hills and along an old runway, then continue east just south of the Skyline neighborhood, and align in the vicinity of the Corridor S1 configuration north of the open pit mining area before it reconnects with SR 80 southeast of the City.



The proposed Corridor S4 alignment is located primarily on private lands but also includes State Trust and BLM lands and would require coordination with each agency and individual land owner for specific R/W acquisition needs. In addition, similar to Corridor S2, Corridor S4 will involve coordination with SSVEC who operates a transmission line in the vicinity of the proposed alternate corridor. Due to the proposed alignment away from the Tombstone Historic District, the roadway could be designed to support higher vehicle speeds per ADOT and AASHTO regulations.

Proximity to abandoned mine sites could create structural or cost considerations to address subsidence potential and/or impacts on bat habitats. A key stakeholder along Corridor S4 is the owner of a large open pit mine who was very receptive to Corridor S4. In addition, Corridor S4 provides a very nice view of the historic downtown



Looking North from Corridor S4

Tombstone which is highly desirable to key stakeholders as a way to attract tourists into Tombstone. As a result of input from stakeholders, TAC members and members of the public, Corridor S4 was identified as a preferred corridor for further study due to its proximity to the Tombstone Historic District, its view of downtown Tombstone, and the travel time savings.

All of the southern corridors traverse through abandoned or active mining areas. The subsidence potential and/or impacts on bat habitats could become fatal flaws in selecting any southern corridor. This aspect should be evaluated in more detail in later preliminary design stage of corridor development. As a result, the TAC agreed to select a second preferred corridor for further study from the north corridor options. Corridor S4 is illustrated in Figure 14.

12.3 SELECTION OF A NORTH CORRIDOR

Corridor N1 is the shortest northern corridor in length, but will likely require the slowest posted speed limit and have the most impacts on residential areas and the Tombstone Historic District. As proposed, Corridor N1 would split from the SR 80 alignment northwest of the City of Tombstone Historic District near the Tombstone High School and reconnect near the southeast corner of the city limits. The proposed corridor would be located on public land managed by the BLM, State Trust land, and private land. Although a specific alignment has not been identified, it appears likely that existing homes may be acquired and Medigovich Field may be affected. Medigovich Field is a City-owned baseball and softball facility shared with the Tombstone School District. Corridor N1 is also adjacent to the Meyer Elementary School (see Figure 8).



As a result of input from stakeholders, TAC members and members of the public, Corridor N1 was eliminated from further study due to its proximity to the Tombstone Historic District and residential areas, the amount of private land that would be impacted, and the impact to schools.

Corridor N3 is the longest of the corridors, traverses through slightly rolling terrain and requires the most wash crossings. The corridor is located on both BLM and State Trust Lands and would require coordination with both agencies as well as very few private properties for specific R/W acquisition requirements. Corridor N3 would require coordination with the El Paso Natural Gas Company and SSVEC. The corridor could provide higher vehicle speeds due to its location outside the City limits. However, due to its length, the travel time would increase beyond the No-Build condition.

As a result of input from stakeholders, TAC members and members of the public, Corridor N3 was eliminated from further study due to its proximity to the neighborhoods, the corridor length, the travel time increase, and the potential cost.

Corridor N2 is slightly shorter than Corridor N3 and is located mostly on State Trust Lands. Specific R/W requirements would include the acquisition of the necessary State Trust Lands and potentially minor land acquisition from very few private properties, as well as coordination with the El Paso Natural Gas Company and SSVEC. Due to the distance of the corridor away from the City, the roadway could be designed to accommodate faster vehicle speeds. Corridor N2 would provide limited secondary direct access into the center of Tombstone but could provide some access via Gleeson and Camino San Rafael Roads through existing residential areas. Access to the Tombstone Historic Landmark and tourist destinations would primarily be at intersections with existing SR 80.

Corridor N2 would provide a route that could divert through traffic from the Tombstone Historic District and meet the expectations of the through traveler. Since most of the R/W would be acquired from one property owner, the State Land Department, access management through effective planning may be easier to achieve. If the trust land develops in the future, additional access points are likely to be needed.



Looking South from Corridor N2

As a result of input from stakeholders, TAC members and members of the public, Corridor N2 was selected as a preferred northern corridor due to its travel time savings, it avoids the historic district, and it has less impact to the neighborhoods and schools than other northern options. Corridor N2 is illustrated in Figure 9.



12.4 RECOMMENDED CORRIDORS

As a result, Corridor S4 and Corridor N2 were selected for further study in addition to the No-Build option through input from stakeholders, TAC members, and members of the public.



13.0 ALTERNATE CORRIDOR FEATURES

13.1 CROSS-SECTION REQUIREMENTS

Based on the projected 2040 daily traffic volumes summarized in Table 19 and the daily capacities for various roadways illustrated in Table 28, the future corridor will operate at a LOS B as a rural highway with a single lane in each direction. It is anticipated that the No-Build option will remain as it is today within the existing R/W.

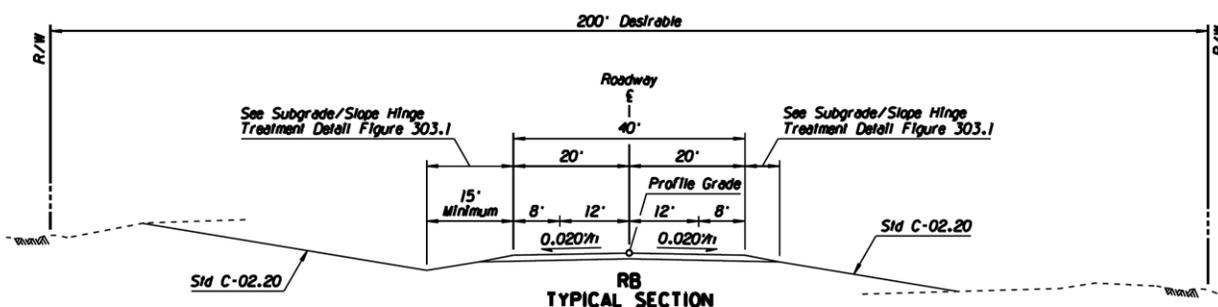
Table 28 Level of Service Upper Limit Thresholds for Roadway Segments (ADT)

Classification	Level of Service				
	A	B	C	D	E
Major Collector (2-lane w/ TWLTL)	<5,000	7,000	10,000	13,000	15,000
Minor Collector w/2 lanes	<4,000	5,500	7,500	9,000	10,000
Rural Highway w/ 2-lanes	<1,500	3,500	6,600	11,200	19,000

Sources: ITE Guidelines, 2000, 1994 HCM, Florida DOT 1995 LOS Manual.
TWLTL: Two-way left-turn lane

According to the ADOT RDG, Section 306, a non-divided rural highway typical section consists of a minimum one-lane in each direction within a desirable 200-foot total R/W. Each lane consists of 12-feet of pavement with a 6 or 8 foot shoulder. The roadway may be flared at intersections with cross-streets to provide for dedicated left and right-turn lanes. Dedicated turn lanes would be installed as warranted per ADOT PGP 245, which would be assessed during later design stages. A typical cross-section detail is illustrated in Figure 16.

Figure 16 Typical Non-Divided Rural Highway Cross-Section



13.2 CORRIDOR DESIGN SPEEDS

According to the ADOT RDG, Section 102, typical design speeds associated with non-divided rural highway range from 55 miles per hour (mph) to 70 mph based on terrain. In general, the maximum super-elevation allowed on a rural highway is 0.08 per the ADOT RDG for elevations between 4,000 and 6,000 feet.



Corridor S4 generally contains several horizontal curves along the route. In addition, the corridor traverses adjacent to several residential areas and the Tombstone Historic District. The corridor line shown in Figure 14 generally complies with a design speed of 60 mph, which requires a minimum horizontal radius of 2,320 feet based on a super-elevation rate of 0.06 and may be as small as 1,200 feet using a super-elevation rate of 0.08. If a lower super-elevation rate is used, then a larger radius would have to be incorporated to meet ADOT criteria. If the maximum super-elevation rate is used, then a smaller radius may be used. The curves on Figure 14 generally contain a 1,500 foot radius around the existing mine which exceeds the AASHTO minimum for a design speed of 60 mph with a super-elevation rate of 0.08, which is within the ADOT RDG requirements. The curves on the west end of Corridor S4 range from 3,000 feet to 5,730 feet, which is within the ADOT RDG requirements.

Corridor N2 generally contains few horizontal curves and contains longer straight stretches. Corridor N2 traverses through mostly undeveloped State Trust Land and, in one location, traverses close to residential units. Noise reduction may be needed near the residential areas. The corridor line shown in Figure 9 generally complies with a design speed of 70 mph, which requires a minimum horizontal radius of 1,810 feet based on a super-elevation rate of 0.08. If a lower super-elevation rate is used, then a larger radius would have to be incorporated. The curves shown in Figure 9 generally contain radii ranging from 2,000 to 5,730 feet, which exceeds the ADOT minimum for a design speed of 70 mph with a super-elevation rate of 0.08, which is within the ADOT RDG requirements.

13.3 CORRIDOR S4

Corridor S4 as shown in Figure 14 is approximately 4.40 miles in length and traverses through generally hilly terrain. It is anticipated that approximately five at-grade intersections would be required to connect to existing streets. These intersections would occur at the following locations:

- SR 80, near existing Middlemarch Road
- Allen Street, near the SSVEC substation
- Charleston Road, near the SSVEC power lines
- Old Bisbee Highway, east of the open pit mining area
- SR 80, near the southern city limits

It is anticipated that localized improvements to each of the above cross-streets would be required at the connection to Corridor S4 to comply with current ADOT and AASHTO standards. For purposes of this study, it is anticipated that each approach to Corridor S4 would require improvements up to one-quarter mile away.

It is anticipated that a new bridge will be constructed over Walnut Gulch west of the existing SR 80 Walnut Gulch Bridge. Although the corridor crosses several additional washes, culverts would likely be adequate so no additional bridges are anticipated. During final design, each



culvert crossing would be evaluated for the 100-year storm event to ensure that no ponding would occur outside the new R/W due to construction of the new roadway. Bridges and culverts will consider Arizona Game and Fish recommendations for accommodating wildlife movement corridors.

Based on the length of the corridor and the desirable R/W per the ADOT RDG for a rural non-divided highway, acquisition of approximately 110 acres of primarily private lands for R/W along Corridor S4 would be required.

13.4 CORRIDOR N2

Corridor N2 as shown in Figure 9 is approximately 5.60 miles in length and traverses through generally hilly terrain. It is anticipated that approximately five at-grade crossings would be required to connect to existing streets. These intersections would occur at the following locations:

- SR 80, near existing Middlemarch Road
- Middlemarch Road
- Camino San Rafael Road, near the El Paso Natural Gas Company line
- Gleeson Road, southwest of the El Paso Natural Gas Company line
- SR 80, southeast of Tombstone

It is anticipated that localized improvements to each of the above cross-streets would be required at the connection to Corridor N2 to comply with current ADOT and AASHTO standards. For purposes of this study, it is anticipated that each approach to Corridor N2 would require improvements up to one-quarter mile away.

It is anticipated that a new bridge will be constructed over Walnut Gulch or Reeves Creek just south of Gleeson Road. Although the corridor crosses several additional washes, no additional bridges are anticipated as culverts are believed to be sufficient based on the terrain. During final design, each culvert crossing would be evaluated for the 100-year storm event to ensure that no ponding would occur outside the new R/W due to construction of the new roadway. Bridges and culverts will consider Arizona Game and Fish recommendations for accommodating wildlife movement corridors.

Based on the length of the corridor and the desirable R/W per the ADOT RDG for a rural non-divided highway, acquisition of approximately 140 acres of mostly State Trust and for R/W along Corridor N2 would be required.

13.5 NO-BUILD

The No-Build option is the existing SR 80 corridor with the planned improvements identified in previous studies, which include the addition of boardwalks on both sides of SR 80 between 3rd Street and 6th Street and roadway width reduction from 68 feet to 44 feet. No additional lanes



City of Tombstone State Route 80
Alternate Route PARA Study



or capacity would be provided while overall traffic volumes will likely double by 2040. Additional R/W would not be obtained and, for purposes of this study, it is assumed that the existing posted speed limits would remain in effect. Continued use of Fremont Street as SR 80 with increased traffic volumes including large vehicles may impact the integrity of the historic district and certain historic resources within the district and adversely impact the tourist experiences. The No-Build option may adversely affect the historic landmark designation potentially requiring shrinking the historic district in the future.



14.0 PLANNING LEVEL COST ESTIMATE

Each corridor is unique in location, but Corridor S4 and Corridor N2 contain many similarities. Both corridors will generally contain several box culverts along wash crossings. Both corridors are anticipated to require one bridge structure along their route. Both corridors generally traverse hilly terrain and both corridors require five at-grade intersection improvements.

In general, detailed cost estimating occurs during the design concept and final design stages of projects. For purposes of this report, considerations have been given to the type of terrain that each corridor traverses and the non-divided rural highway that is proposed. US 93, between Wickenburg and Kingman, was recently constructed to meet a divided rural highway standard. Earthwork consisted of the majority of the cost, and the four lane section cost approximately \$4 million per mile constructed.

Using the US 93 as a guideline, a two-lane non-divided rural highway would require less total earthwork, however the cost per unit of earthwork would likely increase due to the smaller size of the project. For purposes of this report, a cost of \$2.5 million per mile of constructed two-lane non-divided rural highway was assumed.

Right-of-way costs vary from \$1,800 to \$10,000 per acre near the City of Tombstone based on recent sales and landowner information. Land values generally are higher near SR 80 and near the historic district. For purposes of this report, an average cost of \$5,000 per acre was assumed.

It is anticipated that improvements to cross-streets may include traffic signals, turn lanes, shoulder improvements when warranted, and approach roadway work within $\frac{1}{4}$ mile to tie in with the new corridor. It is anticipated that each at-grade intersection improvement would cost approximately \$500,000 per location.

In addition, it is assumed that engineering and final design costs would be approximately 10 percent of the construction costs.

Mining mitigation costs are assumed to be part of the project costs for Corridor S4. Until the geotechnical investigation can be completed, the magnitude of the costs for treatment associated with potential mine shafts in the corridor cannot be determined. For purposes of this study, it is assumed that these costs would be approximately 20 percent of the construction cost of Corridor S4. Table 29 below summarizes the planning level cost estimation for Corridor S4.



Table 29 Planning Cost Estimate – Corridor S4

Item	Amount	Unit	Cost per Unit	Total Cost
Length of construction	4.4	Miles	\$2,500,000	\$11,000,000
Right-of-way	110	Acres	\$5,000	\$550,000
Cross-street improvements	5	Each	\$500,000	\$2,500,000
Mining mitigation contingency	1	Lump Sum	\$2,800,000	\$2,800,000
Engineering & Design	1	Lump Sum	\$1,400,000	\$1,400,000
Total				\$18,250,000

Based on the assumptions above, Corridor S4 is estimated to cost \$18,250,000 for R/W acquisition, design, construction and mining mitigation. Further detail would be required at the design stages to determine the exact influences of the mining activity along Corridor S4 and the resulting impacts to the project costs.

Table 30 summarizes the planning level cost estimation for Corridor N2.

Table 30 Planning Cost Estimate – Corridor N2

Item	Amount	Unit	Cost per Unit	Total Cost
Length of construction	5.6	Miles	\$2,500,000	\$14,000,000
Right-of-way	140	Acres	\$5,000	\$700,000
Cross-street improvements	5	Each	\$500,000	\$2,500,000
Engineering & Design	1	Lump Sum	\$1,720,000	\$1,700,000
Total				\$18,900,000

Based on the assumptions above, Corridor N2 is estimated to cost \$18,900,000 for R/W acquisition, design, and construction. It is fully expected that a more detailed engineering cost estimate would be prepared during later design stages.

For future budget planning purposes, a project cost estimate of \$15 million to \$20 million may be used. This estimate does not include improvements to existing SR 80 that might be turned over to the City if the alternative corridor is constructed.

14.1 CORRIDOR SUMMARIES

Table 31 summarizes the recommended corridors for further evaluation.



Table 31 Corridor Summaries

Description	Corridor		
	No-Build	Corridor S4	Corridor N2
Length of Corridor (miles)	3.7/4.5 ⁽¹⁾	4.4	5.6
Daily LOS Operations	D	C/A ⁽²⁾	C/A ⁽²⁾
Right-of-way Needs (acres)	-	110	140
Cross-Street Improvements (each)	-	5	5
Planning Cost Estimate (millions)	-	\$15.5	\$18.9
Travel Time Savings (seconds)	-	22	51

⁽¹⁾ Corridor S4/N2 length.

⁽²⁾ Existing SR 80/Alternate corridor LOS.



15.0 IDENTIFY AVAILABLE FUNDING MECHANISMS

15.1 STATE FUNDING

ADOT is mandated by state law to be responsible for constructing and maintaining all interstate and state highways in Arizona. Various funding sources are utilized to accomplish design and construction of new highway facilities. Since this project would likely be constructed many years in the future, funding mechanisms are likely to change by the time SR 80 realignment is constructed. For this report, likely funding sources are identified based on current 2012 programs.

The State of Arizona taxes motor fuels and collects a variety of fees and charges relating to the registration and operation of motor vehicles on the public highways of the state. These revenues are deposited in the Arizona Highway User Revenue Fund (HURF) and are then distributed to the cities, towns and counties and to the State Highway Fund. By state law, 50.5% of the revenue collected goes to the State Highway Fund, 27.5% goes to cities and towns, 19% goes to counties and 3% goes to cities over 300,000 in population. In Fiscal Year 2011, there was \$1.2 billion in HURF collections. Due to recent actions by the state legislature, only \$424 million actually ended up in the State Highway Fund in FY 2011 for use on the state highways. ADOT is relying more and more on federal funding sources for the planning, design and construction of new projects.

15.2 FEDERAL FUNDING

The Federal Aid Highway Program (FAHP) is currently the primary source of funding for construction of Arizona highways, roads and streets. Most of the funding falls into several core programs including Interstate Maintenance (IM), Bridge Program, National Highway System (NHS) program, Surface Transportation Program (STP), Highway Safety Improvement Program (HSIP) and Congestion Mitigation and Air Quality (CMAQ). With few exceptions, federal reimbursements must be matched with state or local funds. For most projects in Arizona, the maximum federal share is 94.3% and the minimum state/local share is 5.7%. Since SR 80 in the vicinity of Tombstone is not an interstate highway, not a bridge project, not part of the National Highway System and is not within an air quality non-attainment area, STP and HSIP seem like the most likely funding sources.

STP provides flexible funding that states and cities and counties may use for projects on any roadway functionally classified as a rural major collector or above. STP funds can be used for qualified design, R/W and construction.

HSIP is a new federal program allowing states to target their most critical safety needs. This program replaces the former Hazard Elimination Program (HES) and can be used on any public road. Realignment of an existing route like SR 80 may qualify.



Federal funds are currently distributed under the SAFETEA-LU Surface Transportation Authorization Act. This act expired in September 2009 and has been extended by a series of short term measures passed by Congress. Congress is currently considering a new funding program, however, the funding levels and program categories or its eventual passage are all uncertain at this time.

In addition, SAFETEA-LU provides Transportation Enhancement Funds for projects that improve pedestrian and bicycle facilities, scenic or historic highway programs including tourist and welcome centers, landscaping or other scenic beautification, historic preservation, archaeology planning and research and maintaining habitat connectivity. An alternative corridor for SR 80 could possibly be eligible for these funds on the basis of preservation of historic Tombstone.

15.3 OTHER FUNDING POSSIBILITIES

Other options are available if state and federal funding is not adequate. These options include countywide sales taxes (similar to Prop 400 in Maricopa County), bonding, loans and grants.

Bonds include Highway Revenue Bonds based on HURF revenues, Transportation Excise Tax Revenue Bonds based on sales tax revenues and Grant Anticipation Notes (GAN) based on federal aid revenues.

HELP Loan – Highway Expansion and Extension Loan Program (HELP) provides the state and its communities with an innovative financing mechanism to accelerate the funding of transportation projects. This mechanism is referred to as a State Infrastructure Bank (SIB) and was initially authorized by Congress in 1995. A SIB operates like a bank by providing loans or credit enhancement for eligible projects. HELP, Arizona’s SIB, is operated under the authority of the State Transportation Board. Since a major funding resource is Board Funding Obligation (BFO) from the State Treasury Department, current state budget shortfalls have had an impact on the HELP program. The State Transportation Board and the ADOT have effectively suspended the program until this uncertainty with the BFO program is resolved.

The U.S. Department of Transportation has awarded grants under a program called the Transportation Investment Generating Economic Recovery (TIGER) Grants. These grants focus on large projects with a potential to create jobs and long term competitiveness of the nation, improve energy efficiency and reducing greenhouse gas emissions and improve safety. The Tucson Modern Street Car project is the only one in Arizona thus far that is designated to receive TIGER grant funding.



16.0 CONCLUSION AND SUMMARY OF FINDINGS

The existing level of service analyses indicate that the current SR 80 configuration contains adequate capacity to accommodate the existing traffic volumes during a typical weekday and weekend at the study locations. All study locations operate with a LOS C or better during the AM and PM peak hours. SR 80 between 3rd Street and 6th Street will likely result in decreased levels of service than compared to study segments as a higher concentration of vehicles and turning movements and the interaction of pedestrian traffic occur.

The OD data collected revealed that approximately 20 percent of the vehicles traveling southbound entering Tombstone continue through the City with minimal stops during the typical weekday and Saturday. Approximately 26 percent of the vehicles traveling northbound entering Tombstone continue through the City during a typical weekday and Saturday.

Crash data obtained from ADOT revealed that 7 crashes occurred on SR 80 within the City of Tombstone limits, 3 of which resulted in fatalities. A transportation enhancement project will construct wider walkways and provide landscaping to encourage safer pedestrian behavior along SR 80 between 3rd Street and 6th Street. These improvements may lead to reductions in crashes with pedestrians.

Assessment of the future traffic conditions indicate that by 2020 and 2030 all study locations will operate with acceptable levels of service with the existing configurations on SR 80. All study locations are projected to operate with a LOS C or better during the AM and PM peak hours.

Assessment of the future 2040 traffic conditions indicate that all of the study locations are projected to operate with acceptable levels of service (LOS C or better) during the peak hours with the exception of the PM peak hour on SR 80 north of Randolph Way, which is projected to operate with a LOS D. Per ADOT PGP Section 430, mitigation is warranted on rural roadways in which the levels of service are worse than a LOS C.

An alternate through alignment of SR 80 will reduce the local segment traffic by approximately 20 percent. Based on the projected 2040 daily traffic volumes summarized in Table 19 and the daily capacities for various roadways illustrated in Table 11, the future corridor will operate under capacity with a single lane in each direction. The existing SR 80 segment and a future proposed SR 80 corridor with reallocated traffic volumes results in acceptable levels of service (LOS C or better).

The impacts of traffic on SR 80 on historic resources in the area have been documented over the past several decades. An ongoing TE and HSIP project will result in a narrowed right-of-way and will include actions to enhance the historic character of the area such as rebuilding porches. The slower speeds and enhanced pedestrian environment may impede the function of SR 80 as a regional connector.



Each of the alternate corridors has unique characteristics and potential as comparatively illustrated in Figure 15. Corridors S1 and N1 are the shortest in length, but will likely require the slowest posted speed and have the most impacts on residential areas and the Tombstone Historic District. Corridors N2 and N3 are the longest corridors which traverse through slightly rolling terrain and required the most wash crossings, which may lead to increased cost. They may provide for the highest posted speeds and avoid known and unknown mining activities while shifting regional traffic furthest from the Tombstone Historic District.

Corridors S2 and S3 are moderate in length and traverse through the roughest terrain which may add to cost while each shift regional traffic away from the Tombstone Historic District and away from residential areas. Corridor S2 and S3 also traverse through heavily mined areas which have unknown impacts and only partial known data. Corridor S4 traverses through moderately rough terrain yet allows for the most visibility of the Tombstone Historic Landmark.

In comparison to the No-Build option, all of the corridors have an added benefit to safety, the potential to increase roadway capacity, assist in the preservation of the Tombstone Historic Landmark, and all provide travel time savings, with the exception of Corridor N3, while providing a better regional connection. Additionally, each alternate corridor traverses through vacant land which may add economic development potential for the City.

All of the southern corridors traverse through abandoned or active mining areas. The subsidence potential and/or impacts on bat habitats could become fatal flaws in selecting any southern corridor. This aspect will be evaluated in more detail in later preliminary design stage of corridor development. As a result, the TAC agreed to select a second preferred corridor for further study from the north corridor options. Corridor S4 is illustrated in Figure 14.

The result of input from stakeholders, TAC members and members of the public, Corridor N2 was selected as a preferred northern corridor due to its travel time savings, it avoids the historic district, and it has less impact to the neighborhoods and schools than other northern options. Corridor N2 is illustrated in Figure 9.

Corridor S4 and Corridor N2 were selected for further study in addition to the No-Build option through input from stakeholders, TAC members, and members of the public.

Based on the projected 2040 daily traffic volumes summarized in Table 19 and the daily capacities for various roadways illustrated in Table 28, the future corridor will operate at a LOS B as a rural highway with a single lane in each direction. It is anticipated that the No-Build option will remain as it is today within the existing R/W.

Per the ADOT RDG, Section 306, a non-divided rural highway typical section consists of a minimum one-lane in each direction within a desirable 200-foot total R/W. Each lane consists of 12-feet of pavement with a 6 or 8 foot shoulder. The roadway may be flared at intersections with cross-streets to provide for dedicated left and right-turn lanes. Dedicated turn lanes would be



installed as warranted per ADOT PGP 245, which would be assessed during later design stages. A typical cross-section detail is illustrated in Figure 16.

Per the ADOT RDG, Section 102, typical design speeds associated with non-divided rural highway range from 55 mph to 70 mph based on terrain. In general, the maximum super-elevation allowed on a rural highway is 0.08 per the ADOT RDG for elevations between 4,000 and 6,000 feet.

Corridor S4 is generally defined with a 1,500 foot radius around the existing mine and contains curves ranging from 3,000 feet to 5,730 feet at the west end, all of which exceed the AASHTO minimum for a design speed of 60 mph and are within the ADOT RDG requirements.

Corridor N2 generally contains radii ranging from 2,000 to 5,730 feet, which exceeds the AASHTO minimum for a design speed of 70 mph and are within the ADOT RDG requirements.

Although the realignment of SR 80 is recommended, current conditions are not favorable for further action at this time to move the project forward. Future activities related to the realignment of SR 80 will occur at a time that is mutually beneficial and agreeable to both ADOT and the City of Tombstone.



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APPENDIX A

PUBLIC INVOLVEMENT SUMMARY REPORT NO. 1



Arizona Department of Transportation and the City of Tombstone
State Route 80 Alternate Route Study
Public Information Meeting 1: Summary



Meeting Date: Thursday, November 3, 2011 (5-7 p.m.)

Meeting Location: Schieffelin Hall, 4th and Fremont Street

Participants: 36 community members attended

Project Overview

The City of Tombstone and the Arizona Department of Transportation (ADOT) are studying the feasibility of realigning State Route (SR) 80. The purpose of the study is to identify an alternate route corridor that would provide a connection for regional traffic while maintaining access to the City of Tombstone and its historic district. The intent of a potential realignment would be to preserve the city's historic buildings and cultural heritage, encourage economic development, and improve regional connectivity.

The first of two public information meetings was held on Thursday, November 3, 2011, at Schieffelin Hall. Study team members provided an overview of the study process and schedule, discussed existing and future conditions, and reviewed the potential alternate route corridors.

Public Meeting Notification

The following methods were implemented prior to the information meeting by ADOT to notify the Tombstone community of the public information meeting:

- Provided 25 notification posters to the City of Tombstone on October 19, 2011, to display at community gathering places.
- Posted meeting information on the study web site (www.azdot.gov/tombstone) on October 19, 2011.
- Ran newspaper advertising in one regional paper and two local papers:
 - Sierra Vista Harold – October 20, 2011
 - Tombstone Gazette – October 25, 2011
 - Tombstone News – October 28, 2011
- Distributed meeting notifications to stakeholders via e-mail on October 20, 2011.
- Distributed information to the media on October 21, 2011.

Public Meeting Overview

Mayor Jack Henderson began the meeting by welcoming the meeting participants and thanking them for attending. C.T. Revere, ADOT Communication and Community Partnerships, also welcomed meeting participants, recognized the other elected officials in attendance, and introduced the study team. C.T. explained the format of the meeting and the methods to provide comments. He then handed the meeting over to Roger

Miles, URS Project Manager, who provided a background on the study, discussed the project purpose and need, and reviewed the potential conceptual corridors and evaluation criteria.

Below is a summary of the question and answer session held following the presentation:

Question and Answer Session Summary

Question (Q). Would the new road have more access points to the City?

Answer (A). We have not looked at access points yet.

Q. Would semi trucks go on the alternate route?

A. We have not looked into regulating semi trucks, but that is the idea.

Q. Does this affect deliveries?

A. No, it would not affect deliveries.

Q. Would Fremont Street be managed by ADOT or the City?

A. Fremont Street would be turned over to the City, but before turning it over, ADOT would do certain improvements. Timing would depend on when construction occurs.

Q. Would the City have control over parking?

A. Yes, the City would have complete control.

Q. When looking into alternatives, do you take into consideration cost?

A. At this level, the preferred corridor will have a basic planning level cost.

Q. Has this been done in any other small town?

A. Yes and let's examine the good and the bad examples. Willcox and Benson are bad examples. Bisbee and Sierra Vista are good examples. The outcome can depend on how the City handles the change. That's why discussions need to be deliberate and timing and location are important.

Comment (C). With the mine opening in Bisbee, the City of Tombstone will have hazardous waste going through town. The alternate route could be the hazardous waste route. Tourists will still come through, but hazardous waste will be removed.

A. There has been an increase in oversize loads through town. State law says they have to take a certain route. But they do have to follow signs.

Q. Then couldn't the federal government help pay?

A. This is a designated route for hazardous waste. Generally state routes have to carry everything, the good and the bad. Need to look at what is going on around Tombstone.

Q. The 3rd Street and 6th Street historic program is supposed to start. Does this study affect the program?

A. Study team is looking at, and working with, historic preservation. The program has been delayed, but not because of the study. Also, what is being talked about tonight is a slow and long process.

C. Historic and transportation enhancements are running in tandem.

Q. If we don't find an alternate route, what happens to the enhancement project?

A. It would eventually be gone because SR 80 will need four lanes in the future.

Q. Shouldn't the preferred route not go through people's homes?

A. The preference is to not take homes, but all criteria need to be evaluated. Also, the conceptual corridors as shown now are an exaggerated width.

Q. Will the alternate route be four or eight lanes?

A. Have not looked at that yet.

C. It just doesn't make sense to impact people's houses if you don't have to.

Q. Is SR 80 going to four lanes?

A. It could in places. Also wider shoulders would be needed for safety. It is premature to decide how many lanes the alternate corridor would have.

Q. Is economic input part of this study? There are many cars that go through town. It is very important to look at the economic impact of these cars.

A. Agreed. It is important to look at economic impacts with transportation.

Q. What happens to the current business? This alternate route would probably hurt them. This needs an economic impact study.

A. The study team understands the current businesses are important.

C. The people completing the studies don't know Tombstone. I don't trust people who don't have an investment here.

C. I do like the idea of hazardous waste being diverted, but don't want businesses destroyed. Also, Tombstone doesn't have the capacity or the money for more people. Maybe we just need to change the laws ADOT has to

follow to improve the situation. I don't care if this doesn't affect me now. The decision will affect future generations. Would like a City Council meeting with the entire town present to help guide ADOT.

A. The City applied for this grant and asked for the study to be completed.

Q. Is the corridor 100-feet wide?

A. The corridor width has not been decided but the width would include rights-of-way.

Q. Two of the potential corridors go through our land. Would ADOT give me money? Would the land be taken by eminent domain?

A. It would be purchased at market value and appraised by a non-ADOT appraiser. If it happened, ADOT would talk to the property owners and make an offer.

Q. Are you going to take into account deer crossings?

A. Yes, wildlife corridors would be looked at.

Q. Do you have projects for other areas or just the City of Tombstone?

A. All state routes have issues and ADOT is trying to take care of them all.

Q. Would the increased traffic affect other areas or just Tombstone?

A. All areas need to prepare for increased traffic.

A. So why not wait until we need the four lanes?

A. Because it takes on average 20 years to build or even widen a road. We need to plan now.

Q. When does ownership of land get transferred?

A. ADOT cannot buy anything until many studies have been completed.

Q. Some alternates do not connect to city streets. Who connects the alternate route to the streets and who pays for the connection?

A. Typically a developer would pay, though sometimes the federal government pays.

Q. Is the purpose to move the heavy traffic or all the traffic?

A. The purpose of the proposed alternates is to move the heavy traffic.

Q. Can't you just have another route for hazardous materials?

A. If it's a state route, anyone can drive on it. The benefit of moving SR 80 is to get the trucks away from the historic district.

C. I have seen other towns go under with rerouting.

C. Why can't we lobby a change to have hazardous materials travel away from Tombstone and keep SR 80? Let's change the law.

C. ADOT has made things a challenge. For example, they wouldn't put in a sign for Tombstone.

A. After the meeting, could you tell me [ADOT] where the signs are needed?

C. Do not want to make an error with this study. People's livelihoods depend on it. ADOT needs to work with the people who live here.

C. I live in Sierra Vista and ride my bike through Tombstone frequently. I see a need to slow down traffic on Fremont Street. I see this as a good idea and will continue to come to Tombstone.

C. Need more signs to tell you how to get to Tombstone. The town needs as many cars through here as it can get. People, who are going to other towns, stop by Tombstone. There is a need to get heavy trucks out of Tombstone. I propose a truck route around Tombstone that only takes trucks.

A. This is not possible to enforce and to keep cars off the truck route.

C. But signs will help keeps cars going through Tombstone.

A. People seem concerned about heavy trucks going through town. [Directs question at the audience.] Is there a route that could make this happen?

Q. Couldn't we have a separate highway and not move SR 80?

A. Maybe, but what is being talked about is complicated. ADOT will work with the community to do what makes sense and could help. But before we get into details, we need an alternate route.

Q. If larger trucks were diverted, would the SR 80 speed be 55 mph because some alternates go by homes and schools.

A. When looking at the potential alternate routes, you need to ask yourself what you want to gain by an alternate route. Then you could design a land use plan and start thinking about access routes.

C. That should be done before the route is chosen. It's difficult to pick a route if you don't know what it will be used for.

A. The study team is looking at regional traffic and cars that are going through Tombstone.

C. This should go on the ballot. The people of the town should vote.

Q. Some highways have business routes. Does the government pay for that?

A. During the construction of the interstate system, the old highway that went through town became a Business Interstate Route. This was to allow the interstate to be constructed to a higher standard of controlled access without hurting the entire community. However, now when a highway is realigned the old segment is turned over to the local agency. This is what is being proposed for SR 80 in Tombstone.

Q. Has there been a study on the effect of trucks on historic buildings?

A. There are examples worldwide that show damage, but no specific study has been completed. Right now, we are going off of other examples.

C. It would be a good idea to have a study like that done.

A. That is a good idea. Also, project funding takes a long time. Usually when it becomes apparent there is a problem, funding could still take many years. The hardest part of a five-year plan is the 15 years before it.

C. Charleston is a heavily traveled road and is treacherous. Is it a good idea to have SR 80 go through that?

A. I do not know right now, but it would be looked at.

Q. What are the mining issues?

A. We are not sure where some of the mines are. There are many mining claims and acquisition can be difficult.

C. Arizona is a mining state. Nobody can tell them what to do.

C. How come more people are not here to comment? We need community meetings.

A. Contact ADOT and we can arrange community meetings.

C. At first glance, the far out alternates could accomplish getting the large trucks out.

C. Not sure the City has a plan except for a few block areas.

Written Comments

Meeting participants were encouraged to fill out a comment form and submit it to the study team by November 17, 2011. The comment form asked for feedback on the potential conceptual alternate route corridors and asked three additional questions concerning the alternate route corridors, issues associated with an alternate route, and evaluation criteria.

Comments could be submitted in a variety of ways, including in writing, by telephone, e-mail, fax, and at the public meeting. Eleven comment forms, two e-mails, and two letters were received. The following tables summarize the feedback received.

Please review the Conceptual Alternate Route Corridors map and use the table to indicate which corridors you like, dislike, or consider neutral.

Preference	Alternate route corridor						Totals	
	No Build	N1	N2	N3	S1	S2		S3
Like	3	1	3	1	0	3	1	12
Dislike	2	7	4	6	8	4	5	36
Neutral	0	0	2	1	0	1	2	6

Please provide your comments regarding the conceptual alternate route corridors.

Issue	Comment Summary
Support an alternate route corridor	<ul style="list-style-type: none"> Rerouting truck traffic is desirable due to pedestrians and historic buildings.
	<ul style="list-style-type: none"> A truck route around Tombstone would be an improvement to preserving the historic buildings.
	<ul style="list-style-type: none"> Support N1 and feel it is the best for all hands.
	<ul style="list-style-type: none"> Cochise Bicycle Advocates fully supports a bypass around the city. Bypass would remove large trucks and through-traffic from the historic Fremont Street.
	<ul style="list-style-type: none"> Bypass is supported because increasing traffic volumes, hazardous waste loads, and heavy and wide loads will only succeed in damaging historic buildings, increasing noise levels, and providing diesel smoke pollution.
	<ul style="list-style-type: none"> Tombstone has global name recognition and tourists will come to town no matter what corridor is selected.
Preferred alternative route	<ul style="list-style-type: none"> Believes N2 is the only route that will work in the short and long run.
	<ul style="list-style-type: none"> S3 has some possibilities; however, S2 would seem to be the "best" of the six routes.
	<ul style="list-style-type: none"> S2 route would avoid the historic areas and residences best. The S2 route would be a couple miles further and not necessarily encourage tourists to go around and bypass Tombstone.
	<ul style="list-style-type: none"> Recommends using N2 corridor because this is where the population for the city is currently located or is planned to be.
	<ul style="list-style-type: none"> N2 or S2 would truly fix the problem of regional and commercial traffic effecting the historic district (seismological and noise.)

Issue	Comment Summary
	<ul style="list-style-type: none"> • S2 is the only proposed corridor that makes sense because it: <ul style="list-style-type: none"> ○ Impacts the least number of people and properties, ○ Provides a vista view of the city, ○ Avoids the floodplain surrounding Walnut Gulch, ○ Isolates the historic center from vibration, ○ Avoids school districts and the cemetery areas, and ○ Allows expansion to a 4-lane freeway.
<p>Do not support one or all of the alternate route corridors</p>	<ul style="list-style-type: none"> • S2 and S3 are the least disruptive overall but the mining issue may be insurmountable. • N2 and N3 seem best for fixing the problem while causing minimal disruption and without disrupting the historic district. <ul style="list-style-type: none"> • N1 and S1 are absolute "non-starters" and make zero sense. • N2 and N3 will not work as any off-ramp traffic would be funneled through residential areas. <ul style="list-style-type: none"> • N1 or S1 would not be a true long-term fix for noise or vibrations because they are too close in. <ul style="list-style-type: none"> • Business relies on tourists and drive-by traffic. • Feels an alternate route will divert traffic and force businesses to close down. <ul style="list-style-type: none"> • Believes that tax dollars can be spent on more important projects. • Leave SR 80 where it is. • Feels an alternate route is not a good choice for the city and its residents. • Slowing the traffic through Tombstone on Route 80 by enforcing the speed limit is the best solution. • Projected, increased traffic should not be located close to town (N1 and S1). • N1 and S1 would maximize disruption to current and future residents in an already limited area. • Can see no justification using N1 or S1 over other corridors. • N1 traffic would negatively impact the high school.
<p>Personal property concerns</p>	<ul style="list-style-type: none"> • Live on Skyline and do not want the alternate route anywhere near their property. • Not near our property! • Own property in the Boothill subdivision and the N1 route would be a disaster view- and noise-wise.
<p>General</p>	<ul style="list-style-type: none"> • Questioned if an alternate route would be constructed around St. David.

Are there any issues that have not been identified that would affect the selection of an alternate route corridor?

Issue	Comment Summary
Purpose	<ul style="list-style-type: none"> • The goal is to either reroute traffic or reroute traffic at high speed. • If high speed is the goal, the alternate route needs to be outside residential/school areas.
Access	<ul style="list-style-type: none"> • It is important that visitors can find an easy access to the historic town.
Hazardous cargo	<ul style="list-style-type: none"> • Hazardous cargo route with 12-20 acid tankers going through town daily. <ul style="list-style-type: none"> ○ A high capacity corridor seems to be the only likely alternate route.
Traffic volumes	<ul style="list-style-type: none"> • Volume of traffic on intersected roads • Traffic on roads crossed.
Safety	<ul style="list-style-type: none"> • Safety factors such as Highway 80 crossing Charleston.
Neighborhood considerations	<ul style="list-style-type: none"> • Potential alternate routes are through neighborhoods, schools, and historic mining areas, all of which we wish to protect from highways. • Feels their home, the quietness of the residential area, and the wildlife would be negatively impacted by an alternate route.
Multimodal	<ul style="list-style-type: none"> • Bicycling community regularly cycles to Tombstone.
Rural character	<ul style="list-style-type: none"> • Tourists come specifically to experience the "Old West" ambiance, of which lack of traffic noise is an essential part. • Traffic needs to move as far away as possible, especially as traffic increases.
General	<ul style="list-style-type: none"> • City needs a long-range land use plan that will determine the alternate route.

What do you consider to be the most important criteria in evaluating the conceptual alternate route corridors?

Issue	Comment Summary
Safety	<ul style="list-style-type: none"> • Safety for the citizens of Tombstone. • Safety of roads built over mines
Mining activity	<ul style="list-style-type: none"> • Vibrations on the shaky infrastructure under Tombstone proper.
Neighborhood considerations	<ul style="list-style-type: none"> • Impact on residential areas. • Impact a highway has on property values. • Minimizing impact on residential areas.
Rural character	<ul style="list-style-type: none"> • Livability and rural atmosphere of Tombstone should be paramount.

Issue	Comment Summary
	<ul style="list-style-type: none"> • Retaining the ambiance and quiet that brought people to live in Tombstone.
Access	<ul style="list-style-type: none"> • Access to historic district.
	<ul style="list-style-type: none"> • Businesses in town.
Natural/cultural resources	<ul style="list-style-type: none"> • Criteria should include impacts to natural and cultural resources.
Noise	<ul style="list-style-type: none"> • Noise levels to/affecting existing homes.
Aesthetics	<ul style="list-style-type: none"> • Concerned about destroyed views.
Community Input	<ul style="list-style-type: none"> • Citizen's opinions.
Need	<ul style="list-style-type: none"> • Do we really want or need it?

Appendix: Publicity and Meeting Materials

STATE ROUTE 80

ALTERNATE ROUTE STUDY

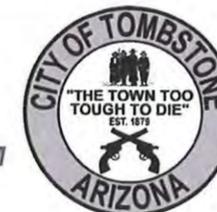
Schieffelin Hall | 4th and Fremont Street | Tombstone, AZ 85638

PUBLIC SIGN-IN SHEET

Please print

Name	Organization	Address, City, ZIP Code	E-mail
1. Tom Engel	ADOT	2082 E HWY 70, SAFFORD, AZ	tengel@azdot.gov
2. Steve Goldstein	Longhorn Restaurant,	501 Allen St Tombstone AZ	
3. JAY RODRIGUEZ	The Golden Bone	916 E Fremont Tombstone AZ 85638	ajgold@power.com
4. Marcia Radke	BLM	1763 Paseo San Luis Sierra Vista AZ 85635	mradke@blm.gov
5. Harry + Jenny Young		1026 S. Skyline Cir. Tombstone, AZ 85638	
6. Bill Barlow		210 Toughnut St " " "	
7. Sam Miller	AZ DPS	690 N. Adams Benson, AZ 85602	SM
8. Virginia Hidalgo		P.O. box 1399 Tombstone AZ	
9. Lee Latmore	Citizen	1107 E. Allen Tombstone AZ	
10. Elizabeth Dilje	citizen	206 N. 2nd St Tombstone, AZ	
11. Kelley Hall	El Paso Natural Gas	P.O. Box 2106 Tombstone AZ	Kelley.hall@elpaso.com
12. [Signature]		P.O. Box 266 Tombstone AZ	
13. [Signature]	Cochise County	1415 W. Muddy Lane Bisbee AZ	k.lambert@cochise.az.gov
14. BURTON WEBSTER	O.K. CORRAL	326 E. ALLEN STREET Tombstone, AZ. 85638	burtwebster@aol.com
15. MIKE GRADY	MARIE'S B+B	101 N 4TH STREET TOMBSTONE AZ 85638	

Completion of this sign-in sheet is voluntary and helps the study team keep an accurate record of meeting attendance. Under state law, any identifying information provided above will become part of the public record and, as such, must be released to any individual upon request.



STATE ROUTE 80

ALTERNATE ROUTE STUDY

Schieffelin Hall | 4th and Fremont Street | Tombstone, AZ 85638

PUBLIC SIGN-IN SHEET

Please print

Name	Organization	Address, City, ZIP Code	E-mail
1. Jack Juller	Ranchman	P.O. Box 1205 Tombstone, Az	
2. Penny Lescard		P.O. Box 1787 "	
3. Victor Lescard		PO Box 1787 "	
4. CHARIS & PAUL RIVIE TOWNSEND	RRESI	POB 1219 " "	85638
5. CRAIG OLDFATHER		139 N. Camino San Rafael Tausdace	85638
6. Art Rodriguez		PO Box 94 TOMBSTONE	85638 ar56oldnb@power
7. Dan & Penny Germain	self	422 N. Via Loma Linda Dr. Tombstone	85638 danielgermain - <small>@msn.com</small>
8. KIMBERLY HERRIG	CRYSTAL PALACE SALOON	2496 COLT Rd TOMBSTONE	CPSALOON@AOL.COM
9. Russel Jennings	Planning & Zoning	P.O. Box 99, Tombstone, Az 85638	russjenn@msn.com
10. BONITA DARLINGTON	Troctier Floral & Framing	PO Box 884 Tombstone AZ 85638	
11. Ann English	Cochise County		aenglish@cochise.az.gov
12. Meeks BOOKER		Box 1522 TOMBSTONE AZ 85638	meeks@congray.com
13. HANA HANES		P.O. Box 841 TOMBSTONE, AZ 85638	hhanes@theriver.com
14. HOWARD D. LARSEN		P.O. Box 103 Tombstone AZ 85638	
15. Penny Morris		2090 E. GLEESON Rd TOMBSTONE AZ 85638	Penny L-M@powerC.net

STATE ROUTE 80

ALTERNATE ROUTE STUDY

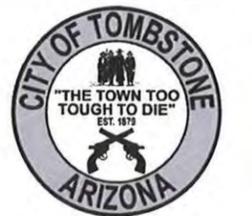
Schieffelin Hall | 4th and Fremont Street | Tombstone, AZ 85638

PUBLIC SIGN-IN SHEET

Please print

Name	Organization	Address, City, ZIP Code	E-mail
1. Sheri Hartmann	Cold Iron Gym & Homeowner	707 E ALLEN ST	COLDIRONGYM@AOL.COM
2. Dawn Elaridge	"	" "	" " "
3. Thomas Armstrong	Cochise Bicycle Advocates	2411 Cherry Hills Dr.	CochiseBicycleAdvocates@gmail.com
4.			
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15.			

Completion of this sign-in sheet is voluntary and helps the study team keep an accurate record of meeting attendance. Under state law, any identifying information provided above will become part of the public record and, as such, must be released to any individual upon request.



WANTED

Your Input on the City of Tombstone STATE ROUTE 80 ALTERNATE ROUTE STUDY

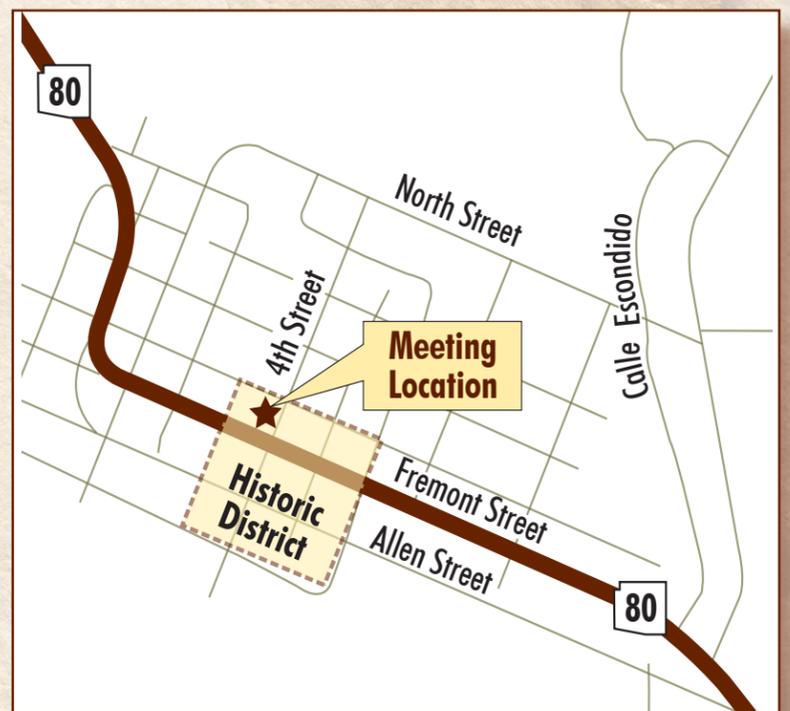
The **City of Tombstone** and the **Arizona Department of Transportation** are working together on a study that will identify a solution to direct commercial truck traffic away from the city's historic district. The purpose of this study is to identify an alternate route corridor for SR 80 that would provide a connection for regional traffic while maintaining access to the City of Tombstone and its historic district. The intent of the realignment would be to preserve the city's historic buildings and cultural heritage, encourage economic development and improve regional connectivity.

Please attend the public meeting where you can:

- Learn about the study process and schedule
- Review information on existing and future conditions
- Review potential alternate route corridors
- Ask questions and provide comments

Your input will assist the study team in identifying a preferred corridor alternative.

The public is invited to attend a presentation at 5:15 p.m. and view study maps and additional information. The study team will also be available before and after the presentation to answer any questions.



PLEASE JOIN US - PUBLIC MEETING

Thursday, November 3, 2011

5:00 to 7:00 p.m. | Presentation at 5:15 p.m.

Schieffelin Hall | 4th and Fremont Street | Tombstone, AZ 85638

For more information, please contact:

C.T. Revere

Senior Community Relations Officer, ADOT

crevere@azdot.gov

520.705.3574

You can find more information about the study at: www.azdot.gov/tombstone



ADOT

Persons with a disability may request accommodations, such as a sign language interpreter or alternative document formats, by calling 602.522.4314 or by faxing to 602.522.7707. Requests should be made as early as possible to allow time to arrange the accommodations.

WE WANT YOUR INPUT

City of Tombstone STATE ROUTE 80 ALTERNATE ROUTE STUDY

The **City of Tombstone** and the **Arizona Department of Transportation** are working together on a study that will identify a solution to direct commercial truck traffic away from the city's historic district. The purpose of this study is to identify an alternate route corridor for SR 80 that would provide a connection for regional traffic while maintaining access to the City of Tombstone and its historic district. The intent of the realignment would be to preserve the city's historic buildings and cultural heritage, encourage economic development and improve regional connectivity.

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For more information, please contact:

C.T. Revere
Senior Community Relations
Officer, ADOT
crevere@azdot.gov
520.705.3574

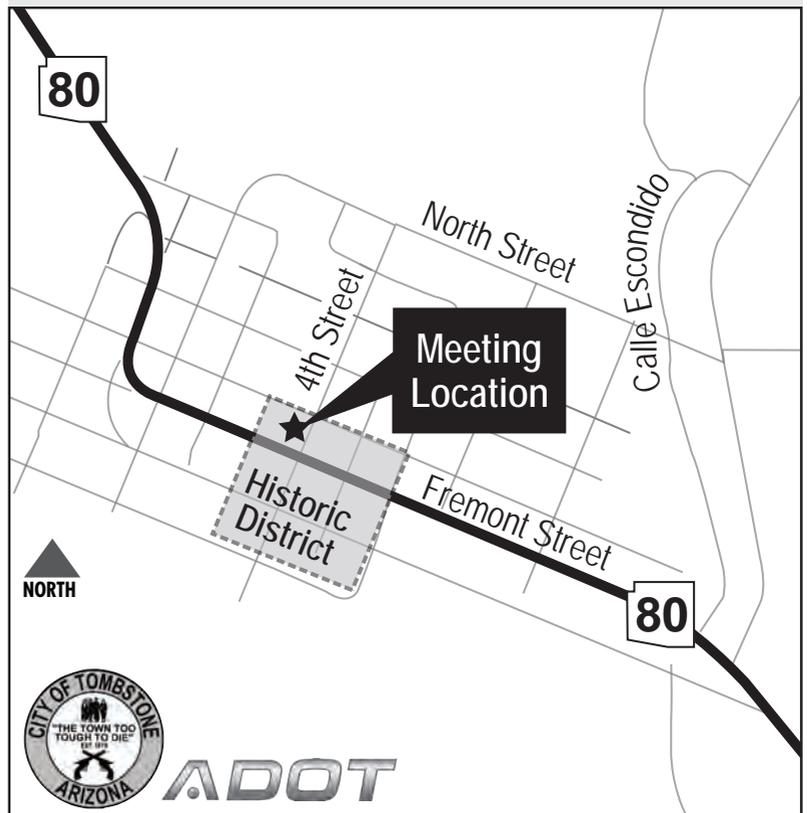
If you wish to comment on the study, please send your comments to SR80Study@azdot.gov or call 602.522.4314. Please provide comments by November 17, 2011. You can find more information about the study at: www.azdot.gov/tombstone.

Persons with a disability may request accommodations, such as a sign language interpreter or alternative document formats, by calling 602.522.4314 or by faxing to 602.522.7707. Requests should be made as early as possible to allow time to arrange the accommodations.

PLEASE JOIN US

Thursday, November 3, 2011
5:00 to 7:00 p.m. | Presentation at 5:15 p.m.
Schieffelin Hall
4th and Fremont Street | Tombstone, AZ 85638

PUBLIC MEETING





Public meeting seeks input on possible plan to move highway traffic away from Tombstone's Historic District

The Arizona Department of Transportation and the City of Tombstone invite the public to learn about a current study to potentially reroute regional highway traffic – including large commercial trucks – away from the city's historic district.

A public meeting will be held from 5-7 p.m. Thursday (Nov. 3) at Schieffelin Hall, located at Fremont Street and Fourth Street in Tombstone.

The study team is exploring options for the possible realignment of State Route 80, known locally as Fremont Street, which passes through the city's historic district. The study has identified several potential alternative corridors that will divert highway traffic away from Fremont Street, which features numerous historically significant buildings that date to Tombstone's legendary time as a mining boomtown in the 1880s.

Any realignment of SR 80 as a result of this study would likely occur up to 20 years from now.

If the decision is made to reroute SR 80, Fremont Street could become a local street that would safeguard the historic buildings and allow for more pedestrian-oriented activities that are common throughout the rest of the historic district.

The objective of this study is to evaluate several alternative corridors in which a new highway alignment could be constructed to take SR 80 traffic away from Fremont Street while maintaining convenient access to Tombstone, accommodating future traffic growth and improving regional traffic flow. Members of the public can provide the study team with input about which potential routes would be preferred – or if SR 80 should remain as it is today.

A presentation will be made to explain the study process and schedule, provide information on current and future conditions in the study area and review the potential route corridors that are under consideration.

For more information about this study, visit www.azdot.gov/tombstone.

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STATE ROUTE 80

ALTERNATE ROUTE STUDY

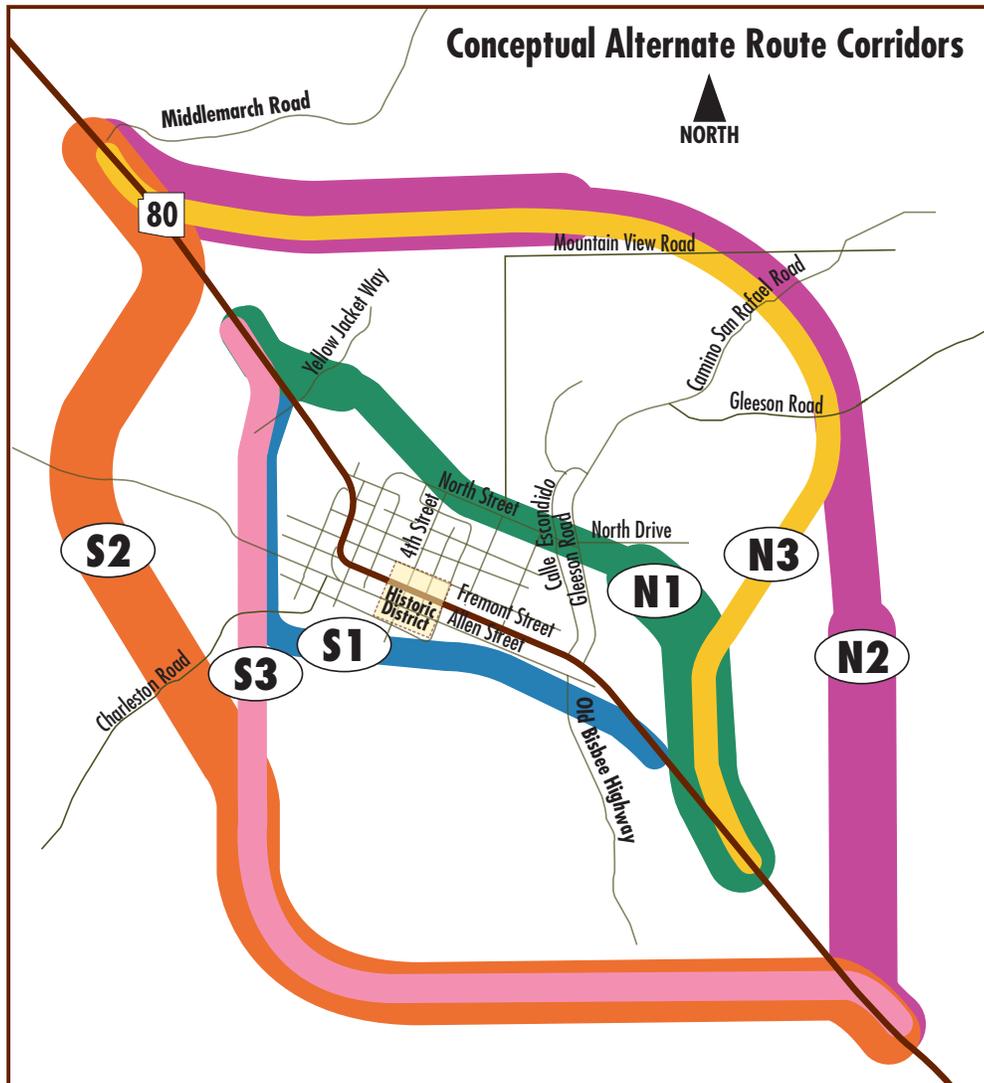
PUBLIC MEETING COMMENT FORM

Thursday, November 3, 2011 • 5 to 7 p.m. | Schieffelin Hall • 4th and Fremont Street • Tombstone, AZ 85638

Thank you for attending tonight's meeting to learn about the City of Tombstone State Route 80 Alternate Route Study. Your input will help identify study area issues that impact the identification and possible selection of a preferred alternate route corridor. Please review the Conceptual Alternate Route Corridors map and use the table to indicate which corridors you like, dislike or consider neutral. Use the back of this comment form to provide additional information regarding the conceptual alternate route corridors. **Please submit your comments by November 17, 2011.**

Preference	Alternate corridors*						
	No Build	N1	N2	N3	S1	S2	S3
Like							
Dislike							
Neutral							

* Alternate corridor numbers do not indicate priority.



STATE ROUTE 80

ALTERNATE ROUTE STUDY

Please provide your comments regarding the conceptual alternate route corridors.

Are there any issues that have not been identified that would affect the selection of an alternate route corridor?

What do you consider to be the most important criteria in evaluating the conceptual alternate route corridors?

Name: _____

Phone: _____

Address: _____

E-mail: _____

Please submit your comments by November 17, 2011.

You can submit your comments to:

MAIL: **ADOT c/o State Route 80 Study**
3200 E. Camelback Road, Suite 350
Phoenix, AZ 85018

E-MAIL: SR80Study@azdot.gov
PHONE: 602.522.4314



APPENDIX B

PUBLIC INVOLVEMENT SUMMARY REPORT NO. 2



Arizona Department of Transportation and the City of Tombstone
State Route 80 Alternate Route Study
Public Information Meeting 2: Summary



Meeting Date: Wednesday, March 21, 2012 (5-7 p.m.)
Meeting Location: Schieffelin Hall, 4th and Fremont Street
Participants: 43 community members signed-in

Project Overview

The City of Tombstone and the Arizona Department of Transportation (ADOT) are working together on the State Route (SR) 80 Alternate Route Study. The purpose of the study is to identify an alternate route corridor that would provide a connection for regional traffic while maintaining access to the City of Tombstone and its historic district. The intent of a potential realignment would be to preserve the city's historic buildings and cultural heritage, encourage economic development, and improve regional connectivity.

The second of two public information meetings was held on Wednesday, March 21, 2012, at Schieffelin Hall. Study team members provided an update on the study and discussed the alternative corridors recommended for further study.

Public Meeting Notification

The following methods were implemented prior to the information meeting by ADOT to notify the Tombstone community of the public information meeting:

- Provided 25 notification posters to the City of Tombstone on March 8, 2012, to display at community gathering places.
- Posted meeting information on the study web site (www.azdot.gov/tombstone).
- Printed display advertising in one regional newspaper and two local newspapers:
 - Sierra Vista Harold – March 8, 2012
 - Tombstone Gazette – March 13, 2012
 - Tombstone News – March 16, 2012
- Distributed meeting notifications to stakeholders via e-mail on March 13, 2012.
- Distributed information to the media on March 13, 2012.
- Announced meeting during the March 13, 2012, City of Tombstone City Council meeting.

Public Meeting Overview

C.T. Revere, Senior Community Relations Officer with ADOT Communication and Community Partnerships (CCP), began the meeting by welcoming meeting participants, recognizing the elected officials in attendance, and introducing the study team. C.T. explained the format of the meeting and the methods to provide comments. He handed the meeting over to Roger Miles, URS Project Manager, who reviewed the project purpose and need; discussed what was heard at the November public meeting; reviewed the additional alternate route corridor that is being considered; discussed the evaluation criteria; and presented the alternative corridors being recommended for further study. The following is a summary of the question-and-answer session that occurred following the presentation.

Question-and-answer Session Summary

Question (Q). How many off-ramps would the alternate route have?

Answer (A). The alternate route could have five off-ramps.

Q. Would there be stop lights?

A. No, there would not be stop lights.

Q. Do you know how many families would be displaced?

A. ADOT does not know the impact to homes at this time.

Q. Why is Highway 80 being widened here? Why not in Bisbee too? Is it even possible to widen through Bisbee?

A. ADOT looks at projects incrementally. It is possible to widen the highway through Bisbee, but it would be very expensive.

Q. Benson is a historic district as well, with a highway through it.

A. When the time comes to widen a highway or create a new one, people usually know it and say, "it's time." ADOT will not sneak this road in. The possibility of the road being built is a long way out, but there needs to be a study completed for when people say, "it's time."

Q. One alternate corridor is on private land and one is on Bureau of Land Management (BLM) land. Does the City buy or take the land to build the corridor?

A. ADOT would purchase the land.

Q. Did I hear correctly, did the citizens ask for this study?

A. The City Council asked for ADOT to look at the feasibility of an alternate route because of safety concerns.

Q. You are concerned about traffic but yet you cannot put in a stop light? You took away the pedestrian bridge. Something smells fishy.

A. The pedestrian bridge was not being used. ADOT discussed this with the City and school before removing it. It was also difficult for large trucks to get through. There are no intersections in Tombstone currently that warrant a stop light. When the time comes, the town will get one.

Comment (C). I am in complete opposition to all proposals. Tombstone is a small community that is far from other towns. The current highway serves the town just fine. It was 4-lanes, then it went to 2-lanes, and we still don't have traffic problems. I am worried about businesses and residential property values. I'm concerned that the proposal will make it so people can't even see Tombstone. I would rather the Town took the money and paved the streets. A bypass hurt Wickenburg; who's to say it won't hurt Tombstone. Why should we risk it? This

decision is not reversible. We've had large trucks driving through for years and haven't seen the buildings deteriorate yet.

Q. Why was this study done? Was it because of ADOT or the City?

A. The deaths that occurred in October 2009 triggered the need for a safety study. Through the study, it was found there is a safety problem. One step that was taken to help the problem was removing on-street parking. Short-, mid-, and long-term goals were developed. ADOT told the City that if they wanted ADOT to investigate the feasibility of an alternate route, that ADOT wanted a resolution. The City passed a resolution for the study, but not for the bypass.

Q. After the deaths, didn't the City want a crosswalk and a stoplight?

A. Crosswalks are based on need and from past studies done, the street does not warrant a crosswalk because there are no specific points of direct access across the street. People walk anywhere they please.

Q. What will the sidewalk width be with the enhancements?

A. The sidewalk will extend out to where the on-street parking used to be.

C. Economic vitality is a huge concern. An example of what could happen to Tombstone is Deming, New Mexico. New businesses that developed along the new freeway took business from town. The town is dead now.

A. We hear you loud and clear. This is a big concern.

Q. Who decides if the alternate route happens? Do we vote on it?

A. If the time comes that it feels right to move forward with an alternate route, City Council would pass a resolution.

Q. What would be the character of the highway?

A. Two-lanes in each direction.

Q. Why study this now? If it's a long way out, this is a waste of taxpayer money.

A. This is the first of many steps. The next step is to develop a concept and pick a corridor and improve the existing highway. This could happen years from now. Only once the concept is developed and an environmental study is completed can ADOT campaign to be part of the 5-year plan. Tombstone would compete with many other cities. We have to study now for something that could happen far in the future because it takes so long to get there.

Q. How many signatures do we need to stop this study?

A. None, because right now improving the existing highway is an option.

C. The State Historic Preservation Office (SHPO) is an advocate of Tombstone and provides funding. In 1972, a study was done that recommended realigning SR 80. A charrette was done in 2005 that also included the recommendation of realigning SR 80 in order to keep the historic district in tact. We need to get the process started because it takes a long time.

Q. When ADOT did the survey for the crosswalk, it seems like a lot of money was spent. Why not simply spend the money on painting a crosswalk?

A. Everything ADOT does must follow State law. ADOT cannot simply paint a crosswalk if there is no need for one.

Q. Does this study take into account quality of life?

A. Yes, it takes into account many factors. Currently, the corridors shown are very wide because this is a feasibility study. ADOT will try its hardest to minimize any impacts to homes, businesses, and historic sites.

Q. How does something like this alternate route affect cities? You must have examples.

A. Some cities want it and some do not. Some it helps and others it hurts. It depends on how the City handles it.

C. Allen Street was originally SR 80. Then ADOT moved it to Fremont Street. Now ADOT wants to move it again? I think there is a credibility issue.

Q. Are you looking at a truck route?

A. Yes, this would be a truck route, but ADOT cannot legally have only a truck route. Anyone can drive on it.

Q. Will the highway having lighting?

A. Most highways don't have lights, only when close to town.

C. People think there is a barrier to protect them in a crosswalk. Crosswalks do not save lives. They give a false sense of security.

C. ADOT's mission is to keep traffic flowing, so I think you want to make your life easier. I believe there are ulterior motives.

A. The State highway system is primarily for regional traffic, but highways do go through towns. It's accessibility versus mobility. As areas change and build-up, it's not unusual to reroute a highway. All communities have different needs and we need to understand the needs before a decision is made.

Q. You can't just put in a sign that says, "no trucks?" I find that hard to believe with a historic district.

A. Correct, we cannot stop trucks from driving on a highway.

Q. Has an economic impact study been done? It's clearly what we are most concerned about.

A. An economic study has not been completed yet.

Q. Who is paying for this study?

A. ADOT is funding this study through the Planning Assistance for Rural Areas (PARA) program. The PARA program provides federal funds to non-metropolitan communities for the purpose of conducting transportation planning studies.

Q. If a bypass goes through private property, what if people say you cannot have my property? Are people forced to move?

A. It's the same answer even if a bypass doesn't happen and we have to widen the existing highway. There is a set of Federal laws that regular how right-of-way is acquired. The property is appraised and the property owner is contacted. The property owner can get a new appraisal or challenge the appraisal. ADOT can exercise eminent domain, but that rarely happens.

Q. Businesses are currently struggling. This seems like a bad idea and will hurt the businesses more.

A. That is why we are here. We want to understand the concerns.

C. I'm concerned about the community and property values.

Q. The bypass goes north, through State land?

A. Yes.

Q. Is State land purchasable?

A. Yes, and that process is managed by the State.

Q. Isn't that land outside City limits?

A. Yes.

C. So taxes would not go to the city? Existing businesses would be hurt and tax money would be lost. We need an economic study.

A. We understand your concern and that is why we are looking at different alternatives.

Q. Wouldn't we need to widen from Benson to Bisbee then? It's the same traffic.

A. Not necessarily, but we are looking at this all over the area.

Written Comments

Meeting participants were encouraged to fill out a comment form and submit it to the study team by March 30, 2012. Comments could be submitted in a variety of ways, including in writing, by telephone, e-mail, fax, and at the public meeting. 29 comment forms, 5 e-mails, and 2 letters were submitted. Tables 1 through 3 summarize the feedback received.

Ranking

Participants were asked to rank the three alternatives on a scale of 1–3, with 1 being the preferred choice and 3 being the least preferred. Table 1 shows the results of the ranking.

Table 1: Ranking of Alternatives

Alternative	Ranking		
	1st choice	2nd choice	3rd choice
Corridor N2	2	3	11
Corridor S4	4	7	8
No-build Alternative	23	1	2

The no-build alternative was the preferred choice by a considerable margin. Alternative Corridor S4 was the 2nd choice and Alternative Corridor N2 was the third choice. (Some participants marked no-build as the preferred choice and indicated that the two alternative routes were their third choice. This method of ranking is shown by the high number of points for both Corridor N2 and Corridor S4 under the “3rd choice” column.)

Comments

The comment form also asked for feedback on the three alternatives recommended for further study. Table 2 provides a summary of comments received by comment form, letter, and e-mail for each alternative.

Table 2: Comments on Alternatives Presented March 2012

Alternative	Issue	Comment Summary
Corridor N2	Favorable	<ul style="list-style-type: none"> Feels if a corridor is built, that it makes sense to use the north side of town because nearly all the land is owned by the State and therefore, no private land needs to be purchased. Also, N2 would cost less because it requires less drilling and filling of the mountains and mines.
		<ul style="list-style-type: none"> States if a bypass should occur, N2 is the only route that makes sense because it is mostly government land.
		<ul style="list-style-type: none"> States Corridor N2 is the second choice because it has the advantage of being on State land.

Table 2: Comments on Alternatives Presented March 2012

Alternative	Issue	Comment Summary
		<ul style="list-style-type: none"> Feels this is the most direct and fastest travel for thru traffic. Also keeps heavy truck traffic farther away from downtown.
	Future development	<ul style="list-style-type: none"> Questioned if bypass occurred on State land, if development would occur on the State land that would compete with Tombstone and take tax dollars away from Town.
	Residential properties	<ul style="list-style-type: none"> Believes this gives more residential connections, but previous comments seem to indicate that this is not seen as a positive feature. Does not support because this option runs very close to many residences.
Corridor S4	Favorable	<ul style="list-style-type: none"> Feels it is the best plan for preserving the city's heritage. Believes Tombstone is a destination and this route would provide a lovely view with easy access for tourists. Fremont Street could look like the historic district and the removal of large loads would stop the damage to existing structures.
		<ul style="list-style-type: none"> Supports Corridor S4 because people could see the town as they drive by and it could encourage them to stop in Tombstone.
		<ul style="list-style-type: none"> Supports Corridor S4 because it could divert heavy Charleston Road traffic from residential areas. Feels the area is currently a safety risk and the alternate route could reduce the risk.
		<ul style="list-style-type: none"> Supports Corridor S4 because of the view it would provide of the historic district. Feels that Fremont does not currently give the sense of anything interesting and people drive right past Tombstone. With a view of the historic district, they may stop more.
		<ul style="list-style-type: none"> Would pick Corridor S4, if a bypass had to occur, so that people could see the town from the highway. The traffic would also be directed away from residential areas, reducing noise and improving safety.
	Unfavorable	<ul style="list-style-type: none"> Encroaches on Landin Park. Concerned because many walk or ride their bike along Old Bisbee Highway and with Corridor S4, they would have to navigate the alternate route.
	Mining	<ul style="list-style-type: none"> States mines will be a challenge, but not insurmountable. Feels there is too much mine activity with this corridor.

Table 2: Comments on Alternatives Presented March 2012

Alternative	Issue	Comment Summary
No-build Alternative	Favorable	<ul style="list-style-type: none"> Prefers that SR 80 remains on Fremont Street, running through the community, just as it does in St. David and Benson.
		<ul style="list-style-type: none"> Does not see a need for an alternate route and does not believe they should be choosing a route now for something that may need to be done several years from now.
		<ul style="list-style-type: none"> Feels neither options are acceptable, and that Fremont should remain as it is now.
		<ul style="list-style-type: none"> Feels the road is not broke, so do not try to fix it.
		<ul style="list-style-type: none"> No bypass.
		<ul style="list-style-type: none"> Does not support the alternate route and feels SR 80 should be left alone.
		<ul style="list-style-type: none"> Not for bypass.
		<ul style="list-style-type: none"> Leave it alone.
	Historic preservation	<ul style="list-style-type: none"> Believes that there are preservation methods that could be used on the historic buildings to help protect them.
		<ul style="list-style-type: none"> Believes no-build is a viable option, but the Town would need to agree to shrink the historic district. Depending on future growth vision of the city, this might be a serious option.

Table 3 provides a summary of the comments received about the study in general. The main concern voiced was the affect an alternative corridor would have on Tombstone’s economy. Other comments questioned the need for an alternate route, suggested other solutions such as stop lights and crosswalks, and mentioned funding concerns.

Table 3: General Study Comments

Issue	Comment Summary
Economic concerns	<ul style="list-style-type: none"> Concerned the bypass would have a negative economic effect on the town.
	<ul style="list-style-type: none"> Does not feel the bypass is good for Tombstone. Feels it will cause the businesses to die, similar to I-40.
	<ul style="list-style-type: none"> States similar thing happened to Wickenburg and it destroyed the economy. Feels the same will happen to Tombstone. Does not support alternate route.
	<ul style="list-style-type: none"> Feels that putting in a bypass will kill Tombstone.
	<ul style="list-style-type: none"> Believes that rerouting SR 80 would be devastating to the economy because the businesses depend on the traffic to survive.
	<ul style="list-style-type: none"> States the bypass has more detractors than benefits. Compared to other "alternate routes", the construction of a bypass that directs traffic away from Town would be devastating.

Table 3: General Study Comments

Issue	Comment Summary
	<ul style="list-style-type: none"> • Prefers route to remain as-is. Worried that a bypass will turn Tombstone into a ghost town. • Concerned bypass will hurt the Tombstone economy. States that unlike other small towns, Tombstone only has tourism to help the economy. Other towns have the railroad, mining, or another major road running through or by them. • Believes the bypass would greatly hurt the economy. Businesses hurt when Allen Street was closed. I-40 hurt towns along Route 66. • Feels bypass will cause Tombstone to be like towns along Route 66. Believes people will bypass Tombstone instead of choosing to drive through it on their way to Bisbee or Tucson. The town will lose the people who do unplanned stops in Tombstone. • Requests an economic study be completed. • States that Tombstone's economy is based on tourism and feels that moving the highway will negatively impact the historic town.
Purpose and need	<ul style="list-style-type: none"> • Feels that even if traffic did double in 20 years, it would still be relatively light and manageable. • Questioned what an alternate route would really solve since it is only for a few miles. • Questioned why Tombstone was chosen for the study since the distance through town is short. Provided examples of other towns that do not have bypass. • Questioned why the Town could not get a street light and the foot bridge was dismantled and now this study is happening. • Does not believe there is enough traffic to warrant a bypass and to spend the money. • Believes that people in Phoenix makes decisions that will affect everyone in town. Feels the tragic accident was one unfortunate accident and should not be the reason to put in a bypass that will hurt the town. • Believes a bypass will be needed over time and that the study should continue.
Lower speed limit	<ul style="list-style-type: none"> • Suggest keeping the speed limit low and Fremont Street at two lanes and therefore, traffic will not destroy buildings. Does not support bypass because of cost and affect on residential neighborhoods.
Visual concerns	<ul style="list-style-type: none"> • Concerned about the alternate route being visually unsightly.
Safety	<ul style="list-style-type: none"> • States there is a need to divert motorcycle and truck traffic from residential areas, especially southwest Tombstone along Toughnut Street. Area has heavy pedestrian traffic, horse-drawn stagecoaches, and elderly residents. Stop sign and reduced speed have not solved the problem.

Table 3: General Study Comments

Issue	Comment Summary
	<ul style="list-style-type: none"> Does not support the bypass. States that safety for the tourists is vital to the town and that if traffic was slowed down and an intersection crossing marked, it would be a huge safety improvement.
Timing	<ul style="list-style-type: none"> Feels it is important to phase the desired options to keep the study moving forward in order to choose the best option.
Crosswalk/pedestrian bridge	<ul style="list-style-type: none"> Questioned why ADOT would not pay for a crosswalk but would spend money for a bypass.
	<ul style="list-style-type: none"> Believes the solution is a pedestrian crosswalk and stop light to slow traffic down. Request a pedestrian count is done when it is peak season.
	<ul style="list-style-type: none"> Questioned why a pedestrian overpass is not just built instead of a bypass. Feels the money should be spent on a pedestrian bridge.
Funding	<ul style="list-style-type: none"> States that a bypass would cost an incredible amount of money in taxes to build.
Miscellaneous	<ul style="list-style-type: none"> Requested traffic light at 4th street.
	<ul style="list-style-type: none"> States the connection at Middlemarch Road should be a developed full intersection, not off-set.
	<ul style="list-style-type: none"> Believes the County should consider a new connection for Gleason Road to connect to SR 80 without going through residential areas.

Appendix: Publicity and Meeting Materials

STATE ROUTE 80

ALTERNATE ROUTE STUDY

Wednesday, March 21, 2012 | 5 to 7 p.m. | Presentation at 5:15 p.m.

Schieffelin Hall | 4th and Fremont Street | Tombstone, AZ 85638

PUBLIC SIGN-IN SHEET

Please print

Name	Organization	Address, City, ZIP Code	E-mail
1. Mike Cuchsing		2519 E. Downing St	
2. DAN Penny		422 N Via Loma Linda	danielgermain@msn.com
3. JAMES P. ELLSBERRY	SELF BUSINESS OWNER	P.O. Box 726 Tombstone AZ. 85638	
4. Virginia Hidalgo		123 N. 7th St Tombstone 85638	
5. Dwight Blasey		123 N 7th St Tombstone 85638	
6. Kathy Villa		P.O. Box 925 Tombstone, AZ 85638	KDV_WJM@yahoo.com
7. Oscar Villa		PO Box 925 Tombstone AZ 85638	
8. STEVE PHILLIPS, Bonnie Phillips	SELF	405 E. SERENA TOMBSTONE AZ 85638	sphillips43@powerc.net
9. VIKKI TAYLOR (VICTORIA)		PO BOX 152 TOMBSTONE 85638	
10. SUE SINSLEY		PO Box 1247 Tombstone 85638	
11. MOE SINSLEY		" " " "	
12. CAREY GRANGER	TOMBSTONE CONS. MINES CO.	POB 1601 " "	grangercarye@noemail.com
13. KATHY PAONESSA	WIZARD'S WORKSHOP	P.O. Box 1122 Tombstone, AZ 85638	WIZARDMERLIN@AOL.COM
14. Jay Rodriguez	The Golden Bone	PO Box 94 Tombstone AZ 85638	ajgoldnb@powerc.net
15. Patricia Moreno		P.O. Box 1021 Tombstone AZ 85638	patriciamoreno@live.com

STATE ROUTE 80

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PUBLIC SIGN-IN SHEET

Please print

Name	Organization	Address, City, ZIP Code	E-mail
1. Cheyenne Forbee		P.O. Box 69 Tombstone, AZ 85638	
2. Samantha Nicholas	The Tombstone News	PO Box 1760 Tombstone, AZ 85638	
3. Bill BARLOW	CITIZEN	PO Box 1304 " " 85638	
4. Penny Germain	Citizen	422 N. Via Loma Linda Dr, Tombstone AZ 85638	danielgermain@msri.com
5. Howard O. Jensen	"	PO Box 103 Tombstone	
6. Adam Kew	" / BUSINESS OWNER	PO BOX 310 TOMBSTONE	
7. Sheri Hartmann	BUSINESS OWNER / HM OWNER	PO BOX 814 TOMBSTONE	
8. Dorothy Devere	Rose Tree Museum	P.O. Box 808 Tombstone	
9. Burton Devere	" " "	" " "	
10. Vic Roberson	HOLIDAY DRANK	2442 HOLIDAY DRIVE	
11. Verma L Turner		PO Box 1817 Tombstone, az 85638	
12. Annette Stewart	CITIZEN	P.O. 714 Tombstone	
13. Bryan Washburn			
14. Joetta Anderson	Citizen	P.O. 448 Tombstone	
15. Bonnie Bouette	Citizen	P.O. Box 664 Tombstone	

STATE ROUTE 80
ALTERNATE ROUTE STUDY

Schieffelin Hall | 4th and Fremont Street | Tombstone, AZ 85638

PUBLIC SIGN-IN SHEET

Please print

Name	Organization	Address, City, ZIP Code	E-mail
1. Annie Reddock	—	P.O. Box 823 Tombstone	
2. Carmen Mercer	OR-Cafe	Box 417 Tombstone	carmen_merc05@hotmail.com
3. Wm Hubert		128 7th Tombstone	
4. Penny Morris		2090 Gleason Tombstone	PennyM@powerc.net
5. Karen Lambert	Cochise County	Work —	klambert@cochiseaz.gov
6. John McDaniel	Tombstone	Po Box 623 118 Fitch Tombstone	
7. No			
8. Scott Davis	Carol Davis Tombstone Resources Tombstone Exploration Corp.	2558 E. Roadrunner Tombstone	scott@savageair.com
9. Janet Mucellino	Tombstone Mercantile, Inc.	PO 337 Tombstone	JANETSMER@AOL.COM
10. JR BOHS	Tombstone Mercantile, Inc.	PO 337 Tombstone	
11. Don Taylor	Bronco Trading	PoB 1147 Tombstone	oldwestresearch@msn.com
12.			
13.			
14.			
15.			

WANTED

Your Input on the City of Tombstone STATE ROUTE 80 ALTERNATE ROUTE STUDY

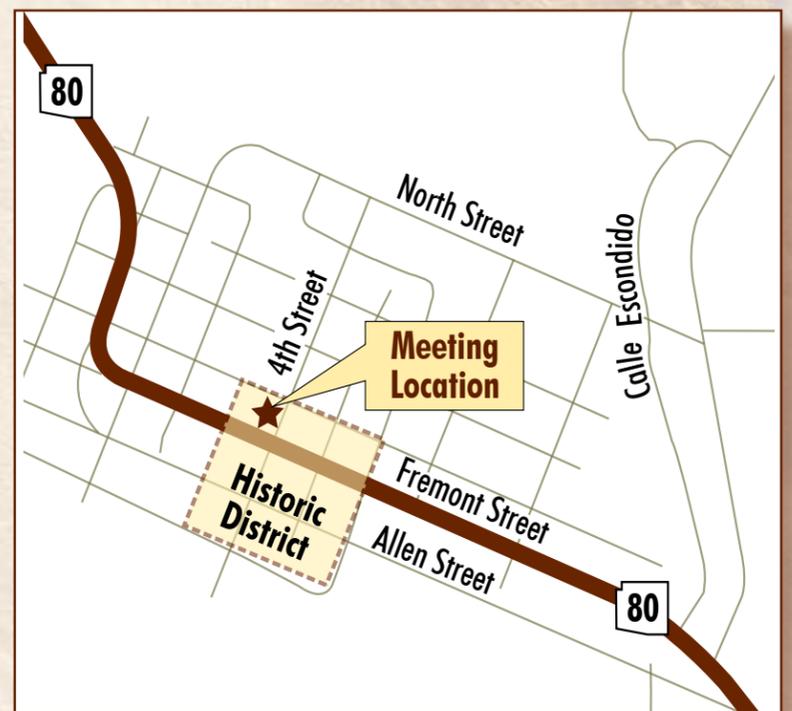
The **City of Tombstone** and the **Arizona Department of Transportation** are working together on a State Route 80 Alternate Route Study. The purpose of this study is to identify an alternate route corridor for SR 80 that would provide a connection for regional traffic while maintaining access to the City of Tombstone and its historic district. The intent of the realignment would be to preserve the city's historic buildings and cultural heritage, encourage economic development and improve regional connectivity.

Since the public meeting in November 2011, the study team has refined potential corridor alternatives based on technical data and input received from the public and stakeholders.

Please attend the public meeting where you can:

- Receive a study update
- View the refined corridor alternatives
- Ask questions and provide comments

A formal presentation will be given at 5:15 p.m. The study team will also be available before and after the presentation to answer any questions.



PLEASE JOIN US - PUBLIC MEETING

Wednesday March 21, 2012

5:00 to 7:00 p.m. | Presentation at 5:15 p.m.

Schieffelin Hall | 4th and Fremont Street | Tombstone, AZ 85638

For more information, please contact:

C.T. Revere

Senior Community Relations Officer, ADOT

crevere@azdot.gov

520.705.3574

You can find more information about the study at: www.azdot.gov/tombstone



ADOT

Persons with a disability may request accommodations, such as a sign language interpreter or alternative document formats, by calling 602.522.4314 or by faxing to 602.522.7707. Requests should be made as early as possible to allow time to arrange the accommodations.

WE WANT YOUR INPUT

City of Tombstone STATE ROUTE 80 ALTERNATE ROUTE STUDY

The City of Tombstone and the Arizona Department of Transportation are working together on a State Route 80 Alternate Route Study. The purpose of this study is to identify an alternate route corridor for SR 80 that would provide a connection for regional traffic while maintaining access to the City of Tombstone and its historic district. The intent of the realignment would be to preserve the city's historic buildings and cultural heritage, encourage economic development and improve regional connectivity.

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For more information, please contact:

- C.T. Revere
- Senior Community Relations Officer, ADOT
- crevere@azdot.gov
- 520.705.3574

If you wish to comment on the study, please send your comments to SR80Study@azdot.gov or call 602.522.4314. To ensure consideration by the study team, please provide comments by March 30, 2012. You can find more information about the study at www.azdot.gov/tombstone.

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PLEASE JOIN US

Wednesday, March 21, 2012
5:00 to 7:00 p.m. | Presentation at 5:15 p.m.
Schieffelin Hall
4th and Fremont Street | Tombstone, AZ 85638

PUBLIC MEETING





Public input sought on study of potential realignment of State Route 80 in Tombstone at March 21 meeting

The Arizona Department of Transportation will present the latest information on a study of a possible realignment of State Route 80 during a public meeting on Wednesday (March 21) in Tombstone.

The meeting will be held from 5 p.m. until 7 p.m. at Schieffelin Hall, located at Fremont and Fourth Street in Tombstone, with a presentation starting at 5:15 p.m.

The City of Tombstone requested the study to explore the feasibility of rerouting SR 80 away from the town's historic district, where the highway is locally referred to as Fremont Street, to enhance safety for vehicles and pedestrians and to preserve historic structures located along Fremont Street.

The study is being funded by the federal Planning Assistance for Rural Areas (PARA) program.

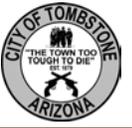
The ADOT study team presented several alternative corridors to the public in November 2011 and will discuss the remaining alternatives that are being studied further. Following the presentation, the public will have an opportunity to make comments and ask questions of study team members.

Comments from the public will be included in the official study report, which will be presented to the Tombstone City Council when complete.

For more information about this meeting, contact C.T. Revere, Senior Community Relations Officer for the Arizona Department of Transportation's Safford District, at 520-705-3574 or at crevere@azdot.gov



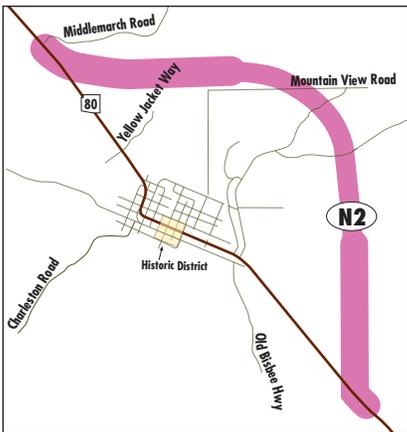
STATE ROUTE 80 ALTERNATE ROUTE STUDY



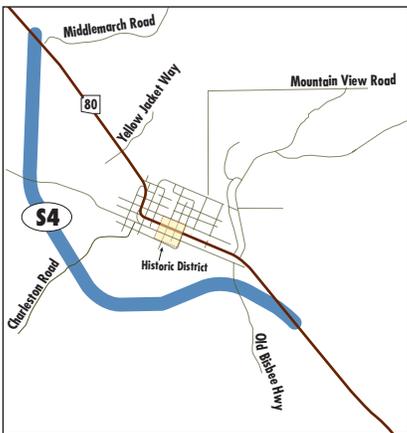
PUBLIC MEETING COMMENT FORM

Wednesday, March 21, 2012 • 5 to 7 p.m. | Schieffelin Hall • 4th and Fremont Street • Tombstone, AZ

Thank you for your interest in the City of Tombstone State Route 80 Alternate Route Study. Please provide your comments regarding the corridors identified for further study and rank the corridors on a scale of 1–3, with 1 being your preferred choice and 3 being your least preferred. To ensure consideration by the study team, comments should be submitted by March 30, 2012.



Corridor N2



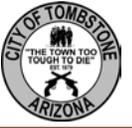
Corridor S4

No-Build Alternative

Ranking
(1–3)



STATE ROUTE 80
ALTERNATE ROUTE STUDY



PUBLIC MEETING COMMENT FORM

Wednesday, March 21, 2012 • 5 to 7 p.m. | Schieffelin Hall • 4th and Fremont Street • Tombstone, AZ

Please provide any additional comments you may have regarding the study.

Multiple horizontal lines for writing comments.

Name: _____ Phone: _____

Organization: _____

Address: _____

E-mail: _____

To ensure consideration by the study team, comments should be submitted by March 30, 2012.

You can submit your comments to:

MAIL: ADOT c/o State Route 80 Study
3200 E. Camelback Rd., Suite 350
Phoenix, AZ 85018

E-MAIL: sr80study@azdot.gov
PHONE: 602.522.4314
FAX: 602.522.7707