Environmental Assessment

FHWA-NV-EA 13.02

USA Parkway Project

Lyon County and Storey County, NV

FHWA Project: SPSR-0439(001)

NDOT Project: 73708

September 2014

USA Parkway
SR 439

FHWA

NEVADA DOT

ENVIRONMENTAL ASSESSMENT

FHWA-NV-EA 13.02
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U.S. Department of Transportation,
Federal Highway Administration, Nevada Division
and the
Nevada Department of Transportation
in cooperation with the
Bureau of Land Management, Carson City District Office

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This Environmental Assessment (EA) has been prepared in accordance with the provisions and requirements of Chapter 1, Title 23 Code of Federal Regulations (CFR) Part 771, relating to implementation of the National Environmental Policy Act (NEPA) of 1969. The Bureau of Land Management (BLM) is a cooperating agency.

ABSTRACT

The Nevada Department of Transportation (NDOT), in cooperation with the Federal Highway Administration (FHWA) and BLM, has prepared this EA, which examines the potential environmental impacts of the alternatives being considered for the proposed USA Parkway project located in Storey and Lyon counties, Nevada. The document describes why the project is being proposed, alternatives considered (including the No-Action Alternative), the existing environment that could be affected by the project, potential impacts from the No-Action Alternative and Build Alternative, and proposed mitigation measures.

The proposed project would occur between Interstate 80 (I-80) and U.S. Highway Route 50 (US 50) and would include minor improvements to 6 miles of USA Parkway already built south of I-80 and construction of 12.5 miles of new road ultimately connecting to US 50 at Opal Avenue in Silver Springs, Nevada. The project is being proposed to enhance local and regional access and mobility between I-80 and US 50, as well as provide transportation infrastructure to support existing and future planned land uses and economic development in Storey and Lyon counties.

ACRONYMS AND ABBREVIATIONS

AASHTO	American Association of State Highway and Transportation Officials
BLM	Bureau of Land Management
BMP	Best management practice
CRMP	Carson City Consolidated Resource Management Plan
CFR	Code of Federal Regulations
dBA	A-weighted decibels
DOT	Department of Transportation
EA	Environmental Assessment
e.g.	For example
FHWA	Federal Highway Administration
HMS	hydrologic modeling system
I-	Interstate
i.e.	That is
LCCMP	Lyon County Comprehensive Master Plan
$L_{eq}(h)$	An average of noise levels over one hour
LOS	Level of Service
MAP-21	Moving Ahead for Progress in the 21st Century
MS4	Municipal separate storm sewer system
NAC	Nevada Administrative Code
NDOT	Nevada Department of Transportation
NDOW	Nevada Department of Wildlife
NDEP	Nevada Division of Environmental Protection
NEPA	National Environmental Policy Act
NNHP	Nevada Natural Heritage Program
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
NRS	Nevada Revised Statutes
R	Residence
SHPO	State Historic Preservation Office
State	State of Nevada
SWPPP	Stormwater Pollution Prevention Plan
TRIC	Tahoe-Reno Industrial Center
U.S.	United States
USACE	United States Army Corps of Engineers
USC	United States Code
USFWS	U.S. Fish and Wildlife Services
US	U.S. Route

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MITIGATION MEASURES

The following list describes measures that will be implemented as part of the project to avoid, reduce, or otherwise mitigate environmental impacts associated with the project. Mitigation measures and compliance with federal, state, and local laws and regulations with regards to applicable resource categories will be specified in the contract documents. The following list of mitigation measures and commitments are not subject to change of modification without prior written approval of FHWA.

Responsible Party	EA Page Ref#	Mitigation Category	Description
Construction Contractor	3-13	Biological Resources – Vegetation	Establish an Environmentally-Sensitive Area: A qualified botanist will clearly flag and/or fence the boundary of the Tiehm's peppercress population to prevent access to this area. The boundary will remain in place and be maintained accordingly through the end of construction.
Construction Contractor	3-13	Biological Resources – Cacti	Salvage and Relocate Cactus Plants: Succulent plants with potential to be impacted by construction will be considered for salvage if the plant is currently in a healthy condition as determined by the Restoration Contractor. Any succulent that cannot be accessed safely due to steep slopes or rocky areas will not be salvaged. Succulents that will not be salvaged will be broken up and windrowed as vertical mulch.
Construction Contractor	3-13	Biological Resources – Noxious Weeds	Minimize and Revegetate Disturbed Areas: ▪ Minimize the amount of disturbance to existing trees, shrubs, and vegetation, and limit the amount of time that disturbed areas remain non-vegetated. ▪ Revegetate disturbed areas with native grass and forb species following established Nevada Department of Transportation procedures. ▪ Use standard Nevada Department of Transportation best management practices for erosion control and to protect newly seeded slopes to control erosion and to promote the establishment of vegetation. ▪ Develop and implement a Noxious Weed Management Plan to prevent the establishment and spread of Nevada State listed noxious weeds per Nevada Revised Statute 555.
Construction Contractor	3-14	Biological Resources – Migratory Bird Species	Adhere to Migratory Bird Nesting Season Restrictions: Construction will be conducted to avoid impacts to migratory birds that may be actively utilizing vegetation for nesting. When possible, vegetation removal is not to occur during the avian breeding season as defined by Nevada Department of Wildlife (February 1 to August 1). Raptors and owls may begin nesting as early as January. If vegetation removal must occur during avian breeding season, nesting surveys will be conducted by an experienced biologist at a maximum of 14 days prior to land disturbance. If nesting sites are found within the project limits, a Nevada Department of Transportation Environmental Services Biologist will be consulted to flag a suitable buffer area around the nest site. No disturbance will occur within the flagged avoidance area while the nest is occupied.
Construction Contractor	3-14	Biological Resources – Wildlife and Estray Horses	Install Exclusionary Wildlife Fencing: A permanent fence will be constructed to prevent wildlife from entering the right-of-way. The fence shall be constructed no less than 4 feet in height, with smooth wires on the top and bottom. Escape structures (e.g., earthen ramps) shall be installed to provide an exit for wildlife or livestock that enter the roadway.
NDOT	3-14	Biological Resources – Wildlife and Estray Horses	Install Wildlife Crossings: Up to two wildlife under-crossings will be installed where feasible to provide wildlife protection and habitat connectivity. The design and construction will allow wildlife passage across the roadway corridor. The dimensions and design characteristics of the crossing structure will accommodate the largest animals in the area.
Construction Contractor	3-14	Biological Resources – Wildlife and Estray Horses	Maintain Access to Watering Stations: The Construction Contractor will ensure wildlife is provided access to water sources during construction. These water sources should be located in proximity to the existing watering stations mapped on Figure 3-1 in Appendix F, Wildlife Technical Study. This may require installing wildlife crossings, as described above, to maintain access to existing watering stations or adding new water sources where access may be denied.
Construction Contractor	3-14	Biological Resources – Wildlife	Conduct Preconstruction Surveys for Bats: Prior to construction, a qualified biologist will conduct a pre-construction survey of the potential roosting sites for bats. If bats are detected, Nevada Department of Wildlife will be contacted for recommendations on appropriate measures to be taken to exclude bats such that they would not be harmed. These measures will be implemented prior to construction. If maternity roosts are identified that would be displaced by construction, Nevada Department of Wildlife will be consulted to determine whether artificial replacement roosts are to be installed in appropriate habitat nearby.
NDOT	3-24	Water Resources	Consult with the U.S. Army Corps of Engineers and Obtain Clean Water Act Section 404 and 401 Permits: Once design is at level sufficient to determine project impacts and the type of permit required, Nevada Department of Transportation will complete the Preliminary Jurisdictional Determination process and then seek necessary permits from U.S. Army Corps of Engineers. Nevada Department of Transportation will adhere to all terms and conditions of the Section 404 and 401 permits to ensure the project does not violate state and federal water quality standards.

Responsible Party	EA Page Ref#	Mitigation Category	Description
Construction Contractor	3-24	Water Resources	Implement Stormwater Best Management Practices: Temporary and permanent erosion control and stormwater best management practices will be implemented during construction per the Nevada Department of Transportation water quality manuals. Specific best management practices are incorporated into the project plans during preliminary and final design. Nevada Department of Transportation's Hydraulics Section, with support from other divisions, is responsible for incorporating the permanent BMPs into the design. Possible temporary and permanent best management practices are identified in the Storm Water Management Program manual. These measures have been selected to achieve pollutant load reductions through sound engineering judgment, published best management practice studies, and experience with other municipal separate storm sewer system stormwater programs. Best management practices that may be selected for this project include, but are not limited to: Permanent Best Management Practices ▪ Preservation of existing vegetation to the extent possible ▪ Installation of hydraulically stable ditches, berms, and swales as needed ▪ Re-vegetation, mulching, and slope roughening in disturbed areas to reduce erosion ▪ Infiltration basins that allow pollutants to settle ▪ Installation of rip rap to slow runoff, reduce the potential for erosion, and allow for infiltration ▪ Slope armoring using geotextiles, vegetation, soil cement, or other long-term soil stabilization methods to minimize the potential for erosion Temporary Best Management Practices ▪ Street sweeping and vacuuming during construction ▪ Storm drain inlet protection ▪ Fiber rolls, silt fences, and gravel bag berms ▪ Stockpile and construction site management ▪ Wind erosion control and application of soil stabilizer ▪ Hydroseeding
Construction Contractor	3-25	Water Resources	Obtain Required Stormwater Permits: As part of the development of best management practices for the project, the Construction Contractor will file a Notice of Intent with the Nevada Division of Environmental Protection Bureau of Water Pollution Control to obtain coverage under the General Permit for Stormwater Discharges Associated with Construction Activity (NVR100000).
Construction Contractor	3-25	Water Resources	Prepare a Stormwater Pollution Prevention Plan: A Stormwater Pollution Prevention Plan will be developed before the Notice of Intent is submitted. The Stormwater Pollution Prevention Plan will outline temporary and permanent, erosion, and sediment controls (see example best management practices above); will locate stormwater discharge points; and will describe best management practices to be implemented to prevent or reduce stormwater pollutant discharge associated with construction activities to the maximum extent practical. The Stormwater Pollution Prevention Plan will include a demonstration that the best management practices selected for implementation will be sufficient to ensure that the discharges will not cause or contribute to an exceedance of applicable State water quality standards.
NDOT	3-25	Water Resources	Coordinate with Local Agencies: As part of final design, Nevada Department of Transportation will coordinate with local agencies, municipalities, and the Pyramid Lake Paiute Tribe regarding permanent water quality features.
NDOT	3-25	Water Resources	Drainage: During final design, Nevada Department of Transportation will complete a two-dimensional hydraulic model to more fully understand potential impacts to adjacent properties and to develop options to mitigate potential flooding of adjacent properties. This may include reducing the impact through design or acquiring additional right-of-way or easements.
NDOT	3-25	Water Resources	Obtain Appropriate Water Use Waivers: Nevada Department of Transportation will obtain a waiver to use water for highway construction in the case where an existing well will be used, or a new well drilled, to provide construction water as required by NAC 534.
Construction Contractor	3-33	Construction Noise	Reduce Construction Noise: Construction noise minimization measures and best management practices for stationary and mobile equipment (e.g., placement, hours of operation, noise-level limits, or proper maintenance of equipment) are to be addressed in the contract documents, as needed.
NDOT	3-50	Visual Resources	Design Retaining Wall Aesthetic: Nevada Department of Transportation will design retaining walls to blend into the surrounding environment to the extent possible. This will be accomplished by selecting proper color and material type and texture in accordance with Nevada Department of Transportation landscape and aesthetic policies.

Responsible Party	EA Page Ref#	Mitigation Category	Description
NDOT	3-50	Visual Resources	Minimize Cut and Fill Areas: Nevada Department of Transportation will minimize cut and fill areas where practical and design these areas to blend in with the surrounding environment to minimize visual impacts.
Construction Contractor	3-50	Visual Resources	Establish Clearing Limits: The clearing limits shall be staked by the Construction Contractor for approval by the Nevada Department of Transportation Engineer prior to the start of clearing. Where possible, the limits of clearing will be irregular, and straight clearing lines will be avoided by varying the width of the area to be cleared or by leaving selected clumps of vegetation near the edge of the clearing limit.
Construction Contractor	3-50	Visual Resources	Prepare New Slope: The Construction Contractor will round and blend new slopes to mimic the existing contours and to highlight natural formations.
NDOT	3-55	Right-of-Way, Acquisition, and Relocation Impacts	Any right-of-way acquisition will comply with Section 205(a) of the Uniform Relocation Assistance and Real Property Acquisitions Policies Act of 1970, as amended. The purpose of the Uniform Act is to provide uniform and equitable treatment of all persons displaced from their homes, businesses, or farms by establishing criteria for proper acquisition and relocation benefit impacts. Prior to acquiring the Letter of Consent for the right-of-way from BLM, FHWA/NDOT will address valid claim holders that may have located (established) active claims within the final Build Alternative alignment since this analysis was completed. FHWA/NDOT will obtain permission from claim holders to account for any such active claims within the right-of-way.

1.0 PURPOSE AND NEED

The Nevada Department of Transportation (NDOT) and the Federal Highway Administration (FHWA), in cooperation with the Bureau of Land Management (BLM), are studying the completion of a north-south transportation route between Interstate 80 (I-80) and U.S. Highway Route 50 (US 50). Located in Storey and Lyon counties, the proposed project is known as USA Parkway (State Route 439). The National Environmental Policy Act (NEPA) directs transportation officials to consider balancing engineering and transportation needs with social, economic, and natural environmental factors in making project decisions. This Environmental Assessment (EA) documents the NEPA process for the project undertaken by NDOT and FHWA in accordance with 23 Code of Federal Regulations (CFR) 771 and other applicable regulations.

Chapter 1 describes the purpose and need for the project and includes:

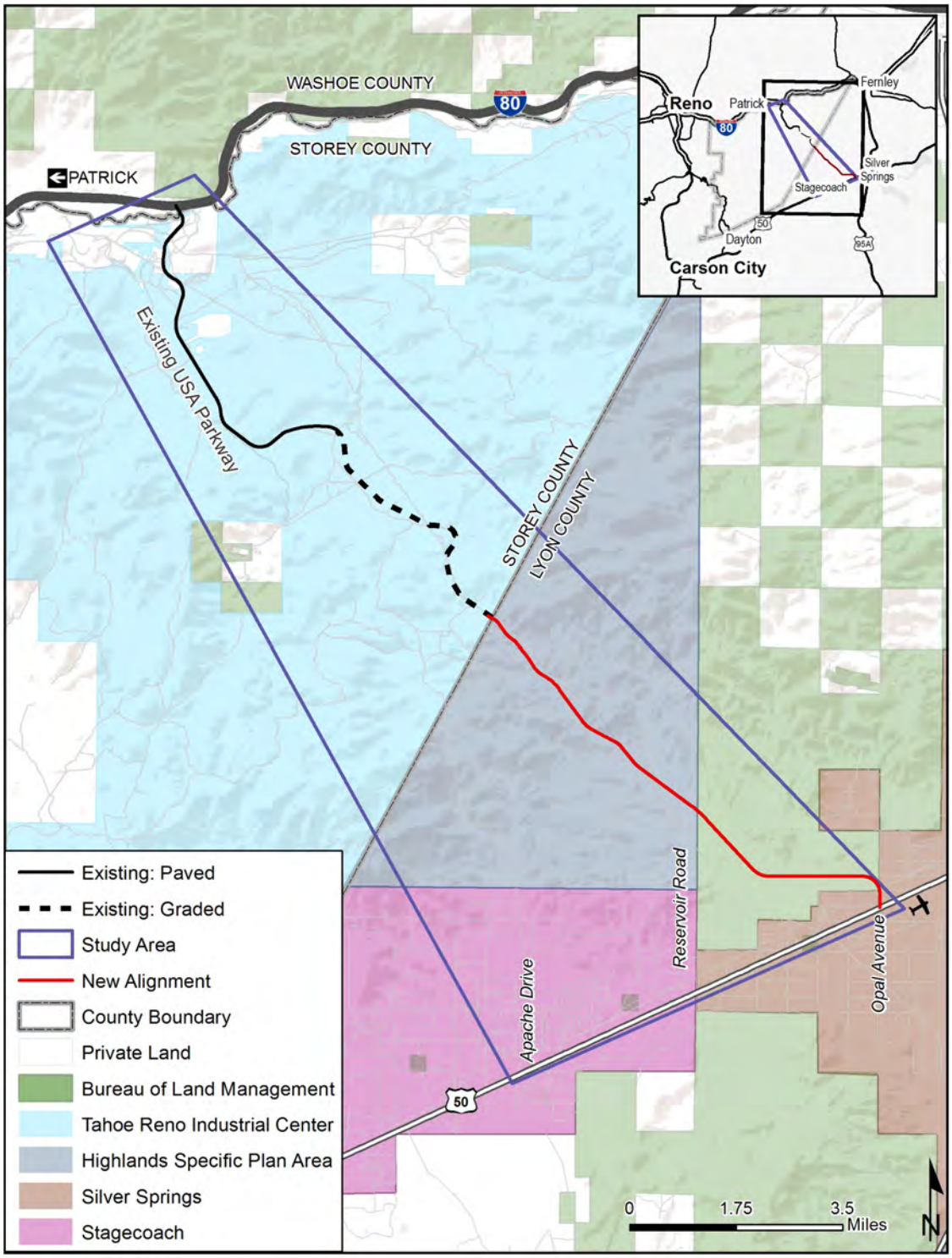
- Background information about the project and the project location,
- Transportation purpose for the proposed action,
- Transportation needs associated with the project, and
- BLM's land management purpose and need associated with the project.

1.1 PROJECT BACKGROUND

Two factors have had a major influence on the project as currently proposed. First, the project has received bi-partisan support from the State of Nevada (State) Legislature, Storey County, and Lyon County. Since 2000, the State Legislature has approved funding for several studies that analyzed the costs, benefits, and optimal alignment for a roadway (previously known as State Route 805). In 2009, a State Legislative subcommittee reported that USA Parkway was "vital to the continued growth and economic diversification of Nevada" (NLCB 2011).

Second, private-development interests in the area have supported the project from design to the initial construction of the existing portion of USA Parkway. In 2001, developers of the Tahoe-Reno Industrial Center (TRIC) planned a roadway that would connect I-80 to US 50. The developers of TRIC presented various alignment options at commission meetings in Storey and Lyon counties between 2001 and 2009. From this effort, the developers privately funded the construction of the first 10 miles of the existing portion of USA Parkway between 2006 and 2009 to serve in furthering developing TRIC. Approximately 6 miles of the alignment is paved, and an additional 4 miles is graded (Figure 1-1).

Figure 1-1. Study Area



Source: USA Parkway study team.

1.1.1 Transportation Planning

To meet regulatory requirements of Moving Ahead for Progress in the 21st Century (MAP-21), FHWA requires statewide long-range transportation planning to establish a cooperative, continuous, and comprehensive framework for making transportation investment decisions throughout the State. Table 1-1 summarizes the transportation planning programs and documents that support the project.

Table 1-1. Transportation Plans and Programs

Plan	Summary and Relationship to USA Parkway
NDOT Annual Work Program for Lyon County (NDOT 2014)	The NDOT Annual Work Program is composed of three elements. • The Annual Work Program lists the current fiscal year projects to be completed by NDOT. • The Short Range Element lists projects state and local entities would like to initiate within the next 2 to 3 years. • The Long Range Element lists projects in the planning stage or extensions of current projects to be completed in 4 to 10 years. Not all funding is available for projects in the Long Range Element. The USA Parkway NEPA document was included in the 2014 Annual Work Program under project number LY20100020-14. Final design and right-of-way for USA Parkway was included in the Short Range Element (project LY20100020-16). Construction of USA Parkway is included in the Long Range Element (project LY20100020-LRE), but a funding source has not yet been identified.
Connecting Nevada (NDOT 2013a)	The Connecting Nevada provides a framework that coordinates and integrates the results of various state, regional, and local planning efforts into a unified, cohesive vision. The USA Parkway project is listed in the plan.
Nevada Statewide Transportation Plan (NDOT 2008)	This plan provides a vision for the State's future transportation system. Guiding principles of the plan relevant to the project include providing a statewide, multi-modal, interconnected, efficient transportation system that enhances the State's economic competitiveness and improves the safety and mobility of freight movers.
Lyon County Comprehensive Master Plan (LCCMP) (Lyon County 2010)	The project is shown as a proposed route on the Integrated Roadway Network Map.

Source: See this table for sources.

1.1.2 Study Area

The study area is located within Storey and Lyon counties as shown on Figure 1-1. In Storey County, most of the land in the study area is located within TRIC. TRIC is a 107,000-acre industrial complex that includes 30,000 acres of developable land, of which approximately 8,600 acres has been sold and developed to date. A number of access roads presently tie into the existing USA Parkway to serve current and planned development in TRIC. Developed sites range from 1 to 140 acres, but on average are 16.42 acres (Brundage 2011). Many of TRIC's 164 existing businesses and approximately 14 million square feet of industrial buildings are associated with regional distribution of products for retail businesses such as Walmart.

In Lyon County, the study area includes four main areas, the Highlands Specific Planning Area, BLM-managed public land (BLM land), and the communities of Silver Springs and Stagecoach (Figure 1-1).

The Highlands Specific Planning Area is undeveloped. The land use plan, policies, and criteria for the Highlands Specific Planning Area have not yet been adopted by Lyon County, and future uses of the area are speculative at this time (see *Section 3.5, Land Use).*

USA Parkway within TRIC
Source: USA Parkway study team

BLM land located in the study area is undeveloped and managed consistent with the 2001 Carson City Consolidated Resource Management Plan (CRMP). As discussed in *Section 3.5, Land Use*, use of public land for highway right-of-way would be consistent with the CRMP.

BLM Land within the Study Area
Source: USA Parkway study team

The community of Silver Springs, which is centered on the intersection of US 50 and U.S. Highway Route 95A (US 95A), has “ample vacant and underdeveloped land suitable for commercial, industrial, and high-density residential use” (Lyon County 2010). According to the Lyon County Comprehensive Master Plan (LCCMP), most of the projected growth in the portion of the study area located in Lyon County is projected to occur in and around the community of Silver Springs. The community of Stagecoach (just west of Silver Springs) is predominately a rural community with limited infrastructure and a few public and commercial services. Scarce water resources, combined with soils that are unsuitable for high-density residential uses, restrict future development potential within the existing core of the Stagecoach community (Lyon County 2010).

1.1.3 Characteristics of the Regional Transportation System

Table 1-2 lists the four major regional transportation facilities that serve the area in and around the project.

Table 1-2. Regional Transportation Facilities

Transportation Facility	Characteristics
USA Parkway	The existing paved road is 6 miles with two travel lanes in each direction, limited shoulders, and an open-center median. The existing roadway connects businesses located within TRIC to I-80. In 2011, an average of 5,000 vehicles per day used the roadway (Jacobs 2012).
I-80	I-80 is a major freight corridor that runs from California to New Jersey and is critical to interstate commerce (NDOT 2008). Near the project location, I-80 is a divided highway with two travel lanes and shoulders in each direction. In 2011, I-80 served an average of 23,000 to 25,000 vehicles per day near the project location (Jacobs 2012).
US 50	US 50 extends from California to Maryland. In the 52 miles between Carson City and Fallon, US 50 is a rural, east-west highway that links the communities of Mound House, Dayton, Stagecoach, and Silver Springs. Between Stagecoach and Silver Springs, US 50 has one travel lane and shoulders in each direction and served an average of 4,000 to 5,200 vehicles per day in 2011 (Jacobs 2012). Operations along US 50 are mixed with both local and regional trips. Because communities along this corridor do not have major employment centers or services, US 50 is often used as a commuter link to Carson City, which is a regional employment and activity center. Vehicular conflicts often result between slow and fast moving traffic in the same lane, and these conflicts are anticipated to increase as volumes are projected to increase substantially by 2035 (NDOT 2007). Widening of US 50 is included in the long-range plan and is expected to be complete by 2020.
US 95A	US 95 is a rural, north-south highway stretching from Mexico to Canada. US 95A is a 100-mile alternate route of US 95 beginning at Schurz and connecting the communities of Yerington and Silver Springs and the City of Fernley. Between Yerington and Silver Springs, US 95A has one travel lane and shoulders in each direction, and the highway served an average of 4,800 to 8,700 vehicles per day in 2011 (Jacobs 2012). Communities along this corridor often use the facility to commute to the cities of Sparks and Reno. Steep grades, tight turns, and extreme weather (including winds and snow) can cause lengthy delays, periodic closures, and congestion, which is anticipated to worsen as volumes are projected to increase substantially by 2035 (NDOT 2007).

Source: See this table for sources.

1.2 Project Purpose

The purpose of the project is to enhance local and regional access and mobility between I-80 and US 50, as well as provide transportation infrastructure to support existing and future planned land uses and economic development in Storey and Lyon counties.

1.3 Project Need

There is limited transportation infrastructure in both Storey and Lyon counties. This results in limited and inefficient regional access and mobility. It also results in limited opportunities for development of land outside of the existing transportation corridors. Population and employment growth in both Storey and Lyon counties have and will continue to increase the demand for improvements to the area's transportation network.

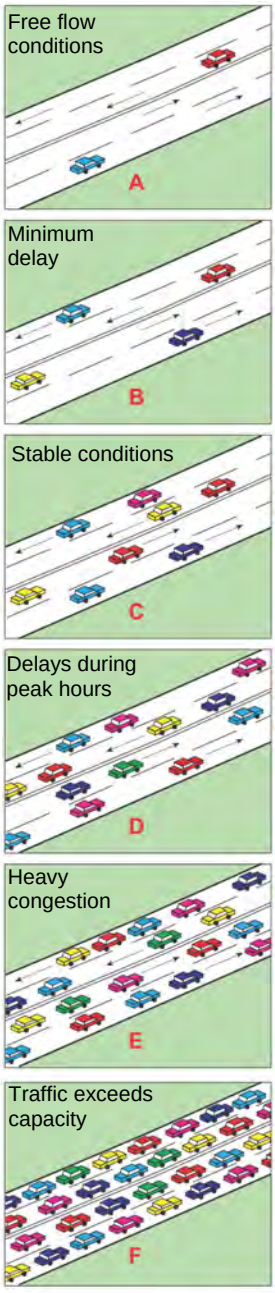
1.3.1 Need for More Efficient Regional Access and Mobility

I-80 and US 50 are the regional east-west transportation routes in the area. There are no north-south routes connecting I-80 and US 50 for approximately 30 miles between U.S. Highway Route 395 (US 395), which connects the City of Reno to Carson City, and US 95A, which connects Silver Springs to the City of Fernley. The lack of north-south routes connecting I-80 and US 50 results in out-of-direction travel and increased commuter travel times for trips between the US 50 corridor communities (Silver Springs and Stagecoach) and major job centers in the cities of Sparks and Reno and TRIC.

Travel inefficiencies are often shown using metrics such as level of service (LOS). LOS measures the operational performance of roadways and intersections. Roadway LOS is based on the average travel speed and roadway classification for the corridor. The sidebar LOS diagram represents the various LOS levels for a roadway or highway. NDOT's goal is to maintain a congestion level of LOS D or better on urban and rural roadways (NDOT 2013a).

Traffic analysis has been completed for major roadways that could be influenced by the project. These roads include the existing portion of USA Parkway, I-80 between the community of Patrick

Roadway Level of Service: LOS A through LOS F



Source: USA Parkway study team

and the City of Fernley, US 95A between the community of Silver Springs and the City of Fernley, and US 50 between the communities of Silver Springs and Stagecoach. As shown in Table 1-3, area roadways were operating at LOS D or better in 2011. By 2037 and without the extension of USA Parkway, most of these roadways would begin to experience congestion, and USA Parkway and US 95A would operate at an LOS that does not meet NDOT's LOS goal.

Table 1-3. Existing and Future LOS within the Project Influence Area Roadway Network

Transportation Facility	LOS in 2011[a]	LOS in 2037 (without the project)[b]
Existing USA Parkway	LOS B	LOS E
I-80	LOS B	LOS D (west of USA Parkway) LOS C (east of USA Parkway)
US 50	LOS C (west of 95A) LOS B (east of 95A)	LOS B[c] (west of 95A) LOS C (east of 95A)
US 95A	LOS D (south of Fernley) LOS C (north of Silver Springs)	LOS E (south of Fernley) LOS D (north of Silver Springs)

Source: Jacobs 2012a.

[a] LOS estimates are based on the Highway Capacity Manual Generalized Daily Service Volumes by roadway classification (TRB 2010).

[b] The planning horizon for USA Parkway is 2037, which is 20 years after the anticipated opening year, consistent with MAP-21 and NDOT policy.

[c] Under future conditions without the project, it is assumed that US 50 would be widened to four lanes west of US 95A, which is why there are LOS improvements despite increased traffic volumes.

Out-of-direction travel and traffic volume growth contribute to the deterioration in LOS along these roadway segments. Improved connectivity between I-80 and US 50 is needed to provide additional north-south capacity and a more direct travel route that would improve regional mobility. Additionally, a more direct north-south transportation route is needed to reduce system demand on I-80, US 95A, and US 50, which would extend the useful life of this existing infrastructure through the 20-year planning horizon and improve the efficiency of these roads as drivers would spend less time on congested roads.

1.3.2 Need for Transportation Infrastructure to Support Existing and Future Land Uses and Economic Growth

Lyon County is primarily a bedroom community that provides affordable housing for a workforce that commutes to jobs outside of the County. Storey County, on the other hand, serves as an employment center and has limited opportunities for residential development because of steep topography and water supply constraints. The combination of land uses necessitates improved transportation connectivity. The

following describes the need for transportation infrastructure to support the current and anticipated growth in and around both counties.

Projected Population and Economic Growth

Nevada is the only state that has maintained a growth rate of 25 percent or greater for the last three decades and has been the fastest-growing state for five straight decades (U.S. Census 2010). Despite a substantially slower growth rate since 2007, Lyon County has still experienced a 50 percent growth rate between the years 2000 and 2010 (U.S. Census 2010).

In 2010, the Lyon County population was 51,980 (U.S. Census 2010). The LCCMP was prepared based on 2006/2007 growth projections and established policies to respond to substantial projected growth in the communities along the US 50 corridor. Growth projections for 2007 by the State Demographer projected that Lyon County's population would be 74,281 by 2024 (NSDO 2008). While little growth has occurred since 2007, Lyon County expects economic recovery to occur over the next 5 to 10 years followed by continued long-term growth (Loveburg 2012). Revised projections from the State Demographer forecast a population of 68,655 by 2031, indicating that while growth is still expected, it would be slower than previous projections (NSDO 2011).The LCCMP states that to accommodate future land use projections, the proposed USA Parkway connection at US 50 in Silver Springs would "offer opportunities to focus future development, create circulation patterns and commercial/residential densities capable of supporting sustainable economic activity without fundamentally changing the rural nature of the existing low density residential development and substantial public lands that surround the existing core" (Lyon County 2010).

In contrast to Lyon County, Storey County had a population of 4,010 in 2010 (U.S. Census 2010). Most of the development in Storey County has occurred along the perimeter of the County because the interior is mountainous with terrain that is not conducive to development. Most of Storey County is inaccessible to vehicular traffic, and there are no paved routes that connect the northern and southern portions of the County (Storey County 1994). Over 90 percent of Storey County is privately owned and has limited access to basic infrastructure (e.g., roads and potable water). The County receives little precipitation (ranging from 10 inches a year at Virginia City to 5 inches at the lower elevations), and soils have poor infiltration capability (except along the Truckee River). Therefore, most of Storey County does not have access to groundwater or other potable water sources necessary for development. For all of these reasons, very little development has occurred within the interior of the County, and therefore, Storey County

receives limited tax revenue to fund improvements to infrastructure and County services. (Storey County 1994)

However, opportunities exist for economic growth in the area. Storey County approved TRIC in 2000, and development has been ongoing with completion of approximately 14 million square feet of industrial buildings with 164 tenants, including major logistics, manufacturing, and distribution companies (Hidalgo 2014a). Tesla, an automotive manufacturer, has broken ground on a site for its $5 billion battery production gigafactory that would provide 3,000 construction jobs and 6,500 full-time jobs (O'Driscoll 2014). Presently, the existing portion of USA Parkway is the only transportation route that serves TRIC. Additional transportation infrastructure is needed to provide further connectivity to the transportation network, to support the continued expansion of TRIC, and to advance economic growth in Storey County and the region.

Additional job opportunities are also available in the Reno Technology Park located along the north side of I-80, approximately 2.5 miles west of the I-80 interchange with USA Parkway in Washoe County. Apple recently completed a data center at the technology park and has announced plans in 2014 to construct two additional data cluster buildings. The site is expected to employ 200 long-term contractor positions and 35 full-time workers (Hidalgo 2014b).

Employment/Housing Balance

Transportation improvements are also needed to more efficiently link the supply of affordable housing in Lyon County to employment opportunities in Storey County (e.g., TRIC) and the larger region (e.g., the cities of Sparks and Reno in Washoe County).

Lyon County has been identified as an area with a good supply of affordable housing and, prior to the economic downturn, was an area experiencing strong growth in the labor force, both of which are positive indicators for the economic development potential of northern Nevada (NNDA 2006). However, there are limited jobs in Lyon County, and more than 29 percent of Lyon County workers commute more than 30 minutes to work (U.S. Census 2010). Furthermore, since the economic downturn in 2007, Lyon County has consistently posted higher unemployment rates than the rest of the State. In June 2014, unemployment in Lyon County was over 10 percent, compared to 8 percent for the State (BLS 2014).

Many Lyon County residents commute to Storey County or the cities of Sparks and Reno in Washoe County for employment. Within Storey County alone, TRIC provides economic growth opportunities for business and industry, as it employed approximately

2,500 people in 2010 and is projected to employ 23,500 by 2035 (Jacobs 2012a). Storey County projects 37,946 jobs when TRIC is fully built out. Because TRIC represents a massive increase in developable industrial space in the Reno area, full build out is expected to occur beyond the 2035 horizon of this study (Storey County 2009).

Expanding the transportation infrastructure to connect the workforce of Lyon County with the employment opportunities in and around Storey County is needed to offset the lack of affordable housing in Storey County and lessen the strain on the local workforce.

Freight Distribution

The logistics and supply chain management industry, which includes manufacturing and distribution, is the second largest industry in the State after gaming. The economic impact of the logistics industry accounts for 22 percent of employment in the State (NLCB 2011). Over 1,800 logistics and operations sector jobs were added in Storey County between 2003 and 2013 (EMSI 2013). According to the State Transportation Plan, truckers are the third largest motorists group (after commuters and tourists) that use the highway system. I-80 is among the busiest truck-freight corridors in the nation, and traffic is expected to increase substantially on this interstate in the future (NDOT 2008). Truck traffic is approximately 24 percent of the total daily traffic on I-80 in the study area. In 2011, I-80 carried a daily average of 5,960 trucks, and by 2035, this is expected to increase to 7,300 trucks (Jacobs 2012a).

Freight distribution by truck and air is essential for many of the businesses within TRIC. TRIC currently has highway access to I-80 and is within a one day truck shipping time to California, Arizona, Nevada, Utah, Colorado, Oregon, Idaho, and Washington. A new north-south route between I-80 and US 50 would further enhance this connectivity and provide a more direct route to Las Vegas and I-15, reducing trip distance by as much as 18 miles for some businesses within TRIC. Many truckers also prefer taking US 95 to Las Vegas and southern California instead of the I-80/US 395 route because there are fewer steep grades, which improves fuel economy and reduces transportation costs. Furthermore, a new route between I-80 and US 50 would provide access to the Silver Springs Airport, which is planned for future expansion to accommodate corporate/business jet services, air cargo services, charter aircraft, and eventually some commercial passenger services (NDOT 2009). Silver Springs Airport was also one of four Nevada locations selected in 2013 as a test site for the Federal Aviation Administration's plan to integrate unmanned aerial vehicles into the national airspace. The program is expected to have an estimated $2.5 billion economic impact statewide and create 12,000 to 15,000 jobs (Munson 2014).

Additional transportation infrastructure is not only needed to provide improved connectivity to support local expansion and economic growth, but to also support regional and national economic growth by increasing freight access and mobility.

1.4 BLM Purpose and Need

The lead federal agency (FHWA) has the authority for and responsibility to define the purpose and need for NEPA analysis (CEQ 2003). Because FHWA is not the sole federal agency with responsibility for making decisions with respect to the proposed action, BLM has agreed to be a cooperating agency. Both FHWA and BLM have an independent responsibility to comply with NEPA.

BLM, FHWA, and NDOT have entered into a *Memorandum of Understanding and Operating Manual* concerning operating procedures for processing federal-aid highway rights-of-way from BLM (BLM 2007). The agreement states that BLM will participate as a cooperating agency in the NEPA process on public lands. As a cooperating agency, BLM will use this environmental document as a basis for future actions.

Because BLM's decision is different than FHWA's decision, the following describes BLM's purpose and need for the project. The BLM's purpose for the project is to determine if certain public lands should be devoted to highway uses. BLM, FHWA, and NDOT will follow the *Memorandum of Understanding and Operating Manual,* or any approved revisions, for this project (BLM 2007). At the conclusion of the NEPA process, NDOT will submit a request to BLM for right-of-way appropriation of public lands determined to be necessary for the project. BLM would then issue a Letter of Consent to FHWA for highway use of the public lands and to identify special stipulations associated with that use. BLM will not issue a separate Finding of No Significant Impact or Decision Record for this project.

1.5 Public Contribution to the Purpose and Need

During scoping, NDOT held a public information meeting and solicited information specifically on the purpose and need for the project. More than 200 people attended the meeting. NDOT received over 70 comment letters and e-mails capturing more than 140 independent comments from the public and interested agencies. Overall, sentiment was supportive of the project, and approximately 40 written comments supported the need to increase connectivity and improve commute times between Lyon County and Sparks/Reno/TRIC for residents along the US 50 corridor. More than 40 comments indicated the proposed roadway would provide much needed economic growth, development, and employment opportunities. NDOT did not receive any comments

questioning the purpose or need for the project. More detailed information about the public involvement process is included in *Chapter 4, Comments and Coordination*.

1.6 LOGICAL TERMINI

The existing terminus of USA Parkway at the I-80 interchange is identified as the project's northern terminus (i.e., end point). Approximately 6 miles of USA Parkway have already been constructed from I-80 to the south, and minimal improvements are anticipated for that section of the alignment. No improvements are anticipated for the existing I-80 interchange or bridge over the Truckee River. The project's southern terminus would be at US 50.

Both termini would provide improved access to major east-west regional and national transportation routes. The logical termini would also allow for development and construction of a project that:

- Serves a significant purpose,
- Has independent utility,
- Does not require implementation of other future transportation projects, and
- Does not restrict consideration of alternatives for other reasonably foreseeable transportation improvements.

2.0 ALTERNATIVES

FHWA Technical Advisory T 6640.8A states that an EA should discuss alternatives to the proposed action, including the No-Action Alternative. This chapter presents the process for developing and evaluating various alternatives for the purpose of identifying the project's preferred alternative (the Build Alternative).

2.1 ALTERNATIVES DEVELOPMENT AND EVALUATION PROCESS

As discussed in *Section 1.1, Project Background,* the project has been in the planning and development stages since 2000. TRIC developers initially designed an alignment with the objective of minimizing road grades and earthwork requirements in an attempt to reduce construction costs, minimize impacts to the surrounding area, maximize travel speeds, and reduce steep grades that consume extra fuel. NDOT modeled the alignment using the Trimble Quantm Alignment Planning System, a route optimization model that provided alignment options based on topographic and cost considerations. Both efforts by TRIC and NDOT provided a starting point for developing the alternatives discussed in this EA, although other reasonable transportation alternatives have also been considered.

In order to analyze alternatives, a multi-disciplinary team of environmental resource specialists and roadway, traffic, and drainage engineers (the study team) was formed to establish criteria to evaluate alternatives, develop a range of reasonable alternatives, complete a comparative evaluation of the alternatives, and ultimately identify a preferred alternative (the Build Alternative).

2.1.1 Establishing the Alternative Screening Criteria

The use of screening criteria is an effective approach for comparing alternatives. Criteria were developed to address elements of the purpose and need (described further in *Section 1.2, Project Purpose,* and *Section 1.3, Project Need*), engineering and design limitations, and environmental constraints on both the natural and human environment. These criteria are defined as follows.

- **Support Planned Economic Development:** Provide infrastructure to support the economic development associated with TRIC and to be consistent with future land use plans for Storey and Lyon counties.
- **Improve Regional Mobility:** Provide an alternate north-south route to enhance mobility and access in Storey County and northern Lyon County.

- **Engineering Feasibility:** Provide an improvement that is constructible, minimizes earthwork requirements, and complies with NDOT and American Association of State Highway and Transportation Officials (AASHTO) design standards (e.g., improvements that comply with design speed, lane width, grade, and cross slope).
- **Minimize Environmental and Community Impacts:** Minimize or avoid conflicts with environmental or community resources.

2.1.2 Alternatives Development

Preliminary horizontal and vertical geometry provided by NDOT and Reno Engineering were used to develop several potential alternatives. Non-highway alternatives, alternatives located outside of those previously considered, and alternatives recommended by the public were also evaluated.

Additionally, the study team developed several alternatives that minimized mountainous terrain concerns, topographic constraints, earthwork quantities, cultural resource impacts, potential relocations, community facility impacts, and natural resource impacts. These alternatives were evaluated against the screening criteria identified above, and a preferred alternative was identified. The rationale for eliminating alternatives is described in *Section 2.2, Alternatives Considered but Eliminated from Detailed Study*. Following identification of a preferred alignment, the study team conducted two site visits with NDOT and FHWA to refine the alternative in an effort to further minimize potential effects on environmental and community resources (e.g., historic sites, drainages, mountain slopes, and utilities). Ultimately, the design elements that had the least environmental impact were incorporated into the preferred alternative (see *Section 2.4, Build Alternative*). The Build Alternative represents the environmentally preferable alternative, which is defined by the Council on Environmental Quality as “the alternative that causes the least damage to the biological and physical environment; it also means the alternative which best protects, preserves, and enhances historic, cultural, and natural resources” (CEQ 1981).

Public Contribution to the Alternatives Development Process

During the scoping process, NDOT held a public information meeting to solicit information related to the project’s alternatives. More than 200 people attended the meeting. Of the written comments submitted, eight comments referenced the project’s alternatives. Four comments suggested different southern termini, and one comment suggested a tunnel through (instead of a roadway over) the mountains. The public also supported connecting employment centers located in TRIC and the cities of Sparks and

Reno to the Silver Springs/Stagecoach area. The study team considered all of the public's comments in the alternatives selection process. More detailed information about the public involvement process is included in *Chapter 4, Comments and Coordination*.

2.2 Alternatives Considered, but Eliminated from Detailed Study

Extending USA Parkway south of US 50, as suggested by a public comment, was not carried forward as a viable alternative because the project's logical terminus is at US 50. Construction of a tunnel, as suggested by a public comment, was also not carried forward as a viable alternative because of the considerable costs that would be required for a tunnel. These costs include substantial increases in design, construction, fire suppression systems, maintenance, and costs associated with increased risks inherent with tunnel construction.

Additionally, congestion management alternatives (e.g., transit options, rideshare programs, and incident management) were considered, which included strategies to reduce travel demand or improve transportation conditions without physically increasing the roadway's capacity. Congestion on existing roadways is not the primary need for this project. As such, a congestion management alternative would not meet the project's needs of supporting current and future land use plans and improving regional access and mobility. For these reasons, a congestion management alternative was not carried forward as a viable alternative. However, it should be noted that the LCCMP (Lyon County 2010) and the *US 50 East Corridor Study* (NDOT 2007) recommend congestion management strategies along US 50, and this project would not preclude implementation of the recommendations identified in those plans.

In total, five alignment alternatives were considered that would meet the regional mobility needs equally, but four of these had engineering and environmental limitations and lack of support from local stakeholders; consequently they were eliminated from detailed study. These eliminated alternatives are shown on Figure 2-1 and generally begin at the Lyon/Storey County line and continue south to US 50. Table 2-1 summarizes the rationale for eliminating each alternative.

Stakeholder support was determined based on previous planning activities by Lyon and Storey Counties, adopted plans, and public meetings with stakeholders. Conceptual designs, professional engineering judgment, and field reviews were used to evaluate the engineering aspects of each alternative. Review of available environmental data, preliminary field observations, and best professional judgment were used to evaluate the environmental aspects of each alternative.

Table 2-1. Alternatives Considered but Eliminated from Detailed Study

Alternative	Reasons for Elimination
Ramsey Weeks Alternative[a]	Mountainous terrain in a short segment near the Storey/Lyon County line could limit the alternative's ability to meet design speeds. The alternative would terminate adjacent to Silver Stage Middle School, Silver Stage High School, Silver Springs Elementary School, and Silver Stage Park. Based on public input received at Lyon County Planning Commission meetings during the earlier TRIC alternatives development process, the community did not support a roadway terminating at this location because of incompatibility with pedestrian-intensive uses. In addition, the Ramsey Weeks Cutoff south of US 50 cannot accommodate truck traffic because the pavement cannot support the weight. This alternative would also directly impact the most intact portion of the historic Ramsey Townsite.
Onyx Street Alternative[a]	No major engineering issues were identified with this alternative, and this alternative is generally consistent with the alignment shown on the Lyon County Integrated Roadway Network Map (Figure 2-2). However, terminating the project at Onyx Street impacted more parcels of private property and would not fully support the plans for the development of a new central core for the community of Silver Springs, as shown in the LCCMP (Lyon County 2010). This was the primary reason this alternative was eliminated from consideration. This alternative would also directly impact the most intact portion of the historic Ramsey Townsite.
Apache Drive Alternative[a, b]	This alternative would require 5.4 miles of new roadway through mountainous terrain where the alignment turns south toward Stagecoach resulting in safety concerns associated with horizontal and vertical curvature that could affect sight distance and limit the alternative's ability to meet desired design speeds in certain areas. Sight distance is the continuous length of highway visible to the highway user. In steep mountain terrains, sight distances can be limited by vertical curves (hills or sags in the road) or horizontal curves (turns in the road). In this setting, options for constructing a road include reducing the speed limit to allow for tighter curves, substantially increasing excavation to construct a road that meets standards, or issuing design exceptions. These options were rejected because each was not consistent with the engineering feasibility alternative screening criteria discussed above. Additionally, this alternative is not consistent with the criteria to support planned economic development because it would not serve truck traffic associated with TRIC in Storey County due to steep grades and curves. The Lyon County Integrated Roadway Network Map shows a proposed transportation route similar to the Apache Drive Alternative (Figure 2-2). However, the roadway shown in the County's plan is intended to be an alternate access to the Highlands Specific Planning Area, not a major roadway. The Apache Drive Alternative would extend through a portion of the community of Stagecoach where there is some existing development; however, according to the LCCMP, new development opportunities are limited because of water and soils constraints. These soil constraints would also likely be problematic for construction of the alternative. Consequently, this alternative would not serve the development goals identified in the LCCMP (Lyon County 2010). Based on an evaluation of roadway width in relation to buildings visible on aerial photographs, as many as six residential relocations could be required. Earthwork associated with this alternative would be more extensive than other alternatives considered, resulting in large cuts and fills that would be costly, would disrupt native vegetation and habitat, and would increase the potential for erosion.

Table 2-1. Alternatives Considered but Eliminated from Detailed Study

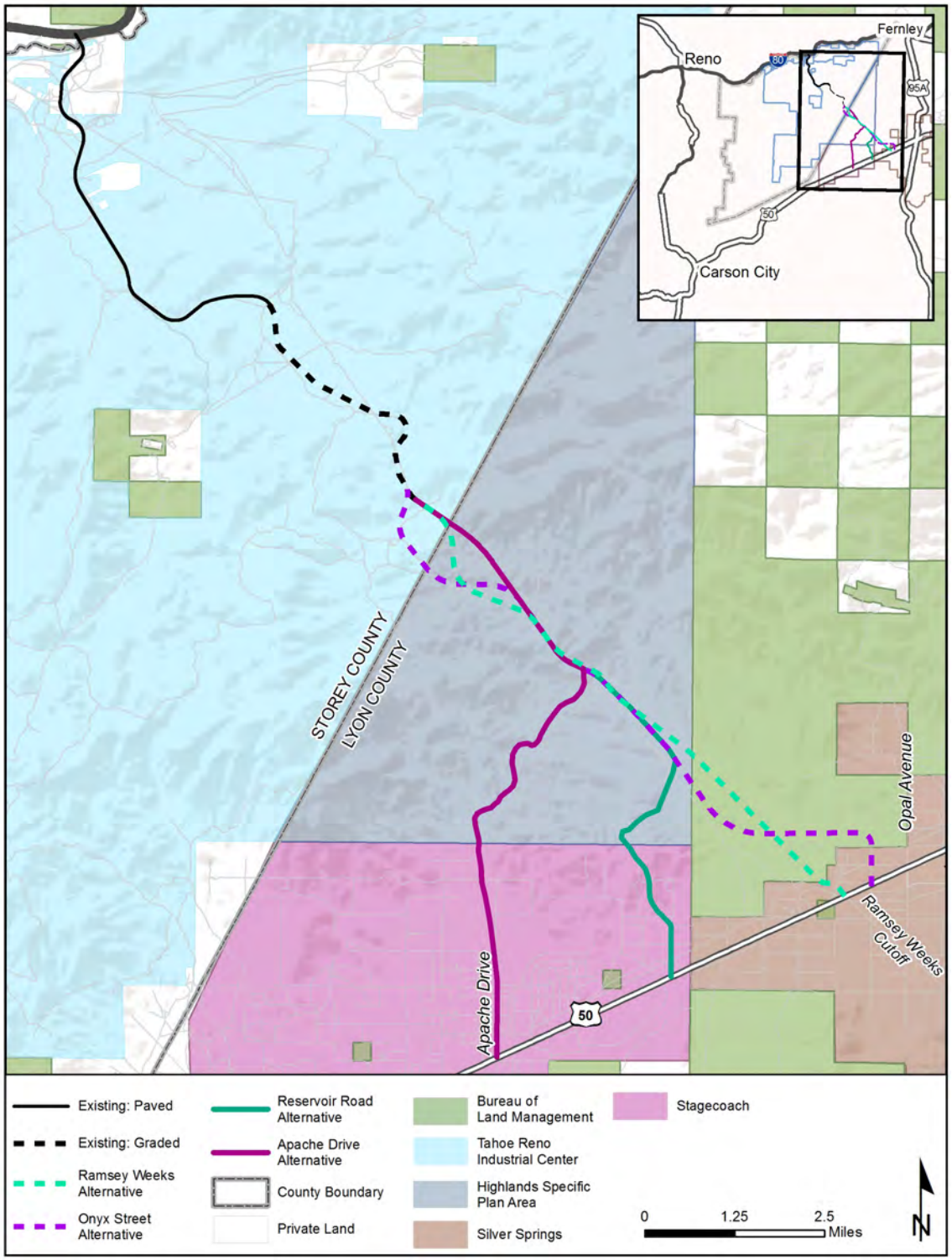
Alternative	Reasons for Elimination
Reservoir Road Alternative[a, b]	This alternative would require 4.9 miles of new roadway through mountainous terrain where the alignment turns south toward Stagecoach, also resulting in safety concerns associated with horizontal and vertical curvature that could affect sight distance and limit the alternative's ability to meet desired design speeds in certain areas. Sight distance is the continuous length of highway visible to the highway user. In steep mountain terrains, sight distances can be limited by vertical curves (hills or sags in the road) or horizontal curves (turns in the road). In this setting, options for constructing a road include reducing the speed limit to allow for tighter curves, substantially increasing excavation to construct a road that meets standards, or issuing design exceptions. These options were rejected because each was not consistent with the engineering feasibility alternative screening criteria discussed above. Additionally, this alternative is not consistent with the criteria to support planned economic development because it would not serve truck traffic associated with TRIC in Storey County due to steep grades and curves. Reservoir Road is located between the two north-south routes identified on the Lyon County Integrated Roadway Network Map (Figure 2-2). There is no existing development in this area, and this alternative would not be consistent with the LCCMP that encourages a focus on future development through the creation of circulation patterns and commercial/residential densities capable of supporting sustainable economic activity without fundamentally changing the rural nature of the existing low-density residential development that surround the existing core (Lyon County 2010). Lastly, earthwork associated with this alternative would be more extensive than the other alternatives considered, resulting in large cuts and fills that would be costly, would disrupt native vegetation and habitat, and would increase the potential for erosion.

Source: USA Parkway study team.

[a] Land use consistency analysis is based on discussions with Rob Loveberg (Lyon County Planner) (Loveberg 2012) and Dean Haymore (Storey County Community Development Director) (Haymore 2012). Evaluations were also based on a review of the LCCMP (Lyon County 2010).

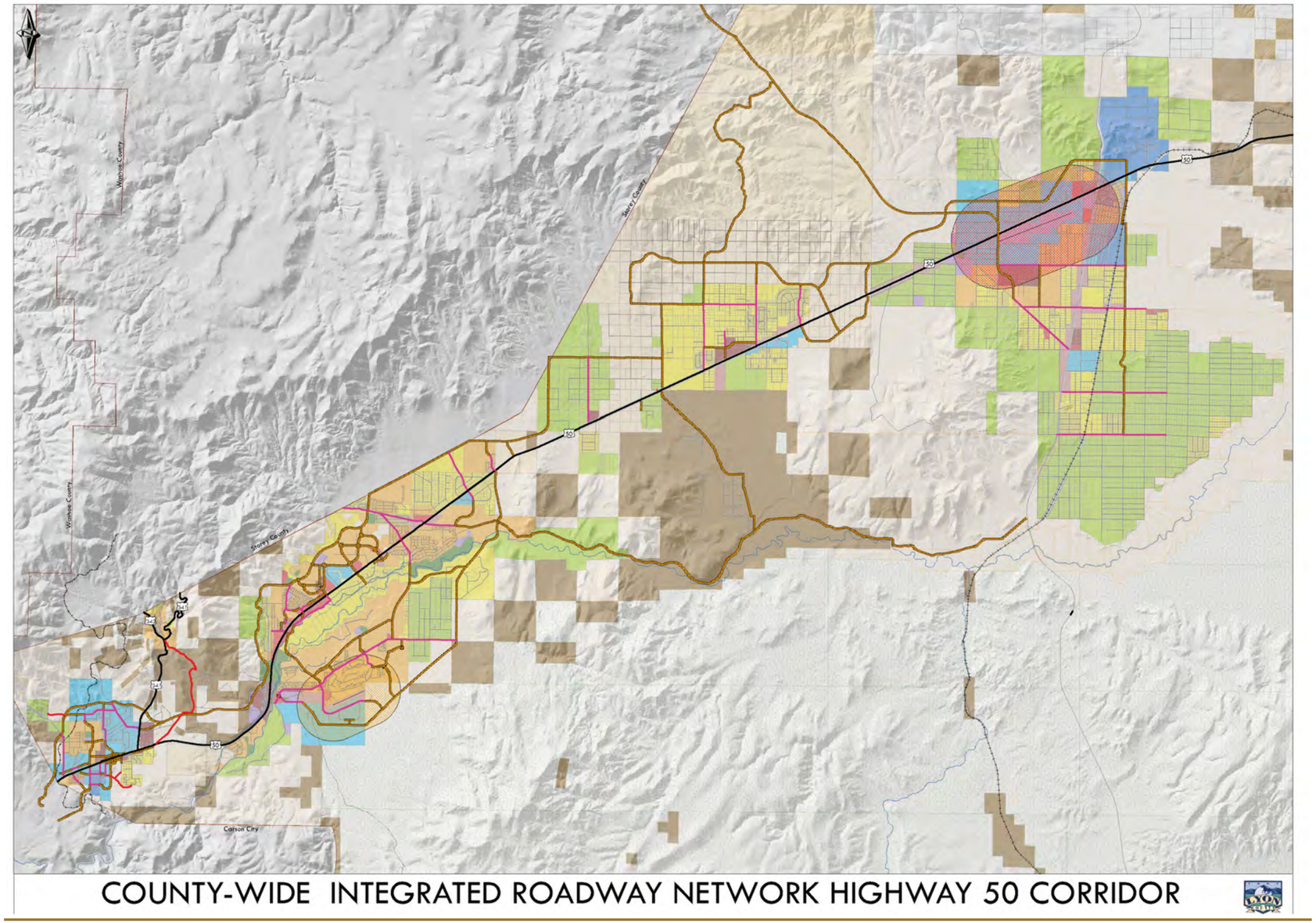
[b] This alternative was considered to avoid crossing BLM land and to fulfill the BLM's requirement to consider taking no action on issuing a Letter of Consent to FHWA for highway use of public land.

Figure 2-1. Alternatives Considered But Eliminated from Detailed Study



Source: USA Parkway study team.

Figure 2-2. Lyon County Integrated Roadway Network Map



Source: Lyon County 2010.

2.3 NO-ACTION ALTERNATIVE

The No-Action Alternative provides a baseline for evaluating future traffic conditions (year 2037) and for evaluating impacts of the preferred alternative (Build Alternative). NEPA requires the No-Action Alternative be included and advanced for detailed study in an EA.

Under the No-Action Alternative, the existing portion of USA Parkway servicing TRIC would continue to operate as a four-lane divided roadway (i.e., two travel lanes in each direction with a center median). The No-Action Alternative also assumes implementation of those reasonably foreseeable transportation, development, and infrastructure projects that are already in progress and are programmed by NDOT, FHWA, Lyon County, or Storey County. These improvements include:

- Widening I-80 from four to six lanes west of the USA Parkway interchange,
- Widening US 50 from two to four lanes west of US 95A,
- Continued development of TRIC, and
- Improvements to the I-80 Patrick Interchange for access to the Reno Technology Park.

Existing USA Parkway within TRIC
Source: USA Parkway study team.

2.4 BUILD ALTERNATIVE

The Build Alternative would consist of the paved section of existing USA Parkway from I-80 through TRIC; the graded, unpaved section of the roadway to the Storey/Lyon County line; and a new alignment across private and BLM land that terminates at Opal Avenue. This alignment was selected as the preferred alternative for the following reasons.

- The alignment would provide a direct and efficient travel route that reduces the number of vehicle hours traveled and would offer the largest reduction in the trip length between the community of Silver Springs and the City of Reno.
- The alignment would be the most consistent with future land use plans, in that it follows the alignment identified on the Lyon County Integrated Roadway Network Map (Figure 2-2). Future land use plans for the communities of Silver Springs and Stagecoach were developed based on USA Parkway terminating at Opal Avenue. As described in the LCCMP, this terminus would best support the intended outcome of providing "opportunities to focus future development [in Silver Springs and] create circulation patterns and commercial/residential densities capable of supporting sustainable economic activity" (Lyon County 2010).
- The new alignment can be designed to NDOT design standards to achieve desirable design speeds, grades, and sight distances.
- The total earthwork volumes and disturbance to undeveloped land, native vegetation, and habitat would be less than or equal to the other alternatives considered.
- No potentially significant community or environmental impacts were identified.
- The alignment incorporates local stakeholder input on desired terminus location.

2.4.1 Description of the Build Alternative

The Build Alternative would include 6 miles of paved roadway (the existing USA Parkway) beginning at I-80. As noted, the paved portion of the existing USA Parkway is two lanes in each direction with a center median. Some portions of the existing USA Parkway do not conform to NDOT or AASHTO design standards. Improvements needed to comply with standards include:

- Placing guardrail end terminals and new guardrail,
- Flattening roadside slopes within the clear zone,[1]

[1] A recoverable side slope is a slope on which a motorist may retain or regain control of a vehicle by slowing or stopping. Slopes flatter than 1 foot vertical to 4 feet horizontal are generally considered recoverable. A clear zone is the total roadside border area (starting at the edge of the traveled way) that is available for safe use by errant vehicles.

- Moving culvert inlets out of the clear zone,
- Adjusting fire hydrant locations,
- Correcting sight distance,
- Upsizing nine culverts, and
- Upsizing 10 channels adjacent to the road.

Improvements to this section of roadway will ultimately depend on project funding. Deficiencies have been evaluated, but improvements would be determined in the final design process. These improvements would be localized along the existing roadway and USA Parkway would overall remain in its current condition. No improvements to the I-80 interchange with USA Parkway or the bridge over the Truckee River are included in this project.

The Build Alternative would also include construction of 4 miles of roadway generally following an alignment that has already been graded within TRIC to the Storey/Lyon County line. Some adjustments to the existing graded alignment have been proposed to comply with NDOT standards.

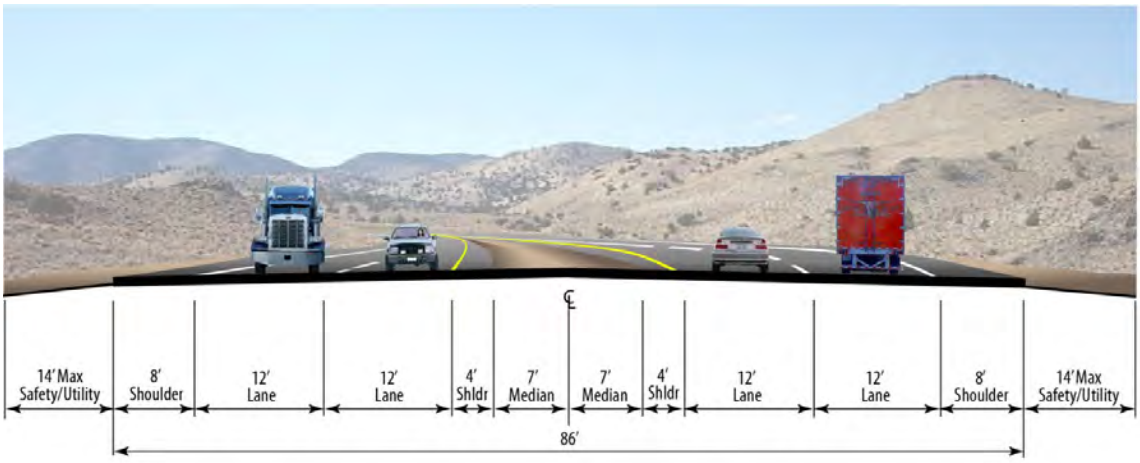
Graded Alignment within TRIC
Source: USA Parkway study team.

Lastly, the Build Alternative would include an 86-foot wide typical section beginning where the existing pavement ends and continuing to US 50 at Opal Avenue approximately 12.5 miles (including 4 miles that were previously graded and 8.5 miles of new alignment). This typical section would have two travel lanes in each direction, 8-foot-wide outside shoulders, and a center median. The typical cross section represented on Figure 2-3 was developed to meet current and future traffic demands and satisfy NDOT and AASHTO design standards, while simultaneously minimizing environmental impacts and overall costs. This typical section could be altered depending on topographical constraints. In the mountainous area, the use of barrier rails would eliminate the median and the need for recoverable side slopes. This design consideration would also reduce the overall footprint width and earthwork requirements. The 14-foot safety/utility area shown in the typical section meets clear zone design requirements and could accommodate future below ground utilities. The width of this clear zone varies depending on topographic constraints and design speed.

The drainage features would include limited curb and gutter, a median drainage channel, and some roadside channels. Roadside channels and cross culverts would accommodate existing drainage patterns, and culverts would be sized to accommodate existing stormwater flows across the proposed USA Parkway alignment at the southern end of the proposed project near the community of Silver Springs. Rip rap would be installed in channels to slow runoff, reduce the potential for erosion, and allow for infiltration. The design would also include slope armoring using geotextiles, vegetation, soil cement, or other long-term soil stabilization methods to minimize the potential for erosion.

Numerous design refinements have already been incorporated into the preliminary design of the Build Alternative to minimize potential impacts and costs. As more advanced drainage and earthwork analyses are performed, additional design refinements are anticipated. These refinements are expected to occur within the 1,000-foot-wide project area studied in this EA (Figure 2-3 and Figure 2-4). Construction of the improvements may be phased in over time, and not all of the project elements may be built at the outset of the project because of funding constraints. As funding becomes available and traffic volumes increase, additional project elements may be constructed.

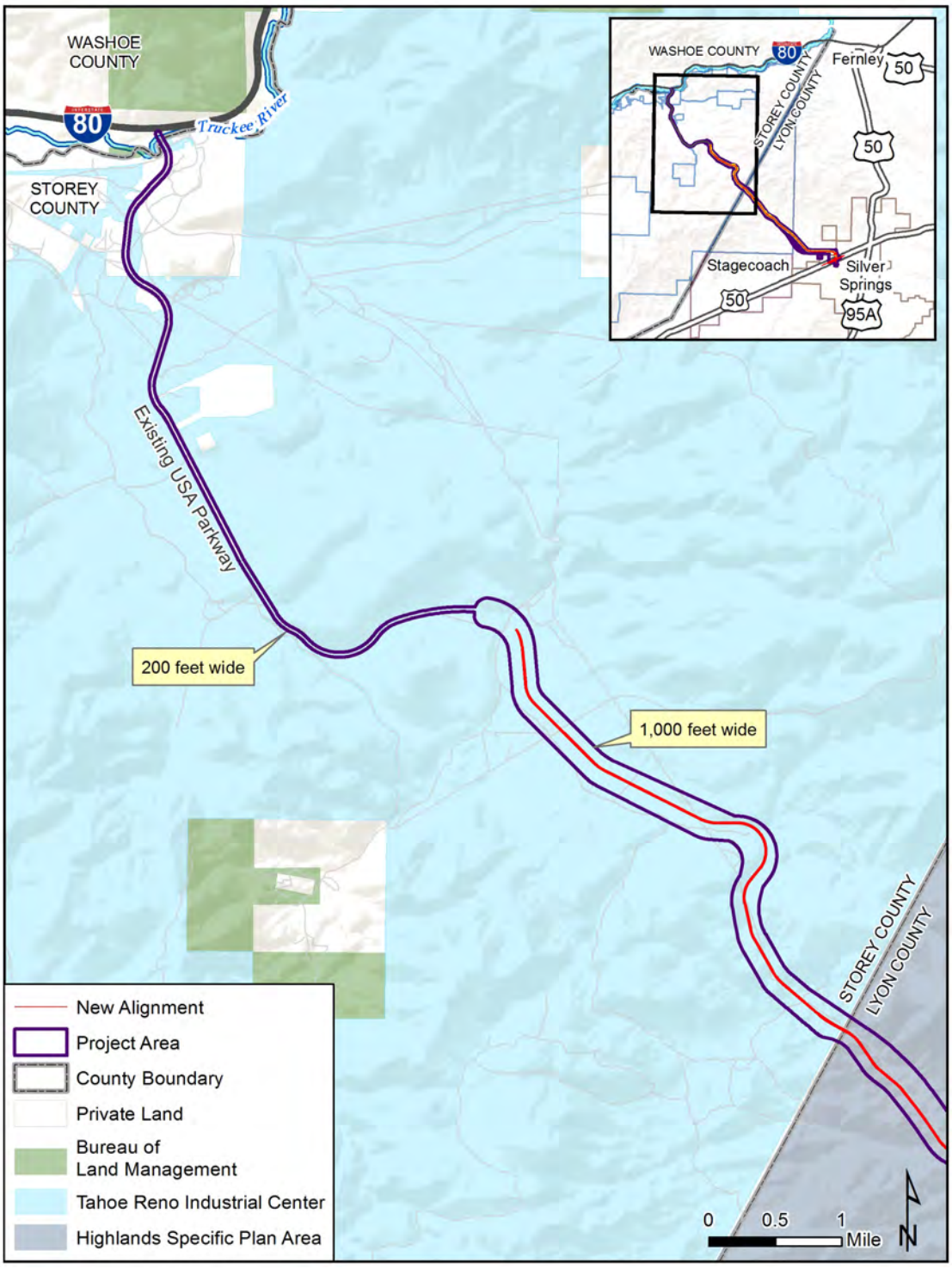
Figure 2-3. Typical Cross Section



Source: USA Parkway study team.
Note: ′ = foot or feet.

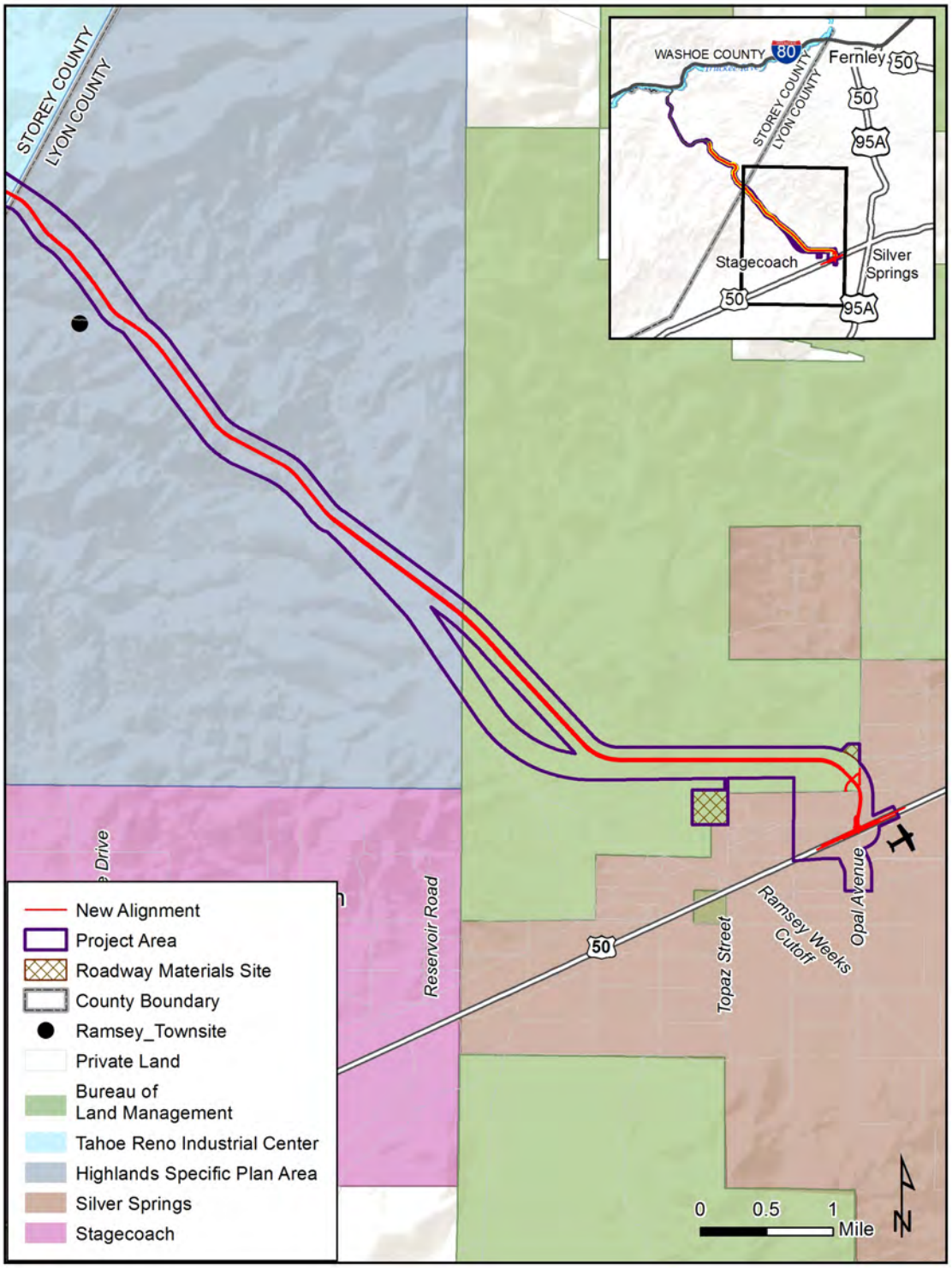
Figure 2-4 and Figure 2-5 illustrate the Build Alternative study area and the alignment of the Build Alternative. More detailed drawings showing the cut and fill limits and intersection design at US 50 are included in Appendix A, Project Alignment Map. The project area includes all of the areas that were surveyed for cultural resources and biological resources. These surveys were conducted prior to selecting the preferred alignment. Consequently, the project area includes areas where corridor refinement options were considered and eliminated. Not all areas within the project area would be affected by the proposed Build Alternative. Cut and fill limits are the limits of earthwork required to accommodate the Build Alternative. Two potential roadway materials source sites have been identified on 52 acres of undeveloped BLM land (see Figure 2-5 and Appendix A, Project Alignment Map). Roadway materials are materials used in construction, including sand, gravel, and crushed stone. Potential sites where these materials can be extracted for this project are analyzed in this EA. However, additional studies must be done to determine the suitability of material from these sites. If other roadway materials source sites are needed, those sites would undergo additional environmental evaluation prior to use.

Figure 2-4. Build Alternative (Storey County)



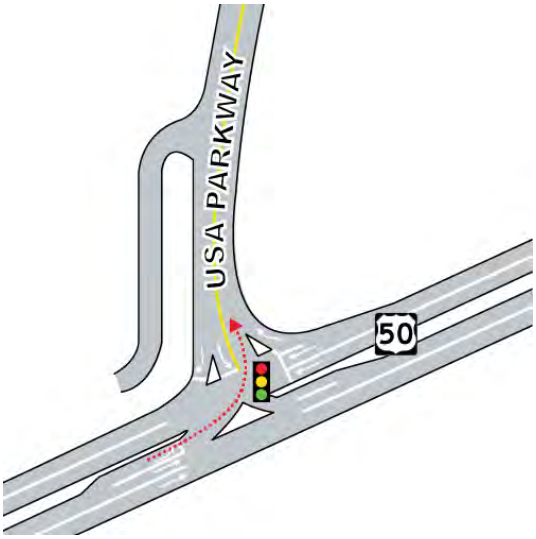
Source: USA Parkway study team.

Figure 2-5. Build Alternative (Lyon County)



Source: USA Parkway study team.

Figure 2-6. High-T Intersection Design



Source: USA Parkway study team.

This EA considers two options for the design of proposed terminus of USA Parkway at US 50. Initial construction would include a signalized, at-grade, High-T intersection. As depicted on Figure 2-6, this would be a 3-legged intersection that allows for the continuous flow of eastbound traffic on US 50. A new deceleration lane on US 50 would accommodate left turns from eastbound US 50 to northbound USA Parkway. A new acceleration lane on US 50 would accommodate left turns from USA Parkway to eastbound US 50. The signal would only stop westbound US 50 traffic to provide for left turn movements. This intersection configuration would serve projected travel demand at an acceptable LOS in 2037.

However, in keeping with the access management recommendations made in the US 50 East Corridor Study a grade-separated interchange option is also evaluated in this EA (NDOT 2007). This interchange may be implemented later in time if/when traffic volumes increase and funds are available for construction of the improvement.

The study area includes excess areas around the intersection of USA Parkway and US 50 that would allow NDOT to consider other potential intersection or interchange designs that may arise through final design. Any design will take into account traffic volumes at the time of construction and any proposed improvements as part of other ongoing road improvement projects.

2.4.2 Traffic Benefits of the Build Alternative

The Build Alternative would connect I-80 and US 50, providing another route for vehicles travelling to TRIC or the cities of Sparks and Reno from the Silver Springs area. The new route would reduce trips on US 50, US 95A, and I-80 and improve the LOS on these roadway segments (Table 2-2).

Table 2-2. Future LOS within the Project Influence Area under Build and No-Action Conditions[a]

Transportation Facility	No-Action Alternative LOS in 2037[b]	Build Alternative LOS in 2037[c]
USA Parkway	LOS E	LOS B, degrading to LOS D near I-80
I-80	LOS D (west of USA Parkway) LOS C (east of USA Parkway)	LOS C (west of USA Parkway) LOS B (east of USA Parkway)
US 50	LOS B[b] (west of 95A) LOS C (east of 95A)	LOS B[b] (west of 95A) LOS C (east of 95A)
US 95A	LOS E (south of Fernley) LOS D (north of Silver Springs)	LOS D (south of Fernley) LOS C (north of Silver Springs)

Source: Jacobs 2012a.

[a] The project influence area includes major roadways that could be influenced by the project. These roads include the existing portion of USA Parkway, I-80 between the community of Patrick and the City of Fernley, US 95A between the community of Silver Springs and the City of Fernley, and US 50 between the communities of Silver Springs and Stagecoach.

[b] LOS estimates are based on the Highway Capacity Manual Generalized Daily Service Volumes by roadway classification (TRB 2010).

[c] By 2037, it is assumed that US 50 would be widened to four lanes west of US 95A, which is why there are LOS improvements despite increased traffic volumes.

Mobility

Vehicle miles traveled and vehicle hours traveled are standard measurements to assess the level of mobility in a region. As listed in Table 2-3, the Build Alternative would reduce daily vehicle miles traveled in the project influence area by 451,000 miles in 2035. This would result in a 10 percent reduction in vehicle miles traveled in northern Lyon County and TRIC. Additionally, the Build Alternative would reduce vehicle hours traveled by 14,200 hours in 2035, or 13 percent over the No-Action Alternative. These reductions indicate the project would provide a more direct route, allowing traffic to get to destinations more efficiently.

Table 2-3. Existing and Future Travel Demand in the Project Influence Area[a]

Year	Daily VMT	Daily VHT	Average Speed (mph)
Existing Conditions (2010)	2,075,000	47,900	43 mph
No-Action Alternative (2035)	4,450,000	112,900	38 mph
Build Alternative (2035)	3,999,000	98,700	40 mph
Change between No-Action and Build Alternative (2035)	-451,000	-14,200	2 mph

Source: Jacobs 2012.

Notes: MPH = miles per hour; VHT = vehicle hours traveled; VMT = vehicle miles traveled.

The time horizon for the macro-travel demand modeling is 2035 in accordance with the time horizon for the adopted regional travel demand model. The project design year is 2037, which is 20 years from the projected 2017 opening year; therefore, micro-operations modeling was completed for 2037 in accordance with NDOT policy.

[a] The project influence area includes major roadways that could be influenced by the project. These roads include the existing portion of USA Parkway, I-80 between the community of Patrick and the City of Fernley, US 95A between the community of Silver Springs and the City of Fernley, and US 50 between the communities of Silver Springs and Stagecoach.

Freight Distribution

TRIC is an important shipping and logistics center. By 2035, approximately 24 percent of the daily traffic on USA Parkway is projected to be truck traffic. Therefore, 24 percent of the reduction in vehicle hours traveled within the project influence area would be associated with truck traffic. In total, the Build Alternative would contribute to reducing the daily truck travel by 3,408 hours (24 percent of 14,200 hours) by 2035, which would correlate with reduced freight delays (Jacobs 2012a). Annually, the reduction in freight delays would be 886,080 hours at an assumed savings of $25 per hour (Jacobs 2012b). Total annual reductions in freight delay costs are anticipated to be as much as $22 million a year in 2035.

3.0 ENVIRONMENTAL RESOURCES, IMPACTS, AND MITIGATION

This chapter provides information on the beneficial and adverse impacts of the proposed project to the built and natural environment. The chapter is divided into sections that discuss resources that could be affected by both the No-Action Alternative and the Build Alternative. Each section includes a discussion of applicable regulations; existing conditions; impacts; and avoidance, minimization, and/or mitigation measures specific for that resource.

The analysis for this EA includes information gathered from agency and public input received during the public scoping process, a review of available data, and field investigations.

3.1 PROJECT AREA

The project area consists of a 2,466-acre corridor located in Storey and Lyon counties. As illustrated on Figure 2-4 and Figure 2-5 and shown in more detail in Appendix A, Project Alignment Map, the project area contains:

- A 6-mile corridor, 200 feet wide, that includes the existing USA Parkway plus enough width to accommodate potential improvements identified in *Chapter 2, Alternatives* (The corridor is only 200 feet wide along the existing USA Parkway because improvements would not substantially modify the alignment or require substantial earthwork outside of the existing roadway.);
- A 12.5-mile corridor from the end of the existing USA Parkway to US 50 that is 1,000 feet wide to accommodate the Build Alternative (The corridor for the new alignment was widened to 1,000 feet to accommodate earthwork and to allow enough room to refine the alignment to minimize impacts to environmental resources within the corridor);
- An expanded area near the intersection with US 50 that allows for the consideration of alternate intersection configurations and connections to the local road system (The expanded area near the intersection with US 50 extends from the intersection approximately 2,800 feet north, 2,400 feet south, 1,600 feet east, and 2,600 feet west; see Appendix A, Project Alignment Maps for a more detailed view of these boundaries); and
- Two potential roadway materials source sites and access roads.

The project area is primarily located on private land; however, there is a 3.85-mile (709-acre) portion of the project area that crosses public land managed by the BLM (BLM land).

3.2 AREAS OF NO IMPACT

All relevant social and environmental issues were considered during scoping and environmental analysis. Certain resources are not in the project area or would not be impacted by the Build Alternative. Table 3-1 lists each of these resources and associated reasons for limiting further discussion in this EA.

Table 3-1. Areas of No Impact

Areas of No Impact	Reasoning
Air Quality	Lyon and Storey counties are both in attainment for all pollutants regulated by the National Ambient Air Quality Standards (U.S. EPA 2012). Therefore, no analysis of air quality is required. This project has been determined to generate minimal air quality impacts for Clean Air Act criteria pollutants and has not been linked with any special Mobile Source Air Toxics concerns. The project does not incorporate an analysis of the greenhouse gas emissions or climate change effects of the Build Alternative because the potential change in greenhouse gas emissions would be very small in the context of the affected environment. Because of the insignificance of greenhouse gas impacts, those impacts would not be meaningful to a decision on the environmentally preferable option or to choosing among alternatives (see Appendix B, Air Quality Technical Memorandum). Additionally, the Build Alternative would result in an overall reduction in vehicle miles traveled and vehicle hours traveled compared to the No-Action Alternative. These reductions would represent a reduction in projected vehicle emissions.
Areas of Critical Environmental Concern	An Area of Critical Environmental Concern designation is the principal BLM designation for public lands where special management is required to protect important natural, cultural, and scenic resources or to identify natural hazards. According to the CRMP, the project area is not located in or near any designated Areas of Critical Environmental Concern. (BLM 2001)
Environmental Justice	No minority or low-income populations were identified that would be adversely impacted by the project (see Appendix C, Environmental Justice Technical Memorandum).
Farmlands	The land in the project area is not used for producing crops and does not possess the physical and chemical characteristics to be classified as prime or unique farmlands (7 CFR 657.5).

Table 3-1. Areas of No Impact

Areas of No Impact	Reasoning
Geology and Soils	No unique geologic conditions have been identified in the project area. A complete geotechnical field exploration with subsurface borings has been completed to document site conditions and inform design and construction recommendations. Preliminary cut and fill estimates indicate approximately 1.7 million cubic yards of material would be excavated for the Build Alternative. Excavation and fill would mostly occur in the mountainous area near the Storey/Lyon County line. Excavated material would be used for fills within the project area to the extent possible. Minimal import or export of material outside of the project area is anticipated. Material excavated from the right-of-way on BLM land would be incorporated into the project or would be disposed in accordance with BLM regulations. Two potential roadway materials source sites have been identified and are included in the project area.
Hazardous Materials	No recognized environmental conditions were identified within the project area (see Appendix D, Hazardous Material Technical Memorandum).
Section 4(f)	The Department of Transportation Act (DOT Act) of 1966 included a special provision, Section 4(f), which stipulated that FHWA cannot approve the use of land from publicly owned parks, recreational areas, wildlife and waterfowl refuges, or public and private historical sites unless there is no feasible and prudent alternative to the use of land and the action includes all possible planning to minimize harm to the property resulting from use. No parks and recreation areas, designated recreation trails, or wildlife and waterfowl refuges were identified in the study area. Historic sites were identified through a cultural resource survey and evaluated for significance in terms of eligibility for inclusion in the National Register of Historic Places (NRHP). The survey identified five sites that were recommended eligible for inclusion in the NRHP. Four of those sites were recommended eligible because of what can be learned by data recovery (NRHP Criterion D—have yielded or may be likely to yield information important in prehistory or history). Section 4(f) only applies to archeological sites that are on or eligible for the NRHP and that warrant preservation in place. Section 4(f) does not apply if FHWA determines, after consultation with the SHPO and Native American tribes, that the archeological resource is important chiefly because of what can be learned by data recovery (even if it is agreed not to recover the resource) and has minimal value for preservation in place (FHWA 2012). Therefore, Section 4(f) would not apply to those sites. The Overland Route was the only resource in the study area that was also determined eligible under Criteria A—associated with events that have made a significant contribution to the broad patterns of our history. The Build Alternative would have No Effect on the Overland Route, and consequently would have no Section 4(f) use.
Wetlands	No wetlands were identified within the project area during surveys conducted in November 2011 and May 2012.

Table 3-1. Areas of No Impact

Areas of No Impact	Reasoning
Wilderness	No designated wilderness is located within or near the project area (BLM 2001). The project area is located near the communities of Silver Springs and Stagecoach where human disturbance is prevalent on BLM lands, and many BLM lands have been designated for disposal. Furthermore, the project area is not located in an area that has Wilderness Character; the project area does not offer outstanding opportunities for solitude or primitive recreation, and does not contain ecological, geological, or other features of scientific, educational, or scenic value.
Wild and Scenic Rivers	There are no designated wild and scenic rivers in Nevada (National Wild and Scenic Rivers System 2012).
Paleontological Resources	According to a search of the Geologic Map of Nevada, the primary geologic units along the proposed alignment include Quaternary alluvial deposits and igneous volcanic deposits that have a low potential for yielding significant fossil remains (Stewart and Carlson 1978).

Source: USA Parkway study team.

3.3 BIOLOGICAL RESOURCES

Biological Resources discussed in this section include general wildlife, special-status plant and animal species, migratory birds, vegetation, cacti, noxious weeds and estray horses. No federal threatened or endangered species would be affected by the Build Alternative. The Build Alternative would affect several wildlife species, physically disturb approximately 345 acres, and fence about 500 acres within the right-of-way. Of this total, 123 acres would be on BLM land (71 acres from roadway impacts and 52 acres from roadway materials site impacts). Impacts to biological resources would be minimized or mitigated by applying measures described in *Section 3.3.4, Avoidance, Minimization, and/or Mitigation Measures*.

3.3.1 Methods

Impacts to botanical and wildlife resources were identified based on agency coordination and field surveys completed November 2011 and May 2012. Field surveys focused on known and historical species occurrences, and habitat requirements were used to determine the likelihood of a particular species occurring in the project area.

The project area for botanical resources is the same as the project area described above. The project area for wildlife resources includes some additional areas to account for the mobility and range of the wildlife species evaluated: a 3-mile buffer for big game species, a 0.5-mile buffer for bird and bat species, and a 500-foot buffer for lizards and smaller terrestrial mammals. The following section summarizes the information gathered

from the field surveys, which is described further in Appendix E, Botanical Technical Study, and Appendix F, Wildlife Technical Study.

3.3.2 Existing Conditions

The project area is generally characterized by semi-desert habitat that ranges in elevation from 4,400 to 5,600 feet. The terrain ranges from gently rolling hills in the project area's northern and southern most portions to steep, rocky hills of the Virginia Range in the center portion. Wildlife species found in the project area are generally common species that have adapted to living in undisturbed to light and moderately disturbed, semi-desert/high desert areas, including raptors, coyote, rabbits, reptiles, estray horses, mule deer and other small mammal species.

Although there are springs, seeps, wells, and watering sites present within the project area, there is no suitable habitat for aquatic species (e.g., fish and amphibians). Therefore, these species are not evaluated further.

The special-status botanical and wildlife species that have potential to occur in or around the project area include species reported by the Nevada Department of Wildlife (NDOW) and Nevada Natural Heritage Program (NNHP), as well as BLM-listed sensitive species on the Carson City District and Nevada statewide lists (Table 3-2). The term "special-status," as used in this analysis, refers to any species with a conservation status designation and does not refer to any agency-specific designation category.

Table 3-2. Special Status Species with Potential to Occur, or Known to Occur, within the Project Area

Common Name	FWS Status[a]	NV Status[b]	BLM-Sensitive Species	Potential to Occur[c]
Desert horned lizard	-	S4	No	Known to occur. Observed during May 2012 survey.
Great Basin (Mojave black) collared lizard	-	S4	No	Known to occur. Observed during May 2012 survey.
Long-nosed leopard lizard	-	S4	No	Could occur.
Short-eared owl	-	S4	No	Could occur.
Golden eagle	-	S4	Yes	Could occur.
Ferruginous hawk	-	S2	Yes	Could occur.
Western burrowing owl	-	S3	Yes	Known to occur. Observed during November 2011 and May 2012 surveys but not on BLM land.
Swainson's hawk	-	S2	Yes	Known to occur. Observed during November 2011 and May 2012 surveys.
Pinyon jay	-	S3/S4	Yes	Known to occur. Observed during November 2011 and May 2012 surveys, but not on BLM land.

Table 3-2. Special Status Species with Potential to Occur, or Known to Occur, within the Project Area

Common Name	FWS Status[a]	NV Status[b]	BLM-Sensitive Species	Potential to Occur[c]
Loggerhead shrike	-	S4	Yes	Could occur.
Sage thrasher	-	S5	Yes	Could occur.
Brewer's sparrow	-	S4	Yes	Could occur.
Townsend's big-eared bat	-	S2	Yes	Could occur.
Western small-footed myotis	-	S3	Yes	Could occur.
Mule deer	-	S5, G	No	Could occur.
Bighorn sheep	-	S4, G	No	Could occur
Bee (four species)	-	-	Yes	Could occur.
Click beetle	-	-	Yes	Could occur.
Margaret rushy milkvetch	-	S2	Yes	Could occur.
Nevada suncup	-	S3	No	Could occur.
Lemmon buckwheat	-	S3	No	Could occur.
Sand cholla	-	CY, S2/S3	Yes	Known to occur. Species identified during botanical surveys. Not found on BLM land.
Pricklypear	-	CY	No	Known to occur. Species identified during botanical surveys. Not found on BLM land.
Oryctes	-	S2/S3	Yes	Could occur.
Tiehm's peppercress	-	S2	Yes	Known to occur. Species identified during botanical surveys. Not found on BLM land.
Greater sage-grouse	C	S3	Yes	No effect. Not known to occur south of I-80.
Lahontan cutthroat trout	T	S3	Yes	No effect. Occurs within Truckee River but not impacted by the project.
Cui-ui	E	S1	Yes	No effect. Occurs within Truckee River but not impacted by the project.

Source: USFWS 2014; NDOW 2012; NNHP 2012; NNHP 2012a.

[a] C = Candidate; E = Endangered; T = Threatened.

[b] CE = Critically endangered; CY = Protected as a cactus, yucca, or Christmas tree; FP = State protected species; S = State rank indicator based on distribution within the State at the lowest taxonomic level:

1. Critically imperiled and especially vulnerable to extinction or extirpation.
2. Imperiled due to rarity or other demonstrable factors.
3. Vulnerable to decline because rare and local throughout its range, or with very restricted range.
4. Long-term concern, though now apparently secure; usually rare in parts of its range.
5. Demonstrably secure, widespread, and abundant.

[c] Potential for occurrence is defined as follows:

- Could occur: Suitable habitat is available in the project area. However, there are few or no other indicators that the species might be present.
- Likely to occur: Habitat conditions, behavior of the species, known occurrences in the vicinity of the project area, or other factors indicate a relatively high likelihood that the species would occur in the project area.
- Known to occur: The species, or evidence of its presence, was observed in the project area during surveys.

Threatened and/or Endangered Species

No federal or state threatened or endangered plant or wildlife species were identified during botanical and wildlife surveys. A letter from the U.S. Fish and Wildlife Service (USFWS) on May 4, 2012, noted that the Lahontan cutthroat trout may occur in the Truckee River an updated list obtained in August 2014 indicated that greater sage-grouse, and cui-ui may occur in the project area (see Appendix M, Agency Scoping Comments).

BLM-Sensitive Species

Two BLM-designated sensitive plant species (i.e., sand cholla and Tiehm's peppercress) were located during botanical surveys. However, neither species was found on BLM land.

Various BLM-designated sensitive bird species and other terrestrial lizards and smaller mammals were observed throughout the project area during wildlife surveys (Table 3-2). The NNHP data indicated occurrences of two BLM-designated sensitive bat species within the project area, but those reports were over 30 years ago. Habitat for the bat species was not found on BLM land, and two abandoned mine shafts on private land did not reveal guano or bat activity during surveys. There are five BLM-designated sensitive invertebrate species (i.e., four bees species and click beetle) that have the potential to occur in the project area because their habitat requirements are very general.

Migratory Birds

The project is located within the Great Basin, which is part of the Pacific Flyway migration route. Vegetation in the project area could provide nesting and foraging habitat for migratory birds. Migratory birds that were observed during the field surveys and that have potential to occur in the project area are listed in Table 3-2.

Vegetation

Land cover types mapped in the project area range from relatively undisturbed natural communities to completely degraded disturbed sites and paved commercial development. Table 3-3 lists the land cover types and vegetation communities, in order of prevalence, identified in the project area, with the predominant cover type on the BLM land being Bailey's greasewood shrub alliance.

The quality and makeup of the sagebrush habitat varies greatly from dense shrubland to sparsely vegetated and barren areas. However, most of the habitat is invaded by cheatgrass, a non-native grass that greatly alters the available habitat. Cheatgrass-

infested areas provide lower quality habitat for all wildlife species and are at high risk for fire, which could further degrade the ecological community.

Table 3-3. Land Cover and Vegetation Communities in the Project Area

Cover Type	Acres	Percent
Big basin sagebrush	799	32%
Bailey's greasewood	582	24%
Disturbed[a]	601	24%
Rubber rabbitbrush	184	8%
Cheatgrass	191	8%
Utah juniper	78	3%
Fourwing saltbush	31	1%
Totals	2,466	100%

Source: Appendix E, Botanical Technical Study.

[a] Disturbed land includes all areas that have been manipulated to such a degree that vegetation is nonexistent and/or it provides little to no habitat for wildlife (e.g., previously graded areas, paved areas, and grazed areas). For a complete definition of each land cover type and vegetation community, reference the Botanical Technical Study (Appendix E).

Cacti

Two species of cacti were identified in the project area, the prickly pear and the sand cholla (BLM-designated sensitive species). Approximately 22 prickly pears and four sand chollas were mapped during the surveys. Sand cholla was concentrated near the southern end of the project area in Bailey's greasewood and big basin sagebrush alliances, and prickly pear was found throughout the project area in several habitat types. Neither cactus was found on BLM land.

Noxious Weeds

All of the species formally designated as noxious weeds by Nevada law were targeted during botanical surveys (NAC 555.010). However, special attention was given to identifying the hoary cress because BLM consultation indicated that this species had the highest potential to occur in the project area due to habitat requirements. No noxious weeds were identified during the May botanical surveys. However, some noxious weed species may not have been identifiable at this time because of later or early bloom times.

Estray Horses

The Virginia Range Estray Horse Area (estimated 283,769 acres) consists of all but the southernmost portion of the project area. According to Nevada law, "estray" means any livestock running at large upon public or private lands in the State of Nevada, whose

owner is unknown in the section where such animal is found (NRS 569.005). The Nevada Department of Agriculture manages the estray herd in accordance with estray livestock statutes. To date, the herd consists of an estimated 2,500 head (Lamm 2012). There are no BLM-designated herd management areas or wild horses protected by the Wild Free-Roaming Horses and Burros Act within the project area.

The project area contains suitable habitat that may be used for foraging, breeding, and migrating, and many estray horses were observed within the project area during field surveys.

3.3.3 Biological Resources Impacts

No-Action Alternative

The No-Action Alternative does not include construction in the project area and would not impact special-status botanical or wildlife species, vegetation communities, or wildlife habitat, and it would not promote the spread of noxious weeds.

Build Alternative

The Build Alternative would have direct and indirect impacts on biological resources.

Wildlife

The Build Alternative would convert approximately 162 acres of natural areas to highway and associated features. Also, construction activities associated with the Build Alternative (e.g., staging, cut/fill, and extraction of roadway materials from source sites) would impact an additional 183 acres. Right-of-way estimates are still preliminary; however, about 500 acres could be within the fenced right-of-way. Although, not all of that acreage would be disturbed, it would no longer be accessible to large wildlife species. Impacts to potential habitat of the two big game species (i.e., bighorn sheep and mule deer) and other smaller wildlife would be minor because the area disturbed is small in comparison to the thousands of acres of surrounding and available habitat. Minimizing disturbance and revegetating disturbed areas would reduce impacts to vegetation communities and control the introduction and spread of noxious or invasive weeds, which degrades wildlife habitat.

The Build Alternative could impact bighorn sheep and mule deer through habitat fragmentation, vehicle mortality, disturbances caused by roadway operations (i.e., noise and ground vibration), and reduced access to watering sites. Project biologists did not identify specific bighorn sheep or mule deer migration routes through records searches, consultation with resource ageneices, or field surveys; however, these big game species are known to occur in the area and seasonally migrate from higher elevations to lower

elevations. Installation of wildlife crossings and fencing would mitigate or reduce impacts by providing access and connectivity through the animals' range (see *Section 3.3.4, Avoidance, Minimization, and/or Mitigation Measures*).

Construction activities would displace the smaller common wildlife species that inhabit or use the area for forage or cover, potentially causing direct mortality of less mobile species, such as reptiles. Similar habitat on adjacent land would support the displaced species, and potential impacts would be minor. The typical species that could be impacted are widely distributed, and loss of some individuals and habitat would not impact the populations throughout their range.

Direct impacts to the Townsend's big-eared bat and Western small-footed myotis (i.e., bat species) may occur due to construction activities. Bats are vulnerable to disturbances in the form of human and construction-related activities during their hibernation. No bats were observed during the field surveys; however, the abandoned mine shafts adjacent to the alignment would be surveyed prior to construction, and if bats are present, measures would be implemented to minimize potential impacts.

Threatened and Endangered Species

No threatened or endangered species would be impacted by the Build Alternative. The Build Alternative would have no effect on greater sage grouse because the species is not known to occur in the study area. Greater sage grouse have been identified only north of I-80. The Build Alternative would have no effect on Lahontan cutthroat trout or cui-ui because the Build Alternative does not include any improvements to the existing USA Parkway bridge over the Truckee River. There would be, therefore, no direct impact on the Truckee River. The nearest construction activities would be located approximately 0.6 mile south of the Truckee River.

The project would not have indirect impacts resulting from stormwater runoff. Stormwater volumes and pollutant concentrations from the existing paved portion of USA Parkway would not change. Stormwater from the northern 3 miles of the existing graded roadway drains towards the Truckee River by way of an unnamed ephemeral wash that reaches the Truckee River approximately 6.1 miles away (Figure 3-1). Under normal circumstances, stormwater would dissipate well before reaching the Truckee River. Additionally, when NDOT assumes responsibility for the existing and future sections of USA Parkway, stormwater from the roadway would be managed by NDOT in accordance with National Pollutant Discharge Elimination System (NPDES) permit requirements to ensure discharges meet water quality standards. Prior to construction, a Stormwater Pollution Prevention Plan (SWPPP) will be prepared that outlines temporary and, if required, permanent erosion and sediment controls (see *Section 3.4.4*,

Avoidance, Minimization, and Mitigation Measures). Runoff from the proposed southern 9.5 miles of the Build Alternative would drain south to an unnamed ephemeral wash in the Ramsey Canyon Watershed that eventually dissipates before connecting to another waterway. On April 24, 2013, NDOT sent a letter to USFWS notifying them of the no-effect determination for the project, which fulfilled Section 7(c) Endangered Species Act responsibilities, and no additional formal or informal consultation is required (Appendix M, Agency Scoping Comments).

BLM-Sensitive Species

No BLM-designated sensitive plant or wildlife species were observed on the BLM land during field surveys. Potential habitat exists to support some of the sensitive bird species, bees, and click beetles. The amount of BLM land disturbed is small in comparison to the surrounding and available habitat; therefore, impacts would be negligible.

Migratory Bird Species

Direct impacts to the Western burrowing owl, golden eagle, Swainson's hawk, ferruginous hawk, pinyon jay, sage thrasher, and Brewer's sparrow (i.e., bird species) may occur due to the removal of vegetation, installation of permanent roadway features, and other construction-related activities. These activities would potentially impact nesting and foraging habitat and increase human-related disturbances in the area. However, because of the relatively small quantity of habitat that would be removed in comparison to the surrounding and available habitat, impacts to bird species would be negligible. Additionally, these impacts would be reduced by minimizing ground disturbing activities, revegetating disturbed areas, and implementing migratory bird nesting season restrictions during construction (see *Section 3.3.4, Avoidance, Minimization, and/or Mitigation Measures*).

Vegetation

The Build Alternative may affect approximately 55 plants presumed to be Tiehm's peppercress that were observed on an extremely rocky slope in a 0.5-acre area within the project area but not on BLM land. Cut and fill limits for construction would be 150 feet east of the population and would not directly impact any plants. However, construction could indirectly impact these plants by increased dust accumulation on the leaves and flowers during construction. If a sufficiently thick layer accumulates, this could decrease the rate of photosynthesis between rainfall events, which would potentially stunt the plant's growth. These potential impacts would be avoided or minimized through establishing environmentally-sensitive areas (see *Section 3.3.4, Avoidance, Minimization, and/or Mitigation Measures*).

Table 3-4 lists the number of acres of classified vegetation communities that would be impacted within the project area. Vegetation would be lost to construct permanent roadway features. Construction staging, material sources sites, and cut and fill areas would be temporarily impacted, then stabilized and revegetated. Within BLM land, the only vegetation community impacted would be 123 acres of Bailey's greasewood, of which 75 acres would be within the materials sources sites and cut and fill limits where revegetation would occur after construction.

Cacti

There were 26 individual cacti plants identified in the project area; however, only four cacti (all prickly pear) may be directly impacted (i.e., removed), and another five were within 50 feet of the impact limits. Direct impacts would include removal of the plants, the surrounding vegetation, and the habitat because of grading, road cutting, stabilization, and other construction activities. Indirect impacts may include increased dust accumulation on the leaves and flowers during construction. Impacts to these cacti species would be avoided or minimized through salvaging and relocating cactus plants (see *Section 3.3.4, Avoidance, Minimization, and/or Mitigation Measures*).

Table 3-4. Impacts to Vegetation Communities in the Project Area

Vegetation Community	Acres Impacted	
	Area within the limits of the road	Cut and fill[a]
Big basin sagebrush	37 acres	32 acres
Fourwing saltbush	4 acres	2 acres
Cheatgrass[b]	1 acres	14 acres
Rubber rabbitbrush	Less than 1 acre	3 acres
Utah Juniper	6 acres	10 acres
Bailey's greasewood	59 acres	80 acres[c]
Total	108 acres	141 acres

Source: Appendix E, Botanical Technical Study.

[a] Calculations of cut and fill impact acreages were derived from taking the presumed area of impact located between the edge of pavement and the cut and fill lines. This also includes the materials source sites. This area would not be covered with a hardscape (e.g., pavement), thereby allowing plants to grow back. It is assumed that this area would be actively revegetated following construction.

[b] This vegetation community is dominated by invasive grass and reduction of overall cover (impacts) is expected to be beneficial to the ecosystem.

[c] Seventy-five of the 80 acres of Bailey's greasewood impacted by cut and fill would occur on BLM land, as detailed in the narrative.

Noxious Weeds

The removal of native vegetation and ground disturbing activities associated with construction could result in the introduction and spread of noxious weeds. These

impacts would be mitigated by revegetating disturbed areas after construction (see *Section 3.3.4, Avoidance, Minimization, and/or Mitigation Measures*).

Estray Horses

Direct impacts to habitat for estray horses would be negligible because the area disturbed is small in comparison to the surrounding and available habitat. The Build Alternative could result in habitat fragmentation, vehicle mortality, disturbance from roadway operations (e.g., noise, traffic, and visual), and reduced access to watering sites. Installation of wildlife crossings and fencing would reduce these impacts by providing access and connectivity through the horses' range (see *Section 3.3.4, Avoidance, Minimization, and/or Mitigation Measures*).

3.3.4 Avoidance, Minimization, and/or Mitigation Measures

The following measures would be implemented to avoid, minimize, and mitigate impacts to biological resources from the Build Alternative.

- Establish an Environmentally-Sensitive Area: A qualified botanist will clearly flag and/or fence the boundary of the Tiehm's peppercress population to prevent access to this area. The boundary will remain in place and be maintained accordingly through the end of construction.
- Salvage and Relocate Cactus Plants: Succulent plants with potential to be impacted by construction will be considered for salvage if the plant is currently in a healthy condition as determined by the Restoration Contractor. Any succulent that cannot be accessed safely due to steep slopes or rocky areas will not be salvaged. Succulents that will not be salvaged will be broken up and windrowed as vertical mulch.
- Minimize and Revegetate Disturbed Areas:
    - Minimize the amount of disturbance to existing trees, shrubs, and vegetation, and limit the amount of time that disturbed areas remain non-vegetated.
    - Revegetate disturbed areas with native grass and forb species following established NDOT procedures.
    - Use standard NDOT best management practices (BMPs) for erosion control and to protect newly seeded slopes to control erosion and to promote the establishment of vegetation.

  - Develop and implement a Noxious Weed Management Plan to prevent the establishment and spread of Nevada State listed noxious weeds per Nevada Revised Statute 555.

- Adhere to Migratory Bird Nesting Season Restrictions: Construction will be conducted to avoid impacts to migratory birds that may be actively utilizing vegetation for nesting. When possible, vegetation removal is not to occur during the avian breeding season as defined by NDOW (February 1 to August 1). Raptors and owls may begin nesting as early as January. If vegetation removal must occur during avian breeding season, nesting surveys will be conducted by an experienced biologist at a maximum of 14 days prior to land disturbance. If nesting sites are found within the project limits, an NDOT Environmental Services Biologist will be consulted to flag a suitable avoidance buffer area around the nest site. No disturbance will occur within the flagged avoidance area while the nest is occupied.
- Install Exclusionary Wildlife Fencing: A permanent fence will be constructed to prevent wildlife from entering the right-of-way and to improve driver safety. The fence shall be constructed no less than 4 feet in height, with smooth wires on the top and bottom. Escape structures (e.g., earthen ramps) shall be installed to provide an exit for wildlife or livestock that enter the roadway and to improve driver safety.
- Install Wildlife Crossings: Up to two wildlife under-crossings will be installed where feasible to provide wildlife protection, habitat connectivity, and to improve driver safety. The design and construction will allow wildlife passage across the roadway corridor. The dimensions and design characteristics of the crossing structure will accommodate the largest animals in the area.
- Maintain Access to Watering Stations: The Construction Contractor will ensure wildlife is provided access to water sources during construction. These water sources should be located in proximity to the existing watering stations mapped on Figure 3-1 in Appendix F, Wildlife Technical Study. This may require installing wildlife crossings, as described above, to maintain access to existing watering stations or adding new water sources where access may be denied.
- Conduct Preconstruction Surveys for Bats: Prior to construction, a qualified biologist will conduct a pre-construction survey of the potential roosting sites for bats. If bats are detected, NDOW will be contacted for recommendations on appropriate measures to be taken to exclude bats such that they would not be harmed. These measures will be implemented prior to construction. If maternity roosts are identified that would be displaced by construction, NDOW will be

consulted to determine whether artificial replacement roosts are to be installed in appropriate habitat nearby.

3.4 WATER RESOURCES

This section identifies effects to surface water and groundwater in and around the project area. The project would result in an increase in impervious roadway surface, which would reduce natural surface area for stormwater infiltration and increase runoff. However, overall water quality in the surrounding area and specifically the Truckee River would not be adversely affected by the Build Alternative.

Under the existing conditions, stormwater runoff from the existing 6-mile segment of USA Parkway drains toward the Truckee River. Most precipitation events do not produce enough runoff to reach the Truckee River. However, larger events, occurring on average 24 days a year, may produce enough stormwater that runoff from the area in close proximity to the Truckee River would drain into the river (Wood Rogers 2013b). The most northern three miles of the graded alignment also drains towards the Truckee River. This portion of the graded alignment drains into an unnamed ephemeral wash that reaches the Truckee River approximately 6.1 miles away (Figure 3-1). Under normal circumstances, stormwater would dissipate well before reaching the Truckee River. Runoff from the proposed southern 9.5 miles of the Build Alternative would drain south to an unnamed ephemeral wash in the Ramsey Canyon Watershed that eventually dissipates before connecting to another waterway. When NDOT assumes responsibility for the existing and future sections of USA Parkway, stormwater from the roadway would be managed by NDOT in accordance with NPDES permit requirements to ensure discharges meet water quality standards.

3.4.1 Methods

The study team identified existing conditions and potential impacts to water resources and water quality using a watershed-based approach. This involved using data sources from Lyon and Storey counties, Nevada Division of Water Resources, Nevada Division of Environmental Protection (NDEP), and the U.S. Geological Survey. The study team identified (through aerial map interpretation, U.S. Geological Survey topographic maps, and field surveys conducted in November 2011 and May 2012) the channels and drainages that would be impacted by project construction and potential impacts related to overall increases in highway runoff and impervious surfaces. Hydrologic methods followed the 2006 NDOT Drainage Manual. On-site flows were calculated using the Ration Method. For culverts and channels that convey off-site flows, flows were calculated via the Natural Resources Conservation Service TR-55 methods using the U.S. Army Corps of Engineers (USACE) Hydrologic Modeling System (HMS) version

3.4. Precipitation intensities and depths were obtained from the National Oceanic and Atmospheric Administration (NOAA) Atlas 14 using the centroid of the watersheds being studies (Wood Rodgers 2013a). More detailed information on hydrology and drainage can be found in Appendix G, Hydrology Context Memorandum and the USA Parkway Preliminary Drainage Design Report (Wood Rodgers 2013a).

The State and federal environmental statutes and regulations considered during the analysis included the:

- Clean Water Act (33 U.S. Code [USC] 1251-1387, 40 CFR 104-471),
- Safe Drinking Water Act (42 USC 300f et seq., 40 CFR 141-149), and
- Underground Water and Wells (NAC 534).

3.4.2 Existing Conditions

Surface Water

The northern portion of the project area is located in the Truckee River Basin, and the southern portion of the project area is located in the Carson River Basin. Surface water within the project area is limited to the ephemeral washes that primarily convey stormwater drainage during and immediately after storm events. According to National Oceanic and Atmospheric Administration's National Climate Data Center, Reno has an average of 76.2 days of precipitation per year and receives 7.4 inches of precipitation (NOAA 2013). Most storm events produce very little precipitation, and stormwater dissipates quickly primarily through evapotranspiration

Along the existing USA Parkway, drainage features include a median drainage channel, some roadside channels, and curb and gutter at the I-80 interchange across the bridge over the Truckee River and for the first mile south of the Truckee River. For the rest of the project area, runoff from storm events is conveyed via sheetflow to ephemeral washes.

The Truckee River Basin, where the existing segment of USA Parkway lies, is a 1,190-square-mile watershed. The Truckee River flows in a west to east direction at the north end of the project area. Figure 3-1 depicts the watershed sub-basin for the existing segment (the yellow-shaded area). This sub-basin is 9,248 acres, and stormwater in the basin flows north in drainages toward the Truckee River. The basin is primarily undeveloped and currently has minimal impervious surfaces.

Most precipitation events do not produce runoff to the point that water from this watershed reaches the Truckee River. However, larger events, occurring on average 24 days a year, may produce enough stormwater that runoff from the area in close proximity to the Truckee River would drain into the river (Wood Rodgers 2013b). Total runoff volumes for this watershed are 515 acre-feet for a 2-year 24-hour event, 1,222 acre-feet for a 10-year 24-hour event, and 1,942 acre-feet for a 25-year 24-hour event (Wood Rodgers 2013b). The existing segment of USA Parkway is approximately 52.4 acres and typically generates about 1 percent of the total runoff in the sub-basin (Table 3-5).

Map of the Carson and Truckee River Basins
Source: Truckee River Operating Agreement

Table 3-5. Existing Paved USA Parkway Runoff

Year Event	Precipitation Depth (inches/24-hours)	Volume (acre-feet)	USA Parkway runoff as a % of Total Sub-basin runoff
2-year	1.57	6.85	1.3%
10-year	2.38	10.39	0.85%
25-year	2.89	12.61	0.65%

Source: Wood Rodgers 2013b.

Note: The existing roadway is 31,680 feet in length, 72 feet in pavement width, and covers 52.4 acres.

The northernmost 3 miles of the graded segment of USA Parkway are also located in the Truckee River Basin. Figure 3-1 illustrates the watershed sub-basin for the graded segment (the green-shaded area). This sub-basin is 15,846 acres, and stormwater in the basin flows north to an unnamed ephemeral wash that continues 6.1 miles toward the Truckee River. During annual storm events, stormwater from this sub-basin would likely dissipate primarily through evapotranspiration before reaching the Truckee River. Less

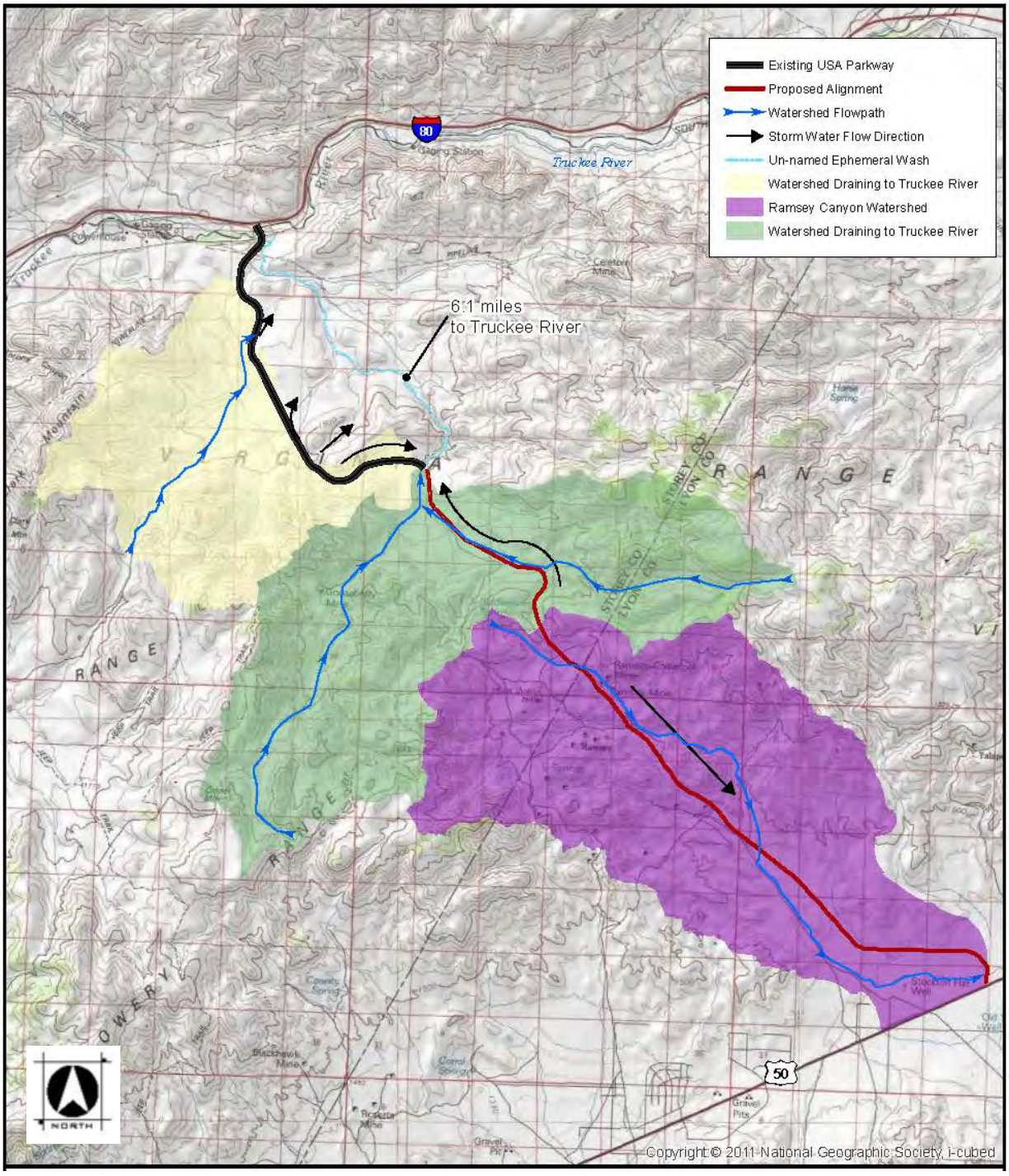
frequent storm events (i.e., 10-year or 25-year storms) may produce enough stormwater to reach the Truckee River; however, the graded roadway area is a very small portion of the overall area draining into the unnamed ephemeral drainage. Total runoff volumes for this watershed are 346 acre-feet for a 2-year 24-hour event, 1,630 acre-feet for a 10-year 24-hour event, and 2,281 acre-feet for a 25-year 24-hour event (Wood Rodgers 2013b).

Runoff from the proposed southern 9.5 miles of USA Parkway would drain south to an unnamed ephemeral wash in the Ramsey Canyon Watershed, which would eventually dissipate before connecting to another waterway. The Ramsey Canyon Watershed is part of the 3,966-square-mile Carson River Basin and is located approximately 7 miles north of the Carson River. The Carson River feeds the Lahontan Reservoir, which is located approximately 4 miles from the project. Figure 3-1 depicts the Ramsey Canyon Watershed (the purple-shaded section). This sub-basin is 19,228 acres, and drainage runs south.

In 2011, the U.S. Geological Survey completed a detailed study of the Ramsey Canyon Watershed (Jeton 2011). As identified, Ramsey Canyon is arid and primarily undeveloped, and most of the land cover is classified as shrubland. Mean annual precipitation averaged 6.2 inches for Ramsey Canyon, about 17 percent less precipitation than Reno. Simulated evapotranspiration averaged roughly 87 percent of total precipitation for the watershed, leaving little for runoff (8 percent) and groundwater inflow (5 percent). Ramsey Canyon had no residual water that was not accounted for in the precipitation and runoff modeling. Under normal conditions, surface water from the Ramsey Canyon Watershed does not reach either the Carson River or the reservoir.

A drainage study was completed for the project to document site conditions and to inform design and construction recommendations (Wood Rodgers 2013a). The project area is not located in any designated floodplain (FEMA 2009). There is documentation of large storm events causing flooding in the community of Silver Springs (Aleck 1986). NDOT and residents report that localized flooding has occurred in the vicinity of US 50 and the Silver Springs Airport during major storms. In 2012, Lyon County and the Silver Springs Airport prepared the *Ramsey Canyon Watershed Flood Control Study*, and the results of that study were considered in preparing the drainage design for the project. Lyon County and the Silver Springs Airport are currently planning flood control facilities in the vicinity of the airport.

Figure 3-1. Water Resources in the Project Area



Sources: Nevada Department of Water Resources 2012; USGS 2012.

Surface Water Quality Standards

The NDEP retains statutory authority for water quality through its Bureau of Water Quality Planning. The Bureau of Water Quality Planning assigns beneficial uses of surface waters throughout the State and subsequently develops water quality standards to protect these uses. The Truckee River has been assigned the following beneficial uses in the project area:

- Irrigation,
- Watering of livestock,
- Recreation involving contact with water,
- Recreation not involving contact with water,
- Industrial supply,
- Municipal or domestic supply (or both),
- Propagation of wildlife, and
- Propagation of aquatic life (NDEP 2012).

The Clean Water Act requires states to publish an annual list of water bodies that are not meeting their beneficial uses because of excess pollutants. These pollutants can occur naturally or be a result of human activity. The list of impaired waters, known as the Section 303(d) list, is based on violations of water quality standards. In the project area, the Truckee River is a Section 303(d) impaired water because of temperature and turbidity (NDEP 2006). The NDEP Water Quality Standards and Monitoring Branch is responsible for assigning the total maximum daily loads to these impaired waters, which accelerates the cleanup process of these impairments. Three total maximum daily loads have been established for the past impairments of total dissolved solids (900,528 pounds per day), nitrogen (1,000 pounds per day), and phosphorous (214 pounds per day) (NDEP 1994).

Ground Water

Regionally, the project area is underlain by the Basin and Range aquifer system. This aquifer system is the source of municipal water supplies in both Lyon and Storey counties (USGS 2012). Because topography in the area is generally steep, the soil permeability low, evaporation high, and vegetation sparse, ground water recharge is limited to alluvial fans (fan-shaped deposits of sediment at the base of a slope) located at the base of drainage networks. Though most precipitation is lost through evapotranspiration, approximately 5 percent of precipitation infiltrates and becomes groundwater recharge (Storey County 1994). Groundwater recharge in Lyon County is similarly low (about 5 percent) due to steep topography, low soil permeability, high evaporation, and sparse vegetation.

3.4.3 Water Resources Impacts

No-Action Alternative

Under the No-Action Alternative, the only impacts to water resources in the project area would result from natural erosion and runoff from the existing USA Parkway.

Build Alternative

The Build Alternative would result in a 112.9-acre increase in impervious roadway surface, which includes paving 30.6 acres of the existing graded road in the Truckee River basin and paving 82.3 acres of new alignment in the Carson River Basin. This increase in paved area would reduce surface area for stormwater infiltration and slightly increase runoff rates and volume (Table 3-6 and Table 3-7).

Table 3-6. Additional Paved Roadway Runoff in the Truckee River Basin

Year Event	Precipitation Depth (inches/24-hours)	Volume (acre-feet)	USA Parkway runoff as a % of Total Sub-basin runoff
2-year	1.67	4.26	1.23%
10-year	2.56	6.53	0.40%
25-year	3.12	7.96	0.35%

Source: Wood Rodgers 2013.

Note: The Build Alternative in this portion of the Truckee River Basin would be 18,527 feet in length, 72 feet in pavement width, and cover 30.6 acres.

Table 3-7. Additional Paved Roadway Runoff in the Carson River Basin

Year Event	Precipitation Depth (inches/24-hours)	Volume (acre-feet)	USA Parkway runoff as a % of Total Sub-basin runoff
2-year	1.49	10.21	2.2%
10-year	2.29	15.70	1.1%
25-year	2.80	19.19	0.9%

Source: Wood Rodgers 2013.

Note: The Build Alternative in this portion of the Carson River Basin would be 49,767 feet in length, 72 feet in pavement width, and cover 82.3 acres.

Roadway drainage would be conveyed via sheetflow, curb and gutter, and inlets to roadside open channel drainage ditches. Stormwater runoff often contains sediment and/or pollutants in quantities that could adversely impact water quality. Types and concentration of pollutants in roadway runoff are highly variable and can be impacted by such factors as traffic volumes, climate, maintenance practices, vegetation, and soil type on the right-of-way. A direct effect of sediments into receiving waters is the increase in turbidity and the concentration of suspended solids. The intensity of storm events in the area can exaggerate runoff and complicate attempts to effectively manage stormwater

flows. Overall runoff from the existing and planned roadway represents a very small portion of the overall area draining into the Truckee River and Carson River basins. When NDOT assumes responsibility for the existing and future sections of USA Parkway, stormwater from the roadway would be managed by NDOT in accordance with NPDES permit requirements to ensure discharges meet water quality standards.

Ground disturbing construction activities can increase the potential for erosion. Long-term risks to water quality would result from a failure to stabilize slopes, typically through revegetation, which could lead to ongoing erosion and sedimentation impacts. These risks would be greatest in the areas where cut and fill slopes are required. Implementation of temporary and permanent BMPs would reduce this risk. Prior to construction, a SWPPP will be prepared that outlines temporary and, if required, permanent erosion and sediment controls; that locates stormwater discharge points; and that describes BMPs to be implemented to prevent or reduce stormwater pollutant discharge associated with construction activities to the maximum extent practical. The management practices selected for implementation will be sufficient to ensure that the discharges will not cause or contribute to an exceedance of applicable State water quality standards.

The Build Alternative would not affect any flood zones outside of the project area, which would include the flood zones near the Truckee River, east of the Silver Springs Airport, or Ramsey Canyon. Drainages affected by the project were modeled in accordance with the 2006 NDOT Drainage Manual. This modeling indicated that the project would result in increased depths upstream of where the roadway crosses drainages and increased velocities downstream of the crossings; however, this condition would dissipate prior to the drainage paths encountering any developed property except near Silver Springs. In this area, the flow path is wide and distributed over 1,000 feet. Because of the proximity of this crossing to developed properties both upstream and downstream of the roadway, it will be critical to allow conveyance without significantly increasing water surface upstream of the crossing or increasing the downstream velocity markedly. Preliminary design options that were considered included multiple box culverts, many pipes over a wide area, a low-spanning bridge, or a dipped section of roadway with a low-flow culvert system. The option included in the preliminary design was culverts to convey the 10-year peak flow in conjunction with a dipped portion of roadway allowing for overtopping. This option raises the upstream surface and would affect nearby properties. During final design NDOT will complete a more detailed two-dimensional hydraulic model to more fully understand potential impacts to adjacent properties and to develop options to mitigate impacts to affected properties. This may include acquiring additional right-of-way or easements. (Wood Rodgers 2013b)

No seeps, springs, or existing wells would be impacted by the Build Alternative. Furthermore, impacts to groundwater resources are not anticipated because of the shallow excavation depths required for construction coupled with the lack of shallow groundwater particularly in the mountainous area where most excavation would occur.

Wetlands and Waters of the U.S.

There are no wetlands within the project boundary. The Truckee River is a jurisdictional water of the U.S. Jurisdictional waters include rivers, lakes, and other aquatic features that are regulated by the USACE in accordance with the Clean Water Act. As described above, there is a potential for one ephemeral drainage to convey stormwater from the graded portion of USA Parkway to the Truckee River as a result of storm events with a reoccurrence interval of 10 to 25 years. A significant nexus determination has not been completed to evaluate if this ephemeral drainage would meet the hydrologic and ecological connectivity requirements to be considered a water of the US, which would place it under the regulatory jurisdiction of the USACE.

Because of the long-term nature of this study and the preliminary level of design, NDOT has not yet undertaken coordination with the USACE that would allow a definitive statement about the project's impacts to ephemeral drainages potentially draining into the Truckee River. It is NDOT's practice to utilize the Preliminary Jurisdictional Determination process to expedite Clean Water Act Section 404 permitting. Once design is at level sufficient to determine project impacts and the type of permit required, NDOT will seek a permit from the USACE. All terms and conditions of the Section 404 permit will be adhered to. By federal law, every applicant for a federal permit or license for an activity that may result in a discharge into a Jurisdictional water must request a Section 401 water quality certification from the state that the proposed activity will not violate state and federal water quality standards (see *Section 3.4.4, Avoidance, Minimization, and/or Mitigation Measures*).

Two previous studies in the Ramsey Canyon Watershed for NDOT's US 50 Widening project from Roy's Road to US 95A and a private development that was previously considered within the Highlands Specific Plan Area both concluded, in consultation with the USACE, that there were no jurisdictional waterways within the Ramsey Canyon waterway. A field review conducted in November 2011 confirmed that although a definable channel bed and bank were visible throughout some of the drainages that cross the project area, there was no connectivity downstream to a jurisdictional water of the U.S.

3.4.4 Avoidance, Minimization, and/or Mitigation Measures

The following measures would be implemented to avoid, minimize, and mitigate impacts to water resources and water quality from the Build Alternative.

- Consult with USACE and Obtain Clean Water Act Section 404 and 401Permits: Once design is at level sufficient to determine project impacts and the type of permit required, NDOT will complete the Preliminary Jurisdictional Determination process and then seek necessary permits from USACE. NDOT will adhere to all terms and conditions of the Section 404 and 401 permits to ensure the project does not violate state and federal water quality standards.
- Implement Stormwater BMPs: Temporary and permanent erosion control and stormwater BMPs will be implemented during construction per the NDOT water quality manual. Specific BMPs are incorporated into the project plans during preliminary and final design. NDOT's Hydraulics Section, with support from other divisions, is responsible for incorporating the permanent BMPs into the design. Possible temporary and permanent BMPs are identified in the Storm Water Management Program manual. These measures have been selected to achieve pollutant load reductions through sound engineering judgment, published BMP studies, and experience with other municipal separate storm sewer system (MS4) stormwater programs. BMPs that may be selected for this project include:

  Permanent BMPs

  - Preservation of existing vegetation to the extent possible
  - Installation of hydraulically stable ditches, berms, and swales, as needed
  - Re-vegetation, mulching, and slope roughening in disturbed areas to reduce erosion
  - Infiltration basins that allow pollutants to settle
  - Installation of rip rap to slow runoff, reduce the potential for erosion, and allow for infiltration
  - Slope armoring using geotextiles, vegetation, soil cement, or other long-term soil stabilization methods to minimize the potential for erosion

  Temporary BMPs

  - Street sweeping and vacuuming during construction
  - Storm drain inlet protection
  - Fiber rolls, silt fences, and gravel bag berms
  - Stockpile and construction site management

  - Wind erosion control and application of soil stabilizer
  - Hydroseeding

- Obtain Required Stormwater Permits: As part of the development of BMPs for the project, the Construction Contractor will file a Notice of Intent with the NDEP Bureau of Water Pollution Control to obtain coverage under the General Permit for Stormwater Discharges Associated with Construction Activity (NVR100000).
- Prepare a SWPPP: A SWPPP will be developed before the Notice of Intent is submitted. The SWPPP will outline temporary and permanent, erosion, and sediment controls (see example BMPs above); will locate stormwater discharge points; and will describe BMPs to be implemented to prevent or reduce stormwater pollutant discharge associated with construction activities to the maximum extent practical. The SWPPP will include a demonstration that the BMPs selected for implementation will be sufficient to ensure that the discharges will not cause or contribute to an exceedance of applicable State water quality standards.
- Coordinate with Local Agencies: As part of final design, NDOT will coordinate with local agencies, municipalities, and the Pyramid Lake Paiute Tribe regarding permanent water quality features.
- Drainage: During final design, NDOT will complete a two-dimensional hydraulic model to more fully understand potential impacts to adjacent properties and to develop options to mitigate potential flooding of adjacent properties. This may include reducing the impact through design or acquiring additional right-of-way or easements.
- Obtain Appropriate Water Use Waivers: NDOT will obtain a waiver to use water for highway construction in the case where an existing well will be used, or a new well drilled, to provide construction water as required by NAC 534.

3.5 Land Use

This section discusses consistency with adopted land use plans. The Build Alternative would be consistent with the goals and strategies found in the master plans for Lyon and Storey counties. The Build Alternative would be consistent with the BLM land management designations identified in the 2001 CRMP.

3.5.1 Methods

The study team reviewed existing and future land use plans, aerial photography, and zoning information for Lyon and Storey counties, and held discussions with county planners and officials associated with Lyon and Storey counties. The study team

reviewed the CRMP to identify and locate land uses and accesses in the project area, contacting BLM resource specialists, as necessary, to clarify the CRMP information. BLM land use for grazing is discussed in *Section 3.10.3, Existing Conditions: Public Land Managed by BLM*.

3.5.2 Existing Conditions

The land use in the project area is predominately undeveloped with approximately 8,600 acres of existing commercial development located near I-80 to the north and commercial and sparse residential development located near US 50 to the south.

Storey County

The project area within Storey County is located within TRIC, a privately-held industrial complex (see *Section 1.1.2, Study Area,* for further details on TRIC). The land is zoned as Heavy Industrial, and TRIC is permitted to develop 30,000 acres of industrial area south of I-80. Approximately 14 million square feet of industrial buildings have been sold and developed. This development consists of large warehouse and processing type facilities distributed on very large parcels of land. Continued development is planned for this area.

Lyon County

The project area within Lyon County is predominately undeveloped from the Storey/Lyon County line to near US 50 where the land use is a mix of low-medium density rural residential and commercial properties. The Highlands Specific Planning Area is designated as 20,250 acres of land in the northwestern quadrant of Lyon County located between TRIC and US 50 in the Silver Springs/Stagecoach area. While a Specific Plan designation does not designate a specific future land use, it does require proposed development within the area to be reviewed in a comprehensive manner based on a set of adopted policies and criteria. The land use plan, policies, and criteria for the Highlands Specific Planning Area have not yet been adopted by Lyon County, and future uses of the area are speculative at this time.

The community of Silver Springs is predominately rural-residential, consisting of single-family, site-built homes and mobile home parks. The area along US 50 represents the employment and commercial districts for the community and occupies a small portion of the entire community's landscape. The LCCMP encourages development within Silver Springs and states that the community has "ample vacant and underdeveloped land suitable for commercial, industrial, and high-density residential use" (Lyon County 2010).

3.5.3 Existing BLM Land Use Designations

The project area includes 709 acres of public land managed by the BLM. Most of this land has no special land use designation and is available for multiple uses. About one-third of the project area has been designated for disposal (Figure 3-2). BLM identifies land that is difficult and not cost effective to manage because of the scattered location of the parcels for disposal. BLM can only sell public lands that have been identified as potentially suitable for disposal in an approved land use plan.

Fire Management

BLM has assigned fire management categories in the CRMP. The project area is in category "B," which includes areas where wildfires are not wanted, but suppression options are available if fires occur. Large wildfires have occurred in the Virginia Range across public and private land in both Lyon and Storey counties over the past two decades. Protection of life, then property and natural resources, are considered when BLM determines suppression strategies (BLM 2001).

BLM partners with local communities and county governments for wildland fire suppression. A fire hazard and risk assessment completed for Silver Springs at the south end of the project area classified the community as low hazard for wildfires (RCI 2004). The northern part of Storey County that includes the project area has not been assessed for wildfire hazards (RCI 2004).

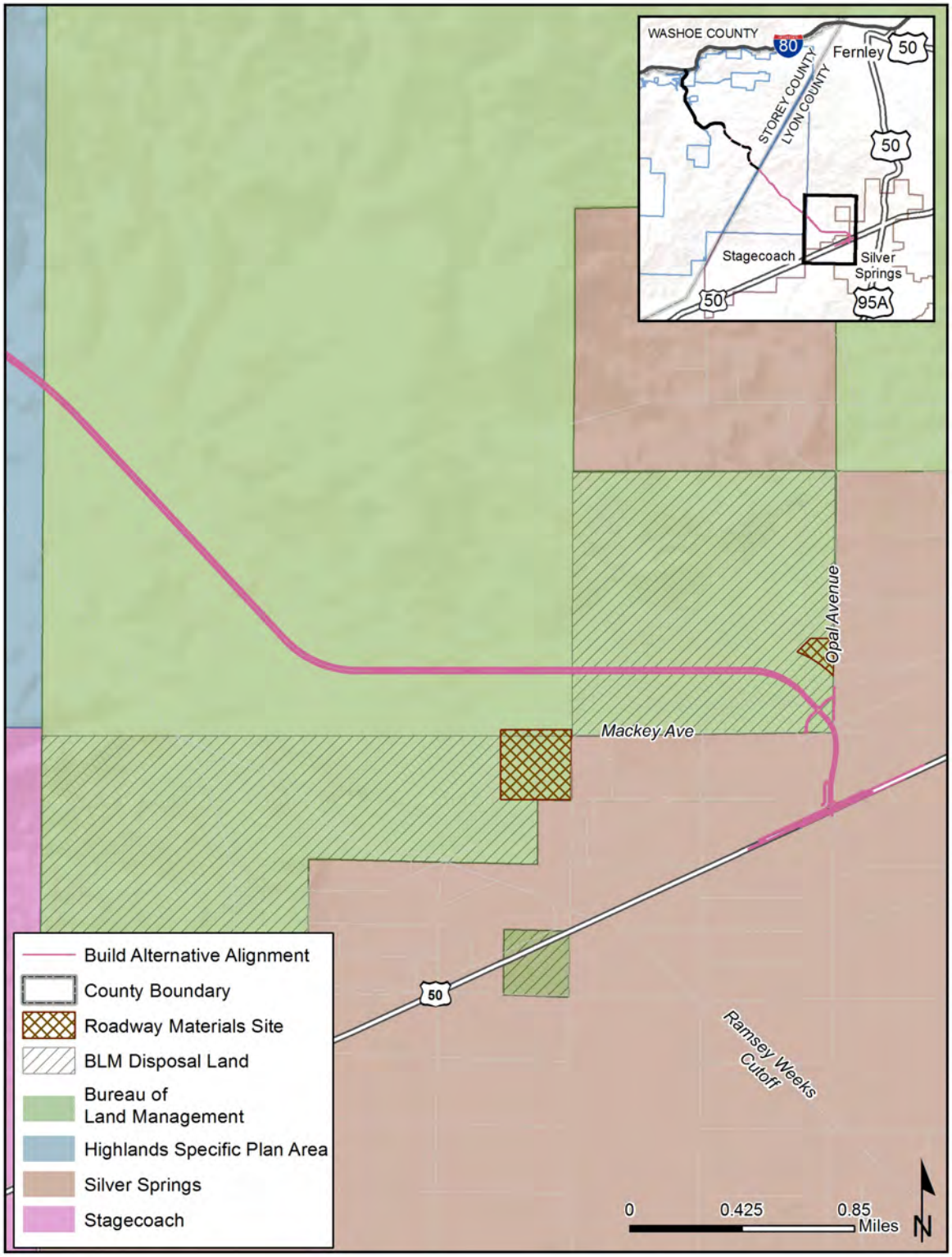
Recreation

BLM land within the project area is open for recreational use. Because there are no unique recreational resources on BLM land in or adjacent to the project area, BLM manages the land for traditional dispersed recreation equally with other resources and resource uses.

Travel Management

BLM manages access to public land for motorized and non-motorized travel. All public land under the BLM-Carson City District jurisdiction is designated open to off-highway vehicle use unless specifically restricted or closed (BLM 2001). Access to BLM land within the project area would occur via streets and gravel roads (i.e., Opal, Onyx, Topaz, Rocky, Glick, Hackberry, and Ramsey), power line access road, and drainages.

Figure 3-2. Location of BLM-Designated Disposal Land



Source: USA Parkway study team.

3.5.4 Land Use Impacts

No-Action Alternative

Transportation right-of-way would not be needed under the No-Action Alternative. Land uses in the project area would generally reflect the current conditions, and land use designations, recreational opportunities, and access to BLM land would not change.

Because local land use plans support completion of the project, the No-Action Alternative would not be consistent with these plans.

Build Alternatives

The Build Alternative would be consistent with the goals and strategies found in the respective master plans for Lyon and Storey counties. These goals seek to keep the natural beauty and scenic nature of the existing landscape, while continually promoting growth within each county. In Storey County, the Build Alternative would support further development of TRIC. In Lyon County, the Build Alternative would support the LCCMP's goal of developing commercial, industrial, and high-density residential land uses in Silver Springs (see also *Section 1.2, Project Purpose,* and *Section 1.3, Project Need*).

Direct impacts to the project area include the conversion of approximately 380 acres of undeveloped private land and approximately 123 acres of BLM lands for temporary and permanent roadway use (including cuts, fills, pavement, undisturbed right-of-way outside of excavation limits, and materials source sites). Of the 123 acres of BLM land needed for the Build Alternative, 72 acres (including the roadway materials source sites) have been identified in the CRMP for disposal. The terms and conditions of any future disposal outside of the proposed right-of-way would be subject to the Build Alternative right-of-way.

The Build Alternative would not adversely impact the BLM's ability to manage public lands to minimize fire risk. The connectivity from USA Parkway could actually benefit accessibility for fire suppression. Additionally, the road itself could act as a firebreak. While construction activities and careless discard of smoldering materials have the potential to increase fire starts during hot and dry conditions, compliance with NDOT standard contract specifications would minimize the risk of wildfires.

Recreation is not emphasized on BLM land within or adjacent to the project area. In the land use planning process currently underway, BLM would not likely designate the land as any type of recreation management area because the area lacks unique opportunities or resources.

The Build Alternative would not affect travel management on BLM land within and adjacent to the project area. The Build Alternative would include wildlife fencing, which would also prevent access to BLM land along the alignment. However, access to BLM land south of the right-of-way would continue to occur via streets, gravel roads, and drainages, and access north of the right-of-way would continue to be via Opal Street, drainages, and a power line access road.

3.5.5 Avoidance, Minimization, and/or Mitigation Measures

The Build Alternative is consistent with land use designations and policies. Therefore, mitigation is not required. NDOT standard contract specifications include provisions to minimize fire risk.

3.6 TRAFFIC NOISE

This section analyzes noise resulting from construction and operation of USA Parkway. Increases in noise levels would occur during construction, although this increase would be temporary and intermittent. Three residences met criteria for consideration of a traffic noise abatement measure. An evaluation of traffic noise abatement was performed and it was determined that a sound wall was not cost effective and, therefore, not reasonable for these residences and could not be proposed.

3.6.1 Methods

This traffic noise analysis was completed per 23 CFR 772, the FHWA's Highway Traffic Noise: Analysis and Abatement Guidance (FHWA 2011), and NDOT's Traffic and Construction Noise Analysis and Abatement Policy (NDOT 2012). The Traffic Noise Technical Memo includes additional information on the analysis completed for the project (Appendix H, Traffic Noise Technical Memorandum).

3.6.2 Existing Conditions

The characteristics and function of land use in the project area is what determines the related traffic noise activity category. There are different standards for the varying activity categories. Table 3-8 describes the land use within the project area.

3.6.3 Traffic Noise Impacts

No-Action Alternative

The No-Action Alternative would have no impacts related to traffic noise in the project area.

Table 3-8. Existing Land Use in the Project Area

Area	Description of Area
1	TRIC (Area 1) includes the paved portion of the existing USA Parkway and various warehouse, light industrial facilities, retail facilities, and undeveloped land.
2	TRIC (Area 2) includes the unpaved portion of the existing USA Parkway in addition to acres of undeveloped land.
3	The Highlands Specific Planning Area consists of privately-held, undeveloped land.
4	BLM land covers a number of acres of federal and undeveloped land.
5	Ramsey Subdivision 2 and 4 are two single-family residential areas in the community of Silver Springs. This area also includes undeveloped land.

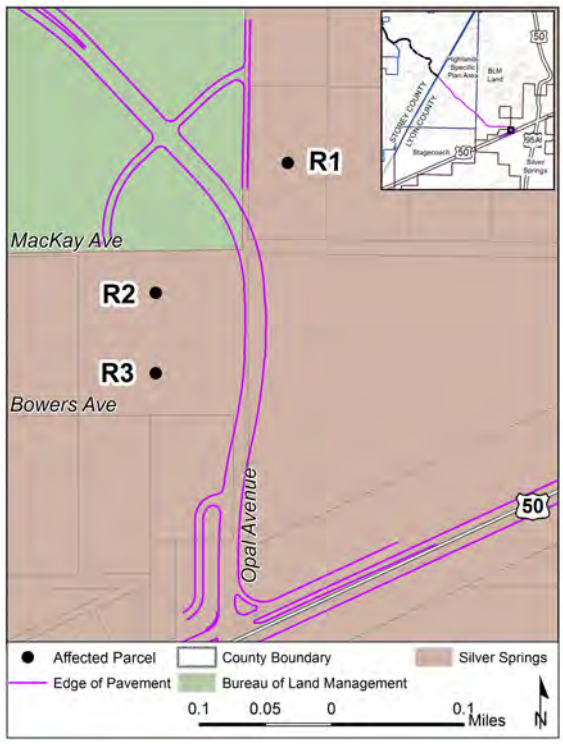
Source: Appendix H, Traffic Noise Technical Memorandum.

Build Alternatives

Increases in noise during construction would be temporary, intermittent, and the intensity would vary for different areas of the project area and the construction activity.

The Build Alternative analysis considers traffic noise impacts to eligible land uses or undeveloped lands that are currently permitted for construction of eligible uses. Areas 1, 2, 3, and 4 do not have land uses or permitted development that would be considered and are not analyzed further (Table 3-8).

Figure 3-3. Traffic Noise Impacts within Area 5



Source: USA Parkway study team.

A traffic noise impact was realized in Area 5 (Table 3-9). As depicted on Figure 3-3, this area consists of three, single-family residences along Opal Avenue and Mackey Street. There is no additional permitted development in this area; therefore, analysis focused on the existing single-family residences. Given the identified traffic noise impact, a traffic noise abatement measure was considered. For the remaining project area, there would be no traffic noise impact associated with the Build Alternative.

Table 3-9. Existing and Future (2017 and 2037) Noise Levels for Area 5[a]

Residence[b]	Existing Noise Level	2017 Modeled Noise Level	Noise Impact?[c]	2037 Modeled Noise Level	Noise Impact?[c]
R1	40.8	53.8	No	58.3	Yes
R2	40.8	58.5	Yes	62.9	Yes
R3	40.8	59.3	Yes	63.7	Yes

Source: Appendix H, Traffic Noise Technical Memorandum.

[a] All noise readings are represented in dBA L_{eg}(h).

[b] The address of each residence (R) is referenced in the Traffic Noise Technical Memorandum (Appendix H).

[c] A noise impact occurs if predicted noise levels over one hour exceed 66 a-weighted decibels (dBA) Leg(h) or if predicted noise levels increase by at least 15 dBA.

Analysis of Noise Abatement Measures

A traffic noise abatement measure was considered for the three single-family residences in Area 5. When considering a traffic noise abatement measure, it must meet feasible and reasonable criteria to be proposed. Given its intrinsic effectiveness per unit cost, a concrete, post-and-panel sound wall was evaluated. It is assumed that this measure would be feasible to construct, and the resultant sound wall was modeled to meet the acoustical feasibility criteria.

The initial step to evaluate reasonableness is through determining the cost effectiveness of the abatement measure. The minimum sound wall that satisfied acoustical feasibility criteria does not satisfy the cost reasonableness criteria. The NDOT noise policy allows for a cost of $40,000 per benefitted receptor. The cost of an effective noise wall for these three receptors exceeded $500,000. Therefore, the considered traffic noise abatement measure cannot be proposed. The Traffic Noise Technical Memorandum includes additional information on how the cost reasonableness criteria was applied (Appendix H).

Information for Local Officials

Future planning should consider traffic noise in determining compatible development. Noise-sensitive land development should not occur in proximity to the roadway. Local

officials and municipalities are duty-bound to evaluate compatibility of development and proximity to traffic noise sources and provide any resultant traffic noise abatement measure. The Traffic Noise Technical Memorandum includes additional information, including the impact threshold distance based on the criteria used in the traffic noise model (Appendix H).

3.6.4 Avoidance, Minimization, and/or Mitigation Measures

The following measure would be implemented to avoid, minimize, and mitigate impacts related to construction noise from the Build Alternative.

- Reduce Construction Noise: Construction noise minimization measures and BMPs for stationary and mobile equipment (e.g., placement, hours of operation, noise-level limits, or proper maintenance of equipment) are to be addressed in the contract documents, as needed.

3.7 SOCIO-ECONOMIC CONSIDERATIONS

Socio-economic considerations define the project area's demographics in terms of population, community character and cohesion, and community facilities and services. Assessing socio-economic impacts involves weighing adverse effects from the project against expected benefits. The study team worked to minimize socio-economic conflicts as part of the alternatives development process, through designing the Build Alternative to bypass both the communities of Silver Springs and Stagecoach and not impact population, community character, and community facilities and services in the area. This section does not include a discussion of environmental justice because no minority or low-income populations were identified that would be adversely impacted by the project (see Appendix C, Environmental Justice Technical Memorandum).

3.7.1 Methods

The study team collected data to describe the project area's population, community character and cohesion, and community facilities and services. Sources included county master plans, the U.S. Census, and the American Community Survey. The study team also contacted local planners to gather information about socio-economic conditions.

3.7.2 Existing Conditions

In 2010, Storey County's population was 4,010, with most of the population residing in Virginia City and along the Truckee River. In Storey County, the project is located within TRIC, which employed approximately 2,500 people in 2010 and is projected to employ 23,500 by 2035. TRIC does not include any residential areas, and there are no Storey County residents within the project area (U.S. Census 2010).

In 2010, Lyon County's population was 51,980, with most of the population residing within the City of Fernley (18,896), unincorporated community of Dayton (8,964), community of Silver Springs (5,296), and City of Yerington (3,165) (U.S. Census 2010). The project area cuts through a small portion of two large census tracts that include just over 7,500 people (ACS 2010). There are only three residences within the project area. All three are located along Opal Avenue, but are spaced more than 500 feet apart and are located on very large lots. These three residences do not comprise a cohesive community.

Community facilities are used by local residents for leisure and social purposes (e.g., parks and schools), and community services are generally defined as hospitals, police services, and fire services. There are no community facilities or services located within the project area. Near the Ramsey Weeks Cutoff in the community of Silver Springs, there are three schools, a park, and a sheriff station. Within the community of Stagecoach, there are two parks and a fire station.

Currently, there are no alternate routes for traffic on I-80 or US 50 for approximately 30 miles between US 395 and US 95A. Historically, the region has been subject to natural disasters, such as floods, earthquakes, wildfires, and severe weather. A catastrophic natural event or single incident along I-80, US 50, or US 95A could stop traffic for significant periods of time. Even now, relatively minor automobile accidents cause extended delays and loss of service on these routes. In 2010 and 2011, travel lanes in both directions of US 50 were closed eight times. In 2013 and 2014, I-80 travel lanes were closed 23 times. While in most instances traffic was re-routed to local streets or shoulders, there were several occasions where traffic was stopped for several hours until the accident could be cleared, which resulted in major traffic delays (NDOT 2011, 2014a). The lack of accessibility for emergency vehicles has been a longstanding concern for Storey County (Storey County 1994).

3.7.3 Socio-Economic Impacts

No-Action Alternative

The No-Action Alternative would not change the socio-economic conditions in Lyon or Storey Counties.

Build Alternative

The alignment of the Build Alternative and the terminus location at US 50 was selected, in part, to respond to community input and to minimize community impacts (see *Chapter 2, Alternatives*). The Build Alternative would not bisect a cohesive community and would not impact community cohesion. No community facilities or services are located within

the project area and the project would not adversely impact parks, schools, or emergency service providers. The Build Alternative would provide an alternate route for traffic on I-80 and US 50 and an alternate egress for employees at TRIC in case of an accident or emergency. Additionally, the road would improve accessibility for emergency vehicles traveling through northern Lyon County and central Storey County where no roads currently exit.

One of the stated purposes of the Build Alternative is to accommodate the economic development anticipated in the LCCMP. Over time, this growth could change the existing rural character of Silver Springs; however, the County plan encourages growth to be concentrated in existing communities like Silver Springs to preserve the overall rural nature of the rest of the County. The Build Alternative would be consistent with LCCMP that encourages promoting economic development and diversification as well as protecting living spaces, quality of life, and open lands (Lyon County 2010).

Build Alternative User Benefits

A cost benefit analysis was completed in support of this EA (Jacobs 2012b). Economic benefits realized through providing a more efficient north-south transportation route would include:

- Travel time savings: A considerable reduction in travel time is expected due to availability of a north-south connection.
- Vehicle operations cost savings: Reduction in vehicle fuel consumption and maintenance costs are expected from the reduced amount of travel in the region.
- Accident cost savings: The reduction of vehicle miles traveled would result in a reduction in regional traffic accidents, ultimately reducing costs borne by facility users.

The Build Alternative would also provide infrastructure to support economic development at TRIC and in Silver Springs by providing businesses increased accessibility and mobility, ultimately reducing shipping and logistics costs (see *Section 2.4.2, Traffic Benefits of the Build Alternative*).

3.7.4 Avoidance, Minimization, and/or Mitigation Measures

The Build Alternative is expected to have a beneficial effect on socio-economic conditions. Therefore, mitigation is not required.

3.8 CULTURAL RESOURCES

Cultural resources are defined as the collective evidence of the past activities and accomplishments of people. Buildings, objects, features, locations, and structures more than 50 years in age with scientific, historic, and cultural value are all examples of cultural resources. Cultural resources identified in the project area include prehistoric and historic archaeological sites. The time period for prehistoric sites is prior to 1827. The time period for historic sites is between 1827 and 1969.The Build Alternative would not have an adverse effect on any of these resources.

3.8.1 Methods

Under the National Historic Preservation Act, its implementing regulations, and other applicable laws and regulations, FHWA and NDOT have conducted review, survey, and evaluation for prehistoric and historic archaeological sites, historic architecture, and Native American properties of religious and cultural significance for this project (Chambers Group 2014). The review, survey, and evaluation completed for this project were conducted using personnel and procedures as established by the Secretary of the Interior's Standards for the Treatment of Historic Properties.

3.8.2 Existing Conditions

The cultural resource inventory for the project area resulted in the recordation of 53 archaeological sites. The sites include 12 prehistoric archeological sites and 37 historic archeological sites. Of the 53 sites, seven sites discussed below have been determined eligible for inclusion in the National Register of Historic Places (NRHP) (Table 3-10).

Table 3-10. Cultural Resources Eligible for the NRHP located with the Project Area

Site Number	Description	Eligibility
26ST467	**Prehistoric lithic scatter:** prehistoric lithic scatter	**Eligible**: May be likely to yield information important to prehistory or history (Criteria D)
26LY2156	**Prehistoric lithic scatter:** prehistoric lithic quarry site and scatter.	**Eligible**: May be likely to yield information important to prehistory or history (Criteria D)
26LY2159	**Prehistoric lithic scatter:** scatter of prehistoric flakes and tools	**Eligible**: May be likely to yield information important to prehistory or history (Criteria D)
26LY2179	**Ramsey Comstock Mining Complex:** Assemblage of artifacts related to the Ramsey Mine that operated intermittently between 1906 and 1940.	**Eligible**: May be likely to yield information important to prehistory or history (Criteria D)
26LY2191	**Residential and industrial features and refuse:** Historic site containing dugouts, charcoal, and historic refuse southeast of the main Ramsey Mine Complex.	**Eligible**: May be likely to yield information important to prehistory or history (Criteria D)

Table 3-10. Cultural Resources Eligible for the NRHP located with the Project Area

Site Number	Description	Eligibility
26LY1201	Ramsey Townsite: The remains of the town site intermittently occupied between 1905 and 1920 within the Ramsey Mining District.	Eligible: May be likely to yield information important to prehistory or history (Criteria D)
26LY2164	Overland Road: Road between Salt Lake City and Carson City used from 1859 to 1869 before the completion of the transcontinental railroad. This resource occurs on BLM land.	Eligible: May be likely to yield information important to prehistory or history (Criteria D) and may contribute to the major pattern of American History (Criteria A)

Source: Chambers Group 2014.

3.8.3 Cultural Resources Impacts

No-Action Alternative

No effect to cultural resources would occur under the No-Action Alternative, as no construction would occur within the project area.

Build Alternatives

Table 3-11 lists the effect determinations for cultural resources from the Build Alternative. Overall, the Build Alternative is not anticipated to have an adverse effect on cultural resources identified in the project area.

Table 3-11. Effects to Cultural Resources Eligible for the NRHP located with the Project Area

Site Number	Construction Activity	Finding of Effect
26ST467	No direct impact to the site. The proposed cut and fill is approximately 121 feet northeast of nearest site feature.	No Historic Properties Affected: The site would not be impacted by construction.
26LY2156	No direct impact to the site. The proposed cut and fill is approximately 1,415 feet east of nearest site feature.	No Historic Properties Affected: The site would not be impacted by construction.
26LY2159	No direct impact to the site. The proposed cut and fill is approximately 1,530 feet east of nearest site feature.	No Historic Properties Affected: The site would not be impacted by construction.
26LY2179	No direct impact to the site. The proposed cut and fill is approximately 350 feet west of nearest site feature.	No Historic Properties Affected: The site would not be impacted by construction.
26LY2191	No direct impact to the site. The proposed cut and fill is approximately 160 feet west of nearest site feature.	No Historic Properties Affected: The site would not be impacted by construction.

Table 3-11. Effects to Cultural Resources Eligible for the NRHP located with the Project Area

Site Number	Construction Activity	Finding of Effect
26LY1201	Construction would directly affect 0.57 acres of the 22.27 acre site.	No Adverse Effect: Road construction would impact a small portion of the Ramsey town site; however, this portion contains no contributing elements to the site's eligibility. Therefore, the Build Alternative would have no adverse effect on this site's NRHP eligibility.
26LY2164	No direct impact to the site. The proposed alignment crosses a portion of the site that has already been obliterated by previous disturbances. The proposed cut and fill is approximately 129 feet from nearest site feature to the west and 195 feet from the nearest site feature to the east.	No Historic Properties Affected: The site would not be impacted by construction.

Source: Chambers Group 2014.

3.8.4 Consultation

In accordance with Section 106 of the National Historic Preservation Act, FHWA and BLM with assistance from NDOT consulted with the State Historic Preservation Office (SHPO) and the various Native American Tribes in the area. SHPO concurred with NDOT's determination of eligibility and effect on August 26, 2014. Additionally, the Carson City Field Office of the BLM and the National Trails division of the National Park Service were consulted by phone and e-mail for this project.

Under the National Historic Preservation Act (NHPA, 36 CFR 800), FHWA made a reasonable and good faith effort to identify Native American tribes that may have an interest in the Section 106 process [36 CFR 800.3(f)(2)]. Based on that identification effort, FHWA determined that formal consultation with the following Native American tribes was appropriate:

- Fallon Paiute-Shoshone Tribe, Fallon, Nevada;
- Pyramid Lake Paiute Tribe, Nixon, Nevada;
- Walker River Paiute Tribe, Schurz, Nevada; and
- Yerington Paiute Tribe, Yerington, Nevada.

Based upon the responses received, FHWA determined that the consulted tribes had a reasonable opportunity to identify their concerns about historic properties [36 CFR 800.2(c)(2)(ii)(A)], and based upon the consultations, FHWA has determined that there are no Native American concerns regarding NHPA issues surrounding this project as proposed. *Chapter 4, Comments and Coordination* provides further information

regarding agency and Native American consultation. Appendix M provides consultation letters and SHPO concurrence.

3.8.5 Avoidance, Minimization, and/or Mitigation Measures

The alignment of the Build Alternative has been refined to avoid impacts to cultural resources to the extent possible. Where avoidance was not possible, the alignment was designed to impact those portions of the site that have already been heavily disturbed and no longer contribute to the site's eligibility. Therefore, the Build Alternative would not have an adverse effect on cultural resources and additional mitigation is not necessary.

3.9 VISUAL RESOURCES

The aesthetic quality of an area is dependent on its visual resources, or the physical features that make up the visible landscape, which include natural aspects like mountains and vegetation, as well as human-made features such as buildings and roadways. The Build Alternative would introduce man-made urban elements into a predominately undeveloped setting. These changes would slightly degrade visual quality; however, there would be very few sensitive viewers (i.e., three residences and some recreational users) affected by these visual changes. The project is consistent with BLM visual resource management classifications and Lyon County community character designations.

3.9.1 Methods

The study team conducted a visual assessment in accordance with FHWA guidance that evaluated visual quality impacts from selected viewpoints based on changes in vividness, intactness, and unity, as defined below.

- Vividness is the extent to which a landscape is memorable.
- Intactness is the integrity of visual order in a landscape.
- Unity is visual coherence and harmony. (FHWA 1990)

This evaluation considered the predicted viewer response to visual changes when assessing visual impacts. The predicted viewer response is based on local visual resource goals from area planning efforts.

The study team also assessed the change in visual quality of BLM land using the BLM contrast rating system. This involved assessing changes in visual quality from two key observation points that would represent visual impacts to BLM land in the project area. The study team obtained BLM's proposed visual resource management objectives for

the project area, selected two key viewpoints, prepared visual simulations, and rated the visual contrast for the key observation points.

The visual analysis focuses on the project area south of the existing portion of USA Parkway in Lyon County, since the visible changes to the existing USA Parkway would be relatively minor, not resulting in major new cuts or fills, and there are no sensitive viewers in TRIC. The following section summarizes this visual assessment, which is described further in Appendix I, Visual Technical Study.

3.9.2 Existing Conditions

The project area traverses the Virginia Range. The central portion of the project area is characterized by rolling hills and narrow, meandering valleys. Approximately 0.8 mile northwest of the western edge of the BLM land, the foothills of the Virginia Range begin to disperse into a broad, unnamed valley that slopes southeast toward US 50. The majority of the project area is undeveloped, although the central portion does contain several abandoned mines with tailing piles, corrals, overhead power lines, fencing, and unpaved or two-track dirt roads. Typical views in the central portion of the project area include the rolling hills and foothills of the Virginia Range. As a viewer approaches the southern portion of the project area, the foothills transition into the southeast sloping valley, which gives way to residential and commercial development along US 50 and several developed structures along Opal Avenue. The Virginia Range continues to be visible in the background from the southern portion of the project area.

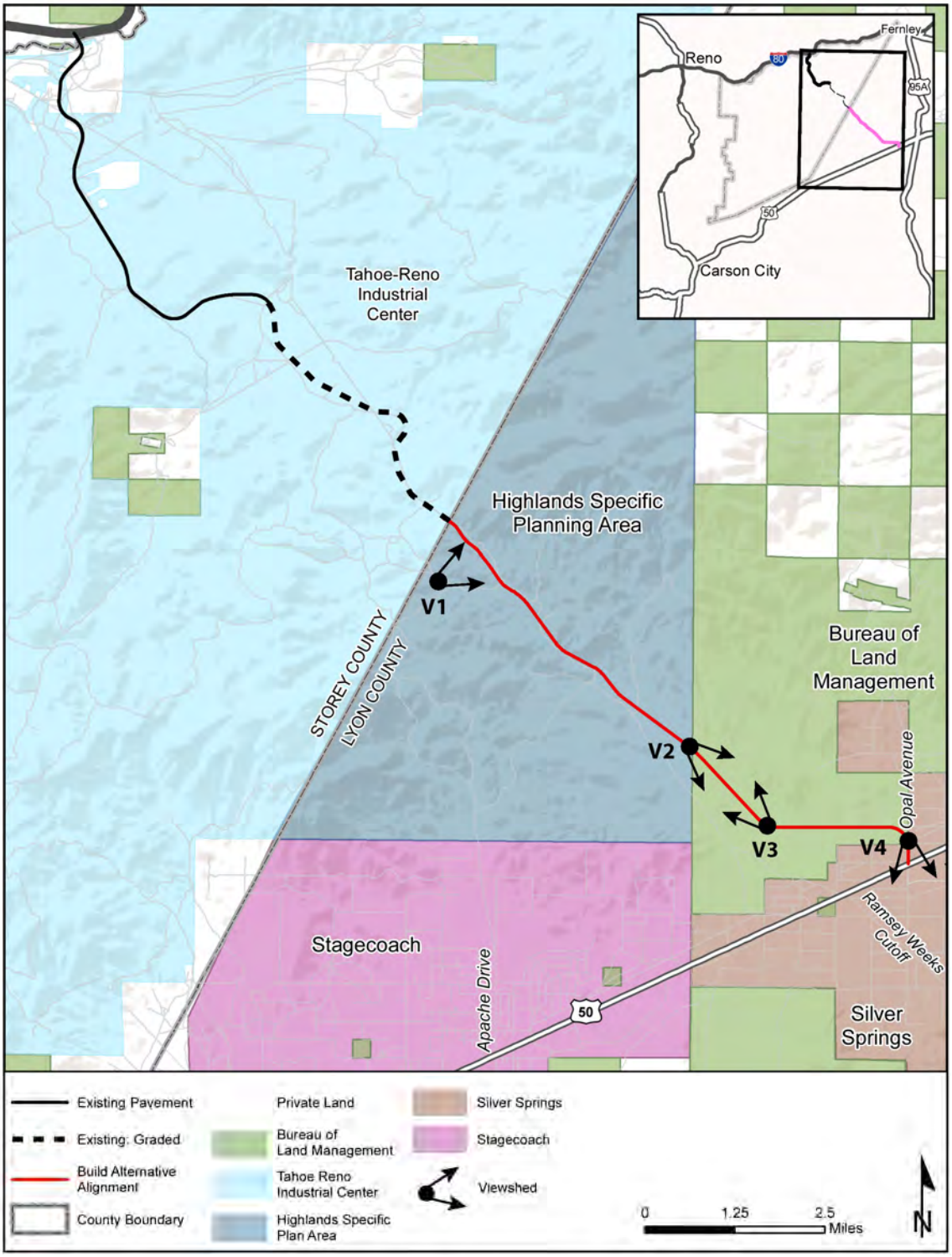
Project Area Viewer Groups

The study team identified and categorized viewer groups to include individuals with views from Opal Avenue and US 50, such as residents, business owners, local motorists, and tourists (Figure 3-4). Viewer groups also include recreational users of BLM land in the project area.

Viewshed Locations

The study team established four viewshed locations. These locations represent points at which the landscape characteristics change because of variation in topography, vegetation, and or the built environment. Additionally, the location of V1 was selected to represent views from the historic Ramsey Townsite, V2 and V3 were selected to represent views within BLM land, and V4 represents views from the three existing residences along Opal Avenue.

Figure 3-4. Viewpoints/Viewshed



Source: USA Parkway study team.

Existing Visual Quality

To assess the existing visual quality of the project area, the study team identified four representative views that may be seen or valued by the viewer groups described above.

Viewpoint 1: Typical foothills landscape view looking north. This view, while moderately vivid, is intact with high unity because the hills have a coherent, undisturbed pattern. The overall visual quality rating for this viewpoint is high.

Source: USA Parkway study team.

Viewpoint 2: View from the western BLM boundary looking southeast. This viewpoint demonstrates the general character of the BLM land. Because there are no distinctive features, this view is not vivid. However, the view is fairly intact except for the dirt road in the foreground. The view has moderate unity because it has a simple pattern. The overall visual quality rating for this viewpoint is moderate/average.

Source: USA Parkway study team.

Viewpoint 3: View from the eastbound curve looking northwest. This viewpoint shows the general character of the BLM land in the valley, and also provides a view of the Virginia Range in the background. The background contrast renders this view moderately vivid, while the sagebrush creates a consistent pattern across the landscape that is free from visual encroachment. The overall visual quality rating for this viewpoint is moderately high.

Source: USA Parkway study team.

Viewpoint 4: View from Opal Avenue looking south. This viewpoint, located north of US 50, shows the view from the residences along Opal Avenue. The view does not have any striking visual features or vegetative patterns. While the powerline and fencing are visual encroachments, they do not break up the view, but frame the open range. The overall visual quality rating for this viewpoint is moderate/average.

Source: USA Parkway study team.

BLM Visual Resource Management Objectives

BLM has not yet assigned a visual resource management classification to the majority of BLM land in the project area. For the purposes of this analysis, the study team is using Class IV objectives, which were determined through consultation with BLM. Class IV objectives allow for projects to significantly modify the existing character of the landscape, and changes to landscape characteristics can be high, to the extent that the project may dominate the view and be the primary focus of the viewer's attention.

3.9.3 Visual Resources Impacts

No-Action Alternative

Impacts to visual resources could still occur under the No-Action Alternative. Even though the extension of USA Parkway would not be constructed, maintenance of ranching appurtenances and power lines would continue to occur. Recreational off-road vehicle use could also affect the landscape, if new dirt roads are cut across currently unimpeded views.

Build Alternatives

Visual simulations were prepared at each key observation point to demonstrate potential Build Alternative impacts.

Visual Impacts at Key Observation Points

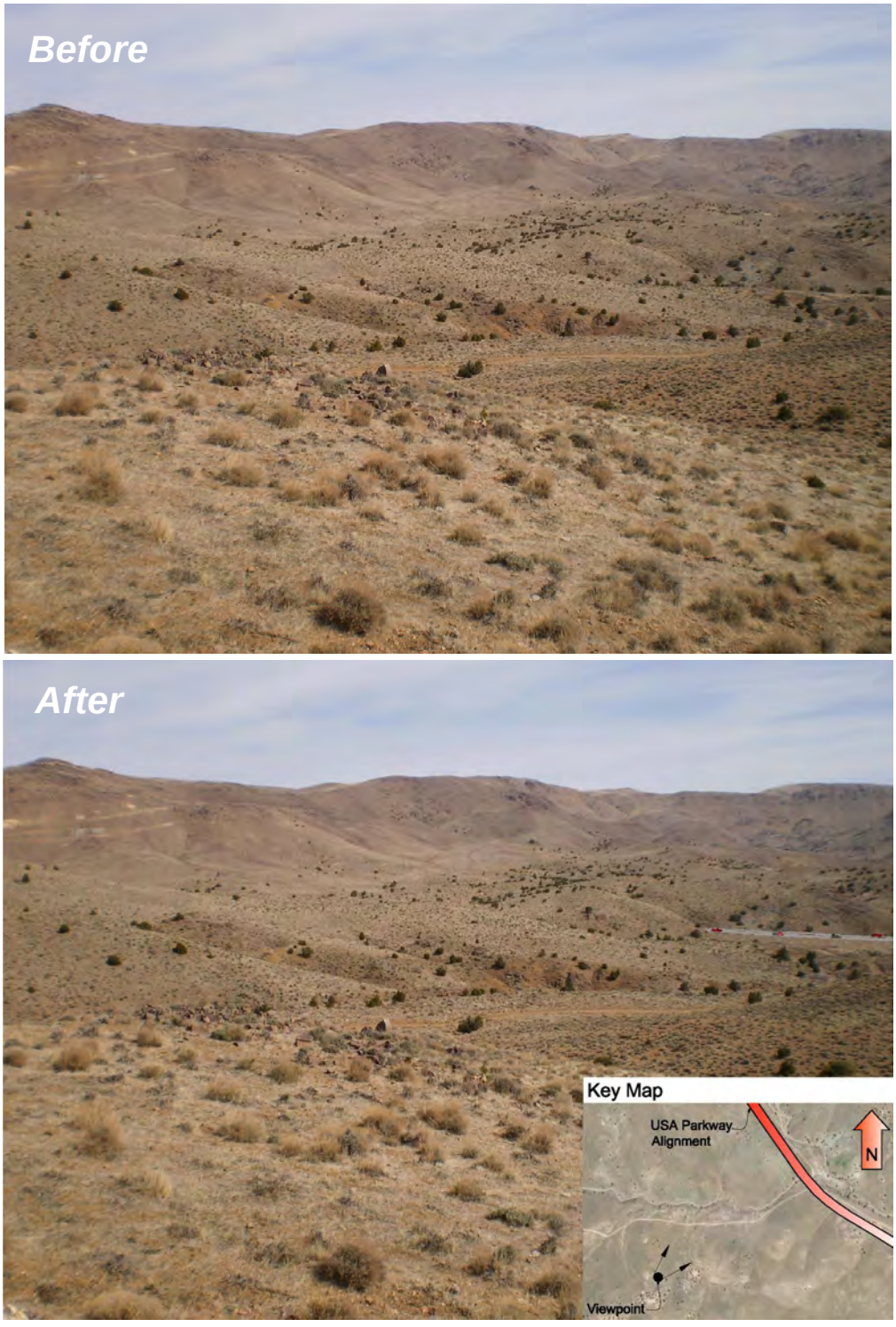
Figure 3-5 illustrates how the Build Alternative would appear in a typical Virginia Range foothills landscape at Viewpoint 1. While the Build Alternative would affect the visual character by introducing human-built elements, the impacts would be most intense when viewed directly along the alignment.

From Viewpoint 1, the hilly terrain would partially obscure the roadway, and only two segments would be visible in the midground. The primary landforms in this view would still be the hills and the Virginia Range in the background, and the vegetative pattern would not be disturbed. In addition, the features of the road would be indistinct at this distance. Therefore, the Build Alternative would have a minimal adverse effect to the basic forms, lines, colors, and textures of this view, and the overall visual quality would remain high. This land is undeveloped, private property, and no sensitive viewers would be affected by this change.

Figure 3-6 illustrates how the Build Alternative would appear in the valley viewshed at Viewpoint 2. At Viewpoint 2, the Build Alternative would overwhelm the landscape with little integration, and the overall visual quality of this view would diminish from moderate/average to moderate. The elevation of the roadway would nearly obscure the valley as it slopes down toward the southeast.

At Viewpoint 3, Figure 3-7 illustrates how the Build Alternative would appear in a view that looks back across BLM land and the valley viewshed to the northwest. This perspective, offset from the alignment, would result in less intense impacts because the alignment would not be the focal point of this view.

Figure 3-5. Viewpoint 1: Visual Simulation from Ramsey Townsite, looking North



Source: USA Parkway study team.

Figure 3-6. Viewpoint 2: Visual Simulation from Western BLM Boundary, looking Southeast

Source: USA Parkway study team.

Figure 3-7. Viewpoint 3: Visual Simulation from Eastbound Curve, looking Northwest

Source: USA Parkway study team.

The overall visual quality of Viewpoint 3 would diminish from moderately high to moderate/average. The Virginia Range foothills would no longer dominate the background view because the eye would be drawn to the linear band in the midground. The roadway would obscure the consistent pattern of the vegetation and the long, concave edge between the valley and the foothills. While this human-built encroachment would not dominate the view, it would introduce lines and forms that would be inconsistent with the existing texture of the landscape.

At Viewpoint 4, Figure 3-8 illustrates how the Build Alternative would appear in a view that looks south along Opal towards US 50.

The overall visual quality of Viewpoint 4 would remain unchanged under the Build Alternative. From the three homes on Opal, the intersection would be a distant background view, and the widened Opal Avenue would be a more dominant foreground view. Currently, this view does not have any striking visual features or vegetative patterns, and there are some manmade encroachments that generally fade into the open range. Therefore the road would be a dominant feature in the view. The Build Alternative would also introduce some new lines and forms; however, these lines and forms would be similar to those manmade elements in the existing setting (e.g., roads, power lines and fences). The proposed visual changes associated with the at-grade intersection would not be substantial enough to alter the view rating, and it would remain moderate/average. If an interchange were constructed in the future, the visual changes resulting from the interchange would partially block background views of the mountains and introduce a new visual element that is inconsistent with the existing setting. These changes would reduce the visual quality to moderately low.

BLM Visual Resource Management Objectives

The Build Alternative would conform to the Class IV visual resource management for the BLM land in the project area.

Figure 3-8. Viewpoint 4: Visual Simulation at Opal Avenue, looking South towards US 50

Source: USA Parkway study team.

3.9.4 Avoidance, Minimization, and/or Mitigation Measures

The following measures would be implemented to avoid, minimize, and mitigate impacts to visual resources from the Build Alternative.

- Design Retaining Wall Aesthetic: NDOT will design retaining walls to blend into the surrounding environment to the extent possible. This will be accomplished by selecting proper color and material type and texture in accordance with NDOT landscape and aesthetic policies.
- Minimize Cut and Fill Areas: NDOT will minimize cut and fill areas where practical and design these areas to blend in with the surrounding environment to minimize visual impacts.
- Establish Clearing Limits: The clearing limits shall be staked by the Construction Contractor for approval by the NDOT Engineer prior to the start of clearing. Where possible, the limits of clearing will be irregular, and straight clearing lines will be avoided by varying the width of the area to be cleared or by leaving selected clumps of vegetation near the edge of the clearing limit.
- Prepare New Slope: The Construction Contractor will round and blend new slopes to mimic the existing contours and to highlight natural formations.

3.10 Rights-of-Way, Acquisitions, and Relocations

This section identifies impacts to private property, BLM land, and existing property rights, including mining claims, grazing allotments, and utility rights-of-way. The Build Alternative would require right-of-way from BLM and realty acquisitions from private property owners; however, right-of-way estimates are preliminary and subject to revision during final design. No relocations of private homes or businesses are expected.

3.10.1 Methods

The BLM land records databases (LR2000 and Rangeland Administration System) were reviewed to identify and locate existing rights-of-way, active and closed mining claims, and grazing allotments and permits in the project area (BLM 2012). Lyon County parcel data were used to identify private property.

Regulations and guidelines establish a uniform policy for the fair and equitable treatment of persons displaced by the acquisition of real property by federal or State projects. In acquiring properties, NDOT abides by the following provisions:

- Uniform Relocation Assistance and Real Property Acquisitions Policies Act of 1970, as amended, Section 205(a)

- Nevada's Acquisition of Real Property and Assistance in Relocation (NRS 342)
- NDOT Right-of-Way Manual
- Memorandum of Understanding and Operating Manual for BLM, FHWA, and NDOT

3.10.2 Existing Conditions: Private Property

In Storey County, the project area is located on undeveloped property owned by TRIC. In Lyon County, the project area crosses the Highlands Specific Planning Area, undeveloped private property, that was previously owned by TRIC but has been sold and is subject to a provision that the current owner grant an easement and dedicate the right-of-way needed for a future alignment to extend USA Parkway to US 50 (Griffith 2012). The southernmost end of the project area crosses private property near Opal Avenue. Only four of the parcels along Opal Avenue are developed including three homes and one business.

3.10.3 Existing Conditions: Public Land Managed by BLM

The project area crosses 3.85 miles of public land managed by BLM. For additional information about BLM land management designations, see *Section 3.5, Land Use*.

Rights-of-Way

BLM authorizes specific use of public land by issuing right-of-way grants for projects such as roadways, power lines, pipelines, and communication sites. Table 3-12 lists the existing rights-of-way on BLM land in the project area.

Table 3-12. Authorized Rights-of-Way in Project Area

Serial Number	Holder	Type
N-47256, N-51042, N-89487	Sierra Pacific Power (Nevada Energy)	Overhead Power Transmission line
N-60169	Paiute Pipeline	Underground Oil/Gas Pipeline

Source: BLM 2012.

BLM, FHWA, and NDOT operate under an *Interagency Agreement and a Memorandum of Understanding* for appropriating the BLM land for roadway rights-of-way (BLM 2007). The agencies would follow these specific procedures in processing this federal-aid, roadway right-of-way project. Upon completion of the NEPA process, BLM would issue a Letter of Consent to FHWA for a right-of-way. FHWA would then provide a highway easement deed to NDOT for that right-of-way.

Grazing Allotments/Permits

The project area is located within a portion of the 9,582-acre Stockton Flat grazing allotment. There is no active permit that authorizes livestock grazing on BLM land within the allotment because BLM cancelled the previous grazing permit. As such, the allotment is presently in custodial management to protect existing resource values. BLM has yet to determine if they will permit livestock grazing in the future, as an update to BLM's resource management plan, currently underway, will determine the future use of the vacant allotment.

Mineral Rights

BLM land in the project area is open for exploration and development of mineral resources. Hard rock minerals (e.g., gold, silver, and copper) can be acquired by locating and staking a claim. Claimants hold a legal interest in properly recorded mining claims. Mineral materials (e.g., sand, gravel, and crushed stone) are acquired by a free-use permit or a sale contract from BLM.

The central part of the project area crosses through Storey County's Ramsey Mining District. West of the project area claims have remained active since 2009 on one section of land that had been historically mined within this District. Claims also have remained active since 2006 on two sections of land in Lyon County through which the project alignment would cross; however, these lands are not actively being mined.

Two possible sites to extract roadway materials for construction are located on BLM land near the south end of the project area (Figure 2-5). This area is an alluvial fan deposit with mineral materials that are potentially suitable for roadway construction use. Acquiring land from BLM by FHWA/NDOT for use as a roadway materials source site would be in accordance with the Memorandum of Understanding among BLM, FHWA, and NDOT.

3.10.4 Right-of-Way, Acquisition, and Relocation Impacts

No-Action Alternative

Minor portions of several properties adjacent to the project area could still be acquired as part of the future US 50 Widening Project. No other public or private property acquisitions would occur under the No-Action Alternative. Because the project would not be constructed, BLM would not need to issue a Letter of Consent to FHWA. The Stockton Flat grazing allotment and existing and future mining claims would not be affected because right-of-way would not be needed.

Build Alternative

Based on preliminary design of the Build Alternative, Table 3-13 lists the portions of 5 properties near the terminus of USA Parkway at US 50 that would potentially be acquired for roadway construction and intersection improvements. In addition, right-of-way would be needed from several parcels within the Highlands Specific Plan Area, TRIC, and Storey County. It is assumed that the right-of-way through the Highlands Specific Planning Area would be donated by the existing property owner in accordance with the provisions of the previous land sale. The Storey County right-of-way transfer would be necessary because the paved portion of USA Parkway is owned and maintained by the county. The precise number of acres needed would be determined during final design; however, it is estimated that approximately 185 acres of the Highlands Specific Plan Area, 190 acres of TRIC, and 54 acres of Storey County right-of-way may be acquired or transferred to NDOT based on preliminary designs. No full acquisitions of any property or relocations of any residence or business would be required. Potentially affected parcels are shown in Appendix A, USA Parkway Project Alignment Map.

Table 3-13. Potential Private Property Acquisitions in the Project Area

Parcel Number	Address	Type	Property Needed
018-064-016	2970 Mackay Avenue	Single Family Residence	Partial
015-181-001	3200 Opal Avenue	Commercial (undeveloped)	Partial
018-371-008	3095 Opal Avenue	Single Family Residence	Partial
018-371-009	3175 Opal Avenue	Miscellaneous Undeveloped Land	Partial
018-371-010	3030 West US 50	Miscellaneous Commercial	Partial
Various	Highlands Specific Plan Area	Undeveloped	Partial
Various	Tahoe Reno Industrial Center	Miscellaneous Commercial	Partial
N/A	Storey County	Existing USA Parkway Right-of-way	Full

Source: USA Parkway study team.

Notes: Easements, generally defined as areas outside the boundaries of a planned roadway, may also be required for properties along the project area to allow for movement of construction equipment, relocation of utilities, staging areas, and/or storage.

The Build Alternative would cross 3.85 miles of BLM land and would require access to roadway material source sites for construction. In total, the Build Alternative would require approximately 123 acres of BLM land. Rights-of-way for the roadway material source sites would be processed following the established Memorandum of Understanding procedures. No temporary use right-of-way on BLM land would be needed for access for construction or construction staging.

The Build Alternative would also run parallel to and intersect existing rights-of-way on BLM land authorized to Sierra Pacific Power Company (NV Energy). Any overlap of right-of-way would be coordinated with Sierra Pacific Power Company (NV Energy) and BLM, and the final alignment on BLM land would avoid existing power lines to the extent possible. Approximately 8,600 feet of electrical transmission lines located on private property in the mountainous area of the project area would be relocated to minimize impacts to drainages and to balance the construction's cut and fill limits. The lines would be moved to the top or bottom of the cut and fill slope, and a maintenance access road would be graded alongside. In areas where the electrical transmission line leaves the right-of-way, access gates would be installed in the right-of-way fencing.

Right-of-way for the Build Alternative on BLM land would remove approximately 123 acres from the Stockton Flat grazing allotment. The right-of-way would be fenced, which could indirectly impact additional acres (approximately two sections) in the allotment south of the project area if access by livestock is blocked by the fence. However, most of the impacts to the allotment would be to land designated for disposal (see *Section 3.5, Land Use*). BLM adjusts grazing permits, if necessary, to reflect decreases in available acreage for livestock grazing within an allotment when BLM land is disposed or appropriated for a public purpose. No livestock operator would be adversely affected because there is no active grazing permit on the Stockton Flat grazing allotment. Should BLM determine livestock grazing is a sustainable use in the area, any future grazing permit would reflect the Build Alternative right-of-way.

While mining has occurred intermittently over the last 100 years in the vicinity of the Build Alternative, the alignment would not cross any actively mined claims, and therefore, no impacts to active claim holders are expected. Currently, no mines proposed for BLM or private lands adjacent to, or in the vicinity of, the Build Alternative. The BLM land within the project area is open to mineral exploration, and new mining claims could be filed prior to issuance of the Letter of Consent from BLM to FHWA. The BLM land is located in the flat land at the base of the Virginia Range, and mining would be unlikely on these lands.

3.10.5 Avoidance, Minimization, and/or Mitigation Measures

The study team sought to avoid and minimize effects to private and public property throughout the alternatives development and screening process (see *Chapter 2, Alternatives*). The final design process will involve additional design refinements to further avoid and minimize impacts.

Any right-of-way acquisition will comply with Section 205(a) of the Uniform Relocation Assistance and Real Property Acquisitions Policies Act of 1970, as amended. The purpose of the Uniform Act is to provide uniform and equitable treatment of all persons displaced from their homes, businesses, or farms by establishing criteria for proper acquisition and relocation benefit impacts.

Prior to acquiring the Letter of Consent for the right-of-way from BLM, FHWA/NDOT will address valid claim holders that may have located (established) active claims within the final Build Alternative alignment since this analysis was completed. FHWA/NDOT will obtain permission from claim holders to account for any such active claims within the right-of-way.

3.11 CUMULATIVE IMPACTS

NEPA evaluation requires that all direct, indirect, and cumulative impacts of a proposed project be assessed and disclosed. Cumulative impacts are defined as the impact on the environment which results from the incremental impact of an action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time (40 CFR 1508.7). While there is no single formula to determine the extent of a cumulative impact analysis, it is the responsibility of the lead agency to determine the methods and extent of the analysis based on the size and type of the proposed project, its location, potential to affect environmental resources, and the health of any potentially affected resource.

The following cumulative impact analysis builds upon the direct and indirect impacts analyses previously included in this Chapter. The following section summarizes the cumulative impact analysis, which is described further in Appendix J, Cumulative Impact Technical Study.

3.11.1 Methods

Cumulative effects for Build Alternative were analyzed using the eight steps outlined in the U.S. EPA's Guidance for Preparers of Cumulative Impact Analysis (U.S. EPA 2005).

Each of these steps is described further in Appendix J, Cumulative Impact Technical Study.

3.11.2 Existing Conditions

One comment received during scoping by NDOW raised concerns about the cumulative effects of habitat fragmentation and impacts to wildlife movement in the Virginia Range for mule deer and bighorn sheep. After scoping and a review of regional planning documents, the study team ruled out resources that would be minimally impacted by the project. However, the study team did identify three resources of concern to be evaluated for cumulative impacts: biological resources, land use, and cultural resources.

The geographic resource boundary to be used to define the existing conditions for the cumulative impacts analysis was based on the resources of concern and the potential impacts to these resources under a build scenario. This regional project area includes the 107,000-acre TRIC, the eastern Lyon County communities of Silver Springs and Stagecoach, and the Virginia Range. This regional project area was chosen as the cumulative impact project area for the following reasons:

- For biological resources, the regional project area includes the Virginia Range, which is a contiguous area of habitat for big game species (e.g., mule deer and bighorn sheep).
- For land use, the regional project area includes those areas and communities that may use USA Parkway, capturing the area where past, present, and reasonably foreseeable future land use changes may occur.
- For cultural resources, the regional project area includes the Virginia Range, where the historic Comstock Lode mining activities were concentrated.

Appendix J, Cumulative Impact Technical Study, provides a more detailed description of the current health and historic context for each of these affected resources.

3.11.3 Cumulative Impacts

Cumulative impacts are determined through the identification of historic, current, and reasonably foreseeable actions (including the Build Alternative), which may affect biological resources, land use, and cultural resources in the regional project area.

Historic, Current, and Reasonably Foreseeable Actions

Long-range transportation plans include the widening of I-80 and US 50 to provide increased capacity and accommodate future population growth.

TRIC is a 107,000-acre industrial complex that includes 30,000 acres of developable land, of which approximately 8,600 acres has been sold and developed since 2000. Continued development of TRIC is planned. Full build out of TRIC is beyond the 2037 horizon of this analysis. Due to limited infrastructure and water, no other major development in Storey County is anticipated.

The LCCMP indicates that "Lyon County sees more growth and development occurring in and around the existing community cores (its towns and established settlement areas) with more focus on balancing residential, employment, and retail land uses" (Lyon County 2010). NDOT met with Lyon County planners to discuss future development plans for the area. No specific development plans were identified but the County's long-range land use plan envisions the majority of growth in the Silver Springs area occurring around the proposed USA Parkway intersection with US 50 (Loveburg 2012).

The LCCMP does include the 20,250-acre Highlands Specific Planning Area. The land use plan, policies, and criteria for the Highlands Specific Planning Area have not yet been adopted by Lyon County, and future uses of the area are speculative at this time. This parcel is owned by a developer that was working with the County on mixed use development on this parcel prior to the recession. Lyon County has not heard from the developer in several years. Major impediments to the Highlands development include a large supply of developable lots in Lyon County, a lack of infrastructure to serve a future development, and a projected slow economic recovery with little demand for development of new lots. For these reasons, future development of the Highlands Specific Planning Area is considered speculative and does not meet the criteria for a reasonably foreseeable future project. NDOT and FHWA consulted with Rob Loveburg, the Lyon County planner, and he concurred with this conclusion (Loveburg 2012).

Cumulative Impacts on Biological Resources

The widening of the I-80 and US 50 roadways projects are unlikely to contribute to cumulative impacts because the roadways currently exist, and the additional lanes are not anticipated to result in reduced habitat quality, barrier effects, and loss of connectivity resulting in restricted or altered wildlife movement patterns.

The continued development of TRIC and along US 50 may result in development in areas that are currently undeveloped and would increase human presence and activities in the area, resulting in habitat fragmentation. This development would occur with or without the project. However, implementation of the Build Alternative may accelerate the rate of development.

The Build Alternative would bisect a large area of contiguous habitat and may affect the movement of terrestrial wildlife species. The incorporation of wildlife under-crossing structures and fencing would mitigate those effects. Major additional development in the Virginia Range beyond that identified above is not anticipated due to the water supply limitations and topographic constraints. While cumulative development would result in habitat fragmentation, large contiguous areas of habitat would remain that would adequately support species affected by cumulative development.

Cumulative Impacts on Land Use

The Build Alternative and the widening of I-80 and US 50 would all provide additional transportation facilities to accommodate the planned growth of TRIC and the communities of Silver Springs and Stagecoach. Also, approximately 1,200 acres of BLM land is designated for disposal and would be available for future development. The Build Alternative would make TRIC, Silver Springs, and Stagecoach more accessible and may influence the rate, intensity, and location of future development. Likely impacts resulting from development are increased impervious surfaces (e.g., roads, driveways, rooftops, and parking lots); loss and fragmentation of wildlife habitat; and stress on infrastructure, water availability, and water supply.

This growth is already expected and is consistent with adopted long-range master plans. Lyon and Storey counties were hit especially hard by the economic downturn, and the Build Alternative is intended to provide infrastructure to support planned growth. Providing transportation infrastructure is just one element necessary for economic growth. Other major elements identified by Lyon and Storey counties include obtaining water rights to support population growth and the development of wastewater infrastructure. The Lyon County and Storey County plans include policies to ensure developments have adequate infrastructure services, to minimize impacts of developments, and to concentrate development in areas that are most suited for it. These policies are expected to minimize the potential for adverse impacts from development.

Cumulative Impacts on Cultural Resources

Similar to biological resources, cumulative impacts to cultural resources could occur as a result of development of currently undeveloped lands and increased human presence and activities in an area that is currently inaccessible. This development would occur with or without the project. However, implementation of the Build Alternative may accelerate the rate of development. Increased human presence would be mitigated through the use of wildlife fencing along the right-of-way, which would also prevent travelers from accessing the lands outside of the right-of-way. Consequently, cumulative

impacts to the historic sites located near the Ramsey mine and the Overland Road are not anticipated.

3.11.4 Avoidance, Minimization, and/or Mitigation Measures

The Build Alternative would not contribute to any adverse cumulative impacts requiring mitigation.

4.0 COMMENTS AND COORDINATION

Before any action is taken on a proposed project, FHWA and NDOT must first identify issues related to the project that merit further study. This process is called scoping. During the scoping process, NDOT coordinates with members of the public that could be impacted by the project (public scoping), in addition to any agency that oversees the management of natural resources, public services, and planning in the project study area (agency scoping).

For this project, scoping included identifying the stakeholders, distributing an intent-to-study letter, hosting a public information meeting (scoping meeting), and eliciting stakeholder input.

4.1 AGENCY SCOPING

NDOT sought input from elected officials and agencies that have jurisdiction in the project study area. Table 4-1 lists the agencies contacted to assist with identifying potential issues to be analyzed during the study. These agencies also supported the alternative identification and refinement process and helped to determine what permits or approvals would be needed for construction. NDOT also contacted local and state government officials who represent the study area with the intent of distributing relevant project information to these officials.

Table 4-1. Agency Participation

Agency Contacted	Response (Yes/No)[a]
Bureau of Indian Affairs	No
Bureau of Land Management (BLM)	Yes
Bureau of Reclamation	No
City of Fernley	Yes
Department of Housing and Urban Development	No
Federal Aviation Administration	Yes
Federal Emergency Management Agency	No
Lyon County	Yes
National Park Service	Yes
Nevada Department of Wildlife (NDOW)	Yes
Nevada Department of Motor Vehicles	No
Nevada Division of Water Resources	Yes
Nevada Natural Heritage Program	Yes
Nevada State Historic Preservation Office	Yes
Regional Transportation Commission of Washoe County	No
Silver Springs Airport	Yes

Table 4-1. Agency Participation

Agency Contacted	Response (Yes/No)[a]
Silver Springs Citizen Advisory Board	No
Silver Springs Elementary/Intermediate School	No
Storey County	Yes
Tahoe Regional Planning Agency	No
U.S. Army Corps of Engineers (USACE)	Yes
U.S. Coast Guard	Yes
U.S. Department of Agriculture	No
U.S. Department of Energy	No
U.S. Department of the Interior	No
U.S. Environmental Protection Agency	No
U.S. Fish and Wildlife Service (USFWS)	Yes
U.S. Forest Service	No
U.S. Geological Survey	No
Washoe County	No

Source: USA Parkway study team.

[a] Agencies that have formally submitted comments or participated and provided NDOT with feedback on the study.

Agencies and officials were notified of the study and the scoping process as described below.

- On December 22, 2011, NDOT sent intent-to-study letters to elected officials and agencies requesting their involvement in the study. A copy of this letter is included in Appendix K, Intent-to-Study Letter.
- On January 17, 2012, NDOT presented project information at an Interdisciplinary Team Meeting at the BLM Carson City District Office. BLM resource specialists were present, and the group discussed potential roadway impacts on resources within BLM lands and the study area.
- Beginning in April 2012, NDOT initiated project stakeholder update meetings that were scheduled every other month to provide information about project progress. Attendees included members of the Silver Springs Advisory Board, Lyon County Commission, Silver Springs Airport, Storey County, and TRIC.
- The study team coordinated with NDOW wildlife biologists, BLM biologists, and members of a wild horse preservation advocacy group to define wildlife crossing issues in the study area. On May 2, 2012, a field review was held to determine potential locations for wildlife crossings. This field review involved input from NDOW biologists (contacted prior to the field review), project

engineering and biological team members, and a member of the Wild Horse Preservation League.

4.2 PUBLIC SCOPING

To promote public input during the scoping process, NDOT communicated project information through various methods and media outlets. Interested stakeholders submitted comments through e-mail, mail, a website comment page, and in writing at the public information meeting.

4.2.1 Public Notifications

Methods used to educate, inform, and gather feedback from the public regarding the project included:

- Mailing over 400 intent-to-study letters to property owners and occupants within 0.5 mile of the corridor;
- Placing advertisements in the Reno Gazette Journal, Nevada Appeal, and Lahontan Valley News 15 days prior to, the day before, and the day of the public information meeting; an
- Posting project information meeting notices and project information on the Lyon County, Storey County, and NDOT websites.

4.2.2 Public Information Meeting (Scoping Meeting)

NDOT hosted a public information meeting on January 17, 2012, from 3:30 p.m. to 6:30 p.m. at the Silver Springs Senior Center located at 2945 Ft. Churchill Road. The purpose of the meeting was to inform the public and stakeholders about the study, and to seek input on the project's purpose and need, potential alternatives, and issues and concerns related to the project. Over 200 people attended the meeting. Overall, the public supported the project and was eager for construction to begin.

Participants were encouraged to write any concerns and suggestions for improvements on comment forms, and the participants were given the project study contact information if they wanted to submit a comment at a later time via mail, e-mail, or online. Comments were collected during the meeting either on the public comment form or transcribed by a court reporter. Comment letters and official transcripts from the public information meeting are included in Appendix L, Public Comments.

4.3 Public and Agency Scoping Comments

Comments received from the public and agencies were reviewed and considered by the study team in the preparation of this EA. Comments were summarized and paraphrased to reflect the key concerns, issues, and ideas submitted. The comments have also been categorized by main points of interest (see Table 4-2 for public comments and for agency comments). Comments received, in their entirety, are included in Appendix L, Public Comments and Appendix M, Agency Scoping Comments.

Table 4-2. Public Comments and Responses

Category	Comments/Responses	# of Comments
Purpose and Need: Economy	The project would improve the local economy by providing infrastructure to support growth, provide jobs, provide easier access to employment, increase real estate values, etc. *Response: Comments demonstrate support for the purpose and need of the project as described in Chapter 1, Purpose and Need.*	46
Purpose and Need: Commute and Travel	The project would improve the connectivity and travel options between the cities of Sparks and Reno and the communities in and around Silver Springs by providing a shorter distance route and eliminating slower traffic speeds through the City of Fernley. The project would provide access for TRIC to the Silver Springs Airport. The project would improve the travel route for military traffic between the community of Hawthorne and the City of Reno. *Response: Comments demonstrate support for the purpose and need of the project as described in Chapter 1, Purpose and Need.*	41
Environmental: General	The project would reduce emissions because of less driving time. The project would include “green and sustainable” improvements of setbacks and other areas. The project would implement flood control measures in locations where there has been historic flooding from the north and west. Suggestions include elevating roadways as a way to channel runoff and encourage retention and groundwater recharge. The project would adversely impact residents along the alignment, including impacts related to economic, noise, visual, and acquisition of property at a depressed value. The project would potentially increase large truck traffic. The project would potentially impact wild horses, other wildlife, and livestock in the study area. *Response: Chapter 3, Environmental Resources, Impacts, and Mitigation, discusses the potential environmental impacts related to the project. The appropriate sections of the document provide more information about potential effects and measures that would be implemented to reduce or eliminate negative impacts.*	11

Table 4-2. Public Comments and Responses

Category	Comments/Responses	# of Comments
Design and Traffic: Schedule	There was a concern about the project's schedule. The project has been promised for some time but has been delayed. The comments related to speeding up the process, which could include designing the roadway during the environmental phase. *Response: There is a prescribed process that must be followed to ensure that proper consideration is given when studying a potential project. NDOT will continue to follow this process, but would also look for opportunities to expedite the process where it is feasible. Funding for the project has not been secured, so a future construction schedule has not been established. The project website provides information on the current status of the project and funding at: http://www.nevadadot.com/Projects_and_Programs/Road_Projects/USA_Parkway_-_I-80_to_U_S__50.aspx.*	25
Design and Traffic: Intersections and Alignment	There was a concern for potential effects on the US 95A and US 50 interchange ("roundabout"). There were some disagreements with US 50 roundabout concepts that have been proposed in prior planning efforts. There was some support for intersection of the alignment with Opal Avenue. There was a proposed alignment tie in between Topaz Road and Rocky Road to avoid existing homes and traffic issues (e.g., difficulty accessing US 50). A suggestion was made for the alignment to continue onto Ramsey Weeks Cutoff (via Opal Avenue). A suggestion was made to tunnel through the mountain instead of going over the mountain. A suggestion was made for the alignment to follow Ramsey-Weeks to avoid residences. This alignment would tie in closer to the midpoint between the communities of Silver Springs and Stagecoach. *Response: Various alternatives were considered before the Build Alternative was selected as the preferred alternative. Chapter 2, Alternatives, discusses the alternative selection process and analysis. Additionally, the intersection of US 95A and US 50 is outside of the study area.*	11

Table 4-2. Public Comments and Responses

Category	Comments/Responses	# of Comments
Design and Traffic: General	There was a concern about the roadway being a toll road. There was a suggestion to use special glass material to keep the roadway dry. There was a request that solar lights be included as part of the project. There was a suggestion to use students to complete the environmental and engineering process. *Response: At this time, NDOT is not considering a toll road. Materials for construction, including road pavement and lighting, would be determined during final design. NDOT has already obtained a contractor to complete the environmental process and the preliminary design.*	4
Miscellaneous	The project would improve access to Lake Lahontan and other tourism sites, such as Fort Churchill and Pony Express. There was a suggestion to include and improve signage for Lake Lahontan and other tourist sites as part of the project. It was requested that the next public meeting be held in a larger venue. *Response: Comments are acknowledged. Signing would be determined during final design, and NDOT will seek a larger space for future meetings.*	5

Source: USA Parkway study team.

Table 4-3. Agency Comments and Responses

Agency	Comments/Responses
Nevada Division of Water Resources	Before water can be used for construction of a roadway, a construction waiver must be obtained from the office of the Nevada Division of Water Resources. Any wells that are within the right-of-way of the roadway must be plugged and abandoned as required by NAC 534. *Response: Comments are addressed in Section 3.4, Water Resources.*
Nevada Department of Wildlife (NDOW)	In the 3-mile buffer around the project, the following wildlife resources were found: Big Game: Mule deer distribution is throughout the northwestern portions of the study area and the 3-mile buffer area. Pronghorn antelope distribution is outside the study area on the northern edge of the 3-mile buffer area, and no known bighorn sheep or elk distributions are in the vicinity of the study area. Greater Sage Grouse: Winter distribution exists outside the study area on the northern edge of the 3-mile buffer area, but there are no known summer distributions, nesting or core breeding habitats, or lek sites in the vicinity of the study area. Raptors: Various species of raptors are known to reside in the vicinity of the study area. American kestrel, bald eagle, golden eagle, great horned owl, osprey, peregrine falcon, and red-tailed hawk have been directly observed in the vicinity of the study area. However, no raptor nest sites have been identified by NDOW in the vicinity of the study area. *Response: This information is included in Section 3.3, Biological Resources and was considered in the impact analysis.*
Pyramid Lake Paiute Tribe, Environmental Department	The Tribe is concerned about further degradation of the Truckee River water quality. The NDEP lists the Truckee River as impaired in the Section 303(d) list for the categories of temperature and turbidity. It is also regulated for total dissolved solids, nitrogen, and phosphorous in a corresponding Total Maximum Daily Load. Project construction may require its own discharge permit. Project design and construction should incorporate permanent BMPs to limit degradation of Truckee River water quality due to the altered landscape. Beyond the standard NDOT practice, the Tribe would like to see what BMP improvements could be included so that the Truckee River and Pyramid Lake are given greater consideration, similar to Lake Tahoe. The Tribe would like to see measures implemented that would prevent fine suspended sediments from being introduced into the Truckee River, and would prefer pollutants be contained and treated, instead of discharged in stormwater flows. NDOT should analyze the potential risk to the Truckee River and local groundwater from hazardous materials. Some design aspects that could be considered include small control basins along the entire route to capture emergency spills, armoring at stream crossings, and a location of potential breakdown and large spill locations. *Response: Comments are addressed in Section 3.4, Water Resources.*

Table 4-3. Agency Comments and Responses

Agency	Comments/Responses
City of Fernley, Public Works/General Services Department	The City of Fernley has no comments at this time, but would like NDOT to continue to forward project information as it is released. *Response: Comment is noted.*
U.S. Coast Guard	Under the provisions of the Coast Guard Authorization Act of 1982, the Coast Guard has determined the project does not require Coast Guard involvement for bridge permit purposes. *Response: Comment is noted.*

Source: USA Parkway study team.

4.4 FORMAL CONSULTATION

4.4.1 SHPO Consultation

In accordance with Section 106 of the National Historic Preservation Act, consultation with SHPO on the project's effects and eligibility was initiated on May 7, 2014. On April 12, 2014, SHPO concurred with the project's Area of Potential Effect. A Class III cultural resources inventory was performed and submitted to SHPO on May 7, 2014. SHPO concurred with the determination of eligibility and finding of effect presented in the report on August 26, 2014.

As a cooperating agency, BLM was consulted on the eligibility and effects recommendations for those cultural resources located on BLM land in accordance with the Memorandum of Understanding and Operating Manual developed by BLM, FHWA, and NDOT (BLM 2007). Additionally, the Carson City Field Office of the BLM and the National Trails division of the National Park Service were consulted by phone and e-mail for this project.

4.4.2 Native American Consultation

Under the National Historic Preservation Act (NHPA, 36 CFR 800), FHWA made a reasonable and good faith effort to identify Native American tribes that may have an interest in the Section 106 process [36 CFR 800.3(f)(2)]. Based on that identification effort, FHWA determined that formal consultation with the following Native American tribes was appropriate:

- Fallon Paiute-Shoshone Tribe, Fallon, Nevada;
- Pyramid Lake Paiute Tribe, Nixon, Nevada;
- Walker River Paiute Tribe, Schurz, Nevada; and
- Yerington Paiute Tribe, Yerington, Nevada.

Formal government-to-government consultation pursuant to the NHPA was initiated by FHWA through letters to the identified tribes dated February 22, 2012, and consultation with those tribes regarding the project took place intermittently over the following 27 months. FHWA solicited not only cultural concerns, but also environmental concerns about the project, and offered participants the opportunity for a field review of the project's alignment alternatives.

No specific concerns were raised by the Fallon Paiute-Shoshone tribal representatives. Pyramid Lake Paiute tribal representatives shared their concerns with water quality originating from TRIC facilities and a presentation on the project was made to their department managers in June of 2012. The Walker River Paiute tribal representative expressed concern regarding cultural and natural resources that may have been disturbed by the development of TRIC and expressed a desire to work more closely with that entity to ensure protection of sensitive material in the vicinity. Upon inspection of the USA Parkway route itself, the representative had no further concerns with the project. The Yerington Paiute tribal representative was unconcerned with the project and wished to only be notified in the event of an inadvertent discovery of cultural or human remains.

Based upon the responses received, FHWA determined that the consulted tribes had a reasonable opportunity to identify their concerns about historic properties [36 CFR 800.2(c)(2)(ii)(A)], and based upon the consultations, FHWA has determined that there are no Native American concerns regarding NHPA issues surrounding this project as proposed.

4.4.3 U.S. Fish and Wildlife Service Consultation

A letter was sent to USFWS on April 17, 2012, initiating the informal consultation process under Section 7 of the Endangered Species Act. USFWS responded May 4, 2012, and indicated that Lahontan cutthroat trout could occur in the project area, in the Truckee River. An updated list obtained in 2014 indicated that greater sage-grouse, and cui-ui may occur in the project area. FHWA determined that the project would have no direct or indirect effects on any federally listed species. FHWA provided USFWS notification of this finding in a letter dated April 24, 2013. USFWS did not provide a response. Consultation letters are included in Appendix M, Agency Scoping Comments.

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