

50

CONNECTING COMMUNITIES



PBS

US 50 EAST CORRIDOR STUDY



CARSON CITY
CHURCHILL COUNTY
LYON COUNTY



NEVADA
DOT

FINAL
NOVEMBER 2007

US 50 East Corridor Study

Final

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Prepared for



Prepared by



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Supporting Documentation

(Included on the CD on the inside back cover of this report.)

- Collected Traffic Data
- Roadway Conditions
- Summary of Transportation and Land Use Planning
- Traffic Volumes, Accident Locations, and Operational Deficiencies
- Roadway Access Management Plan
- Mobility Needs for 2012, 2025, and 2035
- Summary of Public Outreach
- Stakeholder Working Group Summary
- Environmental Considerations

INTRODUCTION

As part of the Nevada Department of Transportation's (NDOT) statewide transportation planning and programming, specific corridor and subarea studies are convened to meet challenging situations. The rules and regulations set forth in Title 23, *Code of Federal Regulations*, Part 450, Planning Assistance and Standards, Subpart B 450.212, Public Involvement, describe the authority for studies. This study was conducted in the spirit of these documents.

Not the Loneliest Highway

Unprecedented growth...it's happening in communities along the US 50 East Corridor in western Nevada. Only 20 years ago, the entire corridor was rural, US 50 was a typical high-speed, two-lane highway, and a barrel of crude oil cost \$15. Now US 50 serves the growing communities between Carson City and US 50A as well as regional and interstate transport.

This growth takes many forms and creates numerous challenges. From economic expansion and diversification to residential sprawl, communities along the western edge of "The Loneliest Highway" in America are undergoing rapid change. Nowhere is this more evident than in Lyon County. During this study, Lyon County went from being the seventh fastest growing county in the nation in 2005 to the second fastest in 2006 (U.S. Census Bureau, 2006). Unbridled growth leads to strained infrastructure, increased commute times, an imbalance in the locations of housing and jobs, and a creeping loss of open space. As the only transportation facility servicing the expanding communities of Mound House, Dayton, Stagecoach, and Silver Springs, US 50 is facing mounting challenges. As communities in this corridor transition from their rural beginnings to more urban forms, it is imperative that mobility be maintained.



Project location.

The US 50 East Corridor Study spans 52 miles, from the Carson City Freeway (US 395) in Carson City, through Lyon County, to US 50A (Leeteville Junction) in Churchill County. The study area includes adjoining lands 5 miles on either side of US 50 along the entire length. By including these lands in the study, it is possible to fully explore the relationship between land use and transportation.

The NDOT convened the US 50 East Corridor Study in October 2005 to provide decision makers an action plan defining potential future transportation infrastructure investment choices. Recognizing the many diverse interests, the study was organized to be an inclusive collaborative planning process. The specific purpose of the study was to identify mobility challenges and generate transportation options that would allow decision makers to meet future challenges. Options were evaluated on broad-based criteria

that met the interests of all parties and addressed existing and future corridor transportation challenges.

This report describes the work performed, the information and data gathered, how the information was treated, and the treatments that were developed.

Mission Statement

At the December 8, 2005, Stakeholder Working Group (SWG) meeting, the following mission statement was adopted for the US 50 East Corridor Study:

“Create an integrated transportation plan that is safe, efficient, and enhances the community.”

The words of this mission statement guided the stakeholders throughout this planning effort.

BACKGROUND

Communities on the Move

US 50, paralleling the historic Pony Express Route, is a unique route that represents opportunity across the country. Stretching from coast to coast and traversing the nation’s heartland, this route provides ample opportunity for those seeking adventure. Originating near the rocky cliffs overlooking the Pacific Ocean, US 50 traverses California’s Central Valley, climbs both the Sierra Nevada and Rocky Mountain ranges, and descends into the Great Plains. US 50 then crosses the Great Mississippi River, passes through the Midwest and Washington, D.C., and finally terminates at Maryland’s Atlantic shore.

Traditionally known as “The Loneliest Highway,” US 50 owes its reputation to the vast stretches of open road that pass between the communities situated in a unique topography. Between Carson City in the west and Churchill County in the

east, the corridor has an array of qualities. Communities served by US 50 range from urbanized Carson City to resurgent Dayton (considered by some to be the first permanent settlement in Nevada) to the rural farmland of Churchill County. This area once supported one of the largest cities in the west, Virginia City, during the gold and silver mining boom of the mid 1800s. As the mines were abandoned, surrounding communities were left to survive on their own.



Gold was discovered near Dayton in 1849 by prospectors waiting to pass the snowy Sierra Nevada Mountains.

Growth in western Nevada was slow and steady throughout the 1900s, with communities developing around such features as the railroad, the interstate highway system, and the gaming and tourism industries. At the end of the 1990s, western Nevada began to reestablish itself as the land of opportunity. The state’s business-friendly tax environment, vast tracts of affordable and undeveloped land, a desirable climate, and proximity to California all have helped turn the spotlight back on the Silver State.

More recently, growth in western Nevada has occurred in the communities of Reno, Sparks, Carson City, and Gardnerville/Minden, resulting in increased land prices. The desire for the amenities of rural communities has made Douglas, Lyon,

Storey, and Churchill counties attractive locations for both current and new residents.

Growth along the US 50 corridor is affecting these counties in different ways. Carson City is nearing build out; however, as the state capital, it continues to be an important employment center. Mound House has historically been considered an important regional light industrial location intermixed with residential areas. Dayton is undergoing rapid residential growth as it matures into a small urban community. Both Mound House and Dayton have expansion opportunities that will influence their overall character. Stagecoach will likely experience growth similar to that in Dayton as proposed major master-planned communities (such as Crosby Ranch Homes) continue to move forward in the planning process. A major expansion of the Tahoe-Reno Industrial Center in Storey County is likely to place similar development opportunities on Silver Springs as in other corridor communities. Proposed developments (such as the Matthews Ranch Homes) are also likely to reshape rural Churchill County. Regional dynamics, western and national migration trends, and economic opportunities are likely to continue attracting new residents to western Nevada and communities in the US 50 East Corridor.

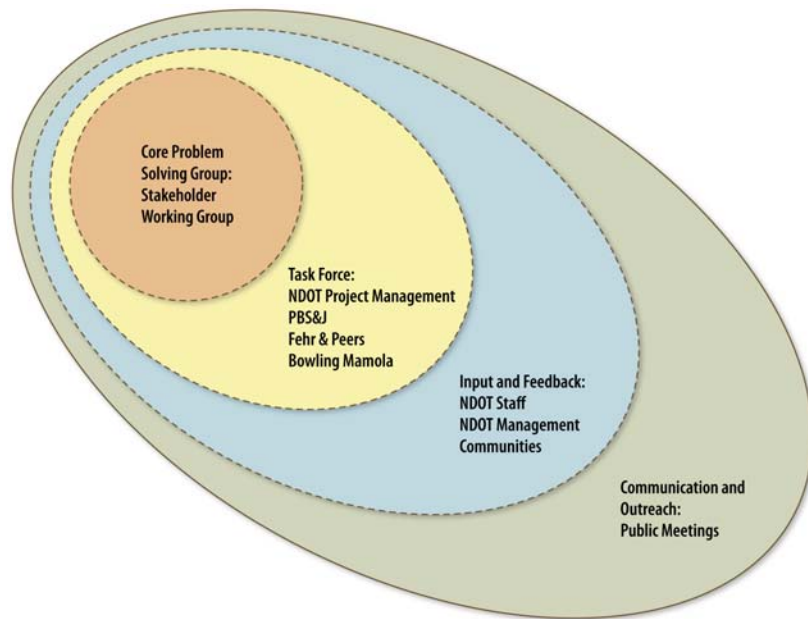
The US 50 East Corridor serves many functions. Although it accommodates both local and regional travel, just as important, it serves as a “Main Street” to many communities. As such, maintaining mobility as the region continues to evolve is vitally important. The goal of this study was to find a balance between the seemingly competing goals of providing regional travel and meeting the local needs of the community.

PLANNING PROCESS

People in Action

The purpose of this study was to explore the anticipated mobility needs of the corridor and generate potential treatments for future consideration as the corridor continues to grow. US 50 is so integral to so many communities, interests, and people that no universally supported solutions could be generated without the input of the full range of stakeholders. Equally important is the knowledge that the exact type of future growth is uncertain. However, by incorporating an open, comprehensive, and inclusive planning process, this study considered many of the different and sometimes competing interests that exist in the study area. By bringing these interests together, a workable plan for the future could be achieved and presented in this living document.

Roles in the planning process ranged from affected citizens to technical support to core problem solvers. The rings of involvement (see following page) show how the roles related to one other. Note that these role relationships were used during the planning process and do not represent the authority for plan adoption. The NDOT has the authority for plan adoption; the consensus-driven nature of this planning effort was intended to facilitate NDOT's adoption of the plan. Each of the four roles was necessary to ensure that a full accounting of information was achieved and that decisions reflect the interests of all stakeholders. Individuals often assumed multiple roles as the process progressed. One example is that individuals in the core problem solving group stepped into the role of “Input and Feedback” when they provided technical education on topics of importance to the core group.



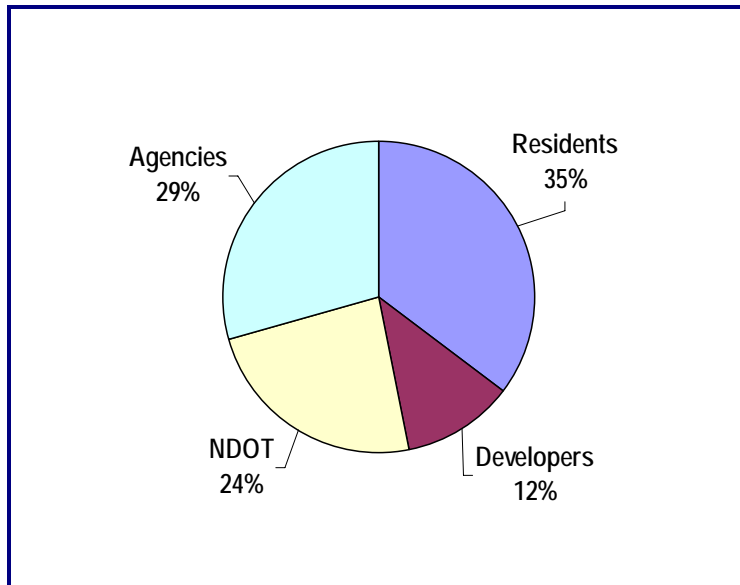
US 50 East Corridor Study Rings of Involvement.

The initial organization of the US 50 SWG included a planning process facilitator and advisor. Over an 18-month process, this involvement structure developed so that all stakeholders could agree to participate. The stakeholders worked through phases to understand the issues and identify potential solutions. The process was organized into a map to demonstrate how the various stakeholder roles and relationships related to one another through the different phases.

US 50 East Corridor Study Phases

Study Phase	Purpose
Process Education	Develop and agree on the process.
Issues Education	Identify and fill gaps in general knowledge of corridor issues.
Vision	Explore corridor-specific issues: strengths, weaknesses, opportunities, and threats.
Selection Criteria	Develop mutually agreed upon standards.
Scenarios	Generate potential future outcomes.
Generating Solutions	Develop treatments for future problems.
Evaluation	Apply criteria to solutions in developing recommendations.
Decision Making	Organize implementation strategies.

The US 50 East Corridor Study SWG was organized as the core problem solving group. An initial group of stakeholders was identified and recruited as the study began organizing. Two public open houses were conducted in October 2005, and additional stakeholders were recruited. Membership in the SWG was voluntary, with member dedication being apparent by their meeting attendance.



Composition of the stakeholder working group monthly meetings.

The SWG was the single advisory and decision group for the study. As such, all technical and citizen interests worked on the same issues concurrently; this was important because decisions were made based on information developed during the planning process. If information had been developed in separate committees, questions could have arisen that ultimately affected resulting decisions. Therefore, no major project decision, action, or deliverable was completed without SWG input and acceptance. This planning approach helped to ensure that the final US 50 East Corridor Study had the potential to be broadly supported by the various interests represented by the stakeholders and to be adopted by the NDOT.

The Regional Transport Network: Traveling Together

With so many communities dependent upon US 50 for local and regional mobility, it was important to address all corridor

interests. A single facility servicing several communities creates interdependence. All communities in the study area rely heavily on US 50 to get to work in Mound House, Carson City, and Reno. Communities along the corridor do not have major amenities such as shopping centers, libraries, medical facilities, and institutions of higher education. People who live in the far eastern end of the project limits (such as in Silver Springs) rely on community amenities in Dayton or Carson City for shopping and services. These same people rely on US 50 to get to their own homes or to the homes of their neighbors. This unique nature of US 50 creates an interrelated mobility dependence on the highway.

Because of the interconnected condition of travel along US 50, it is crucial that the facility be considered in the broader context; for example, a signal added at one corridor location affects everyone traveling along it, both those in that community and those from surrounding communities. This interrelationship also applies to land use decisions. Land use has a direct impact on transportation facilitations; therefore, a new subdivision in one location may affect people two communities away. As new development occurs, travel trips are generated depending on the intensity of the land use type, thus creating a relationship between land use and the transportation system. This interdependence exists on many facilities but not nearly to the extent seen on US 50 because no other major routes exist to accommodate some trips. Because of this interdependence, it is important that the system be analyzed as a whole while also considering the individual needs of each community and stakeholder. This interdependence also underscores the importance of the SWG process in the development of a transportation plan for US 50.

Stakeholder Needs and Concerns: Understanding Where We Live

At the outset of the SWG process, many participants had particular interests, which usually centered on issues that

affected them personally. Important to the SWG activities were the education and visioning processes. As the group learned about transportation and growth issues together and developed a common understanding of the many needs and interests of stakeholders along the corridor, they also began to understand the many challenges identified within the US 50 East Corridor.



Study process facilitator discussing issues with the SWG.

This new level of understanding was significant in breaking down the barriers among SWG to acknowledge other views and guiding the group to reach a shared vision. Problems and issues were then addressed collectively, with many viewpoints considered. The concept of a collective understanding of the problems or issues was important as it built momentum for the treatments developed. No treatment was expected to appeal to any one particular need or interest, but was proposed to address mobility based on a shared vision of the SWG.

FUTURE GROWTH

A key question for the SWG was, “What will our communities look like in the future as growth occurs along the corridor?” The relationships between land use and transportation were key topics for the SWG; understanding that each area affects how communities collectively function and plan for the future. Land use planning was traditionally accomplished within cities and counties, while transportation planning was principally provided by the state. These roles are not exclusive because they both need to meet the challenges of growth in the region. This working relationship was evident during the study when Carson City adopted their Envision Master Plan update and Lyon County embarked on their County-wide Master Plan update. These land use planning efforts and their timeframes were subsequently coordinated with the timeframe for the US 50 East Corridor Study.

One potential way to understand and assess the timing of ongoing land use planning and the uncertainty of future land use transportation relationships was to consider various land use scenarios; this approach was used by the SWG and support team. The scenario exercise in the tradition of Peter Schwartz’s *The Art of the Long View: Planning for the Future in an Uncertain World* provided the means to fully explore land use and transportation relationships. Additionally, this work provided the ability to complete the corridor study while allowing Lyon County to proceed with their Master Plan Update.

The principles of scenario planning were shaped to assist stakeholders and the support team with the practical task of developing a travel demand model (TDM). A TDM uses the social and economic information for communities and combines it with a representation of the transportation infrastructure to determine the demand. Such a model is invaluable to stakeholders in their understanding of how land use and transportation interact. Combining the need for a TDM

with scenario planning was a crucial adaptation in the initial planning process. The sections below describe the steps followed by the stakeholders and support team as they worked together to develop scenarios, create the TDM, identify issues, and generate treatments.

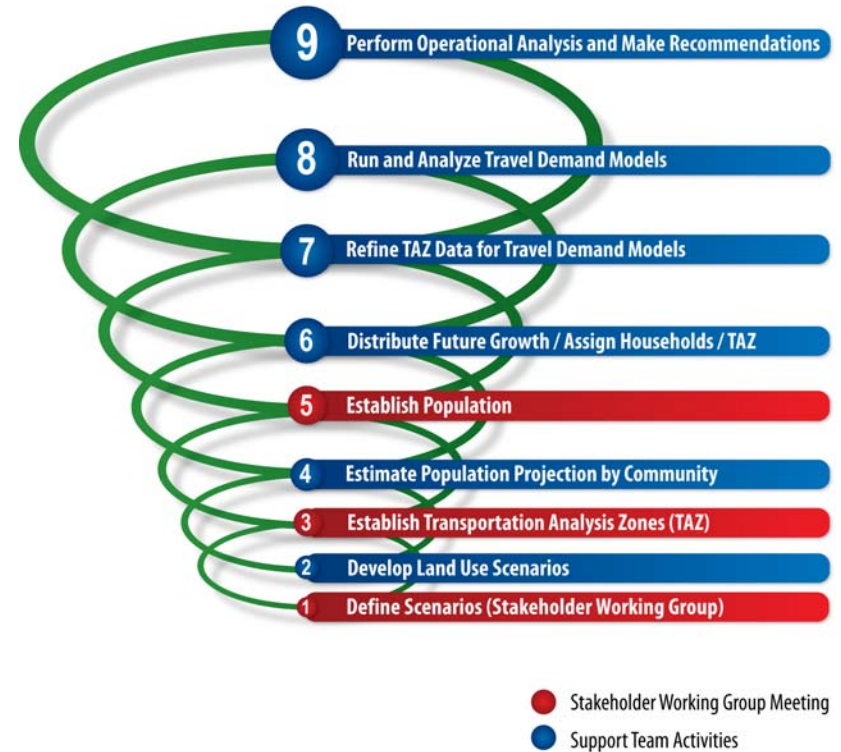
In **Step 1**, the SWG defined four scenarios for future growth. During the May 2006 meeting, stakeholders brainstormed major trends occurring along the corridor at the time. These trends were divided among four groups to generate a scenario of how the corridor would look in 2035. These scenarios are comprehensive descriptions of all future conditions. The four scenarios are summarized later in this section.

In **Step 2**, the SWG worked with the support team to shape the comprehensive scenarios into descriptions of future land use and transportation. These overall descriptions guide how the subsequent steps are eventually incorporated into the four scenarios.

In **Step 3**, traffic analysis zones (TAZ) were developed with the assistance of the SWG. In the June 2006 meeting, stakeholders were challenged to establish TAZs based on their knowledge of the corridor. It was essential that stakeholders provided guidance. TAZs are the fundamental structure for the TDM and they influence modeling results. As such, TAZs can be subjected to manipulation. With areas of open space and development, this becomes a central concern. Working together eliminates this concern.

In **Step 4**, the remaining component of producing a TDM, estimating population projections for the scenarios, was undertaken. The support team developed a range of population projections for each corridor community. These projections incorporated existing census and demographic data and trends, influences of the TAZs and scenarios, and multiple population projection methodologies. The purpose

was to try to understand how stakeholders viewed future growth.



The nine steps of the scenario: travel demand modeling process.

In **Step 5**, the July 2006 meeting was dedicated to reaching stakeholder consensus on what the 2035 population for each community might be. Having all stakeholders jointly determine this population distribution between communities allowed the support team a legitimate allocation of future growth.

In **Step 6**, the support team allocated populations (in the form of households) to the different TAZs based on each of the scenario narratives. This step was essential to developing a TDM that represents each land use transportation scenario for eventual stakeholder decision making.

In **Step 7**, TAZ data was refined to include additional scenario components such as employment and commercial industrial development.

In **Step 8**, TDMs were developed and run for existing conditions and for future 2035 conditions for each scenario. TDMs use four steps to determine the demand for transportation infrastructure: trip generation, trip distribution, mode split, and trip assignment. This was accomplished by incorporating the TAZs developed in Step 5, to which social and economic planning factors were assigned.

In **Step 9**, the support team evaluated the projected average daily trips at all community locations in the corridor based on each of the four scenarios for future growth. Average daily trips refer to the number of times a car passes a particular point. With these trips, the support team conducted an evaluation of transportation facility service to identify issues.

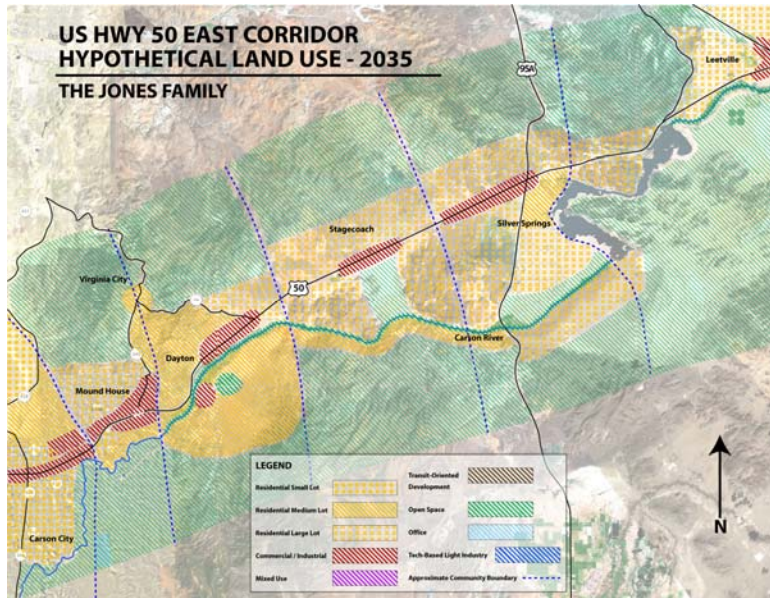
With the rapid changes in the corridor, it was crucial that the SWG provide the support team with broad base information about the future, such as population development and patterns

and potential demographic trends. Without the invaluable insight of the stakeholders, the capacity to develop appropriate TDMs would have been potentially biased. It was with the stakeholder information that useful planning variables were developed for use in the four-step modeling process. The nine-step planning process allowed the stakeholders and support team to overcome uncertainty about future growth and develop a model to predict future traffic based on each of the four scenarios. Based on this understanding, recommendations could be made to address future transportation system and land use challenges. The four scenarios are described below.

Future Growth Scenarios

Scenario planning, in the tradition of Peter Schwartz in *Art of the Long View*, possesses the capacity to capture the nuances of the results of decisions made through time. Much of the power of this capacity comes from the nature of the narrative. Scenarios are written as though we are in the future thinking about the past. In other words, we describe events that occurred between the existing present and the scenario future that reasonably could have brought about those future conditions. When reading these four scenarios, readers should place themselves in the future looking back; doing so can provide valuable insight to the US 50 East Corridor Study.

The Jones Family: Scenario 1



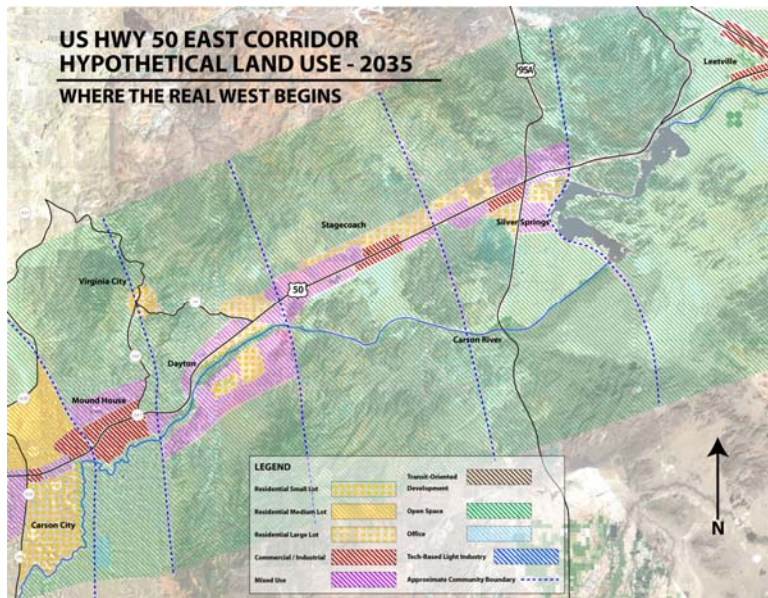
Communities along US 50 are similar to many other communities around the country. Here in 2035 it is difficult to remember the rapid development that occurred in Dayton, Stagecoach, and Silver Springs. And to think that all this development began when the Jones family drove through on vacation and went home and told their neighbors about their trip. There was once great demand for medium-density, single-family residential subdivisions, and communities along the US 50 East Corridor could meet that demand. Most of the open space—except federal land and steep slopes—was developed. Some communities on the east end of the corridor provided ranchette estates that now cover most of the area. Commercial development was concentrated along US 50, in and around Dayton, Stagecoach, and Silver Springs.

The story about the Jones family that ran in the local paper drew two major groups to the corridor: retirees and families with children. Of course, demand increased for government services, water, medical facilities, recreational facilities, and schools. Somewhere around 2015, land values increased. There wasn't much effort to add businesses to the influx, which led to an imbalance of more housing than jobs. Most jobs require commuting to Carson City and Reno. This arrangement seemed to fit peoples' needs because many of the new residents arrived from places such as Henderson, Nevada, and Riverside, California, where things looked and felt very similar.



The Jones family suburb resembles many other suburbs around the country.

Where the Real West Begins: Scenario 2



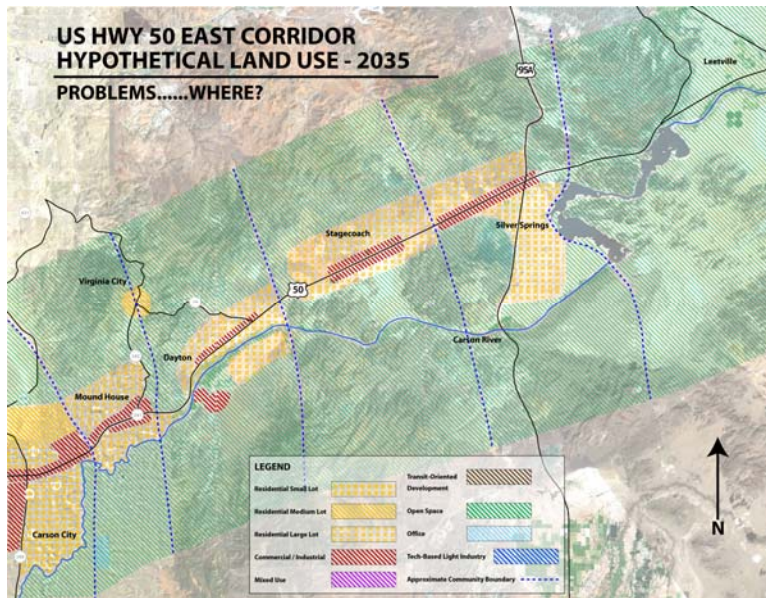
It may be difficult for other areas to understand how here in the year 2035 the communities along the US 50 East Corridor were able to maintain open space and natural amenities while accommodating so many new residents. It is this open space that served as the economic engine for the entire corridor, with adventure sports and wild horse watching topping the list of popular activities. The corridor's development was shaped by implementing smart growth principles, preserving open space, and achieving a balance between recreation, tourism, and the environment. Communities simply defined where they would grow, and limited growth to those areas. This approach brought everyone into well-defined communities with a mix of commercial and residential uses. A large destination resort hotel was built near the Carson River in Dayton, making Dayton an attractive destination for weekend visitors. Other corridor communities employed smart growth principles and experienced similar, but perhaps less concentrated, mixed-use development.

Smart growth principles provided guidance on other development patterns. Many redevelopment projects occurred to beautify and revitalize downtown areas, sidewalks were widened, and streets were narrowed to encourage walking and bicycling. Transit provided the corridor with service between the clustered communities. More corridor community residents were able to work and shop in areas closer to home. Much of the success was owed to the local government that acquired undeveloped corridor properties to develop parks and preserve open space. This approach led to the recreational amenities for hiking, biking, and off-road vehicles that have developed throughout the corridor. Tourism attractions, such as the V&T Railroad and historical sites, have been developed. People like to compare US 50 East Corridor communities with places such as Emeryville, California, and Celebration, Florida.



Celebration, Florida, observes smart growth principles.

Problems...Where?: Scenario 3



Major challenges have occurred leading up to the year 2035: substantial cost increases for energy, water, and water-related infrastructure. Local and state government agencies have responded to the water shortage by imposing laws limiting new development without proof of an assured long-term water supply. Limitations were placed on the extension of water lines far from the existing urbanized areas such as Reno, Sparks, and Carson City. Water conservation measures were implemented throughout the region, severely limiting landscaping other than xeriscaping.

The challenges affected how development occurred. Corridor development consisted of moderate-sized, single-family residential subdivisions concentrated in the western portion of

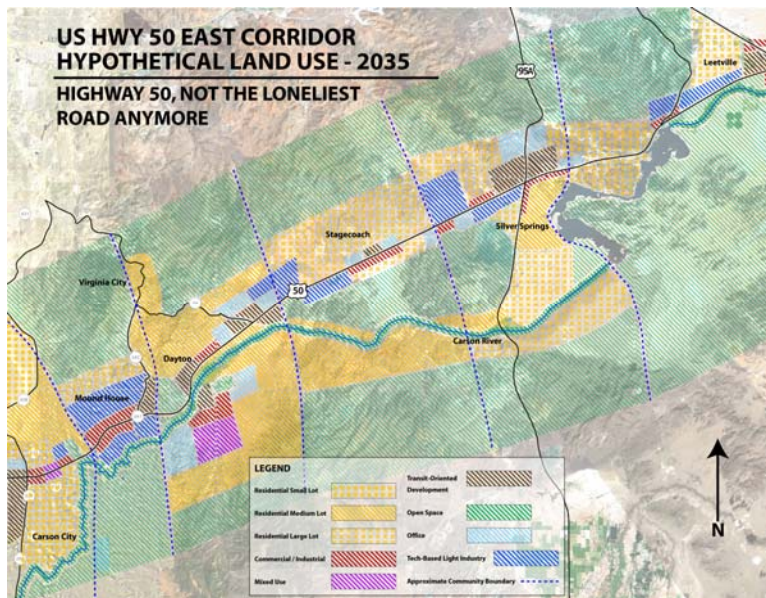
the corridor and were primarily built before the building slowdown. Much otherwise developable land was left undeveloped, especially in the eastern corridor area, and remains open space. Housing prices rise substantially as demand outpaces supply. Recycled water (treated wastewater) was used to water existing parks and golf courses. No new golf courses or other projects requiring great quantities of water have been developed in more than a decade. The US 50 East Corridor communities now appear similar to Santa Fe, New Mexico, and Tucson, Arizona.



Xeriscape and zero-scape requirements indicate water limitations.

Not the Loneliest Highway Anymore: Scenario 4

In 2035 people look back and wonder how US 50 ever got the nickname “The Loneliest Highway.” With the vibrant, bustling, tightly developed corridor communities, US 50 can no longer be considered “The Loneliest Highway.” Homes and businesses are mixed together, making long driving trips unnecessary. Traveling between communities is accomplished via a sleek transit system that uses alternative energy sources and technology, much of which was developed by businesses within the corridor.



This groundbreaking research was aided by the faculty and students of the community college developed near downtown Dayton and served by transit. Getting around is further improved by the application of innovative Intelligent Transportation Systems, again assisted by the high-tech and manufacturing employers located in the corridor. This mix of job types, from research to manufacturing and service, has

been crucial in providing job opportunities that keep people in one place.

Providing a good balance of residential choices and job types has led to beneficial behaviors. Many corridor residents now telecommute from home. Local governments and individual homeowners invest in alternative energy sources (such as solar, wind, and geothermal power) and are driving hybrids and other vehicles that use alternative energy sources. Air quality has stabilized, and homeowners are realizing substantial cost savings due to energy efficiency. Communities along the corridor have been likened to Portland, Oregon, and Arlington, Virginia.



Transit-oriented communities are designed to reduce dependence on automobiles.

The four scenarios described above paint diverse pictures of the potential futures of corridor communities. With this diversity in mind, the SWG and their support team moved confidently forward in identifying treatments that met the mission statement of the study: “Create an integrated transportation plan that is safe, efficient, and enhances the community.”

CORRIDOR STUDY

Carson City: A Corridor Hub

Carson City, the capital of Nevada, is a regionally important employment and activity center. The City offers a small town lifestyle and an employment market often reserved for larger urban areas. Carson City is currently the largest destination for trips along the corridor. The region continues to change rapidly as growth and the relationships between communities shift. Mobility transportation infrastructure needs are also shifting. With construction of US 395 and the Carson City Freeway extension, travel between the Truckee Meadows to the north and the Carson Valley to the south is expedited. Business, employment, and housing choices throughout the region are affected by these improvements. Perhaps nowhere are these changes more evident than in the rapidly developing areas further east in the corridor. To accommodate these changes, mobility must be increased to address future needs.

US 50 within the limits of the Carson City portion of the corridor study is a four-lane road with a continuous two-way, left-turn lane. The existing built environment is frontage commercial development along US 50 with lot sizes smaller than those required for the current large-scale commercial development. Curb and gutter use is intermixed with roadside ditches, and several signal-controlled intersections are in the area. Beyond the frontage development is an existing residential subdivision and some light industrial uses further to the east.

Given that portions of US 50 are without parallel routes, all vehicle trips to and from Carson City must be accommodated exclusively along the highway. As such, local trips must

access US 50 to reach their destinations. This pattern is combined with regional trips from areas beyond this section of US 50 that are traveling through and not stopping. Moving west to east, the number of businesses decreases and the parcel sizes increase, resulting in fewer driveways. A posted speed of 45 mph exists for most of the Carson City portion of US 50, increasing to 55 mph at the extreme eastern end. Average daily volumes range from about 21,000 to almost 30,000 vehicles.

A Look into the Future of Carson City

Carson City is primarily built-out; therefore, traffic increases will generally originate from neighboring and regional communities. Some densification is, however, likely to occur, particularly downtown. Upon completion of US 395, the Carson City Envision Plan proposes an increased density in downtown Carson City, with condominiums and other high-density residential being built around a more pedestrian-friendly, vibrant retail commercial center.

Note that treatments are suggested based upon operation conditions associated with the number of trips; therefore, different horizon years may have the same treatments based upon how conditions change in the future.

Portions of Carson City, particularly the eastern sections of the study area, will be heavily affected by future traffic growth. Average daily trips are estimated through the scenario process to be from 65,000 to 99,000 vehicles, representing more than a three-fold increase in traffic. Based on the projected volumes and knowledge of the corridor, treatments are recommended for the 2012, 2025, and 2035 horizon years. These treatments are described on the following pages.

Carson City–Improving Safety

Description	Road Markings	Signs	Speed Control	Roadway/Roadside Features	Level of Service	Miscellaneous
From Graves Lane to Flint Drive	<ul style="list-style-type: none"> Bicycle routes well defined on pavement. No Cat Tracks on dual left-turn lanes (US 50 at Graves Lane). 	<ul style="list-style-type: none"> Advanced warning sign placement should be reevaluated due to increased development. 	<ul style="list-style-type: none"> Current posted speed is appropriate. 	<ul style="list-style-type: none"> No paved sidewalk for pedestrians. Road segment has few curbs and gutters. 	<ul style="list-style-type: none"> Uncontrolled business access on US 50. Inadequate length of acceleration and deceleration lanes on some intersections and approaches. 	<ul style="list-style-type: none"> Some pedestrian ramps are not ADA standard.

Carson City–Horizon 2012

Average Daily Traffic: Graves Lane: 45,000 Two-Way Trips		
Location	Issue	Treatment
Entire length of US 50	Numerous driveways with overlapping ingress and egress paths result in conflicts in the continuous two-way, left-turn lane.	<ul style="list-style-type: none"> Provide positive delineation of median turning paths onto major cross streets, with chevrons in the remainder of the median.
Entire length of US 50	Peak-hour commute volumes generate denser platoons that are subject to breakdown with differential speeds.	<ul style="list-style-type: none"> Establish express transit service to reduce congestion. Ensure posted speeds are not causing excessive braking. Consider deploying service patrols during peak periods. Use dynamic message signs to advise of existing conditions.
Entire length of US 50	US 50 continues to increase in importance as a regionally significant route.	<ul style="list-style-type: none"> Designate US 50 from the Lyon/Carson City county line to US 395/Carson City Freeway as expressway under NDOT's Access Management System and Standards.
Entire length of US 50	Historic and natural resources of interest to travelers are adjacent to the corridor.	<ul style="list-style-type: none"> Establish partnerships between NDOT divisions and other stakeholders such as the State Historic Preservation Office (SHPO), tourism, local governments, and community groups to generate and implement a strategic plan. Items may include: <ul style="list-style-type: none"> Scenic pullouts Highway advisory radio (HAR)-based tourism information Themed signing

Carson City–Horizon 2025

Average Daily Traffic: Graves Lane: 45,000 to 65,000 Two-Way Trips		
Location	Issue	Treatment
Entire length of US 50	Traffic volumes have exceeded the four-lane capacity on this regionally significant expressway.	<ul style="list-style-type: none"> Reconfigure the two 12-foot lanes, 10-foot shoulder, and 8-foot half median width to three 12-foot lanes, two 2-foot shoulders with no median, and a 2-foot barrier separation. Widen intersections with Airport Road, Graves Lane, and Deer Run Road/Arrowhead Drive for left-turn lanes.

Carson City–Horizon 2035

Average Daily Traffic: Graves Lane: 65,000 to 99,000 Two-Way Trips		
Location	Issue	Treatment
Entire length of US 50	Traffic volumes have exceeded the four-lane capacity on this regionally significant expressway.	<ul style="list-style-type: none"> Reconfigure the two 12-foot lanes, 10-foot shoulder, and 8-foot half median width to three 12-foot lanes, two 2-foot shoulders, and a 2-foot barrier separation. Widen intersections with Airport Road, Graves Lane, and Deer Run Road/Arrowhead Drive for left-turn lanes.

Carson City–Increasing Efficiency

Location	Treatment	Justification
V&T Railroad Depot	Bicycle/pedestrian facilities.	<ul style="list-style-type: none"> With planned development of the V&T Railroad Depot, a major tourist attraction, bicycle/pedestrian connectivity should be considered.
Entire length of US 50	Peak-hour commute volumes are generating denser platoons subject to breakdown with differential speeds.	<ul style="list-style-type: none"> Establish express transit service to reduce congestion. Ensure posted speeds are not causing excessive braking. Consider deploying service patrols during peak periods. Use dynamic message signs to advise of existing conditions.

Mound House: Important for Jobs

Mound House is a diverse community providing housing and jobs that benefit the entire region. People are drawn to Mound House for opportunities unique to western Nevada: establishing businesses, building homes, and enjoying the vistas. The community has grown along US 50, and growth continues to expand further to the north and south. Growth will likely lead to an increased need to cross highway US 50 within

Mound House as well as to access the highway to travel to other communities.

US 50 is currently a free-flow facility, meaning vehicles are not required to stop at controlled intersections. US 50 through Mound House is a four-lane road with a continuous two-way, left-turn lane. Driveways and roadway approaches are often minimally delineated. Traffic does not stop on US 50. Because no other east/west routes provide access to the community,

local trips use US 50. Many businesses fronting US 50 are destinations in the area; however, the predominant Mound House trips on US 50 originate beyond the community. SR 341 intersects US 50 in Mound House. SR 341 connects to Virginia City, a Western Nevada tourist attraction, and to the Truckee Meadows, the largest urban area in Western Nevada. When traffic incidents/collisions occur, SR 341 may be used as an alternate route between the Truckee Meadows and Mound House. Posted speeds on US 50 vary from 45 mph to 55 mph. Average daily trips vary from 22,000 to more than 29,000 vehicles.

A Look into the Future of Mound House

The growth in regional trips through Mound House may prove to be the greatest challenge in maintaining regional mobility. Currently, there is a directional characteristic to the trips through Mound House. In the morning, people in communities to the east travel to jobs west of Mound House. These drivers travel in the opposite direction in the afternoon. This travel pattern is referred to as directionality. Directionality is not the

most efficient use of transportation infrastructure because travel lanes in the direction opposite the peak are typically underused. Drivers in Mound House attempting to access US 50 during peak hours are challenged to find acceptable traffic gaps into which they can turn. Regional growth will increase this challenge.

The scenario process indicates that average daily trips could increase from 44,000 to 88,000 vehicles. If the average daily trips reach 88,000, this would represent a three-fold increase. Based on the projected volumes and knowledge of the corridor, treatments are recommended for the 2012, 2025, and 2035 horizon years. These treatments are described on the following pages.

Note that treatments are suggested based on operation conditions associated with the number of trips; therefore, different horizon years may have the same treatments based on how conditions change in the future.

Mound House—Improving Safety

Description	Road Markings	Signs	Speed Control	Roadway/Roadside Features	Level of Service	Miscellaneous
Flint Drive to Dayton Valley Road	<ul style="list-style-type: none"> Bicycle lane defined for a short section. 	<ul style="list-style-type: none"> Some areas have too many signs. 	<ul style="list-style-type: none"> Current posted speed is appropriate. 	<ul style="list-style-type: none"> Unprotected steep slope on outside of curve. Unprotected culvert pipes appear to be within clear zone. Only 2 feet from lane line to face of median barrier rail. Guardrail length might be short on the approach end. 		<ul style="list-style-type: none"> Generally, no pedestrian facilities are on this section of US 50.
Flint Drive to Dayton Valley Road	<ul style="list-style-type: none"> Merge arrows on US 50 westbound from SR 341 are placed where the lane has already been merged. Rumble strip on right shoulders. 					

Mound House–Horizon 2012

Range of Average Daily Traffic
SR 341: 25,500 to 30,500 trips

Note: Suggested treatments assume free-flow conditions (existing).

Location	Issue	Treatment
Entire length	This section of US 50 continues to increase in strategic importance as a regional facility for economic vitality. Access between communities and freight shipping need to be maintained.	<ul style="list-style-type: none"> Designate US 50 as an expressway under NDOT's Access Management System and Standards.
Mound House to other regional communities	No official alternative to single-occupant vehicle travel is in service.	<ul style="list-style-type: none"> Changing conditions make travel choices crucial. Identified actions are: <ul style="list-style-type: none"> Identify and develop the infrastructure for ride-share, including park-n-ride lots, ride matching, car and van pooling, and early return trip service. Provide fixed-route/schedule transit service. Provide on-demand transit service.
Carson City/Lyon County Line to Dayton City Limits	As more businesses open on the north side of US 50, demand will increase for eastbound to northbound gaps for permissive left turns, principally in the AM peak.	<ul style="list-style-type: none"> Provide positive delineation of all intersection turning movements to improve driver gap perception and turn efficiency. Use median delineation to assist in improving access management.
Carson City/Lyon County Line to Dayton City Limits	Access along and across US 50 for pedestrians and bicyclists is limited.	<ul style="list-style-type: none"> Organize stakeholders to develop, adopt, and implement a plan to improve pedestrian and bicyclist access (consider context sensitive solutions and the landscape plan). Consider grade separations over US 50 for community connectivity.
Left turns onto US 50	High-volume, left-turn movements onto US 50 have the lowest priority.	<ul style="list-style-type: none"> Require that left-turn movements use a permissive high-T median treatment similar to the Carson City landfill access road.
Carson City/Lyon County Line to Dayton City Limits	Peak-hour commute volumes are generating denser platoons subject to breakdown with differential speeds.	<ul style="list-style-type: none"> Establish express transit service to reduce congestion. Ensure posted speeds are not causing excessive braking. Consider deploying service patrols during peak periods. Use dynamic message signs to advise of existing conditions.
Left turns onto US 50	Low-volume, left-turn movements onto US 50 have the lowest priority.	<ul style="list-style-type: none"> Restrict left-turn movements to right-in and right-out; use U-turn movements.

Mound House–Horizon 2012 (Continued)

Range of Average Daily Traffic
SR 341: 25,500 to 30,500 trips

Note: Suggested treatments assume free-flow conditions (existing).

Location	Issue	Treatment
Directional peak-hour commutes	Potential direction distribution of traffic volumes may reach 60/40 ratio.	<ul style="list-style-type: none"> ▪ Perform a detailed operational analysis of currently existing travel characteristics and patterns to determine the feasibility of: <ul style="list-style-type: none"> – An express transit facility – Direction peak flow lane – Reversible managed lane ▪ Convert from a four-lane rural to a six-lane suburban cross section by converting shoulders to travel lanes.
Carson City/Lyon County Line to Dayton City Limits	Historic and natural resources adjacent to the corridor are of interest to travelers.	<ul style="list-style-type: none"> ▪ Establish partnerships between NDOT divisions and other stakeholders such as the SHPO, tourism, local governments, and community groups to generate and implement a strategic plan. Items may include: <ul style="list-style-type: none"> – Scenic pullouts – HAR-based tourism information – Themed signing
Note: Suggested treatments below assume interrupted flow conditions (with controlled intersections).		
Carson City/Lyon County Line to Dayton City Limits	Traffic signals installed upon meeting MUTCD signal warrants and per NDOT Access System and Standards (45 mph and half-mile spacing).	<ul style="list-style-type: none"> ▪ Consolidate left turns onto US 50 to high-T locations to maintain free flow in one direction and reduce signal timing requirements. ▪ Convert from four-lane rural to eight-lane suburban with widening to include dedicated transit lanes.
Left turns onto US 50	Turns are dispersed due to lack of street network.	<ul style="list-style-type: none"> ▪ Use street network to consolidate to major signalized intersections with dual left-turn lanes. ▪ Install raised median to delineate turn locations at permissive and signalized locations.

Mound House–Horizon 2025

Range of Average Daily Traffic
SR 341: 30,500 to 47,000 trips

Note: Suggested treatments assume free-flow conditions (existing).

Location	Issue	Treatment
Carson City/Lyon County Line to East of SR 341	Traffic volumes increased beyond four-lane capacity on this regionally significant expressway.	<ul style="list-style-type: none"> Reconfigure the existing two 12-foot lanes, 10-foot shoulder, and 8-foot half median width to three 12-foot lanes, two 2-foot shoulders, and a 2-foot barrier separation. Widen intersections with Linehan Road, Highland Drive, Newman Lane, Hillside Drive, and SR 341 for left-turn lanes.

Mound House–Horizon 2035

Range of Average Daily Traffic
SR 341: 35,500 to 75,000 trips

Note: Suggested treatments assume free-flow conditions (existing).

Location	Issue	Treatment
Carson City/Lyon County Line to East of SR 341	Need access from north to south side and vice versa to maintain community cohesion.	<ul style="list-style-type: none"> Provide grade-separated streets over US 50 with full bicycle and pedestrian facilities.
Carson City/Lyon County Line to East of SR 341	Peak-hour volumes exceed capacity of a four-lane road.	<ul style="list-style-type: none"> Widen existing roadway to accommodate volumes, or consider freeway facility with frontage roads for business and cross-street access (consider community fragmentation).

Mound House–Increasing Efficiency

Location	Mound House–Improving Efficiency Treatment	Justification
SR 341 Six Mile Canyon	Road and weather information system	<ul style="list-style-type: none"> Relay road and weather conditions for Geiger Grade.
East of SR 341	Dynamic message sign	<ul style="list-style-type: none"> Display travel time information to Carson City and Reno. Warn of incidents on SR 341 and Washoe Valley.

Dayton: A Growing Town

Dayton was once a small town standing as a tribute to the historic Comstock Lode, but it is no longer that small town. People have discovered Dayton and are making it home. With success often come challenges. Maintaining mobility in the community is one of those challenges.

US 50 is a four-lane road with a continuous two-way, left-turn lane through Dayton to Chaves Road on the eastern end of Dayton Valley. Entering historic Dayton, speeds are reduced from both the east and west from 55 mph to 35 mph. Intersections and driveways are located throughout the corridor. The Carson River Bridge immediately south of the

Dayton Valley Road/US 50 intersection provides the only access to parts of West Dayton Valley south of the river. Most fronting properties are commercial, with many (such as casinos and convenience stores) operating as destination and pass-by trip attractors. Along this corridor, Smith's is the only full-service grocery store outside of eastern Carson City, and it is currently a major destination for corridor residents. A large portion of US 50 from downtown Dayton to Chaves Road was recently widened from two to four lanes. Average daily trips vary from just under 8,000 vehicles in the east to more than 20,000 at the west end of town. This disparity demonstrates the impact Dayton already has on US 50 and the multiple trips made between Dayton and communities to the west.

A Look into the Future of Dayton

Dayton will likely lead the area in growth well into the future. Numerous residential developments are planned. Some developments will incorporate mixed uses, improving the balance of jobs and housing. Large retail and commercial developments are also planned. With these developments, trip

characteristics may shift from a few trips per day back and forth from Carson City and other areas located farther away to several trips per day to areas in town. However, alternate accesses to retail and commercial attractions in town could help reduce much of this potential demand on US 50.

In 2035 projected daily trips range from 18,500 to 40,000 at Chaves Road, and 35,500 to 75,000 at Dayton Valley Road. These projections represent a doubling and tripling of traffic volumes. Based on the projected volumes and knowledge of the corridor, treatments are recommended for the 2012, 2025, and 2035 horizon years. Those treatments are described on the following pages.

Note that treatments are suggested based on operation conditions associated with the number of trips; therefore, different horizon years may have the same treatments based on how conditions change in the future.

Dayton Valley—Improving Safety

Description	Road Markings	Signs	Speed Control	Roadway/Roadside Features	Level of Service	Miscellaneous
Dayton Valley Road to Chaves Road			<ul style="list-style-type: none"> Currently posted speed is appropriate. 	<ul style="list-style-type: none"> Guardrail end treatment appears to be substandard. Headwalls on both sides of the road near Mark Twain Avenue are unprotected (may be outside of clear zone). 		<ul style="list-style-type: none"> Sporadic pedestrian facilities. Pedestrian ramps not ADA compliant.

Dayton Valley–Horizon 2012

Range of Average Daily Traffic
Dayton Valley Road: 25,500 to 30,500 trips
Enterprise Way: 16,500 to 20,000 trips
Chaves Road: 8,500 to 13,500 trips

Note: Suggested treatments assume free-flow conditions (existing).

Location	Issue	Treatment
Dayton Valley to other regional communities	No official alternative to single-occupant vehicle travel is in service.	<ul style="list-style-type: none"> ▪ Changing conditions make travel choices crucial. Identified actions are: <ul style="list-style-type: none"> – Identify and develop infrastructure for ride-share including park-n-ride lots, ride matching, car and van pooling, and early return trip service. – Provide fixed-route/schedule transit service. – Provide on-demand transit service.
US 50 intersections with Flowery Avenue, Fortune Drive, Segale Road, Enterprise Way, Graves Drive, Ambrose Lane, and Chaves Road	Difficult to make left turns onto US 50 from T intersections; not enough turning movements to meet MUTCD warrants.	<ul style="list-style-type: none"> ▪ Improve to permissive high-T intersections by delineating an acceleration lane in the median for left-turning vehicles.
Dayton City Limits to Chaves Road (Dayton Valley)	Access along and across US 50 for pedestrians and bicyclists is limited.	<ul style="list-style-type: none"> ▪ Organize stakeholders to develop, adopt, and implement a plan to improve pedestrian and bicyclist access (consider context sensitive solutions and the landscape plan). Grade separations over US 50 should be considered for community connectivity.
Dayton City Limits to Chaves Road (Dayton Valley)	Corridor character continues to shift from rural to built environment adjacent to US 50.	<ul style="list-style-type: none"> ▪ Begin to develop a corridor environment that conveys changing conditions and encourages appropriate driver behaviors such as: <ul style="list-style-type: none"> – Raised median – Landscape theme along shoulders – US 50 Access Management Plan implementation
Dayton City Limits to Chaves Road (Dayton Valley)	Historic and natural resources adjacent to the corridor are of interest to travelers.	<ul style="list-style-type: none"> ▪ Establish partnerships between NDOT divisions and other stakeholders such as the SHPO, tourism, local governments, and community groups to generate and implement a strategic plan. Items may include: <ul style="list-style-type: none"> – Scenic pullouts – HAR-based tourism information – Themed signing

Dayton Valley–Horizon 2012 (Continued)

Range of Average Daily Traffic Dayton Valley Road: 25,500 to 30,500 trips Enterprise Way: 16,500 to 20,000 trips Chaves Road: 8,500 to 13,500 trips Note: Suggested treatments assume free-flow conditions (existing).		
Location	Issue	Treatment
Pinecone Road, Fortune Drive, Segale Road, Graves Drive, Hughes Avenue, Riverboat/Cardelli Road, Six Mile Canyon/Fort Churchill Road, Mark Twain Avenue, Pinenut Drive, and Chaves Road	Intersections identified in the US 50 East Corridor Access Management Plan as meeting adopted access criteria for controlled intersections.	<ul style="list-style-type: none"> ▪ Individual intersection ability to meet MUTCD warrants depends on street network connectivity and resulting travel patterns. Intersection treatments should be staged to meet immediate future conditions without precluding potential ultimate conditions. Treatments could: <ul style="list-style-type: none"> – Begin a permissive high-T – Become a high-speed roundabout – Become signal controlled – Become grade-separated intersection as needed

Dayton Valley–Horizon 2025

Range of Average Daily Traffic Dayton Valley Road: 30,500 to 47,000 trips Enterprise Way: 18,500 to 40,000 trips Chaves Road: 12,500 to 30,500 trips		
Location	Issue	Treatment
Dayton City Limits to Chaves Road (Dayton Valley)	Dayton Valley is a small urban area with the need for extensive intra-community travel.	<ul style="list-style-type: none"> ▪ Evaluate trip circulation patterns in the community and ensure US 50 geometry and intersection control accommodates the community needs.*
Dayton City Limits to Chaves Road (Dayton Valley)	Corridor character continues to shift from rural to built environment adjacent to US 50.	<ul style="list-style-type: none"> ▪ Begin to develop a corridor environment that conveys this changing condition and encourage appropriate driver behaviors such as: <ul style="list-style-type: none"> – Raised median (similar to Carson Street in Carson City) – Implement landscape plan
Dayton to Carson City	No alternate routes between communities to accommodate emergencies.	<ul style="list-style-type: none"> ▪ Lyon County, with assistance from other county stakeholders, will pursue an alternative route alignment north of US 50 to connect to Arrowhead in Carson City.

* Institute of Transportation Engineers (2006). *Context Sensitive Solutions in Designing Major Urban Thoroughfares for Walkable Communities: An ITE Proposed Recommended Practice*. Washington D.C. (see pages 166–169). <http://www.ite.org/bookstore/RP036.pdf>

Dayton Valley–Horizon 2035

Range of Average Daily Traffic Dayton Valley Road: 35,500 to 75,000 trips Enterprise Way: 18,500 to 40,000 trips Chaves Road: 12,500 to 30,500 trips Note: Suggested treatments assume free-flow conditions (existing).		
Location	Issue	Treatment

Dayton City Limits to Chaves Road	Dayton Valley is a small urban area with the need for extensive intra-community travel. Access along and across US 50 for this travel as well as pedestrians and bicyclist is limited.	<ul style="list-style-type: none"> Construct signalized intersections or high-speed (25 mph) roundabouts at locations identified in the US 50 Access Management Plan.*
Dayton City Limits to Chaves Road	Dayton Valley is a small urban area likely included in the Carson Area Metropolitan Planning Organization transportation planning area.	<ul style="list-style-type: none"> Begin to develop a corridor environment that conveys this changing condition and encourage: <ul style="list-style-type: none"> Raised median (Carson Street) Landscape theme along shoulders US 50 Access Management Plan implementation
Dayton Valley to other regional communities	Ridesharing and transit service have reached maximum service.	<ul style="list-style-type: none"> Develop alternate high-volume, community-to-community service, such as light rail or bus rapid transit as a backbone for existing feeder services.

* Institute of Transportation Engineers (2006). *Context Sensitive Solutions in Designing Major Urban Thoroughfares for Walkable Communities: An ITE Proposed Recommended Practice*. Washington D.C. (see pages 166–169). <http://www.ite.org/bookstore/RP036.pdf>

Dayton Valley–Increasing Efficiency

Location	Treatment	Justification
Dayton Valley Road	Park-n-ride	<ul style="list-style-type: none"> Heavy peak-hour traffic through signal with US 50 originating from residential development along Dayton Valley Road.
Segale Road	Park-n-ride	<ul style="list-style-type: none"> Potential future controlled intersection accessing Traditions development.
Six Mile Canyon/ Fort Churchill Road	Park-n-ride	<ul style="list-style-type: none"> Long-distance commuters using Six Mile Canyon to reach Reno employment areas.
Carson River	Shared-use path	<ul style="list-style-type: none"> Provides both recreational opportunities and a safe bicycle and pedestrian transportation alternative.
Alternate Access Routes	Bicycle/pedestrian facilities	<ul style="list-style-type: none"> Provides full bicycle and pedestrian facilities (Class II) along planned alternate access routes through Dayton.
East Dayton	Dynamic message sign	<ul style="list-style-type: none"> Display travel time information to Carson City and Reno. Warn of incidents on SR 341 and Washoe Valley.

Stagecoach: Homesteads and Subdivisions

Stagecoach embraces the character of Nevada's pioneering spirit. Stagecoach residents enjoy the space, the vistas, and their neighbors. Each community developing in Stagecoach has its own history, and all are tied to US 50 for mobility. Stagecoach residents use US 50 to access shopping and services in other communities along the corridor and in the region.

Along this corridor US 50 is a two-lane road with wide shoulders. The road occasionally widens to accommodate left-turn lanes. Operating speeds are associated with typical rural Nevada travel and are relatively fast, with a posted speed of 65 mph. These speeds often conflict with vehicles attempting to access adjacent development while both vehicles share the same lane. The south side of the road has a large salt flat that is susceptible to blowing dust. In several locations, the road traverses hills, causing large or underpowered vehicles to slow as they climb; this slowing results in delays. Average daily trips are 6,000 to 7,000.

A Look into the Future of Stagecoach

The existence of Stagecoach as a sleepy bedroom community will likely change. Crosby Ranch, a major mixed-use subdivision

is planned for the area. If fully realized, this development could add tens of thousands of new residents. These new residents will be interspersed with the existing homesteads; however, both new and long-time residents will benefit from the planned retail, commercial, and community services. These services will help reduce dependence on US 50. These services will, however, also attract new trips and could increase the frequency of shorter trips. Alternate local connectivity could help reduce demand of this type of travel on US 50.

Estimated average daily trips could increase to 12,000 to 27,000, a significant jump. Based on the projected volumes and knowledge of the corridor, treatments are recommended for the 2012, 2025, and 2035 horizon years. These treatments are shown on the following pages.

Note that treatments are suggested based on operation conditions associated with the number of trips; therefore, different horizon years may have the same treatments based on how conditions change in the future.

Stagecoach–Improving Safety

Description	Road Markings	Signs	Speed Control	Roadway/Roadside Features	Level of Service	Miscellaneous
Chaves Road to US 95A Junction (Silver Springs)	<ul style="list-style-type: none"> Rumble strip on outside shoulder only. 		<ul style="list-style-type: none"> Current posted speed is appropriate. 	<ul style="list-style-type: none"> Steep unprotected foreslopes within clear zone. Bumpy side slopes (some mounds created for signs). 		<ul style="list-style-type: none"> Rural highway; no pedestrian or bicycle facilities.
Various Locations				<ul style="list-style-type: none"> Install reflectors to warn horses of danger. Coordinate with the developers to create a grade-separated crossing. 		

Stagecoach–Horizon 2012

Range of Average Daily Traffic Stagecoach Road: 8,500 to 12,500 vehicles Note: Suggested treatments assume free -flow conditions (existing).		
Location	Issue	Treatment
Intersection of Iron Mountain Boulevard	Left-turning and opposing vehicle volumes are increasing, putting slowing vehicles in greater conflict with advancing vehicles.	<ul style="list-style-type: none"> Provide a left-turn lane to be coordinated with the Caroline Way Leegard Avenue loop road.*
East of Chaves Road to Stagecoach	Speed differentials caused by heavy vehicle performance on grades and preferred operating speeds are increasing.	<ul style="list-style-type: none"> Add truck climbing lane on the uphill of long grades in both travel directions.
Intersections between Boyer Lane and Stagecoach Drive	This section, situated between open road conditions, widens and narrows three times for left-turn lanes with intermixed passing conditions and approaches.	<ul style="list-style-type: none"> Integrate this section with the sense of a single community by providing a continuous median delineated with appropriate turn lanes (consider context sensitive solutions).
Intersections between Boyer Lane and Stagecoach Drive	Existing informal frontage roads extend the limits on both sides of US 50.	<ul style="list-style-type: none"> Coordinate with local residents, businesses, and local government officials to identify and designate long-term circulation conditions.

Stagecoach–Horizon 2012 (Continued)

Range of Average Daily Traffic Stagecoach Road: 8,500 to 12,500 vehicles Note: Suggested treatments assume free -flow conditions (existing).		
Location	Issue	Treatment
East of Chaves Road to Stagecoach	Historic and natural resources adjacent to the corridor are of interest to travelers.	<ul style="list-style-type: none"> ▪ Establish partnerships between NDOT divisions and other stakeholders such as the SHPO, tourism, local governments, and community groups to generate and implement a strategic plan. Items may include: <ul style="list-style-type: none"> – Scenic pullouts – HAR-based tourism information – Themed signing
Boyer Lane	Commuters need an established location in which to meet for ride-share.	<ul style="list-style-type: none"> ▪ Construct park-n-ride facility with the ability to incorporate kiss-n-ride amenities for transit service. Develop the means to connect potential ride-share partners.
East of Chaves Road to Stagecoach	Dust storms cause road closures.	<ul style="list-style-type: none"> ▪ Install dynamic message signs in locations for appropriate warning and diversion.

* For criteria, see Table 4.8 in the Nevada Department of Transportation’s *Access Management System and Standards*.

Stagecoach–Horizon 2025

Range of Average Daily Traffic Stagecoach Road: 10,000 to 20,000 vehicles Note: Suggested treatments assume free-flow conditions (existing).		
Location	Issue	Treatment
Various locations	Wild horse herds cross US 50 to access water in the Carson River.	<ul style="list-style-type: none"> ▪ Provide reflectors to warn horses of danger. ▪ Coordinate with developers to create a grade-separated crossing.
East of Chaves Road to Stagecoach	Traffic volumes approach the capacity for two-lane road.	<ul style="list-style-type: none"> ▪ Widen two-lane roads to three lanes with passing zones alternating between eastbound and westbound directions; coordinate with truck climbing lanes.*
Intersections between Boyer Lane and Stagecoach Drive (Central Stagecoach)	Communities will develop cross connectivity across US 50 due to the increased development of community.	<ul style="list-style-type: none"> ▪ Provide cross connectivity with high-speed (25 mph) roundabouts at three locations: Boyer Lane, Apache Drive, and Stagecoach Drive (consider context sensitive solutions and the landscaping plan).

* For criteria, see Table 4.8 in the Nevada Department of Transportation’s *Access Management System and Standards*.

Stagecoach–Horizon 2035

Range of Average Daily Traffic
Stagecoach Road: 12,000 to 27,100 vehicles

Note: Suggested treatments assume free-flow conditions (existing).

Location	Issue	Treatment
East of Chaves Road to Stagecoach	Traffic volumes approach capacity for two-lane road.	<ul style="list-style-type: none"> Widen two-lane roads to three lanes with passing zones alternating between eastbound and westbound directions; coordinate with truck climbing lanes*
Intersections between Boyer Lane and Stagecoach Drive (Central Stagecoach)	Communities will develop cross connectivity across US 50 due to the increased development of community.	<ul style="list-style-type: none"> Provide cross connectivity with signalized intersections or high-speed (25 mph) roundabouts at three locations: Boyer Lane, Apache Drive, and Stagecoach Drive (consider context sensitive solutions and the landscaping plan).
Central Stagecoach	Frontage development increases access points.	<ul style="list-style-type: none"> Access circulation patterns need positive delineation with the installation of median curbing.

* For criteria, see Table 4.8 in the Nevada Department of Transportation's *Access Management System and Standards*.

Stagecoach–Increasing Efficiency

Location	Treatment	Justification
Boyer Lane	Park-n-ride	<ul style="list-style-type: none"> Planned Crosby Ranch development and potential connections to Tahoe-Reno Industrial Center.
Alkali Flats	Road and Weather Information System	<ul style="list-style-type: none"> Relay dust hazard conditions from nearby dry lakebed.
10-Mile Hill	Road Geometry Warning System	<ul style="list-style-type: none"> Downhill speed warning to alert trucks of long downgrade.

Silver Springs: The Crossroads of Growth

Silver Springs offers a diverse range of living styles, from homesteads to quiet residential subdivisions. People enjoy the pace and their lifestyles. While the community offers many desirable amenities, other services are available only in the larger communities such as Fernley to the north, Fallon to the east, or Carson City to the west. These choices make mobility options more varied.

In Silver Springs, US 50 intersects with Alternate US 95 (US 95A) at a four-way, stop sign-controlled intersection. Both

routes are two lanes, with wide shoulders. Within the community are alternate routes providing trip routing choices. Parallel routes leaving the community are unavailable. The Ramsey-Weeks Cutoff provides a major diversion for trips between US 50 to the west and US 95A to the south. Operations along US 50 are mixed with both local and external trips, often resulting in slow and fast speeds in the same travel lane. Operating speeds are generally high (65 mph posted). Speed is reduced to 45 mph at the approach to US 95A. Average daily trips range from 4,500 vehicles west of US 95A to fewer than 2,500 east of US 95A.

A Look into the Future of Silver Springs

Silver Springs could be remarkably different in the future. Considering that US 50 and US 95A, as recently as 2005, connected the two fastest growing communities in the second fastest growing county in the nation, Silver Springs will be presented with major opportunities. The planned Tahoe-Reno Industrial Center to the north is anticipated to connect I-80 to US 50 via the USA Parkway through what may become the nation's largest industrial park. The implications of these changes are significant. Silver Springs could grow into a major community to support these areas, providing residences, commercial and retail locations, and transportation opportunities at the Silver Springs airport. With this future development will come additional strain on US 50. As Silver

Springs grows, the ability to tie these regional roadways into a sound local roadway network will be crucial.

Average daily trips could increase to nearly 16,700 vehicles. Based on the projected volumes and knowledge of the corridor, treatments are recommended for the 2012, 2025, and 2035 horizon years. These treatments are described on the following pages.

Note that treatments are suggested based on operation conditions associated with the number of trips; therefore, different horizon years may have the same treatments based on how conditions change in the future.

Silver Springs—Improving Safety

Description	Road Markings	Signs	Speed Control	Roadway/Roadside Features	Level of Service	Miscellaneous
Chaves Road to US 95A Junction (Silver Springs)	<ul style="list-style-type: none"> Rumble strip on outside shoulder only. 		<ul style="list-style-type: none"> Current posted speed is appropriate. 	<ul style="list-style-type: none"> Steep unprotected foreslopes in clear zone. Bumpy side slopes (some mounds created for signs). 		<ul style="list-style-type: none"> Rural highway; no pedestrian or bicycle facilities.

Silver Springs–Horizon 2012

Range of Average Daily Traffic
US 95A: 10,700 to 22,700 vehicles

Note: Suggested treatments assume free-flow conditions (existing).

Location	Issue	Treatment
Intersection of US 50 and US 95A	The intersection had 10 to 14 crashes, with confusion of intersection right-of-way as a contributing factor.	<ul style="list-style-type: none"> Install a high-speed (25 mph) roundabout (incorporate context sensitive solutions and landscape plan).
Intersection of US 50 and Ramsey-Weeks Cutoff Road	The intersection had 5 to 10 crashes, with confusion of intersection right-of-way as a contributing factor. Adjacent to the intersection are community amenities such as schools, a youth center, and animal shelter.	<ul style="list-style-type: none"> Ramsey-Weeks is anticipated to be re-aligned to intersect US 50 at Onyx Street; this will eliminate the existing skewed intersection (developer funded).
Stagecoach to the Churchill County Line	Speed differentials caused by drivers operating at various operating speeds cause increasing driver frustration. Numerous no-passing zones exist due to intermittent cross street.	<ul style="list-style-type: none"> Monitor based on acceptable two-lane rural operational practice for the need to develop passing lanes^{1, 2}.
US 50 intersections with Silver Springs Mobile Home Park Driveway, Topaz Street, Onyx Street, and Opal Avenue	Left-turning and opposing vehicle volumes are increasing, putting slowing vehicles in greater conflict with advancing vehicles.	<ul style="list-style-type: none"> Monitor adjacent development and US 50 peak-hour traffic volumes and provide left-turn lane when required³. Implement US 50 Access Management Plan.
US 50 and US 95A Intersection	Commuters need an established location to meet for ride-share.	<ul style="list-style-type: none"> Construct a park-n-ride facility with the ability to incorporate kiss-n-ride amenities for transit service.
Stagecoach to the Churchill County Line	Historic and natural resources adjacent to the corridor are of interest to travelers.	<ul style="list-style-type: none"> Establish partnerships between NDOT divisions and other stakeholders such as the SHPO, tourism, local governments, and community groups to generate and implement a strategic plan. Items may include: <ul style="list-style-type: none"> – Scenic pullouts – HAR-based tourism information – Themed signing
Stagecoach to the Churchill County Line	Dust storms cause road closures.	<ul style="list-style-type: none"> Install dynamic message signs in locations for appropriate warning and diversion.

1. National Cooperative Highway Research Program Report 3-55(3): *Capacity and Quality of Service of Two-Lane Highways*
http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_rpt_502.pdf
2. National Cooperative Highway Research Program Report 502: *Geometric Design Consistency of High-Speed Rural Two-Lane Roadways*
[http://www.trb.org/NotesDocs/NCHRP%203-55\(3\)%20Report.pdf](http://www.trb.org/NotesDocs/NCHRP%203-55(3)%20Report.pdf)
3. For criteria, see Table 4.8 in the Nevada Department of Transportation's *Access Management System and Standards*.

Silver Springs–Horizon 2025

Average Daily Traffic US 95A: 11,700 vehicles Note: Suggested treatments assume free-flow conditions (existing).		
Location	Issue	Treatment
Intersection of US 50 and Weeks-Ramsey Cutoff Road	The intersection had 5 to 10 crashes, with confusion of intersection right-of-way as a contributing factor. Adjacent to the intersection are community amenities such as schools, a youth center, and animal shelter.	<ul style="list-style-type: none"> Install a high-speed (25 mph controlling speed) roundabout (incorporate context sensitive solutions and landscape plan).

Silver Springs–Horizon 2035

Average Daily Traffic US 95A: 16,700 vehicles Note: Suggested treatments assume free-flow conditions (existing).		
Location	Issue	Treatment
US 50 intersections with Silver Springs Mobile Home Park Driveway, Topaz Street, Onyx Street, and Opal Avenue	Left-turning and opposing vehicle volumes are increasing, putting slowing vehicles in greater conflict with advancing vehicles.	<ul style="list-style-type: none"> Monitor adjacent development and US 50 peak-hour traffic volumes; provide left-turn lane when required; include raised median for positive delineation.*

* For criteria, see Table 4.8 in the Nevada Department of Transportation's *Access Management System and Standards*.

Silver Springs–Increasing Efficiency

Location	Treatment	Justification
US 95A	Park-n-ride	<ul style="list-style-type: none"> Intersection of regionally significant roadways.
Segale Road	Park-n-ride	<ul style="list-style-type: none"> Potential future controlled intersection accessing Traditions development.
Six Mile Canyon/ Fort Churchill Road	Park-n-ride	<ul style="list-style-type: none"> Long-distance commuters using Six Mile Canyon to reach Reno employment areas.

The Impact of USA Parkway

Considerable discussion has occurred about the potential impact of the planned USA Parkway. This facility is being considered as a way to connect I-80 at the USA Parkway interchange to US 50 at or about Onyx Road in Silver Springs. The primary need for the facility is to serve the Tahoe-Reno

Industrial Center (Center) and adjacent development. If fully realized, the Center could be one of the nation's largest industrial parks. The proximity to the interstate system, heavy rail service, and connectivity to the Port of Oakland, as well as Nevada's tax-friendly environment, all make this location attractive for distribution and warehousing. To help service the Center, residential and mixed-use development is also being

considered in the property boundary, primarily within the Lyon County portion.

Specific implications of this growth and the USA Parkway on US 50 are unknown. Land uses have not been developed for most of the property and, therefore, the types of trips are speculative. Certain logical inferences, however, can be made. First, the job growth associated with the Center will help to balance the heavy commuting to and from the west to access Carson City and beyond. Although overall trips could increase in the Silver Springs area, this balance should reduce direction split and the impact of those trips on US 50 congestion. Second, additional development will create a need for new services, thus improving the jobs/house balance in the area. Third, the warehousing and distribution component of Center lends itself to over-estimation of jobs impacts. Large distribution centers generally do not require massive workforces compared to the square footage of development. In some cases, a 1-million-square-foot warehouse may employ fewer than 50 people per shift. This is far less than most other types of development and points to a lessening of impact that one would initially assume when considering the size of the overall development.

As the Center and USA Parkway continue to develop over the next several years, stakeholders should be vigilant and track the changes. Only by remaining engaged will sufficient time be afforded to successfully integrate this large development and new transportation facility into the corridor.

Churchill County Countryside: A Dichotomy in the Making

The Countryside is a historically rural and sparsely populated area that makes up the far east end of the study area. This area is a mix of high desert with tracts of irrigated agricultural

land. Residences are small ranches and homesteads. Lahonton Reservoir, a popular recreational destination for all corridor communities, is located in this corridor portion. Camping, boating, RVing, and other recreational uses are common and can affect traffic in the local vicinity. Collisions with animals crossing the roadway have been a problem. This area is posted at 65 mph, and its average daily traffic is about 2,200 vehicles.

A Look into the Future of the Countryside

This rural area of Churchill County may become a dichotomy in the future. Vast expanses of open desert will give way in some areas to new development. The planned development of Matthews Ranch is anticipated to bring residential, light industrial, and some commercial land uses to the far eastern end of the study area. Although primarily connected to US 50A, Matthews Ranch and similar development will likely affect US 50 traffic. Light industrial uses will attract commuters in a west-to-east flow, against the predominant movement that exists today. Residential areas will generate additional trips to the west to Carson City and the Tahoe-Reno Industrial Center.

Estimated average daily trips are projected to be nearly 10,800. Based on the projected volumes and knowledge of the corridor, treatments are recommended for the 2012, 2025, and 2035 horizon years. Those treatments are described on the following pages.

Note that treatments are suggested based on operation conditions associated with the number of trips; therefore, different horizon years may have the same treatments based on how conditions change in the future.

Churchill–Improving Safety

Description	Road Markings	Signs	Speed Control	Roadway/Roadside Features	Level of Service	Miscellaneous
US 95A Junction (Silver Springs) to Leeteville Junction (US 50A)	<ul style="list-style-type: none"> Striping appears to be non-reflective. Rumble strip on outside shoulder only. 		<ul style="list-style-type: none"> Current posted speed is appropriate. 	<ul style="list-style-type: none"> Steep unprotected foreslopes with 1- to 2-foot shoulders. Bumpy side slopes (some mounds created for signs). 		<ul style="list-style-type: none"> Rural highway; no pedestrian or bicycle facilities.

Churchill–Horizon 2012

Average Daily Traffic US 50A: 2,700 vehicles Note: Suggested treatments assume free-flow conditions (existing).		
Location	Issue	Treatment
US 50 and US 50A Intersection	Commuters need an established location to meet for ride-share.	<ul style="list-style-type: none"> Construct park-n-ride facility with the ability to incorporate kiss-n-ride amenities for transit service.
Lyon/Churchill County Line to US 50A	Speed differentials caused by drivers operating at different speeds cause increasing driver frustration. Numerous no-passing zones exist due to intermittent cross streets.	<ul style="list-style-type: none"> Monitor based on acceptable two-lane rural operational practice for the need to develop passing lanes^{1, 2}.
Lyon/Churchill County Line to US 50A	Historic and natural resources adjacent to the corridor are of interest to travelers.	<ul style="list-style-type: none"> Establish partnerships between NDOT divisions and other stakeholders such as the SHPO, tourism, local governments, and community groups to generate and implement a strategic plan. Items may include: <ul style="list-style-type: none"> Scenic pullouts HAR-based tourism information Themed signing

1. National Cooperative Highway Research Program Report 3-55(3): *Capacity and Quality of Service of Two-Lane Highways*
http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_rpt_502.pdf

2. National Cooperative Highway Research Program Report 502: *Geometric Design Consistency of High-Speed Rural Two-Lane Roadways*
[http://www.trb.org/NotesDocs/NCHRP%203-55\(3\)%20Report.pdf](http://www.trb.org/NotesDocs/NCHRP%203-55(3)%20Report.pdf)

Churchill–Horizon 2025

Average Daily Traffic US 50A: 6,700 vehicles Note: Suggested treatments assume free-flow conditions (existing).		
Location	Issue	Treatment
Lahontan State Recreation Area (MP 1.7) and Lahontan State Park Churchill Beach (MP 4.2) Intersections	T intersections with recreational vehicles making left turns to go west.	▪ Construct high-T intersections with adequate median acceleration.

Churchill–Horizon 2035

Average Daily Traffic US 50A: 10,800 vehicles Note: Suggested treatments assume free-flow conditions (existing).		
Location	Issue	Treatment
Lyon/Churchill County Line to US 50A	Speed differentials caused by drivers operating at various speeds cause increasing driver frustration. Numerous no-passing zones exist due to intermittent cross streets.	▪ Monitor based on acceptable two-lane rural operational practice for the need to develop passing lanes.

Alternate Access

Alternate access routes are important for the Dayton area. A single bridge crosses the Carson River providing access between current and future developments. If this bridge becomes inoperable, this area would be isolated. With only the single bridge crossing, all traffic accessing US 50 must use the Dayton Valley Road intersection. As development continues, this intersection will have increased capacity problems and resulting delay. Alternate access is also an issue north of US 50. As development continues, it is important that alternate routes create additional community connectivity to help lessen the impact on US 50, particularly for local trips to area business and services.

During this study, the SWG analyzed and discussed the need for alternate access. Lyon County worked with a team of developers to plan alternate access routes in the Dayton area. The result of this planning effort is an identified route

connecting planned developments north of US 50. This route was developed with the input of both the affected developers and NDOT District II. The majority of this route will be built by developers within the boundaries of their respective communities. For the south side of US 50, three alternative route and bridge locations were considered.

One alternative would connect existing development along Dayton Valley Road to the east, cross the Carson River, and connect to Chaves Road. Another alternative would connect Dayton Valley Road area development to US 50, cross the Carson River, and connect to US 50 at Cardelli Road. The final alternative runs more westerly and would tie into US 50 across from Pinecone Road. The three alternatives were not specifically analyzed as part of this study other than to determine their impact on US 50. Analysis results show that these roads would be well used; however, their overall affect on US 50 is negligible. Trips would be relocated to different

segments of US 50, and trip frequency would change. However, to reduce congestion at the Dayton Valley Road intersection, provide alternate access across the Carson River, and reduce trip length for certain destinations, an alternate route south of US 50 is recommended. The analysis provides information on the potential use of the three routes. Both the Cardelli Road and Pinecone Road options carry about twice the number of trips compared to the Chaves Road alternative. There are differences in traffic between the Cardelli Road and Pinecone Road alternatives; however, the types and frequency of trips associated with these two alternatives likely vary. Cardelli Road may generally carry more alternate route traffic, while Pinecone Road would see more local trips with higher frequency. Either of these two locations would benefit mobility on US 50.

WHAT TO WATCH

Crystal balls and tea leaves cannot tell us what the future may bring. This study presents potential scenarios for growth and what the implications of that growth means. However, what is almost certain is that things will change, and perhaps no single scenario will be realized. We therefore present thresholds to consider so that regardless of how growth occurs, NDOT and stakeholders can respond.

Several indicators are available for stakeholders to use as guidance in moving forward in implementing this plan. As the SWG is aware, mobility is interrelated with most aspects of modern life and is an integral component of our quality of life. The SWG members learned this as they investigated facets of mobility and issues specific to the US 50 East Corridor communities. These insights guided the SWG in their exploration of potential future scenarios of what the corridor could be like if different decisions are made. As NDOT and stakeholders work through the changes occurring, they should use several indicators.

These indicators are categorized in two broad areas: social and planning components and their resulting mobility indicators. Social and planning components are trends that result from

activities in the communities. One prominent example is the balance between jobs and housing units in a community and throughout the region. If a community has considerably more residences than jobs, it is likely that residents are commuting to other communities for employment. Another prominent indicator is the variety of housing types and options. The greater diversity of housing choices indicates communities can accommodate people with varying needs, such as young adults and seniors. These and other social and planning components are initial trend indicators for what types of transportation infrastructure will be needed to provide mobility.

Results of community and corridor-wide decisions affecting mobility and US 50 will be captured in NDOT's average annual daily traffic counts. These values have been established consistently over time and provide a stable view of corridor trips. As the values change, NDOT and stakeholders will need to make decisions concerning each community and the corridor as a whole. Changing from predominately free flow (no stopping) to interrupted flow (signalization) has long-term consequences for potential future mobility conditions and overall investments. The figure on the following page is an overview of trip trends, showing both free flow and interrupted flow. The figure also shows what additional detailed operational analysis is needed and when to inform future mobility decisions.

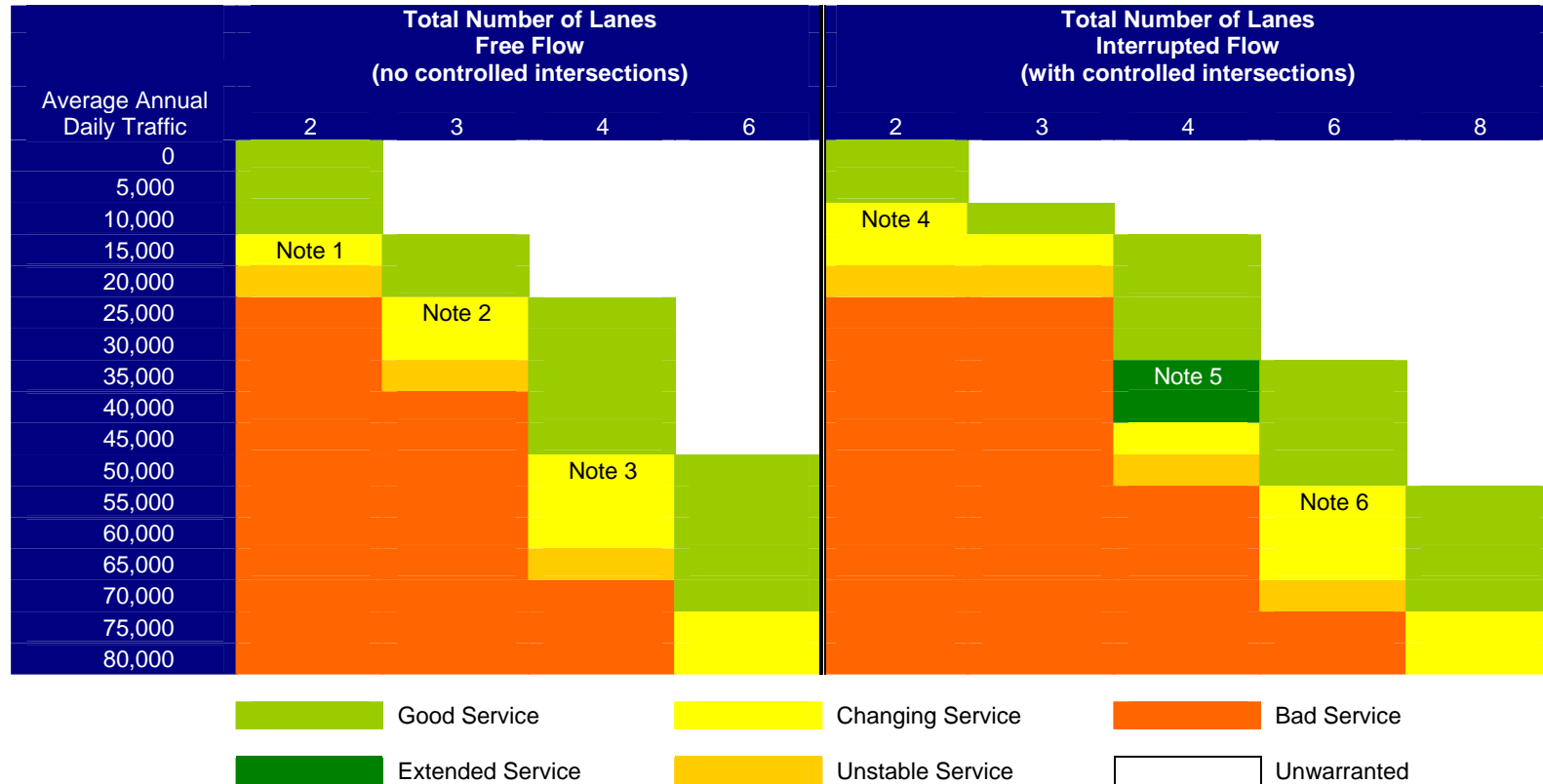
LOOKING FORWARD TOGETHER

Although this study addressed each major study area individually, these communities are interdependent. As each community evolves, its growth and character affect other communities. These changes must be considered so that decisions can be made from a corridor-wide comprehensive viewpoint. For instance, numerous uncoordinated signals in one community will affect travel times and safety for all those traveling the corridor. When studying the entire area in the future, one will see a different region. Rural will be replaced by small urban, homesteads may be surrounded by higher-density uses, and subdivisions will be intertwined with mixed uses. Maintaining open space will be a conscience choice. These changes will be profound, given the historically open and rural character of the

area. These changes also mean that people of different backgrounds will be neighbors. These people will often have different viewpoints as to what western Nevada and US 50 mean to them.

It will be important for these communities to work together openly and maintain good communication. Only through consistent and

open dialogue can true understanding occur and solutions that address the needs and input of everyone be realized. The most important recommendation of this study may be to continue to work openly with all affected interests in the US 50 East Corridor to create true understanding and fully viable solutions.



- 1. Passing lanes improve service and require detailed operational analysis.
- 2. Passing lanes and turning movements at intersections require operational analysis to determine the adequacy of designated permissive movements. Use of roundabout intersections provides near free-flow conditions. Single-occupant vehicle trip reduction potential increases, and alternate mode are competitive.
- 3. Permissive turning movements need additional operational analysis in determining the need for grade-separated crossing streets.
- 4. Controlled intersections require detailed operational evaluation to determine capacity and geometric requirements.
- 5. The initial use of roundabout intersections extends the service life of controlled intersections and links between them until additional lanes are required.
- 6. Service at these average annual daily traffic volumes and number of lanes is complex, requiring detailed system-wide operational analysis. Transit services improve mobility.

Overview of trip trends for both free flow and interrupted flow.

Stakeholders and the NDOT Safety Division are monitoring identified safety issues. The issues, as shown below, are being monitored so that stakeholders and NDOT can understand how the other is monitoring them. It is intended that these lists be reviewed periodically so that they can be refined as necessary. This action provides significant progress toward realizing the mission of the US 50 East Corridor Study:

“Create an integrated transportation plan that is safe, efficient, and enhances the community.”

Safety Issues Identified by Stakeholders

Access management by:

- Limiting access
- Developing roads beyond US 50
- Reducing conflicts

- Turn lanes
- Median acceleration

- Highland, Occidental, and SR 341 intersection with US 50

- Speed enforcement
- Going too slow
- Passing lanes
- Pull outs

Safety Issues Identified by NDOT

US 50: Airport Road to CC/Lyon (LY) County Line (in Carson City)

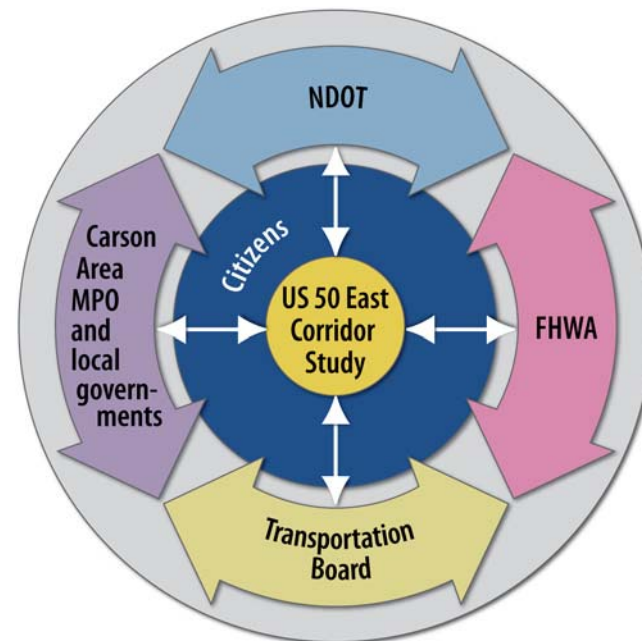
US 50: Lyon County Line to Dayton City Limits (in Mound House)

US 50: Dayton (Old Town Dayton)

US 50 at US 95A intersection

The stakeholders implemented conceptualization of the US 50 East Corridor Study by using two wheels of process: the transportation wheel and the land use wheel of local government. The transportation wheel has the US 50 East Corridor Study as its hub, with citizens supporting the implementation within the transportation development

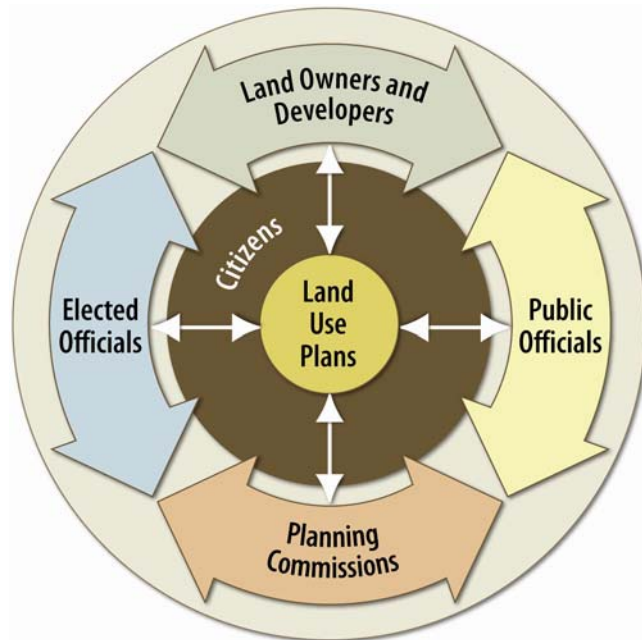
processes. Transportation is a continuous series of ongoing one- and two-way interactions between the NDOT, the Carson Area Metropolitan Planning Organization (MPO), local governments, the Federal Highway Administration (FHWA), and the State of Nevada Transportation Board. These interactions are formal and informal with regional transportation plans, regional transportation improvement plans, and the statewide transportation improvement plan serving as the statutory requirement for planning and project development. Implementation of the US 50 East Corridor Study relies on effective interactions among transportation agencies and citizens to ensure the study’s ideas are incorporated into the various transportation plans and eventual programs and projects.



Transportation implementation wheel.

The local government land use wheel has local land use plans as its hub, and citizens that support between the plans and the

processes of government. Land use represents two-way continuous interactions between land owners/developers, elected and public officials, and planning commissions. These interactions are both formal and informal in communication and authority. Stakeholders, many of whom are affiliated with these entities, feel there is a two-way interaction through citizens with the land use plans: the spokes of the wheel.



Land use implementation wheel.

These two process wheels, transportation and land use, are considered the wheels that support the cart full of stakeholder ideas that are carried forward by the US 50 East Corridor Study implementation team.

SUMMARY

The work embodied in this study reflects the collective vision of the SWG and their support team. When this study convened in October 2005, all parties were committed to working together to address corridor issues. By using a collaborative consensus-based process, the often competing interests were able to maintain a dialogue and focus on win-win joint gains. Together they have explored the relationships that corridor communities have with their mobility infrastructure.

Uncertainty led to stakeholders and the support team adapting the process, venturing beyond a single view of land use transportation relationships. In attempting to fully understand relationships, they came to realize the connection to future lifestyles. The scenarios (The Jones Family, Not the Loneliest Highway Anymore, Problems...Where?, and Where the Real West Begins) provide four distinctive views and sets of land use transportation relationships. From these scenarios, the SWG and support team fashioned a toolkit of mobility treatments. These treatments and identified indicators provide corridor stakeholders the ability to implement the mobility infrastructure needed to meet the uncertain future.

Several identified treatments could be initiated soon. They should undergo value analysis to fully understand their value to the corridor communities. These treatments have a wide range of approaches to mobility and reflect the comprehensive nature of the stakeholders' work in studying the mobility issues. Treatments for value analysis are:

- Designate US 50 as an expressway from Carson City Freeway to Dayton City Limits (to include future grade separations and urban intersections such as grade-separated left-turn lanes).
- Implement the Corridor Access Management Plan (to include securing of Corridor Preservation Agreements).

- Establish park-n-ride lots with an active ride-share program.
- Establish a transit service.
- Provide an eastbound left-turn lane for Iron Mountain Ranch Estates.
- Convert the US 95A/US 50 intersection into a high-speed roundabout.
- Provide Intelligent Transportation Systems such as strategically placed dynamic message signs.
- Evaluate two-way, continuous left-turn lanes for restriping to median acceleration high-T intersections opportunities.
- Evaluate the SR 341/US 50 intersection for progression of intersection control from high-T, to high-speed roundabout, to signal or grade separated.

While the Project Support Team recommends all early treatments for value analysis, we wish to highlight the first item in the list of treatments to consider for value analysis. Maintaining the free flow of US 50 will be crucial for mobility in western Nevada. Once controlled intersections are introduced, service will deteriorate. Interrupted flow requires more lanes to accommodate volumes than free flow does. The implications for designating this section of US 50 as expressway are long term, far reaching, and deserve full consideration in the value analysis process.

In closing, the dedicated members of the US 50 East Corridor Study SWG further recommend the establishment of a US 50 East Corridor Advisory Committee. This group is envisioned to be corridor stakeholders meeting quarterly to monitor, in an advisory role, the implementation of this study. The SWG would like to extend their gratitude to the NDOT for convening this corridor study and to their commitment to providing mobility for the communities of the US 50 East Corridor now and into the future.

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