Corridor Management and Background Inventory

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SECTION ONE: Introduction

THE VISION

Nevada has a renewed commitment to landscape and aesthetics for the state's highways. In 2002, the Nevada Department of Transportation (NDOT) adopted the Landscape and Aesthetics Master Plan, raising the bar for context-sensitive design.

> *"We envision a system of state highways that reflect the land and people of Nevada. We believe that Nevada should have highways that are aesthetically pleasing, as well as safe and cost effective. Therefore, no state highway is complete until landscape and aesthetics are considered and addressed."*
>
> *Pattern and Palette of Place, 2002, p.10-11*

Today, it is the policy of the State of Nevada to consider landscape and aesthetics in conjunction with other design factors in all transportation projects. Furthermore, NDOT recognizes that successful projects result when local communities, the public, other permitting agencies, and the private sector participate in the planning, design, construction, and maintenance of transportation projects. Partnerships are imperative to ensure Nevada's highway system expresses the unique heritage, culture, and environment of the state and its communities.

Purpose of the Corridor Plan

The Southern US 95 and US 93 Landscape and Aesthetics Corridor Plan is based on the vision and recommendations of the Master Plan. This plan establishes the vision for landscape and aesthetics for each highway, synthesizing historic, current, and future conditions to improve the visual appearance of each corridor. The plan describes the vision, not the promise, for highway landscape and aesthetic treatments and enhancements. Implementation of the vision will be achieved through the combined efforts of local governments, private citizens, civic groups, and the business community.

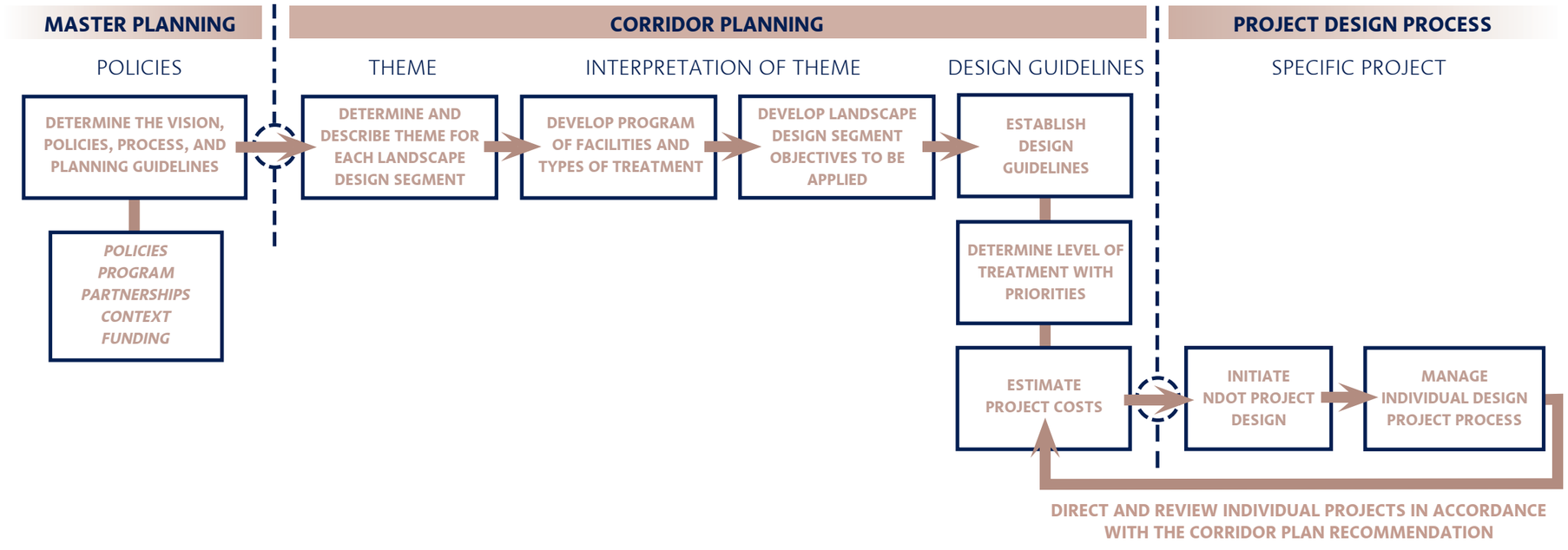
As shown in illustration 2, the corridor includes US 95 from the California state line near Cal Nev Ari to the US 95/US 93 intersection, US 93 from Railroad Pass east to Hoover Dam, and US 95 north of Las Vegas from Kyle Canyon to the Clark County line.

The Corridor Plan identifies major design themes and materials to be used in landscape and aesthetic treatments. It also recommends the level of treatment to be applied to highway features in the corridor, providing a broad cost estimate of treatments, and outlining strategies for funding of construction and long-term maintenance.

(1) *Western Highways Corridor.*

(2) *Southern US 95 and US 93 Corridor.*

Figure 1 - *Overall Corridor Planning Process*



(1) *The Technical Review Committee (TRC) allowed representatives of various agencies to review intermediate reports and provide valuable information regarding the corridor.*

(2) *A series of public meetings were held throughout the corridor planning process to gather information from local residents and stakeholders.*

The Corridor Plan is a method for improving the aesthetic qualities of the state's highways, particularly in relation to adjacent cities, communities, and neighborhoods. The Corridor Plan is intended to affect both existing highways as well as future expansion projects. Landscape and aesthetic treatments identified and prioritized in the Corridor Plan may be funded from a variety of sources. As a general rule, up to three percent of total highway construction costs on all new construction and capacity improvements may be allocated to landscape and aesthetic treatments. Funding for the retrofit of landscape and aesthetic improvements to existing highways is based on community partnerships and the opportunity for communities to match State funds with a share of local money, Federal monies, or in-kind contributions. The Corridor Plan is a public/private partnership initiative. This unique initiative is guided by the partnership policy outlined in the NDOT Landscape and Aesthetics Master Plan, which states

> *"Local communities, the public, other permitting agencies, and the private sector are encouraged to be involved in planning, design, construction, and maintenance of transportation projects to express the unique heritage, culture and environment of the state and its communities."*
>
> *Pattern and Palette of Place, 2002, p. 12*

Furthermore, NDOT will work with local governments, private citizens, civic groups, and the business community to develop cooperative agreements for funding the design, construction, and maintenance of landscape and aesthetic improvements identified in this Corridor Plan. In locations where recommendations exceed NDOT's normal financial responsibility and the community desires the elevated level of aesthetic treatment, NDOT will engage the community to create partnerships to find additional funding.

CORRIDOR DESIGN MANAGEMENT

This plan is a useful management tool for designing highway projects because it provides specific recommendations, programs, and a description of the intended result.

The Corridor Plan establishes a theme or central design idea. Projects within each landscape design segment are guided by a theme, associated design objectives, examples that illustrate interpretation of the theme, and a program of facilities with common definitions. Design guidelines, estimated costs, and project priorities establish the viability of the final corridor plan. NDOT will use the Corridor Plan as one of the tools to manage the design of the highway. Prior to designing specific projects, NDOT and the design consultant should review the Corridor Plan to understand how the project level design fits within a particular landscape design segment. Implementation of the designated treatment levels may depend on partnerships and funding opportunities. Overall, the vision and intent of the themes and treatment levels should be considered as the guide throughout the design process. Figure 1 (page 1.1), outlines the steps that are necessary in order to achieve the desired outcome for this corridor.

PUBLIC PARTICIPATION

Early and continuous public involvement has been critical to the success of the Landscape and Aesthetics Corridor Plan. NDOT fostered extensive public dialogue at every stage of planning and development. This engaged communities and helped to develop local support.

The public participation process provided stakeholders with a forum for sharing knowledge of their communities, identifying opportunities for enhancing the landscape and aesthetics of the corridor, creating design objectives and guidelines for highways in their area, and prioritizing prospective projects. The public participation process ensured:

- Identification of issues and concerns to each community
- A method, strategy, and action plan to address community concerns
- Opportunities for the public to express their level of support for the Corridor Plan
- Release of full information about the Corridor Plan through public meetings, the Corridor Plan Web site, and fact sheets

The public process involved a multi-layered approach to encourage maximum participation.

- A Technical Review Committee (TRC), composed of a broad range of stakeholders, contributed significant local agency and community knowledge
- The public was able to identify issues, help establish priorities, ask questions, and provide input at two public meetings
- A fact sheet was widely distributed to provide general information about the corridor plan
- The public visited a corridor planning Web site to learn more about planning activities
- Individual stakeholder meetings were conducted to ensure that all those who needed to be included were involved
- A media relations strategy was developed to encourage even greater participation

Public participation and community involvement are important components of the planning process because they have helped to ensure that the recommendations outlined in this Corridor Plan reflect the ideas and suggestions of local community members.

SECTION TWO: Elements of Landscape and Aesthetics

The Elements of Landscape and Aesthetics provide the framework used to define the purpose and intent of highway corridor improvements. These elements, described on the following pages, include varying intensities of softscape and hardscape, statewide signage, rest area facilities, native wildflower program, approaches to address outdoor advertising, scenic byways, anti-littering campaigns, and a Main Street approach. NDOT currently incorporates some of these elements; however, many others are redefined. In some cases, new facility types are established.

LANDSCAPE TREATMENT TYPES

A Landscape Treatment Type includes a Softscape Type and a Structures and Hardscape Type. Every section of NDOT rights-of-way has a Landscape Treatment Type associated with it to define its design character and maintenance requirements. Softscape treatments vary from a simple ground cover treatment to more elaborate ornamental plant material. Similarly, structures and hardscape treatments range from standard category to landmark quality. Used in combination, these treatment levels establish the design character within the corridor. The matrix of possible combinations of softscape types and structures and hardscape treatments is shown in Figure 2.

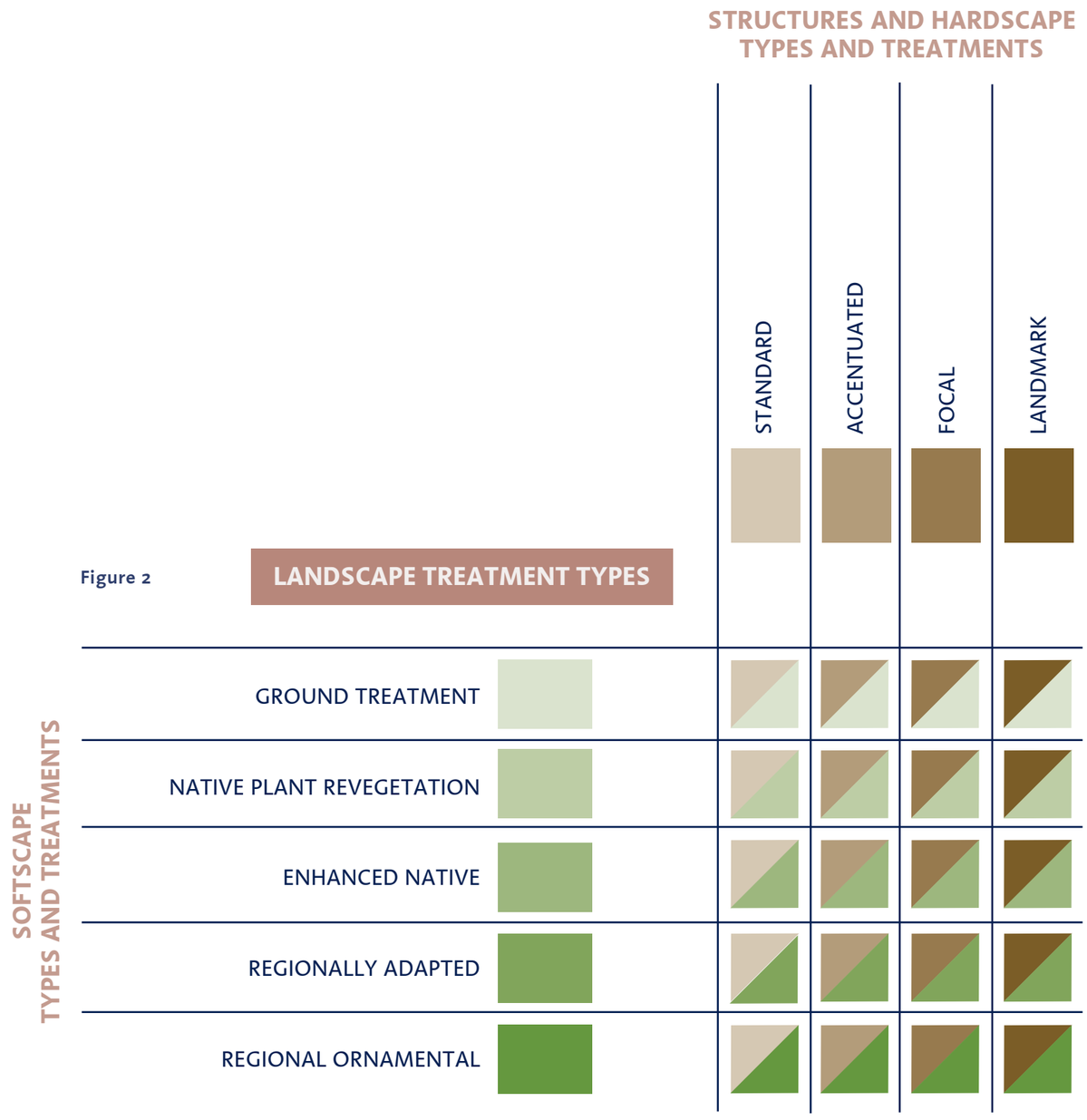


Figure 2 LANDSCAPE TREATMENT TYPES

Softscape Types and Treatments

Softscape types and treatments are compositions of plant materials including trees, shrubs, perennials, grasses, and ground treatments. Although the treatments require varying levels of irrigation, an overall emphasis has been placed on water conservation. NDOT requires cooperative long-term maintenance agreements with local stakeholders for irrigated landscapes. The following descriptions and photographic examples define the specific softscape types that may be utilized in sections of the corridor. Plant palettes and guidelines are described beginning on page 3.42.

Ground Treatment

Ground treatments along the roadway provide erosion and dust control. This treatment includes uniform applications of rock mulch or variable sizes of stone, combined with textures that match the existing environment. In rural areas, palettes are derived from natural patterns found in playas, foothills, or ephemeral drainages. In urban environments, various forms of aesthetic rock treatment are used to create patterns and textures. Irrigation is not included in this treatment.

Total Cost: $1.20 - $1.40 sf L & A Cost: $0.00 sf

Native Plant Revegetation Softscape

A palette of native southern Mojave plant materials, including Creosote Bush/Bursage or Blackbrush, should be used to re-establish disturbed areas along the roadway. Seeding should be interspersed with mature plantings to create an established plant community character. Plantings should be sparse and infrequent, and require only temporary irrigation to ensure plant survival. Enriching the soil with mulch and other amendments is required, and preparation techniques include roughening grade for seed siting and amending the soils with mulch and topsoil.

Total Cost: $1.20 - $1.40 sf L & A Cost: $0.00 sf

Note: These photographs show examples of softscape types and treatments.

Enhanced Native Softscape

This treatment accentuates change by introducing a greater diversity of plant materials from the southern Mojave plant palette. Organized in greater densities, trees are used to increase vertical diversity. Special ground treatments for drainage and erosion control are included. Drip irrigation is required to assure plant survival.

Total Cost: $1.50 - $1.70 sf L & A Cost: $0.30 - $0.50 sf

Regionally Adapted Softscape

Combinations of Mojave and related desert plants form this landscape palette. A greater density and variety of plant materials are combined to create a layering effect. Trees provide a distinct overstory, while shrubs and perennials form a thick understory. Plants are selected for color, texture, seasonal change, and form. For this landscape type to survive, drip irrigation to individual plants is required.

Total Cost: $2.40 - $2.90 sf L & A Cost: $1.20 - $1.70 sf

Regional Ornamental Softscape

Regional ornamental landscape includes a diversity of plant species, some of which are imported to this region. Ornamental landscape introduces taller and denser plant materials, such as species of pine and palm trees. The regional ornamental landscape includes shade, varieties of form and color. It provides a dynamic contrast to the arid landscapes of naturally-occurring plant species. In the regional ornamental landscape, vegetation patterns and compositions are designed to reflect aesthetic and cultural qualities. Zoned drip irrigation systems are required.

Total Cost: $3.70 - $6.50 sf L & A Cost: $2.50 - $5.30 sf

Note: These photographs show examples of softscape types and treatments.

Structures and Hardscape Types and Treatments

The following classifications define the common language of highway facility design. Bridges, retaining walls, noise walls, pedestrian crossings, pedestrian fencing, railings, barrier railings, lighting, and transportation art are included in these classifications.

Standard Structures and Hardscape

A standard treatment is simple and functional. Color and proportional adjustments improve aesthetic quality. Standard structure design is economical and satisfies vehicle movement requirements. However, it does little to establish design character or placemaking. NDOT standards for surface treatment and lighting include painted finishes, fractured fin formliners and overhead poles with cobra head illumination or high mast area lighting. Regular trash and graffiti removal maintenance programs are necessary.

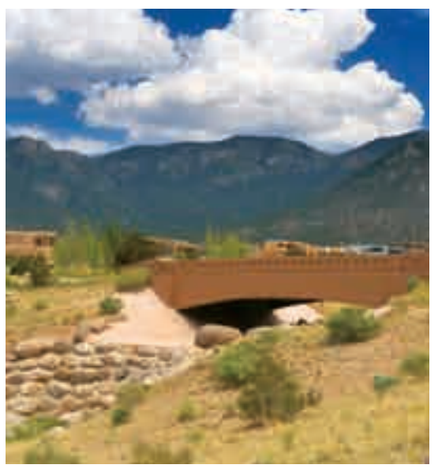
Total Cost: $115 - $120 sf L & A Cost: $0 sf




Accentuated Structures and Hardscape

Corridor pattern design is defined by a unified system of materials and textures. Adding accents and special finishes to built structures facilitates and enhances placemaking. These elements can include transportation art and the application of high quality finishes and color to highway structures. Drainage details and water harvesting techniques can be enhanced through the use of decorative rock and contour grading.

Total Cost: $132 - $142 sf L & A Cost: $17 - $27 sf




Note: These photographs show examples of structure and hardscape types and treatments.

Focal Structures and Hardscape

Focal structures and hardscape treatments facilitate the expression of a specific design character. Structures consist of self-weathering materials, integrated color or textural finishes, and may include detailed formliners on structural surfaces. Patterns consist of a motif-based multi-surface design. Barrier rails utilize custom construction and include designs that are artistically incorporated into the structure, ultimately elevating an engineered form to a work of art. Upgraded lighting elements combine form and function to include lower height standards and decorative elements.

Total Cost: $180 - $195 sf L & A Cost: $65 - $80 sf




Landmark Structures and Hardscape

Landmark treatments call attention to qualities that highlight something unique. Extensive design treatments are used on bridge structures, retaining walls, acoustic walls, barrier rails, and pedestrian crossings. Unique formliner treatments on structural surfaces denote the special importance of the place. Subject and composition, combined with placement, denote the importance of transportation art. Elaborate lighting provides special nighttime effects.

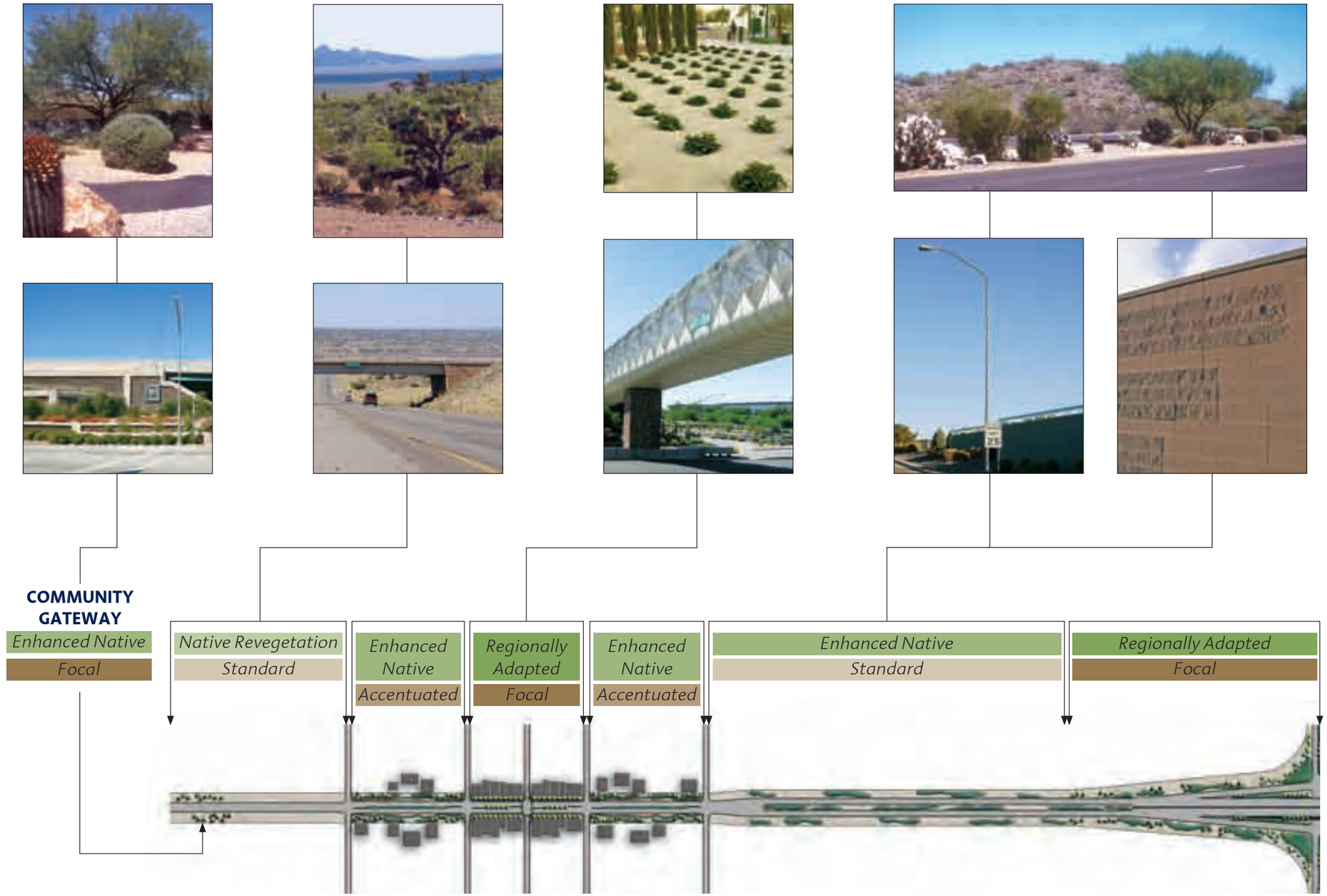
Total Cost: $225 - $270 sf L & A Cost: $110 - $155 sf

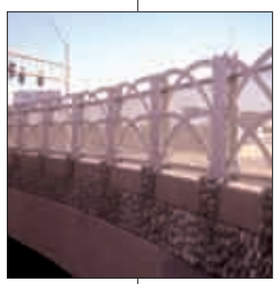


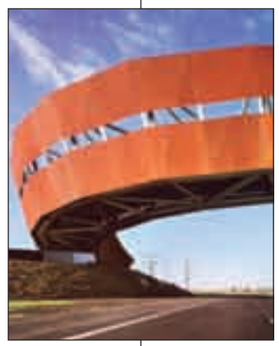


Note: These photographs show examples of structure and hardscape types and treatments.

The following diagram illustrates how varying degrees of softscape treatments and structures and hardscape treatments may be appropriately applied over a section of the corridor.







Regionally Adapted
Focal

Regional Ornamental
Accentuated

Regional Ornamental
Landmark

Enhanced Native
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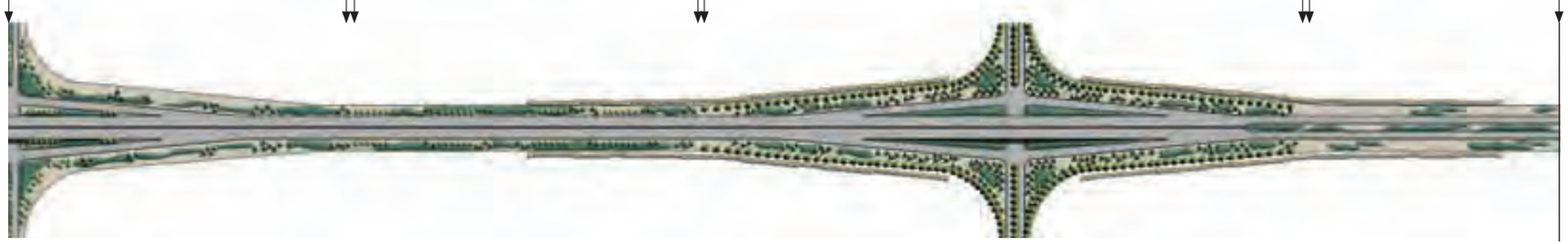


(1), (2) *The Watchable Wildlife program provides opportunities for interpretation of desert wildlife such as the wild burro and the desert bighorn sheep.*

(3) *Places of historical and cultural significance will be clearly identified by the sign program.*

(4), (5) *The Place Name Sign Program will interpret significant geologic features such as mountain peaks and rivers.*

STATEWIDE PLACE NAME SIGN PROGRAM

A statewide place name and point-of-interest sign program better connects people to places.

Benefits of the Program

The state of Nevada is a large geographic area with diverse and oft-hidden features. The sign program will provide clear and consistent direction from the corridors to scenic areas, points-of-interest, historical sites, and local, non-publicly-owned attractions. Signs will welcome visitors and inform residents. In addition to stimulating local economies, it will draw attention to these important assets and affirm the rich history and physical attributes of the state. The sign program will encourage visitors and residents to better understand the history, culture, and geology of the state.

How the Program Will Work

Utilizing the current Federal Highway Administration (FHWA) Manual on Uniform Traffic Control Devices as a guide, a family of iconic symbols specific to Nevada will be designed for use on standardized directional and identification signs. To ensure uniformity and consistency, the state will implement a policy manual for the signs, referred to as the *Nevada Place Name Sign Manual*. Program promotion will occur via informational brochures available at welcome centers, specific identification on state maps, and locally-based advertisements. Recognizable icons will demarcate points of interest and directional symbols. FHWA approval for the statewide Place Name Sign Program is mandatory prior to installation. The program will work in conjunction with "Watchable Wildlife," an organization that utilizes signage and guide books to facilitate wildlife viewing areas. Watchable Wildlife, an existing, separately run program addresses signage for wildlife viewing.

An audio and multimedia interpretative program will be developed with the sign program. This program will provide signage and audio interpretation of Nevada's history and natural features to travelers. In order to ensure the success of the program and reduce the confusion created by multiple programs, it will coordinate with interpretive programs that groups, such as Nevada Silver Trails, are currently completing.

Eligibility

Under a state managed and controlled program, NDOT will establish and approve an initial inventory of categories common to the state, including features specific to each highway corridor. Iconic imagery will be created to represent the general categories. After the initial inventory is confirmed, state and local entities can apply for inclusion based on specific criteria.

Anticipated Categories

Categories for sign icons common to the state of Nevada could include, but are not limited to:

- Rural communities and their history
- Regional tourism themes/promotion
- Historical features such as railroads, mines, mining towns, ghost towns, explorers, and immigrant trails
- Wildlife viewing areas
- Native vegetation
- Geographic features
- Geological features
- Landmarks
- Cultural resources
- Museums

The Design Guidelines, page 3.21, lists potential features to be interpreted and guidelines for icon development.

Associated Cost

Smaller communities and local attractions are expected to benefit directly from the sign program. Increased tax revenues will give the state a tangible return on its investment. Business partnerships through sponsorships are possible, provided there are partial cost offsets.

Signs Included in the Program

Exit to Area of Interest or Town

This primary sign type is used only on interstates and is included here for informational purposes only. It will be used as an informational listing, located in advance of interstate exits. It will illustrate iconic symbols and descriptions as well as the interstate exit number.

Signs will be post-mounted and use reflective graphics/lettering on a metal panel in accordance with applicable FHWA safety standards. A maximum of four symbols will be used on each sign – one per panel. Concise written descriptions are required to accompany iconic symbols.

Directional Sign on State or County Road

Used primarily along the highway corridors, this secondary sign type will be used as an informational listing located on state or county roads and intersections. It will illustrate symbols as well as a directional arrow (see Illus. 1 on page 1.11).

Signs will be post-mounted and use reflective graphics/lettering on a metal panel in accordance with applicable FHWA safety standards. A maximum of four symbols will be used on each sign. Written descriptions are required to accompany iconic symbols.

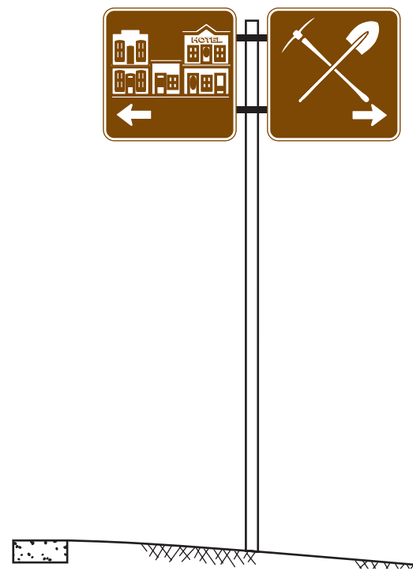
Scenic Overlook or Viewpoint

This sign type will be located prior to pull-offs, illustrating symbols and descriptions as well as the distance to the pull-off (see Illus. 2).

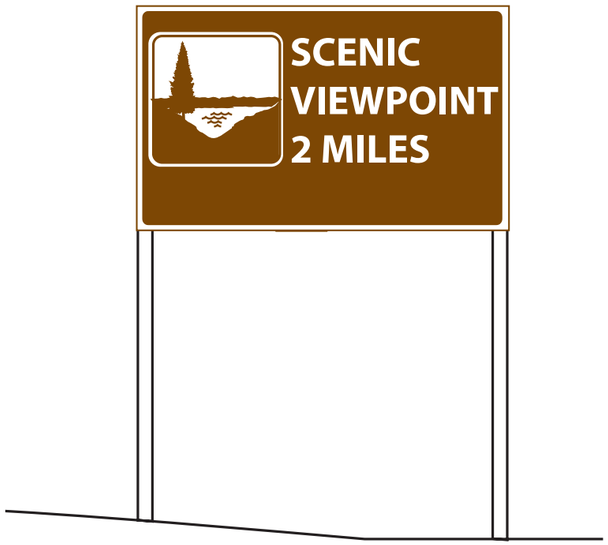
Signs will be post-mounted and use reflective graphics/lettering on a metal panel in accordance with applicable FHWA safety standards. A maximum of two symbols will be used on each sign. Concise written descriptions are required to accompany iconic symbols.

The Design Guidelines, page 3.21, lists potential features to be interpreted and guidelines for icon development.

(1) *The statewide Place Name Sign Program uses a family of iconic symbols specific to Nevada to identify features such as railroads, historic buildings, and geographical points of interest.*



(2) *Directional signs on state or county roads use a family of iconic symbols along with a directional arrow. This type of sign uses a maximum of four symbols.*



(3) *Signs for a scenic overlook or viewpoint use a maximum of two symbols along with the distance to the pull-off.*

(1) *The road services program utilizes shaded picnic areas, interpretive signage, and viewing platforms to provide safe and comfortable rest areas and road pull-offs along the corridor.*

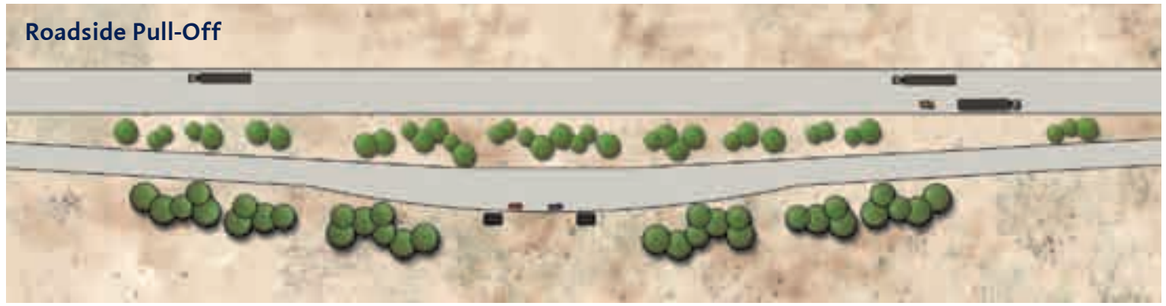
(2) *Significant road services facilities, such as welcome centers and gateway rest areas, should use desert colors, materials, and plants in an architecturally significant way to add visual interest and attract visitors.*

ROAD SERVICES PROGRAM

Road services are an important component of any roadway corridor experience. They are even more critical in areas of Nevada where long distances separate developed areas. A complete description of road service facilities and their program components is provided in the Design Guidelines, pages 3.16-3.18. These service areas provide travelers with designated spaces to rest, interpret history and geography, and discover information about nearby activities and communities.

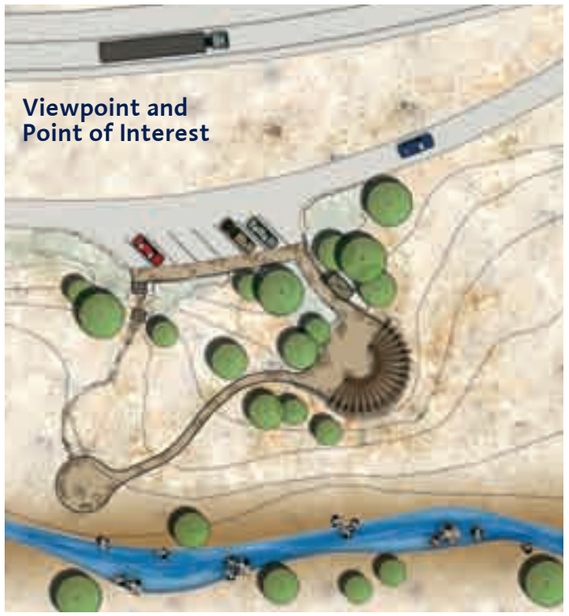
Two road service facilities of specific importance within the corridor include activity pull-offs and community rest areas. Activity pull-offs provide access to activities adjacent to the highway, and are located in areas where motorists commonly pull over to watch or participate in roadside activities. Providing structured parking improves the roadside safety and reduces disturbance to the fragile roadside vegetation.

Community rest areas are integrated within the town structure to serve residents and visitors. Community rest areas function like a pocket park or town square, providing a central location for visitors to learn more about local tourism opportunities, piquing their desire to further explore the community. Central locations or areas connected to community centers provide appropriate sites. Partnerships with towns, counties, or other organizations are required to site the facilities outside of the right-of-way.



(3) *A roadside pull-off provides a safe place for motorists to stop and rest for brief periods.*

(4) *A complete rest area includes separate parking areas for automobiles and trucks, rest room facilities and picnic areas.*



(5) *Viewpoints and point of interest sites allow travelers to view unique natural or cultural features from a safe location off the highway.*

ROAD SERVICES PROGRAM

Type	Description	Landscape Treatment	Program Elements
ROADSIDE PULL-OFF	Roadside pull-offs provide facilities for drivers to exit the highway for a brief period. Facilities and minimal parking are provided to accommodate the abbreviated stay. (Referred to as "Rest Stop" under former NDOT naming conventions.)	• Native Plant Revegetation to Enhanced Native Softscape Types • Standard Hardscape Type	• Site-specific interpretive signage • No toilets or running water • Trash containers • Limited car and Recreational Vehicle parking • Scenic overlooks • Located according to travelers' needs and unique site features • Shade canopy (vegetation or structure)
VIEWPOINTS AND POINTS OF INTEREST	Viewpoints and points of interests present opportunities to view unique vistas, geologic and historic features, or cultural landmarks. Interpretive elements are integrated into the site design, and Place Name Signage and Travel Information elements are provided to establish the relationship between highway and place. Typically, the length of stay is short and parking is limited.	• Native Plant Revegetation to Enhanced Native Softscape Types • Standard to Accentuated Hardscape Types	• Located according to travelers' needs and unique site features • Site-specific interpretive signage • Toilets with running water only where available • Handicap accessible • Picnic tables and shade structures • Trash containers • Paved car and Recreational Vehicle parking • Telescopes/viewfinders • Nature walks or short trails • Seating Areas • Shade canopy (vegetation or structure)
BASIC REST AREA AND COMMUNITY REST AREA	Basic Rest Areas are located throughout the state offering site specific interpretive information. They offer limited restroom facilities and may or may not include running water, depending on availability. Typically, these rest areas are located adjacent to scenic views, unique historical, cultural or environmental features. Community rest areas provide facilities within the town's infrastructure and function as a pocket park or town square.	• Enhanced Native Softscape Type • Standard to Accentuated Hardscape Types	• Located according to traveler's needs and unique site features • Site-specific interpretive signage • Toilets with running water only where available • Emergency call box • Handicap accessible • Picnic tables and shade structures • Trash containers • Paved car and Recreational Vehicle parking • Paved truck parking • Nature walks or short trails • Seating Areas • Shade canopy (vegetation or structure) • Local community information
COMPLETE REST AREA	Complete Rest Areas are typically located at 60 mile intervals throughout the state and are usually situated outside of developed areas. They feature fully-operable facilities in combination with interpretive information on regionally significant cultural and historical sites. Complete Rest Areas also provide travelers with picnic facilities and include children's play areas and pet areas.	• Regionally Adapted Softscape Type • Focal Hardscape Type	• Regional interpretive signage • Running water and flushing toilets • Emergency call box and telephones • Drinking fountains • Vending machine services (at manned sites) • Handicap accessible • Picnic tables and shade structures • Trash containers • Bicycle storage units • Recreational Vehicle dump station • Paved car and Recreational Vehicle parking • Paved truck parking • Telescopes/viewfinders • Interpretive and overlook features • Children's play area • Pet rest facilities • Shade canopy (vegetation or structure) • Local community information
GATEWAY REST AREA	Gateway facilities convey first impressions and identity. Special features may be incorporated to highlight the area through design interpretation of the place. Gateways may be associated with any level of rest stop in the listing. The incorporation of local community information regarding amenities, events and interpretative elements, improves the interface between the highway and the communities it serves.	• Regionally Adapted Softscape Type • Landmark Hardscape Type	Program elements are consistent with the type of Road Service Area provided. Specific elements include: • Regional services information • Interpretation of regional sites and features • Information on regional recreational attractions
WELCOME CENTER	Welcome centers are located along major entry routes to the state. They offer introductions to the state and travelers can find access to useful travel information. Welcome centers include a staffed information kiosk.	• Regionally Adapted Softscape Type • Landmark Hardscape Type	• Located at major entry routes to state • Informational Services • Staffed visitor center • State-wide interpretive signage • Running water/flushing toilets • Emergency call box and telephones • Drinking fountains • Vending machine services • Handicap accessible • Picnic areas and shade structures • Trash containers • Bicycle storage units • Paved car and Recreational Vehicle parking • Paved truck parking • Improved trails • Children's play area • Pet rest facilities • Shade canopy (vegetation or structure) • Telescopes/viewfinders

(1) *A wildflower program advances the establishment of visually striking displays that occur in the Mojave desert landscape.*

(2) *Desert Marigold (*Baileya multiradiata*) is a common wildflower found throughout the Southern US 95 and US 93 corridor.*

NATIVE WILDFLOWER PROGRAM

Inspired by a vision of native plant species along rights-of-way to enhance the beauty of the land, the FHWA has adopted two programs to promote the use of naturally-occurring forbs and grasses in a particular region, state, or ecosystem. The Surface Transportation and Uniform Relocation Assistance Act (STURAA) of 1987 requires that at least one-quarter of 1% of funds expended for any Federal-aid highway system landscape project be utilized for native wildflower plantings. The second, voluntary program is "Operation Wildflower." It promotes the use of native wildflowers through a cooperative relationship between the National Council of State Garden Clubs and State highway agencies.

In addition, the FHWA recognizes that native forbs and grasses can also provide:

- Reduced maintenance requirements for established native plants in comparison with non-native species
- Reduced roadside fire hazards
- Reduced use of herbicides when native plants are successfully established
- Improved erosion control through drought-tolerant species
- Improved relationship between the highway corridor and the regional character of the landscape

The University of Nevada's revegetation report supports the use of forbs and grasses in highway rights-of-way (refer to Technical Appendix pages A.4-A.13). Forbs and grasses that are appropriate to specific regions and ecosystems require "little or no maintenance ... (and) create defensible space for wildfire along the highway corridors" (Tueller, Post, Noonan, 2002). As part of the wildflower program, plants should be utilized that do not create a fire hazard or become overly attractive to wildlife.

INVASIVE AND NOXIOUS WEED CONTROL

Invasive species can have devastating effects on a landscape's economic and environmental quality. Invasive species decrease diversity and can out-compete native species. The Nevada State Department of Agriculture maintains a list of noxious weeds that should be contained through a revegetation program along the corridor. The list can be referenced at the following site: www.agri.state.nv.us/nwac/nv_noxweeds.htm.

"Nevada's Coordinated Invasive Weed Strategy", produced by the University of Nevada, also identifies additional species that have the potential to negatively impact Nevada's environmental quality. NDOT's continued coordination with the Nevada Weed Action Committee provides an organized effort for invasive and noxious weed control.

Due to the frequency of invasive weeds along the corridor, control measures are necessary for any new landscape design project. Abiding by the best procedures and management practices for successful revegetation is one suggested control method. Additional suggested procedures include:

- Tailoring revegetation procedures to specific plant community types
- Making recommendations for site and soil preparation
- Including site appropriate revegetative practices
- Providing for adequate weed maintenance to allow for revegetation establishment

OUTDOOR ADVERTISING

Outdoor advertising, specifically billboards, provide businesses, community groups and other organizations with opportunities to inform travelers about various establishments and available services. Billboards can, however, impact the highway's visual quality by obstructing views of scenic features and the natural landscape. As a result, community groups are committed to restricting new signage, and removing existing billboards from areas adjacent to and within their communities.

The Highway Beautification Act

The intent of the Highway Beautification Act (HBA) of 1965 was to control billboard construction along Federal-aid highways and provide methods for removal of billboards that do not conform to state and local ordinances. Section C of this law limits signage visible from the road to only include informational and directional signs pertaining to distinctive natural, scenic, or historic attractions; on-site real estate signs; on-site business signs; landmark signs associated with historic, natural, or artistic purposes; and "free coffee" signs promoted by non-profit organizations.

Limitations

In the 40 years since the passage of the HBA, few non-conforming billboards have been removed and many more have been constructed due to exclusions in the law. Enforcement is difficult because Section G of the law requires cities and counties to pay just compensation to owners for billboard removal. Although the federal government is required to contribute 75% of the compensation, many communities do not have the funds to pay the 25% requirement, and their ability to use local land use controls to restrict con-

struction was removed. Additionally, the federal government has stopped providing money for billboard removal (Brinton, 2001).

A second limitation within the HBA is the allowance for billboards to be constructed in areas zoned commercial and industrial, as well as in unzoned areas with commercial or industrial uses. The provision also acknowledges that the State has authority over the zoning laws. This entitlement allows the State to implement zoning regulations that effectively increase the difficulty of controlling billboards. Communities may specifically zone an area along the highway as commercial, or the outdoor advertising structure may be built on a parcel that has an obscure commercial use.

The third provision allows designated scenic byways to be segmented and excluded from federal control. An amendment to the HBA, passed by Congress with the 1995 National Highway System Designation Act, allows states to exclude portions of a scenic byway that conflict with the state's standards for denoting scenic byways and utilize only local restrictions for billboard control. As a result, areas of lower scenic quality become more unattractive and reduce the overall scenic character of the byway.

Nevada Statutes

Removing billboards in Nevada became more difficult in 2001 due to the Nevada Revised Statute (NRS) 278.0215. The regulation prohibits the use of amortization – a method used by many states – for sign removal. Rather than utilizing the traditional cost approach, it defines the methodology for determining "just compensation" to include property uniqueness as well as income generation from the sign. This cost-prohibitive revision renders sign removal almost impossible.

Although control of outdoor advertising seems daunting, there are regulations that provide restrictions to billboard construction. NRS 405.050 allows counties to deny permits for billboards that may "measurably destroy the natural beauty of the scenery or obscure a view of the road ahead". Additionally, the statutes give the NDOT Director the authority to remove any sign that is a traffic hazard.

The Role of Local Government

Cities and counties have the ability to regulate the location, and to a limited degree, the type of billboard erected within their jurisdiction. Although a state must prove their jurisdictional rights to control outdoor advertising on Indian Reservation Lands and have a written statement from the State Attorney General, local governments may coordinate with the Bureau of Indian Affairs to determine a course of action to limit the negative visual impacts of billboards. Design standards that address height, size, color, spacing/frequency, and context are a valuable method for directing outdoor advertising. For example, signs can be relocated if they block visual resources. Material choices and architectural detail can be improved to reduce the visual distinction between the sign and the surrounding environment. Communities can regulate the location of billboards to reduce the scenic impact of billboards and improve visual quality along the state's highways. Important viewsheds and scenic corridors may be designated within the county, and land use regulations can be developed that discourage or prohibit outdoor advertising.

(1) *The Corridor Plan aims to manage Nevada's highways for their inherent scenic quality and prevent the negative visual impacts often caused by unregulated outdoor advertising.*

(2) *Outdoor advertising can be framed by natural materials and landscaping and be built into the ground in order to limit its scenic impact.*

(3) *When locating billboards, consider proximity to the road, distance between one to the next, height, and overall size in order to minimize negative visual impacts.*

(4) *Outdoor advertising should complement the adjacent environment while informing travelers of upcoming services.*

(1) *Federal scenic designation is limited to federal interstates and highways. Nevada's Scenic Byways Program allows for state and local routes to be identified and protected with Scenic Byway status, similar to those with federal designation.*

(2) *SR 159, or Red Rock Road, is one of Nevada's 21 state-designated Scenic Byways.*

NEVADA SCENIC BYWAYS DESIGNATION

Nevada's Scenic Byways Program was established in 1983. Since then, 21 Scenic Byways have been designated. Three prominent byways are directly accessed from the corridor, including Kyle Canyon Road, SR 157; Mt. Charleston/Lee Canyon Rd, SR 156; and Deer Creek Road, SR 158, see Figure 3 on page 1.17.

According to the FHWA, designating a roadway as "scenic" has several benefits. These benefits include preservation, promotion, pride, partnership, and the protection of scenic roadside vistas and historic buildings. In addition, the Highway Beautification Act of 1965 prohibits the erection of new billboards along designated Scenic Byways that are inter-state, a part of the National Highway System, or federally-aided primary roads. The National Highway Designation Act of 1995 amends the law to allow segmentation of portions of the byway, particularly if sections of the roadway fail to meet the Scenic Byway criteria. The segments in question are then controlled by local regulations only, allowing new billboards to be erected, subject to existing state or local controls. Roadway scenic quality can also be regulated with scenic or conservation easements. These easements preserve landscape character and provide the participating entity with a one-time tax deduction equal to the foregone value of the use of the land.

The Nevada Commission on Tourism and the FHWA are responsible for promoting Scenic Byways. To facilitate an integrated system, tourism-related facilities such as visitor centers, rest areas, and the Place Name Sign Program should maintain coordinated informational materials. Scenic designation increases local awareness about the roadway, attracting volunteers who want to help craft the story of the byway and share in making it a vital component of the community.

Opportunities for Partnerships

Scenic designation can promote and expand public and private partnership opportunities. As an example, America's Byways Resource Center can provide technical assistance and, together with the FHWA, can provide seminars and workshops to further facilitate the partnering process.

The Scenic Byway plan consists of federal, state, and local programs that provide assistance in achieving scenic designation in Nevada.

- The federal BLM Back Country Byways and U.S. Forest Service Scenic Byways plans focus on infrequently traveled paved, unpaved and four-wheel drive roads that access back country or wilderness areas
- The Nevada Scenic Byways Program focuses on year-round accessible roadways. The program identifies, promotes, and protects the state's most exceptional roadways. These byways must provide access to recreational areas or historic sites
- The Local Tourism Routes program allows communities to promote special roadways and other modes of travel (like boat, balloon and train rides, bicycling or rafting trips) that are not included under any other programs

Local groups and agencies nominate and manage scenic byways and local tourism routes. The designation "Scenic Byway" is reserved for routes approved by NDOT. The State Scenic Byways Committee, comprised of representatives of NDOT, the Nevada Commission on Tourism, the Nevada Division of State Parks, and the US Bureau of Land Management reviews and suggests approval; however, it is the NDOT Director who makes the final designation. The Nevada Commission on Tourism is responsible for the Local Tourism Route program. It reviews and approves all promotional material to ensure that the "Scenic Byway" designation is not used for local tourist routes.

Levels of Designations Available

Two levels of Scenic Byway designation are available: basic and advanced. Byways of both classifications are placed on state tourism maps, in visitor information packages and in other Scenic Byway promotional materials. The state prepares and distributes a brochure about the Byway. Routes with an advanced designation are eligible for federal and state funds. Advanced designation requires a corridor management plan and a five year re-certification obligation.

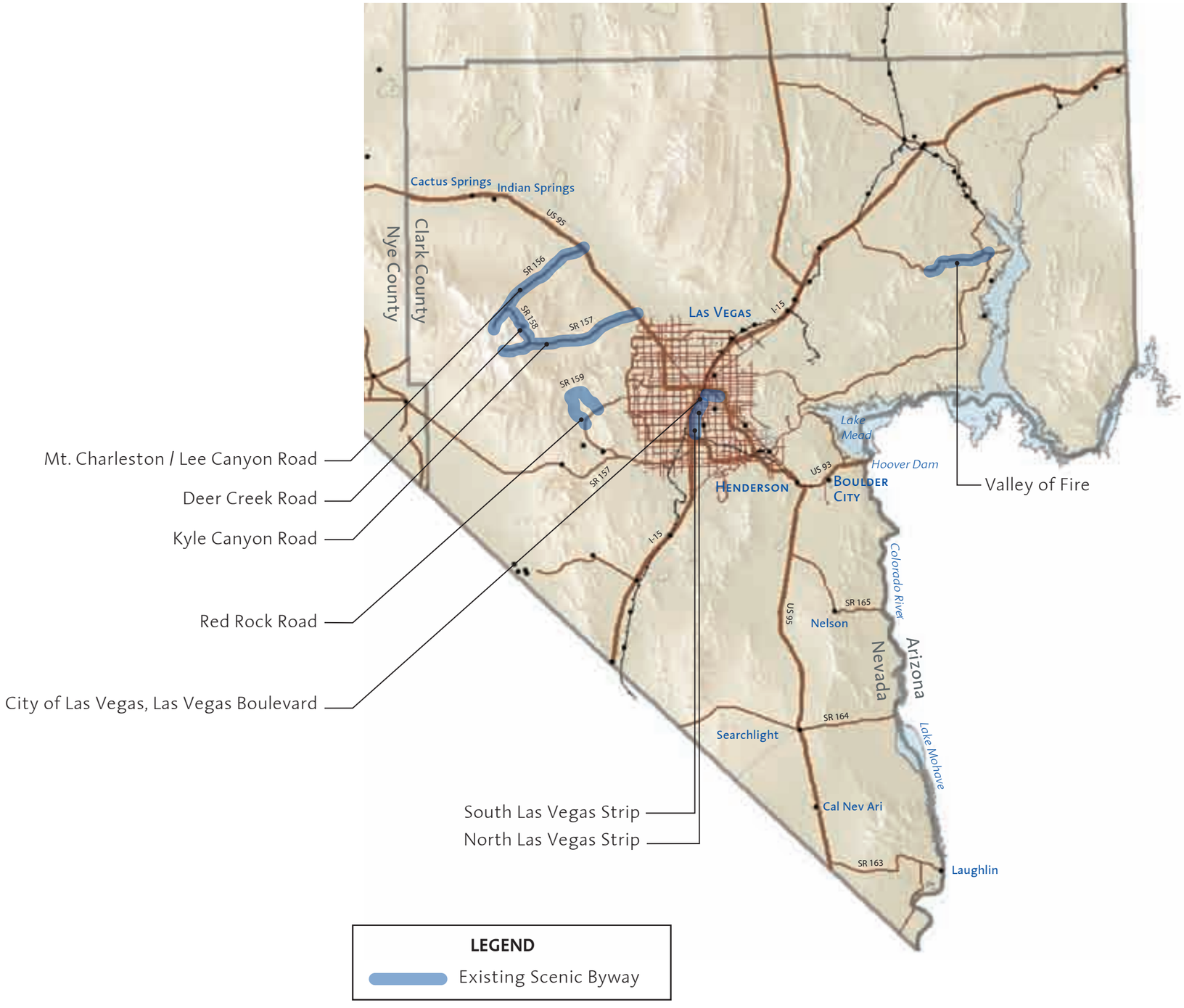
Interstate highways have not been included in the state program primarily because encouraging travel on non-interstate routes increases the tourism economic base of rural communities.

Nevada Scenic Designation

The Director of NDOT may establish a "Scenic Designation" for any section of highway right-of-way. The Corridor Plan recommends this occur in areas of high scenic quality to limit the number of billboards and signage obstructing views. The three byways accessible from the corridor also create a scenic loop north of Las Vegas. Promotion and signage for the loop can be consolidated at a recreational gateway at SR 157.

ANTI-LITTERING CAMPAIGN AND SIGNAGE

Figure 3 - *Existing Nevada Scenic Byways near the Southern US 95 and US 93 Corridor*



(1) *Scenic Byway signage should include custom icons related to the place.*

(1) *Trash within the right-of-way significantly impacts the scenic quality of the entire Southern US 95 and US 93 corridor.*

(2) *An edgy and provocative campaign against litter keeps the issue visible to travelers.*

Fast food containers, bottles, trash bags, and rusty kitchen appliances found alongside the road are distracting and imply an attitude of general neglect and disregard for the environment. A statewide anti-littering campaign would represent a significant step towards maintaining and improving Nevada's highways. The campaign should be advertised in such a way as to command the attention of residents and travelers. Similar to the "Don't Mess with Texas" anti-littering campaign, this program could become a marketing showpiece for the state of Nevada. The program would be promoted through roadway signage, magazine advertisements, and bumper stickers.

Distribution of campaign materials would be focused at travel-oriented locations such as welcome centers, rest areas, and truck stops. Coupled with promotional materials, a "Sponsor-A-Highway" program would engage residents of Nevada, encouraging active participation in maintaining clean and beautiful highways. This plan recommends implementing an anti-littering campaign using highly visible signage, easily distributed collateral materials, and an active volunteer clean-up program.

(3) *Highway graphics and signage posted along the highway at key locations is proposed as part of the anti-littering program.*

(4)

(5)

(6)

Vibrant main streets are a critical component of all communities. Rural communities are especially dependent upon vital commercial districts. Bisected and altered by the interstate highway system and suburban sprawl, main streets across America have declined both economically and physically, to a point where they are no longer viable community centers. Vacant buildings and declining businesses often line the highway. In some areas, revitalized commercial districts indicate continued community growth.

Main Street Approach, developed by the National Trust for Historic Preservation, assists in revitalizing the older, traditional business districts while simultaneously preserving the history and character of downtowns. The program combines "historic preservation with economic development to restore prosperity and vitality to downtowns and neighborhood business districts."

The Main Street Approach does not promote a "quick fix." It is a long-term, comprehensive strategy designed to meet local needs and opportunities. The strategy is based on a four-point approach that includes organization, promotion, design, and economic restructuring. It is a volunteer-based program that relies on community support. Volunteers form the governing board and standing committees, and a paid program manager coordinates and supports the operation.

The National Main Street Center, or the local coordinating agency, provides assistance in the form of technical services, networking, training, and information. The Center can provide direct fee-for-service technical assistance to cities and towns, both independently and in conjunction with state and citywide main street programs. Revitalization programs funded largely by local sources are more likely to succeed than those relying solely on state or federal funds. The Main Street Program offers educational sessions related to facilitating local support and generating public and private partnerships. Local involvement in, and coordination with, the program helps communities find solutions that work best for them.

The accomplishments of Main Street organizations are many: improving aesthetics and safety of downtown areas, restoring historic buildings, and revitalizing economic viability. The organization identifies potential economic niches, assists with promotional and fund-raising efforts, supports joint marketing efforts among local businesses, encourages and trains new business owners, and finds grants for facade, streetscape, and landscaping improvements. Reduced vacancy rates, and renovation and restoration in the downtown are a few examples of its results.

Physical improvements are quickly evident. Long-term economic improvements may take up to three years to accomplish. However, the program's impact on communities nationwide is indisputably positive and long-lasting. Communities have experienced net gains in new businesses and job generation, and a surge in local investment. Most importantly, community pride grows as personal involvement in the volunteer-driven program increases.

As an example of the success of this program, seven communities in rural Iowa participated in the program for ten years. On average, each town renovated 97 downtown buildings, gained 24 business starts, and saw $1.6 million in private sector reinvestment.

Anyone can start a Main Street Program in their community. The first step is to contact the statewide coordinating program for support, technical assistance, training, networking, and encouragement. Because Nevada does not currently have a coordinating program, contact should be made with the National Main Street Center in Washington D.C. A self-initiated program may be created without a state program. The National Main Street Center provides contacts to assist in networking with other independent programs and nearby state programs. Communities are welcome to utilize principles and tools from the Main Street Approach regardless of whether they qualify for the program or wish to follow it exactly. The program incorporates historic preservation with community revitalization. Communities like Goldfield, which was recently designated as a National Historic District, now qualify for more assistance through the program. Additional information can be obtained by visiting the Main Street Program's website at *www.mainstreet.org.*

(1) *The Main Street Approach was developed by the National Trust for Historic Preservation and assists in revitalizing traditional business districts while preserving their unique history and character.*

(2) *Simple enhancements like varied paving materials and pedestrian-scaled lighting create a safe and friendly environment and help invigorate commercial districts.*

(1) A wide-open vista greets travelers at the state border with California along US 95 as the road crests the hill. This location should be considered for an iconic gateway feature to enhance the entry into the state.

(2) Searchlight reveals the difficulty of balancing the needs of a highway and a community main street along the same stretch of road.

(3) The state-sponsored welcome center located on Nevada Highway in Boulder City often goes unnoticed. A more powerful architectural statement and directional signage could help attract visitors.

SECTION THREE: Background Inventory

SOCIAL RESOURCES

Community Settlement Patterns and Growth

Urban Patterns

Settlement patterns in the Southern US 95 and US 93 corridor are characterized by small towns and unincorporated communities that offer an alternative to the large and densely populated Las Vegas Valley. These communities range in size from about 1,100 people in the town of Searchlight, to approximately 15,000 in Boulder City. Much of the settlement of Clark County is tied to Native American heritage, mining discoveries, and the gaming industry. Boulder City is unique because it was developed as a planned community during the construction of the Hoover Dam.

As the Las Vegas Valley and communities such as Laughlin continue to grow rapidly, bedroom communities will grow to meet the needs of new residents and travelers. For example, Kyle Canyon, north of Las Vegas, is a dense residential development centered around community trails, open space, and outdoor recreation. Existing rural communities such as Cal Nev Ari, Searchlight, and Indian Springs will likely see an increase in retail and service industries to support the anticipated growth. Boulder City's proximity to the Las Vegas Valley exposes it to extreme growth pressure, however, the town has taken steps to control the impacts. Residents approved a growth control ordinance limiting expansion to 3% per year. The goal of this ordinance is to preserve the sense of place and quality of life that currently exists. The growth of Clark County will translate into greater use of the existing highway corridor by both tourists and residents, creating a need for both community-level and neighborhood-level aesthetic treatments.

Land Ownership

The State of Nevada contains the highest percentage of federal lands, almost 83%, among the contiguous 48 states (BLM, 2000). The Bureau of Land Management (BLM) controls the bulk of the federal lands which include in-holdings of varying sizes owned by other public agencies and private landowners. In southern Nevada, this is true along most of the Southern US 95 and US 93 corridor except for private lands around municipalities such as Boulder City and Indian Springs, National Park Service ownership at Lake Mead National Recreation Area, and the Las Vegas Paiute Indian Reservation north of Las Vegas.

Land ownership affects both land use and the visual character of the landscape. Much of the rural areas of the Nevada landscape maintain their natural beauty by remaining under federal control. Contributing to Nevada's open landscape aesthetic is the predominance of low occupancy uses such as grazing, farming, material production, and mining. In order to preserve rural character, existing and proposed developments must have a common vision, coordinated by all landowners. NDOT's jurisdictional influence over the landscape only extends to the edge of the right-of-way; however, agreements with other public agencies make it possible for NDOT to develop a common vision that will shape visual character and land use decisions for areas adjacent to the roadway.

Implications to the Southern US 95 and US 93 Corridor

Over the next 20 years, many anticipated changes will likely influence the corridor. Since September 11, 2001, all truck traffic has been re-routed away from Hoover Dam for national security reasons. The completion of the Hoover Dam Bypass bridge will allow truck traffic to return to US 93 through Boulder City. To combat increased traffic and the overall growth of the region, the Boulder City Bypass route is currently under design. Continued growth and expansion in the Las Vegas Valley will place additional pressure on outlying communities and the existing highway corridor. Applying the Landscape and Aesthetics program to these projects will connect the communities of southern Nevada with a consistent aesthetic approach to the roadway.

Travel and Tourism

Travel Patterns

Southern Nevada is world-renowned for the volume and variety of tourism opportunities. The Nevada Commission on Tourism refers to the area around Las Vegas as the "Las Vegas Territory", offering a variety of resorts and recreational amenities. The Las Vegas Territory generally includes the Las Vegas Metropolitan Area, I-15 Corridor, Boulder City, Hoover Dam, Searchlight, and Laughlin.

Overview of Existing Travel Facilities

Highways play an important role in connecting people to their surroundings. Visitor centers, view points, and community signage help travelers understand the natural and cultural features that make a place unique. The state highways could improve their role in promoting and facilitating travel to key local, state, and national tourism destinations. For example, it is not easy for travel-

ers to discern the fact that they are driving along a Death Valley-Manley historic trail or through the oldest town in Nevada. Signage notifying drivers of upcoming viewpoints can be more consistent. Signs pointing to historic markers can be updated to provide proper direction to the marker, and the sign color can be modified to minimize the impacts of fading. Enhancements should make markers easier to notice and give the driver advance warning of turn-offs. Marker sites should be reviewed as the surrounding development changes in order to minimize signs in unattractive locations.

Travel and tourism facilities consist of rest areas and information centers. These facilities can have the dual responsibility of providing traveler services and information regarding historical, cultural, and environmental features in the region, as well as providing important information about tourist destinations. Only a few highway services (such as formal rest areas, truck stops, and/or pull-outs) accommodate highway travelers along the corridor. The existing facilities can be improved by taking full advantage of an area's unique features and incorporating an enhanced overall design and architectural consistency.

Travel and tourism generate a large part of southern Nevada's transportation requirements and the highways serve the important role of connecting people to their surroundings and destinations. Visitor centers, view points, and community signage help travelers understand the natural and cultural features that make this place unique. Currently, the state highway's role in promoting and facilitating travel to key local, state, and national tourism destinations is minimal.

Opportunities to Enhance Travel and Tourism

Southern Nevada's history is rich with legends and unique spectacles that are prime interpretive opportunities for travelers. A more consistent and regional program of signage could improve the visitor's understanding of the region. Proper placement of signs is important for travelers to find and process the information quickly.

Travel and tourism facilities, such as rest areas, viewpoints, and information centers, can have the dual responsibility of providing services for travelers while describing historical, cultural, entertainment, and environmental features in the region. Rest areas should be planned and designed in a consistent and comprehensive manner. Regional architecture that is sensitive to the desert environment should be encouraged for all structures and facilities. In addition, where landscape treatments are implemented, drought tolerant plant materials are not only sensible, but essential to their success. Adequate rest areas typically include restrooms, picnic areas, pet exercise areas, paved parking areas, fresh drinking water, interpretive exhibits, and local area information.

NATURAL RESOURCES

Topography and Surface Hydrology

The landscape character of this region is dominated by alternating mountain ranges and valleys typical of the rest of the Basin and Range physiographic province. The Southern US 95 and US 93 corridor lies within the Mojave Desert and is characterized by wide valleys, bordered by arid north-south mountain ranges. The mountain ranges typically exhibit weathered and exposed bedrock at higher elevations.

The corridor crosses two of the state's 14 hydrographic regions: the Central Region and the Colorado River Basin. Nevada's central hydrographic region is the largest in the state, covering most of central and eastern Nevada. It is primarily characterized by isolated basins that do not drain into major river systems. Surface waters are channeled through a network of ephemeral streams and washes into playas, where the water gradually percolates into the water table. The Colorado River Basin region, however, is unlike most of the other hydrographic regions in Nevada. Surface runoff that flows into the Colorado River eventually travels out of the Great Basin, toward the Gulf of California. The Colorado River, at the easternmost margin of the corridor forming the state boundary between Nevada and Arizona, is the primary source of water for the Las Vegas Valley and surrounding areas. Lake Mead, likely the most visible body of water along the corridor, is a direct beneficiary of the Colorado River Basin system.

Vegetation

Most of the land along the highway corridor is arid. This area falls within the boundaries of the Mojave Desert, characterized by extreme variation in daily temperature and an average annual precipitation of less than five inches. The Mojave Desert serves as the transition between the hot Sonoran Desert and the cooler, higher Great Basin. The segment of US 95 south of Las Vegas is within the Sonoran Desert section of the Basin and Range geologic province, however, the vegetation and landscape characteristics of this area are more consistent with the Mojave Desert. Elevation changes influence the occurrence of plant communities where Blackbrush/Joshua Tree sites occur at higher elevations and the Southern Desert Shrub sites occur on the valley floors. Blackbrush/Joshua Tree areas

(1) *New bypass construction near Hoover Dam and Lake Mead is an opportunity to provide enhanced roadside services such as a welcome center and safe viewpoint pull-offs.*

(2) *Expansive valleys bordered by north-south mountain ranges are typical of this region of Nevada. Although it is classified as the Sonoran Desert section of the Basin and Range geologic province, the vegetation of the area is more consistent with the Mojave Desert.*

(1) *Wildlife crossings should be incorporated along the Boulder City Bypass to allow for bighorn sheep and other wildlife to migrate safely between habitat areas.*

may also include Spanish Bayonet and an understory of Desert Needle Grass. Southern Desert Shrub sites are the most prevalent landscape type and include plants adapted to very hot and dry conditions such as Creosote and Bursage.

Understanding these different vegetation community types is critical, particularly during revegetation activities associated with highway improvement projects. Each community has unique soil and hydrologic characteristics that must be considered to ensure successful revegetation.

Wildlife Habitat and Migration

Nevada is home to a large variety of wildlife. Because much of rural Nevada is under federal ownership, it is open and undeveloped, and provides excellent wildlife habitat for a number of species. Specially designated areas have been established to protect and preserve the ecological, natural, and cultural resources of specified areas. The South McCullough Wilderness Area, North McCullough Wilderness Area, Sloan Canyon National Conservation Area, and El Dorado Wilderness Area are within close proximity to this corridor. Another important feature is an Area of Critical Environmental Concern (ACEC) located in the Eldorado Valley. This area, designated by the BLM, was created to protect critical desert tortoise habitat.

Bighorn sheep are a species of high concern within the Southern US 95 and US 93 Corridor. In order to avoid predation, bighorn sheep inhabit rugged, steep terrain segmented by intermittent canyons and washes. The sheep also require access to open water during summer months, and in drought conditions may search for water throughout the year. Bighorn sheep movement corridors that extend across the valley and cross the highway exist north of Searchlight and east of Indian Springs. Another area with high levels of bighorn sheep movement is near Boulder City and US 93 toward Hoover Dam. A portion of the wildlife corridor runs parallel to the highway and has resulted in documented accidents involving collisions with sheep.

ENVIRONMENTAL CONSIDERATIONS

Mapping of Environmental Features

The landscape of northern Nevada has many special environmental features, including plant communities, rivers, lakes, playas, wildlife, rock outcroppings, cliffs, and mountain ranges. These resources provide opportunities to create viewpoints, preserve natural systems, and enhance wildlife movement corridors. The following features are representative of potential opportunities to preserve or enhance the traveler's understanding of the environmental resource or feature from the highway:

- Bighorn sheep herd viewing at Hemenway Park in Boulder City
- Joshua tree forests outside of Searchlight offer visual contrast to the common Creosote-Bursage vegetation type
- The River Canyon and Black Mountains surrounding Lake Mead provide visual interest outside of Boulder City to the Hoover Dam
- Long, distant views into the Eldorado Valley and surrounding ranges from US 95 / US 93 intersection

To assess the environmental features, data was gathered from a variety of sources and analyzed according to its relationship to the corridor highways. Data included in the analysis includes wildlife habitats, lakes and playas, and riparian systems. Additional data obtained from the BLM identifies unique features of significant influence that are visible from the highway and include: Sand Dunes, Wildlife Refuges, National Conservation Areas, and ACEC. The BLM uses the ACEC designation to preserve areas with unique biological, geological, historical, or scenic features. The boundaries shown are taken from the BLM database.

Wilderness areas and ACEC are specially designated areas that should be carefully considered with all highway construction projects. Stands of Joshua trees are unique plant communities that should also be considered. Stands visible from the highway were mapped.

CONTINUE ON MAP EC2

SR 164

SR 164

SR 164

HISTORIC

Searchlight

CRITICAL TORTOISE HABITAT / PAIUTE-ELDORADO VALLEY

US 95

Nevada

California

Cal Nev Ari

Newberry Mountains

Lake Mohave

Arizona

Nevada

Colorado River

SR 163

SR 162

Laughlin

LEGEND

- Southern US 95 and US 93 Corridor with Mile Markers
- Interstates
- Highways / State Routes
- Local Roads
- Railroads
- Railroads (historic)
- Streams / Rivers
- Lakes
- Playas
- Sand Dunes
- Joshua Tree Plant Communities Visible from the Highway
- Desert National Wildlife Refuge
- Wildlife Management Area
- Nevada Wilderness Area
- National Conservation Area
- Area of Critical Environmental Concern

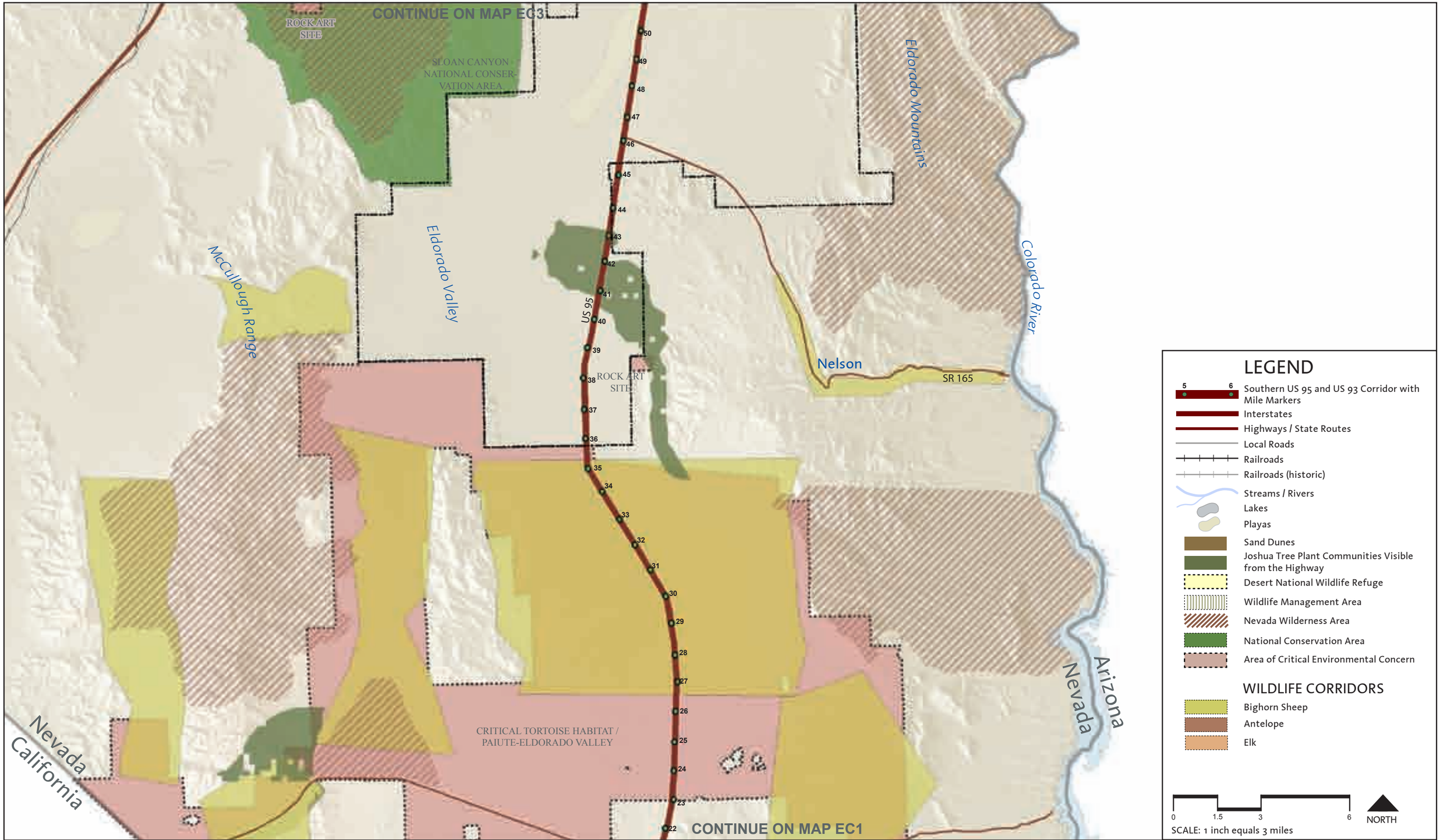
WILDLIFE CORRIDORS

- Bighorn Sheep
- Antelope
- Elk

0 1.5 3 6

SCALE: 1 inch equals 3 miles

NORTH



LEGEND

- Southern US 95 and US 93 Corridor with Mile Markers (5, 6)
- Interstates
- Highways / State Routes
- Local Roads
- Railroads
- Railroads (historic)
- Streams / Rivers
- Lakes
- Playas
- Sand Dunes
- Joshua Tree Plant Communities Visible from the Highway
- Desert National Wildlife Refuge
- Wildlife Management Area
- Nevada Wilderness Area
- National Conservation Area
- Area of Critical Environmental Concern

WILDLIFE CORRIDORS

- Bighorn Sheep
- Antelope
- Elk

0 1.5 3 6

SCALE: 1 inch equals 3 miles

NORTH

MAP EC2

1.24

DESIGN WORKSHOP
Sand County Studios
JW Zunino & Associates
PLACES
CH2MHill

CONSULTANT TEAM

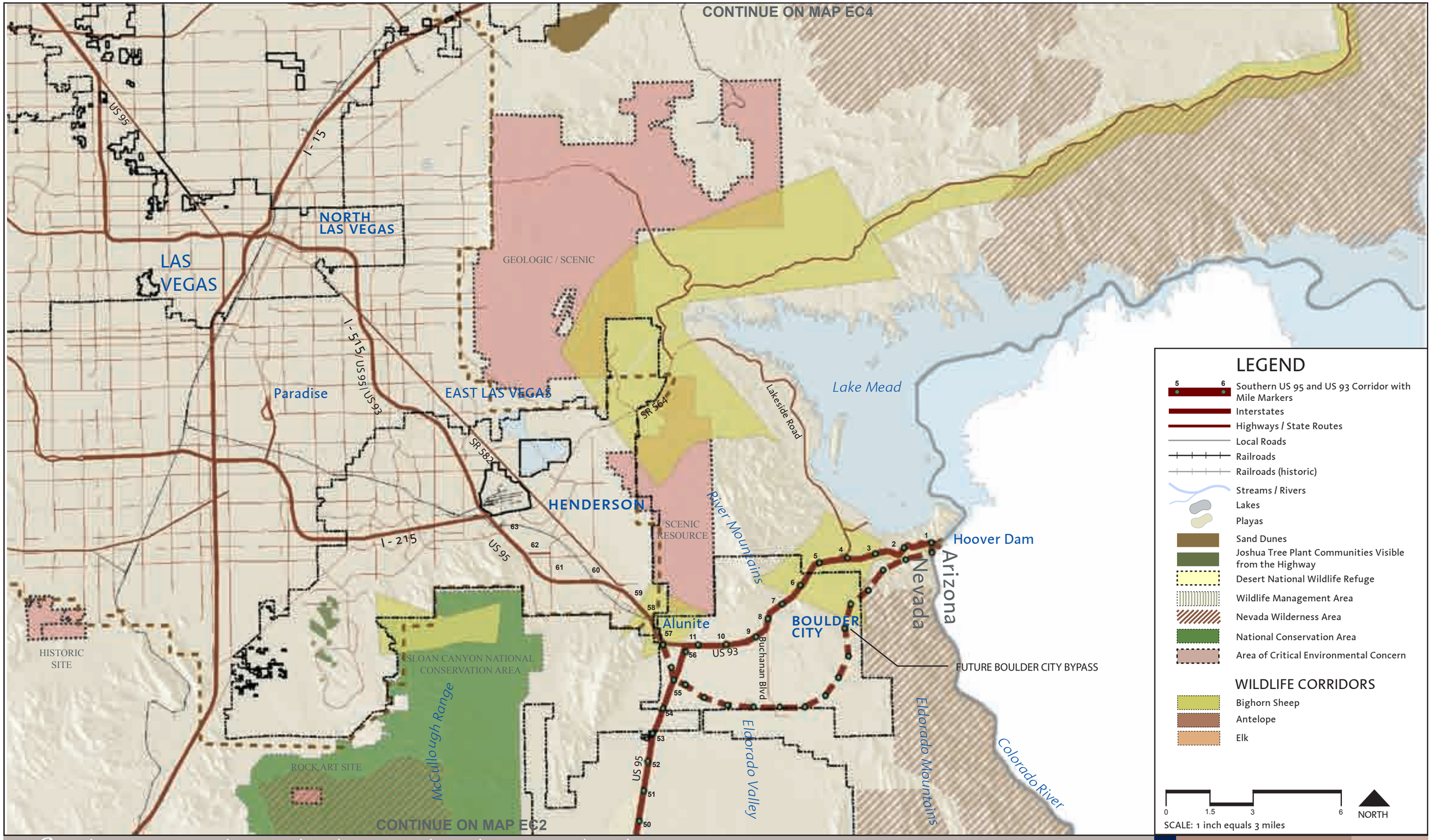
Southern US 95 and US 93 landscape and aesthetics corridor plan

ENVIRONMENTAL CONSIDERATIONS

SEARCHLIGHT TO ELDORADO VALLEY

UNLV LANDSCAPE ARCHITECTURE & PLANNING RESEARCH

NEVADA DOT



LEGEND

- Southern US 95 and US 93 Corridor with Mile Markers
- Interstates
- Highways / State Routes
- Local Roads
- Railroads
- Railroads (historic)
- Streams / Rivers
- Lakes
- Playas
- Sand Dunes
- Joshua Tree Plant Communities Visible from the Highway
- Desert National Wildlife Refuge
- Wildlife Management Area
- Nevada Wilderness Area
- National Conservation Area
- Area of Critical Environmental Concern

WILDLIFE CORRIDORS

- Bighorn Sheep
- Antelope
- Elk

0 1.5 3 6

NORTH

SCALE: 1 inch equals 3 miles

Southern US 95 and US 93 landscape and aesthetics corridor plan

NEVADA DOT UNLV

ENVIRONMENTAL CONSIDERATIONS

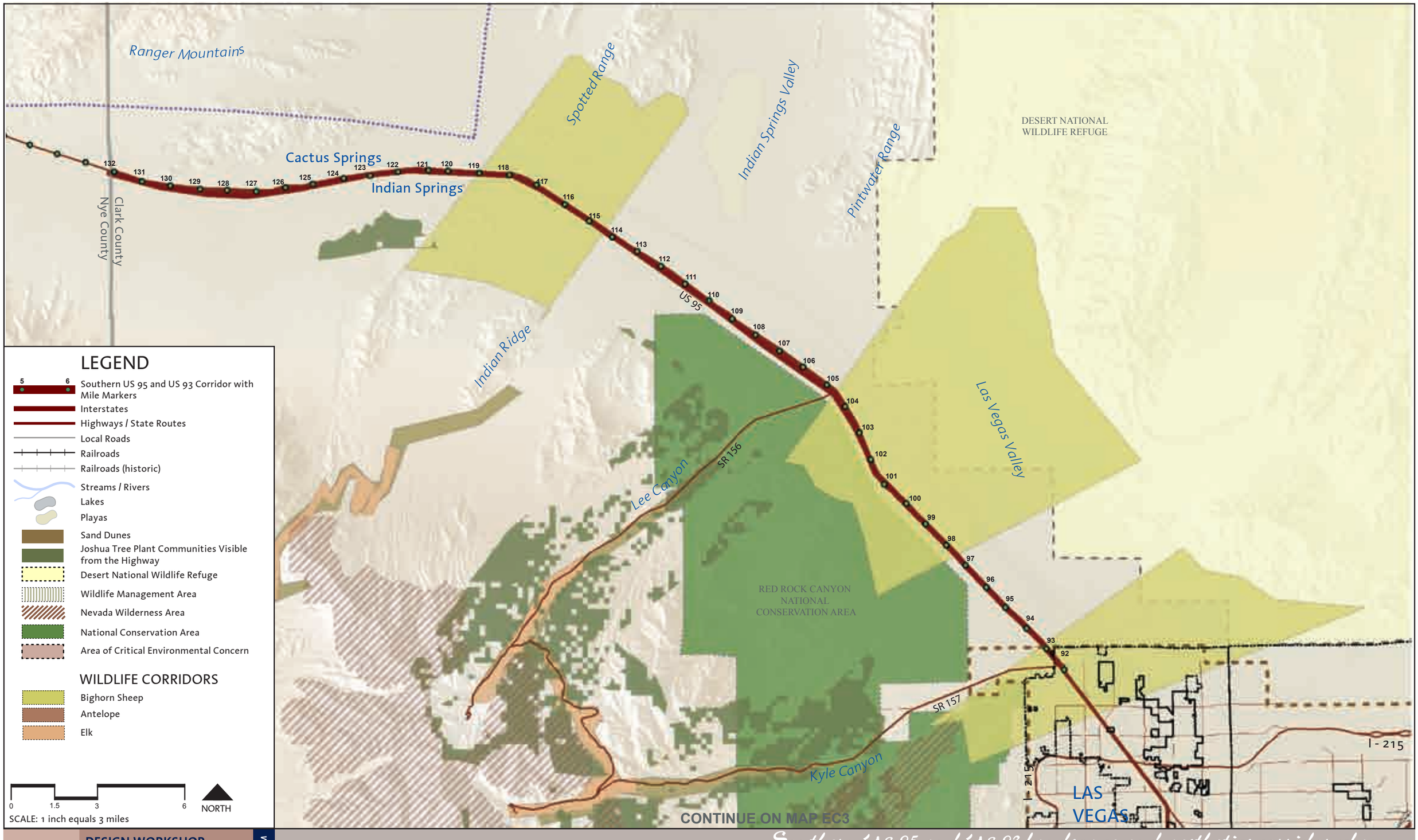
ELDORADO VALLEY TO HOOVER DAM

CONSULTANT TEAM

DESIGN WORKSHOP
Sand County Studios
JW Zunino & Associates
PLACES
CH2MHill

MAP EC3

1.25



LEGEND

- Southern US 95 and US 93 Corridor with Mile Markers
- Interstates
- Highways / State Routes
- Local Roads
- Railroads
- Railroads (historic)
- Streams / Rivers
- Lakes
- Playas
- Sand Dunes
- Joshua Tree Plant Communities Visible from the Highway
- Desert National Wildlife Refuge
- Wildlife Management Area
- Nevada Wilderness Area
- National Conservation Area
- Area of Critical Environmental Concern

WILDLIFE CORRIDORS

- Bighorn Sheep
- Antelope
- Elk

0 1.5 3 6

SCALE: 1 inch equals 3 miles

NORTH

MAP EC4

1.26

DESIGN WORKSHOP
Sand County Studios
JW Zunino & Associates
PLACES
CH2MHill

CONSULTANT TEAM

Southern US 95 and US 93 landscape and aesthetics corridor plan

ENVIRONMENTAL CONSIDERATIONS

KYLE CANYON TO CLARK COUNTY LINE

UNLV LANDSCAPE ARCHITECTURE & PLANNING PROGRAM

NEVADA DOT

VISUAL RESOURCES

Viewsheds and Distance Zones

Viewsheds refer to all the areas that are visible from a section of highway. Similar to the boundaries of a watershed, the boundaries of viewsheds are usually high points in the landscape, such as ridges and hills. Viewsheds are determined by analyzing digital elevation models in a Geographic Information System (GIS) program. All areas that are visible from the highway are combined to create the viewshed.

Areas within a viewshed are perceived by drivers with varying levels of detail. The detail that a driver perceives is related to the distance between the driver and the feature being observed. Distance zones, including foreground zones, middleground zones and background zones, define the traveler's viewing distances. Distance zones are delineated through a process developed by the USFS that relates the detail and importance of distance to the driver on the highway. Identifying the portions of a viewshed that are most frequently seen helps determine what portions of the landscape are most critical to establishing the highway's visual character and what areas are most sensitive to change.

Foreground Zones

Viewers can perceive details such as forms, lines and colors up to one-quarter mile away. Changes to the landscape are most significant within the foreground view because they are immediate to the viewpoint. This zone can be most easily manipulated through the Landscape and Aesthetic Program, in part because it includes the highway right-of-way.

Middleground Zones

Viewers can perceive details such as forms, lines, and colors in masses located from one-quarter mile to three miles away.

Background Zones

Background is the area beyond the middleground, extending to the horizon or limit of the area that is seen. For this Corridor Plan the background extends up to 25 miles from the centerline of the highway. Viewers can perceive broad forms, lines, wide valleys, distant hills, and mountains.

Viewshed and Distance Zones Mapping

Viewsheds and Distance Zones along the corridor are shown on the maps beginning on page 1.28. This analysis sets the foundation for visual quality management along the corridor. Darker shading denotes an area that can be seen most often from points on the highway. These areas usually coincide with landscapes of high visual quality and scenic values such as mountain ranges. Management of these areas through multi-jurisdictional cooperation can protect them from billboards and other land uses that obstruct views and detract from the travel experience.

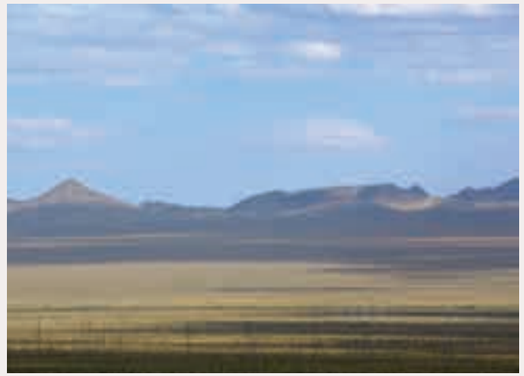
Scenic Resources

The Southern US 95 and US 93 corridor offers some of the most scenic views found in the state. Depending on the sequence of travel, views range from rugged cliffs in close proximity, wide-open spans of arid land bordered by mountain backdrops, and rural small towns, to engineering marvels such as the Hoover Dam. The combination of scenic and contrasting landscapes provides visitors with a memorable impression and applies a strong sense of identity to the southern corridor.

Visual Analysis

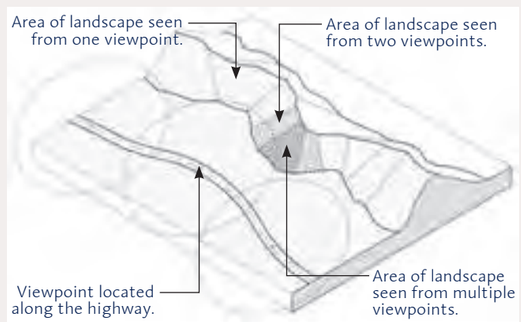
A visual analysis was conducted along the corridor to evaluate the viewsheds and rank them relative to their scenic quality. Scenic features were identified and highly visible landforms, such as mountain ranges and exposed cliffs, were located. Verified with site visits, the areas of highest scenic value include:

- The Eldorado Valley bordered by the McCullough Range, Highland Range, and Eldorado Mountains along US 95. The contrast between the valley floor and distant mountain backdrop has a striking visual depth.
- Views to Lake Mead and the surrounding River and Black Mountains from US 93 near Boulder City
- The visual contrast between the Hoover Dam and Black Mountains
- The architecture of the Hoover Dam at the Nevada-Arizona state line
- The view of the entire Las Vegas Valley that becomes visible at approximately mile marker 57 along US 95 at Railroad Pass.
- Views of the Spring Mountains along US 95 from the Clark County line to the Las Vegas Valley.
- Views of Mt. Charleston near SR157 outside of the Las Vegas Valley

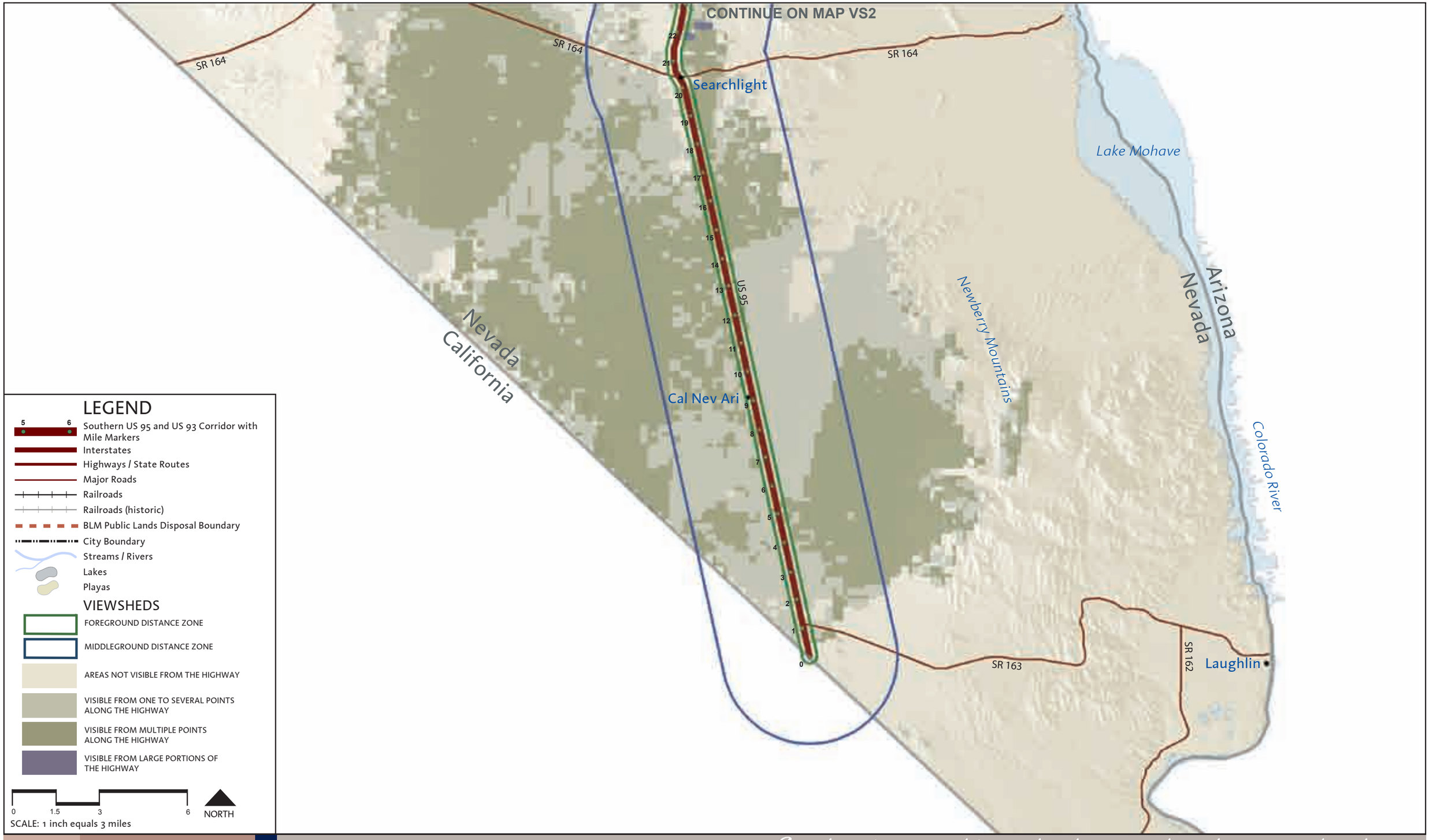


(1) *Views of Eldorado Valley and the distant mountain ranges were identified as having some of the highest scenic quality in the corridor and should be managed for scenic preservation.*

(2) *The scenic value of Lake Mead along US 93 should be promoted through a series of viewpoints.*



(3) *This illustration describes the concept of a viewshed and how a viewshed analysis is conducted.*



LEGEND

- Southern US 95 and US 93 Corridor with Mile Markers
- Interstates
- Highways / State Routes
- Major Roads
- Railroads
- Railroads (historic)
- BLM Public Lands Disposal Boundary
- City Boundary
- Streams / Rivers
- Lakes
- Playas

VIEWSHEDS

- FOREGROUND DISTANCE ZONE
- MIDDLEGROUND DISTANCE ZONE
- AREAS NOT VISIBLE FROM THE HIGHWAY
- VISIBLE FROM ONE TO SEVERAL POINTS ALONG THE HIGHWAY
- VISIBLE FROM MULTIPLE POINTS ALONG THE HIGHWAY
- VISIBLE FROM LARGE PORTIONS OF THE HIGHWAY

0 1.5 3 6

NORTH

SCALE: 1 inch equals 3 miles

MAP VS1

1.28

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Southern US 95 and US 93 landscape and aesthetics corridor plan

VIEWSHEDS

CALIFORNIA STATE LINE TO SEARCHLIGHT

UNLV

NEVADA DOT

CONTINUE ON MAP VS3

Erie

McCullough Range

Eldorado Valley

Boulder City Limits

Eldorado Mountains

Colorado River

Nelson

SR 165

US 95

50 49 48 47 46 45 44 43 42 41 40 39 38 37 36 35 34 33 32 31 30 29 28 27 26 25 24 23 22

Nevada

California

Arizona

Nevada

CONTINUE ON MAP VS1

LEGEND

- Southern US 95 and US 93 Corridor with Mile Markers (5 – 6)
- Interstates
- Highways / State Routes
- Major Roads
- Railroads
- Railroads (historic)
- BLM Public Lands Disposal Boundary
- City Boundary
- Streams / Rivers
- Lakes
- Playas

VIEWSHEDS

- FOREGROUND DISTANCE ZONE
- MIDDLEGROUND DISTANCE ZONE
- AREAS NOT VISIBLE FROM THE HIGHWAY
- VISIBLE FROM ONE TO SEVERAL POINTS ALONG THE HIGHWAY
- VISIBLE FROM MULTIPLE POINTS ALONG THE HIGHWAY
- VISIBLE FROM LARGE PORTIONS OF THE HIGHWAY

0 1.5 3 6

SCALE: 1 inch equals 3 miles

NORTH

NEVADA DOT UNLV

VIEWSHEDS

SEARCHLIGHT TO ELDORADO VALLEY

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MAP VS2

1.29

CONTINUE ON MAP VS4

US95

I - 15

NORTH LAS VEGAS

LAS VEGAS

Paradise

SR 582

EAST LAS VEGAS

I - 515/US 95/US 93

HENDERSON

I - 215

US 95

SR 564

Lakeside Road

Lake Mead

River Mountains

Hoover Dam

Nevada

Arizona

Alunite

BOULDER CITY

US 93

Buchanan Blvd

McCullough Range

US 95

Eldorado Valley

Boulder City City Limits

Eldorado Mountains

Colorado River

CONTINUE ON MAP VS2

LEGEND

- Southern US 95 and US 93 Corridor with Mile Markers
- Interstates
- Highways / State Routes
- Major Roads
- Railroads
- Railroads (historic)
- BLM Public Lands Disposal Boundary
- City Boundary
- Streams / Rivers
- Lakes
- Playas

VIEWSHEDS

- FOREGROUND DISTANCE ZONE
- MIDDLEGROUND DISTANCE ZONE
- AREAS NOT VISIBLE FROM THE HIGHWAY
- VISIBLE FROM ONE TO SEVERAL POINTS ALONG THE HIGHWAY
- VISIBLE FROM MULTIPLE POINTS ALONG THE HIGHWAY
- VISIBLE FROM LARGE PORTIONS OF THE HIGHWAY

0 1.5 3 6

SCALE: 1 inch equals 3 miles

NORTH

MAP VS3

1.30

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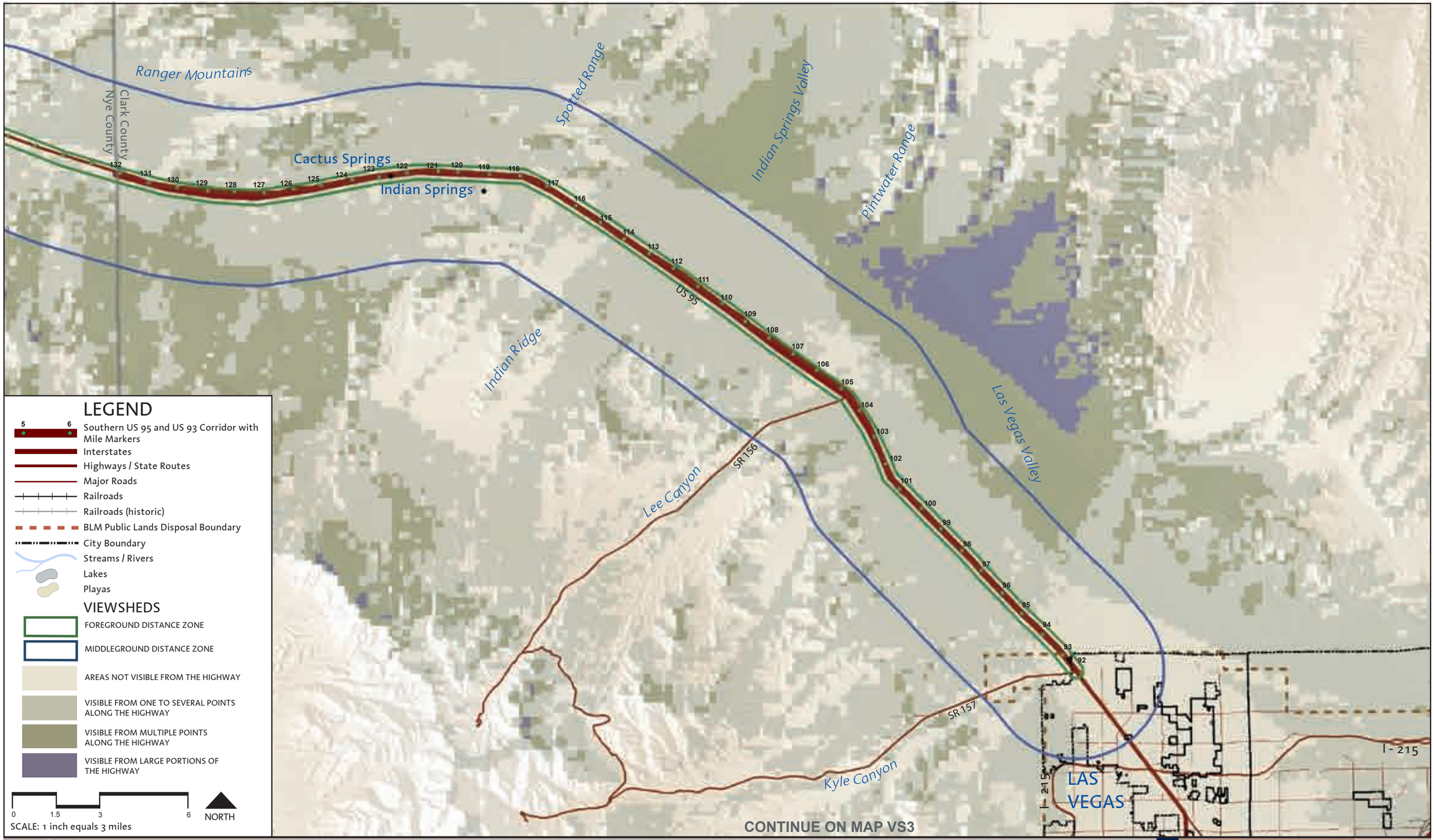
VIEWSHEDS

ELDORADO VALLEY TO HOOVER DAM

UNLV

NEVADA DOT



LEGEND

- Southern US 95 and US 93 Corridor with Mile Markers
- Interstates
- Highways / State Routes
- Major Roads
- Railroads
- Railroads (historic)
- BLM Public Lands Disposal Boundary
- City Boundary
- Streams / Rivers
- Lakes
- Playas

VIEWSHEDS

- FOREGROUND DISTANCE ZONE
- MIDDLEGROUND DISTANCE ZONE
- AREAS NOT VISIBLE FROM THE HIGHWAY
- VISIBLE FROM ONE TO SEVERAL POINTS ALONG THE HIGHWAY
- VISIBLE FROM MULTIPLE POINTS ALONG THE HIGHWAY
- VISIBLE FROM LARGE PORTIONS OF THE HIGHWAY

0 1.5 3 6

SCALE: 1 inch equals 3 miles

NORTH

CONTINUE ON MAP VA2

SR 164

SR 164

SR 164

Searchlight

US 95

Cal Nev Ari

Nevada

California

Newberry Mountains

Lake Mohave

Arizona

Nevada

Colorado River

SR 163

SR 162

Laughlin

LEGEND

- Southern US 95 and US 93 Corridor with Mile Markers
- Interstates
- Highways / State Routes
- Major Roads
- Railroads
- Railroads (historic)
- BLM Public Lands Disposal Boundary
- City Boundary
- Streams / Rivers
- Lakes
- Playas

VIEWSHEDS

- HIGHLY VISIBLE LANDFORMS
- AREAS NOT VISIBLE FROM THE HIGHWAY
- MODERATE VISUAL QUALITY
- HIGH VISUAL QUALITY
- HIGHEST VISUAL QUALITY

0 1.5 3 6

SCALE: 1 inch equals 3 miles

NORTH

MAP VA1

1.32

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Southern US 95 and US 93 landscape and aesthetics corridor plan

VISUAL ANALYSIS

CALIFORNIA STATE LINE TO SEARCHLIGHT

UNLV

NEVADA DOT

CONTINUE ON MAP VA3

Erie

McCullough Range

Eldorado Valley

Boulder City Limits

Eldorado Mountains

Colorado River

Nelson

SR 165

US 95

50 49 48 47 46 45 44 43 42 41 40 39 38 37 36 35 34 33 32 31 30 29 28 27 26 25 24 23 22

Nevada

California

Arizona

Nevada

CONTINUE ON MAP VA1

LEGEND

- Southern US 95 and US 93 Corridor with Mile Markers (5, 6)
- Interstates
- Highways / State Routes
- Major Roads
- Railroads
- Railroads (historic)
- BLM Public Lands Disposal Boundary
- City Boundary
- Streams / Rivers
- Lakes
- Playas

VIEWSHEDS

- HIGHLY VISIBLE LANDFORMS
- AREAS NOT VISIBLE FROM THE HIGHWAY
- MODERATE VISUAL QUALITY
- HIGH VISUAL QUALITY
- HIGHEST VISUAL QUALITY

0 1.5 3 6

SCALE: 1 inch equals 3 miles

NORTH

Southern US 95 and US 93 landscape and aesthetics corridor plan

NEVADA DOT

UNLV

VISUAL ANALYSIS

SEARCHLIGHT TO ELDORADO VALLEY

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MAP VA2

1.33

CONTINUE ON MAP VA4

US 95

I - 15

NORTH LAS VEGAS

LAS VEGAS

Paradise

SR 582

EAST LAS VEGAS

SR 564

Lakeside Road

Lake Mead

I - 515 / US 95 / US 93

HENDERSON

River Mountains

I - 215

63 62 61 60 59 58 57 56 55 54 53 52 51 50

US 95

Alunite

11 10 9 8 7 6 5 4 3 2 1

BOULDER CITY

US 93

Buchanan Blvd

Hoover Dam

Nevada

Arizona

Eldorado Mountains

Colorado River

McCullough Range

US 95

Eldorado Valley

Boulder City City Limits

CONTINUE ON MAP VA2

LEGEND

- Southern US 95 and US 93 Corridor with Mile Markers (5, 6)
- Interstates
- Highways / State Routes
- Major Roads
- Railroads
- Railroads (historic)
- BLM Public Lands Disposal Boundary
- City Boundary
- Streams / Rivers
- Lakes
- Playas

VIEWSHEDS

- HIGHLY VISIBLE LANDFORMS
- AREAS NOT VISIBLE FROM THE HIGHWAY
- MODERATE VISUAL QUALITY
- HIGH VISUAL QUALITY
- HIGHEST VISUAL QUALITY

0 1.5 3 6

SCALE: 1 inch equals 3 miles

NORTH

MAP VA3

1.34

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VISUAL ANALYSIS

ELDORADO VALLEY TO HOOVER DAM

UNLV

NEVADA DOT

Ranger Mountains

Clark County
Nye County

Spotted Range

Indian Springs Valley

Pintwater Range

Cactus Springs

Indian Springs

132 131 130 129 128 127 126 125 124 123 122 121 120 119 118 117 116 115 114 113 112 111 110 109 108 107 106 105 104 103 102 101 100 99 98 97 96 95 94 93 92

US 95

Indian Ridge

Las Vegas Valley

SR 156

Lee Canyon

SR 157

Kyle Canyon

I - 215

I - 215

LAS VEGAS

CONTINUE ON MAP VA3

LEGEND

- 5 6 Southern US 95 and US 93 Corridor with Mile Markers
- Interstates
- Highways / State Routes
- Major Roads
- Railroads
- Railroads (historic)
- BLM Public Lands Disposal Boundary
- City Boundary
- Streams / Rivers
- Lakes
- Playas

VIEWSHEDS

- HIGHLY VISIBLE LANDFORMS
- AREAS NOT VISIBLE FROM THE HIGHWAY
- MODERATE VISUAL QUALITY
- HIGH VISUAL QUALITY
- HIGHEST VISUAL QUALITY

0 1.5 3 6

SCALE: 1 inch equals 3 miles

NORTH

NEVADA DOT UNLV

VISUAL ANALYSIS

KYLE CANYON TO CLARK COUNTY LINE

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MAP VA4

1.35