

# Project Management Plan

## *Boulder City Bypass*



March 25, 2014







## **Boulder City Bypass Project Management Plan**

### **Letter of Certification**

The Nevada Department of Transportation (NDOT) has developed a comprehensive Project Management Plan for the Boulder City Bypass project. This plan provides detailed management processes and policies related to design, right of way and plan preparation, along with construction to complete a quality project within scope, schedule and budget.

The data, processes and policies in the Project Management Plan provide an accurate accounting of realistic estimates and commitment to ensure the design, purchase of right of way, movement of utilities and ultimate physical highway construction follows all pertaining laws and regulations and focuses on the completion of this major reconstruction project within scope, schedule and budget.

The Project Management Plan is a living document. NDOT believes it provides an accurate basis upon which to design, schedule and construct the Boulder City Bypass project. NDOT will review and update the Project Management Plan on an annual basis. In order to maximize our effectiveness in managing the project and meet project goals, the Project Management Plan will be continuously evaluated and revised as the project progresses.

To the best of our knowledge and belief, the Project Management Plan as herein submitted, fairly and accurately presents our commitment to design and construct the Boulder City Bypass project. We believe the assumptions underlying the Project Management Plan are reasonable and appropriate. Furthermore, we have made available all significant information relevant to the Project Management Plan. To the best of our knowledge, the documents and records supporting the assumptions are appropriate.

Preparation of this Project Management Plan has been coordinated with both the City of Boulder City and the City of Henderson. NDOT will obtain signatures from both entities to receive formal endorsement of this plan in early 2014

Respectfully Submitted:

William H. Hoffman, Assistant Director Engineering  
State of Nevada Department of Transportation

Date: \_\_\_\_\_, 2014





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## **1.0 Project Description and Scope of Work**

Following publication of a Notice of Intent (NOI), which appeared in the Federal Register on February 2, 2000, FHWA and NDOT initiated the NEPA (National Environmental Policy Act) process and began the scoping for the proposed Boulder City Bypass project. An agency scoping meeting was held on February 22, 2000, in Las Vegas. Subsequent interviews with other community members and meetings with interested members of the public, the Boulder City Chamber of Commerce, members of the Boulder City and City of Henderson City Councils, and other organizations also occurred during this scoping period.

The project area, located in Clark County, Nevada, extends I-515/US 93/US 95 from Foothills Drive to US 95 and continues easterly approximately 12 miles to tie into the Hoover Dam Interchange, constructed as part of the Hoover Dam Bypass Project.

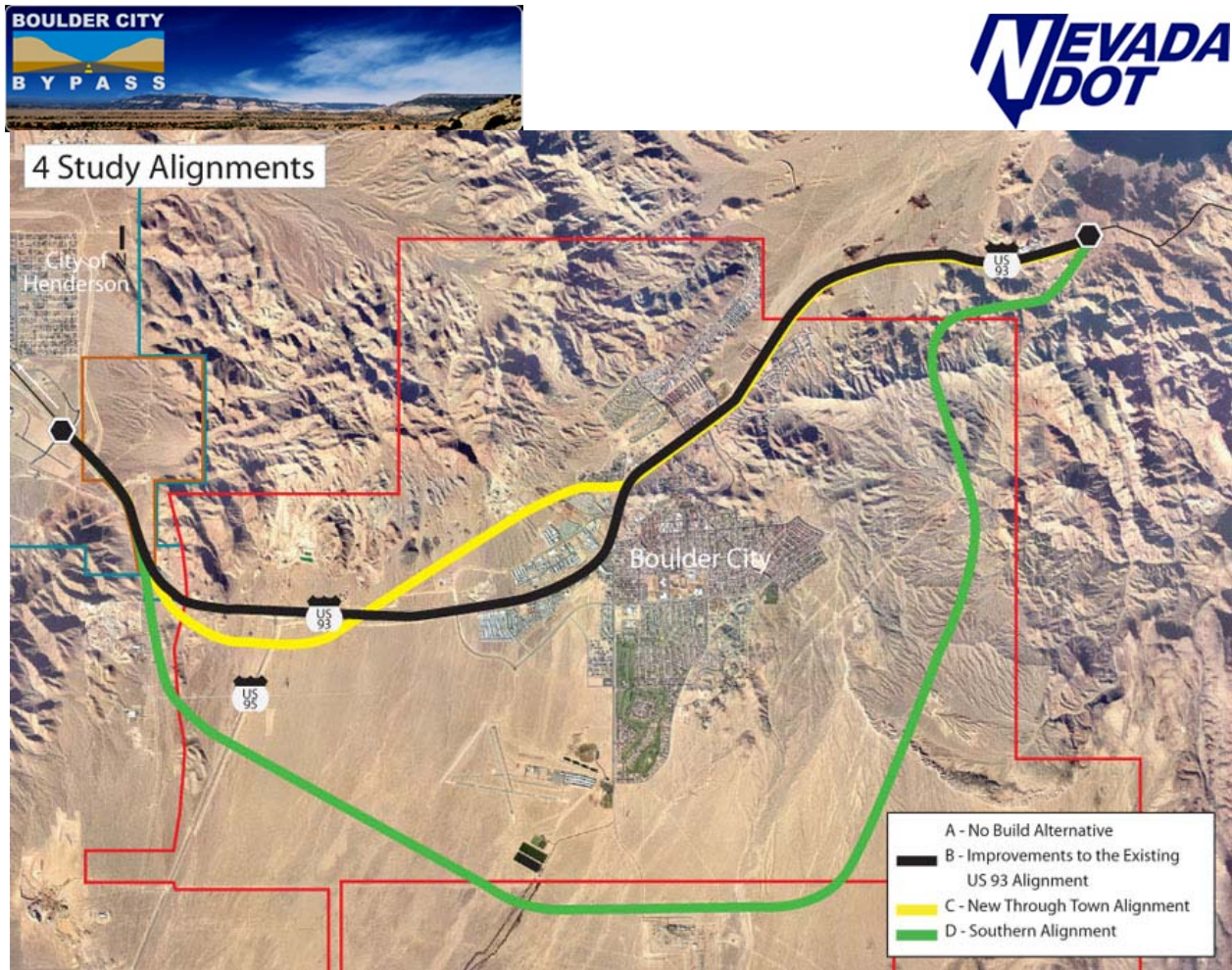
Corridor alternatives were developed based on the problems and potential solutions identified by the residents of Boulder City and the City of Henderson at two public meetings in January and April 2000 in Boulder City, as well as an agency scoping meeting and monthly PMT meetings. A combination of public involvement input, engineering, and environmental baseline analysis efforts was used to identify 35 alignment segments, totaling over 400 miles. These initial alignments were described by segment so that different logical segment combinations yielded over 40 potential build alternatives. These alternatives were then screened with the goal of identifying routes that addressed the issues developed through the NEPA scoping process, as well as avoided or minimized a large proportion of potential environmental impacts. The screening included a comparative evaluation of social, environmental, and engineering considerations raised during the initial scoping process. This process reduced the number of reasonable and feasible alternatives to 16.

The remaining 16 alternative corridors were grouped into three categories. The alternatives aligned through the River Mountains were designated as the Northern Alternative (NA). The alternatives aligned through the developed areas of Boulder City were designated as Through-Town Alternatives (TAs); these included both a transportation systems management (TSM) alternative and a US 93 improved alternative that provides grade separations at key intersections and an overall widening of the roadway. The alternatives aligned south of the Boulder City Airport and wastewater treatment facility were designated as the Southern Alternatives (SA).

Preliminary horizontal and vertical alignments for each of the corridor alternatives were prepared, based on minimizing cuts and fills along the roadway. The alignments conformed to the corridor topography, existing drainage patterns, local traffic circulation, and utilized American Association of State Highway and Transportation Officials (AASHTO) design guidelines. The PMT developed a set of 30 criteria against which to evaluate these 16 alignments. These criteria addressed accessibility, operations, safety/design, environmental impacts, socioeconomic impacts, and implementation.

Based on a comprehensive review of the evaluation results, the PMT eliminated all but four alternatives (three build plus a “no-build” alternative) from further consideration during several workshop meetings of the PMT in June and July 2000. After eliminating corridor alternatives based on the criteria screening, the PMT concurred upon the following four alternatives (Figure 1) from the 16 evaluated as the most reasonable and feasible to carry into detailed evaluation in the Environmental Impact Statement (EIS):





**Figure 1: Boulder City Bypass Study Alignments**

The four alternatives subjected to detailed study (including the No Build Alternative) were developed to a comparable level of detail in the Draft Environmental Impact Statement (DEIS) to analyze their comparative merits and impacts.

FHWA and NDOT completed and approved the DEIS for public review on March 4, 2002. The DEIS was circulated to the public on March 15, 2002, with publication of the Notice of Availability in the Federal Register. A public hearing to formally introduce the Boulder City/U.S. 93 Corridor Study DEIS was held on April 4, 2002, with 278 people in attendance. Written comments, plus court reporter transcripts of oral comments received at the hearing, are included in Volume II of this Final Environmental Impact Statement (FEIS).

The identification of a preferred alternative was not made until the impacts of the alternatives, along with comments on the DEIS and from the public hearings, were fully evaluated. Also, during the development of the FEIS, FHWA and NDOT held several meetings to consult with federal and state resource agencies to determine appropriate mitigation measures for impacts associated with the preferred alternative.

The FEIS was circulated for public review on April 8, 2005. Comments were received up to the close of the public review period on May 13, 2005.

On December 8, 2005, based upon careful consideration of all social, economic, and environmental impacts presented in the FEIS; the various technical studies completed; the input received from other agencies, organizations, and the public indicating broad public acceptance





of Alternative D; and on the factors and project commitments outlined in the Record of Decision, Alternative D was selected for the Boulder City/US 93 Corridor project.

The proposed scope of work includes realignment of US 93 / US 95 to create an access controlled facility from Foothills Drive to US 95 as well as construction of a 4 lane divided highway facility from US 95 to tie into the Hoover Dam Bypass at the Hoover Dam Interchange. Other components include a new diamond interchange, a new half interchange, and a frontage road. Direct connector ramps from the new facility to and from US 93 will be constructed as well as direct connector ramps from US 95 to the new facility. In addition, several bridge structures are proposed over select terrain and existing access roads to provide wildlife access.

## **2.0 Goals and Objectives**

The purpose of the project is to provide overall transportation improvements in the US 93 corridor by reducing traffic congestion, increasing safety, and improving regional mobility while maintaining or improving local circulation and access to local businesses.

The Boulder City Bypass/US 93 transportation improvements will address existing US 93 roadway deficiencies and provide system linkage and route continuity for sections of US 93 approaching Boulder City by providing an alternate freeway route, which will improve operations by providing additional capacity, higher design speeds, a more consistent roadway cross section, and a continuous access controlled facility throughout the project limits. The following are the project's goals and objectives:

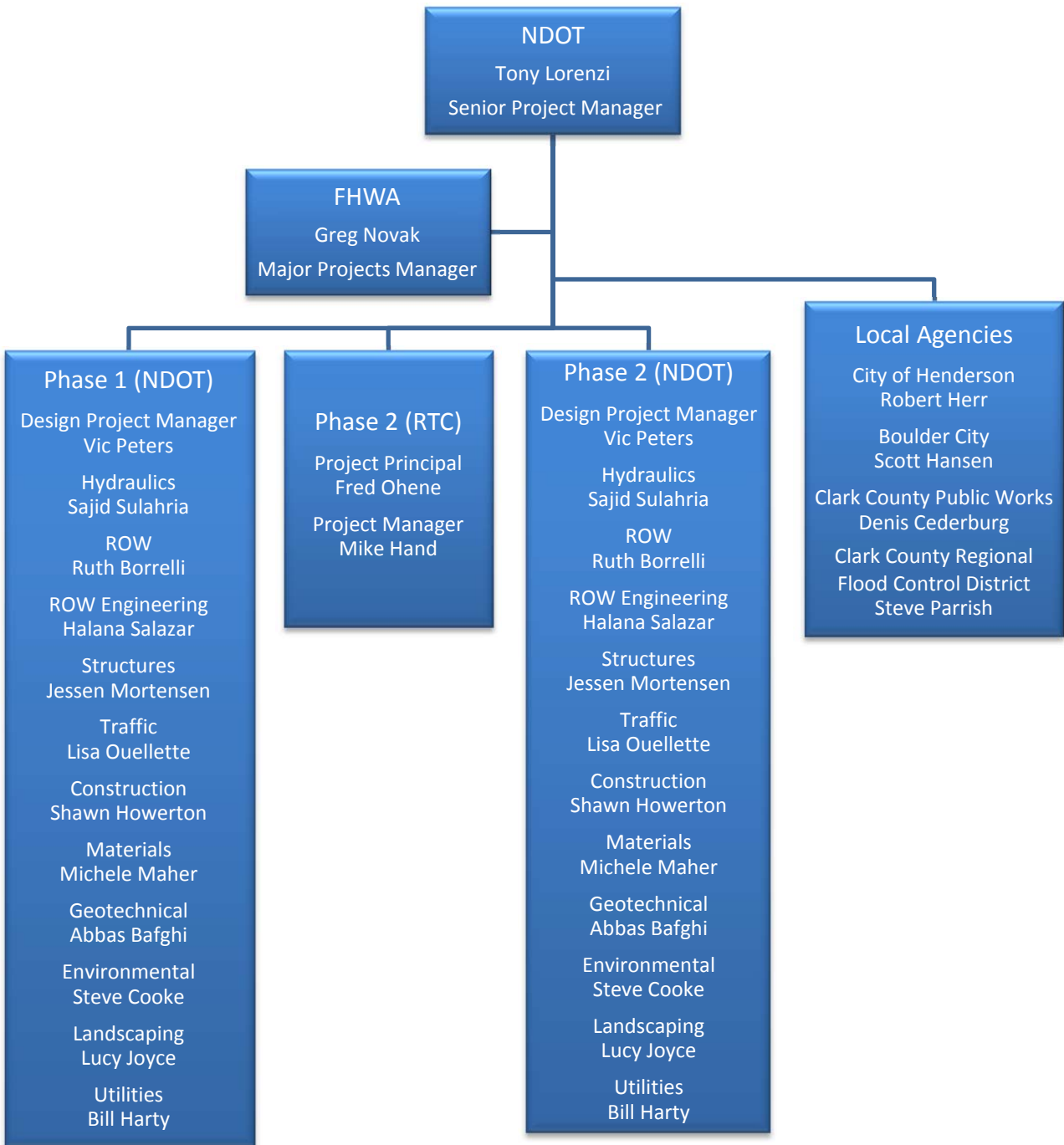
- Project completed within budget. The established total project budget for Phases 1 and 2 will be met or bettered. This includes using cost-efficient decision making processes in the development and maintenance of the budget.
- Project completed with the highest degree of quality possible.
- Project is completed with a context-sensitive design approach. Continuous communication among stakeholders will be a top priority.
- Project completed in a safe environment, for both the workers and the traveling public.
- All federal and statutory requirements achieved.
- Public trust, support, and confidence maintained throughout the life of the project. This will be achieved by the following actions:
  - Continually and adequately informing media and public
  - Minimizing inconvenience to commuters, residents, and businesses
  - Accomplishing environmental and other commitments
  - Maintaining integrity and competence regarding the stewardship and oversight of public funds
  - Maintaining congressional and public expectations

## **3.0 Project Organizational Chart, Roles and Responsibilities**

Project teams will be assigned to each phase when each phase as needed. Each project team will develop a project management plan as well as the plans, specifications and estimates for their assigned phase.

Tony Lorenzi, Senior Project Manager, is the NDOT Project Manager.

**Phone** 775-888-7317 **E-mail** [tlorenzi@dot.state.nv.us](mailto:tlorenzi@dot.state.nv.us)



**Figure 2: Table of Organization**



The following identifies the current team members for the project:

**NDOT Internal – Headquarters – 1263 S. Stewart Street, Carson City, NV 89712**

<b>Division/Section</b>	<b>Name</b>	<b>Phone</b>	<b>Email</b>
Agreement Services	Jenni Eyerly	775-888-7358	<a href="mailto:jevery@dot.state.nv.us">jevery@dot.state.nv.us</a>
Bridge (Structures)	Jessen Mortensen	775-888-7543	<a href="mailto:jmortensen@dot.state.nv.us">jmortensen@dot.state.nv.us</a>
Construction	Shawn Howerton	775-888-7460	<a href="mailto:showerton@dot.state.nv.us">showerton@dot.state.nv.us</a>
Environmental	Steve Cooke	775-888-7013	<a href="mailto:scooke@dot.state.nv.us">scooke@dot.state.nv.us</a>
Financial Management	Felicia Denney	775-888-7624	<a href="mailto:fdenney@dot.state.nv.us">fdenney@dot.state.nv.us</a>
Geotechnical	Abbas Bafghi	775-888-7876	<a href="mailto:abafghi@dot.state.nv.us">abafghi@dot.state.nv.us</a>
Hydraulics	Sajid Sulahria	775-888-7538	<a href="mailto:ssulahria@dot.state.nv.us">ssulahria@dot.state.nv.us</a>
Landscape/Aesthetics	Lucy Joyce	775-888-7537	<a href="mailto:ljoyce@dot.state.nv.us">ljoyce@dot.state.nv.us</a>
Location	Steve Merrill	775-888-7250	<a href="mailto:smerrill@dot.state.nv.us">smerrill@dot.state.nv.us</a>
Materials	Michele Maher	775-888-7737	<a href="mailto:mmaher@dot.state.nv.us">mmaher@dot.state.nv.us</a>
Program Development	Dennis Taylor	775-888-7120	<a href="mailto:dtaylor@dot.state.nv.us">dtaylor@dot.state.nv.us</a>
Project Management	Tony Lorenzi	775-888-7317	<a href="mailto:tlorenzi@dot.state.nv.us">tlorenzi@dot.state.nv.us</a>
Right-of-Way (ROW)	Ruth Borrelli	775-888-7239	<a href="mailto:rborrelli@dot.state.nv.us">rborrelli@dot.state.nv.us</a>
ROW Engineering	Halana Salazar	775-888-7470	<a href="mailto:hsalazar@dot.state.nv.us">hsalazar@dot.state.nv.us</a>
Roadway Design	Vic Peters	775-888-7680	<a href="mailto:vpeters@dot.state.nv.us">vpeters@dot.state.nv.us</a>
Safety Engineering	Chuck Reider	775-888-7335	<a href="mailto:creider@dot.state.nv.us">creider@dot.state.nv.us</a>
Specifications	Ray Hurley	775-888-7586	<a href="mailto:rhurley@dot.state.nv.us">rhurley@dot.state.nv.us</a>
Traffic	Lisa Ouellette	775-888-7346	<a href="mailto:louellette@dotstate.nv.us">louellette@dotstate.nv.us</a>
Traffic Information	Randy Travis	775-888-71588	<a href="mailto:rtravis@dot.state.nv.us">rtravis@dot.state.nv.us</a>
Traffic Operations	Denise Inda	775-888-7080	<a href="mailto:dinda@dot.state.nv.us">dinda@dot.state.nv.us</a>
Utilities	Jerry Hoover	775-888-7238	<a href="mailto:jhoover@dot.state.nv.us">jhoover@dot.state.nv.us</a>

**NDOT Internal – District 1 – 123 E. Washington Avenue, Las Vegas, NV 89101**

District Admin	Mary Martini	702-385-6500	<a href="mailto:mmartini@dot.state.nv.us">mmartini@dot.state.nv.us</a>
Maintenance	Mohamed Rouas	702-385-6503	<a href="mailto:mrouas@dot.state.nv.us">mrouas@dot.state.nv.us</a>
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**External**

<b>Agency/Company</b>	<b>Name</b>	<b>Phone</b>	<b>Email</b>
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FHWA	Greg Novak	775-687-1203	<a href="mailto:Greg.Novak@dot.gov">Greg.Novak@dot.gov</a>
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RTC of Southern Nevada	Mike Hand	702-676-1612	<a href="mailto:handm@rtcsonv.com">handm@rtcsonv.com</a>
Clark County Department of Public Works (CCPW)	Denis Cederburg	702-455-6020	<a href="mailto:dlc@co.clark.nv.us">dlc@co.clark.nv.us</a>
CCPW Agreements	Joanna Wadsworth	702-455-6009	<a href="mailto:Joanna@co.clark.nv.us">Joanna@co.clark.nv.us</a>
City of Henderson	Robert Herr	702-267-3031	<a href="mailto:robert.herr@cityofhenderson.com">robert.herr@cityofhenderson.com</a>
Boulder City	Scott Hansen	702-293-9200	<a href="mailto:shansen@bcnv.org">shansen@bcnv.org</a>
Clark County Regional	Steve Parrish	702-685-0000	<a href="mailto:sparrish@regionalflood.org">sparrish@regionalflood.org</a>



## Flood Control District



The NDOT Project Manager is assigned to both phases. The NDOT Project Manager is responsible for the scope, budget, schedule, and quality of each phase. The NDOT Project Manager is also responsible for preparing and updating the project management plan for each phase of the project.

The following identifies high level roles and responsibilities of NDOT and the local agency for design, award, and administration of the project:

- Phase 1, Foothills Drive to US 95, will be designed, awarded and administered by NDOT. The project will be managed by Tony Lorenzi, NDOT Senior Project Manager.
- Phase 2, US 95 to the Hoover Dam Interchange of the Hoover Dam Bypass, will be designed, awarded and administered by the Regional Transportation Commission of Southern Nevada. The project will continue to be managed by Tony Lorenzi, NDOT Senior Project Manager. The NDOT Project Manager will also manage project efforts by NDOT staff.

The NDOT project team will follow the NDOT Project Management Guidelines as their primarily operating guidelines.

The project team's authority and responsibilities vary depending on project delivery method and stage of project development. The following identifies roles and responsibilities of NDOT team members, local agencies, and FHWA for the entire project corridor:

## **Divisional Responsibilities**

### **Internal**

#### **Project Management**

- Manage and coordinate all scope, budget and schedule issues
- Coordinate with outside entities and NDOT management
- Provide leadership and direction to the project team
- Develop project management plan
- Maintain the project schedule and budget

#### **Roadway Design**

- Coordinate technical issues and incorporate products from other technical groups into the plans and estimate
- Design oversight; including meeting all applicable standards, policy and procedures
- Provide technical advice regarding individual design elements
- Develop and provide project information as needed by other divisions
- Update the project team on technical decisions/recommendations of NDOT management
- Create and maintain a Design Report
- Prepare project geometric certification
- Act as an advocate for the Roadway Design Division by communicating concerns/issues between the project team and the Roadway Design Division

#### **Hydraulics**



- Provide technical hydraulic design guidance
- Prepare hydraulic design plans and estimate
- Prepare and maintain the Drainage Report
- Ensure design meets all the Drainage Manual and all applicable standards, policies and procedures
- Act as an advocate for the Hydraulics Division by communicating concerns/issues between the project team and the Hydraulics Division

#### Landscape Architecture

- Provide technical landscape architecture design guidance
- Provide guidance for the design or modification of aesthetics of structural element, landforms and drainage elements and coordination with affected divisions
- Provide guidance for the landscape architecture design plans and estimate
- Ensure design meets all Landscape and Aesthetic Master Plan, Landscape and Aesthetic Corridor Plans, and other applicable standards, policies, and procedures
- Act as an advocate for the Landscape Architecture Division by communicating concerns/issues between the project team and the Landscape Architecture Division

#### Bridge

- Provide information related to all structures (bridges, RCBs, sign structures, etc.)
- Provide guidance for the design or modification of structural elements
- Prepare the structural design plans and estimate
- Ensure design meets all applicable standards, policies, and procedures
- Act as an advocate for the Bridge Division by communicating concerns/issues between the project team and the Bridge Division

#### Traffic

- Provide technical guidance on traffic related issues
- Prepare traffic design plans and estimate (signs, signals, lighting)
- Create and maintain the Change in Access Report and the Traffic Report
- Coordinate with Roadway Design, Construction and others on traffic control and striping plans
- Ensure design meets all applicable standards, policies and procedures
- Act as an advocate for the Traffic Division by communicating concerns/issues between the project team and the Traffic Division

#### Safety

- Provide technical guidance on safety related issues
- Provide crash data
- Schedule and coordinate Roadside Safety Review
- Act as an advocate for the Safety Division by communicating concerns/issues between the project team and the Safety Division

#### Right-of-Way

- Provide technical guidance on right of way issues
- Coordinate utility issues and prepare agreements
- Provide right-of-way verification
- Prepare right-of-way documents and plans
- Prepare project right-of-way certification





- Act as an advocate for the Right-of-Way Division by communicating concerns/issues between the project team and the Right-of-Way Division

#### Materials

- Provide technical guidance on Materials and Geotechnical related issues
- Prepare and maintain the geotechnical report
- Provide material site recommendation, materials specifications and theoretical information
- Act as an advocate for the Materials Division by communicating concerns/issues between the project team and the Materials Division

#### Environmental

- Provide environmental documentation and applicable permits
- Coordinate any mitigation to address environmental impacts
- Communicate with the appropriate State, Local, and Federal agencies to obtain the appropriate permits required
- Coordinate public meetings required by NEPA
- Prepare project environmental certification
- Review Change in Access and Traffic Reports
- Act as an advocate for the Environmental Division by communicating concerns/issues between the project team and the Environmental Division

#### Construction

- Provide constructability and traffic control technical assistance
- Develop working days, damages, etc. for the special provisions
- Coordinate change orders with the Project Manager
- Act as an advocate for the Construction Division by communicating concerns/issues between the project team and the Construction Division

#### Location

- Provide mapping, aerials and survey, and alignment data to the project team
- Prepare location control sheets for inclusion in contract plans
- Act as an advocate for the Location Division by communicating concerns/issues between the project team and the Location Division

#### Traffic Operations

- Provide technical guidance on traffic operations (interchange configurations, number of lanes, etc.)
- Review Change in Access and Traffic Reports (Environmental and Roadway also review the Change in Access Report)
- Act as an advocate for the Traffic Operations Division by communicating concerns/issues between the project team and the Traffic Operations Division

#### Specifications

- Prepare special provisions
- Coordinate project review meetings and deliver final plans, special provisions and estimates to Administrative Services Division
- Attend traffic control and constructability meetings



- Act as an advocate for the Specifications Section by communicating concerns/issues between the project team and the Specifications Section

#### Traffic Information

- Provide traffic data and projections
- Provide technical traffic operations information
- Act as an advocate for the Traffic Information Division by communicating concerns/issues between the project team and the Traffic Information Division

#### District

- Provide guidance and advice during the design phase to the project team on constructability and maintainability issues
- Provide input to the design team regarding the project elements that the District would like to see included or addressed in the project
- Assign staff to review and comment on 30%, 60% and 90% plan reviews
- Coordinate change orders with the Project Manager
- Act as an advocate for the District I office by communicating concerns/issues between the project team and the District I office

#### Agreement Services

- Process and review agreements (inter-local and cooperative)
- Pay consultant invoices.
- Advertise the contract after receiving written approval from the Federal Highway Administration (FHWA)
- Act as an advocate for the Agreement Services Section by communicating concerns/issues between the project team and the Agreement Services Section

#### Legal

- Provide legal council
- Review agreements
- Act as an advocate for the Legal Division by communicating concerns/issues between the project team and the Legal Division

#### Financial Management

- Program and schedule projects
- Provide guidance on project funding
- Act as an advocate for the Financial Management Division by communicating concerns/issues between the project team and the Financial Management Division

#### Public Information Office

- Coordinate and schedule public meetings
- Assist in coordinating NEPA public meetings
- Provide public information assistance to the project team
- Act as an advocate for the Public Information Office by communicating concerns/issues between the project team and the Public Information Office

#### Stewardship and Project Scoping

- Provide project scoping services and guidance
- Coordinate stewardship funding used on larger projects



- Act as an advocate for the Stewardship and Project Scoping Section by communicating concerns/issues between the project team and the Stewardship and Project Scoping Section

#### NDOT Management

- Provide high level direction and decision making

#### External

##### Federal Highway Administration (FHWA)

- Project Sponsor
- Project oversight
- Coordinate between NDOT and other federal agencies on controversial issues
- Participate as a third party reviewer on contract amendment proposals and other contract administration issues
- Coordinate all audits between NDOT and FHWA and other federal agencies
- Provide technical assistance and guidance to NDOT in developing a project management plan
- Provide technical assistance and guidance to NDOT in the development of preliminary and final roadway and bridge plans
- Provide technical assistance and guidance to NDOT in ensuring that contract administration, constructability, cost, biddability, value engineering, construction, materials, congestion mitigation, community sensitivity design, and future maintenance are all considered in the development of the project
- Provide technical assistance and guidance to NDOT in ensuring that federal requirements such as proprietary products, force account work with local government, and local government-supplied materials are adequately addressed in the development of the project

##### Regional Transportation Commission of Southern Nevada (RTCSNV)

- Project Sponsor
- Project Stakeholder
- Manage and coordinate Phase 2 scope, budget and schedule issues
- Coordinate with NDOT management and outside entities
- Provide leadership and direction to the Phase 2 project team
- Provide current information regarding existing and planned facilities and provide technical support incorporating that information into the plans and estimate
- Act as an advocate for RTCSNV by communicating concerns/issues between the project team and RTCSNV

##### City of Henderson

- Project Stakeholder
- Provide current information regarding existing and planned facilities and provide technical support incorporating that information into the plans and estimate
- Act as an advocate for City of Henderson by communicating concerns/issues between the project team and City of Henderson

##### City of Boulder City

- Project Stakeholder



- Provide current information regarding existing and planned facilities and provide technical support incorporating that information into the plans and estimate
- Act as an advocate for City of Boulder City by communicating concerns/issues between the project team and City of Boulder City

#### Clark County

- Project Stakeholder
- Provide current information regarding existing and planned facilities and provide technical support incorporating that information into the plans and estimate
- Act as an advocate for Clark County by communicating concerns/issues between the project team and Clark County

#### Clark County Regional Flood Control District

- Project Stakeholder
- Provide current information regarding existing and planned facilities and provide technical support incorporating that information into the plans and estimate
- Act as an advocate for the Clark County Regional Flood Control District by communicating concerns/issues between the project team and the Clark County Regional Flood Control District

#### Public Utility Commission (PUC)

- Project Stakeholder
- Provide current information regarding existing and planned facilities and provide technical support incorporating that information into the plans and estimate
- Act as an advocate for the PUC by communicating concerns/issues between the project team and the PUC

Decision making: the NDOT Project Manager has decision making authority over the project scope, budget and schedule. Project technical managers have decision making authority over technical issues as long as they are within the established scope, budget and schedule of the project. Team responsibilities will be defined as each phase is ready to be advanced to the next stage of development.





## 4.0 Project Phases

The Boulder City Bypass project is being designed in two coordinated phases in order to implement the project as effectively and efficiently as possible.

The project limits of these phases and the proposed improvements are as follows:

### Phase 1 – Foothills Drive to US 95

Phase 1 is the western portion of the project beginning at the Foothills Drive grade separation and ending at US 95 (Figure 2), approximately 1.2 miles south of the existing US 93/US 95 Junction and has been separated into five packages.

- Package 1 will acquire right-of-way for Phase 1, - Complete
- Package 2 will construct the frontage road and relocate utilities for the project,
- Package 3 will construct the mainline

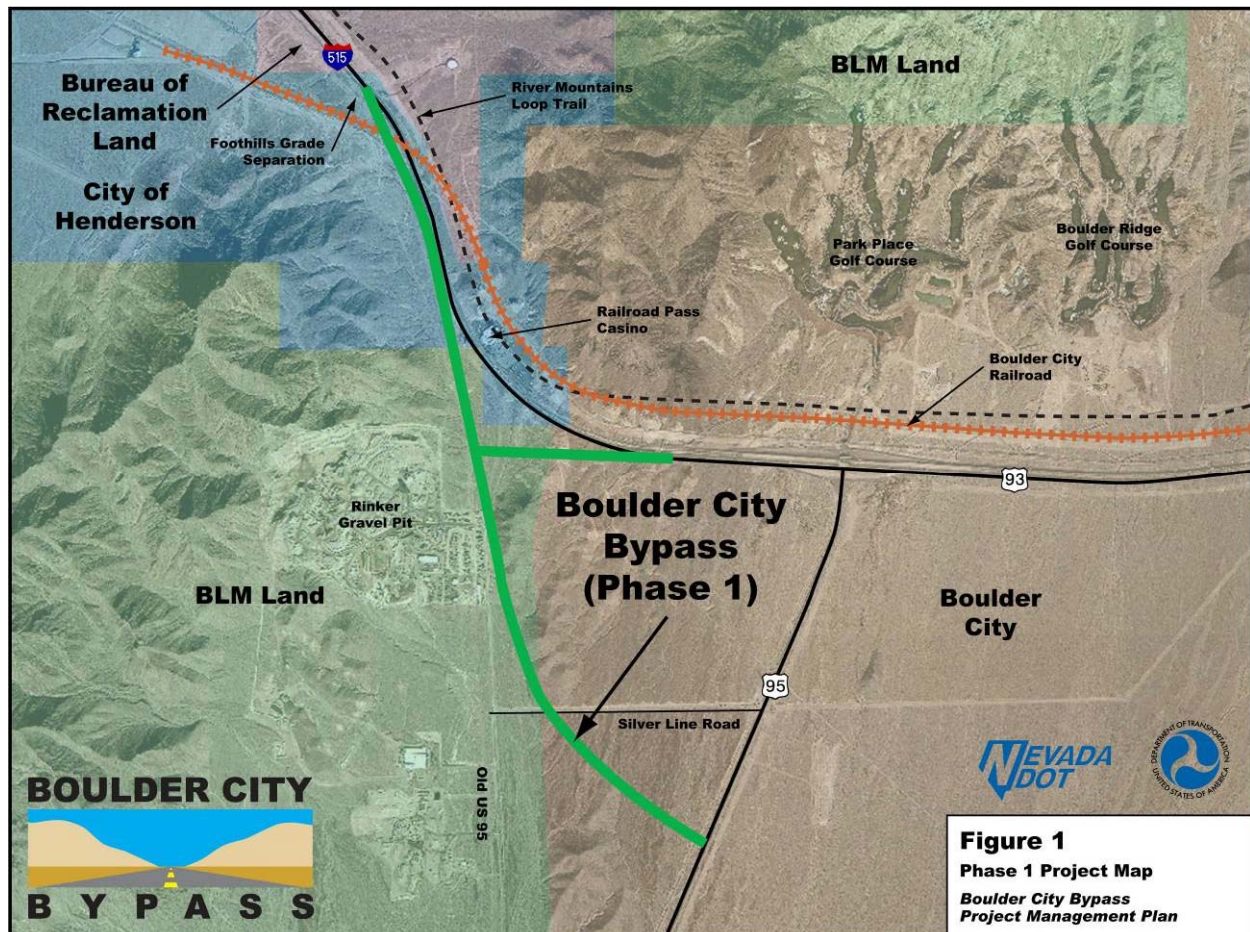


Figure 3: Phase 1 Project Map





## Phase 2 – US 95 to the Hoover Dam Interchange of the Hoover Dam Bypass

Phase 2 will be the portion of the project that extends from the intersection of the bypass with US 95, approximately 1 mile south of the existing US 93/US 95 Junction, to the eastern limits of the overall project (Figure 3).

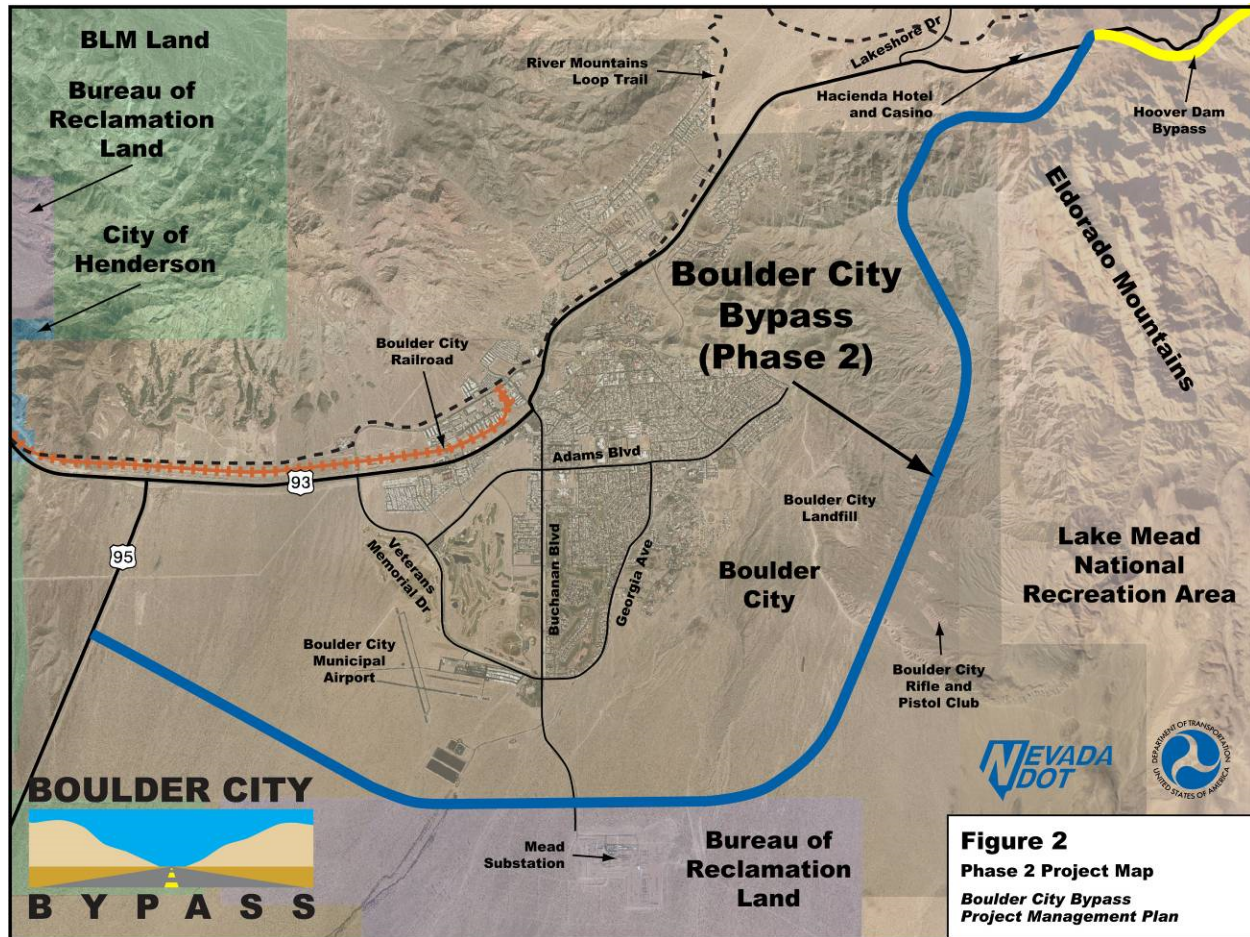


Figure 4: Phase 2 Project Map

Phase 2 will wrap around the south and east sides of Boulder City. As the alignment moves north towards Lake Mead it will crest the Eldorado Mountains and then descend down through the Lake Mead National Recreation Area to the Hoover Dam Interchange. The east end of Phase 2 will tie into the Hoover Dam Interchange which was constructed as part of the FHWA Hoover Dam Bypass Project. The overall Phase 2 project length is approximately 12 miles.

## 5.0 Procurement and Contract Management

CH2MHill was hired to complete the NEPA process. The Record of Decision was received on December 8, 2005.

Consultant and Contractor procurement will be addressed in the project management plan of each phase. The following is high level approach for each phase of the project.



- Phase 1, Foothills Drive to US 95, will be mainly designed by NDOT internal resources. Design Workshop was hired to complete the landscape and aesthetics design, and Atkins and HDR were hired to provide structural design support. At this time, construction will be administered by NDOT.
- Phase 2, US 95 to the Hoover Dam Interchange of the Hoover Dam Bypass, was designed to a 35% level by NDOT internal resources, and assisted by Jacobs and CH2M HILL, to establish the right-of-way requirements for the project. Design Workshop was hired to complete the landscape and aesthetics design, VTN Nevada was hired to lead the drainage tasks, and AMEC conducted the geotechnical engineering activities.

A Level One tolling and financial feasibility study was performed for the project in fall of 2007. Several tolling/economical scenarios were analyzed; however, all fell well short of providing full financing for the project.

Tolling legislation was requested again in the 2011 legislative session and the formation of tolling authorities as well as the ability to collect tolls on public roads was approved. In addition, the Nevada legislature delegated the administration of Phase 2 to the Regional Transportation Commission of Southern Nevada (RTCSNV). Currently tolling will not be used as a funding mechanism for Phase 2.

## 6.0 Cost Budget and Schedule

Project costs for each phase are reported internally by the NDOT Project Manager in the Monthly Project Status Report.

Construction cost estimates for each phase are updated at major project transition points and/or when a formal cost estimate review is conducted.

The total cost estimate for all components of the Boulder City Bypass project ranges from \$415 million to \$440 million with a 70% chance it will not exceed \$434 million. The following is a breakdown of the costs for each phase:

### Phase 1 – Foothills Drive to US 95

The total cost for Phase 1 range from \$121 to \$133 million with a 70% chance it will not exceed \$129 million. Construction costs are inflated to midpoint of construction.

### Phase 2 – US 95 to the Hoover Dam Interchange of the Hoover Dam Bypass

The total cost for Phase 2 range from \$289 to \$313 million with a 70% chance it will not exceed \$307 million. Construction costs are inflated to midpoint of construction.

**Table 3: Total Project Cost by Cost Element**

Project Cost Element	Costs in Millions (\$'s)		
	Costs to Date	2013 Estimate	Cost to Complete
<b>Boulder City Bypass Phase 1</b>			
Preliminary Engineering	\$8.11	\$11.95	\$3.84
Right-of-Way	\$10.09	\$10.09	\$0.00
Construction	\$1.75	\$106.54	\$104.79