



# Alternatives Screening Report

**Provo Westside Connector  
Environmental Impact Statement**

**Federal Highway Administration  
*with*  
Utah Department of Transportation  
and Provo City**

FHWA Project No. FHWA-UT-EIS-09-01-D

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## ATTACHMENTS

Attachment 1: Initial Project Alternatives Public Meeting Handout, May 22, 2008

# 1.0 BACKGROUND

The purpose of the *Alternatives Screening Report* is to provide a detailed summary of alternatives development, the screening process, and screening results for the Provo Westside Connector (PWC) Environmental Impact Statement (EIS) project. The report includes the following information:

- How the PWC EIS team (EIS team) gathered and developed a comprehensive list of transportation alternatives including a No-Build Alternative that was advanced for detailed study in the *Draft Environmental Impact Statement (DEIS)*.
- How and why transportation alternatives were eliminated or advanced based on engineering analysis, cost estimates, and impact assessments.

The EIS team consists of staff from Provo City, the Utah Department of Transportation (UDOT), and the Federal Highway Administration (FHWA), as well as the consultants retained to assist with the preparation of the PWC EIS.

This *Alternatives Screening Report* reflects the recommendations of the EIS team regarding which alternatives should be analyzed in detail in the DEIS and which alternatives should be rejected because they do not meet the purpose and need of the Proposed Project or are unreasonable in some other way. This document was used in the preparation of the DEIS and will be used in the preparation of the Final EIS; no final decisions were made at the time this report was completed.

## 1.1 Proposed Action and Project Area

The Proposed Project, identified through regional and local transportation planning efforts, will entail constructing an east-west arterial street connecting the Interstate 15 (I-15) interchange at 1860 South Street (1860 South)/University Avenue to 3110 West Street near the Provo Municipal Airport (Provo Airport). The proposed action is included as an integral element of the Provo City General Plan (Provo City 2009), Provo City Transportation Master Plan (Provo City 2000b), Provo Municipal Airport Master Plan (Provo City 2000a), Utah County General Plan (Utah County 2007), and the Mountainland Association of Governments's *2007–2030 Regional Transportation Plan (RTP)* (MAG 2007).

The Project Area (Figure 1) is generally defined by Center Street in Provo to the north, Utah Lake to the south and west, and I-15 to the east. These Project Area boundaries were chosen to provide a sufficient area for the assessment of environmental impacts. The boundaries include logical termini (rational “endpoints”) for the Proposed Project and do not restrict consideration of alternatives that may meet the project needs.



**Figure 1. Project Area and Vicinity.**

The National Environmental Policy Act (NEPA) of 1969 requires Federal agencies to prepare an EIS prior to approving major Federal actions that may have significant environmental impacts. The purpose of an EIS study is to ensure that Federal agencies take into account the environmental consequences of their decisions. An EIS is required for the Proposed Project in the PWC Project Area because these improvements would require the approval of one or more Federal agencies.

The preparation of an EIS is governed by regulations issued by the Council on Environmental Quality (CEQ). According to CEQ regulations, an EIS must

[r]igorously explore and objectively evaluate all reasonable alternatives, and for alternatives which were eliminated from detailed study, briefly discuss the reasons for their having been eliminated.<sup>1</sup>

The CEQ regulations do not specifically define the concept of a “reasonable alternative.” However, in general, a reasonable alternative is one that meets the purpose and need of the project, is feasible to construct, does not have excessive impacts and costs, and does not depend on speculative or uncertain events or technologies.

In its guidance, the CEQ recognized that “[f]or some proposals there may be a very large or even an infinite number of possible reasonable alternatives.” In those situations, the CEQ guidance states that “only a reasonable number of examples, covering the full spectrum of alternatives, must be analyzed and compared in the EIS.” The CEQ guidance also notes that “[w]hat constitutes a reasonable range of alternatives depends on the nature of the proposal and the facts in each case.”<sup>2</sup>

Transportation decision-makers use a process commonly known as “screening” to identify reasonable alternatives that will be studied in a DEIS. Screening criteria are applied to all alternatives and used to eliminate those that do not meet the project needs, are not reasonable, or have an unacceptable impact to the natural or built environment.

## 1.2 Purpose and Need Summary

The purpose and need statement is a required component of an EIS study (40 CFR 1502.13). For transportation projects, the discussion of the project purpose and need should clearly describe the problems that the Proposed Project will correct (FHWA 1987). This discussion is not limited to but may include discussion of: the status of a planned project as a component of regional transportation planning, system linkage (how the project fits in the transportation system), traffic capacity needs, transportation demand, any legislation (Federal, state, or local) mandating the proposed action, social

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<sup>1</sup> 40 C.F.R. 1502.14(a).

<sup>2</sup> Council on Environmental Quality, *Answers to 40 Most Asked Questions on NEPA Regulations*, 46 Fed. Reg. 18026, 18027 (March 23, 1981).

demands, economic development planning, modal interrelationships, safety, and roadway deficiencies (FHWA 1987; also see 23 U.S.C §139(f)(3)).

The EIS team identified the primary needs of the Proposed Project by (1) comparing present and future levels of transportation service in the Project Area and by (2) reviewing the goals and objectives of the RTP and other plans that pertain to the Project Area. Table 1 summarizes the three primary project needs identified through this process. Supporting documentation for each of these needs is described in detail in Chapter 1 of the DEIS.

**Table 1. Summary of the Primary Project Needs.**

<b>PRIMARY PROJECT NEEDS</b>	
1.	Supporting planned residential development and land use changes in southwest Provo by improving roadway system linkage in the area;
2.	Supporting planned improvements in service at Provo Airport and related commercial and industrial development in the vicinity of the airport by providing a more direct roadway link between Provo Airport and the vicinity of the I-15 interchange at 1860 South/University Avenue; and
3.	Supporting the continued economic viability of the commercial center of Provo by providing a more direct roadway connection between the residential areas west of I-15 and the commercial center of Provo east of I-15, including the Provo Towne Centre Mall.

As described in the Provo City General Plan (Provo City 2009), the Project Area constitutes the majority of the undeveloped land within Provo limits and will be a focal point of residential development between now and 2030. Recent and planned improvements to the Provo Airport are now beginning to create a demand for improved roadway transportation infrastructure in southwest Provo. Through its planning efforts, Provo City recognizes that major business and retail areas east of I-15 lack connectivity to the developing residential and industrial/commercial areas west of I-15. Improving this connectivity is an essential component of Provo City’s overall economic development strategy.

### **1.3 Introduction to Screening**

“Screening” is the process whereby alternatives are narrowed down to the range of reasonable alternatives that will be studied in detail in the final EIS. The NEPA requires that an EIS “rigorously explore and objectively evaluate all reasonable alternatives to the proposed action,” and that it devote “substantial treatment to each alternative considered in detail,” (40 C.F.R. § 1502.14). For the alternatives “which were eliminated from

detailed study,” the EIS must “briefly discuss the reasons for their having been eliminated.”

Section 1.0 of this report provides a description of the Proposed Project, the Project Area, and the primary needs of the Proposed Project. Section 2.0 describes the process through which a broad range of potential alternatives was identified. Section 3.0 summarizes the alternatives that were identified, including complete project alternatives as well as suggested design considerations. Section 4.0, the heart of the screening report, provides a detailed discussion of the screening process through which the alternatives that were advanced for detailed analysis in the DEIS were selected.

## **2.0 ALTERNATIVES DEVELOPMENT PROCESS**

The EIS team used a variety of strategies to identify and develop alternatives for consideration in the screening process. The methods employed for alternatives development are covered in the main EIS and summarized below.

### **2.1 Alternatives Identified During Scoping**

The process of identifying issues to be evaluated in an EIS is commonly referred to as “scoping.” The scoping process is an appropriate time to identify potential alternatives for meeting the needs of the Proposed Project.

Federal legislation in 2005 also requires the FHWA to give other agencies and the public an “opportunity for involvement” in defining the purpose and need for a project and in developing the range of alternatives to be considered. This legislation is known as the Safe, Accountable, Flexible, Efficient Transportation Equity Act: a Legacy for Users, or SAFETEA-LU (Public Law 109-59).

In accordance with SAFETEA-LU, the EIS team made extensive efforts to involve agencies, the public, and stakeholder groups early in the scoping process to help identify potential issues, project needs, and alternatives. These efforts included agency meetings and consultations, public meetings, and a series of stakeholder workshops. Key details of these activities are summarized in Table 2 below and are discussed in detail in the following subsections.

An initial screening process was completed by the EIS team between May 2008 and May 2009. This screening process is described in Section 4.0. Following receipt of comments from Federal cooperating agencies, the EIS team decided to take a step back to clarify the project purpose and need and to complete a revised screening process. The revised screening process and coordination activities took place between June 2009 and February

2010 and culminated in the development of this Alternative Screening Report. The revised screening process is described in Section 5.0.

**Table 2. Consultation and Coordination Activities for Determining Project Needs and Identifying Alternatives.**

<b>Date</b>	<b>Activity</b>	<b>Participation</b>
10/17/2007	Stakeholder forum – project purpose and need and alternatives development process	Stakeholder group representatives
2/27/2008	EIS team – alternatives brainstorming meeting	Lead agencies, EIS team
4/3/2008	Agency on-site visit – discussion of project needs	Lead and cooperating agencies, Provo City, EIS team
4/8/2008	Joint agency/stakeholder alternatives workshop	Agencies and stakeholder representatives
5/7/2008	Public newsletter mailed – announcing public open house and comment opportunity regarding alternatives initially screened for project purpose and need	Sent to 388 Project Area households, 17 agency representatives, and 83 stakeholders <sup>a</sup>
5/20/2008	Provo Municipal Council – initial alternatives presentation and discussion	Provo City, lead agencies, and EIS team
5/22/2008	Public open house – project needs and initial project alternatives	Agencies, stakeholders, and the public (attendance: 93, comments received at or following the open house: 57)
7/8/2008	Agency on-site visit – discuss project needs and alternatives	Lead and cooperating agencies, Provo City, EIS team
11/19/2008	Stakeholder forum – review of initial alternatives screening process	Stakeholder group representatives
12/9/2008	Provo Municipal Council – presentation of initial alternatives screening process	Provo City, lead agencies, and EIS team
12/14/2008	Public newsletter mailed – identifying initial alternatives selected for detailed analysis	Sent to 505 Project Area households, 17 agency representatives, and 148 stakeholders <sup>a</sup>
12/19/2008	UDOT sent letters to state and local participating agencies – requesting comments on alternatives selected for detailed analysis	Letters sent to state participating agencies (10 agencies); 1 agency provided comments
1/5/2009	FHWA sent letters to Federal cooperating and participating agencies – requesting comments on alternatives selected for detailed analysis	Letters sent to 7 Federal cooperating and participating agencies; 3 reply comments were received from agencies
1/6/2009	Provo Municipal Council –alternatives presentation and discussion with the mayor and city council	Provo City, lead agencies, and EIS team
5/7/2009	Preliminary review draft document sent to cooperating agencies	Cooperating agencies sent comments on the draft to FHWA
10/15/2009	EIS Team meeting to develop revised alternatives screening process	EIS Team

<sup>a</sup> The “stakeholders” mailing list included participants in the stakeholder forum as well as persons who requested to receive project updates.

### 2.1.1 Alternatives Considered in Previous Plans

At the beginning of the project, the EIS Team thoroughly analyzed the most recent and related transportation plans performed by the Mountainland Association of Governments (MAG), Utah County, and Provo City in order to determine how to utilize the information contained in each study, including recommended and eliminated corridors and alternatives, to enhance and facilitate the EIS process. Table 3 lists the plans and the recommendations of each.

**Table 3. Recent and Related Transportation Plans Identifying the Proposed Project.**

PLAN DETAIL	ROADWAY RECOMMENDATIONS FROM PLANNING
1. MAG Regional Transportation Plan (2007)	PWC listed as Recommended Improvement Number 67, Provo Airport Road
2. Utah County General Plan (2007)	PWC listed as a proposed mobility route called the "Provo Bay Parkway"
3. Provo City General Plan (2008)	PWC included in the Major and Local Street Plan as a proposed arterial road
4. Provo Municipal Airport Master Plan (2000)	States that an arterial road from the I-15 interchange at 1860 South/University Avenue to 3110 West is needed to accommodate planned airport growth and ease of access in southwest Provo.
5. Provo City Master Transportation Plan (2000)	PWC is listed as the number one ranked airport related transportation improvement project

### 2.1.2 Environmental Impact Statement Team Meetings

Members of the EIS team met monthly, beginning in March 2007 through completion of the DEIS. Members of the EIS team (the joint lead agencies and consultants) discussed Proposed Project alternatives as part of their monthly progress meeting on February 27, 2008. This discussion occurred at a time when the draft "purpose and need" statement was nearing completion. With these project needs in mind, the EIS team brainstormed the broadest range of alternatives possible to satisfy these needs. Ideas from this meeting were added to a list of potential Proposed Project alternatives to be evaluated more closely.

### 2.1.3 Stakeholder Meetings

In an effort to include the public as the Proposed Project progressed, a stakeholder forum group was identified to provide feedback and ideas. The stakeholders represented a variety of interests and included residents, business owners, farmers, elected officials, Provo City staff, and others. This group gathered on numerous occasions to provide

feedback on the Proposed Project in general, project purpose and need, and alternatives to be considered. This group was part of the joint stakeholder and agency alternatives workshop (April 2008) where attendees brainstormed about ideas and options for the Project Area. Ideas from the stakeholder meetings and the joint alternatives workshop were added to a list of potential alternatives.

#### **2.1.4 Public Meetings**

A public scoping meeting was held in June 2007 and a public alternatives development meeting was held in May 2008. The public was invited to these meetings and encouraged to share information, ideas, and concerns regarding the Project Area. The public was permitted to participate actively in the development of project needs and project alternatives, and given opportunities to sketch out ideas and options on Project Area maps. Those who attended the public meetings were invited to provide both verbal and written comments regarding the new alternatives. There were also opportunities to submit feedback on other alternative ideas. The ideas, feedback, and other information from these meetings were taken into account and used to create and modify alternatives. Ideas on specific alternatives were added to the list of potential alternatives.

#### **2.1.5 Agency Consultation**

In addition to direct consultation with various agency personnel, interagency meetings were held to give agencies opportunities to learn more and provide direct feedback on project issues. These meetings included a joint stakeholder and agency alternatives workshop in April 2008 where attendees brainstormed ideas and options for the Project Area. Ideas from agency meetings and the joint alternatives workshop were added to a list of potential alternatives.

A preliminary review draft document was sent to all cooperating agencies in May 2009. This draft included detailed analysis of alternatives selected in the initial screening process. Comments received from the Environmental Protection Agency (Svoboda 2009) requested that the alternatives screening be revised to better address wetland impact and avoidance. Following receipt of these comments, the EIS team took a step back in the alternatives development and screening process. These efforts included clarification of the purpose and need statement (see Table 4) and development of new screening criteria (see Section 4.2). The revised screening process resulted in the alternatives carried forward for detailed analysis in this DEIS, as described in Section 5.0.

**Table 4. Initial and Clarified Project Purpose Statements.**

<b>INITIAL STATEMENT OF THE PURPOSE OF THE PROPOSED PROJECT (APRIL 2009):</b>
The purpose of this Proposed Project is to: (a) support the goals of Federal, State, regional, and local transportation planning efforts and (b) provide an alternate east-west transportation facility that supports planned land uses and improves access and connectivity to the Provo Airport.
<b>CLARIFIED PROJECT PURPOSE STATEMENT (FEBRUARY 2010):</b>
The purpose of the Proposed Project action is to improve system linkage in southwest Provo, generally between the I-15 interchange at 1860 South/University Avenue and Provo Airport, in accordance with the broad goals and objectives of State, regional, and local transportation plans.

### **2.1.6 Newsletters and Websites**

A project newsletter was developed for distribution to households in the Project Area. The newsletter was mailed prior to public meetings and after major project milestones. The newsletter was also sent to stakeholders, agencies, and persons who requested to be added to the project mailing list.

A project website, [www.provowestsideconnector.com](http://www.provowestsideconnector.com), was developed to provide information and obtain feedback regarding the Proposed Project. The website enabled the public to learn more, provide additional information, and submit comments regarding any aspect of the Proposed Project, including alternatives. Ideas submitted through the website were added to the list of potential alternatives.

## **2.2 Project Termini**

This section of Chapter 2 describes the rationale for the project endpoints and explains why these endpoints are consistent with the requirements in FHWA's environmental review regulations at 23 C.F.R. § 771.111(f).

Section 111(f) lists three criteria for determining the scope of a project analyzed in an EIS. The project must: (1) have logical termini and allow for environmental matters to be considered on a broad scope, (2) have independent utility (i.e., be useable and a reasonable expenditure even if no additional transportation improvements are made); and (3) not restrict consideration of alternatives for reasonably foreseeable transportation improvements. Collectively, these three requirements are often referred to as the "logical termini" requirements.

In accordance with these requirements, the lead agencies have identified the following termini for the proposed transportation improvements:

- **Eastern Terminus:** The I-15 interchange at 1860 South/University Avenue was selected as eastern terminus because:
  - The current western terminus of 1860 South is immediately adjacent to the major business and economic center of Provo, representing significant traffic generation. 1860 South is an arterial street in Provo that provides east-west connectivity between major traffic generators on the east side of I-15 to the south of Provo’s central business district. Commercial and governmental facilities accessed from 1860 South include a planned Target Superstore; Novell, Inc.; the U.S. Bureau of Reclamation, and Provo City’s Public Works Facilities.
  - The interchange is also the southern terminus of University Avenue, a major north-south arterial roadway that connects Provo’s central business district with major commercial developments in southwest Provo (also known as the East Bay area). Major traffic generators include: the Provo Towne Center Mall, Home Depot, hotels, and other mall-related commercial businesses such as restaurants and gas stations.
  - The interchange provides existing infrastructure that is capable of accommodating increased traffic capacity and connectivity (i.e., without requiring additional transportation system improvements). Collectively, this vicinity is the hub of many travel patterns in the area.
- **Western Terminus:** 3110 West near the Provo Airport entrance (Mike Jense Parkway) was selected as the western terminus because:
  - The airport and airport-related businesses are generators of through traffic for the Project Area.
  - Plans for expanded airport service and airport-related businesses would increase traffic generation.
  - There is a lack of traffic infrastructure and traffic demand beyond the airport to the west.

These project endpoints are consistent with the requirements in Section 771.111(f) of FHWA’s environmental review regulations because:

- The endpoints provide “logical termini” for the development of alternatives. The termini are logical because, as described above, each end of the Proposed Project would serve significant traffic generators and would connect to existing transportation routes that can accommodate the traffic associated with the

Proposed Project. In addition, the endpoints allow for consideration of environmental matters on a broad scope. The Project Area, as described above, encompasses a broad geographic area that extends as far south as Utah Lake and as far north as Center Street.

- The Proposed Project has independent utility—that is, it would serve a useful transportation purpose on its own. The Proposed Project would serve a useful purpose by providing a more direct link from I-15 to the Provo Airport. To the extent that improvements to existing transportation facilities are needed to accommodate traffic on the new facility, those improvements have been included as part of the Proposed Project.
- The Proposed Project would not limit the consideration of alternatives for reasonably foreseeable future transportation improvements. Specifically, the Proposed Project does not necessitate improvements to other facilities (beyond those improvements that have been included in the Proposed Project), nor does the Proposed Project eliminate or change the viability of alternatives for other projects that have been proposed or are being considered in the Project Study Area.

## **3.0 POTENTIAL ALTERNATIVES IDENTIFIED**

The EIS team sought to identify a broad range of alternatives in the early stages of the EIS process. Following the official scoping period and receipt of comments, all suggested ideas were assembled in a “master list” of potential project alternatives. In addition to all of the suggested alternatives, FHWA (1987) guidance requires that EIS documents discuss the No Build Alternative, a Transportation System Management/ Transportation Demand Management Alternative, and a Mass Transit Alternative as potential alternatives for any transportation project; these potential alternatives were also evaluated.

### **3.1 No-Build Alternative**

Consideration of a No-Build Alternative is required in regulations for implementing NEPA (40 CFR 1502.14). This alternative considers the consequences of taking “no action” with respect to the purpose and need of the Proposed Project. It also provides the baseline condition for comparing expected environmental outcomes of the potential build alternatives. Under the No-Build Alternative, the planned arterial east-west roadway would not be constructed in the Project Area but projects in the RTP would be constructed as planned.

Planned roadway improvement projects near the Project Area that are currently being designed include improvement of Geneva Road north of the Project Area and improvement of I-15 along the east margin of the Project Area. The I-15 project includes reconstruction of the Center Street interchange and a new underpass at 500 West Street.

Following the Provo City Transportation Master Plan (Provo City 2000b), existing residential collector roads would likely be extended and possibly widened within the Project Area as development occurs, even if the Proposed Project was not constructed. These roadways would be extended as residential development continues to expand westward and southward from existing residential areas. Planned airport-related commercial developments and expansion of Provo Airport services are also anticipated to occur as planned (Provo City 2000a) under the No-Build Alternative. However, West Center Street/3110 West Street would remain as the only access route to the Provo Airport and existing and future commercial developments in the Airport Protection Area.

These other planned roadway improvements would have some benefits for planned growth in the Project Area but would not address the need for the proposed arterial roadway in southwest Provo as identified in the MAG 2007, Utah County General Plan (2007), Provo City General Plan (2008), Provo Municipal Airport Master Plan (Provo City 2000a), and Provo City Transportation Master Plan (Provo City 2000b).

Even though it does not meet the purpose and need, the No Build Alternative is being carried forward for detailed study in the DEIS, in accordance with CEQ regulations. Potential impacts of failing to meet these needs will be evaluated in the DEIS along with other identified impacts of the No-Build Alternative.

### **3.2 Proposed Design Considerations**

Some of the suggestions provided by agencies and the public were design considerations rather than complete alternatives. The EIS team reviewed suggested design considerations and determined whether each suggestion would be possible to include with any of the project alternatives. This determination is summarized in Table 5.

### **3.3 Potential Alternatives for the Proposed Action**

After compiling the master list of project suggestions, the EIS team determined that there were 22 suggestions for potential project alternatives, including the No-Build Alternative. These alternatives are described in Table 6.

**Table 5. Proposed Design Considerations.**

SUGGESTIONS	HOW WAS THIS ADDRESSED?
<b>Possible Secondary Project Objectives</b>	
Support multimodal transportation options	This has been included as a secondary project need
Improve emergency evacuation, including improved access to I-15	This has been included as a secondary project need
Provide new trails and connections to existing trails	This has been included as a secondary project need
Provide recreation access to Utah Lake, possibly including scenic pullouts	This has been included as a secondary project need
Create wildlife habitat/wetland sanctuary protected from higher water levels of Utah Lake	This is a land use consideration that is beyond the scope of this project
Prevent new development south of a new road	This is a land use consideration beyond the scope of this project
Incorporate SmartGrowth principles for the Project Area	This is already considered as a larger part of Provo City's General Plan and is beyond the scope of this project
Plan commercial services on the west side of I-15	This is beyond the scope of the project; the land use impact assessment will consider how land uses would change as a result of project alternatives
Revise the Provo City General Plan regarding land use	This is beyond the scope of the project; the land use impact assessment will consider how land uses would change as a result of project alternatives
Relocate the Provo Airport	This is beyond the scope of the project
Eliminate/don't allow new development (general)	This is beyond the scope of the project
<b>Alternative Alignment Suggestions</b>	
Develop roadway as far north as possible to avoid wetlands impacts	This suggestion was considered in developing potential alignments. Wetland impacts are also included as a part of Level 2 screening and will be evaluated in detail in the DEIS for alternatives that are advanced.
Develop roadway as far south as possible to avoid farm land and facilitate recreation access	This suggestion was considered in developing potential alignments. Impacts to farm lands and recreation resources will be addressed in the DEIS.
Follow the power line corridor from the I-15 interchange at 1860 South/University Avenue to approximately 2050 West and connect to 3110 West south of the Provo Airport	This suggestion was considered in developing potential alignments
Build a roadway from the I-15 interchange at 1860 South/University Avenue that connects to 1150 South and then proceeds directly west to the Provo Airport	This suggestion was considered in developing potential alignments

**Table 5. Proposed Design Considerations (Continued)**

<b>Potential Project Design Elements</b>	
Build a new road on elevated structure over wetlands instead of building on fill	Construction of a roadway on structure is significantly more costly than construction on fill. Due to cost, this design element was not included in any of the project alternatives. However, this suggestion could be further evaluated in consultation with the U.S. Army Corps of Engineers as part of the Section 404 permitting process.
Redevelop the I-15/Center Street interchange	This is part of another project (I-15 Corridor Project)
Build tunnels at Geneva Road/Center Street	This is not part of the purpose for this project
Improve Center Street with curb and gutter	This is a road improvement that is not part of the purpose of this project
Add an I-15 frontage road	This is not planned for the Project Area and is not a purpose of this project

**Table 6. Proposed Alternatives.**

<b>SUGGESTED ACTION/ALTERNATIVE:</b>
1. Expand bus service within the Project Area with connections to the Provo Airport and Utah Lake State Park
2. Develop a light-rail corridor to the Provo Airport
3. Develop a ferry service to the Provo Airport
4. Develop "hovercraft" as a mode of transportation
5. Implement transportation system management and transportation demand management (TSM/TDM) methods to increase the person-capacity of the transportation system without adding pavement or travel lanes
6. Develop more mass transit options to address the transportation deficiencies
7. Improve West Center Street from Geneva Road to 3110 West
8. Develop an elevated expressway over existing Center Street
9. Develop a center-lane expressway at Center Street (similar to State Route 92)
10. Extend east-west collector roads to 3110 West (600 South, 920 South/1150 South, 1560 South)
11. Improve east-west collector roads as higher-capacity roads (600 South, 920 South/1150 South, 1560 South)
12. Improve and extend one or more east-west residential collector roads (600 South and 920/1150 South) as (a) higher capacity road(s)
13. Extend north-south collector roads (2050 West, 1600 West, 1100 West, 500 West)
14. Improve north-south collector roads as higher-capacity roads (2050 West, 1600 West, 1100 West, 500 West)
15. Build a road on a new alignment from the I-15 interchange at 1860 South/University Avenue to 3110 West
16. Develop a new I-15 underpass or overpass and extend an east-west arterial road from this location
17. Develop a shorter connector – for example, 1600 West to the I-15 interchange at 1860 South/University Avenue
18. Combine a new alignment with existing roads – for example, by connecting the I-15 interchange at 1860 South/University Avenue to the corner of 1560 South and 1600 West, follow existing 1600 West to 600 South, continue on 600 South to 3110 West
19. Build a north-south causeway through Provo Bay
20. Build a east-west causeway to the Provo Airport through Provo Bay from the I-15 interchange at 1860 South/University Avenue to 3110 West
21. Build a new road that connects the I-15 interchange at State Road 75 (Springville) to 3110 West in Provo
22. No-Build Alternative

## 4.0 INITIAL ALTERNATIVES SCREENING PROCESS

The EIS team initially conducted a screening process from mid-2008 through mid-2009. As described below, cooperating agencies requested that the EIS team take another look at possible alternatives to determine if there were any that could meet the needs of the project and avoid more wetlands. This led the EIS team to reassess its approach to screening and then conduct a new screening process based on a clarified purpose and need and a revised set of screening criteria. This section describes the initial screening process and Section 5.0 describes the revised screening process. Through the revised screening process, the EIS team made a decision regarding which alternatives were carried forward for detailed analysis in the DEIS.

The initial screening of alternatives began in May 2008 following input from agencies and the public regarding potential project alternatives (see Section 2.1). In the initial screening, it was determined that potential alternatives that did not meet the purpose and need of the Proposed Project would be eliminated from further consideration. Out of the 22 suggested alternatives, 6 were identified as potentially meeting the Proposed Project's purpose and need. These alternatives were given color-coded names: purple, red, turquoise, orange, blue, and green (in Table 6, these alternatives are numbers 8, 12, 15, 16, 18, and 20 respectively). This initial screening was summarized and presented in a handout prepared for an open house public meeting held on May 22, 2008 (the handout [see Attachment 1] includes a map of the color-coded alternatives).

In addition to the open house meeting, public and agency comments and ideas regarding the six potential alternatives were solicited by a variety of other means, including a press release; comment form available on the project website; presentation to the Provo Municipal Council; and newsletter mailed to Project Area residents, stakeholders, and agency representatives.

Following receipt of comments regarding the alternatives, the EIS team assembled additional information to further screen the six color-coded alternatives based on engineering feasibility and design practicality. These criteria included: overall constructed length, length of bridge structures and retaining walls needed, residential and commercial relocations, and area of commercial property acquisition necessary. This screening process identified only one of the six potential project corridors as feasible and practical: the turquoise alternative. Three potential roadway alignments were then developed within the turquoise alternative corridor as alternatives to be evaluated in the DEIS. An administrative draft document evaluating these alternatives was then prepared and submitted to cooperating agencies for preliminary review in May 2009.

Comments on the preliminary review draft received from cooperating agencies requested that the EIS team take another look at dismissed alternatives and the screening process to ensure that the requirements of both the NEPA and Clean Water Act Section 404 were

being met (Svoboda 2009). These concerns were focused on the vicinity of the I-15 interchange because all of the alignments advanced in the initial screening relied on the same connection to the interchange and the majority of wetland impacts would occur in that vicinity.

As a direct result of these suggestions, the EIS team spent considerable time and energy reviewing previously dismissed options and the process used to dismiss them. This review process resulted in several previously dismissed alternatives being taken to a higher level of design in an effort to determine whether any of them could meet the needs of the Proposed Project. It also resulted in clarification to the project purpose statement (see Section 2.1.5) and the screening criteria. The changes associated with the alternative screening process are described in detail in Section 5.0.

## **5.0 REVISED ALTERNATIVES SCREENING PROCESS**

After considering agency comments on the initial screening process described in Section 3.0, the EIS team developed a revised approach to screening. As in the initial screening process, the revised approach involved a two-level screening process, but the criteria considered at each level were revised to (1) focus more closely on factors relevant to determining the reasonableness of alternatives under NEPA and (2) avoid potential confusion with terminology used in evaluating alternatives under the Section 404(b)(1) Guidelines.

Level 1 screening involved evaluating alternatives for their ability to meet primary project needs. The criteria used to make this determination are described in Section 5.1. The purpose and need statement also identifies secondary needs, but those needs were not used to screen alternatives.

Alternatives that could potentially meet the project needs were then advanced for Level 2 screening. The Level 2 screening step involved developing specific alignments for the corridors that were advanced in Level 1, as well as developing more specific traffic analysis, impact estimates, and cost estimates. Based on this analysis, the Level 2 screening step identified the “reasonable alternatives” to be carried forward for detailed study (along with the No Build Alternative) in the DEIS. The criteria used for Level 2 screening are described in Section 5.2.1.

While the revised screening process focuses on identifying reasonable alternatives for purposes of analysis in a NEPA document, the EIS team was aware that any of the build alternatives would likely require an individual permit under Section 404 of the Clean Water Act. Therefore, this report also considers the requirements of the Section 404(b)(1) Guidelines, including an assessment of the “practicability” of alternatives. The Section 404(b)(1) consistency analysis was performed at the end of Level 2 screening and

is described in Section 5.3. This analysis has been included in this DEIS for informational purposes. The Section 404 permit decisions will be made by the U.S. Army Corps of Engineers (COE) after a Section 404 permit is filed. The COE will make an independent determination about whether to accept the information and analyses contained in this report and the DEIS.

## 5.1 Level 1 Screening

The purpose of Level 1 screening was to (1) determine which of the suggested alternatives had the potential to meet the primary needs of the Proposed Project and therefore warranted further development and (2) determine which alternatives should be eliminated because they clearly would not meet the primary needs. Alternatives that did not meet the purposes and needs of the project were not considered reasonable under NEPA and were not considered practicable under the Section 404 Guidelines.

Based on the purpose and need of the Proposed Project, established in Chapter 1 of this DEIS, the EIS team screened all of 22 initially suggested project concepts for their ability to meet three criteria:

1. Location of Termini: Would the alternative serve southwest Provo and include a connection to the Provo Airport and the I-15 interchange at 1860 South/University Avenue (either directly via a new connection to the interchange or indirectly via a connection to one of the other arterial roadways at a point near the interchange)?
2. Facility Type: Would the alternative provide an east-west arterial street consistent in functional characteristics with other arterial streets in Provo?
3. Design Requirements: Would the alternative meet applicable design standards for an arterial street and accommodate projected traffic volumes at an acceptable Level of Service (LOS) for a facility of its type?

Table 7 summarizes the Level 1 screening outcomes using these criteria. A total of four project concepts (including the No-Build Alternative) were advanced to the next level of screening. The No-Build Alternative did not meet these criteria, but was advanced in accordance with CEQ regulations.

**Table 7. Suggested Alternatives and Level 1 Screening Outcomes.**

SUGGESTED ACTION/ALTERNATIVE:	LEVEL 1 SCREENING:	MEET ALL THREE CRITERIA FOR PURPOSE AND NEED?
1. Expand bus service within the Project Area with connections to the Provo Airport and Utah Lake State Park	<b>Does not meet criterion 1 (location of termini) or criterion 2 (facility type).</b> As a project alternative, this action would not provide roadway connections to the Provo Airport or I-15 interchange at 1860 South/University Avenue and would not provide an east-west arterial street in the Project Area. However, supporting public transportation routes in southwest Provo is included as a secondary project need that may be addressed as a secondary benefit of the Proposed Project.	No
2. Develop a light-rail corridor to the Provo Airport	<b>Does not meet criterion 1 (location of termini) or criterion 2 (facility type).</b> For the Proposed Project, this action would not provide roadway connections to the Provo Airport or I-15 interchange at 1860 South/University Avenue and would not provide an east-west arterial street in the Project Area. As a part of regional mobility, the RTP has evaluated the need for a light rail in Utah County and the Orem-Provo Bus Rapid Transit EA is underway.	No
3. Develop a ferry service to the Provo Airport	<b>Does not meet criterion 1 (location of termini) or criterion 2 (facility type).</b> For the Proposed Project, this action would not provide roadway connections to the Provo Airport or I-15 interchange at 1860 South/University Avenue and would not provide an east-west arterial street in the Project Area. The RTP has evaluated multimodal transportation options for Utah County; ferry service was not included as an option.	No
4. Develop "hovercraft" as a mode of transportation	<b>Does not meet criterion 1 (location of termini) or criterion 2 (facility type).</b> For the Proposed Project, this action would not provide roadway connections to the Provo Airport or I-15 interchange at 1860 South/University Avenue and would not provide an east-west arterial street in the Project Area. The RTP has evaluated multimodal transportation options for Utah County; hovercraft was not included in these options.	No
5. Implement transportation system management/transportation demand management (TSM/TDM) methods to increase the person-capacity of the transportation system without adding pavement or travel lanes	<b>Does not meet criterion 1 (location of termini) or criterion 2 (facility type).</b> While they are part of the RTP and Provo City's Master Transportation Plan, TSM/TDM strategies do not meet the purpose of the Proposed Project as they would not provide the necessary system linkage and roadway connections. Therefore, TSM/TDM alternatives were not advanced for Level 2 screening.	No
6. Develop more mass transit options to address the transportation deficiencies	<b>Does not meet criterion 1 (location of termini) or criterion 2 (facility type).</b> Mass transit options are being expanded for Utah County as part of the RTP. The Utah Transit Authority commuter rail, Front Runner, is under construction. The RTP also identified multiple mass transit projects in Utah County. The Orem-Provo Bus Rapid Transit EA is underway. However, mass transit needs and projects were not identified in the RTP for the Project Area. As such, mass transit would not address the purpose of the Proposed Project and was not advanced for Level 2 screening.	No
7. Improve West Center Street from Geneva Road to 3110 West	<b>Does not meet criterion 1 (location of termini).</b> As a project alternative, this action would not provide roadway connections to the Provo Airport or I-15 interchange at 1860 South/University Avenue. Some improvement of Center Street west of Geneva Road may be done in the future as part of the Provo City Transportation Master Plan. However, because of the number of residential accesses along this segment, it is also inconsistent with the functional classification of an arterial street (criterion 2).	No
8. Develop an elevated expressway over existing Center Street	<b>Does not meet criterion 1 (location of termini) or criterion 2 (facility type).</b> This was suggested as a way to minimize potential impacts to historic properties on Center Street while creating new roadway capacity and an east-west arterial facility. This alternative would not meet the need for a connection to the I-15 interchange at 1860 South/University Avenue. An expressway facility would also not provide connectivity to lower functional classification streets between the project termini.	No
9. Develop a center-lane expressway at Center Street (similar to State Route 92)	<b>Does not meet criterion 1 (location of termini) or criterion 2 (facility type).</b> This alternative would not meet the need for a connection to the I-15 interchange at 1860 South/University Avenue. An expressway facility would also not provide connectivity to lower functional classification streets between the project termini.	No
10. Extend east-west collector roads to 3110 West (600 South, 920 South/1150 South, 1560 South)	<b>Does not meet criterion 1 (location of termini) or criterion 2 (facility type).</b> Extension of these roads as residential collector roads is included in the Provo City General Plan. This would not meet the need for a connection to the I-15 interchange at 1860 South/University Avenue and would not provide the functional characteristics of an arterial street.	No
11. Improve east-west collector roads as higher-capacity roads (600 South, 920 South/1150 South, 1560 South)	<b>Does not meet criterion 1 (location of termini).</b> Improving these existing roads would not meet the need for a connection to the Provo Airport and I-15 interchange at 1860 South/University Avenue.	No
12. Improve and extend one or more east-west residential collector roads (600 South and 920/1150 South) as (a) higher capacity road(s).	<b>Does not meet criterion 1 (location of termini).</b> Improvement and extension of one or more of these roads as an arterial road from University Avenue to 3110 West could provide the functional characteristics of an arterial street (criterion 2) but would not provide an east-west connection to the I-15 interchange at 1860 South/University Avenue.	No
13. Extend north-south collector roads (2050 West, 1600 West, 1100 West, 500 West)	<b>Does not meet criterion 1 (location of termini) or criterion 2 (facility type).</b> Extension of these residential collector roads is included in the Provo City Master Transportation Plan but would not meet the need for a connection to the I-15 interchange at 1860 South/University Avenue and would not provide an east-west arterial street.	No
14. Improve north-south collector roads as higher-capacity roads (2050 West, 1600 West, 1100 West, 500 West)	<b>Does not meet criterion 1 (location of termini).</b> Improving these existing roads would not provide an east-west arterial street with connections to the Provo Airport and I-15 interchange at 1860 South/University Avenue.	No
15. Build a road on a new alignment from the I-15 interchange at 1860 South/University Avenue to 3110 West	<b>This idea does meet criterion 1 (location of termini). It could meet criterion 2 (facility type) and criterion 3 (design requirements), depending on its design.</b> This alternative is the most consistent with conceptual alignments in regional and local transportation planning documents (RTP, Utah County General Plan, and Provo City General Plan). It would include connections to the Provo Airport and to the I-15 interchange at 1860 South/University Avenue. Additional design would be necessary to determine whether it would meet applicable design standards for an arterial road, provide the necessary connections for a roadway of this functional class, and accommodate projected traffic volumes at an acceptable LOS; therefore, it should be advanced for additional development and Level 2 screening. This alternative was named the "1860 South Alternative" because it would essentially function as an extension of 1860 South through the interchange.	Yes <b>This alternative was advanced as the "1860 South Alternative"</b>

**Table 7. Suggested Alternatives and Level 1 Screening Outcomes (Continued).**

SUGGESTED ACTION/ALTERNATIVE:	LEVEL 1 SCREENING:	MEET ALL THREE CRITERIA FOR PURPOSE AND NEED?
16. Develop a new I-15 underpass or overpass and extend an east-west arterial road from this location	<b>This idea could potentially meet criterion 1 (location of termini), criterion 2 (facility type), and criterion 3 (design requirements), depending on its design.</b> Depending on its location, this alternative could potentially meet all of the project needs. Because this could not be determined without developing specific alignment concepts, this suggestion should be advanced for additional design and Level 2 screening. This alternative was named the “I-15 Overpass/Underpass Alternative.”	Yes <b>This alternative was advanced as the “I-15 Overpass/Underpass Alternative”</b>
17. Develop a shorter connector – for example, 1600 West to the I-15 interchange at 1860 South/University Avenue	<b>Does not meet criterion 1 (location of termini).</b> This would not meet the identified project needs for connectivity to the Provo Airport and I-15 interchange at 1860 South/University Avenue.	No
18. Combine a new alignment with existing roads – for example, by connecting the I-15 interchange at 1860 South/University Avenue to the corner of 1560 South and 1600 West, follow existing 1600 West to 600 South, continue on 600 South to 3110 West	<b>Does not meet criterion 2 (facility type) and it would not meet criterion 3 (design requirements).</b> This was suggested as a way to reduce the amount of new roadway needed in currently undeveloped areas and reduce project cost. However, the portions of these existing roads do not satisfy arterial street design requirements. Some improvement of these streets as residential collector streets (rather than arterial) is already planned as part of the overall system linkage in southwest Provo. Without improvement to arterial standards, this alternative would not meet the purpose of the Proposed Project.	No
19. Build a north-south causeway through Provo Bay	<b>Does not meet criterion 1 (location of termini).</b> This roadway would serve different purposes than those identified for the Proposed Project. It would not serve the needs of southwest Provo for an east-west arterial street with connections to the Provo Airport and I-15 interchange at 1860 South/University Avenue.	No
20. Build a east-west causeway to the Provo Airport through Provo Bay from the I-15 interchange at 1860 South/University Avenue to 3110 West	<b>This idea would meet criterion 1 (location of termini). It could meet criterion 2 (facility type) and criterion 3 (design requirements), depending on its design.</b> This roadway would provide connectivity to the project termini. Because of the amount of structure required, this alternative would likely prove cost prohibitive; however, additional design would be necessary to estimate cost, determine whether it would meet applicable design standards for an arterial road and accommodate projected traffic volumes at an acceptable LOS. Therefore, it should be advanced for additional development and Level 2 screening. This alternative was named the “Lake Alignment Alternative.”	Yes <b>This alternative was advanced as the “Lake Alignment Alternative”</b>
21. Build a new road that connects the I-15 interchange at State Road 75 (Springville) to 3110 West	<b>Does not meet criterion 1 (location of termini).</b> This roadway would serve different purposes than those identified for the Proposed Project. It would not serve the needs of southwest Provo for an east-west arterial street with connections to the Provo Airport and I-15 interchange at 1860 South/University Avenue.	No
22. No-Build Alternative	This alternative is required by the NEPA and will disclose how the Project Area would be impacted by taking “no action” related to project needs.	No

## 5.2 Level 2 Screening

Through the Level 1 screening process, 3 out of 22 suggested alternatives were determined to have potential for meeting the purpose and need for the Proposed Project. The No-Build Alternative was also advanced. Thus, the four alternatives advanced from Level 1 screening were:

1. 1860 South Alternative: Build a new road on a new alignment from the I-15 interchange at 1860 South/University Avenue to 3110 West.
2. The I-15 Overpass/Underpass Alternative: Develop a new I-15 underpass or overpass and extend an east-west arterial road from this location.
3. Lake Alignment Alternative: Build an east-west causeway to the Provo Airport through Provo Bay from the I-15 interchange at 1860 South/University Avenue to 3110 West.
4. No-Build Alternative: This alternative was also advanced, providing a baseline future condition in which project needs are not met for comparison to the potential build alternatives.

For each Level 2 alternative, potential roadway alignment concepts were developed to more specifically and quantitatively assess how well each alternative could meet the needs of the project. In developing potential alignments within each of the three build alternative corridors, design considerations from Section 3.2 were also considered. This process required considerable effort and involved developing multiple iterations of draft roadway alignments.

The overall objective of this effort was to develop potential alternatives to a higher level of design so that the reasonableness of each alternative could be evaluated.

### 5.2.1 Level 2 Screening Criteria

The Level 2 screening step was completed to determine which of the alternatives advanced from Level 1 were “reasonable alternatives” from the standpoint of the NEPA. Screening for “reasonableness” included an assessment of:

1. ability to meet purpose and need;
2. estimated construction costs;
3. impacts on the natural environment including wetlands, floodplains, and habitat;
4. impacts on communities, including relocations; and
5. consistency with transportation and land use plans.

Wherever possible these criteria were evaluated quantitatively. Ability to meet purpose and need was based on the same three criteria used for the primary screening but with additional specification given the higher level of design/conceptualization available with Level 2 alignment designs for potential alternatives. These criteria were considered collectively in reaching an overall judgment about reasonableness. An alternative that was relatively weak in one area could be considered reasonable based on its strengths in other areas.

In an effort to develop each alternative to a level of design that would meet the project needs, an iterative process with the EIS team design consultants was performed to ensure that all alternatives could be designed to achieve a LOS D or better for the design year 2030. Analysis was performed consistently for each alternative for estimated traffic volumes in the year 2030 P.M. peak hour and for a consistent analysis area representative of the direct performance and traffic impacts of build alternatives.

#### 5.2.1.1 Traffic Analysis Performance Measures

After achieving an acceptable LOS, direct comparisons in the performance of all alternatives were developed. Since various alternatives employed different traffic controls to various selected traffic movements, a performance of the total delay, as well as the total vehicles served, was developed. Both delay and vehicles served should be considered together since the goal of the performance would be to serve the greatest number of vehicles with the least amount of delay. After total delay and vehicles served, other measures of traffic performance are reflected in (1) East/West Travel Time, where lower times reflect better traffic performance and (2) I-15 Access, where lower values indicate shorter travel times to and from I-15.

**Total Delay** measured the amount of delay resulting from each alternative. The measure is a summation of the delay experienced at each system area intersection. (The system area is defined as the area encompassing all intersections affected by any of the four alignments.) Delay is calculated by multiplying the average delay per vehicle at each intersection by the respective number of vehicles entering that intersection.

**Total Vehicles Served** reports how many vehicles enter the system area for each alternative. As some alignments may result in greater overall traffic volumes than others, this measure provides a means to compare the number of vehicles served by each alternative.

**East/West Travel Time** compares how well each alternative provides east/west connectivity across I-15 into or out of southwest Provo. The performance measure is a weighted travel time between the PWC/500 West intersection and the 1860 South/East Bay Boulevard intersection.

**I-15 Access** evaluates how well each alternative provides access to and from I-15. The performance measure is a weighted travel time between the PWC and northbound and southbound I-15 on- and off-ramps.

### 5.2.1.2 Construction Costs

Construction costs were estimated for each alternative including all road construction work, drainage facility installation, pavement, road structures (walls and bridges), signage, signalized intersections, lighting, utility relocations, curb and gutter, sidewalks, fencing, landscaping, access roads, property acquisition and relocations, and mitigations (historic buildings and wetlands).

### 5.2.1.3 Impacts on the Natural Environment

Impacts on the natural environment focused on acres of wetlands impacted because this information was available at the time of screening—based on a COE preliminary wetland jurisdictional determination (Gipson 2009). Wetland impacts and compliance with Section 404(b)(1) Guidelines were also the reason for completing the revised screening process. Iterations of each alternative were developed to reduce wetland impacts for each alternative. These efforts are described and illustrated in the screening process discussed below for each alternative.

### 5.2.1.4 Impacts on Communities

Impacts on communities focused on residential relocations and commercial property acquisition. These impacts were quantifiable for each alternative and efforts were made in the development of each alternative to minimize the impacts, as discussed below.

### 5.2.1.5 Consistency with Transportation and Land Use Plans

Finally, the EIS team considered whether each alternative would be consistent with transportation and land use planning objectives. None of the alternatives were dismissed based on this criterion; however, meeting the goals and objectives of these plans is a component of the project purpose (see Table 4). Section 139 of SAFETEA-LU (23 U.S.C. §139[f][3]) affirms the use of such objectives in establishing the purpose and need for a transportation project.

## **5.2.2 The 1860 South Alternative**

Of all the suggested alternatives, this concept was the most consistent with planning documents, including the maps and descriptions in the documents cited in Table 3. An initial draft alignment for this alternative was a relatively straight roadway from the I-15 interchange westward, curving to the north on the west end of the Project Area to connect with 3110 West. This draft alignment is illustrated in Figure 2(a).

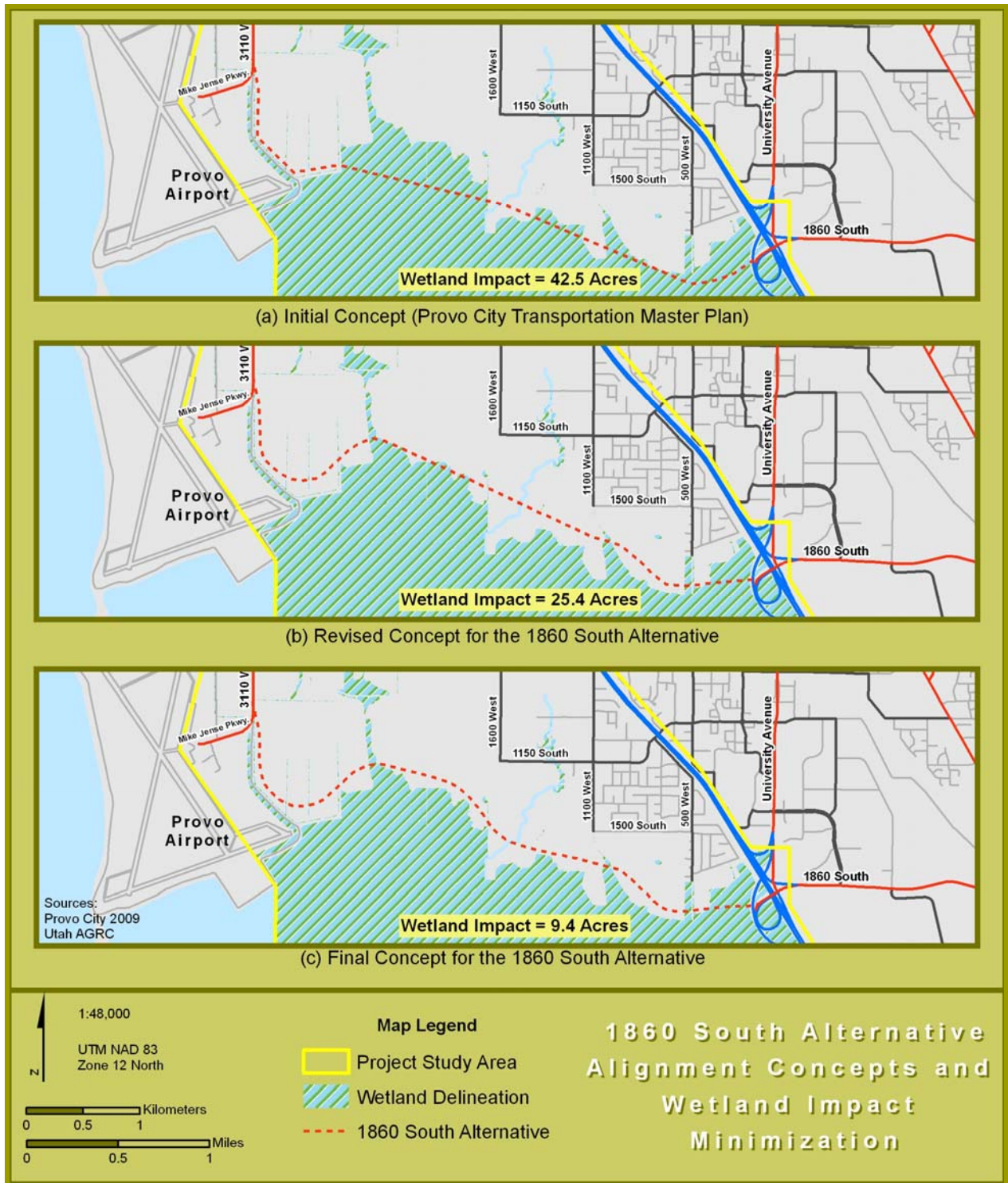


Figure 2. Alignment Concepts Considered for the 1860 South Alternative

### 5.2.2.1 Wetland Avoidance and Minimization

From the beginning, the EIS team understood the importance of avoiding and minimizing impacts to jurisdictional wetlands. The initial alignment (Figure 2[a]), which would minimize the length of the roadway by using straight roadway segments wherever possible from a design standpoint, was determined to have 42.5 acres of wetland impact. (This alignment is consistent with the Provo City Transportation Master Plan [Provo City 2000b], which predated the wetland Preliminary Jurisdictional Determination.)

To reduce wetland impacts while still retaining the concept of the 1860 South Alternative, the EIS team incorporated additional curves in the alignment of the draft roadway, first by developing a curve to the north of the existing dike on the west side of the Project Area, as illustrated in Figure 2(b). This design reduced wetland impact to 25.4 acres. Next, additional curves were added to the middle section of the roadway, as illustrated in Figure 2(c) to avoid more of the delineated wetlands. Additional alignment shifts beyond these were not incorporated due to design requirements for arterial roadway curvature and unavoidable wetlands surrounding the west side of the I-15 interchange. However, other design changes—such as use of walls instead of fill in some locations and placement of storm water retention ponds—were then incorporated into the preliminary design; these changes were able to further reduce wetland impacts to 9.4 acres. Other possible modifications could also be considered later in the NEPA process or as part of the Section 404 permitting process if this alternative is selected as the Preferred Alternative.

### 5.2.2.2 Connection to I-15/1860 South

Another design challenge for the 1860 South Alternative was developing the connection at the I-15 interchange. The EIS team drafted many concepts for reconfiguration of the I-15 interchange. This proved challenging due to the angles at which existing roadways—I-15, University Avenue, and 1860 South—come together at the vicinity of the interchange. Draft designs were analyzed for positive and negative design aspects, including the following: wetlands, road connectivity, possible ramp merge conflicts, free-flow traffic movements, additional traffic signals, access to commercial developments, and utilization of existing infrastructure. In developing these designs, the current and future anticipated high-volume movement for the interchange was determined to be northbound traffic off of I-15 and southbound traffic onto I-15 from University Avenue; as such, preserving the free-flow of these traffic movements was an important design consideration.

The EIS team initially developed five variations of the existing interchange including a Single Point Urban Interchange (SPUI) design concept. A SPUI design could have been advantageous from a traffic flow standpoint, but would require complete replacement of the existing interchange (which would be cost prohibitive). The SPUI design also proved

to be impractical from a design standpoint due to multiple roadways coming together at this interchange.

After the EIS team discussed the relative pros and cons of these designs with Provo City, the EIS team developed a sixth “hybrid” interchange design. The EIS team decided that the hybrid design was the best of all designs considered because it adequately accommodated all predicted traffic, minimized wetland and property impacts, minimized the amount of physical space required, maximized the use of existing infrastructure, and had a much lower relative cost than all of the other potential interchange designs. The existing interchange and the proposed modifications necessary for the hybrid interchange design are illustrated in Figure 3.

Figure 4 illustrates the final concept design for the 1860 South Alternative including the interchange modification, roadway alignment, and connecting roadway segments. As shown, some widening of University Avenue would be necessary to accommodate the interstate on-ramps from University Avenue. Intersections with 500 West and 1100 West would also be completed as part of the proposed design, including extension of those residential collector streets to the 1860 South Alternative. At the western terminus, connections to 3110 West and Mike Jense Parkway (Provo Airport entrance) would be completed.

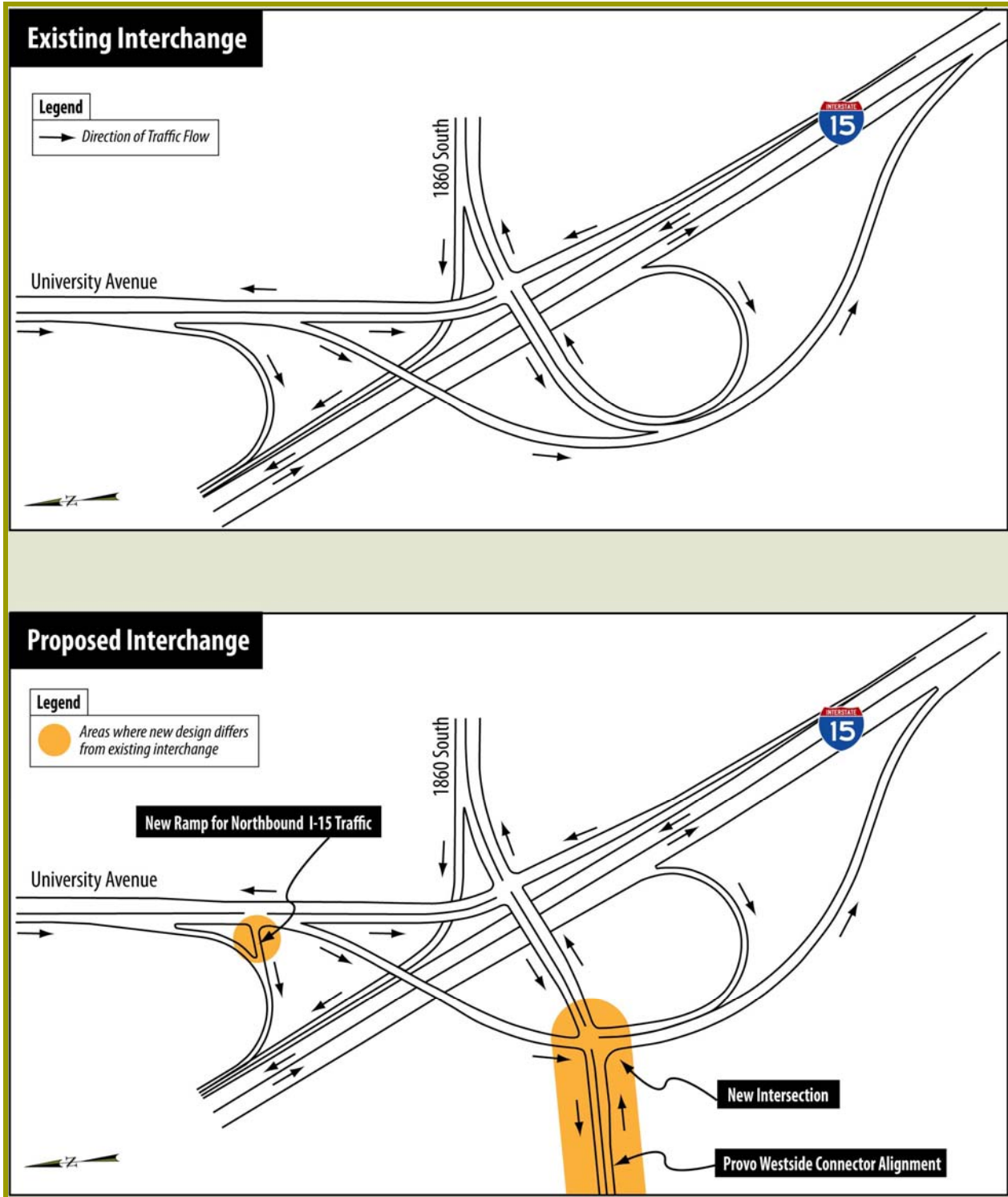
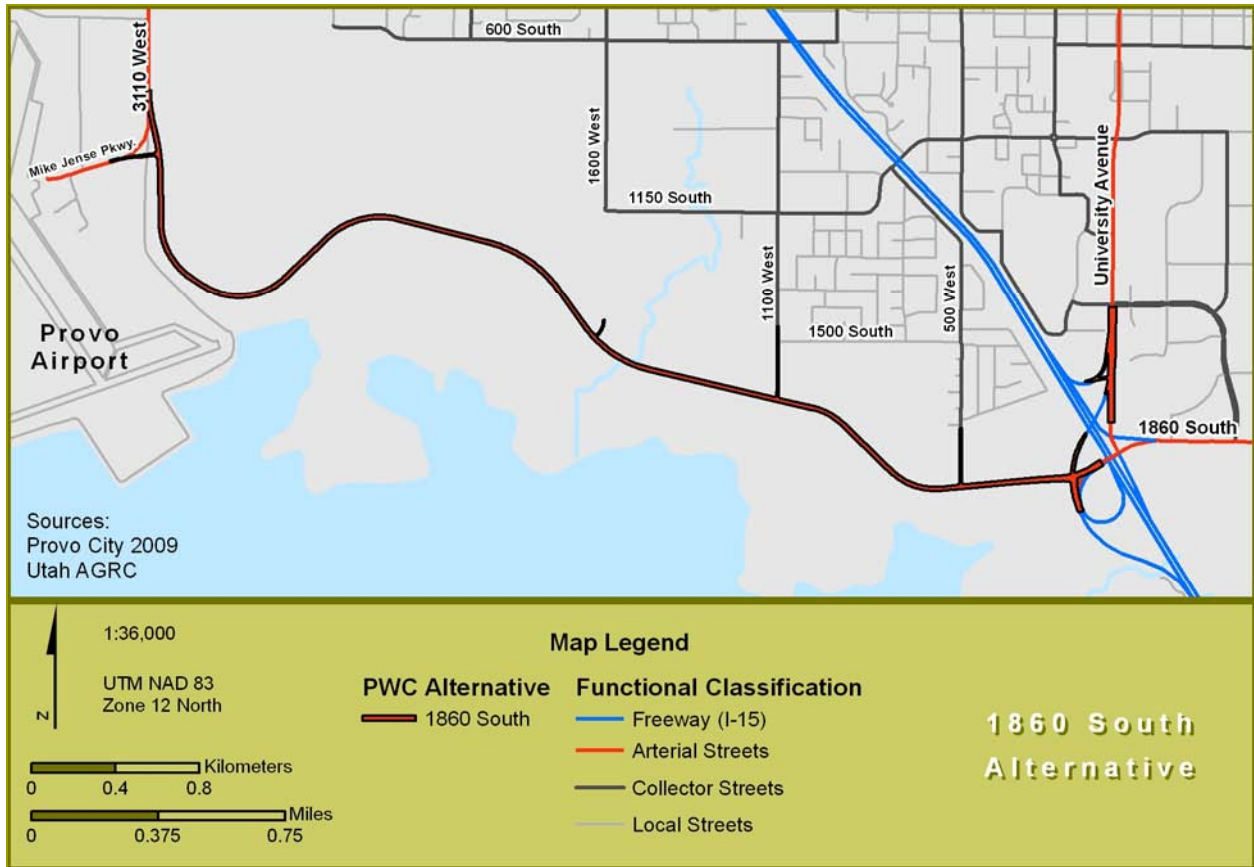


Figure 3. Interchange Design for the 1860 South Alternative



**Figure 4. Final Concept Design for the 1860 South Alternative**

### 5.2.2.3 Screening

Table 8 summarizes information assembled for screening. The 1860 South Alternative would meet project needs, providing the most direct connection to all of the eastern terminus roadways—I-15, University Avenue, and 1860 South. All of the transportation performance indicators evaluated provided acceptable service for an arterial roadway and provided LOS D or better for all roadways and intersections. The 1860 South alternative generally results in the greatest vehicles served and a relatively low level of delay. East-west travel times are relatively low and this alternative results in the best level of freeway access (lowest I-15 access time). Overall, this alternative clearly meets the traffic performance goals of the Proposed Project.

The estimated cost of this facility, \$57.2 million, was within a range capable of being implemented by Provo City for a facility of this type, with length of roadway and modification of an interstate freeway interchange being the largest anticipated cost factors.

**Table 8. Information Assembled for Level 2 Alternatives Screening.**

DATA FOR NEPA REASONABLENESS SCREENING		1860 SOUTH ALTERNATIVE	I-15 OVERPASS/UNDERPASS ALTERNATIVE			LAKE ALIGNMENT ALTERNATIVE
			University Avenue Alignment	Double Flyover Alignment	East Bay Blvd. Alignment	
Transportation performance indicators	<b>System-wide signal delay (hours)<sup>a</sup></b> Total for signalized intersections weighted by intersection volume	183	211	169	195	183
	<b>East-west travel time (minutes)<sup>a</sup></b> Weighted travel times between 500 West and East Bay Boulevard/1860 South	3.6	3.7	2.8	4.5	3.6
	<b>I-15 access (minutes)<sup>a</sup></b> Weighted travel times between 500 West and I-15 on-/off-ramps	1.5	2.9	3.0	4.3	1.5
	<b>Total vehicles served<sup>a</sup></b> Total vehicles entering system	9,575	9,547	9,405	9,430	9,575
Cost and impact indicators	Estimated construction costs (millions)	\$57.2	\$58.7	\$78.6	\$81.9	\$187.0
	Wetland impact (acres of fill)	9.4	5.2	4.6	2.5	34.3
	Residential relocations	0	0	0	24	0
	Commercial property take (square feet)	11,000	24,000	114,000	40,000	11,000
Decision	<b>Advance for detailed analysis?</b>	<b>Yes</b>	<b>Yes</b>	<b>No</b>	<b>No</b>	<b>No</b>

<sup>a</sup>Transportation performance measures are based on modeling for the 2030 p.m. peak hour traffic volume.

The roadway design would have 9.4 acres of wetland impact, with the majority of the impacts occurring in the vicinity of the interchange where wetlands cannot be avoided. Wetland impacts were reduced to the extent practicable by avoiding jurisdictional wetlands as previously described in Section 5.2.2.1.

The 1860 South Alternative would not require residential relocations and would have a relatively small commercial property take, 11,000 square feet, associated with widening University Avenue to accommodate ramps for the I-15 interchange. The 1860 South Alternative is consistent with transportation and land use plans in the Project Area.

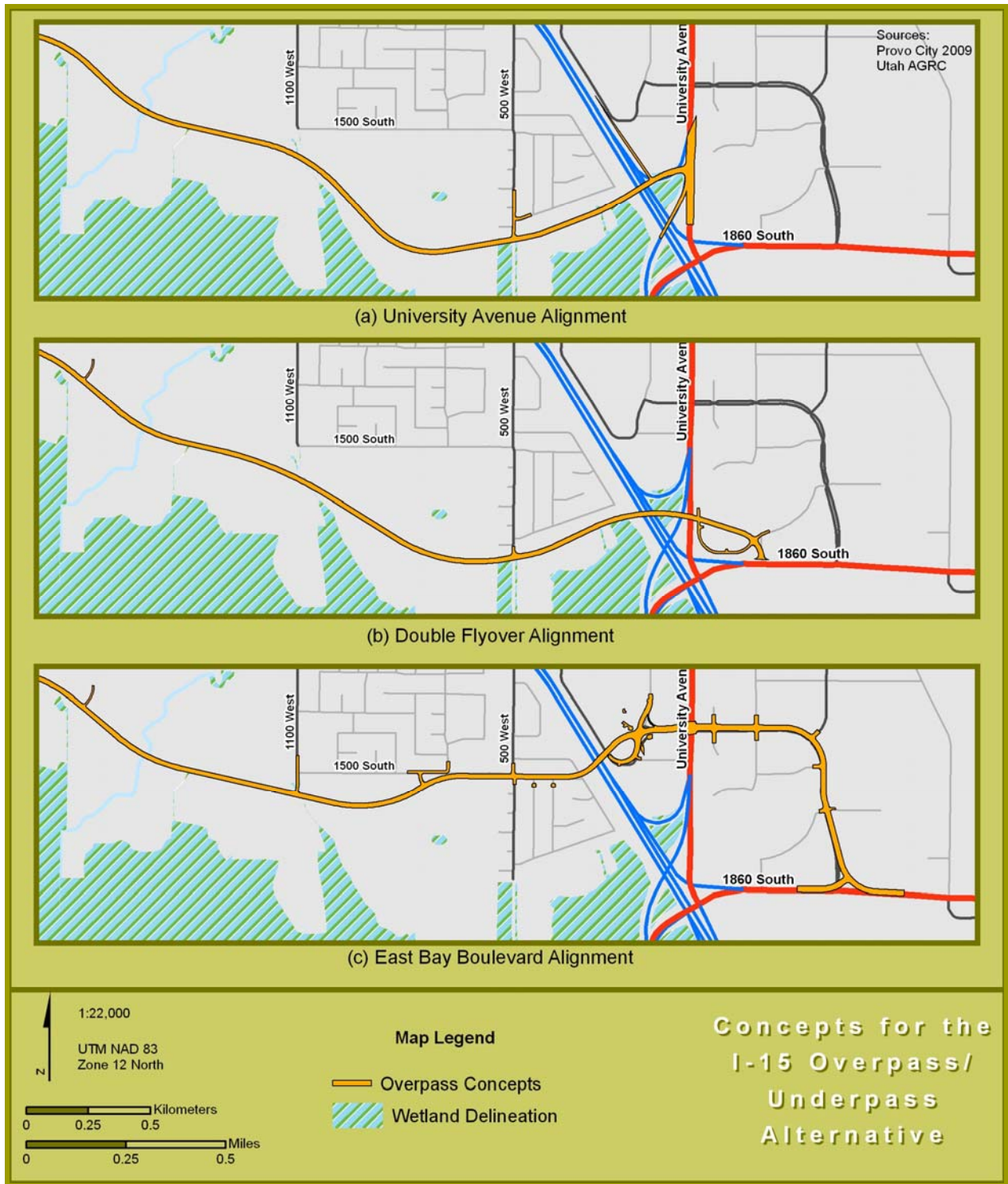
Because the 1860 South Alternative would meet the needs of the Proposed Project and criteria for a “reasonable” alternative, it was advanced for detailed evaluation in the DEIS.

### **5.2.3 The I-15 Overpass/Underpass Alternative**

The second potential build alternative advanced for Level 2 screening also presented some significant design challenges. It was evident that this alternative could have fewer wetland impacts by avoiding a direct connection to the I-15 interchange at 1860 South/University Avenue, but it was unclear where or how to provide connectivity to these roadways at the eastern project terminus. It was also evident that this alternative could have social and commercial impacts that might make it unacceptable to Provo City. Therefore, considerable efforts were also made to avoid and minimize other adverse environmental consequences. In an effort to determine one or more reasonable alternatives based on this concept, a large number of potential alignments were developed; three of these emerged as potentially reasonable projects. Each of these would cross I-15 to the north of the existing interchange. These concepts are illustrated in Figure 5 as the “University Avenue,” “Double Flyover,” and “East Bay Boulevard” Alignments.

As illustrated in Figure 5(a), the University Avenue Alignment design would skirt the Lakewood Neighborhood to the south, crossing I-15 immediately north of the interchange and connecting to University Avenue.

The Double Flyover Alignment illustrated in Figure 5(b) would also skirt the neighborhood area and cross I-15 immediately north of the interchange. Instead of connecting with University Avenue, however, it would continue the flyover structure over University Avenue, curving southward to connect with 1860 South at a four-way intersection. This would require property acquisition from the Novell Campus and, therefore, have some substantial commercial property impacts. However, the four-way intersection at 1860 South and Novell Drive would provide access to all of the roadways at the eastern terminus (1860 South, University Avenue, and I-15).



**Figure 5. Alignment Concepts for the I-15 Overpass/Underpass Alternative.**

The East Bay Boulevard Alignment, Figure 5(c), would route the new roadway through existing residential development in the Lakewood Neighborhood, crossing I-15 to connect with the existing intersection of Towne Centre Boulevard and University

Avenue. This concept proved especially difficult to design, but would be the only other potential connection to an existing intersection that would provide connectivity to eastern termini roadways (University Avenue, 1860 South, and I-15). The greatest design challenge for this option was connecting to the intersection without interrupting access to the Provo Towne Centre Mall and Home Depot; this alignment would bisect and impact the access and operations of these commercial developments, which are important economic generators for Provo City. The design illustrated in Figure 5(c) was the best possible design that minimizes these commercial access and operational impacts to the greatest possible extent.

This alternative would create an I-15 overpass that would connect with the existing mall ring road on the east side of I-15 between the Towne Centre Mall and Home Depot. The overpass structure would create a visual obstruction for both of these commercial facilities and would disrupt existing accesses to these businesses. To potentially avoid the visual impact that would be caused, a design to develop an underpass rather than an overpass was also considered. However, this option proved cost prohibitive and unreasonable because it was determined that this would require raising the grade of I-15 for a substantial length in both directions to accommodate the underpass at this location.

#### 5.2.3.1 Screening for the University Avenue Alignment

The University Avenue Alignment would not perform as well as the 1860 South Alternative for facility type criteria but would be sufficient for meeting project needs. The University Avenue Alignment results in the greatest system-wide delay. However, it does provide comparable east-west travel times to the 1860 South Alternative. The I-15 access times are comparable to the Double Flyover Alignment, but are almost double those of the 1860 South Alternative.

The estimated construction cost for the University Avenue Alignment, \$58.7 million, was similar to the 1860 South Alternative and was within a reasonable range for the Proposed Project.

The University Avenue Alignment would have 5.2 acres of wetland impact. Impacted areas would be unavoidable but could possibly be reduced by use of walls or bridging. These options could be considered in consultation with resource agencies later in the NEPA process and as part of the Section 404 permitting process if this alternative is selected as the Preferred Alternative.

The University Avenue Alignment would not require residential relocations and would have a relatively small commercial property take, 24,000 square feet, associated with widening University Avenue and accommodating ramps for the I-15 interchange.

The University Avenue Alignment would not be consistent with transportation and land use plans because it would connect directly to I-15; however, its design would be sufficient to meet the overall purpose of the Proposed Project as described in the evaluation of traffic performance measures.

Based on these evaluations, the University Avenue Alignment was determined to be reasonable and was advanced for detailed analysis in the DEIS.

#### 5.2.3.2 Screening for the Double Flyover Alignment

The Double Flyover Alignment results in the lowest east-west travel time as well as the lowest overall system-wide delay. The largest weakness of this alignment from a traffic analysis perspective is its travel time relevant to access to and from I-15 (travel times double those of the 1860 South Alternative).

The Double Flyover Alignment would have 4.6 acres of wetland impact. It would not require residential relocations but would have substantial commercial property impacts (114,000 square feet) and a high construction cost (\$78.6 million), which is approximately 34% higher than the construction cost of the University Avenue Alignment.

Given the availability of the University Avenue Alignment, which has similar wetland impacts but much lower construction costs and no commercial property impacts, the Double Flyover Alignment was found to be unreasonable and was not advanced for detailed analysis in the DEIS.

#### 5.2.3.3 Screening for the East Bay Boulevard Alignment

The East Bay Boulevard Alignment results in the worst east-west travel times and the worst I-15 access times. Although vehicles served and overall delay are generally acceptable, this alternative does not perform as well as other alternatives in traffic operations and performance.

It was determined that this alternative would not be reasonable due to the overall cost, estimated at \$81.9 million, as well as greater relocations and commercial property impacts. While this alternative would have lower wetland impacts (2.5 acres) than the University Avenue Alignment (5.2 acres), it would have much greater cost (approximately 50 percent higher) would require 24 residential relocations (as compared to zero for the University Avenue Alignment), and would impact 40,000 square feet of commercial property (as compared to zero for the University Avenue Alignment). Based on the substantially higher cost and higher residential and commercial impacts, this alternative was determined to be unreasonable.

In addition, it is important to note that Provo City was concerned that this alignment had the potential to jeopardize the viability of the Towne Centre commercial area, including the mall. As such, Provo City informed the EIS team that it would not build the project if the East Bay Boulevard Alignment was selected in the EIS process. Provo City's concerns were based on the City staff's extensive knowledge of economic conditions in the downtown area and are documented in letters from Provo City's Department of Economic Development and Redevelopment Agency (Holmes 2009a, 2009b).

While it is not possible to quantify the potential economic risk to the viability of the mall, the potential for economic harm to the downtown area provides further support for finding that the East Bay Boulevard Alignment is not a reasonable alternative for accomplishing the purpose and need of the Proposed Project, particularly given that the primary project needs (Table 1) include supporting the economic viability of the Towne Centre commercial area.

## **5.2.4 The Lake Alignment Alternative**

### 5.2.4.1 Efforts to Develop a Reasonable “Lake Alignment” Alternative

The concept of this alignment, proposed during scoping, was to avoid impacts to existing land uses and wetlands by routing an alignment as a causeway/bridge through Provo Bay between I-15 and 3110 West. However, an initial cost estimate of building the entire arterial roadway on structure was clearly unreasonable due to cost. A refined design, illustrated in Figure 6, would reduce the overall length and be built on a causeway (fill material) for 75 percent of the length, reducing the amount of roadway on structure to 25 percent.

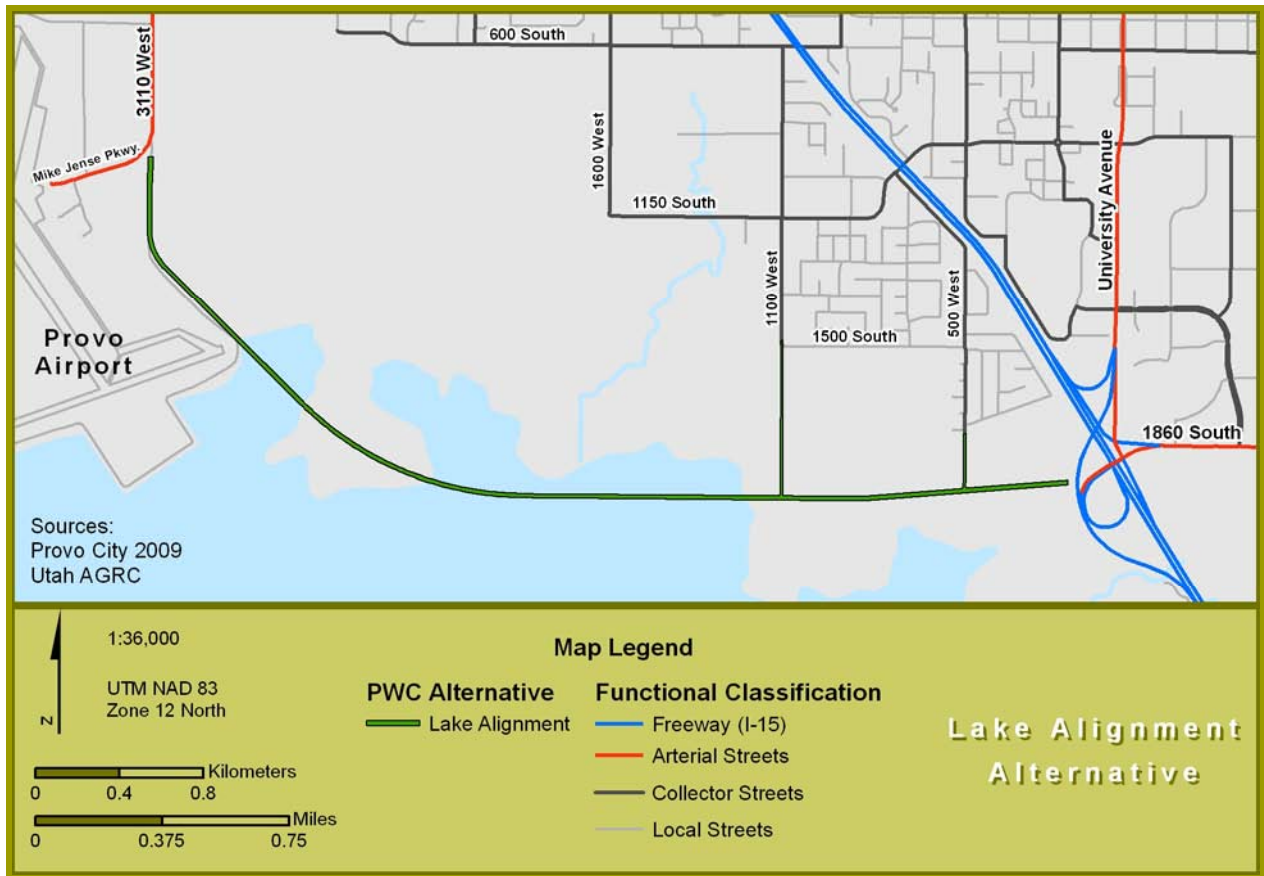
### 5.2.4.2 Screening of the Lake Alignment Alternative

The Lake Alignment Alternative would meet the needs of the Proposed Project similar to the 1860 South Alternative. (In terms of traffic performance, it is equivalent to the 1860 South Alternative.)

Even with the modified design (25 percent structure), the construction cost estimate for this design, \$187 million, was not reasonable. This cost is approximately three times greater than the construction cost of the 1860 South Alternative (\$57.2 million).

Furthermore, construction of the causeway portion of the road would result in 34.3 acres of wetland impacts, which is more than three times the wetland impacts of the 1860 South Alternative.

The Lake Alignment Alternative would avoid relocations and would have a relatively small commercial property take, 11,000 square feet, associated with widening University Avenue to accommodate ramps for the modified I-15 interchange.



**Figure 6. Concept Design for the Lake Alignment Alternative.**

Because it would essentially function consistent with the 1860 South Alternative, the Lake Alignment Alternative is consistent with transportation and land use plans. However, the cost to construct this facility and the higher wetland impacts made this alternative unreasonable. It was therefore not advanced for detailed analysis in the DEIS.

### 5.3 Consideration of Section 404(b)(1) Guidelines

All of the build alternatives considered in Level 2 screening would have impacts to Waters of the United States, including wetlands. Any of these alternatives would require an individual permit from the COE under Section 404 of the Clean Water Act.

When deciding whether to issue a Section 404 permit, the COE must apply the Section 404(b)(1) Guidelines, which are contained in 40 C.F.R. Part 230. The Section 404 Guidelines prohibit the COE from issuing a permit (40 C.F.R. § 230.10 [a]) for a project if there is a “practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem, so long as the alternative does not have other

significant adverse environmental consequence.” This requirement means that an alternative must be selected if:

- 1) it is “practicable,”
- 2) would have “less adverse impact on the aquatic ecosystem,” and
- 3) would not cause “other significant adverse environmental consequences.”

The Section 404 Guidelines define “practicable” to mean “available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes” (40 C.F.R. § 230.10[a][2]). The Section 404 Guidelines establish a presumption, for non water-dependent projects such as roads, that practicable alternatives are available to avoid aquatic resources.

The Section 404 Guidelines also contain several other requirements, including a requirement that the selected alternative would not cause a violation of other laws; would not cause or contribute to significant degradation of Waters of the United States; and includes appropriate and practicable steps to minimize harm to the aquatic ecosystem (see 40 C.F.R. § 230.10[b]-[d]).

As part of the screening process, the EIS team has considered the requirements of the Section 404(b)(1) Guidelines, with the goal of ensuring that the alternatives analysis in the EIS can be used by the COE as the basis for Section 404 permit decision-making. Specifically, the EIS team has reconsidered each of the alternatives that was recommended for elimination in Level 2 of the screening process to determine whether its elimination is consistent with the Section 404(b)(1) Guidelines. The EIS team has concluded that:

- The Double Flyover Alignment is not practicable due to its substantially higher cost.
- The East Bay Boulevard Alignment is not practicable due to its substantially higher cost and substantially higher relocations. Relocations could be considered as part of logistics and/or as part of other significant adverse environmental consequences.<sup>3</sup>
- The Lake Alignment is not practicable due to its substantially higher cost and higher environmental impacts.

For these reasons, the EIS team has concluded that elimination of these three alternatives is consistent with the Section 404(b)(1) Guidelines. The EIS team will continue to work with the COE and other permitting agencies to develop the information needed to apply the Section 404 Guidelines when selecting among the alternatives that have been advanced for detailed study in the DEIS. Additional refinements may be made to those

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<sup>3</sup> *Utahns for Better Transportation v. U.S. Department of Transportation*, 305 F. 3d 1152 (10th Cir. 2002) (“Impact on existing development would appear to fall within both the cost and the logistics portion of the practicable definition.”)

alternatives as part of the Clean Water Act Section 404 permit process, including refinements to further avoid and reduce impacts to aquatic resources.

## 6.0 CONCLUSION

Based on the screening process described in Section 5.0, the EIS team decided to carry forward two build alternatives for detailed study in the DEIS: the 1860 South Alternative and the University Avenue Alignment version of the I-15 Overpass/Underpass Alternative. These alternatives are illustrated in Figure 7. The FHWA has determined that both of these alternatives are reasonable alternatives for purposes of the screening process required by the NEPA. The analysis in this report indicates that both of these alternatives also would be considered practicable for purposes of Section 404 permitting.

An official determination of practicability will be made by the COE as part of Section 404 permitting for the Proposed Project.

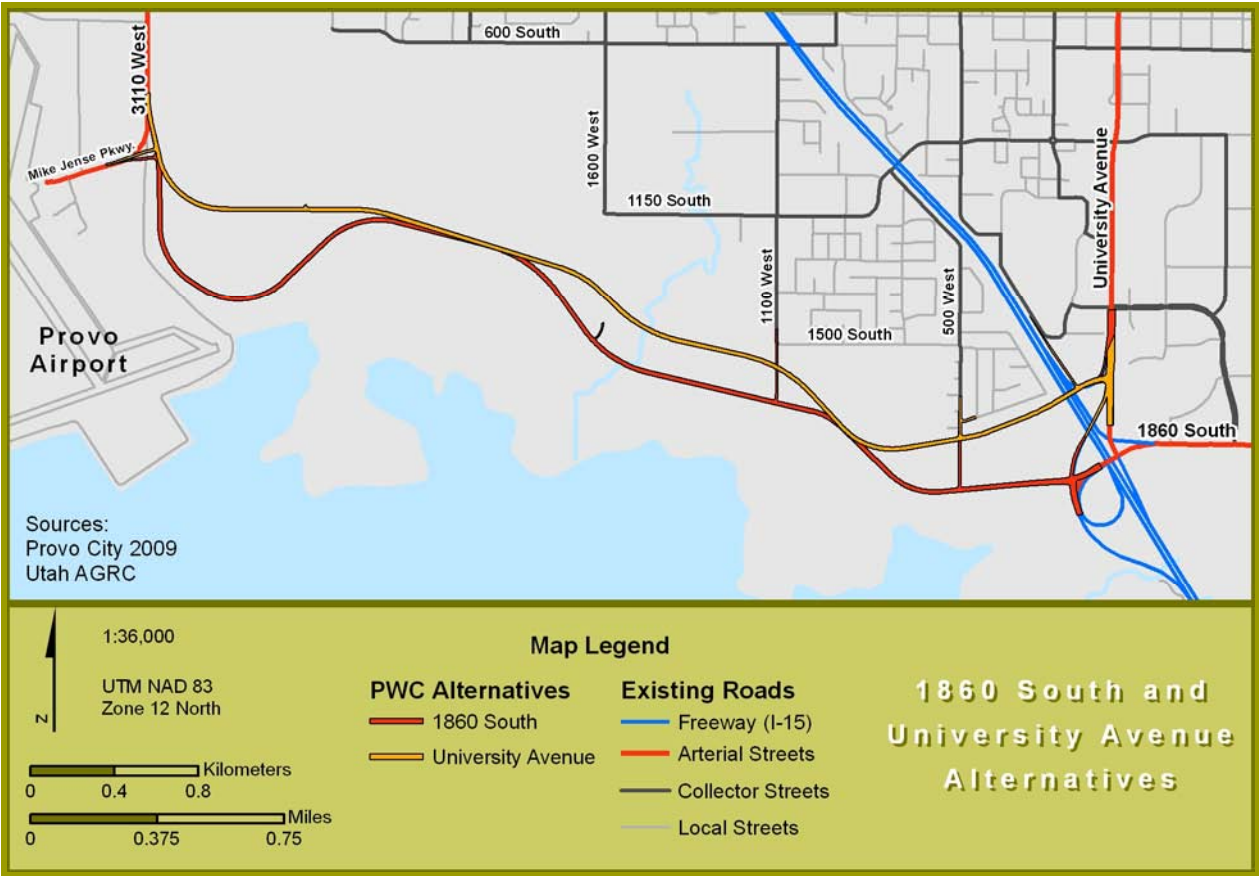


Figure 7. Alternatives Advanced for Detailed Analysis.

The No-Build Alternative would not meet the needs of the Proposed Project but is required by guidelines for implementing the NEPA and it provides the opportunity to compare Project Area future conditions with and without implementation of the Proposed Project. Therefore, the No-Build Alternative was also advanced for analysis in the DEIS.

## 7.0 LIST OF ACRONYMS

<b>ACRONYM</b>	<b>REFERENCE</b>
CEQ	Council on Environmental Quality
COE	U.S. Army Corps of Engineers
DEIS	Draft Environmental Impact Statement
EIS	Environmental Impact Statement
EIS team	Provo Westside Connector EIS team
FHWA	Federal Highway Administration
I-15	Interstate 15
LOS	Level of Service
NEPA	National Environmental Protection Act
PWC	Provo Westside Connector
RTP	<i>2007–2030 Regional Transportation Plan</i>
SAFETEA-LU	Safe, Accountable, Flexible, Efficient Transportation Equity Act: a Legacy for Users (Public Law 109-59)
SPUI	Single Point Urban Interchange
TSM/TDM	Transportation system management/transportation demand management
UDOT	Utah Department of Transportation

## 8.0 REFERENCES

- [FHWA] U.S. Department of Transportation, Federal Highway Administration. 1987. Technical Advisory T 6640.8A, guidance for preparing and processing environmental and Section 4(f) documents. Washington (D.C.): Federal Highway Administration. 50p. plus appendices.
- Gipson, J. 2009. [Chief, Nevada-Utah Regulatory Branch, U.S. Army Corps of Engineers. Letter to David Graves, Provo City project manager, regarding preliminary wetland jurisdictional determination.].
- Holmes, D. 2009a. [Director, Provo City Department of Economic Development and Redevelopment Agency. Letter to Sean Keenan of BIO-WEST, Inc., Logan, Utah, regarding issues of concern relating to Provo Westside Connector alternative.].
- \_\_\_\_\_. 2009b. [Director, Provo City Department of Economic Development and Redevelopment Agency. Letter to Sean Keenan of BIO-WEST, Inc., Logan, Utah, regarding further clarifications regarding concerns relating to Provo Westside Connector alternative.].
- [MAG] Mountainland Association of Governments. 2007. Regional Transportation Plan, 2007–2030. Adopted June 7. Available at: <http://www.mountainland.org/>.
- Provo City. 2000a. Provo Municipal Airport Master Plan. Provo (Utah): Provo City.
- \_\_\_\_\_. 2000b. Transportation Master Plan. Prepared by Korve Engineering. Available at: <http://www.provo.org/engineering.transportationmasterplan.html>.
- \_\_\_\_\_. 2009. Provo City General Plan as amended by the 2009 Comprehensive Update. Available at: <http://www.provo.org/commdev.planning.html>.
- Svoboda, L. 2009. [Letter to Ed Woolford, Environmental Program manager, Federal Highway Administration Utah Division, regarding Provo Westside Connector, Utah County: preliminary cooperating agency review draft.].
- Utah County. 2009. Utah County General Plan as amended through March 20, 2007. Available at: <http://www.co.utah.ut.us/dept/ComDev/Planning/GeneralPlan.asp>.

**ATTACHMENT 1:  
INITIAL PROJECT ALTERNATIVES  
PUBLIC MEETING HANDOUT, MAY 22, 2008**



# Initial Project Alternatives

Public Open House: May 22, 2008

## ? Identifying Needs

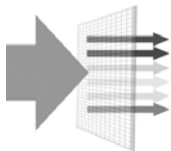
Following the Public Scoping Meeting in June 2007, the project team has been evaluating how the Provo Westside Connector can improve transportation in the project area. Based on input from the public and from participating agencies, the project team identified the following transportation deficiencies:

- The project area does not currently support the goals and objectives of the transportation planning processes (Regional Transportation Plan, Utah County General Plan, Provo City General Plan, and Provo Municipal Airport Master Plan).
- The area lacks an alternate east-west transportation facility supporting planned local and regional growth, economic development, and land use changes.
- The area lacks sufficient emergency vehicle access and evacuation routes; trail, walkway, and bicycle path connectivity; access to recreation areas; and public transportation service routes.

## 💡 Identifying Alternatives

With these needs in mind, the project team began considering project alternatives. The project team held an alternatives “brainstorming” meeting on March 26, 2008. Then a joint agency/stakeholder workshop was held on April 8. The project stakeholders group included representation from local Provo residents, neighborhood chairs, environmental interest groups, Provo City staff, Airport staff, and others.

More than 30 suggestions were proposed through these efforts. Of these, 20 represented distinct project alternatives. Other suggestions concerned project design considerations, enhancements, or possible mitigations for project impacts.



## Screening Alternatives

Screening is the process of identifying alternatives to carry forward for detailed evaluation in the Draft Environmental Impact Statement (EIS).

The initial screening of alternatives was based on two criteria:

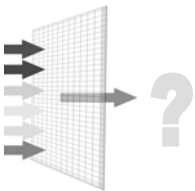
- 1) **Would the proposed alternative provide a new capacity roadway from I-15 to 3110 West?**
- 2) **Would the proposed alternative provide an alternate east-west transportation facility?**

*Your input is needed to help determine which alternatives to carry forward for the Draft Environmental Impact Statement.*

## Design Considerations

In addition to project alternatives, members of the public, stakeholders, and agency representatives have also provided other suggestions that could be incorporated into this project. Some of these suggestions could become enhancements for a project design or could provide mitigations for project impacts:

- Support multi-modal transportation options
- Develop a trail system – provide new bike/walking trails, connections to existing trails
- Redevelop the I-15 Center Street interchange
- Build tunnels at Geneva Road/Center Street
- Build a new roadway as far north as possible to avoid wetlands
- Build a new roadway as far south as possible to avoid farmlands and provide recreation access to Provo Bay
- Follow the existing power line corridor from the I-15 University Avenue interchange
- Build portions of the road on an elevated structure over wetlands
- Incorporate “SmartGrowth” principles
- Provide recreational access to Utah Lake
- Prevent development south of the new roadway
- Create wildlife habitat/wetland sanctuary protected from high water levels in Utah Lake
- Add an I-15 frontage road
- Plan commercial services on the west side of I-15 to reduce trips
- Revise the Provo City General Plan
- Don’t allow new development in the project area
- Prevent new development south of a new east-west connector
- Relocate the airport
- Improve Center Street with curb and gutter



## What’s Next?

Please provide your comments on the initial project alternatives, screening process, and design considerations. The proposed alternatives will be screened again to further narrow the list of alternatives to those that will have detailed analysis in the Draft Environmental Impact Statement (EIS). You will receive a newsletter updating you of progress as the Draft EIS process advances. When complete, the Draft EIS will be available for public review and comment.

Comments can be submitted at any time throughout the EIS process using any of the following methods:

- **Website:** [www.provowestsideconnector.com](http://www.provowestsideconnector.com)
- **Email:** [hyatt@pbworld.com](mailto:hyatt@pbworld.com)
- **Telephone:** (801) 288-3207
- **Mail:** Provo Westside Connector EIS  
c/o PB  
488 East Winchester Street, Suite 400  
Murray, Utah 84107

Additional information is also available on the project website: [www.provowestsideconnector.com](http://www.provowestsideconnector.com)

Suggested Actions and Screening Notes:	Advance for Further Screening?
<p><b>1. Expand bus service with connections to the Provo Airport and Utah Lake State Park.</b>  <u>Screening notes:</u> This action would not provide a higher capacity roadway or additional east-west connectivity for the project area. It is part of the Regional Transportation Plan (RTP) and will be considered in conjunction with other alternatives.</p>	<b>No</b>
<p><b>2. Develop a light-rail corridor to the Provo Airport.</b>  <u>Screening notes:</u> Although this action would provide additional east-west connectivity, it would not provide a higher capacity roadway for the project area.</p>	<b>No</b>
<p><b>3. Develop a ferry service to the Provo Airport.</b>  <u>Screening notes:</u> This action is not a planned multimodal transportation option in the RTP. It would not provide a higher capacity roadway with alternate east-west connectivity for the project area.</p>	<b>No</b>
<p><b>4. Develop “hovercraft” as a mode of transportation.</b>  <u>Screening notes:</u> Hovercraft is not yet among the planned multimodal transportation options in the RTP. It would not provide a higher capacity roadway with additional east-west connectivity.</p>	<b>No</b>
<p><b>5. Improve Center Street from Geneva Road to 3110 West.</b>  <u>Screening notes:</u> Improvement of Center Street east of Geneva Road is being considered in the Geneva Road Project. In conjunction with that action, this alternative would provide a higher capacity roadway. However, it would not provide additional east-west connectivity.</p>	<b>No</b>
<p><b>6. Develop a center-lane expressway at Center Street (similar to SR-92).</b>  <u>Screening notes:</u> As with 5, this action would not provide additional east-west connectivity for the project area.</p>	<b>No</b>
<p><b>7. Develop an elevated expressway over existing Center Street.</b>  <u>Screening notes:</u> In contrast to 5 and 6, this action would create a higher capacity roadway with additional east-west connectivity for the project area.</p>	<b>Yes!</b> PURPLE ALTERNATIVE
<p><b>8. Extend existing east-west roads to 3110 West (600 South, 1150 South, 1560 South).</b>  <u>Screening notes:</u> Extension of these residential collector roads is included in the Provo City General Plan. Although this would provide additional east-west connectivity, it would not provide a higher capacity (arterial) roadway.</p>	<b>No</b>
<p><b>9. Improve existing east-west roads as higher capacity roads.</b>  <u>Screening notes:</u> In contrast to 8, this action would provide higher capacity but would not provide additional east-west connectivity.</p>	<b>No</b>
<p><b>10. Extend existing north-south roads (2050 West, 1600 West, 1100 West, 500 West).</b>  <u>Screening notes:</u> Extension of these residential collector roads is included in the Provo City General Plan. For the current project, these improvements would not provide higher capacity, east-west connectivity.</p>	<b>No</b>

Suggested Actions and Screening Notes:	Advance for Further Screening?
<p><b>11. Improve existing north-south roads as higher capacity roads.</b>  <u>Screening notes:</u> Improving these existing roads would not provide higher capacity, east-west connectivity.</p>	<p><b>No</b></p>
<p><b>12. Improve and extend one or more existing roads with I-15 underpasses (600 South and 920 South) from University Avenue to 3110 West.</b>  <u>Screening notes:</u> This action would provide a higher capacity road(s). If one or both were completed from University Avenue to 3110 West, it would also provide additional east-west connectivity.</p>	<p><b>Yes!</b>  RED  ALTERNATIVE</p>
<p><b>13. Develop additional I-15 underpasses and east-west roads at approximately 1200 South and/or 1500 South.</b>  <u>Screening notes:</u> At the 1200 South location, the I-15 Corridor Project is planning a new north-south underpass (for 500 West). However, a new east-west roadway could possibly be completed at approximately 1500 South from University Avenue to 3110 West.</p>	<p><b>Yes!</b>  ORANGE  ALTERNATIVE</p>
<p><b>14. Develop a roadway on a new alignment from the I-15 University Avenue interchange to 3110 West.</b>  <u>Screening notes:</u> This alternative is consistent with conceptual alignments in local transportation plans. This facility would provide a higher capacity roadway and additional east-west connectivity.</p>	<p><b>Yes!</b>  TURQUOISE  ALTERNATIVE</p>
<p><b>15. Develop a shorter connector – for example, from the I-15 University Avenue interchange to 1600 West</b>  <u>Screening notes:</u> This action would not provide additional east-west connectivity.</p>	<p><b>No</b></p>
<p><b>16. Connect the I-15 University Avenue interchange to 1600 West, then improve existing portions of 1600 West and 600 South and complete 600 South to 3110 West.</b>  <u>Screening notes:</u> This action would provide a higher capacity roadway with additional east-west connectivity.</p>	<p><b>Yes!</b>  BLUE  ALTERNATIVE</p>
<p><b>17. Build a new road that connects I-15 interchange at State Road 75 (Springville) to 3110 West in Provo.</b>  <u>Screening notes:</u> This action would not provide a higher capacity roadway with additional east-west connectivity.</p>	<p><b>No</b></p>
<p><b>18. Build an east-west causeway through Provo Bay from I-15 to 3110 West.</b>  <u>Screening notes:</u> This action would provide a higher capacity roadway with additional east-west connectivity.</p>	<p><b>Yes!</b>  GREEN  ALTERNATIVE</p>
<p><b>19. Build a north-south causeway through Provo Bay.</b>  <u>Screening notes:</u> This action would not provide a higher capacity roadway with additional east-west connectivity.</p>	<p><b>No</b></p>
<p><b>20. Take no action.</b>  <u>Screening notes:</u> A No-Action Alternative is required for every Environmental Impact Statement. This alternative will disclose how "no-action" related to the project needs would impact the project area.</p>	<p><b>Yes!</b>  NO-ACTION  ALTERNATIVE</p>

# Alternatives for Public Comment

## Public Open House, May 22, 2008



### Legend

- Project Area
- Purple (Elevated Expressway)
- Red Alternative
- Orange Alternative
- Turquoise Alternative
- Blue Alternative
- Green Alternative

This map illustrates the general idea of each suggested alternative. The exact route for any alternative could be modified based on design considerations and impact assessments.

