



WEST DAVIS  
CORRIDOR

# Technical Memorandum 25: Section 404(b)(1) Practicability Analysis

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in support of the  
Environmental Impact Statement  
and Clean Water Act 404 Permit

## West Davis Corridor Project

Federal Highway Administration  
Utah Department of Transportation



UDOT Project No. S-0067(14)0

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# Executive Summary

## Introduction

The Utah Department of Transportation (UDOT) and the Federal Highway Administration (FHWA) are proposing a project (the West Davis Corridor) to improve regional mobility in Davis and Weber Counties. These lead agencies, together called the West Davis Corridor (WDC) Team, are preparing the West Davis Corridor Environmental Impact Statement (EIS), which will evaluate different alternatives for meeting the purpose of the project. At the end of the EIS process, FHWA and UDOT will select a WDC alternative for construction.

As part of the EIS process, the WDC Team is preparing this practicability analysis to provide information to the U.S. Army Corps of Engineers (USACE) to assist them with a permit decision under Section 404 of the Clean Water Act. The purpose of this report is to ensure that the least environmentally damaging practicable alternative is carried forward for detailed study in the Draft EIS.

### What is the purpose of this practicability analysis?

The purpose of this analysis is to ensure that the least environmentally damaging practicable alternative—the only project alternative that can be permitted by the Corps of Engineers—is evaluated in detail in the Environmental Impact Statement for the West Davis Corridor Project.

## Methods

The WDC Team identified five alternatives that would have less impacts to aquatic resources than the two project alternatives that were determined to be reasonable under the National Environmental Policy Act (Alternatives 11A and 13A). In this practicability analysis, the WDC Team evaluated whether these five alternatives (Alternatives 05, 08, 09+04, 10A, and 10A Modified) are practicable under the Section 404(b)(1) guidelines.

The term *practicable* means “available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes.” In working with USACE and the U.S. Environmental Protection Agency (EPA), the WDC Team focused the practicability evaluation on the logistical constraints of each alternative. All of the WDC alternatives that were evaluated in the Level 2 screening process would be practicable from a technological point of view.

In determining whether an alternative was practicable under the Clean Water Act Section 404(b)(1) guidelines, the WDC Team considered the logistical constraints of relocating businesses. To determine these constraints, FHWA and UDOT evaluated the number of business impacts, the types of businesses, and the special requirements of each business within the context of each city and adjacent cities in the WDC study area. The context of the

### What is Level 2 screening?

In Level 2 screening, the WDC Team considered the degree to which the alternatives would meet the project’s purpose, their impacts to the natural and built environment, estimated project costs, logistical considerations, and overall feasibility.

city included the overall size of the city, the amount of existing development, the availability of existing similar commercial properties, and any city-specific zoning.

Based on this information, if FHWA and UDOT could not find a suitable similar replacement property to relocate a business within or adjacent to the city where the business is currently located, this was considered a logistical constraint. If FHWA and UDOT could not find enough suitable replacement properties to accommodate all of the businesses acquired due to an alternative, the alternative was considered not practicable.

## Practicability Evaluation

This evaluation to determine whether alternatives are practicable under the Clean Water Act was conducted for the five alternatives (Alternatives 05, 08, 09A+04, 10A, and 10A Modified) that would have less impacts to aquatic resources than the two alternatives that the WDC Team has determined to be reasonable under the National Environmental Policy Act (Alternatives 11A and 13A). Alternatives 05, 08, 09A+04, 10A, and 10A Modified would fill between about 3 acres and 56 acres of wetlands. Alternatives 11A and 13A would fill between 76 acres and 137<sup>1</sup> acres of wetlands. The alternatives considered in this practicability analysis were the only alternatives that met the project's purpose and had less impacts to aquatic resources than Alternatives 11A and 13A.

### Alternative 05

Alternative 05 consists of widening existing east-west streets beyond the widening described in the Wasatch Front Regional Council's (WFRC) Regional Transportation Plan for 2040 plus widening Interstate 15 (I-15). The alternative would widen Hinckley Drive, 4000 South, 5500/5600 South, 1800 North, State Route (SR) 193, and Antelope Drive. All east-west roads (4000 South and 5500/5600 South) would be widened from I-15 to SR 37 in Weber County and from I-15 to SR 110 in Davis County (1800 North, SR 93, and Antelope Drive). It would include I-15 widening to add one more general-purpose lane in each direction.

Alternative 05 would require the relocation of at least 64 businesses due to direct impacts and possibly another 45 businesses due to proximity impacts. Each business is located in a city that has limited commercial districts, is

#### What is the Wasatch Front Regional Council (WFRC)?

WFRC is the designated metropolitan planning organization that works in partnership with UDOT, city and county governments, and other stakeholders to develop the Regional Transportation Plan for the Wasatch Front Urban Area.

#### What is a proximity impact?

A proximity impact occurs when a structure would be within 15 feet of a roadway right-of-way. A direct impact occurs when a structure would be within the right-of-way.

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<sup>1</sup> The wetlands acres for Alternatives 11A and 13A are from the screening analysis. Additional surveys after the screening analysis reduced impacted wetland acres between 25 acres and 75 acres which were still greater than the alternatives evaluated in this Practicability analysis.

almost or completely built out, and has few commercial properties available for rent.

Alternative 05 would likely cause the loss of many businesses in each city and in the WDC study area due to the lack of suitable replacement buildings in each city and in adjacent cities in the WDC study area. FHWA and UDOT consider the likely loss of businesses due to a lack of suitable replacement options to be a logistical constraint, and believe that this logistical constraint would make Alternative 05 an impracticable alternative.

FHWA and UDOT believe it would not be possible to relocate all or most of the 64 or more businesses because there are not enough suitable replacement business properties available in the businesses' current cities or in adjacent cities in the WDC study area.

#### What is build-out?

Build-out means that there is no more land available for development in a city because any undeveloped land is already being used for its intended use of open space, agriculture, or other defined uses.

## Alternative 08

Alternative 08 is similar to Alternative 05. Both alternatives consist of widening existing east-west streets beyond the widening described in the Regional Transportation Plan plus widening I-15. In addition, Alternative 08 would consist of widening two north-south streets: SR 108 and SR 126. Overall, Alternative 08 would have 119 business relocations.

FHWA and UDOT have determined that Alternative 05 is not practicable because of its business relocations and the lack of suitable replacement options to be a logistical constraint. Since Alternative 08 would affect 119 businesses, 64 of which are the same businesses that would be affected by Alternative 05, FHWA and UDOT consider the likely loss of businesses due to a lack of suitable replacement options to be a logistical constraint, and believe that this logistical constraint would make Alternative 08 an impracticable alternative.

## Alternative 09A with Alternative 04

Alternative 09A would affect the Denver & Rio Grande (D&RG) rail alignment, which has been converted to a regional trail. The Utah Transit Authority has an agreement with Union Pacific Railroad to use the alignment as a potential future transit corridor.

Currently, the D&RG alignment is under a Notice of Interim Trail Use and is subject to reactivation for freight use. The alignment is also subject to a Prospective Purchaser Agreement with the Utah Department of Environmental Quality and EPA, which allows the alignment to be used for rail or trail use only. The Utah Transit Authority intends to use the D&RG alignment as a transit corridor in the future. Based on UDOT's plans and these other legal constraints, this alignment is not available for FHWA and UDOT to use for the WDC as part of Alternative 09A (see Appendix B, Correspondence).

## Alternative 10A and 10A Modified

Alternative 10A begins in Farmington, follows the 2001 Alignment to 2000 West in Layton, merges to the Rocky Mountain Power corridor, and stays on the power corridor to 4000 South in Weber County. However, a variation of this alternative, Alternative 10A Modified, was suggested by the resource agencies. Because Alternative 10A Modified reduced the high number of relocations compared to the original Alternative 10A, it was considered for this practicability analysis. The practicability evaluation for Alternative 10A Modified also applies to Alternative 10A.

Alternatives 10A and 10A Modified would relocate both residential and business properties. The primary logistical constraints associated with these alternatives are the impacts on a factory operated by Utility Trailer Manufacturing Company (Utility Trailer) in Freeport Center in Clearfield. Because the manufacturing plant is a specialized facility, it could not be relocated, since there are no comparable facilities anywhere in Utah. Constructing a new facility on a comparably sized parcel in Clearfield that would meet the facility siting requirements would also be logistically impossible, since there are no suitable, vacant parcels in Freeport Center that are large enough to accommodate the Utility Trailer operations.

Constraints adjacent to Utility Trailer make it impracticable to shift the alignment to avoid the manufacturing plant. These constraints are the main Rocky Mountain Power electrical substation in Syracuse to the south, the Rocky Mountain Power main electrical transmission corridor and a cemetery to the west, and a utility corridor, the Freeport Center, and rail spurs to the east.

The only other option that would avoid the manufacturing plant is to build a bridge over the facility. FHWA and UDOT evaluated both a clear-span bridge and a bridge that would require a bridge support to be placed in the building. There are logistical constraints with either using a clear-span bridge or with placing a bridge support in the building.

Given these issues, the WDC Team determined that the logistical constraints associated with relocating, avoiding, or building a bridge over Utility Trailer make Alternative 10A Modified not practicable. These same logistical constraints would also make Alternative 10A not practicable.

## Results of the Practicability Evaluation

Five alternatives were identified that would have less impacts to aquatic resources than the two alternatives that the WDC Team has determined to be reasonable under NEPA (Alternatives 11A and 13A). Alternatives 05, 08, 09A+04, 10A, and 10A Modified would fill between about 3 acres and 56 acres of wetlands. Alternative 11A and Alternative 13A would fill between 76 acres and 137 acres of wetlands. The alternatives considered in this practicability analysis were the only alternatives that would meet the project's purpose and would have less impacts to aquatic resources than Alternatives 11A and 13A.

The term *practicable* means “available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes.” The Clean Water Act guidelines create a presumption that practicable avoidance alternatives are available for non-water-dependent projects. Highway and transit projects generally are not water-dependent. This presumption places the burden on the applicant to demonstrate that there are no practicable alternatives that avoid “special aquatic sites.” (With regard to the WDC Project, “special aquatic sites” include wetlands and some fish and wildlife refuges.) The level of analysis and proof required varies depending on the project and the nature of the anticipated effects of the project.

The Clean Water Act Section 404(b)(1) guidelines state that “no discharge of dredged or fill material [to Section 404–regulated waters] shall be permitted 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 consequences.” The evaluation in this practicability analysis is the WDC Team’s demonstration that there are no practicable alternatives that have fewer wetland impacts than Alternative 13A.

Based on the practicability analysis, the WDC Team has determined that Alternatives 05, 08, 10A, and 10A Modified are not practicable because of logistical constraints resulting from impacts associated with relocating businesses. In addition, FHWA and UDOT have determined that Alternative 09A+04 is not available to use for the WDC Project because it has been set aside as a potential transit corridor and is subject to other legal constraints. Therefore, Alternatives 05, 08, 09A+04, 10A, and 10A Modified will not be considered for detailed evaluation in the WDC Draft EIS.

More details about this evaluation are included in the full analysis provided in this report.

### What are the results of the practicability evaluation?

The WDC Team has determined that Alternatives 05, 08, and 10A Modified are not practicable because of logistical constraints. In addition, Alternative 09A+04 is not available to use for the WDC Project.

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## 1.0 Introduction

The Utah Department of Transportation (UDOT) and the Federal Highway Administration (FHWA) are proposing a project (the West Davis Corridor) to improve regional mobility in Davis and Weber Counties. These lead agencies, together called the West Davis Corridor (WDC) Team, are preparing the West Davis Corridor Environmental Impact Statement (EIS) (see Figure 1 below), which will evaluate different alternatives for meeting the purpose of the project.

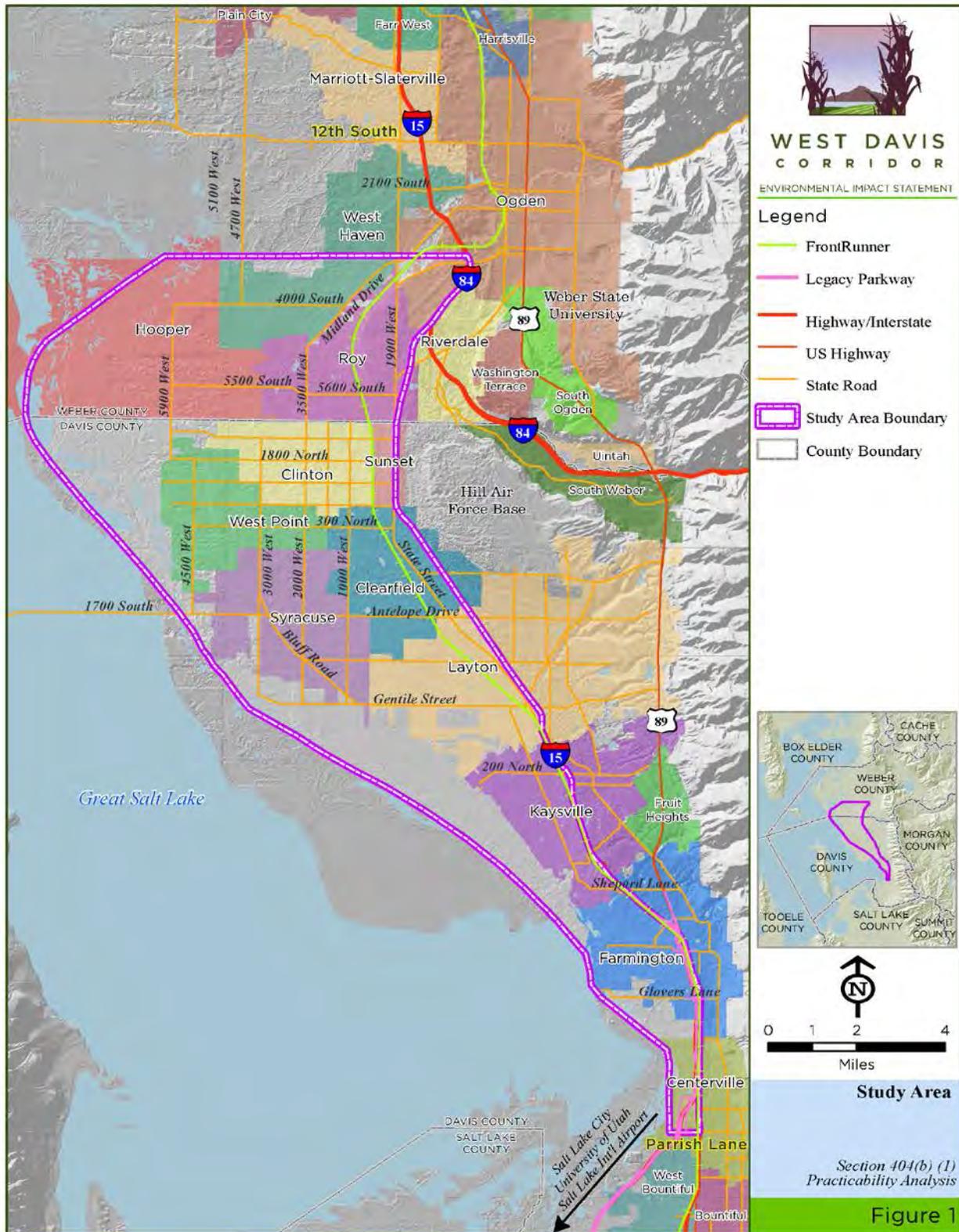
As part of the EIS process, the WDC Team is preparing this practicability analysis to provide information to the U.S. Army Corps of Engineers (USACE) to assist them with a permit decision under Section 404 of the Clean Water Act. The purpose of this report is to ensure that the least environmentally damaging practicable alternative is carried forward for detailed study in the Draft EIS.

The following paragraphs discuss the requirements of the Section 404(b)(1) guidelines of the Clean Water Act and the requirements of Section 6002 of SAFETEA-LU (the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users) that pertain to this practicability analysis.

***Requirements of the Clean Water Act.*** Since USACE makes official determinations under the Section 404(b)(1) guidelines of the Clean Water Act, the WDC Team considered the requirements of the Clean Water Act during the Level 2 screening process for the EIS. The Section 404(b)(1) guidelines state that “no discharge of dredged or fill material [to Section 404–regulated waters] shall be permitted 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 consequences” [40 Code of Federal Regulations [CFR] Section 230.10(a)].

USACE must prepare a Section 404(b)(1) practicability analysis in connection with its decision of whether to grant a Clean Water Act permit for the selected WDC alternative (typically after the National Environmental Policy Act [NEPA] process is completed). The 404(b)(1) guidelines require USACE to consider “practicable” alternatives for avoiding or minimizing harm to waters of the U.S. It is desirable to have a single range of alternatives that satisfies NEPA requirements as well as Section 404 requirements. USACE’s regulations recommend that applicants for individual permits, such as those that would be required for the WDC Project, engage in pre-application consultation with USACE to discuss the level of NEPA review required, the information needed for decision-making, other agency reviews and approvals needed, and the overall process to be followed.

**Figure 1. Study Area**



The term *practicable* means “available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes.” The Clean Water Act guidelines create a presumption that practicable avoidance alternatives are available for non-water-dependent projects. Highway and transit projects generally are not water-dependent. This presumption places the burden on the applicant to demonstrate that there are no practicable alternatives that avoid “special aquatic sites.” (With regard to the WDC Project, “special aquatic sites” include wetlands and some fish and wildlife refuges.) The level of analysis and proof required varies depending on the project and the nature of the anticipated effects of the project.

It should be noted that, for transportation projects being considered by the Department of Transportation, there is also a requirement to follow Section 4(f) regulations (23 CFR 774). The WDC Team might not be able to consider an alternative with a high number of impacts to Section 4(f) properties. Therefore, an alternative with a high number of Section 4(f) impacts might not be practicable because it would not be available for FHWA to consider as an alternative with the least overall harm. For more information, see Section 2.4.1, Impacts on Existing Development and Impacts on Section 4(f) and Historic Properties.

#### What is Section 4(f)?

Section 4(f) is part of an FHWA regulation that requires a project to avoid the use of eligible or potentially eligible historic properties and recreation and wildlife areas unless there is no feasible and prudent alternative to such use. Even then, all measures must be taken to minimize harm to these properties.

**Requirements of SAFETEA-LU.** In addition, Section 6002 of SAFETEA-LU established an environmental review process that must be followed when FHWA prepares an EIS for a highway project. In addition to NEPA compliance, the environmental review process under Section 6002 must include the “process for and completion of any environmental permit, approval, review, or study required for a project under any Federal law other than [NEPA].” Thus, USACE’s permitting actions must be addressed as part of the Section 6002 process. The process requires an “opportunity for involvement” by participating agencies and the public at two milestones: defining the purpose of and need for the project and determining the range of alternatives to be studied.

The lead agencies are also required, as part of the environmental review process, to determine, in collaboration with the participating agencies, the appropriate methodologies to be used and the level of detail required in the analysis of alternatives. The SAFETEA-LU Environmental Review Process Final Guidance says that “collaboration means a cooperative and interactive process. It is not necessary for the lead agency to reach consensus with the participating agencies on these issues; the lead agency must work cooperatively with the participating agencies and consider their views, but the lead agency remains responsible for decisionmaking.” The FHWA guidance anticipated the occurrence of disputes and states that the lead agencies should aggressively solicit public and agency input on methodologies and should reach closure on what methodologies will be used to evaluate important issues.

## 1.1 Technical Memorandum 15

In this practicability analysis, the WDC Team will make their proposed determination of practicable alternatives based on the Clean Water Act. In *Technical Memorandum 15: Alternatives Screening Report*, the WDC Team selected reasonable alternatives under NEPA. The purpose of Technical Memorandum 15 was to summarize and present the results of the alternatives-development and screening process for the WDC EIS. The process of alternatives screening consisted of the following three phases:

1. Developing preliminary project alternatives.
2. Applying first-level (Level 1) screening criteria, identifying alternatives that would move to the next level, and refining alternatives that passed the first-level screening. The Level 1 screening criteria evaluated whether an alternative would meet the project's purpose.
3. Applying second-level (Level 2) screening criteria and identifying alternatives that passed second-level screening and would be analyzed in detail in the EIS. The Level 2 screening criteria to determine reasonable alternatives under NEPA compared the alternatives that passed Level 1 screening to determine which similar alternatives could be eliminated based on their expected impacts to the human and natural environment. This process is detailed in Technical Memorandum 15. The practicability analysis in this 404(b)(1)Practicability Analysis report provides the reason the WDC Team eliminated alternatives as part of Level 2 screening based on the Clean Water Act. The information in this report will be summarized in Technical Memorandum 15.

***Level 1 Screening.*** By considering previous studies and input from the resource agencies and the public, the WDC Team identified and modeled 23 preliminary alternatives in addition to the No-Action Alternative as part of the Level 1 screening process. These 23 alternatives are described in *Technical Memorandum 15: Alternatives Screening Report*, Section 2.2, List of Preliminary Alternatives. Based on the analysis from the Level 1 screening process, five action alternatives would substantially reduce delay and congestion in the project study area. These alternatives, which are listed in Table 1 below, were advanced to Level 2 screening.

**Table 1. Alternatives Selected for Advancement to Level 2 Screening**

Alternative	Facility Type	Description
05	Upgrade existing roads	<i>Widen Existing East-West Roads beyond RTP plus I-15 Widening:</i> Widen Hinckley Drive, 4000 South, 5500/5600 South, 1800 North, SR 193, and Antelope Drive. All east-west roads would be widened from I-15 to SR 37 (Weber County) or SR 110 (Davis County). Include I-15 widening to add one more general-purpose lane in each direction (MP 324/SR 225 to MP 342/SR 79).
08	Upgrade existing roads	<i>Widen Existing East-West and North-South Roads beyond RTP plus I-15 Widening:</i> Combine Alternatives 05 and 07.
10A	New four-lane divided highway	Begin at Farmington, follow 2001 Alignment to 2000 West in Layton, merge to power corridor, and stay on power corridor to 4000 South. Interchanges at 5600 South, 1800 North, SR 193, Antelope Drive, Hill Field Road, Layton Parkway, 200 North, and Shepard Lane.
11A	New four-lane divided highway	Begin at Farmington and follow 2001 Alignment to 4000 South. Interchanges at 5500 South, 1800 North, SR 193, Antelope Drive, 2000 West, 2700 West (Layton), 200 North, and Shepard Lane.
13A	New four-lane divided highway	Begin at Farmington, follow 2001 Alignment to Gentile Street, swing west crossing Antelope Drive west of 4000 West, stay west of 4000 West in West Point crossing 4500 West near 800 North and the Davis County–Weber County line near 5700 West (Weber County), then cut northeast to 4000 South. Interchanges at 5500 South, 1800 North, SR 193, Antelope Drive, 2000 West, 2700 West (Layton), 200 North, and Shepard Lane.

The WDC Team also found that, by combining two alternatives that did not pass Level 1 screening individually, another alternative could be created that would meet the project purpose. This alternative consisted of combining Alternative 09A (new four-lane divided highway on the Denver & Rio Grande [D&RG] Railroad alignment) with Alternative 04 (widen east-west roads). This alternative, which is not listed in Table 1 above, was also advanced to Level 2 screening. Figure 2 through Figure 7 below show the alternatives considered in level 2 screening.

**Level 2 Screening (NEPA).** The purpose of Level 2 screening was to determine which alternatives were reasonable for NEPA purposes and the alternatives that would be evaluated in detail in the EIS. The reasonable alternatives were determined by collectively evaluating the alternatives that were found to meet the purpose of the project in Level 1 screening while also considering the degree to which these alternatives would meet the project’s purpose, their impacts to the natural and built environment, estimated project costs, logistical considerations, and overall feasibility.

During the Level 2 screening process, the WDC Team found that none of the alternatives would avoid impacts to the natural and built environment, including wetland impacts, farmland impacts, or impacts to the community, such as home and business relocations. The WDC study area contains urban and suburban areas, farmlands, and wetlands. Because of the location and density of these community and natural resources, the team found that, in all situations, avoiding or minimizing impacts to one resource caused additional impacts to other resources. Given that no action alternatives avoided affecting the natural and built environment, the WDC Team collectively evaluated each of the action alternatives to



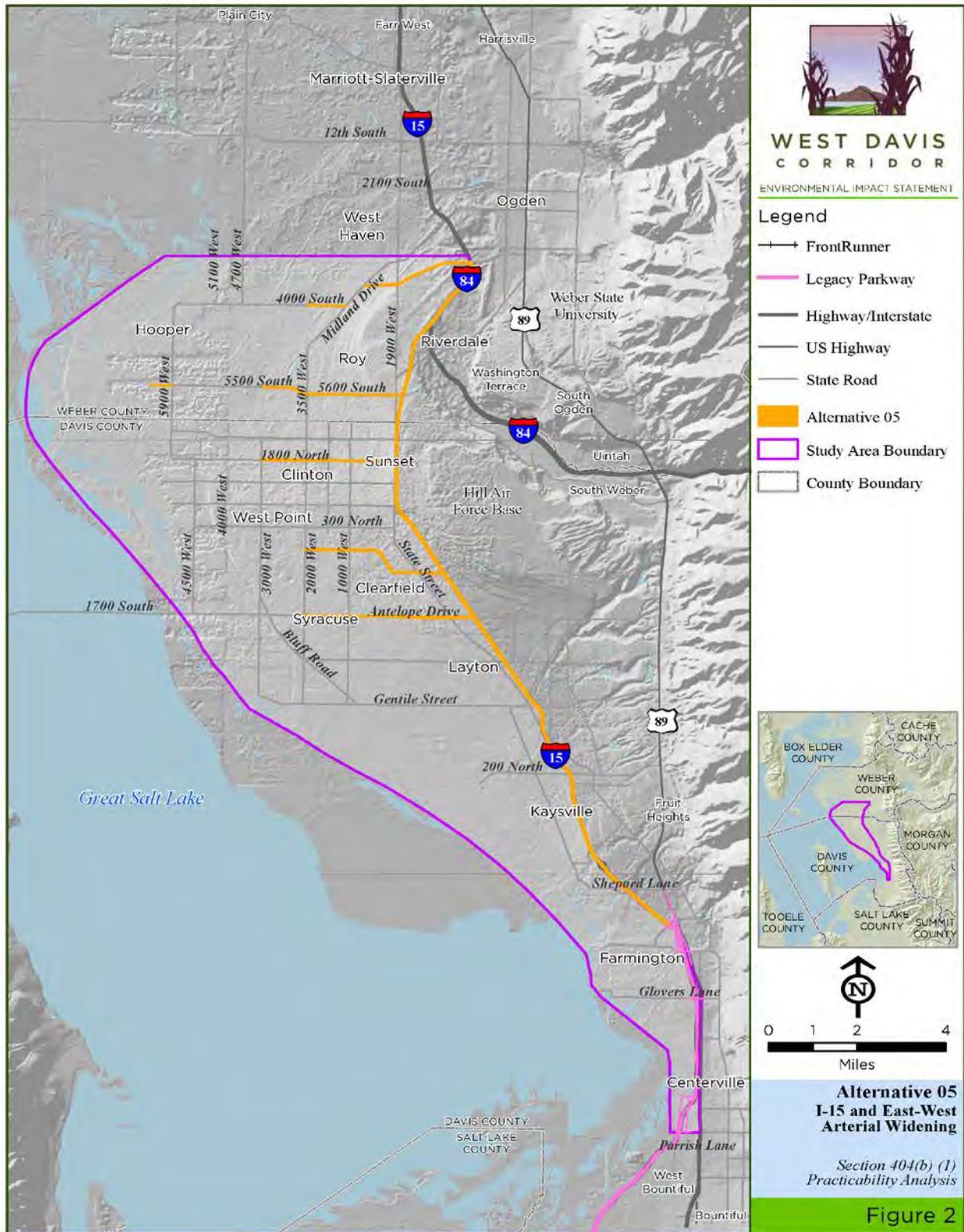
determine which alternatives best met the purpose of the project with the lowest overall levels of impacts to the natural and built environment.

The WDC Team used the Level 2 screening criteria to compare the alternatives that were advanced from Level 1 screening. Table 2 and Table 3 following the figures compare the alternatives considered during Level 2 screening for NEPA. The yellow highlighted alternatives are those that FHWA and UDOT are proposing to advance to the Draft EIS as reasonable under NEPA. The analysis of the Level 2 screening data showed that all of the alternatives would affect several of the resources used for the Level 2 screening criteria. Some alternatives would have a low level of impacts on one screening resource but high levels of impacts on other resources. Based on the evaluation, the WDC Team advanced the following two alternatives from the Level 2 screening process for detailed study in the Draft EIS:

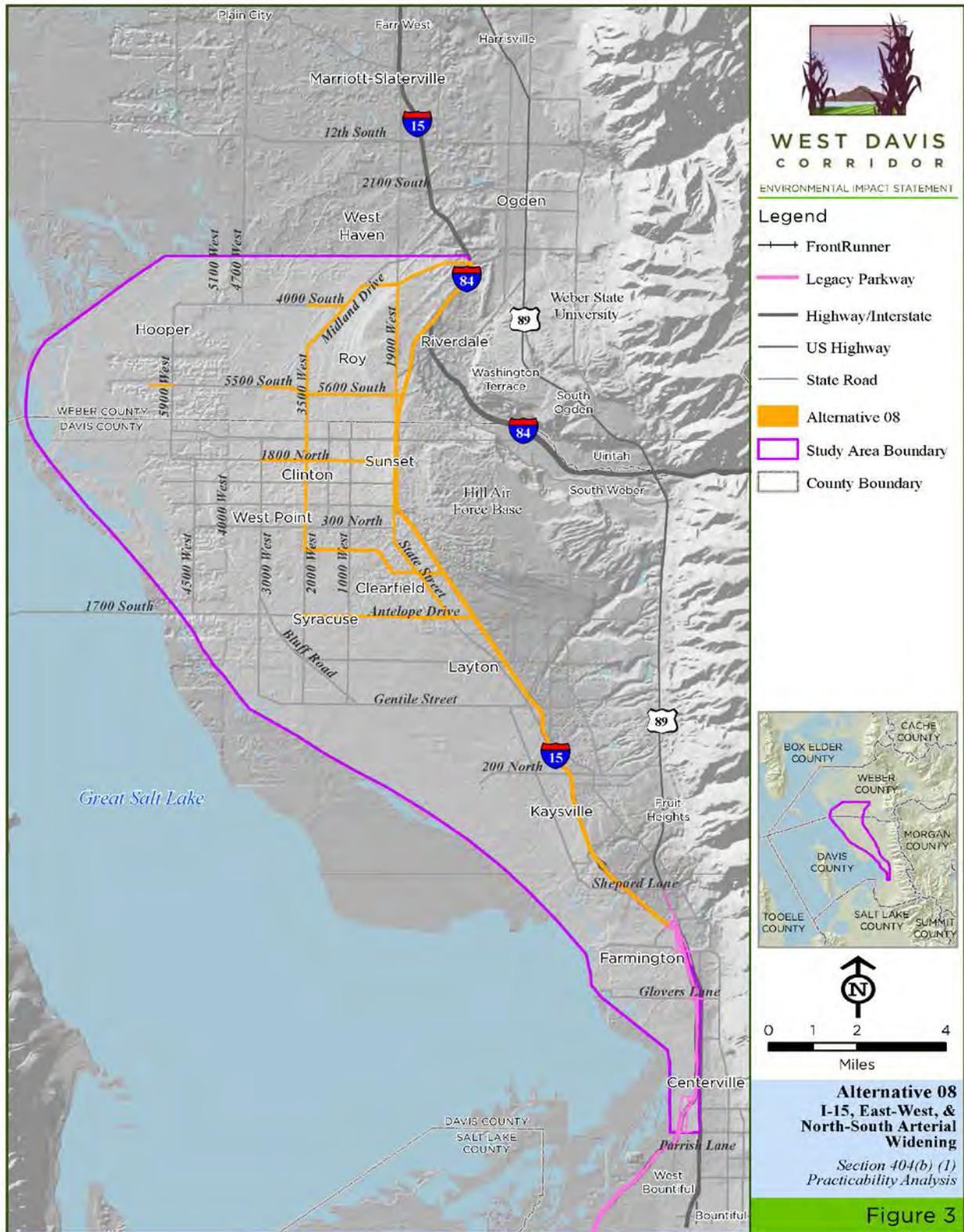
- Alternative 11A (includes Shepard Lane and Glovers Lane options in Farmington and two northern options in West Point)
- Alternative 13A (includes Shepard Lane and Glovers Lane options in Farmington and options of 5100 West or 4700 West in Weber County)

Of the alternatives advanced to Level 2 screening, five alternatives (Alternatives 05, 08, 09A+04, 10A, and 10A Modified) would have less impact to aquatic resources (wetlands) than Alternatives 11A and 13A. Therefore, this practicability analysis evaluates the five alternatives that would have less impact to wetlands to than those chosen by the WDC Team in Technical Memorandum 15 to be advanced for detailed study in the Draft EIS as reasonable alternatives to determine if any of these alternatives are practicable for Clean Water Action purposes and therefore potentially a less damaging practicable alternative.

**Figure 2. Alternative 05 – I-15 and East-West Arterial Widening**



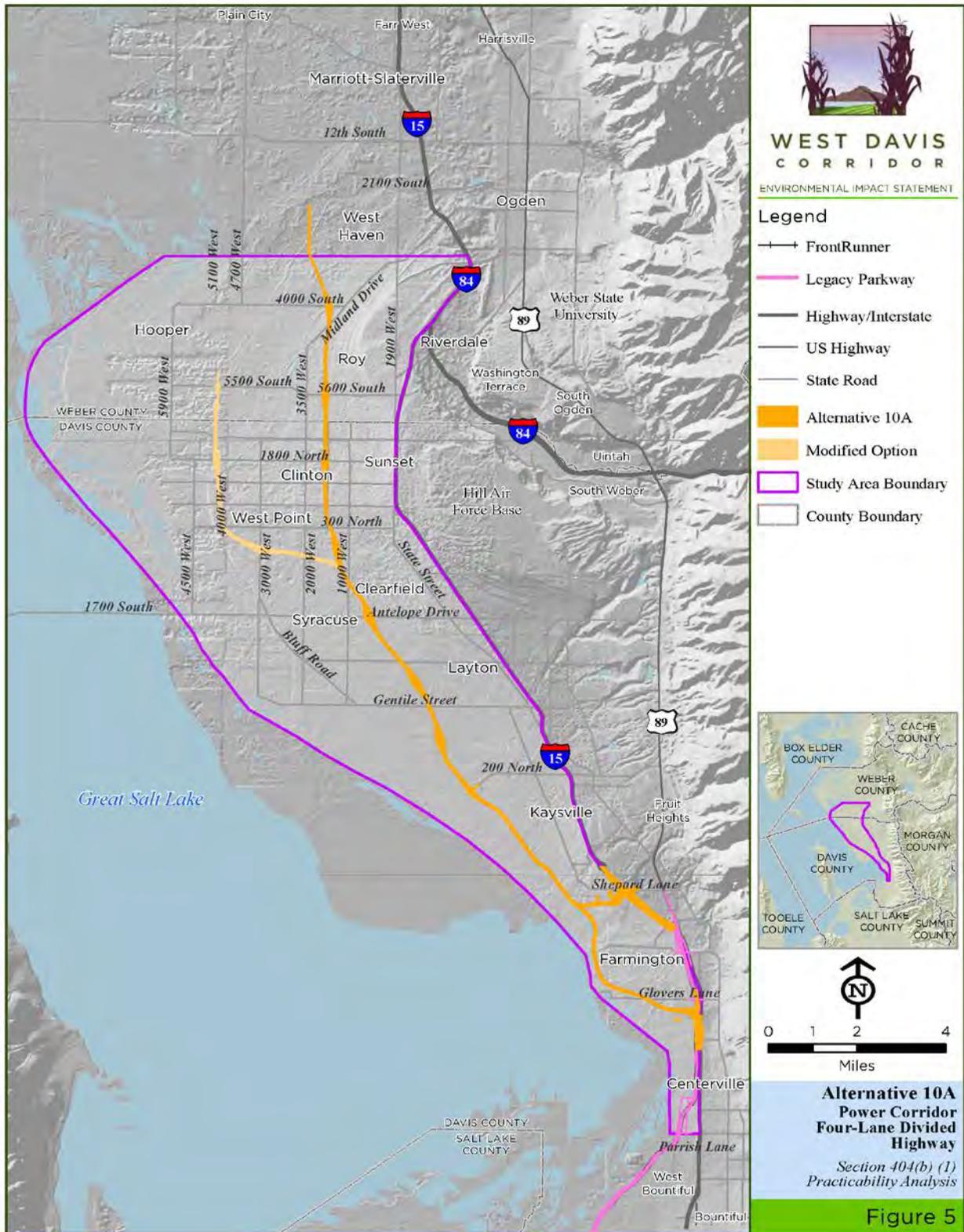
**Figure 3. Alternative 08 – I-15, East-West, and North-South Arterial Widening**



**Figure 4. Alternative 09A with Alternative 04 – East-West D&RG Four-Lane Divided Highway and East-West Arterial Widening**



**Figure 5. Alternatives 10A and 10A Modified – Power Corridor  
Four-Lane Divided Highway**



**Figure 6. Alternative 11A – 2001 Corridor Four-Lane Divided Highway**



**Figure 7. Alternative 13A – Western Corridor Four-Lane Divided Highway**



**Table 2. Level 2 Screening Data for the Shepard Lane Options**

Level 2 Screening Measures*	Shepard Lane Options									
	Alternative 05	Alternative 08	Alternative 09A+04	Alternative 10A - Power Corridor		Alternative 11A - 2001 Corridor		Alternative 13A - Western Corridor		
	I-15 and East-West Arterial Widening	I-15, East-West and North-South Arterial Widening	D&RG and East-West Arterial Widening	Original Option and Shepard Lane	Modified Option and Shepard Lane	4100 West Option and Shepard Lane	4800 West Option and Shepard Lane	5100 West and Shepard Lane	4700 West and Shepard Lane	
<small>*Measures are preliminary. The impacts and costs of alternatives advanced to the Draft EIS will change based on additional engineering design.</small>										
<b>Impacts to the Built Environment</b>										
Number of residential relocations	213	413	967	661	263	44	37	69	54	
Number of business relocations	64	144	141	29	24	9	8	5	5	
Number of utility relocations	19	20	19	102	60	3	3	3	3	
Number of Section 4f (public parks or wildlife refuges)	4	7	11	2	1	2	2	4	6	
Potential for Impacts to Low-Income or Minority Populations (Env. Justice)	High	High	High	High	High	Low	Low	Low	Low	
Number of areas with high density of historic properties	16	30	17	5	4	0	0	0	0	
<b>Impacts to Farmlands</b>										
Acres of Farmland (irrigated prime or unique farmland)	7.5	9.5	49.8	203.0	249.9	68.3	120.1	186.5	186.1	
<b>Impacts to Natural Resources</b>										
Total Acres of Wetlands	2.6	2.6	22.1	46.1	37.6	127.4	106.6	76.1	76.9	
Acres of wetlands by quality										
High Quality	0.0	0.0	0.0	0.2	0.2	23.5	23.5	16.4	16.2	
Medium Quality	0.0	0.0	0.1	26.4	13.4	69.1	61.0	36.5	36.5	
Low Quality	0.0	0.0	1.3	14.9	18.6	27.9	18.6	19.7	19.9	
Other	2.6	2.6	20.7	4.6	5.4	6.9	3.5	3.5	4.3	
Acres of wildlife habitat by quality										
Acres of High Quality Wildlife Habitat	0.0	0.0	7.4	45.9	44.4	80.5	77.4	80.0	80.0	
Acres of Medium Quality Wildlife Habitat	2.9	2.9	43.9	74.5	94.8	177.8	140.0	120.0	120.0	
Acres of Low Quality Wildlife Habitat	11.3	16.1	243.5	410.8	423.5	349.7	414.0	490.9	506.1	
<b>Costs</b>										
Total Cost Estimate (to nearest \$1 M)	\$816 Million	\$1.15 Billion	\$1.16 Billion	\$807 Million	\$572 Million	\$444 Million	\$439 Million	\$476 Million	\$481 Million	

The alternatives in yellow are the alternatives that FHWA and UDOT propose to be advanced to the Draft EIS.

**Table 3. Level 2 Screening Data for the Glovers Lane Options**

Level 2 Screening Measures*	Glovers Lane Options									
	Alternative 05	Alternative 08	Alternative 09A+04	Alternative 10A - Power Corridor		Alternative 11A - 2001 Corridor		Alternative 13A - Western Corridor		
	I-15 and East-West Arterial Widening	I-15, East-West and North-South Arterial Widening	D&RG and East-West Arterial Widening	Original Option and Glovers Lane	Modified Option and Glovers Lane	4100 West Option and Glovers Lane	4800 West Option and Glovers Lane	5100 West and Glovers Lane	4700 West and Glovers Lane	
<i>*Measures are preliminary. The impacts and costs of alternatives advanced to the Draft EIS will change based on additional engineering design.</i>										
<b>Impacts to the Built Environment</b>										
Number of residential relocations	213	413	967	649	251	32	25	57	42	
Number of business relocations	64	144	141	28	23	8	7	4	4	
Number of utility relocations	19	20	19	106	64	7	7	7	7	
Number of Section 4f (public parks or wildlife refuges)	4	7	11	4	3	4	4	6	8	
Potential for Impacts to Low-Income or Minority Populations (Env. Justice)	High	High	High	High	High	Low	Low	Low	Low	
Number of areas with high density of historic properties	16	30	17	5	4	0	0	0	0	
<b>Impacts to Farmlands</b>										
Acres of Farmland (irrigated prime or unique farmland)	7.5	9.5	49.8	248.0	295.0	113.4	165.2	231.6	231.2	
<b>Impacts to Natural Resources</b>										
Total Acres of Wetlands	2.6	2.6	22.1	56.0	47.5	137.4	116.5	86.0	86.8	
Acres of wetlands by quality										
High Quality	0.0	0.0	0.0	0.6	0.6	24.0	24.0	16.9	16.7	
Medium Quality	0.0	0.0	0.1	33.1	20.1	75.8	67.7	43.2	43.2	
Low Quality	0.0	0.0	1.3	14.0	17.8	26.9	17.7	18.6	18.9	
Other	2.6	2.6	20.7	8.3	9.0	10.7	7.1	7.3	8.0	
Acres of wildlife habitat by quality										
Acres of High Quality Wildlife Habitat	0.0	0.0	7.4	24.4	22.8	58.9	55.8	58.4	58.4	
Acres of Medium Quality Wildlife Habitat	2.9	2.9	43.9	108.5	128.9	211.9	174.0	154.1	154.1	
Acres of Low Quality Wildlife Habitat	11.3	16.1	243.5	476.8	489.6	415.7	480.0	557.0	572.2	
<b>Costs</b>										
Total Cost Estimate (to nearest \$1 M)	\$816 Million	\$1.15 Billion	\$1.16 Billion	\$809 Million	\$574 Million	\$446 Million	\$441 Million	\$478 Million	\$482 Million	

The alternatives in yellow are the alternatives that FHWA and UDOT propose to be advanced to the Draft EIS.

## 2.0 Practicability Methodology

The following sections provide additional information about how the WDC Team evaluated whether an alternative with less wetland impacts was practicable under the 404(b)(1) guidelines. The term *practicable* means “available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes.” In working with the USACE and the U.S. Environmental Protection Agency (EPA), the WDC Team focused this practicability evaluation on logistical constraints of the alternatives. All of the WDC alternatives that were evaluated in the Level 2 screening process would be practicable from a technological point of view. There are no constraints of existing technology that would make the alternatives impossible to construct.

### 2.1 Logistics

There is no definition of *logistics* in the Clean Water Act, nor have USACE or EPA issued guidance defining this term. The purpose of this practicability analysis, *logistics* is defined as the planning, implementation, and coordination of an operation.

#### 2.1.1 Impacts on Existing Development

##### Laws, Policies, and Procedures

For projects constructed by UDOT, the acquisition of property and the relocation of residents and businesses is governed by the federal Uniform Relocation Assistance and Real Property Acquisition Policies Act and regulations adopted there under. (49 CFR 24) and the Utah Relocation Assistance Act (Utah Code 57-12).

FHWA explains its Uniform Act policies and procedures at [www.fhwa.dot.gov/realestate/ua](http://www.fhwa.dot.gov/realestate/ua). The objectives of the federal Uniform Act, as defined in 49 CFR 24.1, are:

- a. To ensure that owners of real property to be acquired for Federal and federal-assisted projects are treated fairly and consistently, to encourage and expedite acquisition by agreements with such owners, to minimize litigation and relieve congestion in the courts, and to promote public confidence in Federal and federally-assisted land acquisition programs;
- b. To ensure that persons displaced as a direct result of Federal or federally-assisted projects are treated fairly, consistently, and equitably so that such displaced persons will not suffer disproportionate injuries as a result of projects designed for the benefit of the public as a whole; and
- c. To ensure that Agencies implement these regulations in a manner that is efficient and cost-effective.

Similarly, Utah Code 57-12-2(2) defines the purpose of the Utah Relocation Assistance Act as:

... to establish a uniform policy for the fair and equitable treatment of people displaced by the acquisition of real property by state and local land acquisition programs...

UDOT's Relocation Assistance Brochure, which includes the text of the Utah Relocation Assistance Act, can be found at [www.udot.utah.gov/main/uconowner.gf?n=2964629318747298013](http://www.udot.utah.gov/main/uconowner.gf?n=2964629318747298013).

Although both the federal and state laws acknowledge the need for acquisitions and provide procedures that ensure just compensation for any loss of real or personal property, the federal and state laws do not encourage the acquisition of private property. The federal regulation 42 United States Code (USC) 4625(a) states:

Programs or projects undertaken by a Federal agency or with Federal financial assistance shall be planned in a manner that (1) recognizes, at an early stage in the planning of such programs or projects and before the commencement of any actions which will cause displacements, the problems associated with the displacement of individuals, families, businesses, and farm operations, and (2) provides for the resolution of such problems in order to minimize adverse impacts on displaced persons and to expedite program or project advancement and completion.

This language in the federal act demonstrates Congress's recognition of the problems associated with relocations and the potential effects of such problems on advancing and completing a project. It also expresses Congress's intention that the amount of displacements and acquisition of private property, and resulting adverse impacts, should be minimized. Both of these factors support taking relocations and their associated problems into account as part of logistics.

## **Business Relocations**

When a business will be acquired, UDOT must help the business try to find a suitable replacement property. UDOT initially tries to do this in the city where the business is located. If a suitable property can't be found, UDOT will try to find a suitable replacement property in another city. If no suitable properties can be found, the business might not be able to relocate and would likely go out of business.

In finding a suitable replacement property, it is important to note that UDOT cannot condemn private property from a landowner in order to provide suitable replacement property for another. This often makes it very difficult to successfully relocate a business to a nearby location, particularly in areas where available properties are scarce. In addition, UDOT does not construct or arrange for construction of new buildings for relocated businesses, it is limited to compensating owners for the cost of buildings they acquire (HDR 2012b).

Most businesses have been planned, sited, and developed to serve a specific clientele at a specific location or have been located close to transportation networks and labor markets to serve the business's regional or national markets. In many circumstances, it is difficult or impossible to relocate a business to a similar location that meets the needs of the business.

Additionally, most businesses have developed relationships with their customers at their current locations.

A relocation is a significant risk and cost for a business, since there are no guarantees that its existing customers will continue to be customers at the new location. Congress recognized this risk in its *Findings for the Uniform Relocation Assistance and Real Property Acquisitions Policies Act* [42 USC 4621(a)(3)] when it stated, “The Congress finds and declares that ... the displacement of businesses often results in their closure...” It is also important to note that UDOT does not compensate businesses for any lost revenue as part of the relocation process. This is also a significant risk and cost for a business.

To determine logistical constraints of relocating businesses, UDOT evaluated the number of business impacts, the types of businesses, and the special requirements of each business within the context of each city and adjacent cities in the WDC study area. The context of the city included the overall size of the city, the amount of existing development, the availability of existing similar commercial properties, and any city-specific zoning.

Based on this information, if UDOT could not find a suitable similar replacement property to relocate a business within or immediately adjacent to the city where the business is currently located, UDOT considered this a logistical constraint. If UDOT could not find enough suitable replacement properties to accommodate all or most of the businesses acquired due to an alternative, the alternative was considered not practicable.

### 3.0 **Practicability Analysis**

This evaluation to determine whether alternatives are practicable under the Clean Water Act was conducted for the five alternatives (Alternatives 05, 08, 09A+04, 10A, and 10A Modified) that would have less impacts to aquatic resources than the two alternatives that the WDC Team has determined to be reasonable under NEPA (Alternatives 11A and 13A). Alternatives 05, 08, 09A+04, 10A, and 10A Modified would fill between about 3 acres and 56 acres of wetlands. Alternatives 11A and 13A would fill between 76 acres and 137 acres of wetlands. The alternatives considered in this practicability analysis were the only alternatives that met the project’s purpose and had less impacts to aquatic resources than Alternatives 11A and 13A. Figure 2 through Figure 7 above show the alternatives considered in the practicability analysis.

None of the alternatives evaluated in the screening process avoided all wetlands. The alternatives that were evaluated in Level 2 screening would fill between about 3 acres and 177 acres of wetlands. About 3,921 acres of wetlands were identified in the WDC study area (see Figure 1 above, Study Area, for the study area boundary) as identified during the 2010 and 2011 field surveys conducted by the WDC Team.

## 3.1 Alternative 05

Alternative 05 consists of widening existing east-west streets beyond the widening described in the Wasatch Front Regional Council’s (WFRC) Regional Transportation Plan (RTP) for 2040 plus widening Interstate 15 (I-15). The alternative would widen Hinckley Drive, 4000 South, 5500/5600 South, 1800 North, State Route (SR) 193, and Antelope Drive. All east-west roads (4000 South and 5500/5600 South) would be widened from I-15 to SR 37 in Weber County and from I-15 to SR 110 in Davis County (1800 North, SR 93, and Antelope Drive). It would include I-15 widening to add one more general-purpose lane in each direction. This alternative would fill about 2.6 acres of wetlands.

### 3.1.1 Practicability Evaluation

Alternative 05 would widen I-15 by another lane in each direction and would widen multiple existing east-west roads to seven lanes. The additional widening of these roads would require relocating at least 64 businesses, and possibly relocating another 45 due to proximity impacts. Table 4 lists the businesses that would be directly affected by Alternative 05 (HDR 2012b). The table also includes the associated North American Industry Classification System (NAICS) code(s) for each business.

#### What is a proximity impact?

A proximity impact occurs when a structure would be within 15 feet of a roadway right-of-way. A direct impact occurs when a structure would be within the right-of-way.

**Table 4. Business Impacts from Alternative 05**

Business Name and Description	Address	NAICS Code(s) <sup>a</sup>	Estimated Number of Employees	Estimated Annual Revenue
C & E Storage (storage units)	3015 West 4000 South West Haven, UT 84401	53113001	1	\$206,000
Exxon Gas Station <sup>b</sup> (gas station)	5600 South 1900 West Roy, UT 84067	44512001 44719005 44719008 52211001	9	\$4,176,000
Hidden Cove Car Wash <sup>b</sup> (car wash)	1992 West 5600 South Roy, UT 84067	81119208	4	\$230,000
Jackson Hewitt (tax preparation)	1980 West 5600 South, Suite 1 Roy, UT 84067	54121301	3	\$93,000
Gerald H. Brown, DDS (dentist)	1980 West 5600 South, Suite 2 Roy, UT 84067	62121003	1–4	\$580,000
Quest Staffing Services (staffing service)	1980 West 5600 South, Suite 3 Roy, UT 84067	56132001 56133001	5–9	\$210,000
Studio 48 Dance & Cheer (dance studio)	3518 West 5600 South, Suite D Roy, UT 84067	61161011	20	\$860,000

**Table 4. Business Impacts from Alternative 05**

<b>Business Name and Description</b>	<b>Address</b>	<b>NAICS Code(s)<sup>a</sup></b>	<b>Estimated Number of Employees</b>	<b>Estimated Annual Revenue</b>
Kim's Academy of Roy (gym/martial arts)	3518 West 5600 South, Suite B Roy, UT 84067	61162014	1–4	\$168,000
Little Taste of Britain (restaurant)	3518 West 5600 South, Suite A Roy, UT 84067	72251117	10–19	\$480,000
Rob's Frosted Creamery (restaurant)	3588 West 5600 South, Suite A Roy, UT 84067	72231007 72251512	13	\$520,000
Just-A-Buck <sup>b</sup> (discount store/retail)	3588 West 5600 South, Suite B Roy, UT 84067	45299013	2	\$200,000
Cal Cuts Barber Shop <sup>b</sup> (barbershop)	3588 West 5600 South, Suite C Roy, UT 84067	81211101	1–4	\$120,000
Covett Boutique (clothing store)	3606 West 5600 South, Suite A Roy, UT 84067	44812001	3	\$474,000
Lynn's Nails (salon)	3606 West 5600 South, Suite B Roy, UT 84067	81211302	2	\$120,000
Vacant	3606 West 5600 South, Suite C Roy, UT 84067			
Lakeview Dental (dentist)	3606 West 5600 South, Suite D Roy, UT 84067	62121003	14–17	\$2,465,000
Saigon Market Oriental Food & Gift (grocery store)	1813 N. Main Street Sunset, UT 84015	44529923	2	\$230,000
Money Gram <sup>b</sup> (payday lender)	1813 N. Main Street, Unit B Sunset, UT 84015	52232010	6	\$1,900,000
Ally's Pizza (restaurant)	258 West 1800 North Sunset, UT 84015	72251115	10	\$560,000
Church of Jesus Christ of Latter-day Saints (LDS) <sup>b</sup> (church – institutional)	338 West 1800 North Sunset, UT 84015	81311008	1–4	Not applicable
Sunset City Public Works Facilities (2 large bldgs.) (institutional)	432 West 1800 North Sunset, UT 84015	23713022	1–4	\$4,060,000
Care-A-Lot Child Care Center (day care)	928 West 1800 North, Suite A Clinton, UT 84015	62441003	17	\$714,000
Mayer Chiropractic (chiropractor)	928 West 1800 North, Suite G Clinton, UT 84015	62131002	3	\$372,000
M & D Chiropractic <sup>c</sup> (chiropractor)	928 West 1800 North, Suite J Clinton, UT 84015	Not available	3	\$372,000

**Table 4. Business Impacts from Alternative 05**

<b>Business Name and Description</b>	<b>Address</b>	<b>NAICS Code(s)<sup>a</sup></b>	<b>Estimated Number of Employees</b>	<b>Estimated Annual Revenue</b>
Vacant suites (2)	928 West 1800 North, Suites H & K Clinton, UT 84015			
Maverik Gas Station <sup>b</sup> (gas station/convenience store)	1036 West 1800 North Clinton, UT 84015	44512001 44719005	15	\$3,400,000
Country Pines Retirement Community (assisted-living center)	1706 West 1800 North Clinton, UT 84015	62311016 62331101	45	\$3,150,000
7-Eleven <sup>b</sup> (convenience store)	1829 North 2000 West Clinton, UT 84015	44511003 44512001 44719005 52211001	7	\$1,500,000
Wells Fargo Bank (bank)	2106 West 1800 North Clinton, UT 84015	52211001 52211002	10	Not available
Grease Monkey <sup>b</sup> (oil change/auto repair)	2142 West 1800 North Clinton, UT 84015	81119101	5–9	\$650,000
O'Reilly Auto Parts <sup>b</sup> (auto parts)	2178 West 1800 North Clinton, UT 84015	44131011 44131017	11	\$2,145,000
Domino's Pizza (restaurant)	810 East 700 South Clearfield, UT 84015	72251115 72251117 72251301	13	\$728,000
Allstate Insurance <sup>b</sup> (insurance)	726 East 700 South Clearfield, UT 84015	52421001	1–4	\$650,000
Maverik <sup>b</sup> (gas station/convenience store)	709 S. State Street Clearfield, UT 84015	44512001 44719005	12	\$2,700,000
Payday Loans (payday lender)	712 S. State Street Clearfield, UT 84015	52229103	1–4	\$1,188,000
Gateway Lodge 29 (Masonic lodge)	452 East 700 South Clearfield, UT 84015	81341002	1	Not applicable
Alpine Spine & Sports Rehabilitation (medical)	Davis North Medical Office Building 1660 W. Antelope Drive Layton, UT 84041	62111107	20	\$3,980,000
Dr. Brian Richman, Antelope Island Foot & Ankle Clinic (medical)	Davis North Medical Office Building 1660 W. Antelope Drive Layton, UT 84041	62139101 62139103 62149301	5	\$695,000
Stevens-Henager College <sup>b</sup> (education)	Davis North Medical Office Building 1660 W. Antelope Drive Layton, UT 84041	61131009	20	Not available

**Table 4. Business Impacts from Alternative 05**

<b>Business Name and Description</b>	<b>Address</b>	<b>NAICS Code(s)<sup>a</sup></b>	<b>Estimated Number of Employees</b>	<b>Estimated Annual Revenue</b>
Richard Seegmiller, DPM <sup>b</sup> (medical)	Davis North Medical Office Building 1660 W. Antelope Drive Layton, UT 84041	62139103	1–4	\$417,000
Davis Hospital Imaging Center <sup>d</sup> (medical)	Davis North Medical Office Building 1660 W. Antelope Drive Layton, UT 84041	62211002 62221001 62311016	See footnote	See footnote
Ashby Plastic Surgery and Laser Aesthetics (medical)	Davis North Medical Office Building 1660 W. Antelope Drive Layton, UT 84041	62111107 81219904	7	\$1,393,000
Quest Diagnostics (medical)	Davis North Medical Office Building 1660 W. Antelope Drive Layton, UT 84041	62151106	1	\$193,000
Rocky Mountain Allergy, Asthma, and Immunology (medical)	Davis North Medical Office Building 1660 W. Antelope Drive Layton, UT 84041	Not available	Not available	Not available
Utah Digestive Health Institute (medical)	Davis North Medical Office Building 1660 W. Antelope Drive Layton, UT 84041	62111107	6	\$1,194,000
North Davis Neurology (medical)	Davis North Medical Office Building 1660 W. Antelope Drive Layton, UT 84041	62111107	3	\$597,000
Kmart (retail department store)	2010 N. Main Street Layton, UT 84041	4431 4441 4481 4511 4521 4529	50–99	\$14,580,000
4 vacant spaces (retail)	2010 N. Main Street Layton, UT 84041			
U.S. Post Office <sup>b</sup> (government)	380 W. Antelope Drive Clearfield, UT 84015	49111001	1–4	Not available
Mild to Wild Hair Design (salon)	926 West 1700 South Clearfield, UT 84015	81211202	25	\$1,375,000
Vandalay Dry Cleaning and Laundry (dry cleaner/laundromat)	926 West 1700 South Clearfield, UT 84015	81232002	4	\$240,000
Rick's Auto Cool (auto repair)	1586 West 1700 South Syracuse, UT 84075	44131003 81111807	1	\$195,000

**Table 4. Business Impacts from Alternative 05**

<b>Business Name and Description</b>	<b>Address</b>	<b>NAICS Code(s)<sup>a</sup></b>	<b>Estimated Number of Employees</b>	<b>Estimated Annual Revenue</b>
Pearson Auto (auto repair)	1586 West 1700 South Syracuse, UT 84075	44112005 81111104 81111810 81119803	5	\$575,000
Thurgood Plumbing (plumbing)	1586 West 1700 South Syracuse, UT 84075	23822025	7	\$1,316,000
Dr. Sheldon Peck Orthodontics (dentist)	Greenbriar Professional Plaza 1792 West 1700 South Syracuse, UT 84075	62121003	11	\$1,595,000
Atlantis Pediatric Dentistry (dentist)	Greenbriar Professional Plaza 1792 West 1700 South Syracuse, UT 84075	62121003	1–4	\$580,000
Dr. Jeremy Godderidge Dental (dentist)	Greenbriar Professional Plaza 1792 West 1700 South Syracuse, UT 84075	62121003	1–4	\$580,000
Vacant offices (2)	Greenbriar Professional Plaza 1792 West 1700 South Syracuse, UT 84075			
We Care Pediatrics (medical)	Greenbriar Professional Plaza 1792 West 1700 South Syracuse, UT 84075	62111107 62149301	5–9	\$2,745,000
Access Homecare & Hospice (hospice care)	~4985 South 1500 West Riverdale, UT 84405	62139920 62161001 62311011	15	\$810,000
Vacant units (2)	~4985 South 1500 West Riverdale, UT 84405			
Sacco's Produce (grocery store)	6050 South 1900 West Roy, UT 84067	44523003	4	\$888,000
Northern Utah Storage Units <sup>b</sup> (storage units)	~725 East 200 South Clearfield, UT 84015	48411009 49311008 49311014	10–19	\$1,140,000
Xtreme Performance & Accessories (auto parts)	~590 N. Main Street Layton, UT 84041	44131013	2	\$390,000
VIP Storage Units (storage)	344 N. Main Street Layton, UT 84041	53113001	5	\$1,030,000
Wash It Car Wash (car wash)	650 S. Main Street Layton, UT 84041	81119208	2	\$114,000

**Table 4. Business Impacts from Alternative 05**

<b>Business Name and Description</b>	<b>Address</b>	<b>NAICS Code(s)<sup>a</sup></b>	<b>Estimated Number of Employees</b>	<b>Estimated Annual Revenue</b>
DL Shippen Construction <sup>b</sup> (construction contractor)	608 S. Main Street Layton, UT 84041	23799003	15	\$3,375,000
Crystal Pool (pool repair/installation)	608 S. Main Street Layton, UT 84041	23622040	1–4	\$372,000
U-Haul (moving van rentals)	608 S. Main Street Layton, UT 84041	53212010 53212016	1	\$384,000
<b>Total number for active businesses</b>	<b>64</b>		<b>482–600</b>	<b>\$75,974,000</b>
Total number of vacant businesses	11			

<sup>a</sup> The North American Industry Classification System (NAICS) codes classify businesses for the purpose of analyzing statistical data related to the U.S. business economy.

<sup>b</sup> Estimated from other locations in Utah.

<sup>c</sup> Specific company information was not available. The number of employees and annual revenue was estimated using the estimates for Mayer Chiropractic.

<sup>d</sup> The database provided a total number of employees and annual revenue for the entire Davis Hospital and Medical Center. Estimated numbers of employees and annual revenue were not available for specific clinics.

It should be understood that it is not possible to know with certainty which, if any, of these businesses could be relocated in the same city or in other adjacent cities in the WDC study area impacted by Alternative 05. To determine this, first UDOT would need to go through the right-of-way acquisition process to identify the attributes of a suitable, comparable replacement property for each affected business. Each business is unique and will have specific required attributes for a suitable replacement property. For example, a gas station and a medical office would have vastly different criteria for a suitable replacement property. A vacant medical office would not be a suitable replacement property for a gas station, and vice versa (HDR 2012b). In general, the larger and/or more specialized a business is, the more difficult it will be to find a suitable replacement property.

Also, the WDC Team assumes that most of the businesses that would be affected by Alternative 05 lease their properties. In most areas with designated commercial districts, there are usually one or more commercial property-management companies that own and lease the commercial space to the businesses. Most of the businesses do not own the property or the structures where the business operates. It is not standard practice in the acquisition process to build a new building for an affected business that is a lessee.

On a related note, undeveloped property that is zoned, or planned, for commercial use would not be considered an available option for relocating an affected business, since UDOT would not construct a new commercial building for an affected business and can't condemn private property to build a new building for a relocated business (HDR 2012b).

Table 5 below summarizes the business impacts from Alternative 05 for each city.

**Table 5. Business Impacts from Alternative 05 by City**

City	Directly Affected Businesses	Available Commercial Properties for Rent <sup>a</sup>
Clearfield	9	5
Clinton	9	0
Layton	17	5
Riverdale	1	0
Roy	15	7
Sunset	5	1
Syracuse	7	0
West Haven	1	5
<b>Total</b>	<b>64</b>	<b>23</b>

<sup>a</sup> Data were taken from the Utah Multiple Listing Service (MLS) on July 31, 2012 ([www.utahrealestate.com](http://www.utahrealestate.com)).

### Available Commercial Properties

Table 5 above shows that there are not enough vacant, existing commercial buildings to relocate the affected businesses within the WDC study area, even before considering the specific size, type, location, and other attributes that a business might require. There might be other commercial properties available for lease that are not listed on the Utah Multiple Listing Service (MLS), but it is very unlikely that there are enough similar, comparable replacement properties in suitable locations in each city, or in adjacent cities in the WDC study area affected by Alternative 05, to accommodate all or most of the businesses affected by Alternative 05.

A review of the other two cities (West Point and Hooper) adjacent to the affected cities showed they are still rural suburban areas with a mix of low-density residential development and agricultural land. West Point and Hooper currently don't have developed commercial areas because the cities still have small populations that can't support commercial districts (HDR 2012b).

If a business is unable to relocate to a suitable replacement property in the same city, UDOT would work with the business owner during the acquisition process to find suitable a replacement property in an adjacent city. If the business relocates to a different city, clients and customers of the business who live close to the business's previous location would need to drive farther to reach the business. If the business could not move to a new location in an adjacent city in the WDC study area, or if a business goes out of business due to the change in location, the business and its associated jobs and revenues would be lost.

## Limited Commercial Areas in the WDC Study Area

In all of the cities in the WDC study area that are adjacent to those affected by Alternative 05, there are limited commercial districts that are located along state highways. For most of the cities, these areas are already developed and have very few, if any, vacancies.

Increasing the amount of commercial development would require a change in zoning. For Roy, Sunset, and Clinton, which are already built out, this would require converting existing land uses (such as residential) to commercial use.

Increasing the amount of commercial development would also depend on actions from private property owners and developers. UDOT and the local governments do not construct commercial properties.

Most of the cities are at or very close to full build-out and have only limited commercial districts. The majority of the commercial districts are fully leased, and not many commercial properties are available to rent. Furthermore, it is unlikely that the available commercial properties could accommodate the number or types of businesses that would need to relocate in each city. As a result, some businesses could not be relocated in the same city. In addition, due to a lack of available properties or commercially zoned districts in adjacent cities, the businesses affected by Alternative 05 could probably not relocate in those cities either.

### What is build-out?

Build-out means that there is no more land available for development in a city because any undeveloped land is already being used for its intended use of open space, agriculture, or other defined uses.

## City-Specific Logistical Constraints

### Roy

The city of Roy had a population of 36,884 in 2010, and the city is almost built out. Roy is predominantly a residential city, with a limited amount of commercial areas clustered along or at the intersections of the state roads in the city (SR 108, SR 126, and SR 97). With the exception of a few small, undeveloped areas, these commercial areas are completely developed. Furthermore, the existing zoning and future land-use maps for Roy are essentially identical, meaning that no new commercial districts are planned in Roy.

Alternative 05 would affect 15 businesses in Roy: a gas station, a car wash, two dentist's offices, two office businesses, a dance studio, a gym, two restaurants, two hair salons, two retail businesses, and a grocery store. Given the lack of available commercial areas in the city, few of these businesses could likely relocate in Roy.

Of these businesses, the grocery store would be the most difficult to relocate in Roy, since it is a large, specialized building located on SR 126 between two interchanges with I-15. Grocery stores generally require at least 5,000 square feet and specialized refrigerated areas and loading docks. There would not be any available, suitable locations for this grocery store in Roy. Similarly, the dentist's offices, restaurants, dance studio, and gym are all businesses that have likely been established in their current locations based on their existing clients.

However, there are not enough comparable, suitable commercial properties in Roy to relocate all of these businesses (HDR 2012b).

### Sunset

The city of Sunset had a population of 5,122 in 2010, and the city is completely built out. Sunset has a limited amount of commercial areas that are clustered along SR 126 and at the intersections of 1300 North and SR 37 (1800 North) with SR 126. These commercial areas are completely developed.

Alternative 05 would affect five businesses in Sunset: a church, the Sunset City public works building, an office business, a restaurant, and a grocery store. Given the lack of available commercial areas in Sunset, all or most of these businesses could probably not relocate in Sunset. The Utah MLS lists only one commercial property for rent in Sunset.

During the 1800 North EIS process, the mayor of Sunset said it was unlikely that any of the businesses affected by that project would relocate in Sunset. The WDC Team assumes that this would also be the case for business impacts from WDC Alternative 05 (HDR 2012b).

### Clinton

The city of Clinton had a population of 20,426 in 2010, and the city is almost built out. Clinton has a limited amount of commercial areas clustered along or at intersections of the state roads in the city (SR 108 [2000 West] and SR 37 [1800 North]). The largest commercial district and the town center are at the intersection of SR 108 and SR 37. All of the business impacts in Clinton would be on SR 37 between about 900 West and 2200 West. With the exception of a few small, undeveloped areas, the commercial areas are completely developed. Furthermore, the Clinton zoning maps identify only small parcels of commercial land use that are not already developed. There are no new, large commercial districts planned in Clinton.

Alternative 05 would affect 9 businesses in Clinton: a day care, two chiropractor's clinics, two gas stations, an assisted-living center, a bank, an oil change business, and an auto parts store. Given the lack of available commercial areas in Clinton, most of these businesses could probably not relocate in Clinton.

Of these businesses, the assisted-living center would be the most difficult to relocate in Clinton, since it is a large, specialized building. Assisted-living centers are normally constructed specifically for their intended purpose. The assisted-living center houses elderly and often physically immobile clients. Specialized features of assisted-living centers normally include utility connections large enough to support medical equipment and doorways and elevators wide enough to accommodate wheelchairs, walkers, and hospital beds. In Clinton, assisted-living centers are allowed only as a conditional use in zone CP-1 (neighborhood commercial zone). Currently, the assisted-living center is located on the only parcel in Clinton that is zoned CP-1. Since there are no other CP-1 zones, there would not be any other available, suitable locations for this assisted-living center in Clinton.

Compared to the assisted-living center, the other businesses would be easier to relocate since they are smaller and have less-specialized facilities. However, there are not enough

comparable, suitable commercial properties in Clinton to relocate all of these businesses (HDR 2012b).

### Clearfield

The city of Clearfield had a population of 30,112 in 2010, and the city is almost built out. Clearfield has a limited amount of commercial areas clustered along or at intersections of the state roads in the city (SR 126 [Main Street], SR 193 [700 South], and SR 108 [Antelope Drive]). Clearfield also has a large industrial and manufacturing area at Freeport Center. A small amount of vacant property adjacent to Freeport Center is planned for future industrial and manufacturing use.

Alternative 05 would affect nine businesses in Clearfield: a restaurant, two office businesses, a gas station, a Masonic lodge, a post office, a salon, a dry cleaner, and a storage unit business. Given the lack of available commercial areas in Clearfield, most of these businesses could probably not relocate in Clearfield. There are not enough comparable, suitable commercial properties in Clearfield to relocate all of these businesses (HDR 2012b).

### Layton

The city of Layton had a population of 67,311 in 2010, and the city is almost built out around I-15 and SR 108 (Antelope Drive). Layton has a limited amount of commercial areas clustered along or at intersections of I-15 and the state roads in the city (SR 126 [Main Street], SR 108 [Antelope Drive], and SR 232 [Hill Field Road]). The City of Layton has future plans for a business park and some commercial development in the southwest part of Layton. All existing commercially zoned areas in Layton are completely developed.

Alternative 05 would affect 17 businesses in Layton: 10 medical office businesses, a Kmart, a car wash, a storage unit business, an auto parts store, a general contractor, a pool repair business, and a truck rental business (HDR 2012b). Given the lack of available commercial areas in Layton, most of these businesses could probably not relocate in Layton.

The 10 medical businesses are located in specially designed medical office buildings on the same block as the Davis Hospital and Medical Center. It is likely that these medical offices are located in one building because of the specialized nature of the building and the proximity to the other medical businesses. Even if a comparable building existed with vacant medical offices, any location that is not around the hospital would not be considered a suitable, comparable location. However, there are not any available, suitable replacement buildings for these businesses at this location, so all of these businesses would likely be lost if Alternative 05 is constructed.

There is also not a suitable replacement property for the Kmart in Layton on Antelope Drive. None of the commercial properties listed on the Utah MLS were larger than about 10,000 square feet, which is much smaller than the size of the Kmart (about 95,000 square feet). Therefore, Kmart would also likely be lost if Alternative 05 is constructed. There are not enough comparable, suitable buildings available in Layton to relocate all of these businesses.

## Syracuse

The city of Syracuse had a population of 24,331 in 2010. Syracuse has a limited amount of commercial areas clustered along or at intersections of the state roads in the city (SR 127 [Antelope Drive] and SR 108 [2000 West]). The two main commercial districts are at the 2000 West/Antelope Drive intersection and the 1000 West/Antelope Drive intersection. These commercial areas are not completely developed, but there are no available commercial buildings that are already built.

Alternative 05 would affect seven businesses in Syracuse: four medical offices, one plumbing business, and two auto repair businesses. Given the lack of available commercial buildings in Syracuse, most of these existing businesses could probably not relocate in Syracuse.

Of these businesses, the medical offices would be the most difficult to relocate in Syracuse, since the medical offices are all located in one specialized medical office building on Antelope Drive. It is likely that these medical offices are located in one building because of the specialized nature of the building and the proximity to the other medical businesses. There would not be any available, suitable locations for these medical offices to be relocated in one building in Syracuse. There are not enough comparable, suitable commercial buildings available in Syracuse to relocate all of these businesses (HDR 2012b).

### Practicability Summary for Alternative 05

Alternative 05 would require the relocation of at least 64 businesses due to direct impacts and possibly another 45 businesses due to proximity impacts. Each of the businesses affected by Alternative 05 would have specific relocation requirements. Each business is located in a city that has limited commercial districts, is almost or completely built out, and has few commercial properties available for rent.

The business impacts of Alternative 05 would likely cause the loss of many businesses in each city and in the WDC study area due to the lack of suitable replacement buildings in each city and in adjacent cities in the WDC study area. FHWA and UDOT consider the likely loss of businesses due to a lack of suitable replacement options to be a logistical constraint, and believe that this logistical constraint would make Alternative 05 an impracticable alternative. FHWA and UDOT believe it would not be possible to relocate all or most of these 64 or more businesses because there are not enough suitable replacement business properties available in the businesses' current cities or in adjacent cities in the WDC study area.

## 3.2 Alternative 08

Alternative 08 is similar to Alternative 05. Both alternatives consist of widening existing east-west streets beyond the widening described in the RTP plus widening I-15. In addition, Alternative 08 would consist of widening two north-south streets: SR 108 and SR 126. Overall, Alternative 08 would have 144 business relocations.

FHWA and UDOT have determined that Alternative 05 is not practicable because of these business relocations. Since Alternative 08 would affect 144 businesses, including 64 of the same businesses that would be affected by Alternative 05, FHWA and UDOT have determined that Alternative 08 is also not practicable.

## 3.3 Alternative 09A with Alternative 04

Alternative 09A begins in Farmington, merges to the D&RG corridor, and stays on the D&RG corridor to 4000 South. Alternative 04 consists of widening Hinckley Drive, 4000 South, 5500/5600 South, 1800 North, SR 193, and Antelope Drive. Alternative 09A would affect the D&RG rail alignment, which has been converted to a regional trail. The Utah Transit Authority has an agreement with Union Pacific Railroad to use the alignment as a transit corridor.

Currently, the D&RG alignment is under a Notice of Interim Trail Use and is subject to reactivation for freight use. The alignment is also subject to the Prospective Purchaser Agreement with the Utah Department of Environmental Quality and EPA, which allows the alignment to be used for rail or trail use only. This Agreement could be changed, if at all, only with the agreement of EPA, Utah Department of Environmental Quality, and the Union Pacific Railroad, which may not be possible for use as a roadway. The Utah Transit Authority intends to use the D&RG alignment as a transit corridor. Based on the Utah Transit Authority plans and these other legal constraints, this alignment is not available for UDOT to use for the WDC as part of Alternative 09A (see Appendix B, Correspondence).

Even if the alignment for Alternative 09A+04 were available, the alternative would require the same east-west road widening components as Alternative 05, which was determined to be not practicable because of logistical constraints from business relocations. In addition, Alternative 09A+04 would have more business relocations (141) than Alternative 05 (64).

Since Alternative 09A+04 is not available for the WDC, FHWA and UDOT have determined that Alternative 09A+04 is not practicable.

## 3.4 Alternatives 10A and 10A Modified

Alternative 10A begins in Farmington, follows the 2001 Alignment to 2000 West in Layton, merges to the Rocky Mountain Power corridor, and stays on the power corridor to 4000 South in Weber County. However, a variation of this alternative, Alternative 10A Modified, was suggested by the resource agencies. Alternative 10A Modified would involve constructing a new four-lane divided highway that begins in Farmington, follows the 2001 Alignment to 2000 West in Layton, merges to the power corridor, stays on the power corridor to Clearfield, goes west near 500 South, connects with an eastern refinement of the 2001 North Legacy Corridor Study alignment around 3900 West in West Point, and then follows the eastern refinement of the 2001 corridor study alternative to 5500 South.

The WDC Team reviewed this alternative with the resource agencies on May 25, 2011. After this review, the agencies requested a few modifications to the alternative from what was presented in Technical Memorandum 15 in February 2011. The modifications were requested to reduce impacts to homes in Kaysville and Layton and to minimize impacts to the power corridor. Because Alternative 10A Modified reduced the high number of residential relocations compared to the original Alternative 10A, it was considered for this practicability analysis. The practicability evaluation for Alternative 10A Modified also applies to Alternative 10A.

The original Alternative 10A would fill about 46.1 acres of wetlands. Alternative 10A Modified would fill about 37.6 acres of wetlands.

### 3.4.1 Practicability Evaluation

Alternatives 10A and 10A Modified would relocate both residential and business properties. The primary logistical constraints associated with these alternatives are the impacts on a factory operated by Utility Trailer Manufacturing Company (Utility Trailer) in Clearfield. The Utility Trailer manufacturing facility is a 500,000-square-foot, heavy-duty manufacturing facility on an approximately 65-acre site that is part of Freeport Center.

The building is the largest “frame-to-finish” refrigerated trailer manufacturing plant in the world and produces 25% of the refrigerated trailers in the United States. The structure includes 14 overhead doors at each end of the facility, pre-engineered skin houses, 2 miles of assembly lines, 10 overhead monorails, 23 overhead cranes, three paint booths, three foam-injection rooms, and 20,000 square feet of office space. Utility Trailer employs up to 1,000 employees at the manufacturing plant and is one of the 20 largest employers in Davis County.

Because the manufacturing plant is a specialized, custom-built, 500,000-square-foot facility, it could not be relocated, since there are no comparable facilities anywhere in Utah. Constructing a new facility on a comparably sized parcel in Clearfield that would meet the facility siting requirements would also be logistically impossible, since there are no suitable, vacant parcels in Freeport Center that are large enough to accommodate the Utility Trailer operations.

Figure 1 in Appendix A and the associated photographs show the constraints adjacent to Utility Trailer that make it impractical or just as substantial in terms of impacts to shift the alignment to avoid the manufacturing plant. These constraints are the main Rocky Mountain Power electrical substation in Syracuse to the south, the Rocky Mountain Power main electrical transmission corridor and a cemetery to the west, and a utility corridor, Freeport Center, and rail spurs to the east.

Freeport Center is a regionally significant industrial and manufacturing complex that includes 78 buildings and over 7 million square feet of industrial structures on 680 acres in Clearfield. More than 70 companies and 7,000 employees operate out of Freeport Center. Freeport Center is also eligible to be listed on the National Register of Historic Places, since most of the buildings were constructed in the 1940s (HDR 2012a).

The only other option to avoid the manufacturing plant is to build a bridge over the facility. The following sections evaluate this option and explain why several logistical constraints make a bridge over Utility Trailer not practicable (see Figure 2 in Appendix A).

### **Cable-Stay Bridge**

In order for a bridge to span the Utility Trailer manufacturing plant without touching the building, the bridge would need to be about 600 feet long without supports. The only type of bridge that can have an unsupported span longer than 500 feet is a cable-stay bridge (such as the Golden Gate Bridge in San Francisco). The industry standard practice is for cable-stay bridges to be built only over bodies of water or canyons, not over developed, inhabited areas.

With current crane technology, UDOT couldn't build a cable-stay bridge over Utility Trailer without affecting the Utility Trailer manufacturing plant itself. The 600-foot span is the minimum length that could span Utility Trailer (HDR 2012a).

Unconventional construction techniques that are not available in Utah, such as longitudinal or segmental launching, would be necessary to construct a cable-stay bridge over Utility Trailer. None of the construction companies in Utah or any of the surrounding states have the capability to perform longitudinal or segmental launching techniques, so a cable-stay bridge is not an available option.

### **Steel Tub Girder Bridge**

After a cable-stay bridge, the next-longest unsupported-span bridge is a steel tub girder bridge, which can have an unsupported span of about 500 feet. Because a 500-foot span would not completely span the Utility Trailer building, at least one bridge support would need to be placed in the building. Placing a bridge support in the building would interrupt operations and would require square footage from the building, which is already at maximum capacity. The Utility Trailer manufacturing plant can produce over 40 semitrailers in a 24-hour period, and any interruption to these operations would be unprofitable for the business. Also, UDOT is not aware of any location where a bridge support has been placed inside a private building and does not consider this to be an accepted practice or the industry norm (HDR 2012a).

Additionally, there would be no place for Utility Trailer to temporarily relocate its operations and parking facilities while the bridge is being constructed. Even if another location were available, the company would lose a substantial amount of production time and tens of millions of dollars. UDOT would also need to access the support with large equipment for long-term maintenance of the bridge, which would not be feasible from inside the manufacturing plant.

Finally, this approach presents numerous operational, safety, and liability issues associated with any bridge over a business or dwelling. Debris or errant vehicles could fall from the bridge onto the building structure, equipment, inventory, or personnel. Snow removal would be costly and difficult because snow could not be pushed off the bridge due to safety considerations, requiring it to be plowed long distances or hauled away. This would require road closures that would disrupt traffic. A large-span structure with inefficient snow removal would also increase the likelihood of icing, which further puts safety at risk. For these reasons, UDOT does not place structures over businesses or dwellings (HDR 2012a).

### **Practicability Summary for Alternatives 10A and 10A Modified**

Alternatives 10A and 10A Modified would relocate both residential and business properties. The primary logistical constraints associated with these alternatives are the impacts on a factory operated by Utility Trailer Manufacturing Company (Utility Trailer) in Clearfield. Because the manufacturing plant is a specialized facility, it could not be relocated, since there are no comparable facilities anywhere in Utah. Constructing a new facility on a comparably sized parcel in Clearfield that would meet the facility siting requirements would also be logistically impossible, since there are no suitable, vacant parcels in Freeport Center that are large enough to accommodate the Utility Trailer operations.

Constraints adjacent to Utility Trailer make it impractical or just as substantial in terms of impacts to shift the alignment to avoid the manufacturing plant. These constraints are the main Rocky Mountain Power electrical substation in Syracuse to the south, the Rocky Mountain Power main electrical transmission corridor and a cemetery to the west, and a utility corridor, the Freeport Center, and rail spurs to the east.

The only other option that would avoid the manufacturing plant is to build a bridge over the facility. UDOT evaluated both a clear-span bridge and a bridge that would require a bridge support to be placed in the building. There are logistical constraints with either using a clear-span bridge or with placing a bridge support in the building.

Given these issues, the WDC Team determined that the logistical constraints associated with relocating, avoiding, or building a bridge over Utility Trailer make Alternatives 10A and 10A Modified not practicable.

## 4.0 Summary of Practicability Analysis

Five alternatives were identified that would have less impacts to aquatic resources than the two alternatives that the WDC Team has determined to be reasonable under NEPA (Alternatives 11A and 13A). Alternatives 05, 08, 09A+04, 10A, and 10A Modified would fill between about 3 acres and 56 acres of wetlands. Alternatives 11A and 13A would fill between 76 acres and 137 acres of wetlands. The alternatives considered in this practicability analysis were the only alternatives that would meet the project’s purpose and would have less impacts to aquatic resources than Alternatives 11A and 13A.

### What are the results of the practicability evaluation?

The WDC Team has determined that Alternatives 05, 08, and 10A Modified are not practicable because of logistical constraints. In addition, Alternative 09A+04 is not available to use for the WDC Project.

The term *practicable* means “available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes.” The Clean Water Act Section 404 (b)(1) guidelines create a presumption that practicable avoidance alternatives are available for non-water-dependent projects that would place fill in special aquatic sites. Highway and transit projects generally are not water-dependent. This presumption places the burden on the applicant to demonstrate that there are no practicable alternatives that avoid “special aquatic sites.” (With regard to the WDC Project, “special aquatic sites” include wetlands and some fish and wildlife refuges.) The level of analysis and proof required varies depending on the project and the nature of the anticipated effects of the project.

The Clean Water Act Section 404(b)(1) guidelines state that “no discharge of dredged or fill material [to Section 404–regulated waters] shall be permitted 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 consequences.” The evaluation in this practicability analysis is the WDC Team’s demonstration that there are no practicable alternatives that would have fewer wetland impacts than Alternative 13A.

Based on the practicability analysis, the WDC Team has determined that Alternatives 05, 08, 10A, and 10A Modified are not practicable because of logistical constraints resulting from impacts associated with relocating businesses. In addition, FHWA and UDOT have determined that Alternative 09A+04 is not available for use for the WDC Project because it has been set aside as a transit corridor and is subject to other legal constraints inconsistent with a roadway. Therefore, Alternatives 05, 08, 09A+04, 10A, and 10A Modified will not be considered for detailed evaluation in the WDC Draft EIS.

## 5.0 References

HDR Engineering, Inc.

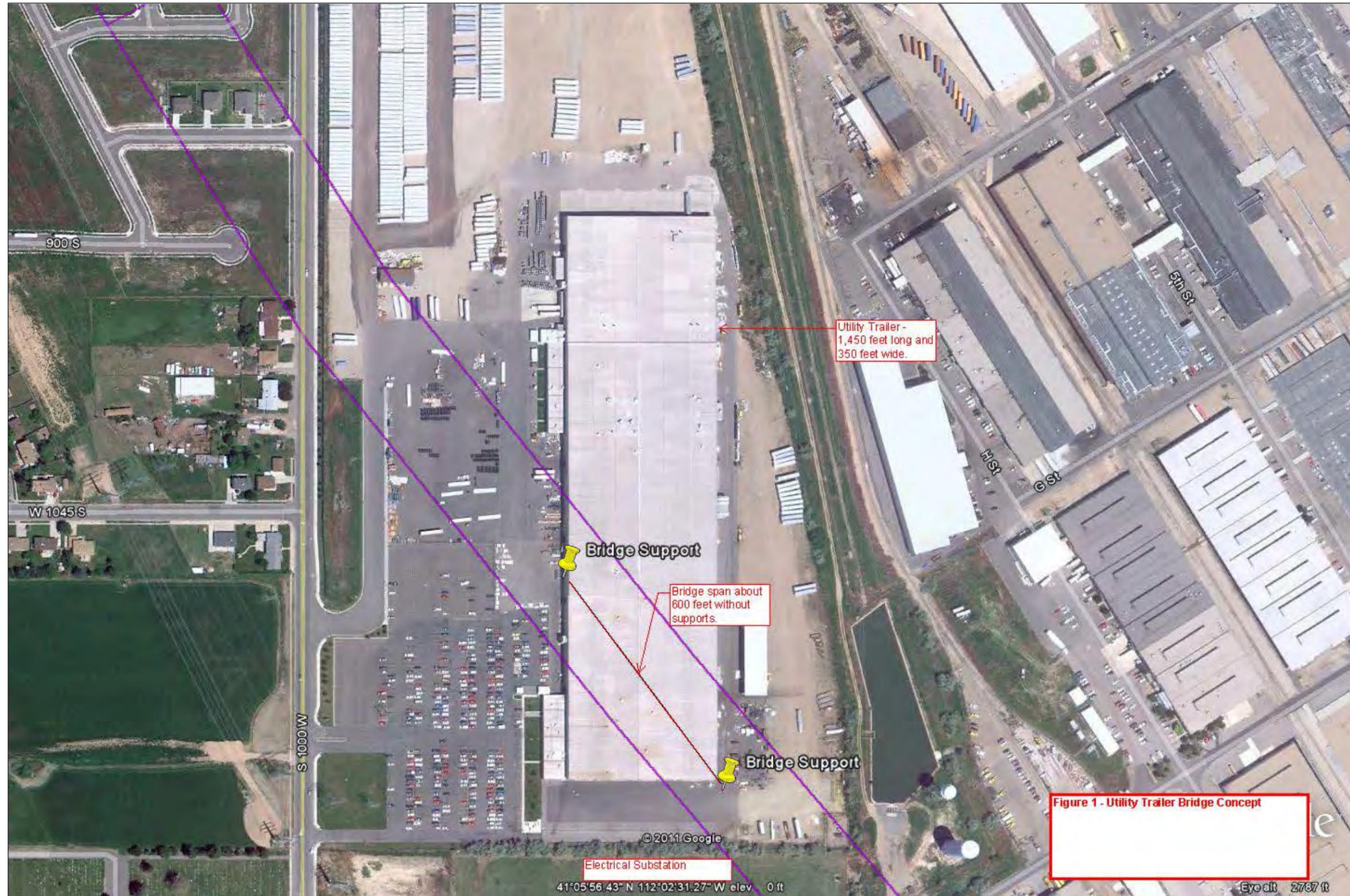
- 2012a Technical Memorandum 15A: Alternative 10A Modified – Bridge Over Utility Trailer. August 22.
- 2012b Technical Memorandum 15C: Logistical Considerations for Relocations. August 28.

## **Appendix A. Figures and Photos of Utilities and Businesses Affected by Alternative 10A Modified**



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Figure 2. Utility Trailer Bridge Concept



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**Photo 1. RMP Substation – Syracuse**



**Photo 2. RMP Substation – Syracuse**



**Photo 3. RMP Substation – Syracuse**



**Photo 4. RMP Substation – Syracuse**



**Photo 5. Utility Trailer – Clearfield**



**Photo 6. Utility Trailer – Clearfield**

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## Appendix B. Correspondence

**Izzo, Vincent**

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**Subject:** FW: UTA and D&RG

**AMServiceURLStr:** <https://Slingshot.hdrinc.com/CFSS/control?view=services/FTService>

>>> "Lautoo, Mailia (Mgr-Property Administration)" <[MLautoo@rideuta.com](mailto:MLautoo@rideuta.com)> 1/19/2012 3:07 PM >>>

Randy,

Below are the legal issues that pertain to the D&RGW.

- ❖ The property is currently subject to NITU (Notice of Interim Trail Use).
  - This means it is subject to reactivation for freight.
- ❖ The property could be formally abandoned, but it isn't yet.
  - To abandon the property.
    - UTA would need to get UPRR's consent.
    - Also, UTA would need to go through the Surface Transportation Board proceedings to allow abandonment.
- ❖ Also, the property is subject to the Prospective Purchaser Agreement (PPA) with DEQ and EPA. The PPA assumes only rail or trail use. To allow for another use the PPA would need to be amended, which is also subject to UPRR's consent.

However, UTA intends to use this corridor for future transit use, and at this point is not considering abandonment, PPA amendment, or sale.

If you have further questions or need more information please contact me.

Thank you,

*Mailia L.*  
(801) 237-1995

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