



WEST DAVIS
CORRIDOR

Technical Memorandum 25: Section 404(b)(1) Practicability Analysis – 2016 Addendum

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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Overview

This addendum to the October 2012 *Section 404(b)(1) Practicability Analysis* provides an update to account for the 2016 re-evaluation of the West Davis Corridor (WDC) alternatives-development and screening process. In 2016, the WDC team, the Utah Department of Transportation (UDOT) and the Federal Highway Administration (FHWA), re-evaluated the alternatives development and screening process to account for a new Regional Transportation Plan (RTP) and travel demand model that were released by the Wasatch Front Regional Council (WFRC) between the releases of the Draft and Final Environmental Impact Statements (EISs). The 2016 alternatives development and screening process also included the Shared Solution Alternative, which was developed between the Draft and Final EISs.

2016 Level 1 Screening Summary

The 2016 revised alternatives screening process is described in *Final EIS Addendum to Technical Memorandum 15: Alternatives Screening Report*. In summary, the 2016 screening process resulted in the following alternatives passing Level 1 screening and advancing to Level 2 screening: Alternatives 05, 08, 09A, 10A, 11A, 12A, and 13A.

All of the alternatives that had advanced to Level 2 screening in the Draft EIS also advanced to Level 2 screening as part of the 2016 screening process.

In addition, during the 2016 screening process, the WDC team determined that one modified alternative and one new alternative also passed Level 1 screening: Alternative 09A, the D&RGW four-lane divided-highway alternative, and Alternative 12A, the Far West four-lane divided-highway alternative.

The Level 1 screening process for the Draft EIS had advanced Alternative 09A in combination with widening projects on the east-west arterials, and this alternative was described in *Technical Memorandum 15: Alternatives Screening Report* and in the Draft EIS as Alternative 09A+04. The 2016 screening process found that Alternative 09A passed Level 1 screening without the east-west widening projects, so it was advanced to Level 2 screening as Alternative 09A in the 2016 screening process.

During the 2016 screening process, the WDC team found that Alternative 12A, the Far West four-lane divided-highway alternative, met the purpose of and need for the project. The WDC team advanced Alternative 12A to Level 2 screening in the 2016 screening process to be consistent with the screening process for the Draft EIS.

2016 Level 2 Screening Summary

As described in the *Final EIS Addendum to Technical Memorandum 15: Alternatives Screening Report*, Alternatives 11A and 13A with the Glovers Lane southern option were advanced past Level 2 screening to be evaluated in detail in the Final EIS. These alternatives passed Level 2 screening because they best meet the purpose of and need for the project

while having the lowest overall levels of impacts to both the human environment and natural resources and having reasonable costs. The WDC team determined that the alternatives that were advanced to the Final EIS were the best-performing, least-impactful reasonable versions of each alternative.

Alternatives 05, 08, 09A, 10A, and 12A were eliminated during the 2016 Level 2 screening process.

The WDC team determined that Alternatives 05, 08, 09A, 10A, and 10A Modified were not reasonable alternatives because of significantly higher impacts to existing residences, businesses, utilities, historic properties, low-income and minority populations; lack of consistency with all city, county, and regional transportation and land-use plans and existing development; and significantly higher costs. For these reasons, Alternatives 05, 08, 09A, 10A, and 10A Modified Option were eliminated during the 2016 Level 2 screening process.

The WDC team eliminated Alternative 12A during the 2016 Level 2 screening process because it substantially duplicates Alternative 13A and, compared to Alternative 13A, offers no advantage to meeting the purpose of and need for the project; would have substantially greater impacts to high-quality wetlands, high-quality wildlife habitat, the Great Salt Lake Shorelands Preserve, high-quality farmlands, and the Central Davis Sewer District property; is inconsistent with all city, county, and regional transportation and land-use plans and existing development; and would have a higher cost.

Purpose of Practicability Addendum

As part of the EIS process, the WDC Team is preparing this addendum to the 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.

This addendum to the practicability analysis is focused on the five Level 2 screening alternatives (Alternatives 05, 08, 09A, 10A and 10A modified) that would have less impacts to aquatic resources than the two project alternatives (Alternatives 11A and 13A) that were determined to be reasonable under the National Environmental Policy Act (NEPA).

This addendum updates the evaluations of the October 2012 *Section 404(b)(1) Practicability Analysis*. The methods used for this addendum are the same methods that were used for the October 2012 *Section 404(b)(1) Practicability Analysis*. The methodology sections have not been repeated in this addendum. Please refer to the October 2012 *Section 404(b)(1) Practicability Analysis* for detailed descriptions of the methodologies. The October 2012 *Section 404(b)(1) Practicability Analysis* is attached as Appendix A to this addendum.

The section below updates the practicability evaluations for the 2016 versions of Alternatives 05, 08, 09A, 10A, and 10A Modified.

As detailed below, no changes were made to the practicability determinations for any of the alternatives evaluated.

Practicability Re-evaluation for 2016 Addendum

This evaluation to determine whether alternatives are practicable under the Clean Water Act was conducted for the five alternatives (Alternatives 05, 08, 09A, 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, 10A, and 10A Modified would fill between about 3 acres and 18 acres of wetlands. Alternatives 11A and 13A would fill between 23 acres and 42¹ 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. As previously described Alternative 12A would have more impacts to aquatic resources than Alternatives 11A and 13A and was eliminated in Level 2 screening due to having substantially higher impacts to wetlands and wildlife habitat.

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, 5500/5600 South, 1800 North, State Route (SR) 193, and Antelope Drive. 5500/5600 South would be widened from I-15 to 3500 West in Weber County, 1800 North would be widened from I-15 to 3000 West in Davis County and SR 193 and Antelope Drive would be widened from I-15 to 2000 West in Davis County. 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 57 businesses due to direct impacts and possibly another 45 businesses due to proximity impacts. Compared to the version of Alternative 05 evaluated in 2012, the 2016 version would have 7 fewer direct impacts to businesses.

Table 1, below, shows the 57 businesses that would have direct impacts from the 2016 version of Alternative 05.

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.

¹ The wetlands acres for Alternatives 11A and 13A are from the screening analysis. The wetland impacts in the Final EIS will be revised based on more detailed engineering design.

Table 1. Business Impacts from Alternative 05 (2016 Update)

Business Name and Description	Address	NAICS Code(s)^a	Estimated Number of Employees	Estimated Annual Revenue
Exxon Gas Station ^b (gas station)	5600 South 1900 West Roy, UT 84067	44512001 44719005 44719008 52211001	9	\$4,176,000
Hidden Cove Car Wash ^b (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
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
Saigon Market Oriental Food & Gift (grocery store)	1813 N. Main Street Sunset, UT 84015	44529923	2	\$230,000
Money Gram ^b (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) ^b (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 ^c (chiropractor)	928 West 1800 North, Suite J Clinton, UT 84015	Not available	3	\$372,000

Table 1. Business Impacts from Alternative 05 (2016 Update)

Business Name and Description	Address	NAICS Code(s)^a	Estimated Number of Employees	Estimated Annual Revenue
Vacant suites (2)	928 West 1800 North, Suites H & K Clinton, UT 84015			
Maverik Gas Station ^b (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 ^b (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 ^b (oil change/auto repair)	2142 West 1800 North Clinton, UT 84015	81119101	5–9	\$650,000
O'Reilly Auto Parts ^b (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 ^b (insurance)	726 East 700 South Clearfield, UT 84015	52421001	1–4	\$650,000
Maverik ^b (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 ^b (education)	Davis North Medical Office Building 1660 W. Antelope Drive Layton, UT 84041	61131009	20	Not available

Table 1. Business Impacts from Alternative 05 (2016 Update)

Business Name and Description	Address	NAICS Code(s)^a	Estimated Number of Employees	Estimated Annual Revenue
Richard Seegmiller, DPM ^b (medical)	Davis North Medical Office Building 1660 W. Antelope Drive Layton, UT 84041	62139103	1–4	\$417,000
Davis Hospital Imaging Center ^d (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 ^b (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 1. Business Impacts from Alternative 05 (2016 Update)

Business Name and Description	Address	NAICS Code(s)^a	Estimated Number of Employees	Estimated Annual Revenue
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 ^b (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 1. Business Impacts from Alternative 05 (2016 Update)

Business Name and Description	Address	NAICS Code(s) ^a	Estimated Number of Employees	Estimated Annual Revenue
DL Shippen Construction ^b (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
Total number for active businesses	57		449–558	\$71,869,000
Total number of vacant businesses	10			

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

^b Estimated from other locations in Utah.

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

^d 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.

As shown above, these 57 businesses are estimated to employ 449 to 558 employees and have annual revenues of \$71.9 million. 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. 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.

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.

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 57 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. This is the same determination as made in the 2012 analysis when 64 building would be eliminated

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 151 business relocations. Compared to the version of Alternative 08 evaluated in 2012, the 2016 version would have 7 fewer direct impacts to businesses.

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 151 businesses, 57 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. This is the same determination as made in the 2012 analysis.

Alternative 09A

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 in the October 2012 *Section 404(b)(1) Practicability Analysis*). This is the same determination as made in the 2012 analysis.

Alternative 10A and 10A Modified

The 2016 version of 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 1800 North in Davis 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.

The only differences between the 2016 versions of Alternative 10A and 10A Modified are that the northern termini for both alternatives in 2016 are at 1800 North in Davis County instead of 4000 South in Weber County.

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. This is the same determination as made in the 2012 analysis.

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, 10A, and 10A Modified would fill between about 3 acres and 18 acres of wetlands. Alternative 11A and Alternative 13A would fill between 23 acres and 42 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 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 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 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, 10A, and 10A Modified will not be considered for detailed evaluation in the WDC Final EIS.

The 2016 re-evaluation of the practicability evaluations from the October 2012 *Section 404(b)(1) Practicability Analysis* documented in this addendum reached the same conclusions for Alternatives 05, 08, 09A, 10A, and 10A Modified. All of these alternatives were determined to be not practicable in 2016 for the same reasons they were determined to be not practicable in the October 2012 *Section 404(b)(1) Practicability Analysis*.