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8.1 Introduction

This chapter describes the current economic conditions in Davis and Weber Counties and the expected economic effects of the West Davis Corridor (WDC) Project alternatives.

What is the economic impact analysis area?

The economic impact analysis area is Davis and Weber Counties.

This chapter focuses on the types of economic effects that could result from transportation projects such as the WDC, namely effects on existing and future business locations and operations, and effects on property tax revenues for local governments. Section 8.3, Affected Environment, summarizes the local economy and current macroeconomic conditions in the region but focuses on the businesses and industries in the economic impact analysis area.

Economic Impact Analysis Area. The economic impact analysis area is Davis and Weber Counties. These two counties were selected for the economic impact analysis area since the WDC study area and alternatives are located in these two counties, and the majority of the

What is the WDC study area?

The WDC study area is the area described in Section 1.2, Description of the Needs Assessment Study Area.

travelers using the WDC alternatives would be residents and businesses of these two counties. However, any of the WDC action alternatives would provide a benefit to travelers from outside Davis and Weber Counties. The benefits to these travelers are discussed in Section 8.4.2.1, General Impacts to the Traveling Public.

8.2 Regulatory Setting

There are currently no regulations that specify how to evaluate economic impacts in an Environmental Impact Statement (EIS). The Federal Highway Administration's (FHWA) Technical Advisory T 6640.8A, Guidance for Preparing and Processing Environmental and Section 4(f) Documents, recommends that the economic analysis, if applicable, should discuss the following impacts:

- The economic impacts on the regional and/or local economy such as development, taxes and public expenditures, employment opportunities, accessibility, and retail sales
- Impacts on the economic vitality of existing highway-related businesses (for example, gas stations and motels) and the overall local economy
- Impacts of the proposed alternatives on established business districts, and any opportunities to minimize or reduce such impacts by the public and/or private sectors

8.3 Affected Environment

This section summarizes the employment data, major employers, employment sectors, government revenues, tax rates, and property values for the economic impact analysis area. Additionally, this section identifies and describes the major employment areas in the impact analysis area.

8.3.1 Employment Data

As shown in Table 8-1, nonfarm employment numbers in the impact analysis area have increased by 27.3% and 12.8%, respectively, between 2004 and 2015. Davis and Weber Counties and the state all lost jobs in 2009 and 2010, but all have gained jobs in 2011 through 2015.

Table 8-1. Nonfarm Employment in the Economic Impact Analysis Area

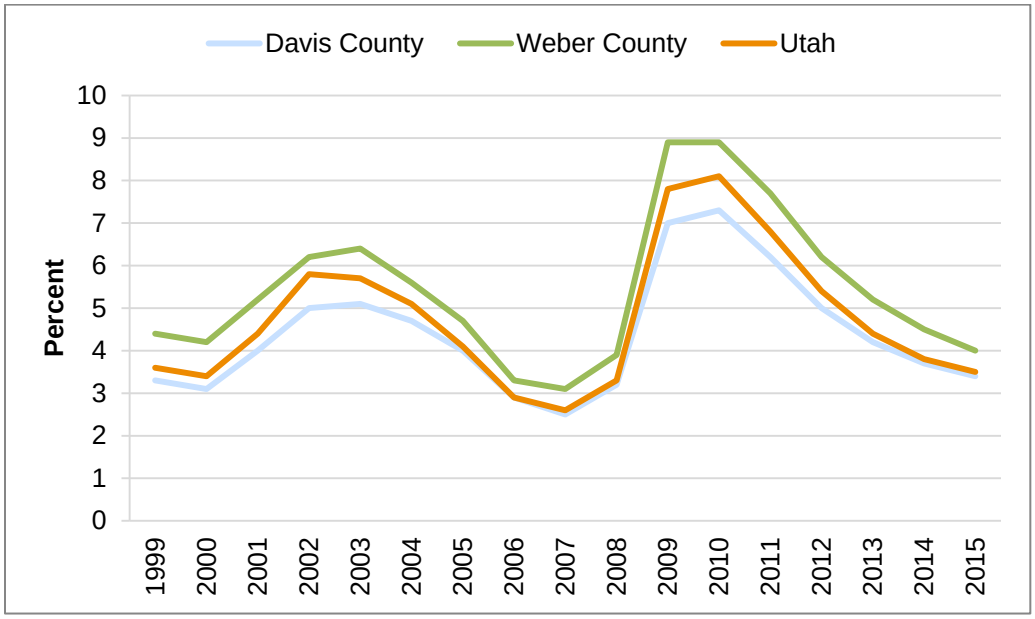
					Percent Change	
Area	**2004**	**2009**	**2013**	**2015**	**2004–2015**	**2009–2015**
Davis County	93,253	99,912	110,727	118,687	27.3%	18.8%
Weber County	89,227	91,003	94,647	100,689	12.8%	10.6%
Utah (statewide)	1,104,328	1,188,816	1,290,113	1,377,871	24.8%	15.9%

Source: Utah Department of Workforce Services 2017

Unemployment

Chart 8-1 shows the unemployment rates in the economic impact analysis area from 1999 to 2013. As shown in Chart 8-1, the unemployment rates in the impact analysis area have paralleled the state unemployment rate between 1999 and 2015. The unemployment rates for both counties and for the state doubled between 2007 and 2009. The 2015 unemployment rates were 3.4% in Davis County and 4% in Weber County compared to a 3.5% unemployment rate for the state overall.

Chart 8-1. Unemployment Rates in the Economic Impact Analysis Area



Source: Utah Department of Workforce Services 2017

Employment Forecast

Excluding 2009 and 2010, employment numbers have increased in the impact analysis area over the last 20 years. The state had an increase in employment of 3.6% during 2016 (GOMB 2017).

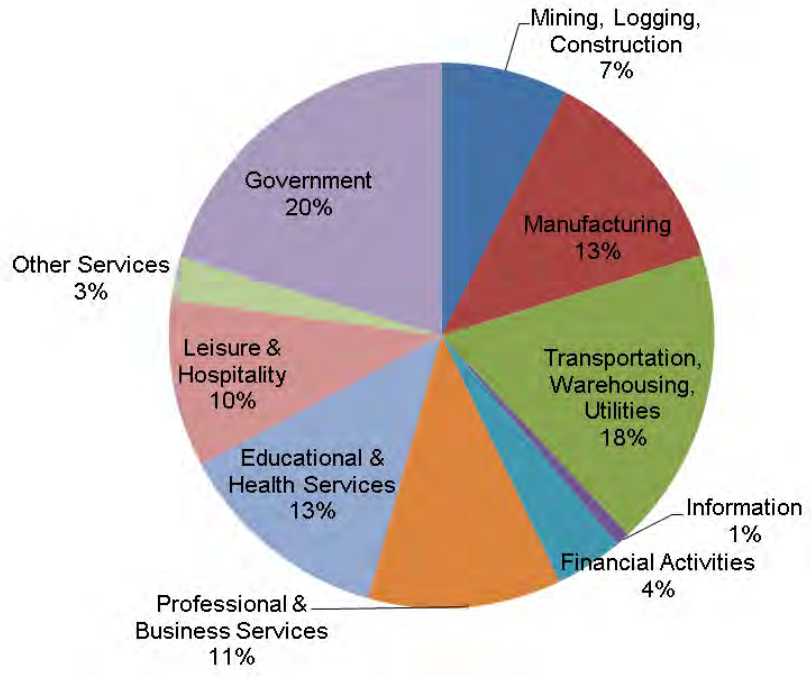
As discussed in Section 1.5.2, Employment Growth, in the WDC study area, employment is expected to increase from 61,000 in 2015 to 80,000 in 2040 (an increase of 31%). Figure 1-4, Percent Employment Growth 2015–2040, and Figure 1-5, Total Employment Growth 2015–2040, in Volume IV show the expected percent and total employment growth in the study area.

8.3.2 Business and Commerce

8.3.2.1 Employment Sectors in the Economic Impact Analysis Area

Chart 8-2 shows the various employment sectors in the impact analysis area (Utah Department of Workforce Services 2017). Government (federal, state, and local); transportation, warehousing, and utilities; educational and health services; manufacturing; and professional and business services were the top five employment sectors in the impact analysis area in 2016 (U.S. Bureau of Labor Statistics 2017).

Chart 8-2. Employment Sectors in the Economic Impact Analysis Area



Source: U.S. Bureau of Labor Statistics 2017

Agricultural Sector. During the public comment period for the alternatives-development, screening, and refinement process for the WDC Project, the WDC team received many comments questioning the effects of the WDC alternatives on the agricultural economy in the WDC study area. In response to these comments, this analysis includes more-specific information about the agricultural sector of the economy in the impact analysis area.

What is the WDC team?

The WDC team consists of the lead agencies for the WDC Project (FHWA and the Utah Department of Transportation).

Table 8-2 below summarizes the agricultural sector in the impact analysis area based on data provided in the U.S. Department of Agriculture's (USDA) 2012 Agricultural Census. Note that the USDA Agricultural Census is conducted every 5 years, so the 2012 Agricultural Census provides the most recent data for the impact analysis area. Almost all of the

agricultural properties in the impact analysis area are located west of Interstate 15 (I-15) and are concentrated in the WDC study area or areas north of 12th South in Weber County. In 2010, the number of agricultural jobs was 0.45% and 0.89% of the total employment in Davis and Weber Counties, respectively (GOMB 2012). The number of agricultural jobs in Davis and Weber Counties is expected to decrease by about 35% by 2040 (GOMB 2012). Section 4.3, Affected Environment, provides more details about the type and acreage of farmland in the WDC study area.

Table 8-2. Agricultural Sector Data for the Economic Impact Analysis Area as of 2012

Area	Number of Farms	Number of Farm Jobs	Market Value of Products Sold
Davis County	493	1,056	$36,760,000
Weber County	1,121	879	$39,872,000

Sources: USDA 2012a, 2012b; GOMB 2012

In Davis County, agricultural activity has shifted from primarily livestock, poultry, and their associated products to crops. In 1974, livestock and poultry accounted for more than two-thirds of the total value of agricultural products sold in Davis County, with the remainder coming from crops. By 2012, livestock and poultry provided just 14% of agricultural sales, with crops accounting for 86%. Compared to the other counties in Utah, Davis County farms produce a large amount of vegetables, which are the highest cash value crops. Davis County has the highest cash receipts for crops per acre ($2,638) of the 29 counties in Utah and has a long growing season, productive soils, and a high amount of precipitation relative to the rest of the counties in Utah (USDA 2012a).

Although crops have increased their share of total agricultural sales in Weber County, livestock and poultry remain the major sources of farm sales. In 1974, livestock and poultry accounted for nearly 90% of the value of farm sales; in 2012, they accounted for 58% of farm sales. According to the 2012 Census of Agriculture, the top five crop items in Weber County were forage (typically alfalfa for grazing, hay, or silage), corn for silage, wheat for grain, winter wheat for grain, and vegetables harvested for sale. Weber County has cash receipts of crops per acre at $605, which is lower than Davis County but higher than most other counties in Utah. Weber County also has a relatively long growing season, productive soils, and a high amount of precipitation compared to the rest of the counties in Utah (USDA 2012b).

8.3.2.2 Major Employers

The largest employers in Davis and Weber Counties are Hill Air Force Base and the U.S. Department of the Treasury, respectively. Other employers with more than 1,000 employees include Weber State University; McKay-Dee Hospital Center; Davis County School District; Weber County School District; Ogden City School District; the State of Utah; Weber County; ATK Space Systems/Alliant; Lagoon Corporation; Lifetime Products, Inc.; Autoliv; Fresenius USA Manufacturing, Inc.; Smith’s Food and Drug and Smith’s Marketplace;

America First Credit Union; SOS Staffing Services; and Wal-Mart (Utah Department of Workforce Services 2017).

8.3.3 Government Revenues, Tax Rates, and Property Values

8.3.3.1 Revenues

The revenues for all local governments in Utah are a combination of tax revenues, intergovernmental transfers, and fees. Table 8-3 shows the total dollar amounts of property taxes and sales taxes and what percentage of the total governmental revenues this represents for Davis County, Weber County, and the Cities in the WDC study area. Collectively, property and sales tax revenues were 73% of Davis County's revenue and 55% of Weber County's revenue in 2015 (Office of the Utah State Auditor 2016a, 2016b).

Table 8-3. Tax Revenues in the WDC Study Area in 2013

	Tax Revenue and Percent of Total Revenue	
Jurisdiction	**Property Tax**	**Sales Tax**
Davis County	$57.0 million, 42%	$42.4 million, 31%
Centerville	$1.5 million, 14%	$4.6 million, 44%
Clearfield	$4.7 million, 26%	$4.0 million, 22%
Clinton	$1.8 million, 15%	$3.1 million, 26%
Farmington	$6.1 million, 36%	$4.3 million, 25%
Kaysville	$2.9 million, 19%	$4.1 million, 26%
Layton	$7.6 million, 18%	$14.2 million, 34%
Sunset	$0.5 million, 19%	$1.0 million, 38%
Syracuse	$2.4 million, 16%	$5.0 million, 32%
West Point	$0.4 million, 6%	$1.1 million, 15%
Weber County	$44.6 million, 32%	$45.7 million, 33%
Hooper	$0.2 million, 5%	$0.7 million, 20%
Riverdale	$1.7 million, 17%	$6.0 million, 62%
Roy	$2.6 million, 16%	$4.9 million, 30%
West Haven	$0.0 million, 0%	$2.1 million, 31%

Sources: Office of the Utah State Auditor 2016a, 2016b

The data in this table are the total amount of tax revenue collected and the budget percentage of each tax. The numbers listed are the property tax, sales tax, and total revenues for the governmental activities (also known as the general fund) for the local governments listed in the table. These numbers exclude revenues for any business-related activities or special funds, such as redevelopment agencies or capital-improvement projects.

8.3.3.2 Tax Rates

In 2016, average property tax rates were 1.4% in Davis County and 1.4% in Weber County (Utah State Tax Commission 2017a). The 2017 sales tax rates ranged between 6.75% and 6.85% in Davis County and between 7.1% and 7.3% in Weber County (Utah State Tax Commission 2017b).

8.3.3.3 Property Values

Property values nationally and in Utah increased until 2008, declined between 2008 and 2011, and increased between 2012 and 2016. Table 8-4 shows the annual median sales values in from 2010 to 2016 for cities and ZIP codes in the economic impact analysis area.

Table 8-4. Median Sales Values in the Economic Impact Analysis Area

City and ZIP Code		2010	2011	2012	2013	2014	2015	2016
Clearfield	84015[a]	$168,750	$149,950	$154,062	$167,500	$177,500	$191,750	$215,775
Centerville	84014	$238,000	$237,000	$235,500	$261,000	$240,000	$265,000	$314,900
Farmington	84025	$278,435	$240,000	$274,900	$300,750	$325,000	$340,000	$377,000
Kaysville	84037	$260,000	$242,000	$246,400	$265,000	$301,700	$309,452	$341,850
Layton	84040	$220,500	$206,805	$242,000	$253,484	$249,000	$273,500	$293,500
Layton	84041	$187,000	$155,100	$187,375	$193,000	$198,250	$214,950	$226,500
Syracuse	84075	$212,000	$206,300	$230,000	$246,000	$250,000	$275,000	$313,250
Riverdale	84405	$141,000	$157,400	$162,500	$154,999	$171,250	$174,500	$218,500
Roy	84067	$148,000	$135,000	$140,000	$155,000	$168,000	$174,800	$195,000
Hooper	84315	$224,900	$205,000	$257,300	$270,000	$255,000	$277,500	$325,000
West Haven	84401[a]	$153,280	$131,500	$120,500	$144,500	$148,100	$179,450	$188,450

Source: The Salt Lake Tribune 2017

[a] The sales values reported by the Salt Lake Tribune are grouped by ZIP code. Clinton and West Point share a ZIP code with Clearfield (84015), and West Haven shares a ZIP code with Ogden (84401).

8.3.4 Areas of Employment

To better focus the information on the areas likely directly or indirectly affected by the WDC's transportation-related impacts, this section identifies the areas of current and future employment in the WDC study area (see Section 1.2, Description of the Needs Assessment Study Area), not in the entire economic impacts analysis area. There are no expected impacts to employment outside of the areas identified in this section.

Areas of Current Employment. Most areas of employment are located in areas with industrial, manufacturing, commercial, or institutional land uses. For a description of the existing land uses in the WDC study area, see Section 3.3.2, Existing Land Use.

Within the WDC study area, these industrial, manufacturing, commercial, and institutional land uses are concentrated around I-15 and its interchanges, State Route (SR) 126 and SR 108, Freeport Center, and the Ogden Commercial and Industrial Park. Most of the industrial and manufacturing employment areas are located within 1 mile of I-15, either around an I-15 interchange, along SR 126, at Freeport Center, or at the Ogden Commercial and Industrial Park. The SR 108 corridor consists primarily of commercial employment areas at the intersections of SR 108 and east-west-running state routes (SR 107, SR 37, SR 97, 4800 South and Midland Drive, 400 South, and SR 126).

While the areas listed above are the primary employment areas in the WDC study area, it is worth noting that only 33% of the 2015 home-based work trips in the study area are internal, meaning that 67% people who live in the study area commute to work outside the study area.

Although many of the trips are external to the WDC study area, the external trips would occur with or without the WDC and would not change economic conditions outside the study area. The benefits or impacts to all travelers in the study area, whether internal or external, from the No-Action Alternative and any of the WDC action alternatives are evaluated using the impacts to the traveling public metric of this economics analysis (see Section 8.4.1.1, Impacts to the Traveling Public). This metric quantifies the amount and cost of delay to travelers, regardless of whether they are traveling internally or externally. For more information about travel patterns and home-based work trips in the WDC study area, see Section 1.7.3, Travel Patterns.

Areas of Future Employment. The locations of future areas of employment in the WDC study area are also anticipated to be concentrated along I-15, SR 108, and SR 126 in commercial, industrial, and manufacturing land-use areas.

Areas of future employment in the WDC study area are likely to be in the following locations:

- Around the Farmington FrontRunner station between I-15 and the Denver & Rio Grande Western (D&RGW) railroad tracks
- Between I-15 and Flint Street north of 200 North in Kaysville
- Between I-15 and the D&RGW railroad tracks and Gentile Street and Antelope Drive in Layton
- At Freeport Center in Clearfield
- Along SR 126 (State Street) and SR 108 (Antelope Drive) in Clearfield
- Along SR 108 (Antelope Drive and 2000 West) in Syracuse
- Along SR 126 (Main Street) and SR 37 (1800 North) in Sunset
- Along SR 37 (1800 North) and SR 108 (2000 West) in Clinton
- Along SR 107 (300 North) in West Point
- Along SR 126 (1900 West), SR 108 (Midland Drive), SR 97 (5600 South), and the Union Pacific Railroad tracks in Roy
- Between I-15 and SR 126 (1900 West) in Ogden
- Along SR 108 (Midland Drive) and SR 126 (1900 West) in West Haven
- Around the SR 97 (5500 South) and 5500 West intersection in Hooper

8.4 Environmental Consequences

This section addresses the economic impacts of the proposed alternatives in the following five areas:

- Impacts to the traveling public
- Commerce and employment
- Agricultural economic impacts
- Local government revenues
- Property values

The topic of impacts to the traveling public addresses the impacts to motorists' travel time and the associated economic impacts of reductions in travel time during both construction and operation of the WDC. Using the principle that "time is money," this topic quantifies the purpose of and need for the WDC by estimating the cost of increases in traffic congestion that are expected to occur if the WDC is not built. The remaining four topics evaluate how the location of the WDC would benefit or harm the local and regional economy and the municipalities.

8.4.1 Methodology

The following sections describe the methodologies used to determine the economic impacts of the WDC.

8.4.1.1 Impacts to the Traveling Public

The cost to society of travel delay is calculated as the increase in vehicle-hours spent in traffic congestion on regional roads multiplied by the value of this time expressed in dollars per hour. Lost productivity is based on an aggregate user rate of $25.80 using $15.50/hour for passenger vehicles, $56.00/hour for box trucks, and $102.00/hour for tractor trailer trucks. Assuming an average traffic composition of 86% passenger vehicles, 4% box trucks, and 10% tractor trailer trucks, the average cost is $25.80/hour for travel time (Rasband 2010). Table 8A-1, Estimated Value of Motorists' Travel Time, in Appendix 8A, Tables and Calculations in Support of the Economics Analysis, explains how this dollars-per-hour estimate was developed.

8.4.1.2 Commerce and Employment

To evaluate commerce and employment impacts, geographic information systems (GIS) software was used. The WDC team identified all businesses along the proposed alternatives, and then the business addresses were entered into a GIS database. The GIS business location data were then compared to each WDC alternative to determine which businesses would need to be relocated.

What is a relocation?

A relocation occurs when constructing an action alternative would require purchasing an occupied structure, such as a home or business. The residents or business would need to relocate.

In addition to complete relocations, the team also identified businesses near the right-of-way and businesses that would be potentially impacted (for businesses with structures within 15 feet of a WDC alternative) or partially impacted (meaning parts of the property would be impacted, but the impacts are not expected to cause a relocation) by one of the WDC alternatives. Partial impacts to agricultural businesses are discussed in Section 8.4.1.3 below.

What are potential and partial impacts?

A potential impact occurs when a business has one or more structures within 15 feet of a WDC alternative. A partial impact occurs when part of a business property would be impacted, but the impacts are not expected to cause a relocation.

8.4.1.3 Agricultural Economic Impacts

The WDC team evaluated the direct and partial impacts to agricultural business properties. For the purpose of this analysis, agricultural business relocations were calculated by totaling the number of agricultural structures that would be directly affected by the WDC alternatives. As shown in Table 8-6, Businesses Affected by the WDC Action Alternatives, on page 8-13, some agricultural structures would be directly affected by the WDC alternatives.

Partial impacts to agricultural businesses were analyzed by considering the WDC alternatives' impacts on farmland. In addition to these directly affected agricultural structures, the WDC alternatives would also affect farmland, which could result in the relocation of agricultural businesses if the remnant parcels were too small to farm or if access to parcels was eliminated. Acquiring farmland for roadway construction is considered a farm relocation only if the amount of farmland remaining is not enough to farm.

Chapter 4, Farmland, discusses the impacts to farmland from the WDC alternatives. As described in Chapter 4, all of the proposed alternatives would affect farmland. Chapter 4 identifies the total direct farmland impacts and the acreage of farmland parcels that would be severed so that the remaining parcels are less than 5 acres (called *farmland remnants* in Chapter 4).

The information in Chapter 4 provides a relative comparison for the farmland impacts between alternatives. However, since there is no specific guidance regarding the size at which a farmland remnant becomes too small to farm economically, no definitive determinations can be reached regarding the number of farm businesses that would be relocated as a result of direct and indirect impacts to farmland. Ultimately, the Utah Department of Transportation (UDOT) and the landowner would determine the viability of each affected farming operation on a case-by-case basis.

For the purpose of the economics analysis, the WDC team is assuming that alternatives with higher direct farmland impacts and higher acreages of farmland remnants would be more likely to cause the relocation of agricultural businesses. For each alternative, this analysis comparatively describes the direct farmland impacts, the acreage of farmland remnants, and the potential for agricultural business relocations. Agricultural business buildings directly affected by the WDC alternatives are described in Section 8.4.2.2, General Commerce and Employment Impacts.

8.4.1.4 Local Government Revenues

The proposed alternatives would affect local government revenues by converting residential, commercial, and agricultural properties to a transportation use, which would eliminate any property tax or sales tax generated by the properties. To determine the loss in taxes, the WDC team entered the land-use data from Chapter 3, Land Use, into a GIS database. For each alternative, the acres of each type of existing land use (residential, commercial, agricultural, and so on) that would be converted to transportation use were calculated. The average property and sales tax revenue was calculated for each land use type by determining the total amount of tax revenues collected for each type of land use and then dividing by the acres of each land use for each county.

To estimate the average property tax revenue per acre for each type of land use, the WDC team used information provided by the Davis County Assessor's Office (2012), which included land-use type, acreage, and amount of property tax for parcels in Davis County. The average sales tax revenue per acre was estimated by taking the total sales tax revenue from the Office of the Utah State Auditor and dividing it by the total acres of commercial property.

For each alternative, the lost tax revenue was determined by using the acreage of each existing land use type that would be converted to transportation use and multiplying the acreage by the average property and sales tax revenue per acre for that land use type. Table 8-5 summarizes the property tax and sales tax revenues per acre for each type of land use in the impact analysis area.

Property taxes and sales taxes are two important sources of revenue for communities in Davis and Weber Counties. The type of development strongly influences the amount of tax revenue that is generated.

Table 8-5. Municipal Property and Sales Tax Generation for Specific Land Uses in the Economic Impact Analysis Area

in dollars per acre

Land Use	Property Tax Revenue	Sales Tax Revenue	Total Impact
Agricultural	0.02	0	0.02
Commercial	8,225	11,081	19,306
Industrial	4,090	0	4,090
Institutional	0	0	0
Open space/protection area[a]	0.02	0	0.02
Residential	5,496	0	5,496

Sources: Office of the Utah State Auditor 2016a, 2016b; Davis County Assessor's Office 2012

[a] Open space and protection areas were assumed to be taxed at the agricultural tax rate.

8.4.1.5 Property Values

There are no formulas that can quantify the effects of a new transportation facility on property values because each situation is different. The WDC team reviewed the findings of existing research that had studied the relationship between transportation facilities and property values to qualitatively evaluate the potential for changes in property values due to the proposed alternatives.

What are quantitative and qualitative analyses?

A quantitative analysis is one that produces specific numeric results, such as the number of properties that would require relocations.

A qualitative analysis looks at impacts in more general and comparative terms. For this EIS, qualitative analyses were performed when numeric data were not available.

8.4.2 General Overview of Economic Impacts

Some of the economic impacts would be similar for any of the proposed action alternatives. The following sections describe the general types of economic impacts that can be expected to commerce and employment, local government revenues, and property values. A general discussion of the economic impacts from construction is also provided.

8.4.2.1 General Impacts to the Traveling Public

Any of the WDC action alternatives would decrease daily total delay by 27% to 32% compared to the No-Action Alternative. Using the average cost of $25.80/hour for travel time, the WDC action alternatives would provide an annual benefit in 2040 of $47 million to $56 million in congestion cost savings compared to the No-Action Alternative.

8.4.2.2 General Commerce and Employment Impacts

Project Operation. An improved regional transportation system promotes commerce by moving goods and services more efficiently and by reducing production costs for all businesses, but particularly the businesses that depend the most on the transportation system. Though these cost reductions vary by the type of business, they could increase profitability and could lower the costs of these goods and services to consumers. Further, increased profitability encourages reinvestment in businesses in the project area. Given these contributions to the economy, this chapter concludes that the WDC's roadway improvements would have beneficial impacts to commerce and employment.

Although these benefits are intuitive, they are difficult to quantify because there is a wide range of existing businesses in the impact analysis area as well as a wide range of businesses that could locate in the area. Also, the beneficial impacts would occur incrementally over a long period.

In contrast to the expected benefits to commerce and employment, the proposed alternatives could cause adverse impacts to employment from relocated businesses and both adverse and beneficial impacts from changes to roadway access. Table 8-6 below identifies the name, location, and type of impact for each business that would be affected by the proposed alternatives. The WDC action alternatives would affect 9 to 11 business properties. The

impacts to the businesses are categorized as relocations, potential impacts (for businesses with structures within 15 feet of a WDC alternative), or partial impacts (meaning parts of the property would be affected, but the impacts are not expected to cause a relocation). For agricultural businesses, only direct impacts are included in Table 8-6. Partial impacts to agricultural businesses are described in Section 8.4.2.3, General Impacts to the Agricultural Economy.

In addition to the impacts listed in Table 8-6, any of the WDC action alternatives could cause indirect impacts to convenience businesses (for example, gas stations or coffee shops) located on existing arterials or I-15 due to changes in travel patterns. The WDC action alternatives would carry up to 30,000 vehicles per day in 2040. The 30,000 vehicles per day that would use the WDC would no longer travel on existing arterials or I-15. By choosing to use the WDC, these travelers would reduce the amount of business for convenience businesses on other roads. It is not possible to reasonably estimate this impact because of the wide range of existing businesses and the large number of trips. It is not possible to quantify the number of trips to specific businesses that would be eliminated by a WDC action alternative.

Table 8-6. Businesses Affected by the WDC Action Alternatives

Business Name or Description	Business Address	Type of Impact	Alternatives with Impact
Commercial building	1202 South 650 West, Farmington	Relocation	A1, A2, B1, B2
Agricultural structure	~960 W. Glovers Lane, Farmington	Relocation	A1, A2, B1, B2
Commercial building	1224 South 650 West, Farmington	Partial	A1, A2, B1, B2
Lodder Ranch Mink Farm	1988 S. Shepard Lane, Kaysville	Relocation	A1, A2, B1, B2
Central Davis Sewer District Treatment Plant	2627 W. Shepard Lane, Kaysville	Partial	A1, A2, B1, B2
Equestrian Estates	820 Mare Circle, Kaysville	Partial	A1, A2, B1, B2
Weaver agricultural buildings	~1700 W. Weaver Lane, Layton	Relocation	A1, A2, B1, B2
North Davis Sewer District Treatment Plant	4252 West 2200 South, Syracuse	Partial	A1, A2
Agricultural structure	1518 South 4000 West, Syracuse	Relocation	A1, A2
Syracuse Arts Academy	2893 West 1700 South, Syracuse	Partial	B1, B2
Glen Eagle Golf Course	3400 West 1700 South, Syracuse	Partial	A1, A2, B1, B2
Agricultural building	4403 West 800 North, West Point	Relocation	A2, B2

Economic Impacts to Station Park in Farmington. Some commenters on the Draft EIS stated that the WDC could have negative economic impacts to the Station Park development in Farmington because the Draft EIS alternatives that used the Glovers Lane southern interchange option did not include a local interchange on the WDC that would provide access to Farmington and the Station Park area.

Between the release of the Draft EIS and the Final EIS, Farmington City has updated plans for a major business park west of I-15 in the area south of Shepard Lane and north of the existing Station Park development. This planned business park will become regionally significant to Davis County, and the updated traffic modeling conducted in 2015 showed that

a future interchange on the WDC at 950 North was warranted. Based on this traffic modeling, the 950 North interchange was added to the WDC alternatives evaluated in this Final EIS.

The WDC 950 North interchange would provide access to western Farmington, Station Park, and the planned business park. The 950 North interchange will be constructed once the local access road connecting to the 950 North interchange is completed by Farmington and Kaysville Cities.

With the 950 North interchange, the WDC team expects that any of the WDC alternatives would provide an economic benefit to Station Park since the interchange would provide more access to Station Park. No negative economic impacts to Station Park are expected from any of the WDC alternatives.

Impacts to the Tourism Industry in Davis County. Some commenters on the Draft EIS stated that the WDC would have detrimental impacts to the tourism industry in Davis County, specifically to bird-watching events or activities at Antelope Island, the Farmington Bay Waterfowl Management Area, and the visitor's center of The Nature Conservancy's Great Salt Lake Shorelands Preserve in Layton.

In response to these comments, it is important to note that the WDC alternatives would not prohibit or restrict access to the Great Salt Lake, the Farmington Bay Waterfowl Management Area, the Great Salt Lake Shorelands Preserve, or Antelope Island visitor areas, nor would they restrict bird watching or other recreational opportunities in these areas. Conversely, access to these areas could be enhanced by the WDC alternatives, so the WDC is not expected to decrease tourism. Impacts to the Great Salt Lake ecosystem, the Farmington Bay Waterfowl Management Area, and the Great Salt Lake Shorelands Preserve are described in Chapter 14, Ecosystem Resources.

Project Construction. During construction of the WDC, impacts would be attributable to (1) the increase in economic activity associated with project-related expenditures and (2) any decrease in commerce and employment resulting from the displacement of businesses and the temporary decrease in commerce and employment due to disruption of access.

The size of the WDC construction project, potentially over $700 million spread over 10 years, indicates that a large number of laborers, tradespeople, supervisory personnel, and other workers would need to be employed at the construction site. Using an input-output economic assessment system, the WDC team estimated that construction expenditures associated with the WDC would generate about 4,600 direct and indirect jobs for the 2-year construction period. The direct job impact (that is, construction jobs) is about 60% of the total, while the indirect job impact (from supplier spending) and the induced job impact (from employee spending) are 17% and 23% of the total, respectively (Penet 2016).

8.4.2.3 General Impacts to the Agricultural Economy

For the purpose of the analysis presented in this chapter, relocations, partial impacts, and potential impacts to agricultural businesses are based on the criteria described in Section 8.4.1.2, Commerce and Employment. As shown above in Table 8-6, Businesses Affected by the WDC Action Alternatives, each of the WDC action alternatives would directly affect three to five agricultural business structures.

As described in Chapter 4, Farmland, all of the WDC action alternatives would partially impact agricultural businesses by affecting farmland. As shown in Table 8-7, the range of the direct farmland impacts would be 603 acres to 690 acres, and the range of fragmented farmland remnants would be 27 acres to 50 acres. Alternative A2 would have the most impacts to farmland, and Alternative B1 with the wetland avoidance options would have the fewest impacts to farmland.

Table 8-7. Farmland Impacts from the WDC Action Alternatives

in acres rounded to the nearest whole number

Alternative	Total Cropland Impacts[a]	Farmland Remnants[b]
A1	629	41
A2	690	50
A1 with wetland avoidance options	624	40
A2 with wetland avoidance options	685	49
B1	608	28
B2	611	36
B1 with wetland avoidance options	603	27
B2 with wetland avoidance options	606	35

[a] Includes irrigated, sub-irrigated, and non-irrigated cropland.

[b] Includes farmland that is severed in such a way that the remaining parcels would be smaller than 5 acres.

As stated in Section 8.4.1.3, Agricultural Economic Impacts, there is no specific guidance regarding the size at which a farmland remnant becomes too small to farm economically, so no definitive determinations can be reached regarding the number of farm businesses that would be relocated as a result of impacts to farmland. Ultimately, UDOT and the landowner would determine the viability of each affected farming operation on a case-by-case basis.

Since all alternatives would affect farmland, all alternatives would partially impact and could cause the relocation of agricultural businesses. Given the relative differences in affected farmland, Alternatives A1 and A2, which would have the largest farmland impacts, would be more likely than the other alternatives to cause the relocation of agricultural businesses. Alternatives B1 and B2 would have fewer farmland impacts than Alternatives A1 and A2 and would be less likely to cause the relocation of agricultural businesses.

IMPLAN Analysis

Draft EIS Analysis. For the Draft EIS, the WDC team also used the IMPLAN (Impact Analysis for Planning) economic assessment modeling system to assess the local agricultural economic conditions. The IMPLAN modeling for the Draft EIS used the most recent available economic data, which were from 2009. Table 8-8 shows the results of the IMPLAN modeling. The IMPLAN modeling estimated that, in the impact analysis area in 2009, there was $54.5 million in annual agricultural economic output, which was less than 0.2% of the total economic output of $32.4 billion in the impact analysis area (Davis and Weber Counties).

Table 8-8. Annual Agricultural Economic Output in the Economic Impact Analysis Area in 2009

Type of Agriculture	Economic Output	Percent of Total
Grain farming	$2,511,000	0.01%
Vegetables and melons	$4,477,000	0.01%
Fruit farming	$1,651,000	0.01%
Greenhouse, nursery, and floriculture	$32,487,000	0.10%
All other crops	$4,749,000	0.01%
Cattle ranching and farming	$8,657,000	0.03%
Total agricultural output	**$54,532,000**	**0.17%**
Total output (all industries)	**$32,432,844,000**	

Source: HDR Decision Economics 2012

The WDC team also used IMPLAN to evaluate agricultural economic impacts during the Draft EIS process. IMPLAN is a regional economic model that predicts direct, indirect, and induced economic impacts from a project. IMPLAN is a commonly used economic model and uses county-specific economic data to estimate economic impacts.

The team used a GIS analysis that overlaid the WDC alternatives' footprints on the Utah Division of Water Resources' water-related land use data to determine the amount of affected acreage for each type of agricultural land (for example, alfalfa, beans, corn, pasture, and so on). For each type of agricultural land, the team assigned an NAICS (North American Industry Classification System) code to classify the agricultural industry associated with each type of agricultural land. The IMPLAN system used this information to produce an economic assessment of the annual direct and total agricultural economic impacts from each of the WDC alternatives evaluated in the Draft EIS.

As shown above in Table 8-8, the total economic output for the impact analysis area is estimated to be about $32.4 billion per year (HDR Decision Economics 2012). The total annual agricultural economic output in the impact analysis area is estimated to be about $54.5 million per year, or less than 0.2% of the total economic output for the impact analysis area (HDR Decision Economics 2012).

The total agricultural economic impacts of the WDC action alternatives evaluated in the Draft EIS would be 0.7% to 1.9% of the total annual agricultural output and less than 0.01% of the total economic output for the impact analysis area.

Final EIS Update. The IMPLAN analysis was not updated for this Final EIS for the following reasons:

- The amount of farmland affected by the WDC alternatives as reported in this Final EIS is less than the amount of farmland affected by the WDC action alternatives evaluated in the Draft EIS.
- The difference in farmland impacts as reported in this Final EIS between the WDC action alternatives is very minor.

Overall, the WDC action alternatives evaluated in this Final EIS would have similar levels of impacts to cropland, since the range of the direct farmland impacts would be 603 acres to 690 acres among the different alternatives. Given this similar range of agricultural impacts, there would not be any notable differences in agricultural economic impacts among the alternatives.

Because there would not be any notable differences in total agricultural economic impacts among the WDC action alternatives, there would not be a notable difference in impact to the total annual agricultural output or to the total economic output for the impact analysis area among the WDC action alternatives. The WDC alternatives' percentage impact for either the total annual agricultural output or the total economic output for the impact analysis area would continue to be very small percentages of the totals.

8.4.2.4 General Impacts to Local Government Revenues

The WDC action alternatives would require that UDOT purchase private property for right-of-way. The majority of the right-of-way is currently in the tax base of communities in the impact analysis area. The State's removal of these properties from the tax base into a roadway facility would reduce local government revenues and prevent development on this land.

Over the long term, roadway improvements would facilitate economic development by providing an improved regional transportation system. As discussed in Section 8.4.1.2, Commerce and Employment, and Section 8.4.1.4, Local Government Revenues, the increased economic competitiveness and higher property values due to the roadway improvements would likely offset any local adverse business impacts from the WDC action alternatives. The economic benefits of higher property values would similarly affect local government revenues in a positive way, most likely increasing them above the levels that would occur with the No-Action Alternative. Quantifying this net benefit of the improved transportation system is difficult because the benefits would occur incrementally over a long period and would be influenced by other economic factors. In addition, these benefits might not occur uniformly across communities.

Table 8A-2 and Table 8A-3 in Appendix 8A, Tables and Calculations in Support of the Economics Analysis, further describe how the tax-generation estimates were developed. Table 8A-2, Land Use Impacts by Alternative, summarizes the land-use information used to estimate revenue impacts. Table 8A-3, Combined Property and Sales Tax Revenue Impacts Assuming All Land Is Developed, shows the maximum expected loss in property and sales tax revenue for each of the alternatives.

The range of impacts to property and sales tax revenue from the WDC action alternatives would be 0.2% to 0.3% of the total property and sales tax revenue for the WDC study area. As described in Section 8.3.3.1, Revenues, property tax and sales tax revenues range between 21% and 79% of total revenues for the Cities and Counties in the study area. A reduction of 0.2% to 0.3% of the property and sales tax revenue would not cause a fiscal burden to any local government in the study area. Over the long term, increased property values as a result of improved regional transportation access would generate enough revenue to offset the short-term impact of the WDC on local government revenues.

8.4.2.5 General Impacts to Property Values

Impacts to regional property values are focused on the WDC's operation, rather than construction, and would vary by the type of surrounding land use (construction impacts are discussed in Section 8.4.2.6, General Construction Impacts). Many studies have attempted to quantify the impact of transportation facilities on surrounding properties. Since property values in any area depend on many different variables (including location, adjacent land uses, community services, land-use controls, topography, drainage, natural amenities, regional growth or decline, interest rates, and local supply and demand), it is difficult to isolate and identify the effect of one transportation facility on property values. For these same reasons, it is also difficult to use study results from projects in different areas to compare to other projects. Generally, studies and any effects for one area are not directly comparable to other areas, given the differences in the real estate markets between areas.

Reference Studies

In order to understand the context of the potential impacts of the WDC on property values, the WDC team considered three studies that specifically looked at property values for properties surrounding transportation facilities. Many studies have researched the relationship between property values and transportation facilities. It is important to emphasize that, although many studies have been conducted, the findings and results of these studies are often conflicting. Additionally, the results or findings regarding one project are generally not applicable to other transportation projects because of the many different variables that can influence property values.

These three studies were selected because they are three of the most recent, commonly referenced studies on this topic. Additionally, the WDC team received multiple public comments that referenced the Carey (2003) study. The WDC team is not aware of any more-recent studies or FHWA guidance on this topic.

Langley (1981). John C. Langley, Jr., published a study titled "Highways and Property Values: The Washington Beltway Revisited" in 1981. This study focused on the property values of residential properties surrounding the Interstate 495 (I-495) beltway in Virginia. Using regression analyses, Langley found that residential properties closer to I-495 increased in value at a rate less than those farther away. Langley also found that properties close to I-495 sold for $3,000 to $3,500 less than properties farther away. Langley cautioned that the results of the I-495 study were local and should not be applied to other facilities in different areas. Langley also noted that noise levels did not fully explain the effects found in the

regression analysis, meaning that there were other confounding factors contributing to the effects found in the study. This study has some limited applicability to the WDC Project because the average daily traffic volumes in the Langley study are greater than 100,000 vehicles per day, whereas there would be less than 30,000 vehicles per day for the WDC.

Nelson (1982). Jon P. Nelson published a study titled "Highway Noise and Property Values" in 1982. This study focused specifically on the noise effects of transportation facilities on property values. Nelson found that a new highway in a predominantly residential area would diminish property values for those properties adjacent to the highway right-of-way and for properties near the highway. This adverse impact is due to noise, visual impacts, and other effects attributable to the highway. Nelson concluded that: (1) for every 1-dBA (A-weighted decibel) increase in noise, there is a corresponding reduction in residential property value of about 0.40%; (2) noise levels above 50 dBA to 60 dBA, or conversation levels, were considered most likely to cause intrusion, with resulting impacts to property values; and (3) it takes longer to sell a property near a highway (about 4 days longer, on average) according to a realtor survey.[1] The WDC would have noise levels at or above 60 dBA for residents adjacent to the right-of-way.

Carey (2003). One of the most comprehensive recent studies is "Impact of Highways on Property Values: Case Study of the Superstition Freeway Corridor" by Jason Carey for FHWA and the Arizona Department of Transportation, published in 2003. As part of this study, Carey conducted a comprehensive literature review of previous studies and used a large, very detailed data set that covered 20 years to determine the effects of the Superstition Freeway (U.S. Highway 60 [US 60]) between Mesa and Gilbert, Arizona. Some of the key findings of this report include the following:

- New freeways provide substantial benefits to users in the form of travel time savings and reductions in costs associated with operating motor vehicles.
- Access benefits are transferred from highway users to non-users through changes in property values. Freeway construction can have an adverse impact on some properties, but, in the aggregate, property values tend to increase with freeway development. Overall, all properties appreciated over the long term, and any negative effects were in the form of lower rates of appreciation (that is, property values still increased but at a slower rate).
- Not all property values are affected by freeways in the same way. Proximity to the freeway had a negative effect on the value of detached single-family homes in the US 60 corridor but a positive effect on multi-family residential developments (for example, condominiums) and most commercial properties.
- The most important factor in lowering property values appears to be the level of traffic on any major roads in the area, which implies that regional traffic growth is more significant than the presence of a freeway.

[1] Nelson surveyed nine other property value studies and standardized their results using a Noise Depreciation Sensitivity Index (NDSI) within a hedonic model of property value. The 0.40% impact associated with each dBA increase in noise is the weighted average across these studies.

It is important to note several important differences and factors that limit the applicability and comparative use of the US 60 study to the WDC Project.

- Traffic levels on US 60 are much higher than those expected for the WDC. In 2000, the average daily traffic (ADT) on US 60 was 149,304 (Carey 2003). The highest expected ADT for the WDC in 2040 is 28,500.
- US 60 was constructed before the surrounding residential and commercial developments. It is unknown whether residential developments closer to the freeway have other differences that affect property values besides proximity to US 60. The WDC would be constructed after many parts of the surrounding area have already been developed. The US 60 study did not study the property value effects of a new road in an already developed area.
- The US 60 study area is much more urban than the WDC study area. Additionally, the US 60 study took place over a boom period in real estate development in Arizona. Mesa and Gilbert, Arizona, experienced some of the highest population growth in the nation between 1990 and 2000.
- The US 60 study is clear that there could be other confounding variables (for example, air pollution, factories, or other undesirable land uses around the highway) that were not accounted for in the study that could also be the cause of any reduction in property values. Statistically, the lack of controlling for other potentially confounding variables and the use of t-tests for statistical significance (in other words, a 95% probability that an effect is not caused by chance alone) means that any effects from the US 60 study are correlative effects, not causal effects.

Specific WDC Considerations

This qualitative analysis on property values for the WDC alternatives uses several commonly accepted generalizations when discussing property value impacts. These generalizations are either intuitive or are supported by the previous studies discussed above, and in either case provide evidence for whether an impact would be beneficial or adverse. In some cases, these generalizations provide insights into the degree to which the property value might be changed.

For any of the WDC action alternatives:

- There would likely be an overall increase in property values for the WDC study area, since there would be an improved transportation system and less delay on the current transportation system. The expected increase in population and improved infrastructure would likely be contributing factors in an increase in all property values in the study area. Overall, the addition of a new highway is expected to result in a net increase in property values for the study area.
- As suggested by previous studies, residential properties adjacent to the WDC alternatives could have lower property values and could have a lower rate of appreciation than similar properties farther from the WDC if all other variables were

the same. These potential adverse effects could be caused by noise, visual impacts, and other effects attributable to the highway. For the WDC, these potential adverse effects on residential properties would be more likely in areas where residential properties are located close to one of the WDC alternatives.

8.4.2.6 General Construction Impacts

Any major construction project temporarily inconveniences or disturbs the residents, businesses, and business customers adjacent to the construction area. These temporary effects include:

- Presence of construction workers, heavy construction equipment, and materials
- Temporary road closures, traffic diversions, and changes to property access
- Airborne dust
- Noise and vibrations from construction equipment and vehicles
- Decreased visibility and changes to or restrictions of business accesses

The congestion associated with construction could also cause increased travel delays and lost worker productivity. This impact would affect both commuters and businesses that rely on local transportation.

Temporary adverse impacts could also occur because of reduced accessibility during construction. These impacts would be experienced primarily by businesses whose clientele is based on convenience or impulse patronage rather than businesses with a specific client base. For example, motorists might avoid a gas station near a construction zone because it is more difficult to access. In contrast, patients going to a doctor's office in a construction zone would be less likely to select another doctor based on temporary access problems.

The above impacts would be temporary but could result in noticeable impacts depending on the length of construction. Given the residential nature of the project area, few businesses would be affected by construction. The construction of the WDC interchanges or overpasses could temporarily restrict access to some existing businesses during construction. These access restrictions would likely be for a short period, and UDOT would provide detours to all businesses during construction.

Without planning and mitigation, these construction-related effects could adversely affect the comfort and daily life of residents, inconvenience customers and employees, and disrupt the flow of materials and supplies to and from businesses. Mitigation for construction-related impacts is discussed in Section 8.4.7, Mitigation Measures.

8.4.3 No-Action Alternative

Impacts to the Traveling Public. With the No-Action Alternative, the WDC would not be constructed, and no projects are planned to replace the WDC if it is not built. If the WDC roadway improvements are not made, traffic congestion in the impact analysis area would worsen, resulting in a greater percentage of residents' time being unproductively spent in traffic. This represents a reduction in economic productivity or, in other words, an increase in cost to society. This time is estimated to have an average value to individuals of $25.80 per hour (see Table 8A-1, Estimated Value of Motorists' Travel Time, in Appendix 8A, Tables and Calculations in Support of the Economics Analysis).

The traffic analysis estimated that about 18,310 hours per day of motorists' time would be spent in congested traffic in the region during peak weekday periods in the WDC study area in 2040. This equals about $172 million in annual cost to the traveling public (18,310 hours per day multiplied by $25.80 per hour multiplied by 365 days per year).

Commerce and Employment Impacts. If the WDC roadway improvements are not made, no businesses would be acquired, and business and employment growth would likely continue to increase consistent with their historic trends in the short term. However, as traffic congestion increases over time and businesses seek to minimize costs, the region's economic competitiveness could diminish in relation to other areas in the region with better transportation systems. The growth in business commerce and employment, especially with respect to businesses that depend on the transportation system, would be reduced over time compared to businesses in the region with better transportation access.

Agricultural Economic Impacts. If the WDC roadway improvements are not made, no direct effects to the agricultural economy are expected from the WDC not being built. The trend of converting farmland to more-urban development would continue at a rate similar to the current rate, and this trend would occur with either the No-Action or action alternatives. For more information, see Chapter 23, Indirect Effects.

Local Government Revenue Impacts. If the WDC roadway improvements are not made, local government revenues would continue to increase at a pace approximately equal to the community's population and job growth. Communities would use all available resources to generate revenues and provide services throughout their service areas. Property tax revenues and sales tax revenues would continue to be an important source of funds for the communities.

Property Value Impacts. If the WDC roadway improvements are not made, there would be no effect on property values as a result of not building the WDC. Residential and non-residential property values in the impact analysis area and the region would continue to follow local and national trends. However, as traffic congestion in the impact analysis area worsens over time and travel times increase, the desirability of the residential and non-residential properties in the impact analysis area would be reduced in relation to areas with better transportation access. As a result, property values might continue to increase, but not as much as they would with a more effective regional transportation system.

8.4.4 Alternatives A1–A2

As described in Chapter 2, Alternatives, Alternative A is the more westerly alternative and consists of two separate alternatives: Alternatives A1 and A2. These alternatives are defined in Table 8-9.

Table 8-9. Components of Alternatives A1–A2

Alternative	I-15 Connection	Four-Lane Highway	Two-Lane Highway	West Point/ Hooper Cities Segment	North Terminus
A1	Glovers Lane	I-15 to 2000 West	2000 West to 1800 North	4100 West	1800 West (West Point)
A2	Glovers Lane	I-15 to 2000 West	2000 West to 5500 South	5400 West	5500 South (Hooper)

The economic impacts from Alternatives A1 and A2 are shown in Table 8-10.

Table 8-10. Economic Impacts from Alternatives A1–A2

Impact	A1	A2
Congestion cost savings in 2040 compared to the No-Action Alternative[a]	$48.0 million	$46.9 million
Number of relocated businesses	5	6
Number of businesses potentially or partially impacted	5	5
Annual amount of city/county lost tax revenue because of the WDC	–$347,675	–$358,668
Annual percent loss of city/county tax revenue because of the WDC	–0.2%	–0.2%

Source: Davis County Assessor's Office 2012

[a] Costs in 2040 were not discounted to 2012 dollars. Discounting to 2040 would reduce the cost savings, but inflating the $25.80/hour delay cost to 2040 dollars would increase the future cost savings. Using the current delay cost in 2040 provides a relative means of comparison between the No-Action and action alternatives.

8.4.4.1 Alternative A1 – Glovers Lane and 4100 West/1800 North

For a general description of the economic impacts from all of the WDC action alternatives, see Section 8.4.2, General Overview of Economic Impacts.

Impacts to the Traveling Public. Alternative A1 would have a beneficial impact to the traveling public. Table 8-10 above, Economic Impacts from Alternatives A1–A2, shows that Alternative A1 would result in time congestion savings of $48.0 million in 2040 compared to the No-Action Alternative. Traffic congestion in the WDC study area would be reduced compared to congestion with the No-Action Alternative.

Commerce and Employment Impacts. Alternative A1 would relocate five businesses and partially impact five business properties. The affected businesses are listed above in Table 8-6, Businesses Affected by the WDC Action Alternatives. The relocated businesses for Alternative A1 are a commercial property on 650 West in Farmington, an agricultural business on Glovers Lane in Farmington, the Lodder Ranch Mink Farm in Kaysville, an agricultural business on Weaver Lane in Layton, and an agricultural business on 4000 West

in Syracuse. The partially impacted businesses are a commercial property on 650 West in Farmington, the Central Davis Sewer District Treatment Plant in Kaysville, the Equestrian Estates agricultural property in Kaysville, the North Davis Sewer District Treatment Plant in Syracuse, and Glen Eagle Golf Course in Syracuse.

Local Government Revenue Impacts. Alternative A1 would reduce local government property and sales tax revenues by $7347,675, or 0.2%, of the annual total property and sales tax revenue in the WDC study area. As described in Section 8.3.3.1, Revenues, property tax and sales tax revenues range between 21% and 79% of total revenues for the Cities and Counties in the study area. A reduction of 0.2% of the property and sales tax revenue would not cause a fiscal burden to any local government in the study area. Over the long term, increased property values as a result of improved regional transportation access could generate enough revenue to offset the short-term impact of the WDC on local government revenues.

Property Value Impacts. As discussed in Section 8.4.2.5, General Impacts to Property Values, all of the WDC action alternatives would likely contribute to an overall increase in property values in the WDC study area.

Alternative A1 could lower the residential property values of properties adjacent to the alternative, especially if the properties are affected by noise or visual impacts from the highway. Residential properties close to Alternative A1 could also be more likely to have lower rates of appreciation compared to similar properties farther from Alternative A1.

Multi-family residential properties and commercial properties close to Alternative A1 could have increased property values and higher rates of appreciation because of Alternative A1.

8.4.4.2 Alternative A2 – Glovers Lane and 5400 West/5500 South

For a general description of the economic impacts from all of the WDC action alternatives, see Section 8.4.2, General Overview of Economic Impacts.

Impacts to the Traveling Public. Alternative A2 would have a beneficial impact to the traveling public. Table 8-10 above, Economic Impacts from Alternatives A1–A2, shows that Alternative A2 would result in time congestion savings of $46.9 million in 2040 compared to the No-Action Alternative. Traffic congestion in the WDC study area would be reduced compared to congestion with the No-Action Alternative.

Commerce and Employment Impacts. The business impacts of Alternative A2 would be the same as those from Alternative A1 except that Alternative A2 would have one more business relocation to an agricultural business on 800 North in West Point. Alternative A2 would affect the highest number of businesses of any of the WDC action alternatives.

Local Government Revenue Impacts. Alternative A2 would reduce local government property and sales tax revenues by $358,668, or 0.2%, of the annual total property and sales tax revenue in the WDC study area. As described in Section 8.3.3.1, Revenues, property tax and sales tax revenues range between 21% and 79% of total revenues for the Cities and Counties in the study area. A reduction of 0.2% of the property and sales tax revenue would not cause a fiscal burden to any local government in the study area. Over the long term,

increased property values as a result of improved regional transportation access could generate enough revenue to offset the short-term impact of the WDC on local government revenues.

Property Value Impacts. As discussed in Section 8.4.2.5, General Impacts to Property Values, all of the WDC action alternatives would likely contribute to an overall increase in property values in the WDC study area.

Alternative A2 could lower the residential property values of properties adjacent to the alternative, especially if the properties are affected by noise or visual impacts from the highway. Residential properties close to Alternative A2 could also be more likely to have lower rates of appreciation compared to similar properties farther from Alternative A2.

Multi-family residential properties and commercial properties close to Alternative A2 could have increased property values and higher rates of appreciation because of Alternative A2.

8.4.5 Alternatives B1–B2

As described in Chapter 2, Alternatives, Alternative B is the more easterly alternative and consists of two separate alternatives: Alternatives B1 and B2. These alternatives are defined in Table 8-11.

Table 8-11. Components of Alternatives B1–B2

Alternative	I-15 Connection	Four-Lane Highway	Two-Lane Highway	West Point City Segment	North Terminus
B1	Glovers Lane	I-15 to Antelope Drive[a]	Antelope Drive to 1800 North	4100 West	1800 North (West Point)
B2	Glovers Lane	I-15 to Antelope Drive[a]	Antelope Drive to 1800 North	4800 West	1800 North (West Point)

[a] The transition from a four-lane highway to a two-lane highway would occur between Antelope Drive and 700 South.

The economic impacts from Alternatives B1 and B2 are shown in Table 8-12.

Table 8-12. Economic Impacts from Alternatives B1–B2

Impact	B1	B2
Congestion cost savings in 2040 compared to the No-Action Alternative[a]	$55.6 million	$54.5 million
Number of relocated businesses	4	5
Number of businesses potentially or partially impacted	5	5
Amount of city/county lost tax revenue because of the WDC	–$571,605	–$555,117
Percent loss of city/county tax revenue because of the WDC	–0.3%	–0.3%

Source: Davis County Assessor's Office 2012

[a] Costs in 2040 were not discounted to 2012 dollars. Discounting to 2040 would reduce the cost savings, but inflating the $25.80/hour delay cost to 2040 dollars would increase the future cost savings. Using the current delay cost in 2040 provides a relative means of comparison between the No-Action and action alternatives.

8.4.5.1 Alternative B1 – Glovers Lane and 4100 West/1800 North

For a general description of the economic impacts from all of the WDC action alternatives, see Section 8.4.2, General Overview of Economic Impacts.

Impacts to the Traveling Public. Alternative B1 would have a beneficial impact to the traveling public. Table 8-12 above, Economic Impacts from Alternatives B1–B2, shows that Alternative B1 would result in time congestion savings of $55.6 million in 2040 compared to the No-Action Alternative. Traffic congestion in the WDC study area would be reduced compared to congestion with the No-Action Alternative. Alternative B1 would have the greatest reduction in congestion and highest congestion savings of any of the WDC action alternatives.

Commerce and Employment Impacts. Alternative B1 would relocate four businesses and partially impact five business properties. Alternative B1 would affect the lowest number of businesses of any of the WDC action alternatives. The affected businesses are listed above in Table 8-6, Businesses Affected by the WDC Action Alternatives. The relocated businesses for Alternative B1 are a commercial property on 650 West in Farmington, an agricultural business on Glovers Lane in Farmington, the Lodder Ranch Mink Farm in Kaysville, and an agricultural business on Weaver Lane in Layton. The five partially impacted businesses are a commercial property on 650 West in Farmington, the Central Davis Sewer District Treatment Plant in Kaysville, the Equestrian Estates agricultural property in Kaysville, the Syracuse Arts Academy in Syracuse, and Glen Eagle Golf Course in Syracuse.

Local Government Revenue Impacts. Alternative B1 would reduce local government property and sales tax revenues by $571,605, or 0.3%, of the annual total property and sales tax revenue in the WDC study area. As described in Section 8.3.3.1, Revenues, property tax and sales tax revenues range between 21% and 79% of total revenues for the Cities and Counties in the study area. A reduction of 0.3% of the property and sales tax revenue would not cause a fiscal burden to any local government in the study area. Over the long term, increased property values as a result of improved regional transportation access could generate enough revenue to offset the short-term impact of the WDC on local government revenues.

Property Value Impacts. As discussed in Section 8.4.2.5, General Impacts to Property Values, all of the WDC action alternatives would likely contribute to an overall increase in property values in the WDC study area.

Alternative B1 could lower the residential property values of properties adjacent to the alternative, especially if the properties are affected by noise or visual impacts from the highway. Residential properties close to Alternative B1 could also be more likely to have lower rates of appreciation compared to similar properties farther from Alternative B1.

Multi-family residential properties and commercial properties close to Alternative B1 could have increased property values and have higher rates of appreciation because of Alternative B1.

8.4.5.2 Alternative B2 – Glovers Lane and 4800 West/1800 North

For a general description of the economic impacts from all of the WDC action alternatives, see Section 8.4.2, General Overview of Economic Impacts.

Impacts to the Traveling Public. Alternative B2 would have a beneficial impact to the traveling public. Table 8-12 above, Economic Impacts from Alternatives B1–B2, shows that Alternative B2 would result in time congestion savings of $54.5 million in 2040 compared to the No-Action Alternative. Traffic congestion in the WDC study area would be reduced compared to congestion with the No-Action Alternative.

Commerce and Employment Impacts. Alternative B2 would relocate six businesses, the same five businesses that would be relocated by Alternative B1 and an agricultural business on 800 North in Syracuse. Alternative B2 would partially impact the same five business properties that would be partially impacted by Alternative B1. The affected businesses are listed above in Table 8-6, Businesses Affected by the WDC Action Alternatives.

Local Government Revenue Impacts. Alternative B2 would reduce local government property and sales tax revenues by $555,117, or 0.3%, of the annual total property and sales tax revenue in the WDC study area. As described in Section 8.3.3.1, Revenues, property tax and sales tax revenues range between 21% and 79% of total revenues for the Cities and Counties in the study area. A reduction of 0.3% of the property and sales tax revenue would not cause a fiscal burden to any local government in the study area. Over the long term, increased property values as a result of improved regional transportation access could generate enough revenue to offset the short-term impact of the WDC on local government revenues.

Property Value Impacts. As discussed in Section 8.4.2.5, General Impacts to Property Values, all of the WDC action alternatives would likely contribute to an overall increase in property values in the WDC study area.

Alternative B2 could lower the residential property values of properties adjacent to the alternative, especially if the properties are affected by noise or visual impacts from the highway. Residential properties close to Alternative B2 could also be more likely to have lower rates of appreciation compared to similar properties farther from Alternative B2.

Multi-family residential properties and commercial properties close to Alternative B2 could have increased property values and higher rates of appreciation because of Alternative B2.

8.4.6 Wetland Avoidance Options

Two wetland avoidance options are being evaluated in this Final EIS, as shown in Table 8-13 below. The purpose of these options is to avoid wetland impacts per guidance from the U.S. Army Corps of Engineers on wetland avoidance. Either wetland avoidance option could be implemented with any of the A or B Alternatives.

In this section, the impact information for the wetland avoidance options provides only the differences in impacts for the A and B Alternatives as a result of using the wetland avoidance options. The differences in impacts would apply to any of the A and B Alternatives if they were to use the wetland avoidance options.

Table 8-13. Components of the Wetland Avoidance Options

Option	Location	City	Description
Farmington	Prairie View Drive and West Ranches Road	Farmington	Shift the A and B Alternatives in Farmington about 150 feet east to the southwest side of the intersection of Prairie View Drive and West Ranches Road.
Layton	2200 West and 1000 South	Layton	Shift the A and B Alternatives in Layton about 500 feet east to the northeast side of the intersection of 2200 West and 1000 South.

The economic impacts of the wetland avoidance options are summarized in Table 8-14, Summary of Economic Impacts from the WDC Action Alternatives, on page 8-31.

Compared to the alternatives without the wetland avoidance options (Alternatives A1, A2, B1, and B2, which are described in Section 8.4.4, Alternatives A1–A2, and Section 8.4.5, Alternatives B1–B2), the wetland avoidance options would have no change in impacts to the traveling public, commerce and employment impacts, or property value impacts. This lack of difference is because the alternatives with the wetland avoidance options would have the same roadway length, reduction in delay, and access to local roads as the alternatives without the wetland avoidance options. The alternatives with the wetland avoidance options would impact the same number of businesses and would have the same potential for impacts to property values as the alternatives without the wetland avoidance options.

The alternatives with wetland avoidance options would have slightly higher impacts to local government tax revenues, but the overall percentage of impact would be the same as from Alternatives A1, A2, B1, and B2 (see Table 8-14 on page 8-31).

8.4.7 Mitigation Measures

For impacts related to business displacements and relocations, this impacts analysis assumes that any businesses relocated as a result of this project would receive relocation assistance in accordance with UDOT's right-of-way acquisition practices. Property acquisitions will be completed according to the provisions of the federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended, and the Utah Relocation Assistance

Act, Utah Code Section 57-12. For businesses that experience short-term access and visibility problems during construction, a traffic access management plan will be developed and implemented by the construction contractor that maintains the public's access to the business during normal business hours.

Mitigation is not offered to local governments that are adversely affected when land is removed from their tax base. Over the long term, increased property values as a result of improved regional transportation access are expected by the WDC team to generate enough revenue to offset the short-term impact of the WDC on local government revenues.

Mitigation is not provided for residential properties close to, but not directly affected by, the WDC that could experience adverse noise and aesthetic impacts and potentially have a loss of property values. However, the project will include noise mitigation such as quiet pavement and aesthetic treatments to help offset some of the impacts.

8.4.8 Cumulative Impacts

Cumulative impacts were analyzed for local and regionally important issues (ecosystem resources, air quality, water quality, floodplains, farmland, economics, and community impacts). The list of resources analyzed for cumulative impacts was developed with input from resource agencies and the public during scoping.

What are cumulative impacts?

Cumulative impacts are the resulting impacts from the proposed action combined with impacts from other past, present, and reasonably foreseeable future actions.

As part of the WDC EIS process, scoping meetings were held with the public and resource agencies to help identify issues to be analyzed in this EIS. The comments received during the public and agency scoping period were reviewed to determine whether any significant issues were identified. The public identified the decrease in residential property values as a main concern. Chapter 24, Cumulative Impacts, provides a detailed analysis of the potential cumulative impacts to residential property values. This section provides a summary of that analysis.

What is scoping?

Scoping is an early and open process for determining the scope of issues to be addressed and for identifying the significant issues related to a proposed action.

Because it is difficult to predict future property values, the following analysis is based on how the WDC could cause cumulative impacts to property values when the WDC is constructed versus the future build-out year of 2040. Between 2007 and 2011, property values in Davis and Weber Counties fell between 30% and 35% from their all-time highs in 2007 (Great Salt Lake City Real Estate 2012; The Salt Lake Tribune 2017). In 2012, property values stabilized. By 2016, housing prices had rebounded to levels at or higher than those in 2007 prior to the recession.

At the time the Draft EIS was released, many residents whose homes would be adjacent to the WDC believed that the WDC would further reduce their property values in combination with the recession, resulting in a personal cumulative economic impact. For the Final EIS, since

home values are now at or higher than their levels at the start of the 2007 recession, the WDC would not contribute to a cumulative reduction in home values.

As stated in Section 8.4.2.5, General Impacts to Property Values, for the WDC study area, a new highway is expected to cause a net increase in property values. The net increase in property values in the study area would be a positive regional cumulative impact. However, previous studies have suggested that, in some situations, single-family residential areas adjacent or close to a new road could have lower property values and could have a lower rate of appreciation than similar properties farther from the new road (Carey 2003). No other reasonably foreseeable projects or actions other than the WDC are expected by the WDC team to affect property values in the future.

Most researchers hypothesize that any adverse effects on property values from a new highway are predominantly related to higher traffic volumes and higher levels of noise, visual impacts, and other nuisance effects attributable to the highway. Since property values in any area depend on many different variables, it is difficult to isolate and identify the effect of one transportation facility on property values.

Any decrease in property values from the WDC would not contribute to a cumulative impact with a loss in home values that occurred during the economic recession that started in late 2007, since home prices had rebounded to pre-recession levels or higher by 2016. However, property values could decrease for some single-family residential properties immediately adjacent to the WDC.

8.4.9 Summary of Impacts

Table 8-14 below summarizes the economic impacts from each alternative. The expected economic benefits and impacts of the WDC action alternatives are very similar and vary by less than 1% for all economic criteria.

All action alternatives would provide a substantial economic benefit to the traveling public compared to the No-Action Alternative, with Alternative B1 providing the most benefit and Alternative A2 providing the least benefit.

Alternative A2 would relocate the most businesses of the action alternatives; Alternatives B1 would relocate the fewest businesses. Alternatives B1 and B2 would have fewer agricultural economic impacts; Alternatives A1 and A2 would have more agricultural economic impacts. Alternative A1 would have the lowest economic impacts to local governments; Alternative B1 would have the most economic impacts to local governments.

Compared to the alternatives without the wetland avoidance options (Alternatives A1, A2, B1, and B2, which are described in Section 8.4.4, Alternatives A1–A2, and Section 8.4.5, Alternatives B1–B2), the wetland avoidance options would have no change in impacts to the traveling public, commerce and employment impacts, or property value impacts. The alternatives with wetland avoidance options would have slightly higher impacts to local government tax revenues, but the overall percentage of impact would be the same as from Alternatives A1, A2, B1, and B2.

Table 8-14. Summary of Economic Impacts from the WDC Action Alternatives

	Alternative								
Impact	**No-Action**	**A1**	**A2**	**A1 with Wetland Avoidance Options**	**A2 with Wetland Avoidance Options**	**B1**	**B2**	**B1 with Wetland Avoidance Options**	**B2 with Wetland Avoidance Options**
Congestion cost savings in 2040 compared to the No-Action Alternative[a]	$0	$48.0 million	$46.9 million	$48.0 million	$46.9 million	$55.6 million	$54.5 million	$55.6 million	$54.5 million
Number of relocated businesses	0	5	6	5	6	4	5	4	5
Number of businesses potentially or partially impacted	0	5	5	5	5	5	5	5	5
Annual amount of city/ county lost tax revenue because of the WDC	$0	–$347,675	–$358,668	–$386,147	–$397,140	–$571,605	–$555,117	–$610,077	–$593,589
Annual percent loss of city/county tax revenue because of the WDC	$0	–0.2%	–0.2%	–0.2%	–0.2%	–0.3%	–0.3%	–0.3%	–0.3%

Source: Davis County Assessor's Office 2012

[a] Costs in 2040 were not discounted to 2012 dollars. Discounting to 2040 would reduce the cost savings, but inflating the $25.80/hour delay cost to 2040 dollars would increase the future cost savings. Using the current delay cost in 2040 provides a relative means of comparison between the No-Action and action alternatives.

8.5 References

Carey, Jason

2003 Impact of Highways on Property Values: Case Study of the Superstition Freeway Corridor. *Transportation Research Record* 1839, 128–135. October.

Davis County Assessor's Office

2012 DR File for 2011 Tax Year. File contains parcel and tax information for 2011. Microsoft Excel spreadsheet provided on April 13, 2012.

[GOMB] Utah Governor's Office of Management and Budget

2012 2012 Baseline Projections Employment by Area. gomb.utah.gov/budget-policy/demographic-economic-analysis. Accessed November 19, 2014.

2017 2017 Economic Report to the Governor: Highlights. gardner.utah.edu/wp-content/uploads/2017/03/ERGFourPager-Singles.pdf. Accessed May 4, 2017.

Great Salt Lake City Real Estate

2012 Davis County Annual Home Prices. www.greatsaltlakerealestate.com/homeprices/davis-county. Accessed March 28, 2012.

HDR Decision Economics

2012 Technical Memorandum: Economic Impacts of the West Davis Corridor on Farmlands. May 2.

Langley, C. John, Jr.

1981 Highways and Property Values: The Washington Beltway Revisited. *Transportation Research Record 812: Economic, Social, and Energy Effects of Highway Transportation* 812, 16–21.

Nelson, Jon P.

1982 Highway Noise and Property Values. *Journal of Transport, Economics and Policy* 16:2, 117–138. May.

Office of the Utah State Auditor

2016a 2016 City Financial Statements. secure.utah.gov/auditor-search/?p=public. Accessed January 21, 2017.

2016b 2015 County Financial Statements. secure.utah.gov/auditor-search/?p=public. Accessed January 21, 2017.

Penet, Bruno

2016 Correspondence from Bruno Penet of HDR to Vince Izzo of HDR regarding construction employment numbers. December 21.

Rasband, Eric

2010 Correspondence from Eric Rasband of UDOT to Jayson Cluff of Horrocks Engineers regarding user cost. February 21.

The Salt Lake Tribune

2017 Home prices along the Wasatch Front. www.sltrib.com/money/homeprices. Accessed January 21, 2017.

U.S. Bureau of Labor Statistics

2017 Economy at a Glance Ogden-Clearfield MSA. www.bls.gov/eag/eag.ut_ogden_msa.htm. Accessed January 21, 2017.

[USDA] U.S. Department of Agriculture

2012a 2012 Census of Agriculture, Davis County, Utah.

2012b 2012 Census of Agriculture, Weber County, Utah.

Utah Department of Workforce Services

2017 County and Statewide Information. jobs.utah.gov/wi/data/index.html Accessed January 23, 2017.

Utah State Tax Commission

2017a 2016 *Utah Property Tax Areas with Tax Rates.* propertytax.utah.gov/library/pdf/taxrate_pdfs/taxarearates2016.pdf. Accessed January 21, 2017.

2017b January 1, 2017 Sales and Use Tax Rates for Utah Counties and Cities. tax.utah.gov/sales/rates. Accessed January 21, 2017.

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