Chapter 7: Transportation

7.1 Introduction

This chapter discusses the existing travel patterns in the West Davis Corridor (WDC) study area and considers the expected effects of the WDC alternatives on these travel patterns. Travel patterns were analyzed primarily for automobiles and transit. Section 1.7.4, Transit Network, provides additional information about how transit is used in the WDC study area. Information about bicycle and pedestrian accessibility can be found in Chapter 10, Considerations Related to Pedestrians and Bicyclists.

Transportation Impact Analysis Area. The transportation impact analysis area includes the roads that could have a beneficial or adverse impact from the WDC. Much of this area includes the roads within the WDC study area described in Section 1.2, Description of the Needs Assessment Study Area. However, the WDC team also reviewed roads outside this area. The analysis focused primarily on how the WDC would benefit roadway users and on major roads such as arterials and freeways at proposed WDC interchanges and intersections that could be affected by increased traffic from the WDC.

What is the transportation impact analysis area?

The transportation impact analysis area includes the roads that could have a beneficial or adverse impact from the WDC.

What is the WDC team?

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

7.2 Regulatory Setting

Technical Advisory T6640.8A, Guidance on Preparing and Processing Environmental and Section 4(f) Documents, from the Federal Highway Administration (FHWA) requires an analysis of travel patterns and accessibility in an Environmental Impact Statement (EIS).

7.3 Affected Environment

7.3.1 Resource Identification Methods

The WDC team obtained data on travel patterns from traffic counts and travel demand modeling. The primary source was the regional travel demand forecasting model from the Wasatch Front Regional Council (WFRC). (Version 8.1 of the model was used to develop travel demand forecasts for 2015 and 2040.) The baseline year for the travel demand model is 2015.

What is a travel demand model?

A travel demand model is a computer model that predicts the number of transportation trips (travel demand) in an area at a certain time in the future. This prediction is based on the expected population, employment, household, and land-use conditions in the area.

The road segments evaluated in this EIS were selected because they could be affected by the proposed WDC alternatives either by a direct connection to an interchange or by changes in travel patterns from redistribution of traffic in the WDC study area. Only freeways and arterials are evaluated in the regional travel demand model, so only freeways and arterials are considered in the traffic congestion analysis.

7.3.2 Roadway System

Existing travel patterns and accessibility have been greatly affected by the population and employment growth in the cities in the WDC study area over the last 25 years. The existing transportation system includes one major north-south freeway (Interstate 15 [I-15]), which provides access to Salt Lake City to the south and Ogden to the north. I-15 is the main north-south freeway through Utah and serves as the major local and regional transportation facility.

Within the WDC study area, east-west arterials connect to I-15 to provide regional mobility. Major east-west routes include 4000 South in Hooper and West Haven, 5600 South in Hooper, 1800 North in West Point, State Route (SR) 193, 1700 South (Antelope Drive) in Syracuse, Gentile Street in Syracuse, Layton Parkway in Layton, 200 North in Kaysville, and Park Lane in Farmington [see Figure 1-7, Current (2015) Transportation Network, in Volume IV].

Except for I-15, no other major road provides a continuous north-south connection through the WDC study area. Some arterials provide major north-south connections within cities, including SR 108 (2000 West in Syracuse and 3500 West in Roy) and SR 126 (1900 West in Roy and State Street in Clearfield).

7.3.2.1 Congestion Levels on Key Road Segments

Table 7-1 below shows the key road segments evaluated for the WDC study area along with their congestion levels. The table provides the most recent information that is available, which is 2015 information from the WFRC regional travel demand model for daily volume and volume-to-capacity ratios for the peak direction in the afternoon (PM) peak period (from 3 PM to 6 PM).

Volume to capacity (V/C) is a measure of the actual traffic volume on a road compared to the traffic capacity for which the road was designed. V/C ratios measure traffic congestion levels.

What is volume to capacity (V/C)?

Volume to capacity (V/C) is a measure of the actual traffic volume on a road compared to the traffic capacity for which the road was designed. A V/C ratio of less than 0.5 indicates minor to no congestion, 0.5 to 0.74 represents moderate congestion, 0.75 to 0.99 represents heavy congestion, and more than 1.0 represents severe congestion (the volume of traffic exceeds the capacity of the road).

A V/C ratio greater than 1.0 represents severe congestion because the volume of traffic exceeds the capacity of the road. All V/C ratios greater than 1.0 represent the same level of roadway traffic failure (that is, severe congestion); however, this chapter shows individual V/C ratios greater than 1.0 in order to show the magnitude of the severe congestion on a road. A V/C ratio between 0.75 and 0.99 represents heavy congestion, and a V/C ratio between 0.5 and 0.74 represents moderate congestion. A V/C ratio of less than 0.5 indicates minor to no congestion.

The V/C ratios for the WDC study area during the PM peak traffic period currently range from 0.22 to 1.02. This means that there is a wide range of congestion levels from no congestion to heavy congestion.

Table 7-1. Existing (2015) PM Peak Period Congestion Levels for Key Road Segments

Segment			Existing (2015)	
Road	From	To	Average Weekday Volume	Average V/C Ratio[a] (PM Period Peak Direction)
East-West Corridors				
4000 South[b]	5100 West	1900 West	9,200	0.57
5600 South[b]	5500 West	I-15	14,600	0.70
1800 North[b]	5000 West	1900 West	9,000	0.52
SR 193	2000 West	I-15	23,100	0.78
SR 193[b]	3000 West	2000 West	Does not exist[c]	Does not exist[c]
1700 South (Antelope Drive)	3000 West	I-15	24,600	0.76
Hill Field Road	2200 West	I-15	12,700	0.46
Gentile Street	Bluff Street	SR 126	7,700	0.61
Layton Parkway	1700 West	SR 126	5,100	0.22
Layton Parkway[b]	2700 West	1700 West	Does not exist[c]	Does not exist[c]
200 North in Kaysville[b]	Angel Street	I-15	9,000	0.63
Park Lane	Clark Lane	I-15	9,800	0.25
North-South Corridors				
SR 108[b]	4000 South	Antelope Drive	18,200	0.85
SR 126[b]	4000 South	Layton Parkway	21,100	0.77
I-15 (northbound)	4000 South	Parrish Lane	58,300	0.78
I-15 (southbound)	4000 South	Parrish Lane	59,700	1.02

Source: Output results from WFRC regional travel demand model (version 8.1)

[a] V/C ratios: Less than 0.5 = minor to no congestion; 0.5 to 0.74 = moderate congestion; 0.75 to 0.99 = heavy congestion; 1.0 or higher = severe congestion.

[b] Proposed enhancements to this segment, or a portion of it, are included in the WFRC 2015–2040 Regional Transportation Plan (WFRC 2015).

[c] The roadway segment does not currently exist but is in WFRC's 2015–2040 Regional Transportation Plan and should be constructed before 2040.

7.3.2.2 Delay and Level of Service at Key Intersections

In the WDC study area, key intersections with traffic signals were analyzed to determine how well they are functioning. The intersections evaluated in this EIS are shown in Table 7-2 below.

The analysis uses delay (the amount of time spent waiting at the intersection), measured in seconds per vehicle, and the associated level of service (LOS) to quantify how the intersections are functioning. Levels of service, which range from A to F, are a measure of traffic operating conditions and how those conditions are perceived by drivers. LOS A represents a situation in which traffic travels at or near the speed limit and vehicles are able to maneuver easily. LOS F represents a situation in which traffic is severely congested and vehicles are not able to maneuver easily. (For more information, see Section 1.7.2.2, Level of

Service.) LOS B through LOS E represent progressively worse traffic conditions. For traffic assessment and planning purposes in urban areas, the Utah Department of Transportation (UDOT) considers a level of service of LOS D or better (that is, LOS A through LOS D) to be acceptable.

As shown in Table 7-2, the operating conditions of the intersections evaluated range from little delay (7.4 seconds) and LOS A to severe delay (58.5 seconds) and LOS E.

Table 7-2. Existing (2015) Average PM Peak Period Intersection Delay and Level of Service

	Intersection		Existing Intersection Conditions (PM Peak Period – 2015)	
Municipality	**North-South Road**	**East-West Road**	**Delay (seconds)**	**LOS**
Clearfield	I-15 SB ramps	700 South	24.2	C
Clearfield	1000 East	700 South	21.1	C
Clearfield	NB I-15 off ramp	700 South	20.8	C
Clearfield	I-15 SB ramps	650 North	23.3	C
Clearfield	I-15 NB ramps	650 North	58.5	E
Clinton	1000 West	1800 North	24.5	C
Farmington	U.S. Highway 89 (US 89) NB ramps	Park Lane	9.8	A
Farmington	US 89 SB ramps	Park Lane	9.4	A
Farmington	I-15 NB ramps	Park Lane	9.4	A
Farmington	I-15 SB ramps	Park Lane	7.4	A
Kaysville	I-15 SB ramps	200 North	23.1	C
Kaysville	I-15 NB ramps	200 North	20.5	C
Layton	2200 West	Antelope Drive (SR 108)	32.4	C
Layton	Main Street (SR 126)	Antelope Drive (SR 108)	43.6	D
Layton	I-15 SB ramps	Antelope Drive (SR 108)	26.0	C
Layton	I-15 NB ramps	Antelope Drive (SR 108)	33.8	C
Layton	2200 West	Gordon Avenue	24.1	C
Layton	Main Street (SR 126)	Gentile Street (SR 109)	40.1	D
Layton	I-15 SB ramps	Hill Field Road	34.6	C
Layton	I-15 NB ramps	Hill Field Road	36.2	D
Roy	3500 West (SR 108)	5600 South (SR 98)	23.3	C
Roy	1900 West (Main) (SR 126)	5600 South (SR 98)	47.9	D
Roy	1900 West (Main) (SR 126)	5300 South (Riverdale)	42.0	D
Roy	I-15 SB ramps	5600 South	25.3	C
Roy	I-15 NB ramps	5600 South	51.2	D
Sunset	1900 West (SR 126)	1800 North	22.3	C

Source: Output results from WFRC regional travel demand model (version 8.1)

NB = northbound; SB = southbound

7.3.3 Transit System

Current transit service in the WDC study area consists of regular bus service, express and intercity bus service, commuter rail, and special services. Table 7-3 summarizes the transit routes and services that are available in the study area. The Utah Transit Authority (UTA) provides all transit services in the study area.

Table 7-3. Transit Service in the WDC Study Area

Type of Service	Route
Commuter rail	Salt Lake City to Ogden FrontRunner
Express bus	UTA Route 456: Ogden to Rocky Mountain Power (Salt Lake City)
Intercity bus	UTA Route 470: Ogden to Salt Lake City Commuter
Express bus	UTA Route 472: Golden Spike Express (Ogden to Salt Lake City)
Express bus	UTA Route 473: Salt Lake City to Ogden Highway 89 Express
Regular bus service	UTA Route 477: PARC Center–Davis County Shuttle
Regular bus service	UTA Route 604: West Ogden–Roy
Regular bus service	UTA Route 606: Enable Industries–Monroe Blvd. (Ogden)
Regular bus service	UTA Route 626: West Roy–Weber State University
Regular bus service	UTA Route 640: Layton Hills Mall–Weber State Ogden Campus
Special service	Paratransit (arranged through UTA)
Special service	Seniors on the Go (arranged through UTA)

Source: UTA 2015

The transit system in Davis and Weber Counties also includes some bus routes and a series of park-and-ride lots along the FrontRunner commuter-rail line.

Within the WDC study area, there is a network of north-south transit service. This includes express and regular bus service routes that provide access to major employment centers between Ogden and Salt Lake City or to educational institutions such as Weber State University and the University of Utah. Many of the express routes use I-15 and have limited stops at stations along the highway. Many of these stations also serve the FrontRunner commuter-rail line that parallels I-15.

The FrontRunner commuter-rail line, which provides service between Ogden and Salt Lake City, began operating in 2008. In April 2014, the FrontRunner line averaged about 15,000 passengers per weekday (American Public Transportation Association 2014). Additional capacity can be added to this existing north-south transit network by adding additional express buses or by adding rail cars to FrontRunner.

The WDC study area does not have any transit routes that run only east-west. However, segments of some routes provide access to areas between I-15 and the Great Salt Lake. These routes are:

- Route 477, which provides access as far west as the PARC (Pioneer Adult Rehabilitation Center) School at about Main Street and 700 South in Clearfield
- Route 604, which provides access as far west as 3500 West between 4800 South and 5600 South in Roy
- Route 626, which provides access as far west as 2000 West (SR 108) between Antelope Drive in Syracuse and 6600 South in Roy
- Route 640, which provides access as far west as 1000 West between 1800 North and 200 South in northern Davis County

7.4 Environmental Consequences

This section analyzes how the proposed alternatives would affect the travel patterns on freeways, major arterials (that are included in the WFRC travel demand model), and transit in the WDC study area (the effects would be felt by both motorists and bus transit users). Most impacts would occur in areas where an alternative connects to existing freeways and major arterials at interchanges. At interchange and intersection locations, there could be increased traffic as motorists enter and exit the WDC. In addition, the major arterials and freeways evaluated in this EIS would have greater or less congestion in 2040 with the WDC. Appropriate steps to address congestion that remains on the transportation network would be evaluated in future WFRC Regional Transportation Plans.

This section does not specifically address construction-related transportation impacts (see Chapter 20, Construction Impacts). However, during construction, there would be increased congestion around the WDC construction sites. For the most part, the impacts would occur as the WDC is constructed at or near existing freeways and arterials such as I-15 or Antelope Drive in Syracuse. The delays associated with construction would be temporary, and alternate routes to minimize effects on motorists would be identified with signs.

7.4.1 Methodology

Roadway and transit impacts were analyzed for the action alternatives and the No-Action Alternative. The No-Action Alternative includes all of the expected roadway enhancements according to WFRC's Regional Transportation Plan (WFRC 2015) except the WDC.

7.4.1.1 Effects on Regional Mobility

To obtain information about how the WDC would provide a regional benefit and/or would affect travelers in the transportation impact analysis area, the WDC team conducted an evaluation using the WFRC travel demand model. The evaluation focused on the purpose of the project to improve regional mobility and used the WFRC travel demand model results. The project's purpose is based on regional improvements versus improvements and impacts to local streets and is the key measure to compare alternative benefits.

What is regional mobility?

Regional mobility is based on the flow of through traffic, typically between cities or counties, versus local traffic that accesses neighborhoods or shopping centers. Improvements to regional mobility typically involve providing transportation facilities, such as highways and commuter rail, that allow longer-distance trips.

7.4.1.2 Effects on Local Roads

To address public comments that the WDC would increase congestion on local roads as a result of new interchanges and intersections, the WDC team calculated the delay, level of service, and congestion in the PM peak period (from 3 PM to 6 PM) based on V/C ratios for key road segments, interchanges, and intersections. The team compared the existing roadway conditions (those in 2015, the baseline year for the WFRC travel demand model) to the expected roadway conditions with the No-Action Alternative to show the increase in travel congestion by 2040 if the WDC is not built.

The team also compared changes in congestion on key road segments in 2040 as a result of the action alternatives to the No-Action Alternative in 2040 to determine how the WDC would affect these segments. V/C ratios were used to compare the WDC action alternatives to the No-Action Alternative. Delay (in seconds) and level of service were used to analyze intersections that could be affected by the WDC. The analysis shows the benefits or impacts of the WDC primarily to people traveling to and from work.

To determine the effects of the WDC on local roads, delay (the amount of time spent waiting at the intersection), measured in seconds per vehicle, and associated level of service were used to quantify how the intersections were functioning (for more information, see Section 7.3.2.2, Delay and Level of Service at Key Intersections). The section for each alternative regarding local roads lists the local roads where access might be changed.

7.4.2 No-Action Alternative

7.4.2.1 Roadway System

With the No-Action Alternative, the WDC would not be built and there would be no improvement to regional mobility from the project, but the roadway enhancements in the 2015–2040 WFRC Regional Transportation Plan would continue to be made. The projected traffic volumes with the No-Action Alternative reflect the other projected roadway enhancements that would be made as identified in the 2015–2040 WFRC Regional Transportation Plan except for the WDC (West Davis Corridor Team 2012). The improvements would be made with both the No-Action and action alternatives. These key roadway enhancements in the WDC study area are listed in the Regional Transportation Plan and in Section 1.6.1, Regional Transportation Planning by WFRC.

Regional Mobility

With the No-Action Alternative, there would be about 18,310 hours of daily total delay in the transportation impact analysis area in 2040, which is an increase of about 62% from 2015, which had a total daily delay of 11,320 hours. For more information, see Chapter 1, Purpose of and Need for Action.

Local Roads

Congestion Levels on Key Road Segments

Table 7-4 below shows the future congestion levels in terms of V/C ratios and summarizes the projected conditions for key road segments with the No-Action Alternative in 2040.

Several of the road segments are projected to experience heavy congestion during the PM peak traffic period as indicated by the V/C ratios. As the V/C ratio increases, the road is considered to be more congested. The projected V/C ratios for the WDC study area in 2040 range from 0.35 to 1.02. This means that the congestion levels for most road segments are projected to increase with the No-Action Alternative through 2040.

Shaded cells in Table 7-4 indicate road segments where conditions would be more congested in 2040 than under existing conditions (2015), though some segments might still operate at an acceptable level of congestion. For those segments where the conditions in 2040 are projected to be better than the existing conditions, it is likely that the WFRC Regional Transportation Plan includes proposed enhancements to those segments that would be made between 2015 and 2040.

Table 7-4. Future (2040) PM Peak Period Congestion Levels for Key Road Segments with the No-Action Alternative

Segment			Average V/C Ratio[a] (PM Period Peak Direction)	
Road	**From**	**To**	**Existing (2015)**	**No-Action (2040)[b]**
East-West Corridors				
4000 South	5100 West	1900 West	0.57	0.46
5600 South	5500 West	I-15	0.70	**0.74**
1800 North	5000 West	1900 West	0.52	**0.57**
SR 193	2000 West	I-15	0.78	**1.02**
SR 193	3000 West	2000 West	Does not exist[c]	0.65
1700 South (Antelope Drive)	3000 West	I-15	0.76	**0.89**
Hill Field Road	2200 West	I-15	0.46	**0.90**
Gentile Street	Bluff Street	SR 126	0.61	**0.77**
Layton Parkway	1700 West	SR 126	0.22	**0.65**
Layton Parkway	2700 West	1700 West	Does not exist[c]	0.63
200 North in Kaysville	Angel Street	I-15	0.63	0.55
Park Lane	Clark Lane	I-15	0.25	**0.35**
North-South Corridors				
SR 108	4000 South	Antelope Drive	0.85	0.83
SR 126	4000 South	Layton Parkway	0.77	**0.85**
I-15 (northbound)	4000 South	Parrish Lane	0.78	**0.84**
I-15 (southbound)	4000 South	Parrish Lane	1.02	0.97

Source: Output results from WFRC regional travel demand model (version 8.1)

[a] V/C ratios: Less than 0.5 = minor to no congestion; 0.5 to 0.74 = moderate congestion; 0.75 to 0.99 = heavy congestion; 1.0 or higher = severe congestion.

[b] Shaded cells indicate road segments where conditions would be more congested in 2040 than under existing conditions (2015), though some segments might still operate at an acceptable level of congestion.

[c] The roadway segment does not currently exist but should be constructed before 2040.

Delay and Level of Service at Key Intersections

Table 7-5 below shows how key intersections would operate with the No-Action Alternative in 2040. In the table, shaded cells indicate intersections where conditions would be worse in 2040 than under existing conditions (2015), though some intersections might still operate at acceptable conditions (LOS D or better). In general, the No-Action conditions would be worse than the existing conditions in terms of increased delay and decreased level of service.

Table 7-5. Future (2040) Average PM Peak Period Intersection Delay and Level of Service with the No-Action Alternative

			Intersection Conditions (PM Peak Period)			
			Existing Conditions (2015)		No-Action Alternative (2040)[a]	
Municipality	North-South Road	East-West Road	Delay (seconds)	LOS	Delay (seconds)	LOS
Clearfield	I-15 SB ramps	700 South	24.2	C	**53.6**	**D**
Clearfield	1000 East	700 South	21.1	C	**34.3**	C
Clearfield	NB I-15 off ramp	700 South	20.8	C	**29.3**	C
Clearfield	I-15 SB ramps	650 North	23.3	C	**26.9**	C
Clearfield	I-15 NB ramps	650 North	58.5	E	28.8	C
Clinton	1000 West	1800 North	24.5	C	**24.6**	C
Farmington	US 89 NB ramps	Park Lane	9.8	A	**14.0**	**B**
Farmington	US 89 SB ramps	Park Lane	9.4	A	**10.3**	**B**
Farmington	I-15 NB ramps	Park Lane	9.4	A	**10.1**	**B**
Farmington	I-15 SB ramps	Park Lane	7.4	A	**7.8**	A
Kaysville	I-15 SB ramps	200 North	23.1	C	**24.9**	C
Kaysville	I-15 NB ramps	200 North	20.5	C	**21.3**	C
Layton	2200 West	Antelope Drive (SR 108)	32.4	C	**48.3**	**D**
Layton	Main Street (SR 126)	Antelope Drive (SR 108)	43.6	D	**46.5**	D
Layton	I-15 SB ramps	Antelope Drive (SR 108)	26.0	C	**28.2**	C
Layton	I-15 NB ramps	Antelope Drive (SR 108)	33.8	C	**37.0**	**D**
Layton	2200 West	Gordon Avenue	24.1	C	**48.0**	**D**
Layton	Main Street (SR 126)	Gentile Street (SR 109)	40.1	D	**52.9**	D
Layton	I-15 SB ramps	Hill Field Road	34.6	C	**37.5**	**D**
Layton	I-15 NB ramps	Hill Field Road	36.2	D	**37.5**	D
Roy	3500 West (SR 108)	5600 South (SR 98)	23.3	C	**101.6**	**F**
Roy	1900 West (Main) (SR 126)	5600 South (SR 98)	47.9	D	**74.6**	**E**
Roy	1900 West (Main) (SR 126)	5300 South (Riverdale)	42.0	D	**69.6**	**E**
Roy	I-15 SB ramps	5600 South	25.3	C	**35.5**	**D**
Roy	I-15 NB ramps	5600 South	51.2	D	48.4	D
Sunset	1900 West (SR 126)	1800 North	22.3	C	**47.8**	**D**

Source: Output results from WFRC regional travel demand model (version 8.1)

[a] Shaded cells indicate intersections where conditions would be worse in 2040 than under existing conditions (2015), though some intersections might still operate at acceptable conditions (LOS D or better).

7.4.2.2 Transit System

The 2040 baseline transit system is the transit system that would be in place with the No-Action Alternative. This baseline transit system is based on the transit system shown in WFRC's 2015–2040 Regional Transportation Plan (WFRC 2015). As congestion increases on many of the roads and intersections in the WDC study area in 2040, bus service could experience delays.

7.4.3 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 7-6.

Table 7-6. 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)

Table 7-7 summarizes the transportation impacts from Alternatives A1 and A2. As shown in the table, road segments and intersections in the WDC study area would operate with less congestion and delay compared to the No-Action Alternative. Of the A Alternatives, Alternatives A1 and A2 would have the same number of congested roadway segments, but Alternative A2 would have the fewest intersections with greater delay compared to the No-Action Alternative.

Table 7-7. Transportation Impacts from Alternatives A1–A2

	Alternative	
Roadway Condition	A1	A2
Segments with greater congestion compared to the No-Action Alternative	3	3
Segments with less congestion compared to the No-Action Alternative	13	13
Intersections with greater delay compared to the No-Action Alternative	7	4
Intersections with less delay compared to the No-Action Alternative	18	21

7.4.3.1 Regional Mobility

Table 7-8 below summarizes the percentage reductions in delay and congestion for the WDC action alternatives compared to the No-Action Alternative. In the table, *V/C* stands for volume to congestion, which is a measure of the actual traffic volume on a road compared to the traffic capacity for which the road was designed. A V/C ratio of 0.9 or greater indicates operating conditions of LOS E or F, which are considered unacceptable operating conditions.

As shown in Table 7-8, there would be a substantial reduction in daily delay, lane-miles in congestion, vehicle-miles traveled in congestion, and vehicle-hours traveled in congestion with Alternatives A1 and A2 compared to the No-Action Alternative. Overall, Alternatives A1 and A2 would provide similar improvements and would substantially improve regional mobility in 2040 compared to the No-Action Alternative.

Table 7-8. Reduction in Regional Delay and Congestion in the WDC Study Area with Alternatives A1–A2

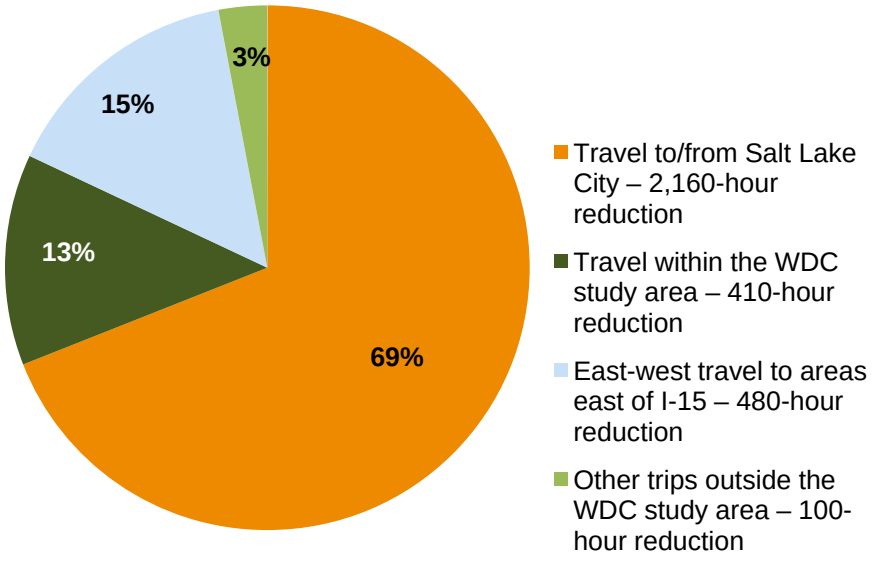
		Percent Change from the No-Action Alternative in 2040 (for elements with V/C ≥ 0.9 in the PM peak period[a])			
Alternative	Daily Total Delay (hours)	Lane-Miles of North-South Roads	Lane-Miles of East-West Roads	Vehicle-Miles Traveled (VMT)	Vehicle-Hours Traveled (VHT)
A1 – Glovers Lane/4100 W	–27.9%	–32.8%	–45.2%	–35.5%	–38.4%
A2 – Glovers Lane/5400 W	–27.2%	–30.2%	–45.2%	–33.9%	–37.0%

[a] The PM peak period is between 3 PM and 6 PM.

Another measure for evaluating how the WDC would affect regional mobility is travel for specific users. As shown in Chart 7-1 below, the greatest benefit from Alternatives A1 and A2 would be to travelers to/from Salt Lake City, who would experience a 69% reduction in delay in the PM peak period versus the No-Action Alternative. This is a result of the travelers being able to use the WDC instead of more-congested east-west arterials to travel to/from I-15, which would also have some congestion. A reduction in delay for travelers to/from Salt Lake City would be most beneficial for home-based work trips from Davis County. In 2040, the highest percentage of home-based work trips is projected to be to/from Davis County to/from Salt Lake City (33%) followed by internal home-based work trips within the county (32%).

In addition, there would be benefits to travelers within the WDC study area (13% reduction in delay versus the No-Action Alternative) and to travelers using east-west arterials from the WDC study area to locations east of I-15 (15% reduction in delay versus the No-Action Alternative). This benefit is due to reduced congestion on arterials in the study area as more travelers use the WDC, thereby reducing travel and improving congestion on the arterials.

Chart 7-1. Reduction in Travel Time Delay for All Peak-Period Trips with Alternatives A1–A2 vs. No-Action



7.4.3.2 Local Roads

Congestion Levels on Key Road Segments

Table 7-9 below summarizes the projected V/C ratios for key road segments in the WDC study area in Weber and Davis Counties. Shaded cells in the table indicate road segments where conditions would be more congested in 2040 with an action alternative than with the No-Action Alternative, though some segments might still operate at an acceptable level of congestion. The reduced congestion with Alternatives A1 and A2 would be due to motorists using the WDC during the primary morning and evening commutes instead of using the principal east-west arterials to and from I-15.

As shown in Table 7-9, Alternatives A1 and A2 would reduce congestion on all key road segments except on 4000 South, Park Lane, and SR 193 (from 3000 West to 2000 West), which would have a slight increase in congestion. However, with the No-Action Alternative or Alternatives A1 and A2, the congestion on these road segments would be minor to moderate congestion. The biggest change in congestion would be on Antelope Drive between 3000 West and I-15, where congestion would decrease from heavy congestion with the No-Action Alternative to moderate congestion with Alternatives A1 and A2. In addition, congestion on Layton Parkway would decrease from moderate congestion with the No-Action Alternative to minor to no congestion with Alternatives A1 and A2.

Overall, congestion levels on the roadway segments analyzed would decrease and traffic circulation patterns would improve with Alternatives A1 and A2 compared to the No-Action Alternative. With Alternatives A1 and A2, 13 road segments would operate at improved

conditions and three would operate at more-congested conditions in 2040 compared to the No-Action Alternative.

Table 7-9. Future (2040) PM Peak Period Congestion Levels for Key Road Segments with Alternatives A1–A2

			Average V/C Ratio[a,b] (2040 PM Period Peak Direction) by Alternative		
Road	**From**	**To**	**No-Action**	**A1**	**A2**
East-West Corridors					
4000 South	5100 West	1900 West	0.46	**0.49**	**0.51**
5600 South	5500 West	I-15	0.74	0.60	0.61
1800 North	5000 West	1900 West	0.57	0.49	0.50
SR 193	2000 West	I-15	1.02	0.92	0.92
SR 193	3000 West	2000 West	0.65	**0.69**	**0.69**
1700 South (Antelope Drive)	3000 West	I-15	0.89	0.71	0.71
Hill Field Road	2200 West	I-15	0.90	0.75	0.75
Gentile Street	Bluff Street	SR 126	0.77	0.56	0.56
Layton Parkway	1700 West	SR 126	0.65	0.28	0.27
Layton Parkway	2700 West	1700 West	0.63	0.15	0.15
200 North in Kaysville	Angel Street	I-15	0.55	0.36	0.37
Park Lane	Clark Lane	I-15	0.35	**0.52**	**0.52**
North-South Corridors					
SR 108	4000 South	Antelope Drive	0.83	0.80	0.81
SR 126	4000 South	Layton Parkway	0.85	0.74	0.74
I-15 (northbound)	4000 South	Parrish Lane	0.84	0.82	0.82
I-15 (southbound)	4000 South	Parrish Lane	0.97	0.91	0.91

Source: Output results from WFRC regional travel demand model (version 8.1)

[a] V/C ratios: Less than 0.5 = minor to no congestion; 0.5 to 0.74 = moderate congestion; 0.75 to 0.99 = heavy congestion; 1.0 or higher = severe congestion.

[b] Shaded cells indicate road segments where conditions would be more congested in 2040 with an action alternative than with the No-Action Alternative, though some segments might still operate at an acceptable level of congestion.

Delay and Level of Service at Key Intersections

Table 7-10 below shows how key intersections would operate with Alternatives A1 and A2. Compared to conditions with the No-Action Alternative, most intersections would operate with less delay, and some intersections would operate with an improved level of service. Shaded cells in the table indicate intersections where conditions would be worse than under No-Action conditions, though some intersections might still operate at acceptable conditions (LOS D or better).

Table 7-10 shows that between four (Alternative A2) and seven (Alternative A1) intersections would have more delay with an action alternative than with the No-Action Alternative. The total increase in delay at these intersections would be less than 3 seconds and, in most cases, the intersections would still operate at an acceptable level of service of LOS D or better. Overall, of the A Alternatives, Alternative A2 would have the fewest number of intersections with more delay than the amount of delay with the No-Action Alternative.

Three of the intersections with increased delay in the PM peak period are southbound exit ramps from I-15. This delay would be caused by traffic coming from the north that would not have the benefit of using the WDC because there would be no connection between the WDC and I-15 on the north end of Alternatives A1 and A2.

Table 7-10. Future (2040) Average PM Peak Period Intersection Delay and Level of Service with Alternatives A1–A2

			Alternative[a]					
			No-Action		A1		A2	
Municipality	North-South Road	East-West Road	Delay (seconds)	LOS	Delay (seconds)	LOS	Delay (seconds)	LOS
Clearfield	I-15 SB ramps	700 South (SR 193)	53.6	D	**53.7**	D	**54.1**	D
Clearfield	1000 East	700 South (SR 193)	34.3	C	**35.0**	C	34.1	C
Clearfield	NB I-15 off ramp	700 South (SR 193)	29.3	C	27.7	C	28.5	C
Clearfield	I-15 SB ramps	650 North	26.9	C	26.2	C	26.3	C
Clearfield	I-15 NB ramps	650 North	28.8	C	23.6	C	23.5	C
Clinton	1000 West	1800 North	24.6	C	22.5	C	24.4	C
Farmington	US 89 NB ramps	Park Lane	14.0	B	**16.0**	B	**16.0**	B
Farmington	US 89 SB ramps	Park Lane	10.3	B	8.2	A	8.4	A
Farmington	I-15 NB ramps	Park Lane	10.1	B	**12.4**	B	**12.4**	B
Farmington	I-15 SB ramps	Park Lane	7.8	A	7.7	A	7.7	A
Kaysville	I-15 SB ramps	200 North	24.9	C	**25.0**	C	24.7	C
Kaysville	I-15 NB ramps	200 North	21.3	C	**21.5**	C	21.1	C
Layton	2200 West	Antelope Drive (SR 108)	48.3	D	37.5	D	27.2	C
Layton	Main Street (SR 126)	Antelope Drive (SR 108)	46.5	D	38.9	D	39.2	D
Layton	I-15 SB ramps	Antelope Drive (SR 108)	28.2	C	**28.4**	C	**28.3**	C
Layton	I-15 NB ramps	Antelope Drive (SR 108)	37.0	D	32.4	C	31.5	C
Layton	2200 West	Gordon Avenue (1000 North)	48.0	D	39.0	D	37.7	D
Layton	Main Street (SR 126)	Gentile Street (SR 109)	52.9	D	47.0	D	43.8	D
Layton	I-15 interchange	Hill Field Road	37.5	D	36.6	D	36.8	D
Roy	3500 West (SR 108)	5600 South (SR 98)	101.6	F	89.6	F	91.4	F
Roy	1900 West (Main) (SR 126)	5600 South (SR 98)	74.6	E	71.6	E	73.1	E
Roy	1900 West (Main) (SR 126)	5300 South (Riverdale)	69.6	E	67.6	E	68.6	E
Roy	I-15 SB ramps	5600 South	35.5	D	27.3	C	27.5	C
Roy	I-15 NB ramps	5600 South	48.4	D	41.6	D	42.4	D
Sunset	1900 West (SR 126)	1800 North	47.8	D	47.8	D	46.4	D

Source: Output results from WFRC regional travel demand model (version 8.1)

[a] Shaded cells indicate intersections where conditions would be worse than under No-Action conditions, though some intersections might still operate at acceptable conditions (LOS D or better).

Access and Travel Patterns

Travel patterns would change as more traffic uses the WDC instead of east-west roads to travel to I-15. Neither of the A Alternatives would change the accessibility of existing arterial roads in the impact analysis area; however, some local roads might be rerouted due to the WDC (see the roadway plans in Volume IV).

In Farmington, Davis County Road (700 West) would be terminated in a cul-de-sac at the WDC south of Glovers Lane (Alternatives A1 and A2). Traffic movement south of the WDC would be provided by Tippetts Lane. 1200 West in Farmington would also be terminated in a cul-de-sac just north of Glovers Lane (Alternatives A1 and A2). Traffic movement to the north would be provided between 700 South and 1025 West.

Currently, Angel Street in Kaysville ends just east of future Alternatives A1 and A2 but provides access as a dirt road to land that is used for cattle grazing. The Angel Street access to the cattle-grazing area would be eliminated, but access would be provided by either Roueche Lane to the north or a Central Davis Sewer Treatment Plant access road to the south.

Weaver Lane in Layton would be terminated in a cul-de-sac as it passes the last subdivision in west Layton and before it becomes a dirt road (both A Alternatives). No homeowner or business access would be affected by this cul-de-sac. In Syracuse, 1425 South and 1235 South in the Bridgeway Island subdivision would be terminated in a cul-de-sac (both A Alternatives). However, local access would still be provided by other subdivision roads.

For all of the above access changes, the amount of out-of-direction travel would be less than half a mile.

7.4.3.3 Transit System

The transit system that would be in place with Alternatives A1 and A2 would be the same as the transit system with the No-Action Alternative. However, with Alternatives A1 and A2 there would be less congestion on key road segments and intersections in the WDC study area, so buses would probably operate with slightly less delay compared to bus service with the No-Action Alternative.

7.4.4 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 7-11.

Table 7-11. 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.

Table 7-12 summarizes the transportation impacts from Alternatives B1 and B2. As shown in the table, road segments and intersections in the WDC study area would operate with less congestion and delay compared to the No-Action Alternative. Of the B Alternatives, Alternative B1 would have the better overall transportation performance.

None of the WDC action alternatives would change the accessibility of existing arterial roads in the impact analysis area. Travel patterns would change as more traffic uses the WDC instead of east-west roads to travel to I-15.

Table 7-12. Transportation Impacts from Alternatives B1–B2

	Alternative	
Roadway Condition	**B1**	**B2**
Segments with greater congestion compared to the No-Action Alternative	1	1
Segments with less congestion compared to the No-Action Alternative	15	15
Intersections with greater delay compared to the No-Action Alternative	7	6
Intersections with less delay compared to the No-Action Alternative	18	19

7.4.4.1 Regional Mobility

Table 7-13 below summarizes the percentage reductions in delay and congestion for the WDC action alternatives compared to the No-Action Alternative. In the table, *V/C* stands for volume to congestion, which is a measure of the actual traffic volume on a road compared to the traffic capacity for which the road was designed. A V/C ratio of 0.9 or greater indicates operating conditions of LOS E or F, which are considered unacceptable operating conditions.

As shown in Table 7-13, there would be a substantial reduction in daily delay, lane-miles in congestion, vehicle-miles traveled in congestion, and vehicle-hours traveled in congestion with Alternatives B1 and B2 compared to the No-Action Alternative. Overall, Alternatives B1 and B2 would provide similar improvements and would substantially improve regional mobility in 2040 compared to the No-Action Alternative.

Table 7-13. Reduction in Regional Delay and Congestion in the WDC Study Area with Alternatives B1–B2

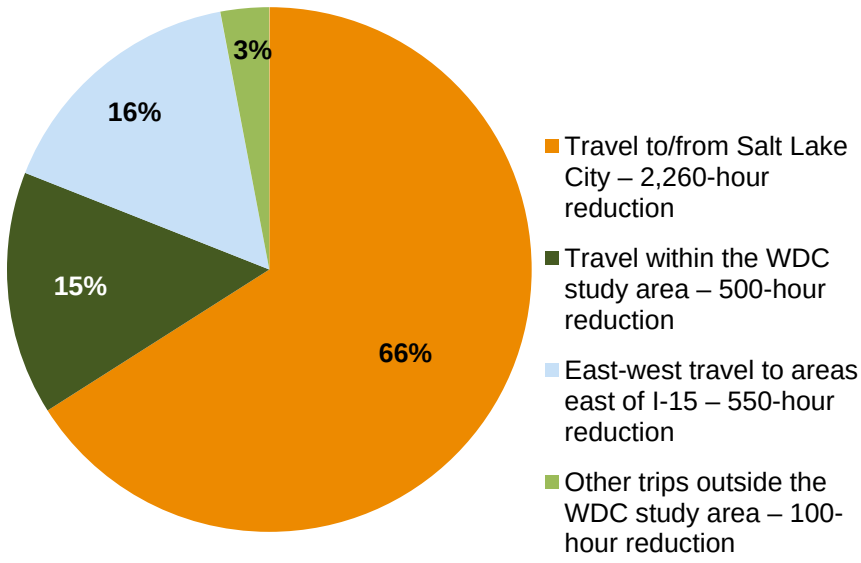
Alternative	Daily Total Delay (hours)	Percent Change from the No-Action Alternative in 2040 (for elements with V/C ≥ 0.9 in the PM peak period[a])			
		Lane-Miles of North-South Roads	Lane-Miles of East-West Roads	Vehicle-Miles Traveled (VMT)	Vehicle-Hours Traveled (VHT)
B1 – Glovers Lane/4100 W	–32.2%	–31.0%	–51.6%	–35.3%	–40.0%
B2 – Glovers Lane/4800 W	–31.6%	–28.4%	–51.6%	–33.6%	–38.5%

[a] The PM peak period is between 3 PM and 6 PM.

Another measure for evaluating how the WDC would affect regional mobility is travel for specific users. As shown in Chart 7-2 below, the greatest benefit from Alternatives B1 and B2 would be to travelers to/from Salt Lake City, who would experience a 66% reduction in delay in the PM peak period versus the No-Action Alternative. This is a result of the travelers being able to use the WDC instead of more-congested east-west arterials to travel to and from I-15, which would also have some congestion. A reduction in delay for travelers to/from Salt Lake City would be most beneficial for home-based work trips from Davis County. In 2040, the highest percentage of home-based work trips is projected to be to/from Davis County to/from Salt Lake City (33%) followed by internal home-based work trips within the county (32%).

In addition, there would also be substantial benefits to travelers within the WDC study area (15% reduction in delay versus the No-Action Alternative) and to travelers using east-west arterials from the study area to locations east of I-15 (16% reduction in delay versus the No-Action Alternative). This benefit is due to reduced congestion on arterials in the study area as more travelers use the WDC, thereby reducing travel and improving congestion on the arterials.

Chart 7-2. Reduction in Travel Time Delay for All Peak-Period Trips with Alternatives B1–B2 vs. No-Action



7.4.4.2 Local Roads

Congestion Levels on Key Road Segments

Table 7-14 below summarizes the projected V/C ratios for key road segments in the WDC study area in Weber and Davis Counties. The reduced congestion with Alternatives B1 and B2 would be due to motorists using the WDC during the primary morning and evening commutes instead of using the principal east-west arterials to and from I-15.

As shown in Table 7-14, Alternatives B1 and B2 would reduce congestion on all key road segments except for Park Lane in Farmington, where congestion would increase from minor to moderate congestion. The biggest change in congestion would be on Antelope Drive between 3000 West and I-15, where congestion would decrease from heavy congestion with the No-Action Alternative to moderate congestion with Alternatives B1 and B2. In addition, congestion on Layton Parkway would decrease from moderate congestion with the No-Action Alternative to no congestion with Alternatives B1 and B2. Overall, Alternatives B1 and B2 would have similar levels of improvement as Alternatives A1 and A2.

During the Draft EIS comment period, comments were received that the B Alternatives would cause substantial traffic congestion on 5100 West and 5500 South, which was the northern terminus for the B Alternatives. For this Final EIS, the B Alternatives now end at 1800 North and would not increase congestion at 5100 West and 5500 South. Overall, congestion on 5500 South would decrease with the B Alternatives. Although the B Alternatives would terminate at 1800 North, traffic on this arterial would decrease as traffic uses the WDC instead of traveling east to I-15.

Overall, congestion levels on the roadway segments analyzed would decrease and traffic movement patterns would improve with Alternatives B1 and B2 compared to the No-Action Alternative. Fifteen of the 16 road segments would operate at improved conditions in 2040 compared to conditions with the No-Action Alternative.

Table 7-14. Future (2040) PM Peak Period Congestion Levels for Key Road Segments with Alternatives B1–B2

			Average V/C Ratio[a] (2040 PM Period Peak Direction) by Alternative		
Road	**From**	**To**	**No-Action**	**B1**	**B2**
East-West Corridors					
4000 South	5100 West	1900 West	0.46	0.44	0.43
5600 South	5500 West	I-15	0.74	0.66	0.65
1800 North	5000 West	1900 West	0.57	0.50	0.50
SR 193	2000 West	I-15	1.02	0.89	0.89
SR 193	3000 West	2000 West	0.65	0.55	0.55
1700 South (Antelope Drive)	3000 West	I-15	0.89	0.72	0.72
Hill Field Road	2200 West	I-15	0.90	0.76	0.76
Gentile Street	Bluff Street	SR 126	0.77	0.55	0.54
Layton Parkway	1700 West	SR 126	0.65	0.29	0.29
Layton Parkway	2700 West	1700 West	0.63	0.16	0.16
200 North Kaysville	Angel Street	I-15	0.55	0.39	0.38
Park Lane	Clark Lane	I-15	0.35	**0.51**	**0.50**
North-South Corridors					
SR 108	4000 South	Antelope Drive	0.83	0.79	0.81
SR 126	4000 South	Layton Parkway	0.85	0.73	0.73
I-15 (northbound)	4000 South	Parrish Lane	0.84	0.81	0.81
I-15 (southbound)	4000 South	Parrish Lane	0.97	0.90	0.90

Source: Output results from WFRC regional travel demand model (version 8.1)

[a] V/C ratios: Less than 0.5 = minor to no congestion; 0.5 to 0.74 = moderate congestion; 0.75 to 0.99 = heavy congestion; 1.0 or higher = severe congestion.

Delay and Level of Service at Key Intersections

Table 7-15 below shows how key intersections would operate with Alternatives B1 and B2. Compared to conditions with the No-Action Alternative, most intersections would operate with less delay, and some intersections would operate with an improved level of service. Shaded cells in the table indicate intersections where conditions would be worse than under No-Action conditions, though some intersections might still operate at acceptable conditions (LOS D or better).

Table 7-15 shows that between six (Alternative B2) and seven (Alternative B1) intersections would have more delay with an action alternative than with the No-Action Alternative. The total increase in delay at these intersections would be less than 3 seconds, and the intersections would still operate at an acceptable level of service of LOS D or better. Overall, of the B Alternatives, Alternative B2 would have the fewest number of intersections with more delay than the amount of delay with the No-Action Alternative.

Two of the intersections with increased delay in the PM peak period are southbound exit ramps from I-15. This delay would be caused by traffic coming from the north that would not have the benefit of using the WDC because there would be no connection between the WDC and I-15 on the north end of Alternatives B1 and B2.

Table 7-15. Future (2040) Average PM Peak Period Intersection Delay and Level of Service with Alternatives B1–B2

			Alternative[a]					
			No-Action		B1		B2	
Municipality	North-South Road	East-West Road	Delay (seconds)	LOS	Delay (seconds)	LOS	Delay (seconds)	LOS
Clearfield	I-15 SB ramps	700 South (SR 193)	53.6	D	**54.6**	D	**53.8**	D
Clearfield	1000 East	700 South (SR 193)	34.3	C	**35.0**	C	34.2	C
Clearfield	NB I-15 off ramp	700 South (SR 193)	29.3	C	29.2	C	29.2	C
Clearfield	I-15 SB ramps	650 North	26.9	C	26.7	C	26.4	C
Clearfield	I-15 NB ramps	650 North	28.8	C	22.1	C	21.8	C
Clinton	1000 West	1800 North	24.6	C	23.8	C	23.9	C
Farmington	US 89 NB ramps	Park Lane	14.0	B	**16.1**	B	**16.1**	B
Farmington	US 89 SB ramps	Park Lane	10.3	B	8.4	A	8.4	A
Farmington	I-15 NB ramps	Park Lane	10.1	B	**12.3**	B	**12.1**	B
Farmington	I-15 SB ramps	Park Lane	7.8	A	7.7	A	7.6	A
Kaysville	I-15 SB ramps	200 North	24.9	C	**25.4**	C	**25.4**	C
Kaysville	I-15 NB ramps	200 North	21.3	C	**22.1**	C	**22.1**	C
Layton	2200 West	Antelope Drive (SR 108)	48.3	D	37.4	D	37.4	D
Layton	Main Street (SR 126)	Antelope Drive (SR 108)	46.5	D	38.6	D	39.1	D
Layton	I-15 SB ramps	Antelope Drive (SR 108)	28.2	C	**29.0**	C	**28.9**	C
Layton	I-15 NB ramps	Antelope Drive (SR 108)	37.0	D	36.8	D	36.5	D
Layton	2200 West	Gordon Avenue (1000 North)	48.0	D	36.4	D	38.6	D
Layton	Main Street (SR 126)	Gentile Street (SR 109)	52.9	D	45.3	D	45.3	D
Layton	I-15 interchange	Hill Field Road	37.5	D	34.6	C	35.3	C
Roy	3500 West (SR 108)	5600 South (SR 98)	101.6	F	84.9	F	89.1	F
Roy	1900 West (Main) (SR 126)	5600 South (SR 98)	74.6	E	73.4	E	72.7	E
Roy	1900 West (Main) (SR 126)	5300 South (Riverdale)	69.6	E	67.5	E	69.0	E
Roy	I-15 SB ramps	5600 South	35.5	D	27.9	C	28.6	C
Roy	I-15 NB ramps	5600 South	48.4	D	41.2	D	42.0	D
Sunset	1900 West (SR 126)	1800 North	47.8	D	45.5	D	45.6	D

Source: Output results from WFRC regional travel demand model (version 8.1)

[a] Shaded cells indicate intersections where conditions would be worse than under No-Action conditions, though some intersections might still operate at acceptable conditions (LOS D or better).

Access and Travel Patterns

Travel patterns would change as more traffic uses the WDC instead of east-west roads to travel to I-15. Neither of the B Alternatives would change the accessibility of existing arterial roads in the impact analysis area; however, some local roads might be rerouted due to the WDC (see the roadway plans in Volume IV).

In Farmington, Davis County Road (700 West) would be terminated in a cul-de-sac at the WDC south of Glovers Lane (Alternatives B1 and B2). Traffic movement south of the WDC would be provided by Tippetts Lane. 1200 West in Farmington would also be terminated in a cul-de-sac just north of Glovers Lane (Alternatives B1 and B2). Traffic movement to the north would be provided between 700 South and 1025 West.

Currently, Angel Street in Kaysville ends just east of future Alternatives B1 and B2 but provides access as a dirt road to land that is used for cattle grazing. The Angel Street access to the cattle-grazing area would be eliminated, but access would be provided by either Roueche Lane to the north or a Central Davis Sewer Treatment Plant access road to the south.

Weaver Lane in Layton would be terminated in a cul-de-sac as it passes the last subdivision in west Layton and before it becomes a dirt road (both B Alternatives). No homeowner or business access would be affected by this cul-de-sac.

For all of the above access changes, the amount of out-of-direction travel would be less than half a mile.

7.4.4.3 Transit System

The transit system that would be in place with Alternatives B1 and B2 would be the same as the transit system with the No-Action Alternative. However, with Alternatives B1 and B2 there would be less congestion on key road segments and intersections in the WDC study area, so buses would probably operate with slightly less delay compared to bus service with the No-Action Alternative.

7.4.5 Wetland Avoidance Options

Two wetland avoidance options are being evaluated in this Final EIS, as shown in Table 7-16. 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 7-16. 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 wetland avoidance options would result in minor alignment shifts and would not change the results of the transportation performance analysis stated above for Alternatives A1, A2, B1, and B2.

7.4.6 Mitigation Measures

No mitigation is proposed.

7.4.7 Cumulative Impacts

There are no anticipated cumulative impacts to transportation resources. 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.

For a more detailed discussion of cumulative impacts, see Chapter 24, Cumulative Impacts.

7.4.8 Summary of Impacts

Table 7-17 and Table 7-18 show the benefits and impacts of each action alternative in terms of its improvements to regional mobility, impacts to congestion levels on key local road segments, and delay at key intersections. Overall, Alternative B1 would result in the greatest improvement in regional delay (mobility) and the best improvements to local roadway segments. However, the improvements and/or impacts from the WDC alternatives would be similar.

Table 7-17. Summary of Regional Mobility Benefits in the WDC Study Area with the WDC Action Alternatives in 2040

Alternative	Daily Total Delay (hours)	Percent Change from the No-Action Alternative in 2040 (for elements with V/C ≥ 0.9 in the PM peak period[a])			
		Lane-Miles of North-South Roads	Lane-Miles of East-West Roads	Vehicle-Miles Traveled (VMT)	Vehicle-Hours Traveled (VHT)
A1 – Glovers Lane/4700 W	–27.9%	–32.8%	–45.2%	–35.5%	–38.4%
A2 – Glovers Lane/5400 W	–27.2%	–30.2%	–45.2%	–33.9%	–37.0%
B1 – Glovers Lane/4100 W	–32.2%	–31.0%	–51.6%	–35.3%	–40.0%
B2 – Glovers Lane/4800 W	–31.6%	–28.4%	–51.6%	–33.6%	–38.5%

[a] The PM peak period is between 3 PM and 6 PM.

Table 7-18. Summary of Local Transportation Impacts from the Action Alternatives

Alternative	Segments Compared to the No-Action Alternative		Intersections Compared to the No-Action Alternative	
	Segments with Greater Congestion	Segments with Less Congestion	Intersections with Greater Delay	Intersections with Less Delay
A1	3	13	7	18
A2	3	13	4	21
B1	1	15	7	18
B2	1	15	6	19

7.5 References

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