Chapter 1

Purpose of and Need for Action

Chapter 1

Purpose of and Need for Action

1.1 Introduction

The purpose of and need for the Legacy Parkway project have not changed since they were detailed in Chapter 1 of the Final EIS (page 1-41). This chapter of this supplemental environmental impact statement/reevaluation (Supplemental EIS) discusses the purpose of and need for the proposed action.

This chapter provides the following information.

- Introduction summarizing the project purpose and need for Legacy Parkway, and clarification that the purpose and need have not changed since publication of the Final EIS (Section 1.1).
- Summary of information presented in Chapter 1, *Purpose and Need*, of the Final EIS (Section 1.2.1).
- Summary of need for transportation improvements in the North Corridor, including a description of the "Shared Solution," which proposes a multimodal transportation solution involving multiple project proposals in the North Corridor (Sections 1.2.2 and 1.2.3).
- Clarification that the proposed action is only one component of the Shared Solution and that the proposed action would contribute to solving a portion of the capacity problems in the North Corridor (Section 1.2.3).
- Revised travel demand data based on the Wasatch Front Regional Council (WFRC) updated population and employment forecasts and revised 2004 travel forecasting methods (travel demand model version 3.2) and other updated relevant information supporting the project purpose and need (Section 1.2.4).
- Objectives for the proposed action (Section 1.3).

1.1.1 Proposed Action

Legacy Parkway, as described in the *Legacy Parkway Final Environmental Impact Statement and Section 4(f), 6(f) Evaluation* (Final EIS) (Federal Highway Administration et al. 2000), would be a four-lane, divided, limited-access, state-funded highway, with a pedestrian/bicycle and equestrian trail paralleling the highway. Legacy Parkway would be located in the region known as the North Corridor (described below in Section 1.2.1), and would extend from Interstate 215 (I-215) at 2100 North in Salt Lake City northward 22.5 kilometers (km) (14 miles [mi]) to the interchange of Interstate 15 (I-15) and U.S.

Highway 89 (US-89) in Farmington. Intermediate interchanges are proposed at 500 South in Woods Cross and at Parrish Lane in Centerville (Figure 1-1). Since publication of the Final EIS, some design aspects of the Legacy Parkway project (proposed action) have been modified, including a narrower right-of-way width and modifications to address integration with mass transit (see Chapter 3, *Alternatives*, Section 3.4). Five alternatives, including the No-Build Alternative, are being considered herein.

The Legacy Parkway project arose from local and regional transportation planning (in accordance with 23 Code of Federal Regulations [CFR] 450) for future predicted travel demand in the North Corridor, located in Salt Lake and Davis Counties. Legacy Parkway, in conjunction with other transportation solutions, would help to meet future travel demand in the North Corridor. Like the Final EIS, this Supplemental EIS addresses the proposed Legacy Parkway project only. Information is provided about other transportation solutions planned for the North Corridor to provide context for understanding the regional transportation system capacity to handle current and future travel demand and for evaluating whether some or all of the other projects would be reasonable alternatives to Legacy Parkway, and to assure the public that decision makers are fully aware of the regional context. The distinction between the proposed Legacy Parkway project and other regional transportation solutions is maintained throughout this Supplemental EIS.

1.1.2 Project Applicant's Proposal

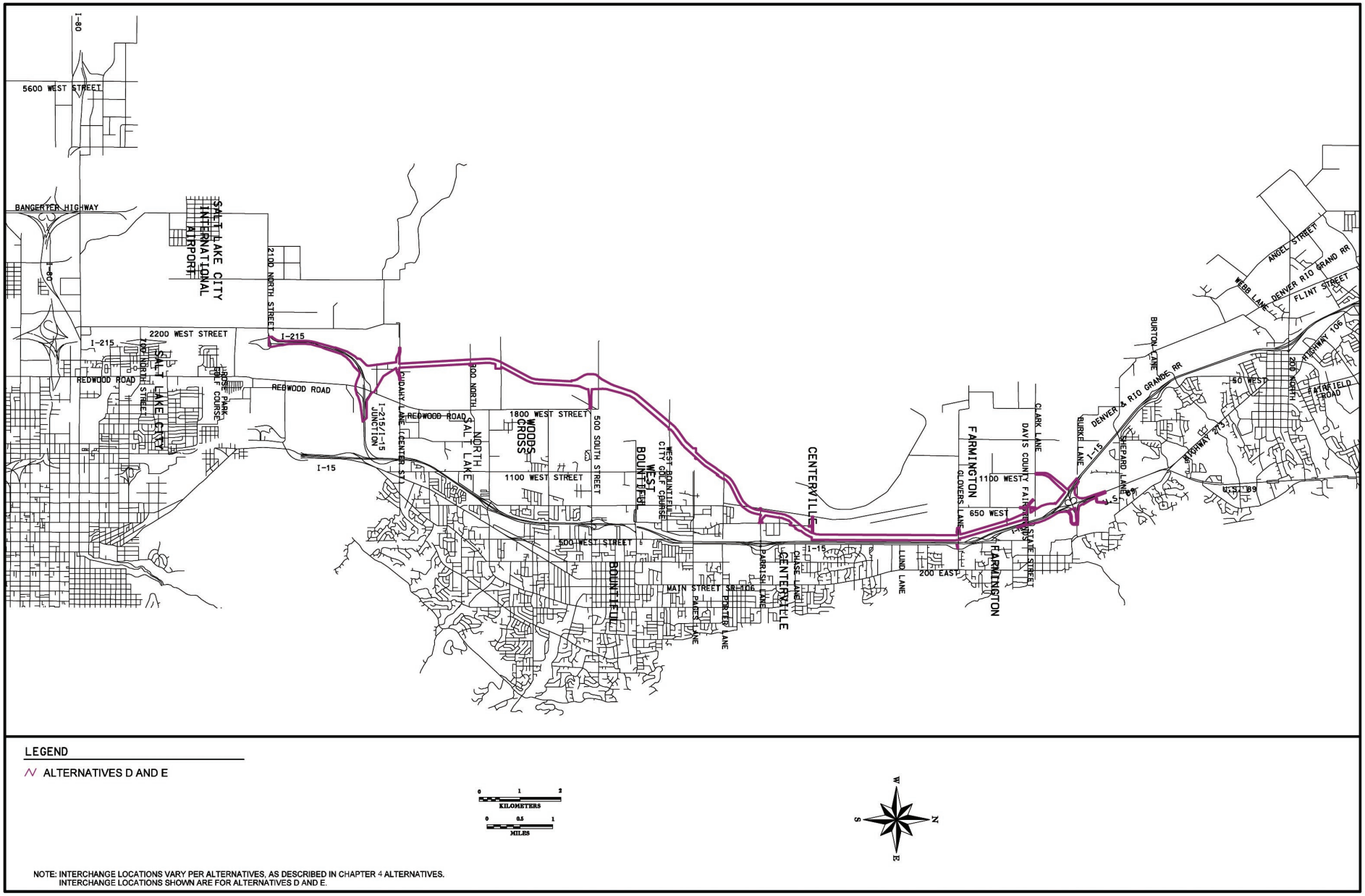
UDOT is the proponent of the Legacy Parkway project and the applicant for a Section 404 permit for the project. Since the Final EIS, UDOT has reevaluated the Legacy Parkway project in conjunction with the federal agencies' reevaluation and Supplemental EIS preparation. The Legacy Parkway project proposed by UDOT at this time differs from the project considered in the previous (June 2000) Final EIS. UDOT has modified the project to further reduce environmental impacts. These modifications are summarized below and are addressed more fully in subsequent sections of this Supplemental EIS.

- **Narrower right-of-way and footprint**. The Legacy Parkway project as currently proposed by UDOT would have a right-of-way width of 95 m (312 ft), rather than the 100-m (328-ft) width proposed in the Final EIS. UDOT has also proposed to further reduce the width of the project footprint to as low as 80 m (264 ft), where practicable, to avoid sensitive resources such as wetlands.

- **Fewer direct impacts on wetlands**. The Legacy Parkway project would affect approximately 42 ha (103 ac) of wetlands, rather than 46 ha (114 ac) as stated in the Final EIS. While there are 45 ha (113 ac) of wetlands within the maximum (reduced) right-of-way involved in the project, project modifications enable UDOT to avoid affecting approximately 4 ha (10 ac) of wetlands that are within the right-of-way but would not be within the construction footprint. However, this Supplemental EIS takes a conservative approach in describing potential project impacts by evaluating the potential impacts of wetland fill in the same manner as the Final EIS, that is, by disclosing that all wetlands within the right-of-way could potentially be directly affected.

- **Further wetland avoidance**. In addition to the known reduction in direct impacts on wetlands, UDOT expects that project design may result in additional wetland avoidance; UDOT intends to provide incentives for the design-bid-build contractor to achieve additional reductions.

- **Proposed mitigation**. UDOT's proposal for Legacy Parkway reflects consideration of avoiding wetlands and sensitive resources in terms of selection of project corridors and other features. The project addressed in the Final EIS and the project currently proposed include many efforts to minimize impacts on wetlands and sensitive resources, as described more fully in this Supplemental EIS. For wetland impacts that cannot be avoided or minimized, UDOT proposes robust compensatory



LEGEND

ALTERNATIVES D AND E

0 1 2 KILOMETERS

0 0.5 1 MILES

W S N E

NOTE: INTERCHANGE LOCATIONS VARY PER ALTERNATIVES, AS DESCRIBED IN CHAPTER 4 ALTERNATIVES.
INTERCHANGE LOCATIONS SHOWN ARE FOR ALTERNATIVES D AND E.

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Figure 1-1
Proposed Action

mitigation in the form of the Legacy Nature Preserve, as described under the current Section 404 permit.

- The Legacy Nature Preserve, proposed as mitigation, would constitute an 849-ha (2,098-ac) area that would be managed for wildlife values.
- The Legacy Nature Preserve includes approximately 315 ha (778 ac) of wetlands. Mitigation will include wetland preservation, restoration, enhancement, and creation, in accordance with a mitigation plan approved by the Corps.
- Since the Corps issued the 404 permit in 2001, UDOT has acquired most of the land for the Legacy Nature Preserve (implementation of the management plan for the preserve would protect wetlands therein) and commenced many efforts to enhance and restore wetland and wildlife habitat, as summarized in Section 4.12.3.4 of this Supplemental EIS.
- Although the current Legacy Parkway proposal involves fewer direct impacts on wetlands than the proposal addressed in the Final EIS, UDOT is not proposing changes to the Legacy Nature Preserve. While this may appear to overcompensate for impacts on wetlands, compensatory mitigation is not determined by strict formulas. In addition to mitigation for direct impacts, compensatory mitigation takes into account indirect impacts on wetlands on a qualitative as well as quantitative basis.

- **Integration of Legacy Parkway and transit**. FTA, in conjunction with UTA, published a final EIS (March 2005) and ROD (April 2005) advancing a proposal for commuter rail from Weber County to Salt Lake City. The proposed commuter rail stations are located at roadway intersections in Farmington and Woods Cross that would be served by Legacy Parkway. Integration of Legacy Parkway and the transit services included in the commuter rail EIS has already begun. Bridges to cross streets over Legacy Parkway were designed to span the UPRR tracks and have been expanded to accommodate the commuter rail tracks as well.

The analysis explaining the major changes since the Final EIS in UDOT's proposal for Legacy Parkway appears in other sections of this Supplemental EIS. Having worked with the lead federal agencies in the reevaluation and Supplemental EIS process, UDOT is now proposing that Legacy Parkway be approved with a narrower median, a narrower right-of-way, and a narrower footprint in certain locations, which would result in fewer direct impacts on wetlands and other sensitive resources. UDOT's proposal is described as Alternative E in this Supplemental EIS.

1.1.3 Purpose of Legacy Parkway Project

The proposed Legacy Parkway project would help meet a portion of the transportation and mobility needs in the North Corridor through 2020, in conjunction with the other planned improvements in the corridor. As described in the Final EIS, the primary purpose of the proposed action is to provide additional north–south capacity to relieve traffic congestion. The secondary purpose of the action is to provide a single, continuous alternate north-south route through the North Corridor to maintain circulation and access for emergency service vehicles and other traffic when I-15 is closed, congested, or under construction and to minimize the diversion of through-corridor traffic onto local roads.

The primary purpose of the proposed action is to help meet existing and projected travel demand through 2020 in the North Corridor by providing additional north-south transportation capacity. The *primary*

purpose is the same as the *overall project purpose* in the Clean Water Act regulations used to determine practicability of alternatives. Providing capacity to meet travel demand would help ensure that I-15 and local arterial roads remain at a minimum acceptable level of service during peak travel demand, which for I-15 is northbound in the p.m. peak period. The *peak period* evaluated is the 3-hour period that includes the peak hour and the hour before and the hour after the peak hour (also known as the peak "shoulder" hours). Level of service (LOS) is a measure of traffic flow efficiency and congestion and is represented by a letter "grade" ranging from LOS A for excellent conditions (free-flowing traffic well within the capacity of the system) to LOS F for failure conditions (extremely congested, stop-and-go traffic, generally exceeding the capacity of the system). LOS B through LOS E describe progressively worse traffic conditions. According to the American Association of State Highway and Transportation Officials (AASHTO), highway agencies should strive to provide LOS C, but LOS D is acceptable for urban and suburban areas if conditions and constraints make it infeasible to provide LOS C (American Association of State Highway and Transportation Officials 2004). The LOS D goal is also consistent with the WFRC Congestion Management System Plan (CMS) report for the region of the proposed action (Wasatch Front Regional Council 2004).

As part of the Shared Solution, the proposed Legacy Parkway project would help reduce traffic congestion and related impacts in the North Corridor. The criterion used in the Supplemental EIS for examining congestion reduction is the maintenance of average *peak-period* travel conditions on I-15 at LOS D or better through 2020. An average LOS D for the full *3-hour peak period* means that a single hour may exhibit peak-direction traffic levels above LOS D, but the shoulder hours will remain sufficiently low so that the average for the 3-hour period does not exceed LOS D. This standard allows that, while peak-hour conditions may spread into adjacent hours in the future, the spread will not be substantial enough to raise the shoulder-hour level of service or the 3-hour average to worse than peak-period LOS D.

The Final EIS used a criterion of LOS D in the *peak hour* to assess traffic congestion impacts. Comments during the Supplemental EIS scoping process requested that the Supplemental EIS consider an average *peak period* criterion, rather than the *peak hour* criterion, to benefit transit mode share by creating more competitive travel times between highway and transit components of the Shared Solution. The change to an average LOS D condition for the 3-hour peak period allows that a single peak hour may have operating conditions worse than LOS D, but that travelers have the opportunity to shift travel to immediately before or after the highest hour and travel under LOS D or better conditions. This phenomenon, known as peak spreading, balances traffic flow and capacity use during the full commute period.

The 2020 travel demand analysis for the No-Build Alternative shows that I-15 is predicted to operate at LOS F in both the peak hour and the 3-hour peak period in 2020. Although I-15 currently operates at a peak-hour LOS E and peak-period LOS D, it also regularly experiences failure conditions (LOS F) due to traffic accidents and incidents. Such conditions divert regional, long-distance, high-speed traffic onto lower-speed, local arterials with low levels of access control. This increases congestion, interferes with local traffic, and increases accident potential on local streets.

A secondary purpose of the project is to provide a single, continuous, alternate north-south route. Currently, the only continuous north-south route in the North Corridor is I-15. Portions of I-15 were constructed over 30 years ago, and the current traffic volume exceeds the original design volume. The pavement has also exceeded its design life and requires reconstruction. I-15 now requires reconstruction and more traffic lanes to meet current design standards and the growing travel demand in the North Corridor. A project objective related to this purpose is to minimize the amount of through-corridor traffic that gets diverted from I-15 onto local streets. An alternate route is a necessary part of an integrated transportation network that would help reduce local congestion and associated impacts in the North Corridor communities during emergencies and other highway incidents as well as during construction on

I-15. Congestion on I-15 and local streets increases emergency vehicle response times and accident potential. In addition, an alternate north-south route in the North Corridor is identified as necessary for mobility in the corridor in the federally mandated WFRC CMS report (23 CFR 500.109) (Wasatch Front Regional Council 2004).

1.2 Summary of Need for Transportation Improvements in North Corridor

This section provides an updated description of the North Corridor transportation needs and future traffic conditions, with and without Legacy Parkway as a component of the Shared Solution. It includes updated data on existing conditions and updated forecasts of future travel demand and traffic conditions based on the updated land use projections and methods (WFRC 2004 travel model [version 3.2]). A more complete description of the process used to update the traffic forecast information is provided in the *Foreword/Introduction* to this Supplemental EIS, in the travel demand technical appendix (Appendix B), and in Section 4.3.2.5, *Travel Patterns and Accessibility*, of this Supplemental EIS. The travel demand technical appendix also describes differences in the travel forecast between the Final EIS and this Supplemental EIS.

1.2.1 Summary of Final EIS Description of North Corridor Transportation Needs

Chapter 1, *Purpose and Need*, of the Final EIS included an extensive discussion of the analysis and rationale used to develop the concept of the Shared Solution, including the Legacy Parkway project, for meeting transportation needs in the North Corridor. In discussing transportation needs in the North Corridor, Chapter 1 included the following descriptions and definitions.

- Defined the "North Corridor" and described the history and background of the North Corridor transportation needs.
- Described the statewide, regional, corridor, and local planning studies that contributed to identifying needs and developing a shared vision for North Corridor transportation improvements.
- Described the existing transportation facilities in the corridor, including freeways, highways, and local arterials, as well as railroads, rail passenger service, and public transit.
- Described intelligent transportation systems (ITS), transportation system management (TSM), and travel demand management (TDM) strategies for the corridor.
- Described the rationale for the Utah Department of Transportation's (UDOT's) level of service standard and existing traffic volumes and traffic operating conditions.
- Described existing roadway and safety deficiencies and the projected population and economic growth and projected increase in travel demand through 2020.
- Defined the concept of "latent demand" and "induced demand," whereby additional vehicle trips are generated as a result of reducing congestion and improving mobility.

The Final EIS purpose and need discussion (pages 1-40) summarized the primary transportation problems in the North Corridor as lack of capacity for current travel demand, continuing growth in travel demand, lack of alternate routes for incident management and emergency services, and design deficiencies on existing facilities.

Based on then-current projections of travel demand, Chapter 1 of the Final EIS concluded that regional travel demand could not be satisfied without construction of additional travel lanes, such as the proposed Legacy Parkway. This conclusion has been reevaluated and verified based on the updated travel demand model projections.

1.2.2 North Corridor Transportation Needs

The remainder of Section 1.2 describes the need for transportation improvements based on the current and updated information assembled for this Supplemental EIS.

The North Corridor is located in Salt Lake and Davis Counties, Utah. The corridor is constrained by Great Salt Lake to the west and the Wasatch Mountains to the east, and bounded by 400 South in Salt Lake City to the south and 200 North in Kaysville to the north. The corridor boundaries have not changed since the Final EIS.

The North Corridor area is experiencing rapid growth and is expected to continue to grow. Ongoing and projected population growth and projected growth in travel demand have lead to the need to study alternative solutions to addressing the mobility needs of the North Corridor. An extensive body of information has been developed since the 1980s that has intensively considered the region's growth and the demand on existing and future transportation systems. This information includes many studies and plans, which are summarized in Chapter 1 of the Final EIS, that attribute the major transportation needs in the corridor to lack of an alternate route; deficiencies in the existing roadway network and the need to improve roadway safety, emergency response, incident management, and capacity; need for additional transportation choices; and physical/geographical constraints in the corridor that make it difficult to develop additional infrastructure (Parsons Brinckerhoff Quade and Douglas, Inc. [for Wasatch Front Regional Council] 1998; Carter Burgess [for Wasatch Front Regional Council, Mountain Association of Governments, Utah Transit Authority, and UDOT] 2002; and Wasatch Front Regional Council 2004).

Five regional plans, three corridor plans, and 14 local plans have supported transportation improvements in the North Corridor and demonstrated the need for transportation investment in the area.[1] Notable recent studies include the *Weber County to Salt Lake City Commuter Rail Project Final EIS and 4(f) Evaluation* (Federal Transit Administration and Utah Transit Authority 2005); the *Inter-Regional Corridor Alternatives Analysis* (IRCAA) (Wasatch Front Regional Council et al. 2002); *Wasatch Front Urban Area Long-range Transportation Plan Update, 2004–2030* (long-range plan) (Wasatch Front Regional Council 2003a), Envision Utah's *Quality Growth Strategy and Technical Review* (2000); the *I-15 North Corridor Draft Environmental Impact Statement (Kaysville to Salt Lake City)* (Federal Highway Administration and Utah Department of Transportation 1998); the Legacy Parkway Draft EIS and Final EIS (Federal Highway Administration et al. 1998 and 2000, respectively); and the *South Davis County*

[1] These investments are identified in the Federal Transit Administration and Utah Transit Authority's *Weber County to Salt Lake City Commuter Rail Project: Final Environmental Impact Statement and 4(f) Evaluation*, and Record of Decision, 2005.

Transit Needs Analysis (Wasatch Front Regional Council in preparation).[2] These studies reflect the evolution of the proposed solution to the issues of congestion and alternative routes in the North Corridor. They adopted common sources for estimates of future population and employment, used the most recent WFRC traffic model available at the time to determine travel demand and impacts, assumed similar mode splits between transit and vehicles, and generally arrived at similar conclusions. The studies determined that the most practical solution to the North Corridor's traffic problems is a multi-modal approach featuring transit, improvements to I-15, and Legacy Parkway (or its equivalent) to provide traffic congestion relief and an alternative route.

These studies have culminated in the development of the Shared Solution, which is a combination of improvements to I-15, expanded mass transit, implementation of Legacy Parkway, and other elements of WFRC's long-range plan. The Shared Solution is recognized in all four of Envision Utah's quality growth strategies for the Wasatch Front, each of which contains a highway in the vicinity of Legacy Parkway (Envision Utah 2000). It is also recognized in WFRC's IRCAA study, which includes commuter rail, reconstruction of I-15, and Legacy Parkway in its Locally Preferred Alternative (LPA). WFRC adopted the IRCAA's LPA and incorporated it into the long-range plan in 2001. The summary statement of purpose and need for the transportation projects identified in the IRCAA study includes the following six key factors.

- Population and employment in the Wasatch Front region are growing rapidly.
- Population and employment development patterns are increasingly dispersed, with a greater number of activity centers and employment areas.
- Regional growth and an increase in inter-regional travel are creating additional travel demand for both roadways and transit.
- Travel demand exceeds the capacity of existing transportation infrastructure.
- Physical constraints in the corridor limit opportunities for physical expansion of existing infrastructure.
- There is a need for an integrated, multimodal approach to regional transportation improvements.

The commuter rail project final EIS (Federal Transit Administration and Utah Transit Authority 2005) assumes that the I-15 improvements and Legacy Parkway will be constructed, as per the long-range plan, and focuses on the transit element of the regional solution. The South Davis County Transit Needs Analysis (Wasatch Front Regional Council in preparation) addresses additional transit improvements that are not in the long-range plan, including bus rapid transit and land use initiatives.

The South Davis County Transit Needs Analysis is essentially complete, with the final report expected to be complete by the end of 2005. The draft report suggests that a bus rapid transit (BRT), possibly a streetcar, is feasible and should be constructed in an exclusive lane along the US-89-Main Street-200 West alignment, at least up to Pages Lane in Centerville.

[2] This effort is led by WFRC and includes the cooperation of UTA, UDOT, Davis County, Davis Council of Governments, and the Cities of Farmington, Centerville, Bountiful, West Bountiful, Woods Cross, North Salt Lake, and Salt Lake.

1.2.3 Definition of the Shared Solution

Shared Solution Components

The "Shared Solution" is the term used to describe the combination of multimodal transportation solutions, in various stages of development, which, together, can meet the above-identified transportation needs in the North Corridor and accommodate the safe and efficient movement of people and goods. Legacy Parkway is one component of the Shared Solution.

The Shared Solution was developed by Utah's state, local, and regional officials to prepare the transportation infrastructure necessary to meet future transportation demand in the North Corridor. The Shared Solution calls for three major transportation infrastructure improvements: reconstructing and expanding I-15, constructing additional mass transit improvements, and constructing Legacy Parkway with a trail (Federal Highway Administration et al. 2000). The Shared Solution also comprises additional smaller but important projects that contribute to the overall strategy, including improving local arterials and implementing ITS, TSM, and TDM strategies. As described in the Final EIS, ITS, TSM, and TDM will be implemented as fully as practicable.

The three major construction projects in the Shared Solution are summarized in the following bullet list.

- **I-15 Improvements**. Regional plans contemplate proposed improvements to I-15 (from 100 South in Salt Lake City to 200 North in Kaysville), including reconstruction of the facility to correct design deficiencies and expanding the highway from eight to ten lanes, including a high-occupancy vehicle (HOV) lane in each direction. This I-15 project is under review in a separate EIS.

- **Expanded Mass Transit**. This proposed component would include expanded bus service and new commuter rail, or some other transit technology, in the corridor. The Federal Transit Administration (FTA) and Utah Transit Authority (UTA) recently published a Final EIS and Record of Decision (ROD) on a proposed commuter rail project from Salt Lake City to Ogden (Federal Transit Administration and Utah Transit Authority 2005). Other possible transit improvements are in various stages of review and implementation by UTA.

- **Legacy Parkway**. The proposed Legacy Parkway, subject of this Supplemental EIS, would be a four-lane, divided, limited-access highway. To help provide an alternate means of transportation in the North Corridor and to help meet a portion of the 2020 transportation demand, Legacy Parkway would include a trail for pedestrian, bicycle, and equestrian use.

Other components of the Shared Solution include arterial improvements identified in the WFRC's long-range plan and ITS, TSM, and TDM measures. The list of projects included in the WFRC long-range plan has been updated since the Final EIS (see Appendix B). Improving local arterials is part of the Shared Solution. Some improvements would be made to local arterials, including expanding Redwood Road from two to five lanes (two lanes in each direction, separated by a left-turn lane). The Redwood Road widening project through the North Corridor (from 500 South in Woods Cross to 1000 North in Salt Lake City) is planned for construction in the 2013–2022 time frame.

ITS and TSM are operational strategies, and TDM reduces travel demand and improves the efficiency of the existing and proposed transportation systems. As described in the Final EIS, ITS strategies apply advanced technologies for communicating reliable, accurate, and up-to-date information to highway users and managers. Section 1.2.4 of the Final EIS describes ITS strategies that had been implemented or were planned for implementation at that time. Since publication of the Final EIS, UDOT has extended the

fiber-optic cable from I-15 and State Street up US-89 (State Street in Farmington) to Nichols Road, completing the telecommunications infrastructure needed for a computerized system of communicating real-time travel information. The fiber-optic cable was also extended up I-15 to Exit 334 in Layton where it connects to the existing cable. Two new variable message signs have been installed, one southbound on US-89 at Green Road and the other southbound on I-15 at Burton Lane in Kaysville. Closed-circuit television and traffic monitoring stations have been added along the same corridor as the fiber cable. All new traffic signals, as well as existing signals located along the fiber-optic cable, have had communications added to allow monitoring and improved signal coordination from the traffic operations center. Commitments were made to install these ITS improvements as part of the Legacy Parkway project construction contract.

TSM is intended to improve roadway efficiency and get the most out of the existing system through cost-effective improvements. Section 1.2.4 of the Final EIS describes TSM strategies that had been implemented or were planned for implementation at that time. Since publication of the Final EIS, new ramp meters have been installed on the newly rebuilt Park Lane (formerly Burke Lane) on the northbound I-15 ramp and the southbound US-89 ramps.

TDM comprises strategies to increase the number of people per vehicle and influence travel time and the need to travel. TDM strategies include implementing projects that reduce the number of vehicles using the road. Ongoing funded TDM strategies included as part of the Shared Solution are described in Section 1.2.4 of the Final EIS. Carpool incentives, which include components such as HOV lanes, are considered TDM measures. The I-15 initial (temporary widening) project has been completed since publication of the Legacy Parkway Final EIS and includes elements such as HOV lanes, ramp metering, and variable message signs.

The Shared Solution is a multi-component plan intended to address projected transportation demands in the North Corridor for 2020 and beyond. Not implementing particular components of the Shared Solution, especially the primary components, would result in insufficient capacity to meet projected demand. As noted in Chapter 2 of the Final EIS and addressed in Chapter 3 (as shown in Figure 1-2), even with a fully expanded I-15 (to ten lanes), substantially expanded mass transit (robust mass transit scenario), expanded arterials, demand reduction, and system efficiency improvements, there would still be insufficient capacity on I-15 to meet projected 2020 travel demand in the North Corridor without Legacy Parkway, and level of service on I-15 would still be worse than LOS D.

Environmental Documentation for Shared Solution Projects

The Shared Solution contains many separate projects that would help satisfy regional transportation concerns. Separate project-level environmental documents are being or will be prepared for each action, if required. As detailed in the bullet list below, three environmental documents are currently underway to evaluate projects that would address the three main components of the Shared Solution.

- **Commuter Rail**. An EIS was prepared by FTA and UTA (Federal Transit Administration and Utah Transit Authority 2005).
- **I-15 Improvements**. An EIS/Reevaluation is being conducted by FHWA and UDOT.
- **Legacy Parkway**. This Supplemental EIS/Reevaluation was prepared by FHWA and the Corps.

The Shared Solution components are part of the WFRC Congestion Management System (CMS) required by 23 CFR 500.109 to alleviate congestion and enhance mobility of people and goods to levels that meet state and local need (Wasatch Front Regional Council 2004). Individually, each component would help

reduce the travel problems in the North Corridor, and each component could serve its transportation purpose regardless of whether the other projects are built. This Supplemental EIS analyzes the environmental consequences of only the Legacy Parkway project.

The Legacy Parkway project would serve an important role in helping address the regional transportation needs. The Legacy Parkway project would have its own independent utility, serve its own logical termini, and satisfy its own discrete transportation needs while contributing to the achievement of the greater regional goals of the Shared Solution. Legacy Parkway would serve its own function and transportation purposes even if the other components of the Shared Solution were not built (23 CFR 450 and 23 CFR 771.111[f]). This Supplemental EIS is being prepared for the Legacy Parkway project.

FHWA, FTA, UDOT, and UTA are coordinating and cooperating with each other to develop the transportation improvements in the North Corridor. UDOT and UTA developed a charter to lay out the objectives—teamwork, cost-effectiveness, safety, quality, schedule, communication, issue resolution, and environmental awareness—that the agencies will work together to achieve in developing, implementing, and integrating these transportation improvements. See Appendix A for a copy of the charter.

Other Regional Studies

There are five other relevant studies in the general vicinity of the Legacy Parkway.

Mountain View Corridor. Preparation of an EIS was started in early 2003 for a proposed Mountain View corridor project south of the Legacy Parkway project. The Mountain View corridor project is a multi-modal analysis of a corridor from northern Utah County along the west side of Salt Lake County, to I-80. A decision on an alternative is expected in 2006. The project was identified as 5600 West in the Final EIS. There is currently no timeframe for implementation.

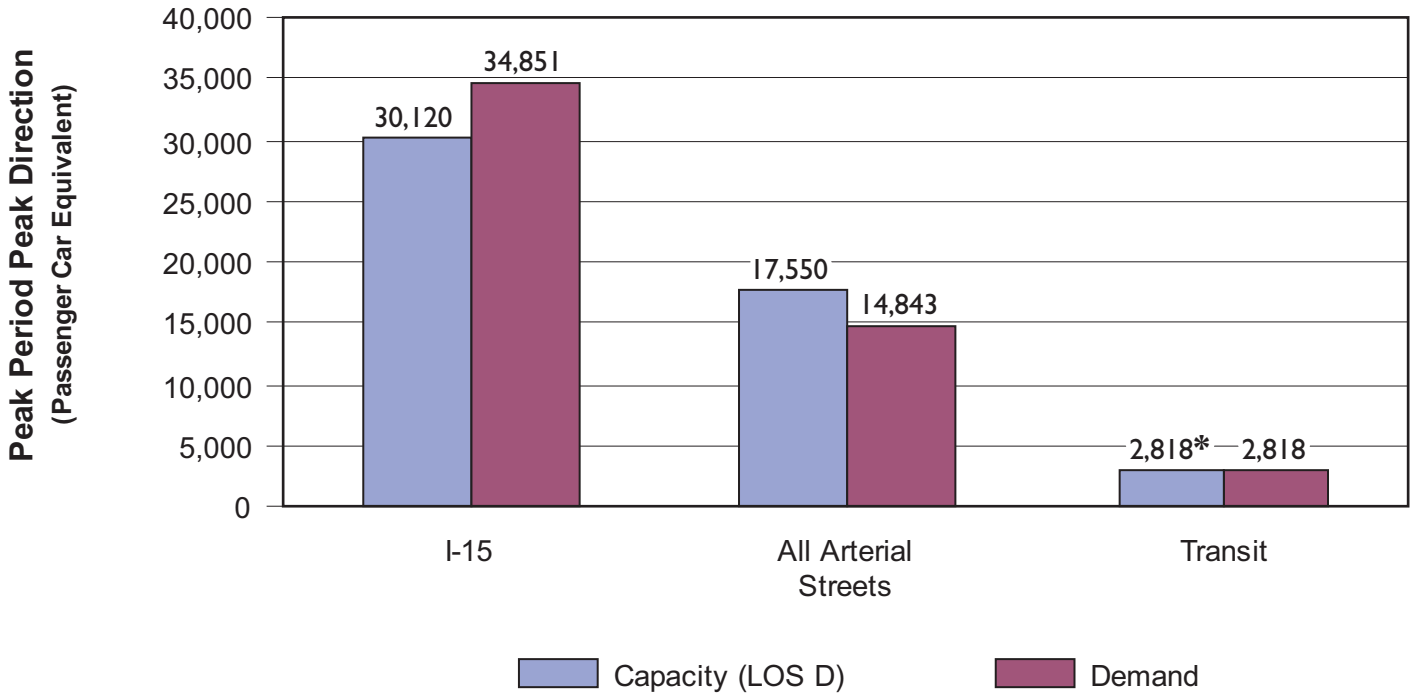
South Davis County Transit Needs Analysis. WFRC and UTA have been managing this transit feasibility study, which began in 2003 and will finish by year-end 2005. The project covers the area from downtown Salt Lake City to Farmington. The recommendations from the study are for a BRT route between the Salt Lake City inter-modal terminal to the Farmington commuter rail station and planned transit development area. It will generally follow the surface streets through the communities of south Davis County. The timeframe for implementation is for the first phase of the WFRC long-range plan.

North Legacy Terminus Analysis. UDOT is reviewing a connection between Legacy Parkway, I-15, and the proposed North Legacy project. This is at the concept level and will ultimately allow for preservation of the corridor. The analysis has begun.

UDOT Managed Lanes Study. This is a statewide study that looks at potential corridors where HOV, high-occupancy toll (HOT), reversible lanes, and tolling might be appropriate in 2030 on the state and federal highway system. This study is planned for completion in late 2005.

I-15 Kaysville to Ogden Corridor Plan. This is a UDOT corridor study to analyze future needs and make recommendations for improvements to the I-15 mainline, the interchanges, and surface streets in the study area. The study is from the 200 North interchange in Kaysville to the 31st Street interchange in Ogden. The study began in July 2004 and is expected to end in 2005.

WFRC is currently preparing a planning study to analyze additional South Davis County transit improvements, including some that are not included in the current long-range plan. Some of those improvements, such as bus rapid transit, are included in the North Corridor Shared Solution.



* Effective transit capacity. Transit capacity is variable and can rise to meet or exceed transit demand.

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Figure 1-2
2020 Shared Solution without Legacy Parkway

1.2.4 Needs Addressed by Legacy Parkway Project

This section describes updated information to support the needs that were described in the Final EIS. The proposed action is primarily designed to help meet the future capacity needs of the rapidly growing travel demand in the North Corridor. However, as demonstrated by the most recent travel demand data, it would also address the existing primary transportation problems related to congestion/lack of capacity and the existing secondary need for an alternate route through the North Corridor.

Since publication of the Draft Supplemental EIS in December 2004, the traffic model was re-run using consistent land use assumptions, reflecting the robust or maximum future transit scenarios developed through the integration analysis. The traffic model was re-run for all scenarios (years 2001 and 2020) and alternatives to ensure a single, consistent, complete application of WFRC travel model version 3.2 for all scenarios reported in this Supplemental EIS. As a result, some of the traffic volumes shown in Figure 1-2, Table 1-2, and Table 1-3 in this chapter of the Final Supplemental EIS have changed slightly from those shown in the Draft. These small changes did not result in any changed conclusions about the need for the project.

Capacity to Accommodate Growing Travel Demand (Primary Need)

There are currently strains on the capacity of the transportation system. As shown below in Tables 1-1 and 1-2, projected growth in population, number of households, and employment will result in an increase in future travel demand in the North Corridor. As the travel demand increases, the capacity of the existing transportation system will continue to be exceeded, and I-15 will become increasingly more congested. The current lack of capacity is due to the large amount of existing traffic as well as a lack of lanes on I-15 and other roadway facilities in the corridor. The lack of capacity will be exacerbated in the future as the traffic volume continues to increase, as projected in the Final EIS and the current WFRC travel demand model. Even with expansion of I-15 to ten lanes, arterial improvements, maximum future transit, TSM, TDM, and other improvements included in the long-range plan, I-15 traffic volume would still exceed the LOS D capacity without Legacy Parkway (Figure 1-2).

System Capacity Discontinuity

The proposed Legacy Parkway would be an important element in improving the functionality of the regional highway network. Without Legacy Parkway, the North Corridor is, and will remain, a system capacity bottleneck. Several highways funnel into I-15 at both the north and south ends of the North Corridor. From the north, four lanes of US-89 join six lanes of I-15 and channel into an eight-lane section of I-15. From the south, four lanes of I-215 join six lanes of I-15 and channel into an eight-lane section of I-15. This eight-lane segment of I-15 does not have the capacity to accommodate I-15 traffic and the additional traffic from these other highways, and a bottleneck is created.

Without Legacy Parkway, this capacity discontinuity, or “bottleneck,” would continue to cause congestion in the future. Under the WFRC long-range plan, the planned combined capacity of I-15, US-89, and Legacy Parkway north of the corridor would be 14 lanes, and the planned combined capacity of I-15 and I-215 south of the corridor would be 14 lanes (Wasatch Front Regional Council 2003a). Without the proposed action, however, the maximum capacity through this section would remain at a 10-lane I-15, which is about 29 percent less capacity than corridor segments immediately to the north and south. Thus, the bottleneck would remain, and worsen, in the future.

Such capacity discontinuity results in inefficient use of the highway system. During periods of high demand, the bottleneck segment causes queuing of upstream traffic and delay. Constrained traffic flow

through the bottleneck results in underutilization of available downstream capacity and causes off-loading of high-speed through-corridor traffic from I-15 onto local streets.

With implementation of the proposed action, the North Corridor would experience continuity of system capacity, with 14 highway lanes available throughout the corridor, reducing upstream congestion and efficiently using available capacity downstream.

Growth in Demographics and Travel Demand

The Final EIS presented a population growth projection along the Wasatch Front of approximately 60 percent between 1995 and 2020 (from 1,211,000 to 1,941,000), or 1.93 percent annually. Based on population forecasts updated since publication of the Final EIS, population growth between 2001/2002 and 2020 is still expected to cause increased travel demand. Table 1-1 shows the existing and projected demographic changes in Salt Lake, Davis, and Weber Counties and the resulting increase in travel demand in the North Corridor. Growth in population, number of households, and employment in Salt Lake, Davis, and Weber Counties is expected to increase by 40 percent, 51 percent, and 42 percent, respectively, between 2002 and 2020. The 40 percent increase in population from 2001/2002 to 2020 (from 1,374,000 to 1,918,000) is a 1.87 percent annual increase in population. This is almost the same annual rate of population increase reported in the Final EIS and reflects that there has been little change in forecasted demographic conditions between the Final EIS and the Supplemental EIS (see Table B-1 in Appendix B). According to the 2004 WFRC travel forecasts, this population growth will result in a 41 percent increase in North Corridor home-based work trips (travel between residence and job site) and in total vehicle trips between 2001 and 2020.

Table 1-1 Projected Demographic and Travel Demand Changes between 2001/2002 and 2020

Item	Current (2001/2002)	Projected 2020[3]	Overall % Change	Annual % Change
Population[1]	1,374,000	1,918,000	+40	+1.87
Population[2]	88,000	104,000	+18	+0.93
Households[1]	450,000	678,000	+51	+2.30
Households[2]	28,000	37,000	+32	+1.56
Employment[1]	696,000	987,000	+42	+1.96
Employment[2]	31,000	47,000	+52	+2.34
Home-Based Work Trips (person trips)[1]	764,000	1,097,000	+44	+2.03
Home-Based Work Trips (person trips)[2]	68,000	96,000	+41	+1.93
Total Vehicle Trips (average weekday)[1]	5,058,000	7,181,000	+42	+1.97
Total Vehicle Trips (average weekday)[2]	382,000	522,000	+37	+1.75

Notes:

1 Demographic data includes all of Salt Lake, Davis, and Weber Counties.

2 Data is for the North Corridor, which is bounded by Great Salt Lake to the west, the Wasatch Mountains to the east, the I-215/I-15 interchange to the south, and the I-15/US-89 interchange in Farmington to the north.

3 Source: WFRC Travel Demand Model, February 2004 (version 3.2): depicts 2002 and projected 2020 data.

The build alternatives would increase roadway capacity and reduce travel time in the North Corridor. Reducing travel time is analogous to reducing transportation cost. A reduction in transportation cost might have two indirect effects. First, reduced transportation costs may be associated with changes in land use and land development patterns, often called "induced growth." Discussions with planners who developed the land use plans for the local jurisdictions in the North Corridor and other analyses reveal that induced growth is not a likely outcome of the Legacy Parkway project. The pace of land development, however, may be influenced by the implementation of transportation facilities. Although regardless of whether Legacy Parkway is constructed, the entire study area is expected to be built out by the end of the study period.

Second, reduced transportation costs might result in a potential shift in travel routes for some drivers and a potential shift in mode choice. This shift in travel demand is often called "induced demand," "latent demand," or "suppressed demand." The route and mode shifts associated with induced demand from Legacy Parkway are measurable, although generally less than 4 percent of total screenline volume, and are accounted for in the WFRC travel model. Section B3.4.4 of the travel demand technical appendix (see Appendix B) provides further details on this issue.

Measures of I-15 Existing and Projected Future Traffic Operating Conditions

For this Supplemental EIS, a level-of-service criterion of LOS D or better in the peak period, peak-direction was used as a benchmark to analyze the current and future operating conditions of I-15 in the North Corridor. This criterion was used to evaluate how well potential alternatives would meet the primary project purpose of relieving traffic congestion on I-15 through 2020. For screening purposes, alternatives were evaluated to see whether they would provide peak-period, peak-direction LOS D or better.

As described above, the peak period, peak direction conditions for I-15 and the North Corridor consider the northbound traffic volume and capacity during the 3-hour evening peak period. The peak period includes a peak hour (generally 5 p.m. to 6 p.m.) and two "shoulder" hours just before and after the highest peak hour (generally from 4 p.m. to 5 p.m. and from 6 p.m. to 7 p.m.) during which volumes approach but do not exceed the peak-hour levels.

For this project, the appropriate standard goal is average LOS D for the 3-hour peak period. "Average LOS D" means that although the peak hour may exhibit higher peak-direction traffic levels, the shoulder hours will remain sufficiently low that the 3-hour peak-period average will be LOS D. The LOS D standard allows for possible future spread of peak-hour conditions into adjacent hours without degrading the shoulder-hour level of service or the 3-hour average to worse than LOS D.

The Final EIS used peak-hour rather than peak-period level of service to measure the effectiveness of alternatives. Table 1-2 below shows that conditions under the No-Build Alternative (2020 future no-build scenario) are predicted to operate at LOS F not only in the peak hour, but also throughout the 3-hour p.m. peak period. LOS F is the flow rate of vehicles at failure conditions, and is highly unstable and can cause extended periods of breakdown conditions. The peak-period measure allows evaluation of the degree to which peak-hour conditions spill into the hours before and after the peak hour. This Supplemental EIS measures overall average level of service in the 3-hour peak period to indicate the degree to which failure conditions spread congested periods for longer than the conventional peak hour.

Table 1-2 presents the current and future traffic volumes and levels of service for I-15 through the North Corridor under the No-Build Alterative. The No-Build Alternative adds commuter rail and other transit improvements to the corridor, but does not add either Legacy Parkway or the widening of I-15 to ten lanes, because, as addressed in Section 2.4, *Sequencing of the Shared Solution*, it would be unreasonable

to perform the construction on I-15 related to the widening without a continuous parallel route to which through-corridor traffic could be diverted. The No-Build Alternative reflects the WFRC long-range plan without two of the major components of the Shared Solution—Legacy Parkway and expansion of I-15—but it includes commuter rail and expanding Redwood Road from two to five lanes (from 1000 North in Salt Lake City to 500 South in Woods Cross). It also includes mass transit improvements at the level described in the WFRC long-range plan. The measures were developed for 2001 and 2020 traffic conditions and were applied to the Woods Cross screenline. The Woods Cross screenline was also used in the previous Final EIS and is a location on I-15, between 2600 South and 500 South. It was chosen to be analyzed because it reflects representative traffic conditions in the corridor.

Table 1-2 I-15 Operating Conditions for 2001 and 2020 No-Build Alternative

Measure of Effectiveness	2001*	2020*
Peak hour, peak-direction LOS	2,220 pcepl (LOS E)	2,720 pcepl (LOS F)
Peak-period, peak-direction LOS	6,160 pcepppl (LOS D)	7,550 pcepppl (LOS F)

Notes:

Traffic volumes shown in the table represent actual volumes for 2001 and projected volumes for 2020.

pcepl = passenger car equivalents per peak hour per lane

pcepppl = passenger car equivalents per 3-hour peak period per lane

* From *Highway Capacity Manual: 2000*, "Exhibit 23-2, LOS Criteria for Basic Freeway Segments," maximum service flow rate for 65 miles per hour, page 23-4 (Transportation Research Board 2000). LOS shown is for the Woods Cross screenline. The single-hour peak passenger-car equivalent per lane at LOS D is 2,090, and the 3-hour LOS D capacity is 6,270.

Current traffic volume counts at the Woods Cross screenline show that the current system operates at LOS E during the peak hour under existing conditions and meets the minimum LOS D standard on I-15 on average for the full 3-hour peak period, but only by a small margin—about 110 passenger cars per lane over the 3 hours, or about two percent. The 2020 forecasts show that level of service will continue to worsen as a result of projected growth and that the existing capacity in the corridor is not sufficient to accommodate the growth in travel demand.

Traffic operating conditions are predicted to continue to deteriorate into the future, reaching LOS F not only for the peak hour, but also for the full 3-hour peak period under the No-Build Alternative.

Table 1-3 provides an overview of the 2001 and 2020 levels of service on specific segments of I-15 during the peak period in the peak direction. As shown in the table, under the No-Build Alternative, seven segments currently operate at LOS D and one segment currently operates at LOS E, and by 2020 all segments except one will operate below acceptable levels (i.e., LOS E or worse). Six of the eight segments would operate at LOS F for the full 3-hour period, and one would operate at LOS E for the full 3 hours.

Table 1-3 I-15 Levels of Service for 2001 and 2020 No-Build Alternative (Peak Period, Peak Direction)

	2001				2020			
I-15 Segment	Traffic Volume	Lanes per Direction*	Service Flow (pcepppl)	Level of Service	Traffic Volume	Lanes per Direction*	Service Flow (pcepppl)	Level of Service
600 North to Beck Street	17,780	3	5,590	D	21,380	3	7,130	F
Beck Street to I-215	15,640	3	5,210	D	17,510	3	5,840	D
I-215 to 2600 South	25,580	4	6,400	E	30,840	4	7,710	F
2600 South to 500 South	24,640	4	6,160	D	30,180	4	7,550	F
500 South to Parrish Lane	24,510	4	6,130	D	32,200	4	8,050	F
Parrish Lane to Lagoon Drive	23,950	4	5,990	D	32,720	4	8,180	F
Lagoon Drive to US-89 and Park Lane (formerly Burke Lane)	22,810	4	5,700	D	31,680	4	7,920	F
US-89 and Park Lane (formerly Burke Lane) to 200 North	16,240	3	5,410	D	21,090	3	7,030	E

Notes:

pcepppl = passenger-car equivalents per 3-hour peak period per lane

* Includes I-15 initial phase improvements (expansion to eight lanes).

Source: WFRC 2004 travel demand model (version 3.2).

Alternate Route (Secondary Need)

Need to Accommodate Through-Corridor Traffic

The Wasatch Front Mountains to the east and Great Salt Lake/Farmington Bay to the west create a physically and geographically constrained north-south linear corridor. The corridor currently has limited transportation facilities; I-15 is the only continuous high-speed vehicular route through the corridor that directly links Salt Lake, Davis, and Weber Counties, and it serves as the primary link for people commuting between these areas. I-15 also serves as one of the main commercial transportation routes for truckers between Mexico and Canada because it is part of the CANAMEX corridor. (CANAMEX is a broad economic development concept that fosters trade between Mexico, the United States, and Canada, and promotes accelerated economic growth.) The north-south arterials that parallel I-15 are generally discontinuous and typically provide for local trips because of their design and operation characteristics. The local arterials primarily serve travel within the corridor (intra-regional), and cannot handle through-corridor traffic (inter-regional). No continuous route through the corridor exists as an alternative to I-15 to accommodate through-corridor trips.

To better service through-corridor (non-local) traffic and to help meet the 2020 travel demand, an alternate continuous north-south facility is needed in the North Corridor. Through-corridor traffic is traffic that travels through the North Corridor but does not have a start point or end point in the North Corridor (i.e., trips that originate and end on either side of the area from Farmington City to the southern Davis County line). It is predicted that about 65 percent of the 2020 traffic on I-15 in the North Corridor will be through-corridor traffic. As I-15 becomes more congested, the ability of the highway to accommodate both through-corridor traffic and local traffic decreases. A large amount of the current and future travel demand is composed of trucks and non-local traffic, which cannot be effectively carried on the discontinuous local streets that do not run the length of the North Corridor. A continuous, access-controlled facility would be safer and more efficient for handling through-corridor traffic (Wasatch Front Regional Council 2004). Congestion effects of a shortage of through-corridor traffic capacity are described above, and safety implications are described in the following sections.

Need to Limit Diversion of Through-Corridor Traffic onto Local Streets

As travel demand continues to grow in the North Corridor, safety on local streets is affected. As I-15 becomes increasingly congested or is closed or under construction, motorists will seek other routes to minimize delays, causing them to exit onto local discontinuous north-south arterials. Because the local road network for north-south travel through the corridor is limited, motorists detouring from I-15 onto the local arterials create local congestion and disrupt the primary use of these arterials, which is to serve the local communities. When the local arterials are congested, emergency vehicle response time is affected. In addition, congestion on local arterials would create higher potential risk for motorists to be involved in accidents, because the arterials cannot handle high volumes of through traffic that would occur when incidents or congestion on I-15 cause vehicles to divert to local surface streets. Even under normal circumstances, as shown in Table 1-4, local arterials with multiple access points and signalized intersections have a higher average rate of accidents than limited-access freeways such as I-15. According to UDOT traffic accident statistics for large urban areas, arterials experience about four times the accident rates and similar degrees of accident severity as freeways at the same traffic volume (Utah Department 2001). For all traffic volume ranges, arterials experience about 3.3 times the accident rate as interstates and other limited access facilities, as indicated below.

Table 1-4 Average Accident Rates by Roadway Classification for Urbanized Areas

Roadway Classification	Accident Rate per Million Vehicle-Miles Traveled
Collector	3.8
Local	4.5
Minor arterial	7.2
Principal arterial	5.1
Interstate (limited-access facility)	1.5

Notes:

Urbanized areas are defined as having a population greater than 200,000.

While population in the North Corridor is under 200,000, the population in the three-county area will reach almost 2 million in 2020, and travel includes motorists from outside the North Corridor.

Source: Utah Department of Transportation 2003a.

A limited-access facility, such as the proposed Legacy Parkway, in which ramps providing access from local streets to the highway are provided only at certain grade-separated locations, can limit the interactions between local traffic and through-corridor traffic. In addition, a limited-access facility

provides safer travel conditions for through-corridor traffic than conventional highways with signalized intersections. Statistics show that crash, injury, and fatality rates on access-controlled highways are 30 to 76 percent of the comparable rates on conventional highways (American Association of State Highway and Transportation Officials 2004).

One factor that affects the relative safety of the limited-access versus local facilities is the amount of truck traffic in the corridor. I-15 presently carries over 18,000 trucks a day, including over 8,000 large multiple-units, according to UDOT permanent count station 315 in Farmington (May 2004). Trucks represent about 14 percent of the current traffic on 1-15, and about half of these (or 6 percent of overall traffic) are semi-trailers over 9 m (30 ft) long. North Corridor truck traffic, both from in-state and inter-state sources, is projected to grow substantially by 2020, exceeding the growth rate in general traffic and increasing the truck mix in the total traffic stream. Interstate truck traffic (neither beginning nor ending in Utah) is predicted to more than double, contributing to a doubling of total truck traffic on I-15. Through-corridor interstate trucks alone are predicted to total over 10,000 a day by 2020, representing about one-fourth of all trucks in the corridor. (Federal Highway Administration Office of Field Management and Operation 2002.) These interstate trips neither begin nor end in the North Corridor. The remaining three-fourths include intra-regional truck trips that travel entirely through the corridor, as well as trips that begin or end in the corridor.

In achieving the purpose of providing an alternate route, Legacy Parkway would free up capacity on I-15. If Legacy Parkway were not built, incidents and congestion on I-15 could divert trucks to parallel arterials. Because of their size and mass, reduced maneuverability and visibility, and effects on speed differentials, trucks affect accident frequency and severity on arterials at higher levels than general traffic. UDOT data indicates that truck accident rates (per million vehicle miles) on urban divided arterials are more than 7 times the rates on urban freeways. Accident severity for trucks on divided multi-lane arterials is also higher than for trucks on freeways, with the most severe accidents (major injury or fatality) being 6 to 10 times more likely on major divided arterials than on freeways.

Growth in Travel Demand and Department of Defense Alternate Routes

As discussed in this and the next two sections, providing an alternate route to I-15 is critical not only to relieve congestion, but also to accommodate safer traffic flow. An alternate route capable of handling large volumes of traffic is necessary to appropriately manage incidents in the region involving military operations, roadway maintenance and construction activities, as well as vehicular accidents and other emergencies. Since I-15 is the primary north-south route in the North Corridor, in situations when I-15 is blocked or congested, emergency service vehicles could use an alternate route to access incidents in the area.

I-15 is part of the Strategic Highway Network (STRAHNET), which is a system of public highways that provide access, continuity, and emergency transportation routes for military personnel and equipment between Department of Defense (DoD) priority locations in times of peace and war. The 98,170-km (61,000-mi) system, designated by FHWA in partnership with DoD, includes about 72,420 km (45,000 mi) of interstate highways. The DoD-designated agent for public highway matters, the Military Surface Deployment and Distribution Command Transportation Engineering Agency (SDDDC TEA), is the proponent for STRAHNET. Federal oversight ensures optimum maintenance levels for STRAHNET highways, ensuring the roads can support emergency deployment. The primary concern regarding highway connectivity is to ensure access and connectivity for important military facilities such as Hill Air Force Base, Tooele Army Depot, and the Dugway Proving Grounds in Utah. (Hill Air Force Base plays a key role in providing armor support to military troops.) On highways that provide access to Priority 1 facilities, bridge capability, pavement condition, and congestion are specific issues that should be

addressed (Global Security.Org 2003). Legacy Parkway would relieve congestion on I-15 and therefore would help to ensure access and connectivity for military sites that depend on I-15.

Need for Alternate Route during Future I-15 Reconstruction

Design deficiencies on I-15 contribute to increased congestion, slower traffic speeds, and reduced safety. Specific design deficiencies on I-15 in the project corridor include the following.

- Substandard inside and outside shoulder widths at certain locations.
- Obsolete or structurally deficient bridges.
- Improper lane balance on I-15 southbound at I-215.
- Pavement has exceeded its design life.

Because I-15 was constructed in the North Corridor over 30 years ago and has exceeded its design life, the facility has existing design deficiencies and requires reconstruction. However, since the construction of I-15 in the North Corridor, the communities surrounding the freeway have grown, constraining reconstruction options in the area. In accordance with the UDOT policy for context-sensitive solutions, which seeks to minimize impacts on communities by ensuring that transportation facilities are integrated within the overall community structure, I-15 reconstruction is planned to occur mainly within the existing I-15 right-of-way, and lanes are planned to be added in the existing median.

Because of the right-of-way constraints on the I-15 reconstruction project, highway lanes will need to be closed during I-15 reconstruction, which will reduce capacity in the corridor. With one lane closed for construction, the total traffic capacity on I-15 in that direction would be reduced by about 30 percent; with two lanes closed, traffic capacity in that direction would be reduced by about 50 percent (Transportation Research Board 2000). Assuming that no alternate route is available, north-bound travel time in 2009 in the peak hour for through-corridor traffic in the North Corridor would increase to 58 minutes with I-15 reduced to two lanes in each direction, compared to 13 minutes in 2001 with all lanes open. (See Section 2.4.2.2, *Results of Construction Sequencing Scenarios*, for a discussion of average travel times on I-15). To avoid such extreme delays in the North Corridor, an alternate route is needed during the 4 years of I-15 reconstruction. Appendix G of the Final EIS, identified these circumstances in addressing the appropriate sequence of construction of Legacy Parkway and I-15 improvements. This sequencing analysis was updated for this Supplemental EIS. It confirms the conclusions of the previous Final EIS sequencing analysis that Legacy Parkway should be built before I-15 is reconstructed. (See Chapter 2, Section 2.4, of this document for a discussion of construction sequencing of the components of the Shared Solution.)

Need for Alternate Route during Emergencies

A reliable network of roadways plays a major role in the success of traffic management during emergencies or other highway incidents such as maintenance, construction, or disabled vehicles stranded on the road. In overseeing the state transportation system to ensure a reliable network, UDOT must consider specific and often simultaneous functions of the transportation facilities, including the mobility of people and goods in the transportation network and the ability of rescue personnel and equipment to access emergency zones. The existence of an alternate route to relieve traffic congestion during accidents or construction or other incidents is a crucial element in maintaining a reliable transportation network.

One recent incident underscores the need for an alternate route in the North Corridor. An accident occurred on a Saturday morning in November 2000 in which a tanker truck carrying 26,497 liters (7,000 gallons) of gasoline crashed and burned for several hours. Reports of the accident indicate that the northbound lanes of I-15 were closed for 16 hours, during which time vehicles were diverted to local surface streets. Because of the lack of a continuous alternate north-south route, mobility in Davis County was severely limited, which resulted in regional congestion and more accidents. The *Salt Lake Tribune* reported that rescue teams got caught in traffic and that many drivers were running out of gas as they waited for traffic flow to resume. An analysis of the accident reports for November 4, 2000, revealed that the tanker incident and subsequent diversion of traffic onto the local street system resulted in additional traffic accidents.

1.3 Objectives for Proposed Action

In implementing the proposed action, UDOT, the project proponent, seeks to achieve the following objectives.

- Meet the transportation need and achieve the project purposes as described above.
- Minimize environmental impacts to the maximum extent practicable.
- Provide a project that is an asset to the community and incorporates context-sensitive solutions into the project design and construction.

FHWA and UDOT are evaluating Legacy Parkway in terms of the travel demand considerations described above as well as in the context of minimizing environmental impacts as much as possible and providing a project that is a desirable asset to the community. FHWA policy requires consideration of the need for safe and efficient transportation; the social, economic, and environmental impacts of the proposed transportation improvement; and national, state, and local environmental protection goals. Public involvement and a systematic interdisciplinary approach are necessary to mitigate adverse impacts and are incorporated into the action (23 CFR 771.105). In addition, the Corps is reviewing UDOT's request for a permit modification. The Corps is responsible for ensuring that a scientifically sound analysis is completed in compliance with NEPA and the CWA. (See discussion of "Lead Agencies and Required Permits and Approvals" in the *Foreword/Introduction* of this Draft Supplemental EIS.)

Transportation projects are not developed or evaluated in a vacuum. Public comments received during the preparation of the previous Final EIS and this Supplemental EIS, information in local and regional land use and transportation plans, and the stated desires of the local public and community officials addressed various environmental and transportation concerns. To meet these environmental and community objectives, UDOT has adopted a context-sensitive solution (CSS) philosophy for transportation projects. CSS approaches are endorsed and encouraged by FHWA (Federal Highway Administration 2002). The CSS philosophy guides UDOT, wherein safe transportation solutions are planned, designed, constructed, and maintained in harmony with the community and the environment.

The CSS approach addresses the need, purpose, safety, and service of a transportation project, as well as the protection of scenic, aesthetic, historic, environmental, and other community values. To satisfy the purpose and need of an action as set forth by the project stakeholders, UDOT uses the CSS approach to ensure that multimodal transportation facilities are integrated within the overall community structure, existing and proposed transportation system, and the defined need. Some of the strong community interests identified in the North Corridor include a trail system (non-motorized), a berm to provide visual

and acoustical buffering, and landscaping. The CSS approach includes integrating the proposed action with other modes of transportation, including existing and future transit, trails, and park-and-ride lots so that the overall system benefits the community.

Reflecting CSS principles of balancing community needs with resource protection, UDOT intends to design and place the trail and berm within the right-of-way in a footprint that further avoids wetlands and maintains the natural habitat to the maximum extent practicable. As described more fully in Chapter 3, *Alternatives*, UDOT has reduced the proposed right-of-way from the 100 m (328 ft) proposed in the Final EIS to 95 m (312 ft) for this Supplemental EIS, by reducing the median width. Within that 95-m (312-ft) right-of-way width, the footprint for construction would be modified where possible to preserve and protect additional natural habitat, including wetlands, by applying CSS principles.

1.3.1 Local Community Interests

The local community support for Legacy Parkway has not changed since the Final EIS. During the Supplemental EIS scoping process, the local communities reiterated their strong views that Legacy Parkway should be built, and provided information concerning alternate locations for Legacy Parkway.

As described above in Section 1.2.2, in addition to five regional plans and three corridor plans, 14 local plans have supported additional transportation investments in the North Corridor. These studies all arrived at similar conclusions. The studies determined that the most practical solution to the North Corridor's traffic problems is a multi-modal approach featuring expansion of transit, improvements to I-15, and construction of Legacy Parkway (or its equivalent). Legacy Parkway is also included in Envision Utah's quality growth strategy. The concept of Legacy Parkway has been included in WFRC's long-range plan for many years.

As mentioned above, the communities in the North Corridor also expressed strong interest in a parkway-type facility during the Final EIS process; this interest was reiterated during the Supplemental EIS process. This interest is also conveyed in planning documents and specific comments received from local officials and citizens as described below.

For example, the *Woods Cross City General Plan* (Woods Cross City 2003) notes that the city is experiencing considerable growth to the west that could ultimately be limited by Legacy Parkway. Representatives of Woods Cross City stated: "It would be a shame to trade Legacy Parkway with its trail/berm for a ribbon of concrete through a community. Transportation facilities should be a benefit to communities and include amenities that soften the impact. A trail also provides multimodal options for transportation." (HDR Engineering 2003.) Representatives of the City of West Bountiful also expressed a need for a parkway-type facility: "The landscaped berm and trail facilities adjacent to residential areas are very important to the City." (HDR Engineering 2003.) Farmington City also expressed a need for a parkway facility: "Farmington is very aesthetically minded and prefers a landscaped berm for noise mitigation." (HDR Engineering 2003.)

According to the local communities, a parkway-type facility is needed to help mitigate visual impacts and soften the look of the highway by blending it with the surrounding landscape. The parkway concept includes landscaping that would incorporate the use of native vegetation, a raised berm, and trees and shrubs to buffer the view of the roadway. A highway design without these features would be less aesthetically pleasing and would not serve the needs of the local communities.

1.3.2 Trails

In addition to serving transportation purposes, the Legacy Parkway Trail is consistent with the CSS approach. UDOT has developed a statewide policy that provides for planning of pedestrian and bicycle facilities (Utah Department of Transportation 2003b). UDOT is responsible for evaluating the benefits of incorporating bicycle and pedestrian trails into the transportation system. This responsibility includes defining where facilities are appropriate on the highway system; determining any additional right-of-way requirements; and incorporating facilities as they become economically, environmentally, and functionally feasible. The state long-range transportation plan provides a statewide perspective of the overall network that is a useful guide for community efforts. As part of the CSS, UDOT considers walking and cycling in its system planning and during project design (Utah Department of Transportation 2003b).

There are numerous existing and proposed trails in the North Corridor that would benefit from a continuous north-south trail to link them with developments and communities. Every city in the North Corridor along the proposed alignments has expressed support for a trail system to add amenities and recreation opportunities to the area. In addition, many community plans show the need for a Legacy Parkway Trail to link with other communities in the area. Without a continuous north-south trail, the proposed community trails would not provide the necessary link to other communities and would thus be inconsistent with community plans.

For example, the plans for the Foxboro development in North Salt Lake rely on the Legacy Parkway Trail to link this community to other communities in the area. Woods Cross City is planning to develop a trail that would tie into the Legacy Parkway Trail, with access at about 2425 South (Woods Cross City 2003). There are two equestrian centers in West Bountiful that are planned to access the Legacy Parkway Trail. West Bountiful City shows about 30 percent of its trails consisting of the proposed Legacy Parkway Trail, which would provide the needed overall link between trail systems in the city (HDR Engineering 2003). Centerville City's master plan includes the Legacy Parkway Trail; however, no other formal plans regarding trails are being made at this time (Snyder pers. comm).

Further, the City of Farmington's trail master plan reflects the need for a Legacy Parkway trail (HDR Engineering 2003). Farmington expressed its support for the trail within the Legacy Parkway right-of-way, which would serve a new high school, developing residential areas, the Davis County Fairgrounds, and a new park, as well as tying into the extensive Farmington trails system (see Chapter 4, Section 4.7, *Pedestrian and Bicyclist Considerations*, for more information). Farmington pointed out that the proposed Legacy Parkway Trail would offer an effective alternative mode of transportation to Farmington residents looking for an alternative way to travel south to work in the Centerville and Bountiful areas. Farmington noted that other trail locations would not work as well (HDR Engineering 2003).