Section 1: Purpose and Need

The Hyde Park to North Logan Transportation Corridor Draft Environmental Impact Statement (DEIS) was published in March 2007. The Final Environmental Impact Statement (FEIS) was nearly finalized in the fall of 2008 when the project was put on hold due to a lack of funding. A reevaluation was completed in October 2010, which concluded that changes to the project would not result in additional impacts to those already considered in the DEIS. The Federal Highway Administration (FHWA) determined that a supplemental EIS was not required.

The text in this FEIS is based on the text of the preliminary FEIS, and generally remains as it was originally drafted in 2008. Results of the reevaluation are provided in italicized text at the end of this section (Section 1.9). The updated text has been italicized to notify the reader that they are reading the most recent information about the project. For a complete description of the project’s purpose and need, it is necessary to read both the un-italicized text that was prepared for the FEIS in 2008 and the italicized text describing project updates.

Introduction

In accordance with the National Environmental Policy Act (NEPA) regulations codified in 40 Code of Federal Regulations (CFR) 1502.13, the Purpose and Need section “…briefly specifies the underlying purpose and need to which the agency is responding in proposing the alternatives including the proposed action.”

A Steering Committee (Appendix A), generally consisting of the Cities of Hyde Park and North Logan, the Cache Metropolitan Planning Organization (CMPO), the Utah Department of Transportation (UDOT), and FHWA prepared this FEIS. This FEIS addresses and evaluates a three-mile segment of a proposed new transportation corridor paralleling U.S. Highway 91 (US 91) between 1400 North in Logan, Utah to 3700 North in Hyde Park, Utah. US 91 is the only major north-south facility between the communities in Cache Valley which also continues on to the Idaho border.

The existing transportation network and improvements have not kept pace with the growth that has occurred in the communities of Logan, North Logan, Hyde Park and the regional Cache Valley area. US 91 has experienced increased congestion and delay, each of which compromise transportation mobility and safety. The study area has no other continuous north-south roads to alleviate the projected increase in vehicular traffic on US 91. In addition, there is insufficient infrastructure to support planned development.

1.1 STUDY AREA BACKGROUND

The study area for this project extends from 1400 North to 3700 North and from US 91 to 400 East and includes the three municipalities of Hyde Park, North Logan, and Logan (Figure 1.1-1).
Figure 1.1-1: Study Area
Hyde Park and North Logan are situated north of Logan in the urbanized heart of Cache Valley. Cache Valley is located in the northeastern corner of Utah and is also known as Bridgerland. Cache Valley is an elongated valley nestled between the Wellsville Mountains to the west and the Bear River Mountain Range to the east at the northern end of the Wasatch Front. The Logan River flows through the Logan Canyon and out into the marshes on the valley floor.

Cache Valley has traditionally been rural with agricultural influences; in fact, in Utah, Cache Valley currently ranks in the top five for agricultural cash receipts by county (2005 Economic Report to the Governor). However, recent growth and urbanization has led to a decline in the valley’s agricultural uses. Many agricultural landowners are looking at potential development opportunities to produce needed revenue from their land.

Cache County has a population close to 100,000 including the students of Utah State University (USU). The population increase from 1990 to 2000 was 30 percent and projections suggest the population will increase 43 percent from 2000 to 2030 (CMPO 2025 LRTP).

The main campus of USU is located in Logan. However, the expansion of the USU Innovation Campus is planned for the south-central portion of North Logan, situated just outside the study area. The master plan for the Innovation Campus indicates a planned expansion to more than 150 acres.

The only major north-south transportation route from North Logan to Hyde Park is US 91. US 91 is a five-lane facility with curb and gutter that has many commercial access points. A second north-south road is 400 East, which is a two-lane facility that provides for limited traffic from North Logan to Hyde Park. A third north-south road is 200 East, which is a two-lane facility from Logan to 1800 North in North Logan. However, it is not continuous throughout the study area. 200 East does not extend beyond 1800 North with the exception of a segment from 2500 to 2700 North.

1.2 PURPOSE

The purpose of the project is to improve mobility and provide transportation infrastructure that also supports economic development within the study area. The project purpose can be specifically defined as follows:

- Provide a higher functioning continuous north-south corridor within the study area.
- Improve mobility within the study area.
- Enhance local and regional connectivity of Hyde Park, North Logan, and neighboring communities.
- Support local economic and development goals.
1.2.1 Provide a higher functioning continuous north-south corridor within the study area.

A higher functioning north-south facility provides safer access to businesses off of US 91, provides improved mobility of US 91, and provides better connectivity between the communities, resulting in shorter trips.

1.2.2 Improve mobility within the study area.

Improving mobility means improving traffic flow. Traffic flow as defined by American Association of State Highway and Transportation Officials (AASHTO) is the volume flow rate in vehicles, the average speed, and the traffic density in vehicles through a given facility over a specific timeframe. Based on input from the stakeholders, the proposed action must also incorporate pedestrian and bicycle facilities. Transit opportunities will be considered also in conjunction with the Logan and Cache Valley Transit Districts.

1.2.3 Enhance local and regional connectivity of Hyde Park, North Logan, and neighboring communities.

Connectivity provides opportunities for residents of Hyde Park and North Logan for socialization, shopping, employment, and recreation access. The proposed action should provide an alternate route to US 91 for short trips within the study area while also providing opportunities for regional north-south connectivity.

1.2.4 Support local economic and development goals.

The proposed action must provide transportation infrastructure necessary to support local economic and development goals. Cities rely on economic development to provide services to its residents. Without economic development opportunities and resulting tax revenue, local governments find it difficult to fund capital improvement projects or provide and maintain services for the community.

1.3 NEED

Through extensive collaborative efforts amongst stakeholders, the following needs were identified to help define the proposed action.

- Provide a transportation facility that is consistent with the goals and recommendations in the Cities’ general plans and CMPO 2025 Long Range Transportation Plan (LRTP).
- Improve the north-south traffic flow in the study area.
- Improve public safety for US 91 ingress and egress.
- Provide additional access to properties within the study area for economic development.
- Reduce congestion on US 91.
- Provide bicycle and pedestrian access within the study area.
- Accommodate future transit service.
Extensive public meetings, outreach efforts, steering and scoping meetings, and supporting planning processes were conducted and documented in the public involvement process to establish these needs (Section 7). These needs are summarized and discussed below in Section 1.3.1 through 1.3.7. Analysis and substantiation of the needs was conducted by the project Steering Committee and is provided in Sections 1.5 through 1.7.

1.3.1 Future roadways must be consistent with the Cities’ General Plans and CMPO 2025 LRTP.

Area planning studies identify specific needs for transportation improvements within the study area. Hyde Park City and North Logan City have updated their general plans within the last 3 to 7 years. These plans were developed with extensive community public involvement, planning commission review and council approvals. Each community plan has a transportation element which specifically describes the need for a roadway parallel to US 91. Each community plan is further discussed in Section 1.5.

1.3.2 Improve the north-south traffic flow in the study area.

During the scoping meetings, a majority of attendees and stakeholders recommended improved north-south access. Because there is a general preference to avoid the US 91 traffic congestion for short-distance north-south trips, the public recommended an alternate route to improve traffic flow. This is discussed further in Section 1.6.2.

1.3.3 Improve public safety for US 91 ingress and egress.

Although the existing crash data does not exceed expected crash rates for this type of facility, the perception of users is US 91 is too congested and unsafe. Safety and access to many of the commercial uses on US 91 in the study area is currently complicated by high traffic volumes and congestion. Without improvements, projected traffic volumes on US 91 will affect access to commercial properties. This is discussed further in Section 1.6.3.

1.3.4 Provide additional access to properties within the study area for economic development.

Substantial vacant undeveloped property is located throughout the study area. Both Hyde Park City and North Logan City have planned for future residential, commercial, and light industrial development in the study area. Properties along the west portion of the study area are presently zoned commercial for existing and future economic development. Property owners have concerns about UDOT’s access policy along US 91 and have requested additional access by means other than directly from US 91. Reasonable access would be granted consistent with UDOT’s access management policy along the build alternative selected through the NEPA process. Economic development is discussed further in Section 1.7.2.
1.3.5 **Reduce congestion on US 91.**

Based on the CMPO traffic projections and the project team’s traffic model, US 91 will decline to Level of Service (LOS) F within the study area by year 2025. This indicates substantial congestion along this important commercial facility, further impeding the ability for safe access onto US 91. The CMPO LRTP recommended a continuous north-south roadway in the vicinity of 200 East to improve the congestion on US 91. This is discussed further in Section 1.7.4

1.3.6 **Provide bicycle and pedestrian access within the study area.**

Hyde Park City and North Logan City have both identified in their general plans the need to provide and improve opportunities for pedestrian and bicycle use within the study area. Specific goals are discussed further in Section 1.7.5 and should be considered in the proposed action.

1.3.7 **Accommodate future transit service.**

During scoping efforts the transit districts indicated any new transportation facilities should consider, where appropriate, future transit services and facilities. Therefore, the transportation network that develops within the study area should plan for and accommodate future transit needs. This need is supported in Section 1.7.6.

1.4 **LOGICAL TERMINI**

FHWA regulations outline three general principles in 23 CFR 771.111(f) that are to be used to determine the limits (logical termini) of the proposed action.

“In order to ensure meaningful evaluation of alternatives and to avoid commitments to transportation improvements before they are fully evaluated, the action evaluated in each environmental impact statement shall:

1. Connect logical termini and be of sufficient length to address environmental matters on a broad scope;
2. Have independent utility or independent significance, i.e., be usable and be a reasonable expenditure even if no additional transportation improvements in the area are made; and
3. Not restrict consideration of alternatives for other reasonably foreseeable transportation improvements.”

The Hyde Park to North Logan Transportation Corridor would begin at 200 East on the south end of the study area starting at 1400 North going northward and terminating between 150 East and 200 East on the north end at 3700 North, a length of 2.9 miles. 1400 North is a logical southern terminus because it is a major east-west roadway (State Route 239 [SR-239]). 3700 North is a logical northern terminus because it is also a major east-west route (SR-237) into and out of the center of Hyde Park. The logical termini were reviewed and approved by the FHWA based on the following considerations described below (Appendix A).
1.4.1 Logical Termini Connections
The project identifies connectivity on or near the existing roadway of 200 East in Logan at 1400 North. To the south, 200 East extends all the way through Logan, terminating at the south end of the city. It is the only north-south roadway, besides US 91, with this capability. All other north-south roads have gaps or terminate within the city.

The location of the northern terminus at 3700 North would enable a future roadway connection to the north, as defined in the general plans of Hyde Park and Smithfield, and in the LRTP. The location of a future roadway alignment to the north of the project would likely be located between 150 East and 250 East because of existing residential developments and segments of dedicated Hyde Park City right-of-way located in this area.

This project provides needed roadway improvements within the North Logan/Hyde Park area, offering a north-south alternative to US 91. Total length of the project is 2.9 miles, which is of sufficient length to improve connectivity between Hyde Park, North Logan, and Logan. The roadway would provide a secondary route for commuters between Logan, North Logan, and Hyde Park. It would also provide an alternative route for commuters from Smithfield and areas north of Smithfield.

1.4.2 Independent Utility or Significance
The project would have independent utility and significance. The proposed action would be to provide additional access to businesses between US 91 and 400 East other than US 91 from Logan to the Hyde Park area.

The project connects to existing 200 East in Logan at 1400 North. 1400 North provides access to USU and to the Logan Regional Hospital, and 1400 North and 200 East provide access to other major points of business and commerce in the Logan and North Logan areas.

Substantial commercial, office, light industrial, and residential development is presently occurring and planned within the study area. Because of access management requirements on US 91, a parallel roadway is important for access to these anticipated developments.

1.4.3 Consideration of Alternatives for Other Reasonably Foreseeable Transportation Improvements
Locating the northern terminus on 3700 North between 150 East and 200 East would not restrict future transportation improvements to the north and is consistent with the Cities’ general plans and the LRTP. Having the terminus further to the east on 3700 North than currently anticipated would bring the terminus into a park and school area, substantially affecting the ability for future connectivity to the north.

The Cities of Hyde Park and North Logan have encouraged the CMPO to consider completing the planned Hyde Park to North Logan Transportation Corridor as a high priority. The original
LRTP was to extend the northern terminus into Smithfield. However, due to financial constraints of the CMPO budget, the terminus was adjusted to 3700 North to meet the immediate transportation needs of the CMPO, Hyde Park, and North Logan. The project would not preclude future improvements as indicated in the CMPO’s and Cities’ general plans (i.e. 100 East extension between 1800 North and 2500 North, and a new roadway at 3100 North between US 91 and 400 East).

1.5 AREA PLANNING STUDIES

Planning documents concerning the study area include the UDOT Statewide Transportation Improvement Program (STIP), CMPO 2025 LRTP, Hyde Park 2000 General Plan, North Logan 2001 General Plan, Smithfield Comprehensive Plan, North Logan New City-Center Plan, Logan City General Plan, and the USU Innovation Campus Plan. The relationship between this project and the various plans are described below and in Section 1.7. While each plan varies in its description of transportation goals, they all recognize the need for a roadway parallel to US 91, increased mobility, and to foster economic development opportunities.

1.5.1 UDOT Statewide Transportation Improvement Program (UDOT STIP FY 2004-2008)

The UDOT STIP is a five-year plan of highway and transit projects for the state of Utah. The STIP is published every year and includes transportation projects on the state, city, and county highway systems, as well as projects in the national parks, national forests, and Indian reservations. These projects use various federal and state funding programs.

The STIP serves two basic purposes. First, it documents Utah’s compliance with the requirements of the current federal surface transportation legislation, the 2005 Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU). It is the basis for approval of federal-aid highway and transit funds by the FHWA and the Federal Transit Administration (FTA). Second, it is UDOT’s official work plan for all transportation projects, including environmental studies, right-of-way acquisition, planning, and advertising for construction.

The current STIP (2006 through 2010) identifies the following priority highway improvement projects for Cache Valley: 100 East from 300 South in Logan to Providence Lane/100 North in Providence; 100 East from 400 North (SR-89) in Logan to 300 South in Logan; 250 East from 3600 North in Hyde Park to 600 South in Smithfield; 200 East from 2500 North in North Logan to 3600 North in Hyde Park; 200 East from 1400 North (SR-89) to 2500 North in North Logan; Short Dugway SR-89 in Logan to 300 North in Logan; and spot improvement projects.
1.5.2 CMPO 2025 LRTP

The CMPO is the organization responsible for transportation planning for the Logan Urbanized Area (LUA) in Cache County. The CMPO, in cooperation with FHWA, FTA, UDOT, and the Logan Transit District (LTD), must complete a metropolitan transportation plan to ensure continued federal funding of transportation projects within the LUA. As required by federal regulations, the CMPO develops a LRTP which is updated every three years. The LRTP is a financially constrained transportation plan, with at least a 20-year timeframe, of anticipated roadway and transit needs in a specific area. Transportation needs are based on projected and planned socioeconomic and land use growth within a region. The LRTP includes only those highway and transit facility improvement projects that can be funded over the next 20 years.

The LRTP recommends creating a new transportation corridor along 200 East. Due to the length and complexity in addressing all of 200 East in a single project, it was divided into six feasible project segments by the CMPO, starting at 400 North in Logan and ending at 400 South in Smithfield (Figure 1.5-1). The proposed action, between 1400 North to 3700 North (study area), includes two of these six segments (4 and 5). These segments have a higher priority due to the potential for cost-effective mobility enhancements and the recent population growth and development pressure in Hyde Park and North Logan.

The Cities of North Logan, Hyde Park, and the CMPO have communicated that the completion of Segments 4 and 5 is time-critical due to multiple publicly and privately funded projects pending and the need to coordinate transportation infrastructure improvements in the region.

Segments 1, 2, and 3 are within Smithfield and central Hyde Park and will be constructed at a later time as development demands occur in that area. Smithfield City chose not to begin development of these segments until the southern connections are completed. Thus, the project, extending from 1400 North to 3700 North, was approved by the CMPO as ready to move forward and be funded within the STIP.

1.5.3 Hyde Park 2000 General Plan

Hyde Park City’s General Plan, adopted in 2000, incorporates the CMPO LRTP. It states, “The roadway system of this General Plan is supportive with the CMPO LRTP. Federal funds administered by the CMPO will help the City to develop parts of the General Plan” (Hyde Park 2000 General Plan).

The Hyde Park General Plan identifies that the major problem of their transportation system is automobile circulation. “There is a lack of adequate arterial streets both east and west, and north and south. The only major through street to the south is US 91... Other streets are proposed which will alleviate much of the problem” (Hyde Park 2000 General Plan).
Figure 1.5-1: CMPO Top Ten Projects

SOURCE: CMPO 2025 LONG RANGE PLAN
The general plan is very specific about the city’s need for additional north-south collectors. It states, “The U.S. Highway 91 functions as a funnel for north-south traffic. It has become a barrier dividing the City from its western extremities. This busy street has also made development along this facility more difficult” (Hyde Park 2000 General Plan).

Hyde Park City’s goal is to develop several new north-south roads that will allow better flow of traffic. Planned transportation facilities are required to accommodate growth in the study area and are described in the City’s general plan as follows:

- “U.S. 91. This roadway is the region’s only north-south major arterial. It is the only high-volume/high-speed roadway. It needs to be preserved as such and City planning efforts are focused on limiting and controlling access along this facility.”
- “50 East. This road is designated as a valley-wide collector by the Cache Metropolitan Planning Organization. The General Plan anticipates that the development of collector roads at 1200 East and 200 East will accommodate enough north-south traffic to eliminate the need for the 600 East collector road. If funds for this road are made available before other collectors can be developed, the City will continue to resist this as a priority collector and encourage funds directed to the other eastern and western collectors.”

Hyde Park City needs the proposed action to be compatible with their transportation goals to the north of 3700 North. They have master planned a future extension to this area and have deeded or set aside property for the future roadway connection.

### 1.5.4 North Logan 2001 General Plan

North Logan City’s General Plan specifies the “purpose of the transportation plan is to design, implement, and maintain a continuing, comprehensive, and cooperative surface transportation network that will facilitate the orderly, efficient, and safe movement of goods and services, pedestrians, and vehicular traffic to include, without limit, passenger, commercial, emergency, and human-powered vehicles both within and without the community, in order to promote the health, welfare, and general prosperity of the City of North Logan.” North Logan City also recognizes the necessity of looking at a cooperative flow of traffic both into and out of the community as demonstrated in this statement: “All north-south roads through North Logan now function and will continue to function to link the communities in the Cache Metropolitan area (Nibley through Smithfield). Because of this, major collectors should be planned for anywhere it is feasible” (North Logan 2001 General Plan).
North Logan City identifies north-south major street requirements in Section 14.11 of the general plan as follows:

- 100 East should be developed as a standard collector between 1800 and 2200 North to provide additional access to businesses located between Main and 200 East.
- 200 East from 1500 to 1800 North shall be designed as at least a standard collector but widened, where possible, to the width of a minor arterial. From 1800 to 2500 North it shall be designed as a minor arterial, providing valuable traffic movement around the city’s commercial district. From 2500 to 3100 North it should be developed as a standard collector. This street will bend to the west to about 150 East just north of 2700 North to accommodate plans for a potential future high school campus and recreational areas between 2900 – 3100 North and 150 – 200 East.

1.5.5 Smithfield Comprehensive Plan 1997

The 1997 Smithfield Comprehensive Plan’s transportation objectives directly address connecting Smithfield south to Hyde Park and beyond to Logan via an eastern parallel road east of and parallel to US 91 to divert some of the travel demand away from US 91. To provide the needed connectivity, links north to Smithfield must remain open and accessible so that a seamless connection is achieved and an eastern roadway parallel to US 91 between Smithfield and Providence is possible.

Smithfield City last updated its Comprehensive Plan in October 1997. It is currently in the process of updating the plan again. The update addresses the need to extend the existing roadway system to reduce traffic on US 91 or Smithfield’s Main Street. The Plan identifies 455 East and 250 East as two roads east of Main Street planned for extension southward connecting Smithfield to Hyde Park.

Additional trailways are recommended on the east side of Smithfield, connecting to the south, to improve bicycle access through Hyde Park and North Logan into Logan.

1.6 EXISTING TRANSPORTATION NETWORK

This section describes the existing transportation system, its various modes, and how these modes are connected and interrelate to form the overall transportation network (Figure 1.6-1).

1.6.1 Existing Roadways

Figure 1.6-1 identifies the regional and local transportation network consisting of state routes, local arterials, and collectors. Principal roads in and around North Logan and Hyde Park that contribute to or influence the study area are described below.

- US 91 is a major arterial in the study area with four-lanes plus a center turn lane. Currently it is the only major north-south route from North Logan to Hyde Park. It is the main route traversing Cache Valley. Controlled intersections along US 91 are located at 1400 North (SR-239), 1800 North, 2200 North, and 3700 North (Hyde Park Lane).
Figure 1.6-1: Existing Regional and Local Roadway System
• 200 West is classified as a minor arterial which primarily serves the industrial land uses to the west of US 91. Future improvements identify that this road be widened to a four lane facility between 2500 North in North Logan and 600 South in Smithfield. It currently is not a continuous route between 2200 North and 3600 North.

• 400 East connects North Logan with Hyde Park and is heavily used. Although, not originally planned or constructed as an arterial road, it is used as an alternative route to US 91 due to the lack of other parallel north-south roads. 400 East connects with 100 West in Hyde Park and is not contiguous through the study area.

• 200 East is a two-lane, non-contiguous facility within the study area. Aside from US 91, 200 East is the only roadway that extends from the southern portion of Logan all the way through Logan to the north end of North Logan. 200 East terminates at 1800 North in North Logan, with a small segment reappearing from 2500 North to 2700 North. Connecting and extending 200 East would provide a second north-south roadway through the Cache Metropolitan area. South of Logan, the communities are developing corridor plans to extend 200 East or a connection to 100 East to Providence.

• The 100 East/200 East South Extension is a project currently identified in the Logan City General Plan. According to the plan, extending either 200 East or 100 East further south across the Logan River might help divert some local traffic from US 91. Traffic studies need to examine the impacts if 200 East is extended south of Center Street. Additionally, traffic flow near the Logan Temple needs to be addressed and the current terminus at East Center Street needs to be evaluated.

• 1400 North traverses east-west through a major retail/commercial area of North Logan. It connects 100 West with 400 East. This road will continue to perform an integral function to the system as a whole. According to the North Logan 2001 General Plan, this is a rapidly developing east-west arterial roadway. Currently it is four lanes east of US 91 to 800 East. USU has requested that the four-lanes be extended to 1200 East to better serve university activities. Traffic volumes on 1400 North are increasing dramatically and presenting congestion and safety problems. This road will serve as a major arterial for Logan and North Logan and connect the commercial and manufacturing areas of the west side along 1000 West with residential areas to the east. It will also serve as a connection to the airport.

• 1800 North also traverses east-west through the study area and connects residential and commercial development areas to US 91.

• 2200 North traverses east-west through the study area and beyond. It also provides connectivity of residential and commercial areas within the study area.

• 2500 North traverses east-west through the study area and beyond. It also provides connectivity of residential and commercial areas within the study area.

• 3700 North is a main east-west route in Hyde Park. It connects the eastern and western parts of the city and provides access to US 91.
1.6.2 Level of Service

LOS is a measure of the amount of congestion and subsequent delay a vehicle can expect to encounter at a certain time on a certain road. In an urban setting, it describes how efficiently a traffic facility (road) is operating. Since intersections are usually where the worst congestion occurs, LOS of the urban roadway is given by intersection.

The analysis of LOS is a means of quantitatively describing the quality of operational conditions of a roadway segment or intersection and the perception of these conditions by motorists and passengers. Service levels are identified by letter designation, A to F, with LOS “A” representing the best operating conditions or “free flow” conditions, LOS F represents the worst or “grid lock” conditions. Each LOS represents a range of operating conditions, and one or more Measures of Effectiveness (MOEs) are used to quantify the LOS of a roadway element. LOS definitions for roadways are described in Table 1.6-1.

<table>
<thead>
<tr>
<th>LOS</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Describes operations with very low delay. This LOS occurs when there is no conflicting traffic.</td>
</tr>
<tr>
<td>B</td>
<td>Describes operations with moderately low delay. This level generally occurs with a small amount of conflicting traffic causing higher levels of average delay.</td>
</tr>
<tr>
<td>C</td>
<td>Describes operations with average delays. These higher delays may result from a moderate amount of minor street traffic. Queues or “backups” begin to get longer but are generally accepted as normal by most drivers.</td>
</tr>
<tr>
<td>D</td>
<td>Describes a crowded operation, with delays higher than average. At level D, the influence of congestion becomes more noticeable. Longer delays may result from shorter gaps in mainline traffic and an increase of minor street traffic. The queues of vehicles increase.</td>
</tr>
<tr>
<td>E</td>
<td>Describes operations at or near capacity of the road.</td>
</tr>
<tr>
<td>F</td>
<td>Describes operations that are at the failure point. This level, considered to be unacceptable to most drivers, often occurs when actual traffic volumes exceed the capacity of the road or intersection.</td>
</tr>
</tbody>
</table>

Source: AASHTO

For intersections, the MOE used is average control delay (seconds) per vehicle. While there are several methodologies for estimating the LOS of intersections, the most commonly used is that presented in the Highway Capacity Manual (HCM) and is the methodology used in this study (HCM 2000). The HCM method is based on the capacity available to service the various movements at a signalized intersection based on the amount of green time provided for each movement, and any conflicting movements. For unsignalized intersections, delay is based on the availability of gaps in the major street to allow minor street movements to occur. As LOS declines, delays result in driver frustration and anxiety, loss of time, and increased fuel consumption. The HCM LOS criteria for signalized and unsignalized intersections are summarized in Table 1.6-2.
**Table 1.6-2: LOS Criteria for Intersections**

<table>
<thead>
<tr>
<th>LOS</th>
<th>Signalized Intersections</th>
<th>Unsignalized Intersections</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>&lt;=10</td>
<td>&lt;=10</td>
</tr>
<tr>
<td>B</td>
<td>&gt;10 - &lt;20</td>
<td>&gt;10 - &lt;15</td>
</tr>
<tr>
<td>C</td>
<td>&gt;20 - &lt;35</td>
<td>&gt;15 - &lt;25</td>
</tr>
<tr>
<td>D</td>
<td>&gt;35 - &lt;55</td>
<td>&gt;25 - &lt;35</td>
</tr>
<tr>
<td>E</td>
<td>&gt;55 - &lt;80</td>
<td>&gt;35 - &lt;50</td>
</tr>
<tr>
<td>F</td>
<td>&gt;80</td>
<td>&gt;50</td>
</tr>
</tbody>
</table>


### 1.6.2.1 LOS Goals

Each community can set a minimum LOS standard for roadway operations. This is typically LOS C for rural areas and LOS D for urban areas and is reflective of driver expectations for these two conditions. Generally accepted standards indicate that major unsignalized intersection approaches can operate at LOS E or better; however, if alternative access points with better conditions are available, then a LOS F may be acceptable at a specific location. For a signalized intersection, a LOS D is acceptable.

### 1.6.2.2 Existing Capacity and LOS on Key Roads

The Cache County travel demand forecasting model was developed in 1998 and is the basis of existing and future operational evaluations in the LRTP. Under present conditions, there is really only one north-south route that passes through the study area: that being US 91. Traffic volumes on US 91 are currently at 30,000 vehicles per day. This road experiences LOS D for the most part throughout the corridor, but reaches LOS E and LOS F at certain locations. This denotes a failure in the existing system to accommodate the present traffic volumes. The public has voiced concern for congestion in the southern portion of the study area as commercial development expands to the north. There is already a feeling among users that US 91 is too congested and unsafe.

All other roadways within the study area are operating under existing conditions at LOS C or better.

### 1.6.3 Roadway and Safety Deficiencies

There are no arterial streets and few local streets serving the study area between US 91 and 400 East. A portion of 200 East exists from 1400 North to 1800 North. This section primarily serves commercial, light industrial, and high density housing. 200 East then picks up again at 2500 North to 2700 North serving mostly mobile homes or single-family residential. There is a small segment of 300 East from 2500 North to 2700 North, also serving single-family residential. These roadways are primarily two-lane facilities with curb, gutter, and sidewalk. The pavement appears to be in good condition. With the exception of US 91, there are no complete connecting roadways that extend north beyond the study area.
East-west roadways within the study area consist of 1400 North (SR-239) at the southerly end, 1800 North, 2200 North, 2500 North, 2600 North in North Logan, and 3700 North (Hyde Park Lane, SR-237) at the north end of the study area in Hyde Park.

The average number of crashes per year from 1999-2003 that occurred along US 91 from 1500 North to 3700 North was 250. The average daily traffic (ADT) for the same stretch of road was about 30,000 vehicles. The expected crash value for a principal arterial is 7.60 (Highway Crash Expected Value Analysis, 2003). The crash history does not point to an excessive or unexpectedly high number of crashes within the study area.

**1.7 NEED FOR MOBILITY IMPROVEMENTS**

A major concern with the transportation system is poor automobile circulation due to lack of adequate arterial streets both east-west and north-south in the study area. The only major north-south through street is US 91, a four-lane highway with a center median that acts as a funnel for north-south traffic in Hyde Park and North Logan. High traffic volumes, delay and access constraints on US 91 have resulted in increased traffic on 400 East and 800 East. These facilities are being used as alternative routes, though they are not adequately constructed to accommodate existing and future traffic volumes.

Transportation improvements have been identified by the Cities as a priority to meet their needs for growth and development in their general plans. Continued preservation of community character and fostering economic opportunities is a constant challenge for these communities. To meet these challenges, Hyde Park City’s and North Logan City’s General Plans both identify entrance gateways and intersection enhancements as areas where improvements should be made. Adjacent development will attract businesses and add to the appeal and beauty of the cities.

Historically, 3700 North has been the gateway to Hyde Park. North Logan City has planned 2500 North as its gateway. City enhancements identified may involve roadway alignments, traffic lights, entrance signage, street lighting, walkways, street landscaping, and special entrance landscaping. Attracting destination-oriented traffic and providing access to businesses for shoppers; as well as providing access for employees, delivery trucks, and maintenance, utility, and emergency vehicles is of key concern.

**1.7.1 Population Growth**

Hyde Park and North Logan were small rural agricultural communities for almost 100 years. From 1860 to 1940, the population grew very slowly. By the 1960s, however, the economy and the population began to increase. Rapid growth occurred for the next 35 years. In the year 2000, state officials predicted that growth would level off (according to the CMPO 2025 LRTP, estimates for Hyde Park were 2 to 2.5 percent per year or 20 homes per year). The following discussion identifies the population trends that have occurred for North Logan and Hyde Park.
North Logan

From 1990 to 2000, the population of North Logan grew from 3,768 to 6,163, a growth rate of 64 percent or approximately 240 new citizens per year. Average household size was 3.92 in 1990 and dropped to 3.47 in 2000.

The corporate limits of North Logan encompass 4,338 acres. As of 1990, agriculture was the dominant land use, followed by residential areas and streets. Institutional land uses was the third most common land use (for the USU Innovation Campus). It is predicted that agricultural land use will decline and that the commercial district adjacent to US 91 will expand (CMPO 2025 LRTP).

Hyde Park

From 1990 to 2000, the population of Hyde Park grew from 2,190 to 2,955, a growth rate of 35 percent or approximately 77 new citizens per year. Average household size was 3.94 in 1990 and dropped to 3.79 in 2000.

The rate of urbanization within Hyde Park is almost six times greater in 2000 than prior to 1977. From 1860 to 1977, land was urbanized at the rate of 2.7 acres per year. From 1977 to 1997, land was urbanized at 15.9 acres per year. At the 1997 rate of urbanization (29.6 acres consumed by residential growth each year), the remaining residential areas of the city will be filled to capacity by the year 2051 (CMPO 2025 LRTP).

Table 1.7-1 summarizes the 1990–2030 population projections by municipality for the CMPO. Table 1.7-2 summarizes the increase in housing units and decrease in average household size by municipality from 1990–2000.

Table 1.7-1: 1990 – 2030 Population by Municipality

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>North Logan City</td>
<td>3,768</td>
<td>6,163</td>
<td>6,910</td>
<td>9,263</td>
</tr>
<tr>
<td>Hyde Park City</td>
<td>2,190</td>
<td>2,955</td>
<td>3,237</td>
<td>3,900</td>
</tr>
<tr>
<td>Logan City</td>
<td>32,762</td>
<td>42,670</td>
<td>44,372</td>
<td>59,013</td>
</tr>
<tr>
<td>Cache County</td>
<td>70,183</td>
<td>91,391</td>
<td>143,615</td>
<td></td>
</tr>
</tbody>
</table>

Source: CMPO 2025 LRTP, 2005 Economic Report to the Governor
Table 1.7-2: 1990 – 2000 Population and Housing Unit Growth by Municipality

<table>
<thead>
<tr>
<th>Municipality</th>
<th>1990 Average Household Size (persons)</th>
<th>1990 Census Dwelling Units</th>
<th>2000 Average Household Size (persons)</th>
<th>2000 Census Dwelling Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>North Logan City</td>
<td>3.92</td>
<td>961</td>
<td>3.47</td>
<td>1,778</td>
</tr>
<tr>
<td>Hyde Park City</td>
<td>3.94</td>
<td>555</td>
<td>3.79</td>
<td>779</td>
</tr>
<tr>
<td>Logan City</td>
<td>3.06</td>
<td>10,706</td>
<td>2.90</td>
<td>14,692</td>
</tr>
<tr>
<td>Cache County</td>
<td>3.27</td>
<td>21,462</td>
<td>3.15</td>
<td>29,048</td>
</tr>
</tbody>
</table>

Source: CMPO 2025 LRTP

1.7.2 Economic Development

Transportation’s role in economic development can be evaluated by first understanding the role future development has in creating and meeting local government’s fiscal needs and by assessing the reliance of future development on expanded transportation networks and facilities. The transportation improvements that increase traffic volumes result in increased visibility and access that can directly affect a business’ success.

Hyde Park City, North Logan City, and Logan City are seeking to expand their economic bases and much of their interest in development occurs within the study area (Figure 1.7-1). The challenge for North Logan and Hyde Park is to grow at a controlled pace that maintains community values and character. To maintain these characteristics, the communities must have economic development keep pace with residential growth in order to pay for public services.

The Cache County Land and Water Conservation Fund (LWCF) property is a pivotal piece of land for economic development opportunities for Hyde Park and North Logan Cities. Current discussions and conceptual planning have already occurred for future opportunities with this property. An anticipated agreement among North Logan City, Hyde Park City, Cache County and the Utah Bureau of Recreation (UBOR) involves the recreation land currently owned by Cache County and acquired through the UBOR. The memorandum of understanding being developed involves the following elements:

- The Cities and County agree to allow the annex of LWCF property currently owned by the County. The land will be annexed such that some of the land will be in North Logan and some in Hyde Park.
- North Logan City plans to zone the land west of 200/150 East as General Commercial. Hyde Park City plans to zone the land west of 200/150 East as Commercial. The rest of Hyde Park’s land east of 200/150 East would be zoned to allow only those recreational type of land uses that are consistent with UBOR requirements for continued recreational use.
- In return, both North Logan City and Hyde Park City will be trading property to the County that is appropriate for recreation.
Figure 1.7-1: Area Planning Developments
North Logan New City-Center Plan

In April 2004, North Logan City hosted a two-day workshop regarding the development of a new city-center. Several urban planning concepts were discussed regarding the creation of a walkable downtown and identification of potential civic amenities and economic development areas. The results of the workshop identified two potential community development nodes: a new city-center, and a community development center.

The primary node for the city-center development would be within the study area between 1800 North and 2000 North and between 200 East and 400 East. City-center concept plans include a walkable downtown with a new city hall, several restaurants, an open-air market within city green space, and multi-family residential development.

The community development node was identified along the east side of the study area between 2400 North and 2600 North and between 400 East and 500 East. This part of the city already offers community facilities, including the North Logan City Library and the Greenville Elementary School. Additional community facilities could be developed.

The Cache Valley Initiative

The Cache Valley Initiative is a cooperative effort between government and private enterprise led by the Cache Valley Chamber of Commerce to develop a community and economic development plan to be implemented in the next five years. The initiative has identified the following three priorities:

- Telecommunication Access.
- Air Transportation Access – develop an expanded corporate, cargo, and regional destination airport.

The Cities within the LUA are all working together through their planning processes to help solve the recognized transportation problem in Cache Valley. Not only are the government agencies cooperating through the CMPO but private enterprise and government are working together to maximize resources and develop programs to create economic development opportunities while preserving the cultural agrarian community for the Cache Valley area. Figure 1.7-1 identifies the collaborative planning and economic development opportunities within the study area.

1.7.3 Employment Growth

The Governor’s Economic Report indicates Utah is lagging behind the Mountain West’s 1.5 percent projected growth with 0.1 percent economic growth from October 2002 to October 2003. The service industries showed growth in 2003 with education and health services leading all sectors with 2.2 percent growth, followed by government and financial sectors with 0.7 percent growth. The weakest sector was mining with a 4.1 percent contraction followed by
manufacturing with a 1.6 percent contraction. The projection for 2004 is for Utah to resume job growth after two years of contraction with a 1.4 percent increase in employment. Construction and education and health services are projected to lead the recovery.

Over the last quarter century, USU has been a contributing factor in North Logan and Hyde Park exceeding national, state and local average annual economic growth rates. USU appears to be leading the local economic recovery in employment.

The USU Innovation Campus is within the southern boundary of North Logan and is planning for substantial expansion over the next decade. Its function as an education facility and the physical construction of the USU Innovation Campus expansion are leading employment growth sectors outlined in the Governor’s Economic Report. The USU Innovation Campus is in a state of rapid, well-planned expansion. It is expanding from 38 acres to encompass development of 150+ acres. By the year 2044 it is planned to have 8,000 to 10,000 employees. Future plans include a hotel, a conference center, a business service arena and a science learning center. In an interview with the Innovation Campus Administrator it was brought out that the Hyde Park to North Logan Transportation Corridor would be a short-term solution to accommodate their expansion plans and keeping with City and CMPO plans is important. However, long-term they identify that improvements will be needed on 400 East and 800 East (see Figure 1.7-1 on page 1-20).

1.7.4 Future LOS

The CMPO 2025 LRTP sets average annual population growth for the area at 2 percent. This equates to traffic growth also generally increasing at about 2 percent annually. Travel demand modeling projects traffic growth and resulting conditions throughout the study area into the 2025 design year. The LRTP initially began in 1995, and had an analysis window of 30 years. Thus the end date of the plan was set at 2025.

The traffic volume on US 91 is projected to be 38,500 vehicles per day in 2025 and travelers will experience conditions of LOS F for most of its length within the study area. Portions of 1400 North and all of 1800 North within the study area are predicted to operate at LOS D.

The LRTP indicates the addition of a roadway parallel to US 91 within the study area and in the vicinity of 200 East will improve future congestion on US 91 by diverting travel demand to a parallel roadway. If the LRTP 2025 proposed facilities are implemented, US 91 will experience no worse than a LOS D in the study area, with some areas at an LOS C. A roadway in the vicinity of 200 East, being extended from North Logan to Hyde Park, would experience between LOS A and LOS C along its length.
All other roadways in the vicinity of the study area will operate at LOS C or better with the LRTP proposed improvements. Table 1.7-3 exhibits the LOS that will be experienced by key roads within the study area in 2025.

Table 1.7-3: Projected LOS for Key Roads in the Study Area for 2025 with LRTP Proposed Improvements

<table>
<thead>
<tr>
<th>Road</th>
<th>LOS</th>
</tr>
</thead>
<tbody>
<tr>
<td>400 East</td>
<td>A to C</td>
</tr>
<tr>
<td>200 West</td>
<td>A or B</td>
</tr>
<tr>
<td>1400 North</td>
<td>C</td>
</tr>
<tr>
<td>1800 North</td>
<td>A to C</td>
</tr>
<tr>
<td>2200 North</td>
<td>A to C</td>
</tr>
<tr>
<td>2500 North</td>
<td>A or B</td>
</tr>
<tr>
<td>3700 North</td>
<td>A or B</td>
</tr>
<tr>
<td>US 91</td>
<td>D</td>
</tr>
</tbody>
</table>

Source: CMPO LRTP, 2000

1.7.5 Bicycle, Pedestrian and Equestrian Use

Hyde Park and North Logan Cities have both identified in their general plans the need to provide and improve opportunities for pedestrian and bicycle use within the study area. The use of bicycles for recreation as well as a primary source of transportation has increased within the communities.

Residents support and encourage City officials to actively promote equestrian, walking, and bicycling trails throughout the community. They indicate a trail system should be connected to parks, open space, USU, shopping areas, schools, and the Cache National Forest.

Both Cities have discussed the desire to develop a community-wide bicycle and pedestrian trail. In each of the Cities’ general plans there are specific goals identified to achieve pedestrian and bicycle transportation opportunities. These include:

- Transportation cycling (performed in compliance with Utah Code 41-6-87)
- Space for safe lane sharing
- Bicycling only on designated multiuse trails
- Encouraged use of Logan and Cache Valley Transit Districts bus services
- Pedestrian sidewalks
- Future public transit needs will increase. City officials should promote mass transit to reduce traffic congestion.
- The commercial district should have pedestrian and bicycling traffic with status equal to vehicular traffic, including pedestrian and bicycling safety and planning features.
- City streets should be both functional and aesthetic. Improvement plans should use innovative means of calming traffic and providing safe access for pedestrians and bicyclists.
1.7.6 Public Transit

There are three major public transit operations in the region:

- LTD Fixed Route and Paratransit services
- Cache Valley Transit District Fixed Route and Commuter and Lifeline services
- USU Fixed Route Aggie Shuttle

As of spring 2005, the Cache Valley Transit District system comes the closest to providing connectivity between Hyde Park and North Logan with bus service traveling north-south between the two communities on 800 East before shifting west to US 91 at 3700 North (service then continues on to Richmond where the line ends its service). Bus stops currently available include North Logan City Hall and 167 East 3700 North. The LTD provides service as far north as 1800 North in North Logan. Current ridership has grown to 1 million passenger trips per year. With the increase in business development and issues such as safety and relief of congestion on US 91, and a stated desire for connectivity amongst the communities of Hyde Park and North Logan, increased bus transit seems to be a needed service.

1.8 PURPOSE AND NEED SUMMARY

The compilation of baseline information on future population growth in the Cache Valley area, future travel demand and traffic growth, and planned economic development, reveals that there are existing and projected future transportation problems in the study area, and that there is a need for transportation improvements.

Maintaining a community is important to City officials and the residents within the study area. The purpose of this proposed action is to improve mobility and provide a transportation infrastructure to support economic development within the study area and enhance local and regional connectivity through the year 2030.

Mobility within the study area needs to be improved. Hyde Park and North Logan both have surpassed 2000-2005 growth projections and continue to do so (Section 1.7.1). Population projections identify a 43 percent growth by the year 2030. These are moderate projections. Based on the past trend of both residential and commercial development occurring on agricultural land it is conceivable that these projections will be surpassed.

Maintaining and providing the opportunity for expanded economic development is critical for Cities to provide services to their residents. Economic development relies on a comprehensive and well-connected transportation network. Several vacant properties that exist within the study area have been identified for economic development uses for both Hyde Park and North Logan (Figure 1.7-1 on page 1-20).

Currently, the only major north-south corridor is US 91 which provides regional and local connectivity. This facility already is performing at LOS of E and LOS F during peak hours. Without relief, it is projected to perform at LOS F by 2025 along the full length of the study area.
1.9 UPDATE TO PURPOSE AND NEED

This section describes updates to the project’s purpose and need. Overall, the purpose and need for the project have not changed since the preliminary FEIS text was written in 2008. However, some of the supporting information to the project’s purpose and need has changed, including the following topics discussed in this section:

1. Area Planning Studies
2. Existing Transportation Network – A portion of 200 East was constructed
3. Need for Mobility Improvements – North Logan Community Development Area (CDA) Plan
4. Updated 2009 CMPO Travel Demand Model
5. Design Year 2040 Traffic Projections

1.9.1 Update to Area Planning Studies

CMPO 2030 Regional Transportation Plan

CMPO recently updated its Regional Transportation Plan (RTP) to 2030. The fiscally constrained plan indicates that improvements for 200 East within the project boundaries of 1400 North and 3700 North are within Phase 1 (2007–2015) of the 20- to 25-year forecast of needed projects within the region. This segment of new roadway remains a priority to the region.

North Logan City General Plan

North Logan City updated their general plan in 2008. The plan remains consistent with its intent to provide an additional north-south facility near 200 East.

1.9.2 Update to Existing Transportation Network

Since the completion of the DEIS and the 2008 preliminary FEIS, North Logan City has constructed a two-lane section of 200 East from 1800 North to 2200 North. The newly constructed roadway consists of a travel lane and bike lane in each direction, a center median, and a trail/sidewalk on the east side. The two outside travel lanes, and the majority of the sidewalks, curb and gutter, will be added later, probably as development occurs. This new roadway includes a roundabout at 1800 North and 200 East.

1.9.3 Update to Need for Mobility Improvements

Economic Development – North Logan Redevelopment Area

In 2007, North Logan City approved a CDA Project Area Plan between US 91 and 400 East and between 1900 North and 2500 North (see Figure 3.1-5 in Section 3 of this document). The purpose of the CDA is to accommodate substantial new development that will attract private capital investment, contribute to the tax base, and contribute to the economic vitality and prosperity of the community. Most of the existing commercial development in North Logan is located along US 91 where approximately 70 percent of the frontage has been developed. According to the CDA plan, future commercial development is planned mainly between 100 East and 200 East from 1900 North to 2500 North, and between 200 East and 400 East from 2000 North to 2200 North.
1.9.4 2009 CMPO Travel Demand Model

Since the completion of the DEIS and the 2008 preliminary FEIS, the CMPO travel demand model has been updated several times, most recently in 2009. Additionally, CMPO has updated the RTP for the year 2030. The 2009 model has been utilized to forecast traffic conditions in the study area for a design year of 2040. The updated 2009 CMPO travel demand model and the 2030 RTP provide an overview for the socioeconomic growth within the study area. Traffic forecasts and socioeconomic growth incorporate many elements of the project’s purpose and need. The updated model’s traffic results and growth projections are discussed below including any updates to the project’s purpose and need.

The 2009 CMPO travel demand model update included substantial changes to the model structure and the socioeconomic data in comparison to the 2005 CMPO travel demand model used for the DEIS. The number of traffic analysis zones (TAZs) increased from 134 in the 2005 model to 310 in the 2009 model. (TAZ refers to a unit of analysis based on census tracts used in transportation planning models.) The geography of the TAZs was also modified to be consistent with the 2010 U.S. Census geographies.

Population

Although the dispersion of households and population is different between the TAZs in the 2005 and 2009 models, both models resulted in similar total households and total population forecasts. The similar results of total population and households between the models indicate that the 2009 model is slightly more conservative in its projected population and household growth than the 2005 model. However, the 2009 model assumes an additional 8,500 jobs within the study area by 2040. This increase in employment is consistent with the development of parcels that has occurred within the study area since the DEIS.

Based on the 2030 RTP, population growth for North Logan, Hyde Park, and Logan is projected to increase more rapidly than what was projected in the DEIS, which was based on the 2025 LRTP. Table 1.9-1 outlines the 2030 projections for each city in the study area and Cache County.

Overall, population, employment, and households continue to grow within the study area. Although the 2009 model indicates that total population and households may be increasing at a slightly slower rate than that described in the DEIS for the TAZs within the study area, each municipality is growing faster than previously projected in the DEIS. This increase in population, households, and employment supports the project’s purpose and need. Specifically, it supports the need for mobility improvements as described in Section 1.7.

Table 1.9-1: Population Projections per Municipality (Update)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>North Logan</td>
<td>3,768</td>
<td>6,163</td>
<td>8,466</td>
<td>13,728</td>
<td>61%</td>
</tr>
<tr>
<td>Hyde Park</td>
<td>2,190</td>
<td>2,955</td>
<td>3,927</td>
<td>6,201</td>
<td>63%</td>
</tr>
<tr>
<td>Logan</td>
<td>32,762</td>
<td>42,670</td>
<td>48,657</td>
<td>81,530</td>
<td>61%</td>
</tr>
<tr>
<td>Cache County</td>
<td>70,183</td>
<td>91,391</td>
<td>111,873</td>
<td>181,921</td>
<td>59%</td>
</tr>
</tbody>
</table>

Source: U.S. Census Bureau, Population Estimates, Governor’s Office of Planning and Budget, 2008 Baseline Projections
1.9.5 Design Year 2040 Traffic Projections

Traffic volumes were projected using the 2009 CMPO traffic demand model and then compared to the 2005 CMPO traffic demand model results documented in the DEIS. The updated 2009 traffic projections assumed a design year of 2040, whereas the DEIS assumed a design year of 2025. Overall, the 2040 traffic forecasts using the 2009 CMPO model are generally consistent with the 2025 traffic forecasts documented in the DEIS, as depicted in Table 1.9-2. Slight differences can be attributed to the varying capabilities and assumptions between the two models. One item to note is the 2005 forecasted traffic volumes for alternatives with speed limits of 35 mph and 45 mph. The different speeds for each alternative were used to approximate different roadway functional classifications since the 2005 CMPO model used for the DEIS was not capable of modeling corridors with different facility types or travel speeds. The 2009 CMPO model, however, varies the roadway speed and capacity based upon the functional classification and surrounding land use. For the updated traffic projections, 200 East was modeled as a minor arterial.

Table 1.9-2: Traffic Volume Comparison (Update)

<table>
<thead>
<tr>
<th>Roadway</th>
<th>Segment</th>
<th>2008 Volumes*</th>
<th>2040 Volumes (2009 CMPO Model)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>No Build</td>
<td>No Build</td>
</tr>
<tr>
<td>200 East</td>
<td>1400 N – 1800 N</td>
<td>5,787</td>
<td>10,000</td>
</tr>
<tr>
<td></td>
<td>1800 N – 2200 N</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td>2200 N – 2500 N</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td>2500 N – 3700 N</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>US 91</td>
<td>1400 N – 1800 N</td>
<td>28,210</td>
<td>47,000</td>
</tr>
<tr>
<td></td>
<td>1800 N – 2200 N</td>
<td>28,210</td>
<td>40,000</td>
</tr>
<tr>
<td></td>
<td>2200 N – 2500 N</td>
<td>28,210</td>
<td>43,000</td>
</tr>
<tr>
<td></td>
<td>2500 N – 3700 N</td>
<td>28,685</td>
<td>40,000</td>
</tr>
<tr>
<td>400 East</td>
<td>1400 N – 1800 N</td>
<td>4,400</td>
<td>10,000</td>
</tr>
<tr>
<td></td>
<td>1800 N – 2200 N</td>
<td>1,600</td>
<td>4,000</td>
</tr>
<tr>
<td></td>
<td>2200 N – 2500 N</td>
<td>2,100</td>
<td>4,000</td>
</tr>
<tr>
<td></td>
<td>2500 N – 3700 N</td>
<td>2,300</td>
<td>3,000</td>
</tr>
</tbody>
</table>

Note: Model volumes rounded to the nearest thousand based on modeled speed and capacity class defined by functional classification in the CMPO model.

*2009 model results

The updated 2040 volumes are higher on US 91 and 200 East than the 2025 traffic forecasts. The higher volumes are consistent with the projected increase in employment within the study area. The 2040 volumes on 400 East are slightly lower than the 2025 projections. This may be due to the adjustment that was necessary in the 2005 model to project to a design year of 2025. Although there are slight variances between the 2025 volumes and 2040 volumes, the results do not indicate a change in the project’s need to improve mobility within the study area. Traffic volumes along US 91 are projected to increase by 64 percent from 2008 No Build conditions to 2040 No Build conditions.
In terms of LOS, Table 1.9-3 outlines existing roadway facilities within the study area, the projected 2040 LOS, and the DEIS 2025 projected LOS. The DEIS 2025 LOS has been included in the table to serve as a comparison to the newly updated 2040 traffic projections for the study area. Overall, the LOS for each roadway listed in Table 1.9-3 will worsen compared to what was documented in the DEIS. LOS on US 91 will be an E or F by 2040. The project’s need to improve mobility in the study area and reduce congestion on US 91 remains valid based on the updated traffic data.

Table 1.9-3: Study Area LOS (Update)

<table>
<thead>
<tr>
<th>Roadway</th>
<th>LOS (DEIS 2025 projections)</th>
<th>LOS (updated 2040 projections)</th>
</tr>
</thead>
<tbody>
<tr>
<td>400 East</td>
<td>A to C</td>
<td>C to D</td>
</tr>
<tr>
<td>200 West</td>
<td>A or B</td>
<td>C</td>
</tr>
<tr>
<td>1400 North</td>
<td>C</td>
<td>C</td>
</tr>
<tr>
<td>1800 North</td>
<td>A to C</td>
<td>C</td>
</tr>
<tr>
<td>2200 North</td>
<td>A to C</td>
<td>C</td>
</tr>
<tr>
<td>2500 North</td>
<td>A or B</td>
<td>C</td>
</tr>
<tr>
<td>3700 North</td>
<td>A or B</td>
<td>C</td>
</tr>
<tr>
<td>US 91</td>
<td>D</td>
<td>E to F</td>
</tr>
</tbody>
</table>

1.9.6 Update to Purpose and Need Summary

The purpose and need for the project focuses on mobility and a transportation network that support economic development in the Cache Valley area. The updated 2009 CMPO traffic demand model forecasts for design year 2040, and the updated socioeconomic data supports the project’s purpose and need to:

- Reduce traffic congestion on US 91.
- Improve mobility within the study area.
- Enhance local and regional connectivity of Hyde Park, North Logan, and neighboring communities.
- Support local economic and development goals.