Chapter 1: Purpose and Need

This Environmental Assessment (EA) has been prepared to evaluate the benefits and impacts of the Proposed Action, in accordance with the National Environmental Policy Act (NEPA) of 1969 and federal regulation 23 CFR 771. The NEPA process provides procedures to analyze the potential environmental, social, and economic impacts of the Proposed Action.

1.1 Proposed Action

Logan City, Utah, in cooperation with the Federal Highway Administration (FHWA) and the Utah Department of Transportation (UDOT), is proposing to make transportation improvements to the 200 East corridor between Center Street and 300 South. As described in Section 1.4, the purpose of this project is to enhance transportation connectivity for both vehicular and non-motorized transportation, to correct geometric deficiencies, and to improve operational deficiencies so that this portion of the 200 East corridor can function as a major collector. The Cache Metropolitan Planning Organization (CMPO) Long Range Transportation Plan (LRTP) classifies this section of the 200 East corridor as a major collector, as does Logan City’s Transportation Master Plan (TMP) (Figure 1.1-1, CMPO LRTP Map).

1.2 Background

Logan’s transportation network is configured on a street grid to improve overall transportation capacity of the system. Gaps in the street network’s grid system limit the capacity of the transportation system so that it does not fully meet the area’s travel demand. Community and regional planning efforts have identified that a continuous north-south corridor through the Cache Metropolitan Area, east of Main Street (SR-89/91), is needed to accommodate travel demand. These planning efforts further determined that 200 East presents the best opportunity for providing a regional north-south facility and for adding transportation capacity east of SR-89/91.

The 200 East corridor has been identified on the CMPO LRTP and Logan City’s TMP to become a facility that provides continuous regional connectivity parallel to SR-89/91. These local plans call for a continuous transportation corridor from Millville to Smithfield along 200 East. To accommodate the projected traffic volumes, these plans further identify that 200 East should be a major collector south of 1000 North within Logan and a minor arterial north of 1000 North. Currently, 200 East is continuous only between Center Street and 2300 North. There are numerous other sections of the corridor where 200 East is discontinuous or does not currently exist. For example, 200 East does not connect at the intersection of Center Street and 200 East; travelers must detour along Center Street and Pioneer Avenue to continue travel along 200 East.

To meet the vision of the transportation plans described above, other municipalities are also evaluating improvements and extensions for sections of 200 East. For example, an Environmental Impact Statement (EIS) is being prepared for an extension of 200 East from 1400 North in Logan to 3700 North in Hyde Park. The Proposed Action examined in this Logan 200 East EA is another incremental step to implementing the 200 East corridor as a regional transportation facility.
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Figure 1.1-1, CMPO LRTP Map
1.2.1 Study Area
The Study Area is the area evaluated for impacts in this EA and includes the area bounded by 100 North, 400 South, Main Street (SR-89/91), and 400 East (Figure 1.2-1, Study and Project Area). The Study Area boundaries were defined to include a broad area of the community where potential impacts of the Proposed Action can be assessed.

The Study Area is predominantly comprised of single family residential land use with a few commercial and recreational land uses. Commercial land uses occur primarily along Main Street and between 100 East and 200 East on Center Street. Recreational land use within the Study Area includes three city owned parks: Garff Wayside Gardens, Pioneer Parkway, and Merlin Olsen Central Park.

1.2.2 Project Area
The Project Area lies within the Study Area and is the area where improvements are proposed. The Project Area is approximately 0.38 miles in length and extends along 200 East from Center Street to 300 South (Figure 1.2-1, Study and Project Area). The Project Area is also located in a predominantly low-density residential neighborhood and contains Merlin Olsen Central Park and Pioneer Parkway.

1.3 Need for the Project
The transportation needs for the Project were identified by Logan City, the CMPO, and the public. The needs include a lack of vehicular and non-motorized connectivity for all modes of travel, geometric deficiencies, and operational deficiencies.

Both the CMPO and Logan City identify 200 East as becoming a regional facility for Cache County between Millville and Smithfield. 200 East does not provide all of the transportation elements between 200 South and 300 South to meet Logan City’s roadway standards for a major collector.

Determination of Transportation Elements
The CMPO is responsible for transportation planning for the urbanized Cache Valley area. In conjunction with the local municipalities, the CMPO designates roadway functional classification for roads with regional significance. The CMPO’s definition for major collector is “primarily provides connection between minor arterial and other collector streets and streets of higher classifications and secondarily provides access to abutting property. It carries low-to-moderate vehicular movement, low-to-heavy bicycle movements, and moderate-to-heavy bicycle movement, and low-to-moderate transit movement. It has street trees, street lighting, and sidewalks. It may also include landscaping, pedestrian-scale lighting, and overhead or underground utilities.” The municipalities then determine standardized roadway elements for each of the roadway classification.

Transportation Planning Definitions
Regional Transportation Facility:
Transportation infrastructure that provides connectivity through much of region.

Functional Classification:
A system that delineates streets into groups according to the character of the service they are intended to provide.

Major Collector:
One of a number of functional classification designations for roadways.
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Figure 1.2-1, Study and Project Area
Major collectors function as substantial links in the transportation system and generally provide the following elements:

- Major collectors typically occur in residential areas, but can occur in commercial areas.
- Major collectors typically have an associated need for on-street parking.
- Major collectors accommodate vehicular travel with one through travel lane in each direction and a required continuous two-way left turn lane.
- Major collectors serve pedestrians for both intra-neighborhood and inter-neighborhood trips (sidewalks are included on both sides of the street).
- Major collectors typically serve as bicycle corridors, therefore space is provided for bicyclists to safely ride in the street.
- Major collectors within urban areas require curb and gutter to collect storm water runoff.
- Park-strips or landscaped areas between the street and sidewalk are necessary to maintain the character of the neighborhoods, and the entire community.

The CMPO identifies 200 East through the project area as a major collector. Logan City has adopted the following standard cross-section roadway elements for a major collector: 11-foot center turn lane, two 11-foot travel lanes, two 11-foot parking/bike lanes, 2.5-foot curb and gutter, 8-foot park strips, 5-foot sidewalks, and a 1-foot buffer past sidewalks (Figure 1.3-1, Cross-section for a Major Collector).

To accommodate projected traffic volumes, 200 East would need to be consistent with its classification as a major collector. A lack of connectivity and the presence of both geometric deficiencies and operational deficiencies currently prevent 200 East (from Center Street to 300 South) from functioning as a regional collector.

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1Logan City has gained experience with different parking configurations through roadway improvements over the years. They have determined that on-street parking is a crucial need on major collectors. This experience is demonstrated by those corridors where they have eliminated on-street parking and the City has experienced persistent problems with complaints and illegal parking (Appendix A, Public Safety Memo).
Figure 1.3-1, Cross-section for a Major Collector (Logan City’s Standard)
facility. Current travel demands result in failing operations at specific locations. Future traffic projections result in failing operations by 2030 throughout the Project Area (Appendix B, Traffic Study). To accommodate the projected traffic volumes, and to function so that it is consistent with its current classification as a major collector, 200 East would need to possess the critical roadway elements described above.

### 1.3.1 Lack of Connectivity

#### Vehicular Connectivity

As described above, both the CMPO’s LRTP and the Logan City TMP identify 200 East as a facility to provide continuous regional connectivity for the Cache Valley. 200 East does not currently connect between Center Street and 100 South, nor does it extend beyond 350 South. For north-south travel along 200 East, vehicles wind around Pioneer Avenue and Center Street to continue north or south. This roadway configuration results in a lack of connectivity and continuity for travelers along the 200 East corridor and presents future operational deficiencies that limit the corridor’s ability to meet travel demand. North of Center Street, 200 East is continuous to approximately 2300 North in North Logan and is planned to extend further north to the community of Smithfield. To the south, 200 East ends at 350 South. A connection beyond 350 South is identified as a separate future project, and ultimately 200 East is planned to extend to the community of Millville. The proposed connection of 200 East to Center Street described in this Proposed Action is an incremental improvement for developing 200 East as a regional transportation facility and, as such, serves a larger ultimate transportation need.

#### Bicycle Connectivity

The CMPO Pedestrian/Bicycle Master Plan identifies 200 East as a bicycle route and shows 200 East extending south through the intersection of Center Street and 200 East, as well as extending the entire length of the planned 200 East corridor. This Pedestrian/Bicycle Master Plan also identifies the need for other non-motorized facilities throughout the community. The Logan City TMP’s Bicycle and Pedestrian Chapter also identifies the need for non-motorized facilities throughout the City. The City has recognized that there are different types of cyclists ranging from commuters to recreational riders. In planning for the different types of cyclists, the TMP identifies 200 East as a proposed bikeway route for all users and specifies, “it is not prudent to plan or design bicycle facilities primarily or exclusively around the need of bicyclists at either end of the [commuter-recreational rider] spectrum.” Most recently, Logan City completed a pedestrian/bicycle trail northeast of the 200 East project on Boulevard Street, which would connect to this project and, ultimately, form a route along 200 East connecting to Utah State University. This plan also indicates that trailheads will be constructed at city parks, including Merlin Olsen Central Park and Pioneer Parkway, both within the Project Area.

Current conditions in the Project Area impede bicycle connections between non-motorized facilities and activity centers. These bicycle deficiencies include:

- The current configuration of the 200 East and Center Street intersection requires cyclists to wind around Pioneer Avenue and Center Street to continue along the 200 East corridor. This existing intersection configuration disrupts the direct connectivity of the designated bicycle route.
- The section of 200 East between 200 South and 300 South lacks sufficient width for bicyclists to safely travel (to connect to 300 South and areas south of the project) without conflicts with vehicular traffic or parked vehicles (The AASHTO Guide for the Development of Bicycle Facilities states that 11 feet is needed for areas of combined parking and bicycle traffic).
• While bicyclists do have space for on-street travel to the north along 200 East, and there are trails that terminate at the limits of this Project Area, connections for bicycle travel through the Project Area do not currently exist.

Pedestrian Connectivity
Logan City’s vision is for a “walkable” community. The CMPO Pedestrian/Bicycle Master Plan and Logan City’s TMP states that Logan is to fully provide for pedestrian travel throughout the community. Comments received during public involvement and community outreach activities indicate that there is a need for comprehensive pedestrian facilities and connectivity along all of Logan’s streets. In addition, attendees indicated that there is a need to provide improved pedestrian connections between activity centers, namely Merlin Olsen Central Park and Pioneer Parkway.

Current conditions in the Project Area impede pedestrian connections between non-motorized facilities and activity centers. The current configuration of the Center Street and 200 East intersection requires pedestrians to travel along Pioneer Avenue and Center Street to connect to the 200 East corridor. The existing intersection configuration disrupts the direct connectivity of pedestrian travel.

1.3.2 Geometric Deficiencies
Geometric deficiencies exist within the Project Area and currently limit 200 East from functioning as a north-south regional transportation corridor. Additionally, these geometric deficiencies currently preclude 200 East from functioning with all of the elements of a major collector. Logan City’s cross-section for a major collector includes roadway elements to provide adequate capacity to carry vehicular and pedestrian movements, sidewalks, parking/bike lanes, park strips, and street lighting. Logan City is steadfast in maintaining consistent elements for their roadway classifications throughout their city. Past deviations from roadway standards have resulted in community disapproval, enforcement issues, and continual complaints to city officials (Appendix A, Public Safety Memo). For example, the city has built narrower roadways in the past by eliminating on-street parking on Center Street. Since constructing this road section, the city has received continuing complaints about lack of parking and created enforcement issues for the City.

Inadequate Width, 200 South to 300 South
Geometric deficiencies within the Project Area are created by the sub-standard cross-section width from 200 South to 300 South (Figure 1.3-2, Existing Cross-section 200 South to 300 South). The current road width is 35 feet and the overall right-of-way width is 55 feet. This width is not sufficient to provide the necessary corridor elements previously described. The existing roadway contains two 11-foot travel lanes, no center turn lane, plus 6.5 feet between the travel lanes and the curb. This section is so narrow that when vehicles are parked on the street, there is only enough width for one-lane, one-way travel. This one-block section of 200 East is inconsistent with the planned purpose of the 200 East corridor and is inconsistent with the existing corridor to the north of the Project Area. If these inconsistencies in width are not corrected, the corridor cannot function as a major collector. Further, the inconsistencies present potential safety problems when traffic must negotiate in and out of the narrower cross-section. The inconsistent width presents travelers with an unanticipated condition, which contradicts driver expectations for a consistent cross-section.
Figure 1.3-2, Existing Cross-section 200 South to 300 South
Offset Intersection, 200 East and 200 South
The intersection at 200 East and 200 South is mis-aligned due to the inconsistent roadway width between 200 South and 300 South. Travel lanes do not line up from one side of the intersection to the other. The roadway width is inconsistent between the north and south legs of the intersection. The roadway width of 200 East between Pioneer Avenue and 200 South is 55 feet, whereas the roadway width of 200 East between 200 South and 300 South is 35 feet. This 20-foot change in roadway width results in an offset intersection alignment. North-south travel lanes through the intersection are directed towards on-coming traffic traveling along 200 East (Figure 1.3-3, Existing Conditions at 200 South and 200 East). The narrow cross-section offsets the intersection of 200 East and 200 South, thereby creating motorist sighting deficiencies and intermittent slowing or unpredictable speeds within this area of 200 East.

1.3.3 Operational Deficiencies
Operational deficiencies within the Project Area prevent 200 East from providing an acceptable Level of Service (LOS) of “D” or better and also prevent 200 East from functioning as a major collector. Currently, 200 East carries 8,160 Vehicles Per Day (VPD) north of Center Street and carries 500 VPD south of Center Street. The CMPO’s LRTP predicts that 200 East through the Project Area would carry 19,645 VPD in the year 2030. These predictions are based on the completion of planned improvements within the LRTP, including construction of 200 East south of the Project Area into Providence and Millville. Specific locations with operational deficiencies are described on the following pages.

Poor Operating Conditions at Center Street and 200 East
The intersection of 200 East and Center Street would not operate at an acceptable LOS for the current or future travel demand (Appendix B, Traffic Study). Currently, the southbound left-turn movement from 200 East to Center Street operates at a LOS “F” with an average delay of 201.6 seconds during the P.M. peak hour. If no changes are made to 200 East then traffic volumes would continue to increase at this
location. As traffic increases, the operating conditions will degrade further and intersection traffic movements would operate at a LOS “F”. The CMPO LRTP predicts that under the No-Build Alternative traffic volumes would exceed the capacity of all of the roadways entering the intersection and chronic congestion would exist. If the proposed action on 200 East is connected south of 300 South into Providence and Millville, all of the intersection traffic movements would operate at a LOS “F” by the year 2030 if no intersection improvements are made. Table 1.3-1, Current and Future LOS for Center Street and 200 East, identifies existing and future LOS for the intersection.

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**Level of Service (LOS)**

Level of Service (LOS) is a qualitative measure for describing operational conditions within a traffic stream, based on service measures such as speed and travel time, freedom to maneuver, traffic interruptions, comfort, and convenience (Highway Capacity Manual, 2000). LOS is graded from “A” to “F.” LOS “A” is considered excellent operating conditions and LOS “F” is heavy congestion. For planning purposes, the transportation planning agencies (UDOT and CMPO) use LOS “D” as a goal in urban areas.

**Poor Operating Conditions at 300 South and 200 East**

The intersection at 300 South and 200 East is operationally deficient because there are no separate turn lanes for any leg of the intersection. If no changes are made to 200 East, traffic volumes would continue to increase at this location. As traffic increases, the operating conditions would degrade and the intersection traffic movements would operate at a “LOS “C””. If 200 East is connected to the south into Providence and Millville, the 200 East traffic movements at the intersection would operate at a LOS “F” by the year 2030, if no improvements are made to the intersection. Table 1.3-2, Current and Future LOS for 300 South and 200 East, identifies existing and future LOS for the intersection.

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1.4 Purpose of the Project

The purpose of this project is to provide connectivity, correct geometric deficiencies, and improve operational deficiencies to allow the 200 East corridor to function as a major collector, as designated by the CMPO LRTP and Logan City’s TMP, and to function as a regional transportation facility.