Chapter 2: Alternatives

This chapter describes the alternatives that were considered for meeting the Purpose and Need of the Logan 200 East project, as described in Chapter 1. This chapter also outlines FHWA’s Logical Termi requirements and the process for screening proposed alternatives. The alternatives that were considered and eliminated from the study are detailed, as well as the No-Build Alternative and the Build Alternative(s) that are carried forward for thorough evaluation in this Environmental Assessment (EA).

2.1 Logical Termi

FHWA regulations outline the three general principles in 23 CFR §771.111(f) that are to be used to determine the limits (logical termini) of the Proposed Action. To ensure meaningful consideration of the alternatives, and to avoid commitments to transportation improvements before they are fully evaluated, the Proposed Action evaluated in each EA shall:

- connect logical termini and be of sufficient length to address environmental matters on a broad scope;
- 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
- not restrict consideration of alternatives for other reasonably foreseeable transportation improvements.

The proposed termini for the 200 East Project include a northern terminus at the intersection of Center Street and 200 East and a southern terminus at the intersection of 300 South and 200 East. These termini establish the general location limits of all alternatives considered in this EA. The proposed logical termini are based on the evaluation of each general principle outlined above.

2.1.1 Logical Termi Connections

The section of 200 East evaluated in this EA has direct connections to significant regional east-west roadways. At the northern terminus of 200 East, Center Street is classified by Logan City as a collector with three lanes, providing left-turn lanes at the intersections between Main Street and 600 East. Center Street provides east-west access between 600 West and the upper east bench of Logan, which is also traversed by north-south minor arterials and Collectors. 300 South, the southern terminus of the 200 East project, is classified by Logan City as a minor arterial with two travel lanes and left-turn lanes at SR-89/91 and 100 East. The 300 South roadway provides east-west access between 1000 West and 500 East and access south to the community of River Heights via Country Road.

2.1.2 Independent Utility or Significance

The project must be usable and be a reasonable expenditure of funds even if no additional transportation improvements are made in the area. The Proposed Action considered in this EA represents transportation improvements that meet the identified project’s Purpose and Need and have independent utility. The Proposed Action does not rely on additional area roadway improvements for implementation. There is one independent, ongoing project along the 200 East corridor - the North Logan to Hyde Park 200 East EIS. Logan City has also identified 200 East south of 300 South for improvements in the future to establish a continuous connection into Millville. The precise alignment and impacts will be subject to an independent evaluation.
2.1.3 Consideration of Alternatives for Other Reasonably Foreseeable Transportation Improvements

The Proposed Action would not limit the consideration of alternatives for other transportation improvements that may be proposed for area roadways. For example, one future transportation project identified in the CMPO LRTP is an extension of the 200 East roadway south into Providence and Millville. The Proposed Action would not limit or restrict the future consideration of this 200 East roadway extension. Furthermore, Logan City has already committed to improvements on 100 East and spot improvements at 200 East and 500 North, which are needed to address congestion, safety, access, and mobility in these respective corridors. These other projects have been or will be considered in separate engineering and environmental studies and will take place independent of the Proposed Action.

2.2 Overview of the Alternative Development Process

The initial alternatives were developed from existing land use and transportation plans and input from the public, Logan City, and resource agencies. Throughout the process, public input was solicited by a public involvement team. Stakeholder input was collected during three open house meetings, four meetings with a Community Advisory Committee (CAC), one-on-one visits with residents within the Study Area, and from comments that were submitted on the project’s public involvement website. A detailed description of this scoping process is included in Appendix C, Public Involvement Summary.

2.2.1 Description of Alternatives

The following Alternatives were considered for 200 East:

- No-Build Alternative
- Build Alternative 1: 100 East
- Build Alternative 2A: 200 East Signalized Intersection
- Build Alternative 2B: 200 East Roundabout Intersection
- Build Alternative 3: 300 East
- Build Alternative 4: 400 East
- Build Alternative 5: Transportation System Management (TSM)

No-Build Alternative

The No-Build Alternative is used as a baseline comparison for the Proposed Action. The No-Build Alternative is considered equally with all other alternatives and is considered a viable alternative throughout this analysis. The No-Build Alternative assumes 2030 traffic conditions with none of the improvements of the Proposed Action. Only routine maintenance and spot improvements would take place in this area. It is assumed that all other transportation projects planned in the CMPO LRTP would occur. These projects include transportation improvements along 200 East north of Center Street, widening 100 East and connecting it to Providence, connecting 200 East south of 350 South into Providence, and improving 400 East as a minor arterial between 200 North and 400 South. The No-Build Alternative is used as a baseline comparison for the Proposed Action.
Build Alternative 1: 100 East
Build Alternative 1 includes resurfacing and striping of 100 East from Center Street to 300 South consistent with Logan City’s standards for a major collector. No improvements would be made to the intersections and no additional right-of-way would be required.

Build Alternative 2A: 200 East Signalized Intersection
Build Alternative 2A includes transportation improvements along 200 East from Center Street to 300 South. These improvements include connecting 200 East south of Center Street, constructing a signalized intersection at 200 East and Center Street, improving the 200 East and 200 South intersection, improving the 200 East and 300 South intersection by adding turn-lanes, and widening 200 East from 200 South to 300 South to an 88-foot cross-section consistent with Logan City’s standards for a major collector.

Build Alternative 2B: 200 East Roundabout Intersection
Build Alternative 2B includes transportation improvements along 200 East from Center Street to 300 South. These improvements include connecting 200 East south of Center Street with a roundabout intersection. The proposed roundabout would be a 120-foot inscribed circle with a 20-foot wide roadway. This single-lane roundabout would have 16-foot entry and exit lanes. South of Center Street, improvements would be the same as Alternative 2A, which includes improving the 200 East and 200 South intersection, improving the 200 East and 300 South intersection by adding turn lanes, and widening 200 East from 200 South to 300 South to an 88-foot cross-section consistent with Logan City’s standards for a major collector.

Build Alternative 3: 300 East
Build Alternative 3 includes transportation improvements along 300 East from Center Street to 300 South. These improvements include the widening of 300 East to an 88-foot cross-section from Center Street to 300 South consistent with Logan City’s standards for a major collector.

Build Alternative 4: 400 East
Build Alternative 4 includes transportation improvements along 400 East from Center Street to 300 South. These improvements include widening 400 East to 88-feet from Center Street to 300 South consistent with Logan City’s standards for a major collector.

Build Alternative 5: Transportation System Management (TSM)
Build Alternative 5 includes transportation improvements at the intersection of Center Street and 200 East. These improvements include intersection signalization, striping, and designated turn lanes along the existing roadway alignments.

2.3 Initial Screening of Alternatives
The alternatives identified above were evaluated through a detailed screening process. The screening criteria applied were directly derived from the project’s Purpose and Need, as discussed in Chapter 1. These screening criteria are:

- Provide Connectivity – To satisfy this criterion, an alternative must provide both local and regional connectivity. To satisfy the local connectivity criterion, an alternative must create a continuous roadway from Center Street to 300 South. To satisfy the criterion of regional...
connectivity, an alternative must implement at least a portion of a regional facility and be consistent with regional plans.

- Correct Geometric Deficiencies – To satisfy this criterion, an alternative must meet the roadway standards set forth by the American Association of State Highway and Transportation Officials (AASHTO) and Logan City’s cross-section standards for a Major Collector.

- Correct Operational Deficiencies – To satisfy this criterion, an alternative must improve traffic operations at the 200 East and Center Street intersection and the 200 East and 300 South intersection to provide a LOS of “D” or better.

To be carried forward for study in this EA, an alternative must meet all elements of each screening criteria. The following table summarizes the alternatives considered during the screening process (Table 2.3-1, Screening of Proposed Alternatives).

**Table 2.3-1, Screening of Proposed Alternatives**

<table>
<thead>
<tr>
<th>Alternative</th>
<th>Provides Connectivity</th>
<th>Corrects Geometric Deficiencies</th>
<th>Corrects Operational Deficiencies</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Provides Local Connectivity</td>
<td>Provides Regional Connectivity</td>
<td></td>
</tr>
<tr>
<td>No-Build Alternative</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Build Alternative 1: 100 East</td>
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<td>No</td>
<td>No</td>
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<tr>
<td>Build Alternative 2A: 200 East</td>
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<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Build Alternative 2B: 200 East</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
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<tr>
<td>Build Alternative 3: 300 East</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
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<tr>
<td>Build Alternative 4: 400 East</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Build Alternative 5: TSM</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

2\*Because it can be economically infeasible to meet LOS C in urbanized areas, UDOT follows AASHTO recommendations and strives to maintain LOS D” (UDOT’s Long Range Transportation Plan 2007-2030).
2.3.1 No-Build Alternative
The No-Build Alternative does not meet any of the screening criteria and therefore does not meet the project’s Purpose and Need. Although the No-Build Alternative does not meet the project’s Purpose and Need, NEPA requires that the No-Build Alternative be carried forward for evaluation. The No-Build Alternative will serve as a baseline for comparison to the Proposed Action.

2.3.2 Build Alternative 1: 100 East
Build Alternative 1 meets the following screening criteria:

- Provides local connectivity. 100 East provides continuous travel from Center Street to 300 South.

Build Alternative 1 does not meet the following screening criteria:

- Provides regional connectivity. 100 East is discontinuous at 800 North and is not identified as a regional facility in the CMPO’s LRTP or Logan City’s TMP.
- Corrects geometric deficiencies at the intersection of 200 East and 200 South. No improvements would be made at this location.
- Corrects geometric deficiencies along 200 East between 200 South and 300 South. No improvements would be made at this location.
- Improves operational deficiencies at the intersection of 200 East and Center Street. No improvements would be made at this location and this alternative would not improve the LOS at this intersection.
- Improves operational deficiencies at the intersection of 200 East and 300 South. No improvements would be made at this location and this alternative would not improve the LOS at this intersection.

Build Alternative 1 was eliminated from further evaluation because it does not meet all of the screening criteria based on the project’s Purpose and Need.

2.3.3 Build Alternative 2A: 200 East Signalized Intersection
Build Alternative 2A meets all of the screening criteria as follows:

- Provides local connectivity. 200 East would provide continuous travel from Center Street to 300 South.
- Provides regional connectivity. 200 East would provide continuous travel from 2300 North to 300 South and is identified as a regional facility in the CMPO LRTP and Logan City’s TMP.
- Corrects geometric deficiencies at the intersection of 200 East and 200 South.
- Corrects geometric deficiencies along 200 East between 200 South and 300 South.
- Improves operational deficiencies at the intersection of 200 East and 300 South.
- Improves operational deficiencies at the intersection of Center Street and 200 East.

Build Alternative 2A meets all of the screening criteria and was therefore carried forward for further evaluation in this EA.
2.3.4 Build Alternative 2B: 200 East Roundabout Intersection

Build Alternative 2B meets the following screening criteria:

- **Provides local connectivity.** 200 East would provide continuous travel from Center Street to 300 South.
- **Provides regional connectivity.** 200 East would provide continuous travel from 2300 North to 300 South and is identified as a regional facility in the CMPO LRTP and Logan City’s TMP.
- **Corrects geometric deficiencies at the intersection of 200 East and 200 South.**
- **Corrects geometric deficiencies along 200 East between 200 South and 300 South.**
- **Improves operational deficiencies at the intersection of 200 East and 300 South.**

Build Alternative 2B does not meet the following screening criteria:

- **Corrects operational deficiencies at the intersection of 200 East and Center Street.** The proposed roundabout fails to provide an acceptable LOS at the intersection of 200 East and Center Street. Under 2030 traffic volumes, all legs would experience major delays, with one leg performing at a LOS “F” (Appendix B, Traffic Study).

Build Alternative 2B was eliminated from further evaluation because it does not meet all of the screening criteria based on the project’s Purpose and Need.

2.3.5 Build Alternative 3: 300 East

Build Alternative 3 meets the following screening criteria:

- **Provides local connectivity.** 300 East provides continuous travel from Center Street to 300 South.

Build Alternative 3 does not meet the following screening criteria:

- **Provides regional connectivity.** 300 East is discontinuous at Center Street and is not identified as a regional facility in the CMPO LRTP or Logan City’s TMP.
- **Corrects geometric deficiencies at the intersection of 200 East and 200 South.** No improvements would be made at this location.
- **Corrects geometric deficiencies along 200 East between 200 South and 300 South.** No improvements would be made at this location.
- **Improves operational deficiencies at the intersection of 200 East and Center Street.** No improvements would be made at this location and this alternative would not improve the LOS at this intersection.
- **Improves operational deficiencies at the intersection of 200 East and 300 South.** No improvements would be made at this location and this alternative would not improve the LOS at this intersection.

Build Alternative 3 was eliminated from further evaluation because it does not meet all of the screening criteria based on the project’s Purpose and Need.
2.3.6 Build Alternative 4: 400 East
Build Alternative 4 meets the following screening criteria:

- Provides local connectivity. 400 East provides continuous travel from Center Street to 300 South.

Build Alternative 4 does not meet the following screening criteria:

- Provides regional connectivity. 400 East is discontinuous at 100 North.
- Corrects geometric deficiencies at the intersection of 200 East and 200 South. No improvements would be made at this location.
- Corrects geometric deficiencies along 200 East between 200 South and 300 South. No improvements would be made at this location.
- Improves operational deficiencies at the intersection of 200 East and Center Street. No improvements would be made at this location and this alternative would not improve the LOS at this intersection.
- Improves operational deficiencies at the intersection of 200 East and 300 South. No improvements would be made at this location and this alternative would not improve the LOS at this intersection.

Build Alternative 4 was eliminated from further evaluation because it does not meet all of the screening criteria based on the project’s Purpose and Need.

2.3.7 Build Alternative 5: Transportation System Management (TSM)
Build Alternative 5 does not meet the following screening criteria:

- Provides local connectivity.
- Provides regional connectivity.
- Corrects geometric deficiencies at the intersection of 200 East and 200 South. No improvements would be made at this location.
- Corrects geometric deficiencies along 200 East between 200 South and 300 South. No improvements would be made at this location.
- Improves operational deficiencies at the intersection of 200 East and Center Street. No improvements would be made at this location and this alternative would not improve the LOS at this intersection.
- Improves operational deficiencies at the intersection of 200 East and 300 South. No improvements would be made at this location and this alternative would not improve the LOS at this intersection.

Build Alternative 5 was eliminated from further evaluation because it does not meet all of the screening criteria based on the project’s Purpose and Need. Elements of TSM, however, will be incorporated into the Proposed Action.
2.3.8 Conclusions from Alternative Screening

The screening of the Build Alternatives demonstrates that Build Alternatives 1, 2B, 3, 4 and 5 do not meet the project’s Purpose and Need. Build Alternative 5 does not meet any of the screening criteria. Build Alternatives 1, 3, and 4 do not meet the criteria to provide regional connectivity, correct geometric deficiencies and improve operational deficiencies. Build Alternative 2B does not meet the criteria to improve operational deficiencies at the intersection of 200 East and Center Street. Only Build Alternative 2A meets the project’s Purpose and Need and therefore was carried forward for further evaluation as the Preferred Alternative.

2.4 Preferred Alternative

Build Alternative 2A was identified as the Preferred Alternative by FHWA and Logan City because it meets all elements of the project’s Purpose and Need. Build Alternative 2A was refined through the public scoping process to include two pedestrian under-crossings, which are described below. The Preferred Alternative, detailed in Figure 2.4-1, Preferred Alternative, includes the following elements:

- This alternative would include construction of a new intersection at 200 East and Center Street, which includes connecting 200 East to the south of Center Street. A signalized intersection at 200 East and Center Street would include one through travel lane for all approaching directions, center-turn lanes, right-turn lanes, and designated pedestrian crosswalks (Figure 2.4-2, Proposed Intersection Design).
- A pedestrian under-crossing would be constructed under 200 East between Merlin Olsen Central Park and Pioneer Parkway. A second pedestrian under-crossing would be constructed under Center Street between Boulevard Street and Merlin Olsen Central Park.
- This alternative would also include construction of a roadway on the 200 East alignment from Center Street to 100 South. The roadway would have to be constructed at an approximate 3% slope to accommodate the notable change in elevation between Center Street and 100 South. Retaining walls would also be required for the roadway design (Figure 2.4-3, Proposed Roadway Profile). A fence would be constructed on the outside of the sidewalks for pedestrian safety (Figure 2.4-4, Proposed Cross-section Center Street to 100 South).
- Pioneer Avenue would terminate in a cul-de-sac and access for all existing uses would be maintained.
- The 200 East roadway between 100 South and 200 South would be resurfaced and striped to establish a uniform roadway cross-section throughout the corridor. Curb and gutter would be reconstructed and storm drainage facilities would be included.
- The offset alignment at the intersection of 200 South and 200 East would be corrected by widening the southern leg to match the northern roadway width. The stop signs at the intersection would be relocated to the east and west legs of the intersection.
- 200 East would be widened from 200 South to 300 South to meet Logan City’s standard cross-section for a major collector and to match the CMPO Pedestrian and Bicycle Master Plan. The proposed roadway design includes an 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 1-foot buffer behind sidewalks (Figure 2.4-5, Proposed Cross-section 200 South to 300 South).
- This alternative would include construction of intersection improvements at 300 South and 200 East, including left-turn lanes for both eastbound travel on 300 South and southbound travel on 200 East, and a right-turn lane on westbound 300 South (Figure 2.4-6, Proposed Roadway Alignment 200 South to 300 South).
Figure 2.4-1, Preferred Alternative

Legend
- Proposed Improvement Areas
Figure 2.4-2, Proposed Intersection Design
Figure 2.4-3, Proposed Roadway Profile
Figure 2.4-4, Proposed Cross-section Center Street to 100 South
Figure 2.4-5, Proposed Cross-section 200 South to 300 South
Figure 2.4-6, Proposed Roadway Alignment 200 South to 300 South