Section 5:   Section 4(f) Evaluation

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. Unlike the other sections of this FEIS, the Section 4(f) Evaluation in its entirety has been updated to appropriately reflect changes that have occurred on the project. The Preferred Alternative, Alternative 3 Modified, results in a de minimis impact to one Section 4(f) resource (the George S. Eccles Ice Center). It does not result in a complete use of any Section 4(f) resources. With only a de minimis impact, discussion of avoidance alternatives is not required. However, because the de minimis determination was made later during the Section 4(f) process, discussion is still included in this section.

Introduction

Section 4(f) of the Department of Transportation Act of 1966, declares that:

a) “It is the policy of the United States Government that special effort should be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites.

b) The Secretary of Transportation shall cooperate and consult with the Secretaries of the Interior, Housing and Urban Development, and Agriculture, and with the States, in developing transportation plans and programs that include measures to maintain or enhance the natural beauty of lands crossed by transportation activities or facilities” (49 USC 303).

In accordance with 23 CFR 774.3:

“The Federal Highway Administration may not approve the use, as defined in §774.17, of Section 4(f) property unless a determination is made under paragraph (a) or (b) of this section.

a) The Administration determines that:
   1. There is no feasible and prudent avoidance alternative, as defined in §774.17, to the use of land from the property; and
   2. The action includes all possible planning, as defined in §774.17, to minimize harm to the property resulting from such use; or

b) The Administration determines that the use of the property, including any measure(s) to minimize harm (such as any avoidance, minimization, mitigation, or enhancement measures) committed to by the applicant, will have a de minimis impact, as defined in §774.17, on the property.”

This section identifies Section 4(f) resources within the study area for the proposed Hyde Park to North Logan Transportation Corridor. It discusses potential impacts of the Proposed Action on each
Section 4(f) resource, analyzes avoidance alternatives to determine if they are feasible and prudent, and outlines measures to minimize harm to each Section 4(f) resource that cannot be avoided.

5.1 PROPOSED ACTION

The Proposed Action is to build a new north-south transportation corridor between Hyde Park, North Logan, and Logan in Cache County, Utah (Figure 5.1-1). The study area for the transportation corridor project is approximately 1,050 acres in size. It is located between 1400 North in Logan to the south and 3700 North in Hyde Park to the north, and between U.S. Highway 91 (US 91) to the west and 400 East to the east.

The proposed Hyde Park to North Logan Transportation Corridor is a Statewide Transportation Improvement Program (STIP) Project, No. STP-1232(1)1, that is federally funded. The Proposed Action is considered a high priority project in the Cache Metropolitan Planning Organization’s (CMPO) 2030 Regional Transportation Plan (RTP). The necessity of the Proposed Action is also identified in the general plans for Hyde Park, North Logan, and Logan.

5.1.1 Purpose and Need

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.

Through extensive collaborative efforts among 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 2030 RTP.
- 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 the needs for the project. These needs are summarized and discussed in Section 1.3 and Section 1.9 of the FEIS.
Figure 5.1-1
Vicinity Map

Thematic Data layers are from Utah AGRC and H.W. Lockner.
5.1.2 Alternatives Considered

Fourteen Build Alternatives were identified and evaluated through the public scoping process. During alternatives development, four Build Alternatives and the No Build Alternative were carried forward into the DEIS for further evaluation. Build Alternatives that were evaluated include Alternatives 3, 5, 6A, and 6B. During the reevaluation of the DEIS, a variation of Alternative 3 (Alternative 3 Modified) was proposed by North Logan City. This alternative is referred to as Alternative 3 Modified and has been evaluated in detail. All five Build Alternatives under consideration are described below and shown on Figure 5.1-2. A detailed discussion of the evaluation and selection process for the Build Alternatives is provided in Section 2 of this FEIS.

No Build Alternative
No Build Alternative assumes no new major construction within the study area, other than projects that are already in the CMPO 2030 RTP. Minor spot improvements, Transportation System Management measures, and/or signal projects may be constructed under the No Build Alternative.

Alternative 3
Alternative 3 includes construction of a roadway to five lanes from 1400 North to approximately 2200 North and construction to three lanes from 2200 North to 3700 North. This alignment curves west at approximately 1900 North to align with 100 East and continues to approximately 2800 North where it then curves east to align with approximately 150 East and then continues north to 3700 North.

Alternative 3 Modified
Alternative 3 Modified is generally the same as Alternative 3 with the exception that it curves west at approximately 2300 North instead of at 1900 North.

Alternative 5
Alternative 5 includes construction of a roadway to five lanes from 1400 North to 2500 North and construction to three lanes from 2500 North to 3700 North. This alignment curves west at approximately 2500 North to align with 150 East and continues to 3700 North.

Alternative 6A
Alternative 6A includes construction of a roadway to five lanes from 1400 North to 2200 North, and construction to three lanes from 2200 North to 3700 North. This alignment curves slightly to the west at approximately 2300 North, then continues north to approximately 2700 North where it curves east to realign with 200 East then continues to 3700 North.

Alternative 6B
Alternative 6B includes construction of a roadway to five lanes from 1400 North to 2200 North, and construction to three lanes from 2200 North to 3700 North. This alignment curves west to align with approximately 180 East, then continues north to approximately 2650 North where it curves east to realign with 200 East, and then curves west at approximately 2800 North to align with 150 East then continues to 3700 North.
Figure 5.1-2
Build Alternatives
5.1.3 Typical Section of Proposed Action (Build Alternatives)

Generally, a 99-foot typical section is assumed for each Build Alternative, and includes a five-lane facility, bike accommodations, and sidewalk accommodations (see Figures 5.1-3 to Figure 5.1-6). This 99-foot typical section has been utilized for determining impacts.

Typical Section No. 1 (1400 North to 1800 North)

Typical Section No. 1 would be used from 1400 North to 1800 North for all Build Alternatives. Curb, gutter, and sidewalk are presently non-existent for most of the properties along this road segment. The approximate width of the existing road surface ranges between 25 and 40 feet. Section 1 would be a five-lane roadway, including four 11-foot-wide travel lanes (two lanes each direction) and an 11-foot-wide center turning lane for left turns (Figure 5.1-3). In addition, there would be two 4-foot-wide bicycle lanes, two 5-foot-wide sidewalks, and a 2.5-foot-wide curb and gutter. No on-street parking would be provided.

Figure 5.1-3: Typical Section No. 1 – 1400 North to 1800 North
Typical Section No. 2 (1800 North to 2200 North)
Typical Section No. 2 is recommended from 1800 North to 2200 North for all Build Alternatives. This section of 200 East has recently been improved by North Logan City and consists of a travel lane in each direction, a center median, and a roundabout at the intersection of 1800 North and 200 East.

The right-of-way (ROW) for this section of roadway is 99 feet. Typical Section No. 2 would include four 11-foot-wide travel lanes (two lanes each direction) with a median and left turn lane at intersections. In addition, there would be two 4-foot-wide bicycle lanes, two 6.5-foot-wide park strips, one 5-foot-wide sidewalk, one 10-foot-wide multi-use pathway, and 2.5-foot-wide curb and gutter (Figure 5.1-4). No on-street parking would be provided.

Mitigated Typical Section No. 3 (Alternative 5 only, 2500 North to 2700 North)
Mitigated Typical Section No. 3 is a context sensitive solution developed specifically for Alternative 5 along the residential neighborhood segment of 200 East between 2500 North and 2700 North. An existing 66-foot-wide ROW passes through a neighborhood that includes 31 adjacent single-family residential homes that would require access to their existing driveways.

Alternative 5 includes specific design measures to minimize the potential for social impacts, including a reduction in the proposed ROW width to 70 feet wide between 2500 and 2700 North, retention of on-street parking, and a reduced speed limit. Intersection treatments such as roundabouts will be evaluated during final design.

Mitigated Typical Section No. 3 would include two 11-foot-wide travel lanes and an 11-foot-wide center lane for left turns. In addition, there would be two 5-foot-wide bicycle lanes, two 6-foot-wide shoulders, two 5-foot-wide sidewalks, and a 2.5-foot-wide curb and gutter (Figure 5.1-5). The proposed 5-foot-wide sidewalk with no park strip is intended to reduce the amount of property acquisition to the existing residential uses. The proposed shoulders could be used for on-street parking. The ROW would be designed to include safe sight clearance for driveway entrances, sidewalks, crosswalks, signage, and street lighting to minimize potential impacts to pedestrian safety. The posted speed limit would be 35 mph.
Figure 5.1-4: Typical Section No. 2 – 1800 North to 2200 North

Typical Section No. 2
99 ROW + 5 Lanes
Option from 1800 N to 2200 N. (Alternatives: #3, #3 Modified, #5, #6A, #6B)
Posted Speed 45 MPH (Alternatives: #3, #3 Modified, #6A, #6B)
Posted Speed 35 MPH (Alternatives: #5)

Figure 5.1-5: Mitigated Typical Section No. 3 – Alternative 5 only, 2500 North to 2700 North

Mitigated Typical Section No. 3
90 ROW + 3 Lanes
Option from 2500 N to 2700 N. (Alternative: #5)
Posted Speed 35 MPH
Typical Section No. 4 (2200 North to 3700 North)
Typical Section No. 4 would be used from 2200 North to 3700 North for Alternatives 3, 3 Modified, 6A, and 6B. Typical Section No. 4 would also be used for two segments of Alternative 5 including 2200 North to 2500 North and 2750 North to 3700 North. The projected traffic volumes only warrant a three-lane roadway section. However, traffic volumes will be nearing the threshold for the need of a five-lane roadway section for the 2040 design year. Since most of the property for this roadway segment is undeveloped, a 99-foot-wide ROW is recommended because of the projected need for the expansion to a five-lane roadway beyond the 2040 design year.

The proposed ROW would include two 12-foot-wide travel lanes (one lane each direction) and a 12-foot-wide median and turn lane. In addition, there would be two 9-foot-wide shoulders, one 7-foot-wide park strip, one 11-foot-wide park strip, one 10-foot-wide multi-use pathway for bicyclists and pedestrians, one 5-foot-wide sidewalk, and a 2.5-foot-wide curb and gutter (Figure 5.1-6).

Figure 5.1-6: Typical Section No. 4 – 2200 North to 3700 North
5.2 IDENTIFICATION OF 4(F) RESOURCES

This section discusses parks, recreation areas, and historic resources identified within the study area. There are no wildlife or waterfowl refuges.

5.2.1 Public Parks and Recreation Areas

To qualify for Section 4(f) protection, a park, recreation area, or wildlife and waterfowl refuge must be significant, publicly owned and open to the public with its major purpose and function being that of a park, recreation area, or wildlife or waterfowl refuge (23 CFR 774.11). Significance determinations for publicly owned land considered to be parks or recreation areas are made by the federal, state, or local official(s) with jurisdiction over these areas. Official(s) with jurisdiction are the official(s) of the agency or agencies that own or administer the property in question and who are empowered to represent the agency on matters related to the property. According to Section 4(f) guidance, significance means that in comparing the availability and function of the resource with the recreational or park objectives of the community, the resource in question plays an important role in meeting those objectives.

Public parks and recreation areas located within or adjacent to the study area that could be affected by one or more of the alternatives were evaluated to determine whether they qualify for protection under Section 4(f). Properties evaluated for Section 4(f) protection are shown on Figure 5.2-1 and discussed below.

**Cache County Multiple Use Park**

The Cache County Multiple Use Park is a Section 6(f) property. Section 6(f) refers to Section 6(f) of the Land and Water Conservation Fund (LWCF) Act 1965 as amended (Public Law 88-578; 16 USC 4601-4 et seq.) The LWCF State Assistance Program was established by the LWCF Act to assist states with providing outdoor recreation resources. Section 6(f) is discussed in Section 6 of this FEIS. Section 6(f) properties do not automatically qualify for protection under Section 4(f). FHWA must determine if Section 4(f) applies on a case-by-case basis, considering the following:

- Whether the property is significant in meeting community recreational or park objectives
- Whether the property is publicly owned and open to the public
- Whether the major purpose and function is that of being a park or recreation area

The management plan for the Cache County Multiple Use Park is in the process of being updated. Cache County, North Logan City, and Hyde Park City have been working together since 1998 on a land exchange that would convert 6(f) county property west of the proposed road corridor to city property available for commercial development. The Cities and Cache County have drafted a new interlocal agreement and plan to execute it once the location of the road corridor is determined.
Figure 5.2-1
Properties Evaluated for Section 4(f) Protection
The Cache County Multiple Use Park was divided into the following three properties based on use to evaluate whether they qualify for protection under Section 4(f):

- George S. Eccles Ice Center
- Meadow View Park
- Undeveloped/Agricultural Lands

The officials with jurisdiction over each property were asked to determine whether the property is significant and plays an important role in meeting the recreational or park objectives of the community. Related correspondence is available in Appendix A of the FEIS. FHWA is ultimately responsible for determining whether a property qualifies for Section 4(f) protection and takes significance into consideration when making their determination.

**George S. Eccles Ice Center**

The George S. Eccles Ice Center is located at 2750 North 200 East. It is located on approximately 8 acres within the Cache County Multiple Use Park.

The ice center was owned by Cache County but was deeded to the North Park Interlocal Cooperative (NPIC). It is managed by a board of directors made up of representatives from Logan City, North Logan City, Hyde Park City, and Cache County. It is open year-round for the public, organized recreational groups, schools, and special events. The center includes an Olympic-sized ice rink and seating for approximately 2,000. It is the only facility of its type between Weber County and Pocatello, Idaho, and serves more than 100,000 patrons. The ice center recently expanded its parking lot to accommodate 380 parking spaces. The NPIC considers this property to be significant in meeting the community’s recreational objectives. This property qualifies for protection under Section 4(f) (Figure 5.2-2).

**Meadow View Park**

Meadow View Park is located at 2700 North between 200 East and 400 East and is approximately 20 acres in size. The park is owned by Cache County, but leased and maintained by North Logan City.

On the east side of the park, features include a picnic pavilion, playground equipment, restroom facility, and parking lot. It serves as a community park for neighboring communities. The east side is also used regularly for soccer and little league baseball as one of two major sports parks in North Logan.
On the west side of the park, equestrian use is allowed within the North Park Equestrian Arena. The outdoor arena is currently leased on a year-to-year basis by a private group of citizens. It is open for public use and requires an admission fee. The arena includes a fenced-in riding area but does not include a designated spectator viewing area or parking. North Logan City is interested in relocating equestrian use to a more appropriate location with access to equestrian trails. According to Section 4(f) guidance, significance determinations must be made for a property in its entirety. Taking into consideration the 20-acre property (including the community park and the equestrian arena) Cache County and North Logan City consider Meadow View Park to be significant in meeting the community recreational objectives. This property qualifies for protection under Section 4(f) (Figure 5.2-2).

**Undeveloped/Agricultural Land**

The remaining undeveloped portion of the Cache County Multiple Use Park (excluding the George S. Eccles Ice Center and Meadow View Park) is approximately 65 acres. The land is owned by Cache County and is leased to North Logan City and Hyde Park City. It is either undeveloped or used for agriculture. A portion of the land is leased to the Green Canyon Farm for a corn maze on a year-to-year basis. The corn maze is seasonal, varies in size and location, and is open to the public through an admission fee September through October. For the remainder of the year, the corn maze is used for agricultural production and is not open to the public.

In 1992, Cache County, North Logan City, and Hyde Park City agreed the land was to be leased for use as an equestrian park. Plans included an indoor riding arena, corrals, stables, and a cross country course. However, funding was not secured and the plans never materialized. There has been limited use by 4H equestrian groups, but no features were constructed. The County and Cities have discussed relocating equestrian use to a more appropriate location with more convenient access to equestrian trails. Requests from equestrian enthusiasts for permanent equestrian features have been rejected until an approved plan is in place. An approved plan will not be developed until the location of the road corridor is known.

It is the desire of Cache County, North Logan City, and Hyde Park City to convert the undeveloped/agricultural land west of the future road corridor within the Cache County Multiple Use Park to commercial development. Proceeds from the sale of the property would go toward the purchase of recreational property in a more desirable location. The land east of the road corridor would be reserved for recreation. The two Cities have been working with Cache County to facilitate a land swap once the road corridor is known. Considering the current use of the undeveloped portion of Cache County Multiple Use Park, and the future plans to convert a portion of this land to commercial development, Cache County, North Logan City, and Hyde Park City do not consider this property to be significant in meeting the recreational goals and objectives of the community.
This property does not qualify for protection under Section 4(f) for the following reasons:

- It is not considered significant by the officials with jurisdiction.
- It is not open to the public for most of the year.
- Its major purpose and function is currently not that of being a park or recreation area.

### 5.2.2 School Playground Areas

There is an existing school playground located within the study area that would be affected by one or more of the alternatives (Figure 5.2-1).

**Thomas Edison Charter School**

The Thomas Edison Charter School is located at 180 East 2600 North. The charter school is a privately owned school open to all students. The charter school has one playground area located west of the school buildings, which is fenced. It is an area with playground equipment such as slides, swings, and a climbing apparatus. The area is not large enough to provide soccer, baseball, or other substantial walk-on recreational activities. The charter school does not have any solicitation records from the city or county parks and recreation departments for use of the field for recreational activities. Therefore, the charter school playground is not eligible for Section 4(f) protection.

### 5.2.3 Historic Sites

As noted in 23 CFR 774.11(e), to qualify for Section 4(f) protection, an archaeological or architectural resource must be listed, or eligible for listing, on the National Register of Historic Places (NRHP) (per 36 CFR 800), unless FHWA determines that an exception under 23 CFR 774.13 applies.

A cultural resource inventory of the study area was conducted. Four historic architectural properties were identified in the study area (Figure 5.2-1), two of which are eligible for listing in the NRHP and thus qualify for Section 4(f) protection (Figure 5.2-2). Descriptions of the identified properties are summarized below. Detailed discussions about these properties, and potential impacts, are provided in Sections 3.15 and 4.15 of the FEIS. No archaeological sites were located as a result of the study area inventory (Sagebrush, 2004).

All of the historic resources recorded on the project were at one time tied to the Cache Meadow Dairy, which was built during the 1940s and ceased operations in the late 1970s. The property has since been subdivided and the residences at 164 East 2600 North and 158/160 East 2600 North are on separate properties. Because these properties as a whole no longer reflect the
spatial organization, physical components, or historic associations of a farmstead attained during the historic period, they were evaluated individually.

**Cache Meadow Dairy**

The Cache Meadow Dairy is located at 119 East 2600 North. The dairy was built during the 1940s. The property consists of nine outbuildings: three wooden calving sheds, two wooden barn structures, two silos, one equipment shed, and one unidentified outbuilding. One calving shed has been converted into a residence. Other features on the property include an inside-out granary, feeding troughs, and a well. The dairy ceased operations in the late 1970s. At least three of the dairy buildings were modified in the 1970s after a fire destroyed much of the dairy farm, and five of the buildings have been recently modified to provide student housing. FHWA and the Utah Department of Transportation (UDOT) have determined, and the State Historic Preservation Office (SHPO) has concurred, that the property is not eligible for inclusion on the NRHP.

**Residence 158/160 East 2600 North, North Logan**

This historic yellow brick duplex was built in 1943. The structure has not been altered or remodeled. FHWA and UDOT have determined, and SHPO has concurred, that the house is eligible for inclusion on the NRHP under Criterion C. Therefore, based on the NRHP eligibility, the residence is eligible for Section 4(f) protection.

**Residence 164 East 2600 North, North Logan**

This historic yellow brick house is a bungalow type structure built in 1928. The structure has not been remodeled or altered. FHWA and UDOT have determined, and SHPO has concurred, that the house is eligible for inclusion on the NRHP under Criterion C. Therefore, based on the NRHP eligibility, the residence is eligible for Section 4(f) protection.
Residence 110 East 2600 North, North Logan

This early two-story ranch structure was built in 1940. Construction materials consist of brick and aluminum siding. The structure has been altered since original construction. FHWA and UDOT have determined, and SHPO has concurred, that the house is not eligible for inclusion on the NRHP.

5.2.4 Summary of Properties Qualifying for Section 4(f) Protection

A summary of the properties that qualify for Section 4(f) protection is provided below in Table 5.2-1 and shown in Figure 5.2-2. There are two parks and recreation areas and two historic sites.

<table>
<thead>
<tr>
<th>Property Address</th>
<th>Property Name</th>
<th>Property Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>2700 North 400 East</td>
<td>Meadow View Park</td>
<td>Park</td>
</tr>
<tr>
<td>2700 North 200 East</td>
<td>George S. Eccles Ice Center</td>
<td>Recreational Facility</td>
</tr>
<tr>
<td>158/160 East 2600 North</td>
<td>Residence</td>
<td>Historic Property</td>
</tr>
<tr>
<td>164 East 2600 North</td>
<td>Residence</td>
<td>Historic Property</td>
</tr>
</tbody>
</table>

5.3 IMPACTS TO SECTION 4(F) RESOURCES AND DETERMINATION OF USE

In 23 CFR 774.17, use is defined as occurring under the following conditions:

(1) “When land is permanently incorporated into a transportation facility;
(2) When there is a temporary occupancy of land that is adverse in terms of the statute’s preservation purpose as determined by the criteria in § 774.13(d); or
(3) When there is a constructive use of a Section 4(f) property as determined by the criteria in § 774.15”. 
Temporary occupancies of land that are minimal enough to not constitute a use within the meaning of Section 4(f) must satisfy the following conditions:

1. “Duration must be temporary, i.e., less than the time needed for construction of the project, and there should be no change in ownership of the land;
2. Scope of the work must be minor, i.e., both the nature and the magnitude of the changes to the Section 4(f) property are minimal;
3. There are no anticipated permanent adverse physical impacts, nor will there be interference with the protected activities, features, or attributes of the property, on either a temporary or permanent basis;
4. The land being used must be fully restored, i.e., the property must be returned to a condition which is at least as good as that which existed prior to the project; and
5. There must be documented agreement of the official(s) with jurisdiction over the Section 4(f) resource regarding the above conditions” (23 CFR 774.13(d)).

“Constructive use occurs when the transportation project does not incorporate land from a Section 4(f) property, but the project’s proximity impacts are so severe that the protected activities, features, or attributes that qualify the property for protection under Section 4(f) are substantially impaired. Substantial impairment occurs only when the protected activities, features, or attributes of the property are substantially diminished” (23 CFR 774.15(a)).

5.3.1 Impacts to Public Parks and Recreation Areas

All of the alternatives impact either the George S. Eccles Ice Center and/or the Meadow View Park. Impacts were assumed based on a 99-foot-wide ROW. Specific impacts are discussed below.

**Alternative 3**

Alternative 3 would require acquisition of approximately 0.23 acres of the George S. Eccles Ice Center. This alignment would also affect the northwest access to the ice center, requiring a reconfiguration or relocation of the access (Figure 5.3-1).

**Alternative 3 Modified**

Alternative 3 Modified would require acquisition of less than 0.01 acres of the George S. Eccles Ice Center and would require reconfiguration of access into this facility (Figure 5.3-2).

**Alternative 5**

Alternative 5 would require acquisition of approximately 0.67 acres of the George S. Eccles Ice Center. The impacted area includes undeveloped land, the unpaved access road, and at least one parking stall of the newly constructed parking lot. Alternative 5 would require acquisition of approximately 0.53 acres of Meadow View Park (Figure 5.3-3). The alignment would affect the access to the North Park Equestrian Arena located on the western side of Meadow View Park, requiring the relocation or reconfiguration of the access but not affecting its intended operation.
Figure 5.3-1
Alternative 3
Section 4(f) Use
Figure 5.3-2
Alternative 3 Modified
Section 4(f) Use
Figure 5.3-3
Alternative 5
Section 4(f) Use
Alternative 6A
Alternative 6A would require acquisition of approximately 0.99 acres of the George S. Eccles Ice Center, including approximately 125 out of 380 of the parking stalls and two lighting poles. This alternative would require acquisition of approximately 0.27 acres of the Meadow View Park and would require reconfiguration of the entrance to the North Park Equestrian Arena located on the western side of Meadow View Park (Figure 5.3-4).

Alternative 6B
Alternative 6B would require acquisition of approximately 1.19 acres of the George S. Eccles Ice Center, including approximately 223 out of 380 parking stalls and three lighting poles. This alternative would also require acquisition of approximately 0.17 acres of the Meadow View Park, which would require reconfiguration of the entrance to the North Park Equestrian Arena located on the western side of Meadow View Park (Figure 5.3-5).

5.3.2 Impacts to Historic Properties
Build Alternatives 3 and 6B would each impact one of the two historic properties that qualify for Section 4(f) protection.

Alternative 3
Alternative 3 would require acquisition of approximately 0.03 acres from the residence located at 158/160 East 2600 North (Figure 5.3-1). The proposed ROW would be approximately 35 feet from the structure, resulting in a finding of no adverse effect under Section 106 as discussed in Section 4.15 of this FEIS and documented in the Determination of Eligibility/Finding of Effect (DOE/FOE) available in Appendix A.

Alternative 6B
Alternative 6B would require acquisition of approximately 0.46 acres from the residence located at 164 East 2600 North (Figure 5.3-5). The structure would have to be removed, resulting in an adverse effect under Section 106 as discussed in Section 4.15 of this FEIS and documented in the DOE/FOE available in Appendix A.
5.3.3 Summary of Section 4(f) Uses

Use, as defined in 23 CFR 774.17 (other than temporary occupancy or constructive use), can be either complete use or *de minimis* impact. For the purposes of this project, complete use of a historic property is defined as impacts that result in the incorporation of the 4(f) property into a transportation facility and the determination of adverse effect under Section 106 of the National Historic Preservation Act (NHPA). Complete use of a park, recreation area, or wildlife and waterfowl refuge is one that adversely affects the features, attributes, or activities qualifying the property for protection under Section 4(f).

*De minimis* impacts are defined as follows:

(1) “For historic sites, *de minimis* impact means that the Administration has determined, in accordance with 36 CFR Part 800 that no historic property is affected by the project or that the project will have ‘no adverse effect’ on the historic property in question.

(2) For parks, recreation areas, and wildlife and waterfowl refuges, a *de minimis* impact is one that will not adversely affect the features, attributes, or activities qualifying the property for protection under Section 4(f)” (see 23 CFR 774.17).

Pursuant to 23 CFR 774.5(b), “prior to making *de minimis* impact determinations under § 774.3(b), the following coordination shall be undertaken:

(1) For historic properties:

   (i) The consulting parties identified in accordance with 36 CFR Part 800 must be consulted; and

   (ii) The Administration must receive written concurrence from the pertinent State Historic Preservation Officer (SHPO) or Tribal Historic Preservation Officer (THPO), and from the Advisory Council on Historic Preservation (ACHP) if participating in the consultation process, in a finding of “no adverse effect” or “no historic properties affected” in accordance with 36 CFR Part 800. The Administration shall inform these officials of its intent to make a *de minimis* impact determination based on their concurrence in the finding of “no adverse effect” or “no historic properties affected”.

   (iii) Public notice and comment beyond that required by 36 CFR Part 800, is not required.

(1) For parks, recreation areas, and wildlife and waterfowl refuges:

   (i) Public notice and an opportunity for public review and comment concerning the effects on the protected activities, features, or attributes of the property must be provided. This requirement can be satisfied in conjunction with other public involvement procedures, such as a comment period provided on a [National Environmental Policy Act] NEPA document.
(ii) The Administration shall inform the official(s) with jurisdiction of its intent to make a *de minimis* impact finding. Following an opportunity for public review and comment as described in paragraph (b)(2)(i) of this section, the official(s) with jurisdiction over the Section 4(f) resources must concur in writing that the project will not adversely affect the activities, features, or attributes that make the property eligible for Section 4(f) protection. This concurrence may be combined with other comments on the project provided by the official(s).”

The Build Alternatives would use a total of two recreation areas and two historic sites, as summarized in Table 5.3-1. There would be complete use of one historic site and *de minimis* impact of one historic site, depending on the alternative. Use of the recreation areas would constitute *de minimis* impacts. There is no temporary occupancy or constructive use of any Section 4(f) property, from any of the alternatives.

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<thead>
<tr>
<th>Table 5.3-1: Impacts to Section 4(f) Resources and Type of Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Section 4(f) Resource</td>
</tr>
<tr>
<td>------------------------</td>
</tr>
<tr>
<td>George S. Eccles Ice Center</td>
</tr>
<tr>
<td>Meadow View Park</td>
</tr>
<tr>
<td>158/160 East 2600 North (Residence)</td>
</tr>
<tr>
<td>164 East 2600 North (Residence)</td>
</tr>
</tbody>
</table>

*The acquisition of ROW would require removal of the eligible historic structure.*

**George S. Eccles Ice Center**

A meeting was held with the NPIC governing board on October 25, 2010, to discuss impacts to the ice center and mitigation for the five Build Alternatives under consideration. For all alternatives, access impacts would have to be mitigated by reconfiguring or relocating access. For Alternatives 6A and 6B, parking impacts would have to be mitigated by constructing replacement parking adjacent to the facility. The board determined that, after mitigation, the impacts for any alternatives would not adversely affect the activities, features, or attributes that make the property eligible for Section 4(f) protection. UDOT sent a letter to the NPIC requesting their concurrence that a Section 4(f) *de minimis* impact finding is appropriate for the ice center; the NPIC concurred on November 20, 2010. FHWA made a *de minimis* impact determination on January 24, 2011. This correspondence is included in Appendix A.

**Meadow View Park**

North Logan City and Cache County consider that, after mitigation, the impacts from any of these three alternatives would not adversely affect the activities, features, or attributes that
make the property eligible for Section 4(f) protection. UDOT sent letters to North Logan City and Cache County requesting their concurrence that a Section 4(f) *de minimis* impact finding is appropriate for Meadow View Park. North Logan City concurred on November 17, 2010, and Cache County concurred on December 7, 2010. FHWA made a *de minimis* impact determination on January 24, 2011. This correspondence is included in Appendix A.

### 158/160 East 2600 North

The impact to the historic site at 158/160 East 2600 North from Alternative 3 is the acquisition of 0.03 acres of ROW. This would not affect the structure and results in a finding of No Adverse Effect under Section 106 (see DOE/FOE, Appendix A).

A programmatic agreement between FHWA, ACHP, SHPO, and UDOT was reached in June 2007, regarding the Section 4(f) *de minimis* determination pursuant to the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) Section 6009. Under this agreement, SHPO is generally notified of FHWA’s intent to make a Section 4(f) *de minimis* use finding with a programmatic letter. This letter, dated June 12, 2007, was sent to SHPO along with the DOE/FOE. Because of this agreement, a *de minimis* impact determination for 158/160 East became effective when SHPO concurred with the DOE/FOE on February 28, 2011 (see Appendix A).

### 164 East 2600 North

The impact to the historic site at 164 East 2600 North from Alternative 6B is an Adverse Effect under Section 106 (see DOE/FOE, Appendix A). This alternative would require the removal of the building, resulting in a complete use under Section 4(f).

#### 5.4 AVOIDANCE ALTERNATIVES AND DESIGN SHIFTS

According to 23 CFR 774.17, the definition of a *feasible and prudent avoidance alternative* is one that “avoids using Section 4(f) property and does not cause other severe problems of a magnitude that substantially outweighs the importance of protecting the Section 4(f) property.” There are multiple factors listed in 23 CFR 774.17 that must be considered in determining whether an avoidance alternative is not prudent. The first is that, “it compromises the project to a degree that it is unreasonable to proceed with the project in light of its stated purpose and need.” In other words, if it does not meet the project’s purpose and need, it is not a prudent avoidance alternative.

The following discussion evaluates 1) whether a feasible and prudent avoidance alternative exists that avoids the use of any 4(f) properties, and 2) whether design shifts could be implemented to alternatives to minimize impacts to 4(f) properties. Five alternatives were evaluated as potential avoidance alternatives, including the No Build and four Build Alternatives (Figures 5.4-1 and 5.4-2).
Figure 5.4-2
Section 4(f) Impacts by Avoidance Alternative
Alternative A – No Build
The No Build Alternative avoids all impacts to the identified Section 4(f) properties in and around the study area. However, the No Build Alternative is not consistent with the Cities’ general plans or the CMPO 2030 RTP, and it does not meet the purpose and need for the Proposed Action.

The No Build Alternative would not meet the planned long-term transportation needs of Hyde Park and North Logan as described in the Cities’ general plans and the CMPO RTP (Hyde Park City, 2010 (draft only); North Logan City, 2010; CMPO, 2007). Parallel north-south connectivity on the east side of US 91 would not be achieved by the No Build Alternative and would likely result in the continuing decline of the level of service on US 91 as transportation demands on US 91 increase with growth in population in and around the study area.

Alternative B
Alternative B was brought forth in the public scoping process. It would involve the construction of additional lanes on US 91 to facilitate traffic flow on US 91 between Hyde Park and Logan. This alternative was evaluated and determined to achieve a total avoidance of Section 4(f) resources. However, this alignment does not achieve purpose and need. Alternative B would not relieve traffic congestion, would not improve projected level of service, and would not improve public safety for ingress and egress on US 91. Furthermore, Alternative B would not foster future economic development consistent with the Cities’ general plans, nor would it provide access, other than via US 91, to property within the study area. Additionally, the alignment would not connect Hyde Park, North Logan, Logan, and neighboring communities in a manner consistent with the CMPO 2030 RTP objective of providing a roadway parallel to US 91 within the study area.

Alternative C
Alternative C follows 200 East from 1400 North to 2000 North, shifts west to follow 100 East from 2000 North to 2500 North, shifts west again to follow 50 East from 2500 North to 3200 North, then shifts east to follow 150 East to 3700 North (Figure 5.4-2). This alternative was evaluated and determined to achieve a total avoidance of Section 4(f) resources. However, it does not satisfy the purpose and need objectives of improving mobility within the study area or supporting local economic and development goals. Alternative C is 0.25 miles longer than any other alternative. This added length, in addition to the close proximity to US 91, makes it less likely to carry traffic that would relieve US 91.

Alternative C is not compatible with the North Logan Community Development Area (CDA) and the planned conversion of the Cache County property receiving funds from the LWCF (see Section 6) to future commercial use. In 2007, North Logan City approved a CDA Project Area Plan between US 91 and 400 East and between 1900 North and 2500 North. 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. Alternative C conflicts with potential development as shown in the CDA plan and would only provide access to properties on one side of the road, whereas all other alternatives would provide access to properties on both sides of the road. Alternative C is also not compatible with plans to convert portions of the Cache County LWCF property to commercial development.

**Alternative D**
Alternative D follows 200 East from 1400 North to 2500 North, follows 300 East from 2500 North to 2700 North, then shifts slightly east to between 2700 North and 3100 North then shifts west to follow 150 East to 3700 North (Figure 5.4-2). This alternative was evaluated and determined not to achieve a total avoidance of Section 4(f) properties because it impacts approximately 0.9 acres, Meadow View Park (Figure 5.4-2). Alternative D does not satisfy several of the purpose and need objectives. It is not consistent with the Cities’ general plans or for conversion of the Cache County LWCF property. Additionally, it bisects several residential areas along 2500 North and 300 East, which would disrupt neighborhood cohesion and impact the social environment of the residents in these neighborhoods by compromising pedestrian safety and potentially relocating several residences.

**Alternative E**
Alternative E was brought forth in the public scoping process and connects 1400 North with 3700 North using 400 East. Alternative E would impact approximately 0.5 acres of Section 4(f) property, Meadow View Park (Figure 5.4-2). Alternative E does not meet the purpose and need objective of community connectivity because it would not provide for a clear and open connection into Smithfield. This connection to Smithfield would align with the southeast area of the community between a proposed minor arterial and minor collector. Alternative E north of the study area would affect at least two historic properties in the central core of Hyde Park. Additionally, Alternative E would not allow for planned infrastructure to support the economic growth and development identified in the Cities’ general plans.

**Design Shifts**
Design shifts were evaluated for Alternative 6B because this is the only alternative that requires use (other than de minimis) of 4(f) properties. Alternative 6B would require a complete use of the historic property at 164 East 2600 North. Shifts to avoid this property were considered and determined not to be feasible and prudent, as described below and as shown in Figure 5.4-3. Shifting the alignment to the east would result in a configuration similar to either Build Alternative 5 or Build Alternative 6A at that location, neither of which would avoid impacts to other Section 4(f) resources (George S. Eccles Ice Center and Meadow View Park). Shifting Alternative 6B to the west would result in an alignment similar to Location Avoidance Alternative C. This alignment does not satisfy the purpose and need objectives as discussed above.
5.4.1 Summary of Avoidance Alternatives and Design Shifts

A number of alternatives were evaluated to determine if they avoided impacts to the historic properties, and if so, whether they were feasible and prudent (Table 5.4-1). Alternatives D, E, and 6B East Shift do not avoid 4(f) properties, and thus are not avoidance alternatives. Alternatives B, C, and 6B West Shift avoid Section 4(f) resources, but do not meet the project’s purpose and need and thus are not prudent. Therefore, there are no feasible and prudent avoidance alternatives for this project.

<table>
<thead>
<tr>
<th>Factors</th>
<th>Avoidance Alternatives</th>
<th>6B Shifts</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>C</td>
</tr>
<tr>
<td>Avoids all 4(f) properties</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Meets purpose and need</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

5.5 LEAST HARM ANALYSIS

Because there is no feasible and prudent avoidance alternative, in accordance with 23 CFR 774.3(c) FHWA may approve only the alternative that:

(1) “Causes the least overall harm in light of the statute’s preservation purpose. The least overall harm is determined by balancing the following factors:

   (i) The ability to mitigate adverse impacts to each Section 4(f) property (including any measures that result in benefits to the property);
   (ii) The relative severity of the remaining harm, after mitigation, to the protected activities, attributes, or features that qualify each Section 4(f) property for protection;
   (iii) The relative significance of each Section 4(f) property;
   (iv) The views of the official(s) with jurisdiction over each Section 4(f) property;
   (v) The degree to which each alternative meets the purpose and need for the project;
   (vi) After reasonable mitigation, the magnitude of any adverse impacts to resources not protected by Section 4(f); and
   (vii) Substantial difference in costs among the alternatives.”

Each of the Build Alternatives is analyzed in terms of the factors above to determine which causes the least overall harm. The results of this analysis show that Alternative 3 Modified causes the least overall harm in light of Section 4(f)’s preservation purpose and in balancing the seven factors listed above. There is no feasible and prudent avoidance alternative, and the project has included all possible planning to minimize harm to Section 4(f) properties. Therefore, Alternative 3 Modified is the Preferred Alternative.
5.5.1 Ability to Mitigate Adverse Impacts to Each Section 4(f) Property

Alternative 3
The impacts to the George S. Eccles Ice Center include acquisition of 0.23 acres of property and impairment of one existing access. Impacts can be mitigated by relocating or reconfiguring the entrance, resulting in a de minimis impact determination.

The impact to the historic property at 158/160 East 2600 North is the acquisition of approximately 0.03 acres of property. This results in a finding of No Adverse Effect under Section 106 and a de minimis impact determination. No mitigation is required.

Alternative 3 Modified
The impacts to the George S. Eccles Ice Center include acquisition of less than 0.01 acres of property and impairment of one existing access. Impacts can be mitigated by relocating or reconfiguring the entrance, resulting in a de minimis impact determination.

Alternative 5
The impacts to the George S. Eccles Ice Center include acquisition of 0.67 acres of property, impairment of two existing accesses, and loss of one parking stall. Impacts can be mitigated by reconfiguring the accesses, resulting in a de minimis impact determination.

The impacts to Meadow View Park include acquisition of 0.53 acres of property and impairment of one existing access. Impacts can be mitigated by reconfiguring the access, resulting in a de minimis impact determination.

Alternative 6A
The impacts to the George S. Eccles Ice Center include acquisition of 0.99 acres of property, impairment of two existing accesses, loss of 125 parking stalls and two lighting poles. Impacts can be mitigated by reconfiguring both accesses, and by obtaining additional property adjacent to the center in order to construct replacement parking. This mitigation would result in a de minimis impact determination.

The impacts to the Meadow View Park include acquisition of 0.27 acres of property and impairment of one existing access. Impacts can be mitigated by reconfiguring the access, resulting in a de minimis impact determination.

Alternative 6B
The impacts to the George S. Eccles Ice Center include acquisition of 1.19 acres of property, impairment of two existing accesses, loss of 223 parking stalls and three lighting poles. Impacts can be mitigated by reconfiguring both accesses, and by obtaining additional property adjacent to the center in order to construct replacement parking. This mitigation would result in a de minimis impact determination.
The impacts to the Meadow View Park include acquisition of 0.17 acres of property and impairment of one existing access. Impacts can be mitigated by reconfiguring the access, resulting in a *de minimis* impact determination.

Impacts to the historic property at 164 East 2600 North include complete acquisition of the property and demolition of the structure, resulting in a finding of Adverse Effect under Section 106. The impacts to the historic property could be mitigated by documenting the property to standards (Intensive Level Survey) acceptable to the SHPO. A Memorandum of Agreement (MOA) would be executed between FHWA, UDOT, and SHPO.

**Conclusion**
Adverse impacts could be mitigated for all alternatives.

### 5.5.2 The Relative Severity of the Remaining Harm, After Mitigation, to the Protected Activities, Attributes, or Features That Qualify Each Section 4(f) Property for Protection

**Alternative 3**
There would be some remaining harm to the George S. Eccles Ice Center. The main entrance would be close to the proposed road, resulting in a less desirable setting for patrons. In addition, the proximity of the existing access to the proposed road could necessitate a right-in-right-out configuration, also less desirable for patrons.

There would be no remaining harm to the historic property at 158/160 East 2600 North. None of the features that contributed to the eligibility would be adversely affected.

**Alternative 3 Modified**
There would be no remaining harm to the George S. Eccles Ice Center after mitigation. The slight shift in alignment to the west (compared to Alternative 3) would provide more of a buffer between the main entrance and the proposed road, and would allow for greater design flexibility in reconfiguring the access.

**Alternative 5**
There would be no remaining harm to the George S. Eccles Ice Center or Meadow View Park after mitigation.

**Alternative 6A**
There would be some remaining harm to the George S. Eccles Ice Center after mitigation. The facility would be surrounded by roads on three sides, an undesirable setting according to the board (NPIC) that governs the center. There would be no remaining harm to Meadow View Park after mitigation.
**Alternative 6B**

There would be some remaining harm to the George S. Eccles Ice Center after mitigation. The facility would be surrounded by roads on three sides, an undesirable setting according to the board (NPIC) that governs the center. There would be no remaining harm to Meadow View Park after mitigation. This alternative would require the demolition of the historic structure at 164 East 2600 North.

**Conclusion**

There would be no remaining harm to any Section 4(f) properties with Alternative 3 Modified and Alternative 5. There would be some remaining harm to 4(f) properties with the other alternatives.

### 5.5.3 The Relative Significance of Each Section 4(F) Property

**George S. Eccles Ice Center**

The George Eccles Ice Center is an important recreational site for the surrounding region. The center includes an Olympic-sized ice sheet and seating for approximately 2,000. It is the only facility of its type between Weber County and Pocatello, Idaho, and serves more than 100,000 patrons per year. Seventeen out of 19 communities contributed to bonding necessary to build the facility. It is open year-round for the public, organized recreational groups, schools, and special events. The ice center recently expanded its parking lot to accommodate approximately 400 parking spaces. Because the facility serves more than 100,000 patrons from the surrounding region, the relative significance of the George S. Eccles Ice Center is considered to be higher than Meadow View Park.

**Meadow View Park**

Meadow View Park is an important recreational site for the surrounding community. On the east side of the park, features include a picnic pavilion, playground equipment, restroom facility, and parking lot. It is also used regularly for soccer and little league baseball as one of two major sports parks in North Logan. The east side serves as a community park for neighboring communities. On the west side of the park, equestrian use is allowed within the North Park Equestrian Arena. The arena includes a fenced-in riding area but does not include a designated spectator viewing area or parking. North Logan City is interested in relocating equestrian use to a more appropriate location with access to equestrian trails. Because the park serves a smaller community compared to the region served by the George S. Eccles Ice Center, with fewer patrons, the relative significance of Meadow View Park is considered to be lower than that of the ice center.

**Historic Resources**

All of the historic resources recorded on the project were at one time tied to the Cache Meadow Dairy, which was built during the 1940s and ceased operations in the late 1970s. The property has since been subdivided and the residences at 164 East 2600 North and 158/160 East 2600 North are on separate properties. Because these properties as a whole no longer reflect the spatial organization, physical components, or historic associations of a farmstead attained during the historic period, they were evaluated individually. Both the 164 East 2600 North and 158/160 East 2600 North historic properties are determined eligible for the NRHP under...
Criterion C. Both properties are zoned for commercial development. The residence located at 158/160 East 2600 North falls within North Logan’s urban renewal area (URA). These properties are considered to have equal relative significance.

Conclusion
The George S. Eccles Ice Center is considered to have a higher relative significance than the Meadow View Park because it is a regional facility and serves more patrons. The historic properties at 164 East 2600 North and 158/160 East 2600 North are considered to have equal relative significance.

Because all alternatives impact the George S. Eccles Ice Center, the ice center cannot be used to differentiate between the alternatives other than the relative severity of harm discussed above. Alternatives 3 and 6B impact the same historic property in addition to the ice center. Alternative 3 Modified does not impact any Section 4(f) properties other than the George S. Eccles Ice Center.

5.5.4 The Views of the Official(s) With Jurisdiction over Each Section 4(f) Property

George S. Eccles Ice Center
The NPIC Governing Board is the official with jurisdiction over the George S. Eccles Ice Center. The governing board is comprised of representatives from Cache County, North Logan City, Hyde Park City, and Logan City. A meeting was held on October 25, 2010, with the governing board to discuss impacts and mitigation for the five Build Alternatives under consideration. All alternatives would impact the facility. Although the board agreed that all alternatives could be mitigated to a de minimis impact, in their view Alternatives 3 Modified and 5 would result in the smallest impact.

Meadow View Park
North Logan City and Cache County are both officials with jurisdiction over Meadow View Park. North Logan City and Cache County were asked to provide their viewpoint regarding the five Build Alternatives under consideration. Three of the five alternatives would affect the park—Alternatives 5, 6A, and 6B. North Logan City and Cache County consider Alternatives 5, 6A, and 6B to be similar with respect to impacts to Meadow View Park.

SHPO
SHPO concurred that two properties located at 164 East 2600 North and 158/160 East 2600 North are determined eligible for the NRHP under Criterion C. SHPO has not provided additional comments regarding significance or alternatives.

Conclusion
The officials with jurisdiction over the George S. Eccles Ice Center view that Alternative 3 Modified and Alternative 5 would result in the smallest impact to this Section 4(f) property.
5.5.5 The Degree to Which Each Alternative Meets the Purpose and Need for the Project

The purpose and need for the project includes the following elements and is further described in Section 5.1.1:

- 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.

All alternatives perform equally in providing a higher functioning continuous north-south corridor within the study area; enhancing local and regional connectivity of Hyde Park, North Logan, and neighboring communities; and improving mobility within the study area. Because these elements of purpose and need cannot be used to differentiate between alternatives, they are not included in the following discussion.

The degree to which each alternative supports local economic and development goals can be measured by consistency with North Logan City’s proposed CDA located within the area between 1800 North and 2500 North, and between US 91 and 400 East. It can also be measured by the number of large properties that would be split into smaller parcels, precluding commercial development.

**Alternative 3**

Alternative 3 does not support local economic and development goals as well as Alternatives 3 Modified, 5 or 6B. This alternative would require modification to the proposed North Logan CDA. Additionally, this alignment would split 10 parcels; of which four are large undeveloped properties (greater than 10 acres) zoned for commercial or mixed use. Four of the split properties would result in 3 acres of surplus property that could not be developed due to size and access.

**Alternative 3 Modified**

Alternative 3 Modified is slightly different than Alternative 3 in its ability to support the local economic and development goals. It performs better than Alternatives 3 and 6A, comparably to Alternative 6B, and worse than Alternative 5. This alternative is more compatible with the proposed North Logan CDA relative to Alternative 3 and serves a recently approved development south of 2500 North. Additionally, Alternative 3 Modified utilizes the recent construction of 200 East from 1800 North to 2200 North. This alignment would split 6 parcels; of which two are large undeveloped properties (greater than 10 acres) zoned for commercial or mixed use. Two of the split properties would result in 1.3 acres of surplus property that could not be developed due to size and access.
Alternative 5
Alternative 5 supports the local economic and development goals better than other alternatives. This alternative would not require modification to the proposed North Logan CDA and would not split any undeveloped properties zoned for commercial or mixed use.

Alternative 6A
Alternative 6A does not support local economic and development goals as well as other alternatives. This alternative would require modification to the proposed North Logan CDA. Additionally, this alignment would split 18 parcels. Two of the split parcels are large undeveloped properties (greater than 10 acres) zoned for commercial or mixed use. Ten of the split parcels are currently used for agriculture would likely result in roughly 19 acres of land that would be more difficult to farm due to size and access. Five of the split properties would result in 3.2 acres of surplus property that could not be developed due to size and access.

Alternative 6B
Alternative 6B performs better than Alternatives 6A and 3, comparably to Alternative 3 Modified, and worse than Alternative 5 at supporting economic and development goals. This alternative would require modification to the proposed North Logan CDA. This alignment would split 5 parcels, of which two are large undeveloped properties (greater than 10 acres) zoned for commercial or mixed use.

Conclusion
Although all alternatives meet the elements of the purpose and need, some alternatives perform better than others. The element of purpose and need that can be used to differentiate between alternatives is how well each supports local economic and development goals. Alternative 5 performs the best compared to other alternatives. Alternatives 3 Modified and 6B perform worse than Alternative 5 but better than alternatives 3 and 6A.

5.5.6 After Reasonable Mitigation, the Magnitude of Any Adverse Impacts to Resources Not Protected by Section 4(f)

For most resources not protected by Section 4(f), the impacts from all alternatives would be similar. There are differences in the number of relocations and acres of wetlands filled. However, for this discussion it is assumed that relocations and wetlands can be completely mitigated. The impacts that cannot be completely mitigated are related to noise and neighborhood cohesion. Therefore, the following discussion focuses on those impacts.

Alternative 3
Alternative 3 would result in 50 noise receptors impacted that could not be mitigated because either a barrier is not reasonable and feasible, or increases over existing sound levels would still exceed 10 A-weighted decibels (dBA).

Alternative 3 Modified
Alternative 3 Modified would result in 46 noise receptors impacted that could not be mitigated because either a barrier is not reasonable and feasible, or increases over existing sound levels would still exceed 10 dBA.
This alignment would split five commercially zoned undeveloped properties. Two of these, when split, would result in a surplus property likely too small to be developed. This area is near the eastern edge of the existing Movies 5 theaters and could be used as an alternative access to this existing property. Alternative 3 Modified would narrow the potential east-west depth of the commercial zone between the road alignment and US 91 from 2000 North to 3000 North. This would constrain both the size and types of future developments in this area.

Alternative 5
Alternative 5 would result in 107 noise receptors impacted that would not be mitigated because either a barrier is not reasonable and feasible, or increases over existing sound levels would still exceed 10 dBA.

Alternative 5 would adversely affect the social cohesion of the residential area between 2500 North and 2700 North and the Thomas Edison Charter School. Comments received during the 2007 public hearing and during subsequent stakeholder meetings included:

- Safety concerns for pedestrians and access during drop-off and pick-up at the Thomas Edison Charter School
- Concern for access to and from private driveways
- Overall safety for the residents and their children due to increased traffic volumes
- Elimination of on-street parking

Currently, 200 East dead ends at 2700 North, and there is no through traffic between 2600 North and 2700 North. Direct impacts from this alternative include splitting the neighborhood, increased traffic volumes, and increased traffic noise. This alignment would likely decrease social integration and cohesion in these neighborhoods and compromise interaction with the Thomas Edison Charter School.

Alternative 5 includes specific design measures to minimize the potential for social impacts, but the community would still be adversely affected even after mitigation. Some of these measures include reducing the ROW cross-section from 99 feet wide to 70 feet wide between 2500 North and 2700 North, reducing the speed limit to 35 mph, and maintaining on-street parking. Wherever practicable, the ROW will be designed to include safe sighting for driveway entrances, sidewalks, crosswalks, signage, and street lighting to minimize potential impacts to pedestrian, bicycle, and vehicle safety. However, the quiet residential neighborhood between 2500 North and 2700 North would experience increased traffic volumes and an increase in noise.

Alternative 6A
Alternative 6A would result in 50 noise receptors impacted that could not be mitigated because either a barrier is not reasonable and feasible, or increases over existing sound levels would still exceed 10 dBA.
Alternative 6A would adversely affect the social cohesion of the community. The Thomas Edison Charter School provides social cohesion in the community and would be relocated if Alternative 6A were implemented. Relocating the entire facility elsewhere within the same community may not be possible, resulting in loss of this important community facility.

Alternative 6A would split 14 undeveloped properties in the area planned for residential development between 3100 North and 3700 North. The alignment would be located east of the Hyde Park commercial zone and would not provide direct access or additional frontage for commercial development.

**Alternative 6B**

Alternative 6B would result in 53 noise receptors impacted that could not be mitigated because either a barrier is not reasonable and feasible, or increases over existing sound levels would still exceed 10 dBA.

Alternative 6B would split two properties north of 2200 North that are currently zoned for residential and commercial use in North Logan.

**Conclusion**

After reasonable mitigation, Alternative 5 has the greatest magnitude of adverse impacts to resources not protected by Section 4(f) when compared to the other alternatives.

### 5.5.7 Substantial Difference in Costs

Project costs are listed in Table 5.5-1. Alternatives 3, 3 Modified, 5, and 6B are relatively similar in cost. The cost for Alternative 6A is higher compared to the other alternatives mainly due to impacts to the Thomas Edison Charter School. The project cost calculations and assumptions are provided in Appendix B.

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<thead>
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<th>Alternative</th>
<th>3</th>
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### 5.5.8 Summary of Least Overall Harm

Alternative 3 Modified causes the least overall harm in light of Section 4(f)’s preservation purpose and in balancing the seven factors listed in 23 CFR 774.3 (c)(1). There is no feasible and prudent avoidance alternative, and the project has included all possible planning to minimize harm to Section 4(f) properties. Therefore, Alternative 3 Modified must be selected by FHWA as the Preferred Alternative.
5.6 MEASURES TO MINIMIZE HARM

Avoidance, minimization, and mitigation measures have been considered during development of the Build Alternatives. As the Build Alternatives were developed, design modifications were made to lessen the impact on the Section 4(f) properties.

As discussed in Section 5.4, the alignment for Alternative 3 Modified was designed with the intent to avoid the historic property at 158/160 East 2600 North, and to minimize impacts to the George S. Eccles Ice Center. All alternatives would result in *de minimis* impacts to Section 4(f) resources, with the exception of Alternative 6B.

Alternative 3 Modified is the Preferred Alternative. As discussed in Section 5.4, mitigation required for *de minimis* impacts to the George S. Eccles Ice Center include reconfiguration of the northwest access.

5.7 COORDINATION

FHWA has coordinated with agencies that have jurisdiction over the affected Section 4(f) resources. Correspondence is available in Appendix A including the following:

- Significance letter from NPIC regarding the George S. Eccles Ice Center
- Significance letter from North Logan City regarding Meadow View Park and the undeveloped agricultural lands within the Cache County Multiple Use Park
- Significance letter from Cache County regarding Meadow View Park and the undeveloped agricultural lands within the Cache County Multiple Use Park
- Significance letter from Hyde Park City regarding the undeveloped agricultural lands within the Cache County Multiple Use Park
- Section 4(f) *de minimis* concurrence letter regarding the George S. Eccles Ice Center
- Section 4(f) *de minimis* concurrence letter(s) regarding Meadow View Park
- DOE/FOE
- Statewide Programmatic Agreement between FHWA, ACHP, SHPO, and UDOT regarding Section 4(f) *de minimis* determination

Coordination has included correspondence between FHWA and federally recognized tribes that may have cultural and historical interest within the study area. The tribes consulted included the Skull Valley Band of Goshute Indians, Northwestern Band of Shoshone Nation, the Shoshone-Bannock Tribes, and the Eastern Shoshone, as well as the U.S. Bureau of Indian Affairs. None of the tribes have indicated concerns with the project.