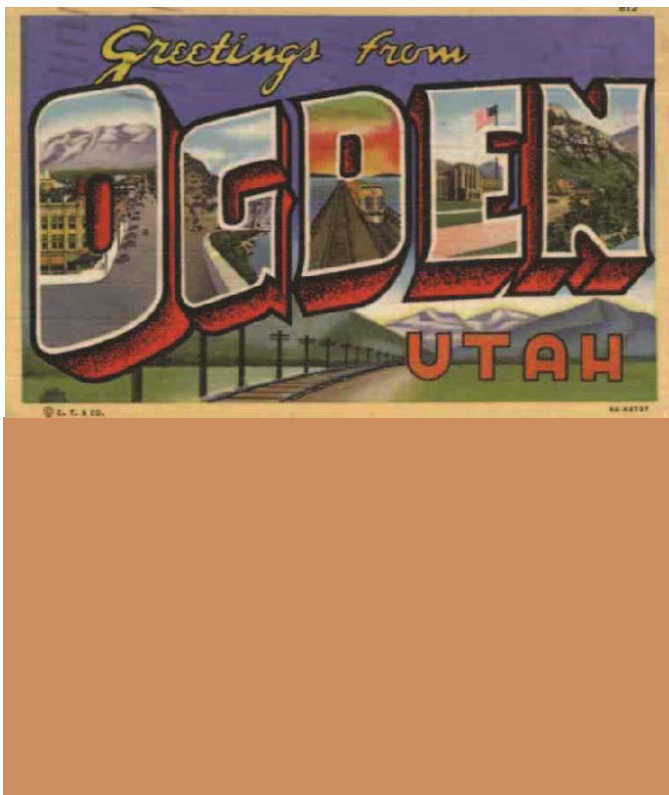


## **APPENDIX B2**

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### Social Environment Technical Report





# Social Environment Technical Report

**Ogden/Weber State University Transit Project**

*Ogden, Weber County, Utah*

October 9, 2018



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# 1.0 Introduction

This technical report describes the social (or community) environment in the project study area and in the evaluation area for specific community facilities and recreation resources for the Ogden/Weber State University Transit Project and evaluates how the social environment would be affected by the Action Alternative. The Action Alternative is the Bus Rapid Transit on 25th Street Alternative, which was selected by the Ogden/Weber State University Transit Project partners and adopted by the Ogden City Council as the Locally Preferred Alternative.

The social environment is analyzed in terms of the following elements:

- Neighborhood and community impacts
- Safety and security
- Bicyclist and pedestrian safety
- Community facilities and recreation resources
- Public services and utilities

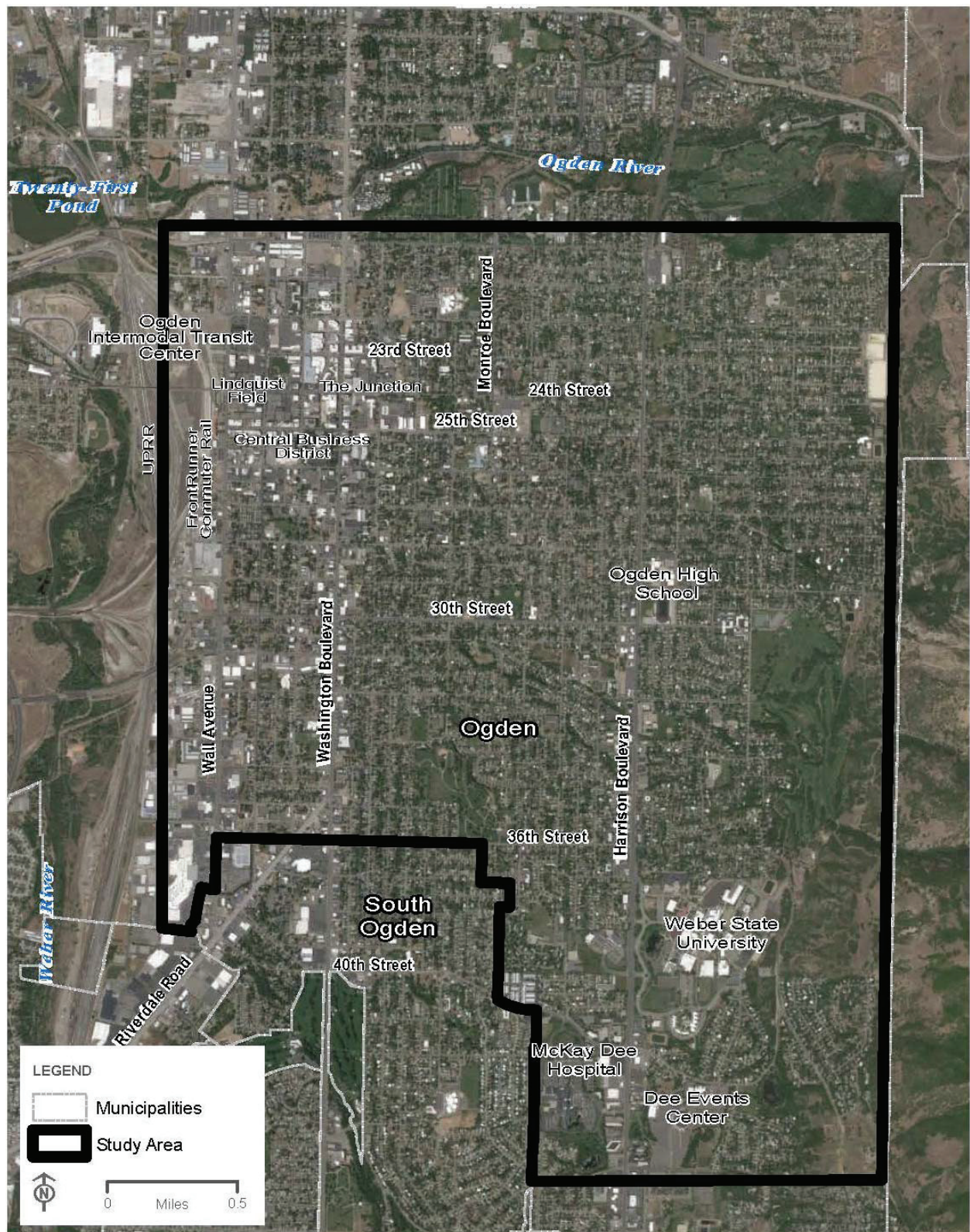
Minority and low-income populations are discussed in the *Environmental Justice Technical Report* in Appendix B3 of the Environmental Assessment.

Implementation of the No-Action Alternative would not result in adverse impacts to the social environment. The affected environment (existing conditions) would remain unchanged from current conditions.

**Project Study Area.** The project study area encompasses a 5.3-mile corridor between downtown Ogden, Weber State University, and McKay-Dee Hospital. The project study area is located in the city of Ogden in Weber County, Utah. The project study area encompasses a portion of downtown central Ogden bounded by the Union Pacific Railroad line to the west, 20th Street (State Route [S.R.] 104) to the north, the city limits at the base of the Wasatch Mountains to the east, and about 4600 South to the south, the southwestern part of which follows the Ogden/South Ogden municipal boundary (Figure 1).



Figure 1. Project Study Area



OGDEN/WEBER STATE UNIVERSITY TRANSIT PROJECT  
STUDY AREA



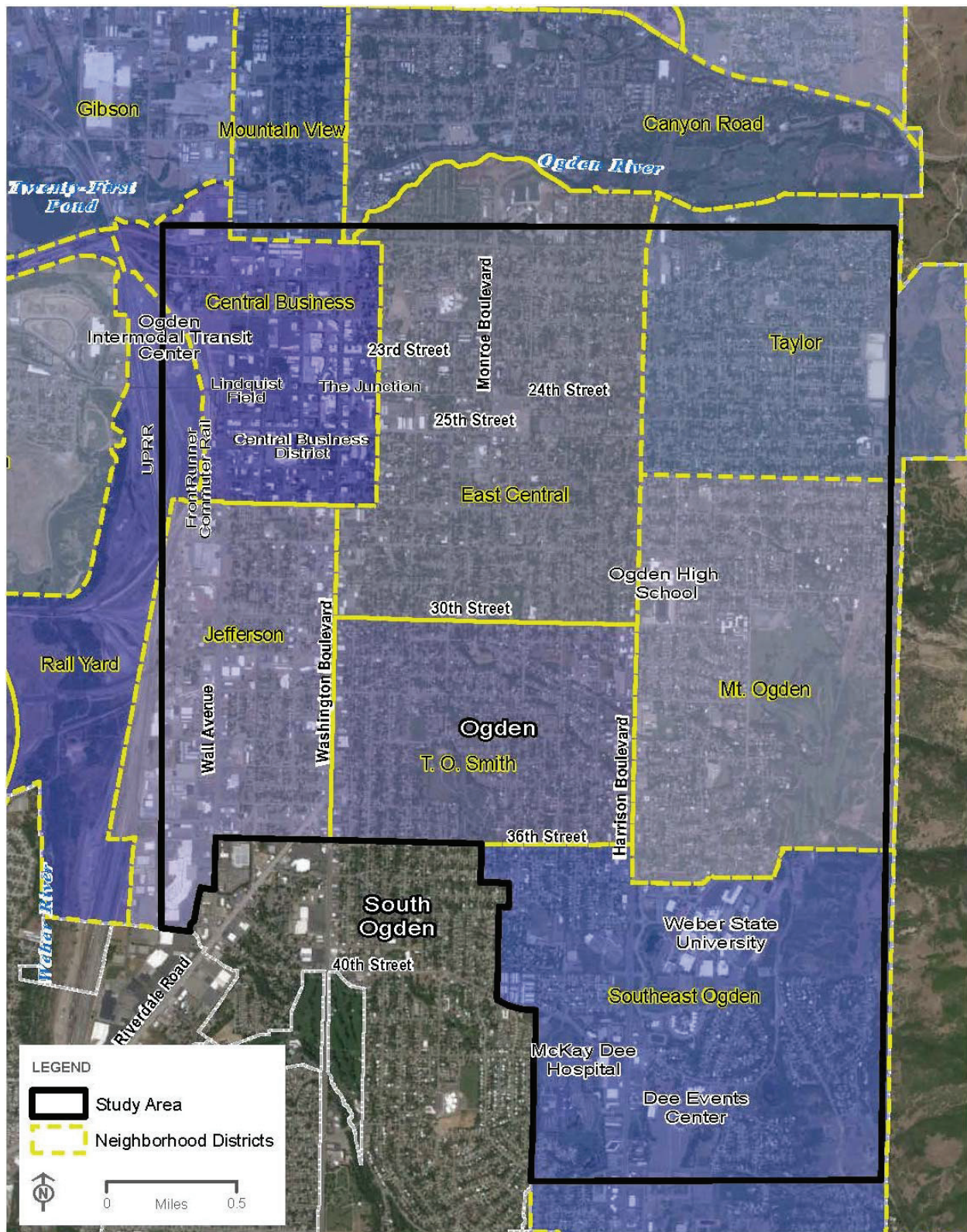
This project study area includes the following major destinations and Ogden neighborhood districts that could be served by the Action Alternative (Figure 2):

- The Ogden Intermodal Transit Center (FrontRunner operates frequent service from Ogden to Provo, an 88-mile route)
- Lindquist Field, a minor-league baseball stadium with an 8,262-person capacity
- The Junction, a 20-acre entertainment, residential, retail, and office mixed-use redevelopment
- The Ogden downtown central business district, which includes city, county, and federal offices
- Seven neighborhood districts: Central Business (downtown), East Central, Taylor, Jefferson, T.O. Smith, Mt. Ogden, and Southeast Ogden
- Ogden High School, with an annual enrollment of about 1,000 students in grades 10–12
- Weber State University, with about 2,500 faculty and staff and about 25,000 students (up from 17,000 in 2007), 840 of whom lived on campus as of September 2016 (Sears 2016)
- The Dee Events Center, a 12,000-seat sports and entertainment venue with a 3,000-space parking lot
- The McKay-Dee Hospital Center (at 2,300 employees, the fourth-largest hospital in Utah)

Ogden is one of the oldest communities in Utah and has a number of historic districts and neighborhoods. Much of central Ogden is served by a traditional grid street system, and a number of the major arterials are state highways managed by the Utah Department of Transportation (UDOT) which serve regional travel through Ogden. These major arterials are Washington Boulevard (S.R. 89), Harrison Boulevard (S.R. 203), and 30th Street (S.R. 79). Harrison Boulevard is part of the National Highway System and is a major north-south arterial that serves an important statewide transportation function through Utah by connecting Washington Boulevard (S.R. 89), Weber State University, and 12th Street (S.R. 39). The Union Pacific Railroad (UPRR) line and the Ogden Intermodal Transit Center are on the western edge of the city, and Interstate 15 (I-15) is just west of the city.

**Social Environment Evaluation Area.** The social environment evaluation area is a subset of the overall project study area because the elements pertaining to the social environment that would most likely be affected by the Action Alternative are those along the proposed transit corridor. The social environment evaluation area includes all land within about one-half mile of the Action Alternative alignment and the stations. This evaluation area was chosen based on the assumption that changes to neighborhoods, community and recreation facilities, safety and security, and public services and utilities as a result of the Action Alternative would typically be focused on areas within about one-half of a mile of a transit facility.

Figure 2. Neighborhood Districts



OGDEN/WEBER STATE UNIVERSITY TRANSIT PROJECT  
NEIGHBORHOOD DISTRICTS



## 2.0 Project Description

The Federal Transit Administration (FTA) and the Utah Transit Authority (UTA), in cooperation with project partners Ogden City, Weber County, the Wasatch Front Regional Council (WFRC), UDOT, Weber State University, and McKay-Dee Hospital, have prepared an Environmental Assessment under the National Environmental Policy Act (NEPA; 42 United States Code §§ 4321–4347) for the Ogden/Weber State University Transit Project.

**Proposed Transit Corridor.** The proposed transit corridor is the alignment of the Action Alternative (Figure 3). The bus rapid transit (BRT) route for the Action Alternative would be about 5.3 miles long (10.6 miles round trip), with a western terminus at the Ogden Intermodal Transit Center. From there, the BRT route would head east in mixed-flow traffic on 23rd Street to Washington Boulevard, south on Washington Boulevard to 25th Street, east on 25th Street to Harrison Boulevard, and south on Harrison Boulevard. At about 31st Street and Harrison Boulevard, the BRT route would transition to center-running, bus-only lanes. It would continue on a dedicated busway through the Weber State University campus and then travel west to McKay-Dee Hospital, where it would again travel in mixed-flow traffic. The BRT route would loop back on the same route.

**Station Locations.** The Action Alternative includes 16 brand-identified stations. The station locations were chosen during the project’s Alternatives Analysis update process. Station spacing ranges from about 0.25 mile apart to about 0.50 mile apart; several stations on Harrison Boulevard would be farther apart because of the spacing of major destinations.

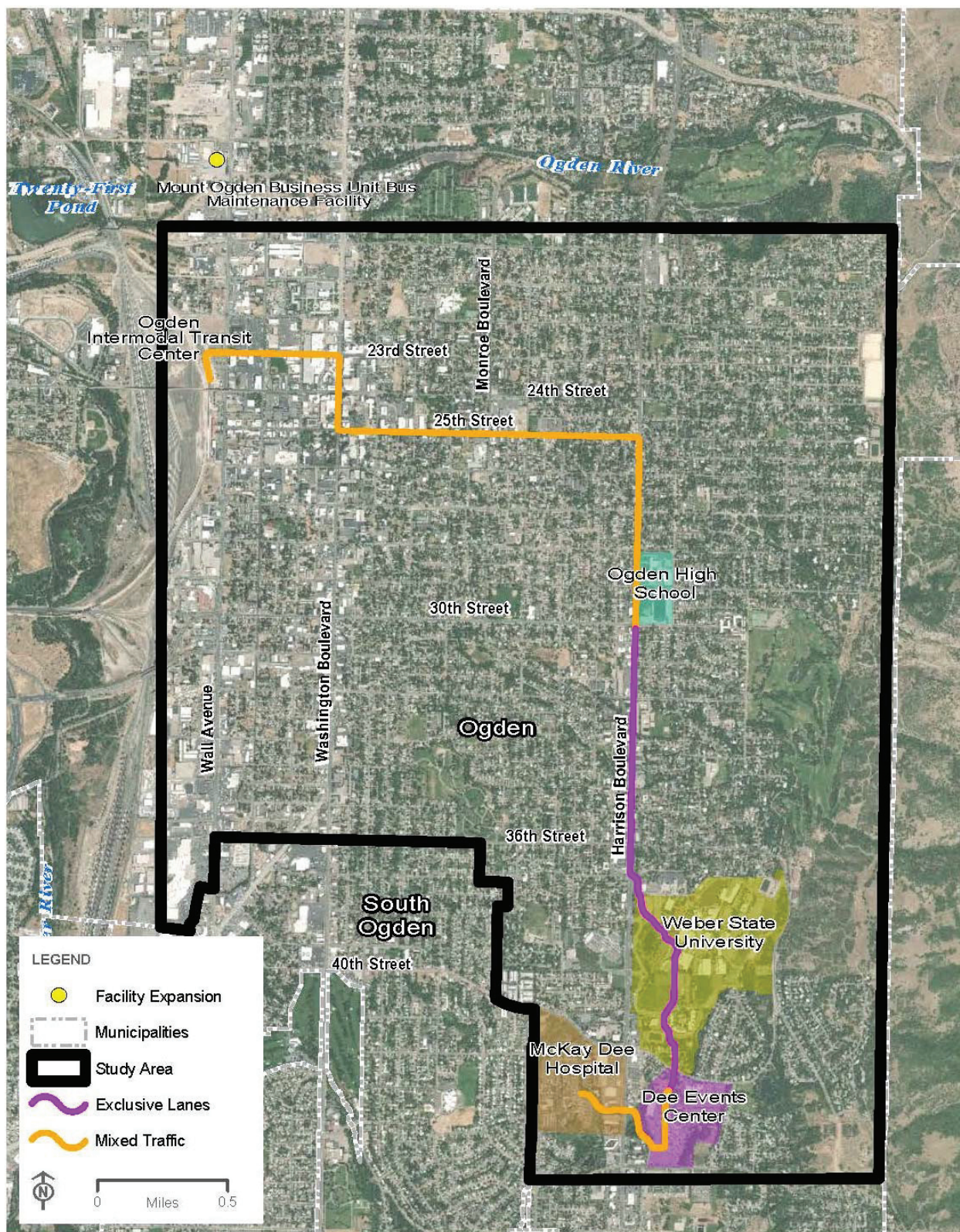
Of the proposed 16 stations, 11 are existing bus route 603 stations (including the termini at the Ogden Intermodal Transit Center and McKay-Dee Hospital) that would be enhanced as part of the Action Alternative. The project team agreed that not all 16 stations would be constructed for the BRT service’s opening day (2020). Three of the 16 stations are designated as future stop locations. The existing route 603 bus currently stops at two of these three locations, and those locations would be discontinued and new enhanced stations would be constructed in their place in the future based on ridership and station demand.

**Station Amenities.** The Action Alternative stations would include a platform, canopy, landscaped planter, and station amenities. The station would sit on a concrete bus pad elevated above the sidewalk curb height between 6 and 9 inches above the street grade. Stations would be about 125 feet long, with a platform length of 100 feet to accommodate two 40-foot-long BRT vehicles. Station shelters would be roughly comparable in size to existing UTA bus passenger shelters in the area, though somewhat longer.

At present, UTA anticipates that the shelters would be designed to include a combination of glass panels and solid support members that would have a minimal visual “footprint.” Station canopies would be opaque features that provide shelter from sun and rain and would be about 10 to 15 feet high, depending on the incorporation of decorative architectural features that would be determined during final design.



Figure 3. Action Alternative



OGDEN/WEBER STATE UNIVERSITY TRANSIT PROJECT  
ACTION ALTERNATIVE



The platform provides the area for passenger waiting, boarding, and station amenities. The station platform would range from 8 to 25 feet wide, depending on the station location and the need for a platform to accommodate either single-direction travel or both southbound and northbound travel. Station amenities could include ticket vending machines, seating, lighting, a canopy and wind screens, garbage receptacles, and wayfinding information (maps and signs).

**Mount Ogden Business Unit Bus Maintenance Facility Expansion.** In conjunction with the Action Alternative, UTA would expand the existing Mount Ogden Business Unit Bus Maintenance Facility located at 175 W. 17th Street in Ogden. The Mount Ogden facility is currently operating at maximum capacity and cannot accommodate the additional eight BRT vehicles needed for the Action Alternative. As a result, the existing Mount Ogden facility would be renovated and expanded.

Operations at the Mount Ogden facility would continue to include maintenance, repairs, inspections, and cleaning for the existing bus fleet and the additional BRT vehicles. The BRT vehicles would be maintained and stored overnight at this facility. The north maintenance building would be expanded to the east by about 8,000 square feet, remaining within property currently owned by UTA and remaining within the existing parking lot pavement area; no additional right-of-way would be required. The expansion would consist of four new bus maintenance bays, which are covered areas for maintaining the new BRT vehicles as well as buses already in the fleet. The expansion would bring the existing facility from about 32,000 square feet to just under 40,000 square feet.

**23rd Street and 25th Street Roadway Improvements.** To further support the Action Alternative, Ogden City would upgrade portions of 23rd Street and 25th Street to better accommodate the Action Alternative. 25th Street would be rebuilt from the bottom up, and, in certain instances, water mains would be replaced, storm sewers would be installed, and sanitary sewers would be repaired. Depending on the extent of the utility work, curbs might be fully replaced. Ogden City would also upgrade the roadway infrastructure on portions of 23rd Street between Wall Avenue and Kiesel Avenue to better support the Action Alternative and active transportation (walking and bicycling). Improvements would include adding a traffic signal at Lincoln Avenue, restriping, adding bicycle lanes, adding crosswalks, reconstructing curbs, and reconfiguring parking.

## 3.0 Regulatory Setting

Transit projects frequently produce social and economic effects and can influence the character and nature of communities. Guidance from FTA states that these types of impacts should be addressed in environmental documents (FTA 2015).

**Communities.** No specific regulations address community impact evaluations as part of the NEPA process. Because transit projects affect the social environment in several ways and can change the physical layout, demographics, and sense of neighborhood in local communities, FTA guidance states that project sponsors should work with local planning agencies throughout the NEPA process. The partnerships should include conducting public outreach to determine the impacts a proposed project would have on communities and identifying methods to avoid, minimize, and mitigate impacts. The guidance states that specific impacts to consider include creating physical and psychological barriers; changes in land-use patterns, circulation patterns, and access to services; changes in population densities; and effects on neighborhood cohesiveness (FTA 2015).

**Community Facilities and Recreation Resources.** No specific regulations address community facility and recreation resource impact evaluations as part of the NEPA process. This report addresses community facilities and recreation resources because they are important elements of the community.

**Safety and Security.** No specific regulations address safety and security impact evaluations as part of the NEPA process. FTA guidance states that safety and security concerns should be addressed in a project's environmental document so that the public is aware that such concerns have been considered in the development of the project. Specifically, projects should be evaluated to identify potential pedestrian and traffic hazards and user and employee security issues. When adverse impacts are identified, environmental documents should discuss mitigation methods (FTA 2015).

**Bicyclist and Pedestrian Safety.** The U.S. Department of Transportation (DOT) issued the *United States Department of Transportation Policy Statement on Bicycle and Pedestrian Accommodation Regulations and Recommendations* on March 11, 2010, to reflect DOT's support for the development of fully integrated active transportation networks. The policy states that "every transportation agency has the responsibility to improve conditions and opportunities for walking and bicycling and to integrate walking and bicycling into [its] transportation systems" (FHWA 2017).

**Public Services and Utilities.** No specific regulations address public service and utility impact evaluations as part of the NEPA process. This report addresses public services and utilities because they are important elements of the community. In addition, in some cases, the Action Alternative could affect public services and utilities, which consequently could require protection in place or removal and replacement.

## 4.0 Affected Environment

### 4.1 Methodology

The Ogden/Weber State University Transit Project Study project team obtained information about the community environment by meeting with affected stakeholders including Ogden City and Weber State University staff and various additional public service and utility providers, reviewing literature prepared by local and regional governments and organizations and reviewing comments received during public outreach efforts. The project team also reviewed publicly available demographic and community information such as U.S. Census Bureau data and data from Ogden City, local chambers of commerce, and the State of Utah.

### 4.2 Community Conditions

The project study area is located in a region of rapid population growth and has strong existing transit use. State and local government officials expect continued rapid growth in this area. Currently, 380,000 daily person-trips occur in the project study area, and WFRC expects this number to increase to 515,000 (an increase of about 36%) by 2040 (Larsen 2015).

#### What is the Wasatch Front Regional Council (WFRC)?

The Wasatch Front Regional Council is the designated metropolitan planning organization that works in partnership with the Utah Transit Authority, UDOT, city and county governments, and other stakeholders to develop the Regional Transportation Plan for the Wasatch Front Urban Area. This plan is the region's plan for highway, transit, and other transportation-related improvements to meet the area's growing transportation needs over the next 30 years.

#### 4.2.1 Transit in the Project Study Area

Three of the most heavily used transit routes in the project study area (UTA bus routes 455, 603, and 640) have a combined daily ridership of nearly 5,000. In addition, route 650 provides non-stop service between the Ogden Intermodal Transit Center and Weber State University when the University is in session for regular fall and winter semesters.

Another route, 645, makes regular stops along Old Post Road just west of University Village and began making stops at the shuttle bus stop at the Dee Events Center parking lot in the spring of 2016. Weber State University's Wildcat Shuttle provides an alternative connection to walking between the additional campus parking at the Dee Events Center and the main campus. Currently, the shuttle buses run fall and winter semesters from 6:30 AM to 8:30 PM. They run every 15 minutes from 6:30 AM to 7:00 AM and every 4 to 5 minutes from 7:00 AM to 2:00 PM. After 2:00 PM, the shuttles again run every 15 minutes. Shuttle ridership varies by semester and day, but overall the shuttle service has an average of over 2,600 daily riders.

#### 4.2.2 The Wasatch Front

The Wasatch Front, which consists of Davis, Salt Lake, Utah, and Weber Counties, is located along the Wasatch Mountains. It is situated near transportation arteries I-15 and Interstate 80, the Salt Lake City International Airport, and the state's major colleges and universities. During the last decade, Utah's fastest-growing cities reflected trends similar to the growth of



the state's counties, with both showing significant population growth along the Wasatch Front. Nine of the 10 fastest-growing cities in Utah with populations over 9,000 are located in Salt Lake, Utah, Davis, or Weber County (OLRGC 2012).

According to the 2010 U.S. Census (U.S. Census Bureau 2010), Utah's racial makeup is 86.1% White, 2.0% Asian, 1.2% American Indian or Alaska Native, 1.1% Black or African American, and 0.9% Native Hawaiian or Other Pacific Islander. Two other census categories, Some Other Race (6.0%) and Two or More Races (2.7%), account for the balance of racial categories. In addition, 358,340 people, or 13% of Utah's population, claimed Hispanic ethnicity. This is a marked increase from previous census counts. In 1990, nearly 5% of Utah residents claimed Hispanic ethnicity, and by 2000 this number had increased to 9%. Of Utah's 29 counties, Weber County has the third-largest number of Hispanic residents (38,711) and the second-largest percentage of Hispanic residents (16.7%) (OLRGC 2012).

### 4.2.3 Weber County Demographics

Weber County is the smallest of the four counties along the Wasatch Front; the county had a population of 231,236 in 2010 and 240,693 in 2015 (Weber EDP, no date). The Weber County region has experienced rapid growth in population and employment over the past two decades and is anticipated to continue this growth trend with a growth rate between 2010 and 2015 over 4%. By 2020 the county's population is forecasted to be 258,423, and by 2040 the county's population is forecasted to be 349,009, an increase of about 51% over the 2010 population (GOMB 2015). Employment in Weber County was 117,786 in 2010; this is anticipated to increase to 139,623 by 2020 and to 179,443 by 2040, an increase of about 52% over the 2010 employment (GOMB 2007).

### 4.2.4 Ogden Demographics

**Population.** Ogden is the most-populated city in Weber County and is the fifth largest in the Salt Lake City and Ogden-Layton urbanized areas. Ogden is expected to grow from its current population of about 85,000 to just over 90,000 in 2020 and to about 102,000 by 2040 (GOMB 2015).

In 2015, Ogden had a population of 85,444, and its residents had a median age of 37.3 years (U.S. Census Bureau 2013). About 10% of Ogden's population is 65 or older, while about 28% is younger than 18 years of age. The average family size is 3.36 people (U.S. Census Bureau 2010). Downtown Ogden has daytime population of about 8,500, and over 114,500 people live within a 10-minute drive of downtown (Ogden City 2015a). The residential population within a quarter mile of the proposed transit corridor in 2010 was 13,870, and employment along the proposed transit corridor was 20,642 (U.S. Census Bureau 2010).

Ethnic and racial minorities make up about 35% of Ogden's population. The largest minority group is people of Latino/Latina or Hispanic ethnicity, who are about 30% of the city's population (U.S. Census Bureau 2013).

**Employment.** Ogden is the center for business and government in Weber County and for much of northern Utah. Employment continues to grow, with Ogden being ranked #10 in the nation for jobs created in 2008. Ogden is the largest employment area in Weber County and the third largest in the region. In 2008, Ogden was estimated to have about 70,000 jobs, or

65% of all jobs in Weber County. By 2030, job growth is expected to reach 90,000 and to continue to represent the majority of the county's job market. According to American Community Survey data (U.S. Census Bureau 2013), between 2009 and 2013, an average of about 36,000 Ogden residents age 16 and older were employed, 25,000 (73%) of whom worked in Weber County. The average commute time to work for those who work in Weber County is about 19 minutes (TownCharts.com, no date).

Nearly half of the total citywide population and employment in Ogden is located in the project study area, although the project study area accounts for only a quarter of the city's total land area. A few of the top employers in Ogden are McKay-Dee Hospital, Weber State University, the Internal Revenue Service, and the Ogden City School District. In March 2016, Air Medical Resource Group opened a new maintenance facility in the city, and other major businesses have opened shop in Ogden in the last several years, including online retailer Wayfair, aerospace and defense technology company Northrup Grumman, and 3-D printing company White Clouds.

In addition, since Ogden hosted several skiing and curling events during the 2002 Winter Olympic Games, some of the most high-profile brands in the outdoor sporting goods industry have made Ogden their headquarters. Such relocations and expansions include Salomon, Suunto, Atomic, Descente, Nidecker Snowboards, Goode Technologies, Rossignol, Scott, and Quality Bicycle. *The Wall Street Journal* has named Ogden "the center of outdoor sports gear in the U.S." (OgdenBusiness.com 2015).

Ogden is the center for business and government in Weber County and has about 6,100 businesses. In 2007, the retail sales per capita was \$12,313 (U.S. Census Bureau 2007). In 2013, about 65% of the civilian (non-military) population was in the labor force, and about 10.6% of the civilian labor force was unemployed. Most people commute to work alone in vehicles (about 75%). About 15% of residents carpool to work, while about 3% use public transit and about 2.5% walk.

**Household Income.** In 2013, the median household income was \$41,031, and about 23% of all people living in Ogden were living in poverty. The poverty rate for children only was about 30%. About 19% of all households in the county received food stamps in 2013 (U.S. Census Bureau 2013). Ogden City has identified several census tracts in the central business district and East Central neighborhoods as part of a Neighborhood Revitalization Strategy Area, an area that supports distressed neighborhoods, where *distressed* can mean physically and/or financially distressed.

**Transit and Land Use.** The percentages of walking and transit use are significantly higher in neighborhoods with a diversity of land uses. Because Ogden's central business district and East Central neighborhood were built around historic streetcar lines, many parts of the city have compact neighborhoods with diverse land uses. The East Central area that is centered on 25th Street has the highest level of land-use diversity outside of downtown. The land-use pattern becomes markedly less mixed along other segments of the proposed transit corridor, where either single-family or commercial uses predominate, an example being the more dispersed residential development in the Mt. Ogden area along the east side of Harrison Boulevard and north of the Weber State University campus (Ogden City 2012; Fregonese Associates, Inc. 2015).

### 4.2.5 Zero-Car Households

Because zero-car households are often dependent on public transportation, the project team evaluated the incidence of zero-car households along the proposed transit corridor as a way to estimate transit dependency. The results of the analysis show that the percentage of zero-car households along the part of the corridor between the Ogden Intermodal Transit Center and the intersection of 25th Street and Harrison Boulevard is between 15.1% and 30%. An exception is a segment between Adams Avenue and Madison Avenue, where 45.1% to 60% of the households are zero-car households; this percentage indicates a high level of transit dependency.

As the corridor turns south to travel along Harrison Boulevard, the proportion of zero-car households declines, with only a few short segments having 15.1% to 30% zero-car households. For most of the segment between the intersection of 25th Street and Harrison Boulevard and the Weber State University campus, between 1% and 15% of the households are zero-car households; this indicates that most of the people living along this part of the proposed transit corridor are not very transit-dependent (WFRC 2015).

### 4.2.6 Arts and Culture

The Ogden City Arts program is a City-managed program with a mission to enrich the lives of Ogden residents and visitors by ensuring access to visual, performing, and literary arts and arts education. In supporting arts organizations and independent artists, Ogden City Arts works to connect the arts to daily life, education, and economic development.

The Office of Ogden City Arts works closely with the Ogden City Arts Advisory Committee and provides direct oversight for Ogden's Percent for Art program, the First Friday Art Stroll, Ogden City Arts Grants, the Mayor's Awards in the Arts, and Arts on the Town. The Ogden City Arts program also provides support and funding for other arts and cultural projects, festivals, and events throughout the community (Ogden City Arts 2015). The Office of Ogden City Arts is currently leading development of an Arts Master Plan for Ogden. This 10-year master plan will strengthen arts and culture for all of Ogden's communities and people (Ogden City 2015b).

Residents have many opportunities for enrichment through events at Weber State University (including at the Dee Events Center) and other facilities outside but near the project study area, such as the Ogden Nature Center and the Golden Spike Events Center. Residents can view exhibits, attend special events, and take classes at the Eccles Community Art Center, which is one block south of the proposed transit corridor. In the summer, people enjoy baseball games at Lindquist Field and downtown events such as a farmers' market.

Outdoor recreation is an important component of life in the project study area. Although Ogden provides developed recreation opportunities such as parks (see Section 4.3, Community Facilities and Recreation Resources), area residents enjoy access to trails, campgrounds, and open space in the Uinta-Wasatch-Cache National Forest, to privately run ski areas, and to lakes and rivers for boating, fishing, and swimming.

In addition to serving students, Weber State University provides opportunities for local residents to watch or engage in sports and artistic performances, listen to lectures, and take enrichment classes.

## 4.2.7 Demographics and Transportation for the Weber State University Campus

Weber State University, which is in the southern part of the project study area, has an on-campus enrollment of 25,000 students, up from 17,000 in 2007 (Ogden City 2015a).

According to its 2004 Master Plan (the current 2017 Master Plan does not include updated statistics), Weber State University plans to add 10,000 new students, staff, and faculty between 2007 and 2030. This equals about 6,500 between 2015 and 2030, since about 50% of this growth has already occurred (new estimates for the current project's horizon year of 2040 are not available). The University also plans to have 25% of the trips to and from campus occur via transit, up from a transit mode share of 11% in 2004 (Weber State University 2004).

Currently, 380,000 daily person-trips occur in the project study area, and WFRC expects this number to increase to 515,000 (an increase of about 36%) by 2040 (Larsen 2015). Based on an extrapolation of this mode share target and the future campus population, over 4,000 daily boardings are estimated for the Weber State University campus alone by 2030. In addition, Weber State University runs a campus shuttle between the Dee Events Center parking lot and the campus's Stewart Library that carries about 2,600 riders per day, or about 15,000 riders per week (UTA 2018).

Because of the large portion of students who commute to campus and the University's desire to decrease parking needs and increase transit use to campus, more-robust local and regional transit options to this location will become a key aspect of accommodating this future growth and demand.

Weber State University is primarily a commuter school because it has very limited dormitory space, with on-campus housing for about 750 students, though the University plans to add additional on-campus housing as part of its campus Master Plan. UTA and Weber State University partner to provide the free Ed Pass to students, staff, and faculty, but currently only about 11% of students, staff, and faculty use transit.

### What is the Ed Pass?

The Ed Pass is a free benefit from Weber State University that provides students with free and unlimited access to all Utah transit.

Students and faculty have long had concerns about campus access and parking. During a campus master planning process in 2002, students and faculty described significant problems entering and exiting the campus from Harrison Boulevard and other streets, particularly at the 4100 South intersection. Students and faculty shared concerns about the quantity and cost of parking. Because the university is a commuter school, a typical student might arrive at and leave the campus several times throughout the day. Students and faculty want to park as close as possible to their destination, but parking near the campus core is not always abundant, particularly during peak hours.

Several master plan participants felt that it was important to look at the parking issue in a broad and forward-looking manner. They suggested that future parking should be ample but must also be sensitive to preserving and maintaining open space on campus, with a balance between the two. The 2004 Master Plan states a desire to have better transit connections to

the campus, with particular attention to the south side of the campus (Weber State University 2004).

Weber State University's Wildcat Express Shuttle loops between the Dee Events Center and the bus stop near the Stewart Library in the center of the university campus. The shuttles pick up riders from the south side of the Dee Events Center parking lot and drop off riders next to the library near the center of campus. These are the only two stops. The shuttle buses run fall and winter semesters from 6:30 AM to 8:30 PM. They run every 15 minutes from 6:30 AM to 7:00 AM and every 4 to 5 minutes from 7:00 AM to 2:00 PM. After 2:00 PM, they again run every 15 minutes.

The shuttle bus system offers students a free ride from the Dee Events Center parking lot to the center of campus. The shuttles are provided by the University to help alleviate congested parking on campus. Data from the University show that an average of over 2,600 riders per day ride the shuttle buses between the Dee Events Center and Stewart Library on the Weber State University campus (UTA 2018). Strong existing transit ridership on campus in the project study area overall, and the projections for significantly increased travel demand, require capacity to be increased substantially in the project study area. The capacity needed will exceed UTA's capability to satisfy the demand with conventional bus service. A higher-capacity mode is needed to achieve operating efficiencies and meet passengers' requirements for a shorter travel time.

The Action Alternative addresses the University's desire to provide better transit connections to the campus. A 2013 update to the campus Master Plan map includes the proposed transit corridor as a "proposed street car path" (Weber State University 2013).

## 4.3 Community Facilities and Recreation Resources

Table 1 lists the public community and recreation facilities in the project study area, and Table 2 lists the recreational trails and paths in the project study area.

**Table 1. Public Community and Recreation Facilities in the Project Study Area**

Type of Facility	Name	Address	Amenities and/or Programs
Park and community gathering place	Municipal Gardens and City Hall Park	343 25th St.	Amphitheater, playground, gardens, grassy areas, and restrooms; host site for community farmers' market
Park	Liberty Park	751 21st St.	Playground, picnic area, softball backstops, tennis courts, grass areas, and restrooms
Senior center	Golden Hours Senior Center	650 25th St.	Health and wellness, exercise and fitness, art, nutrition, music, job skills, computer training and educational programs; opportunities for socialization
Baseball fields	Lindquist Field	2330 Lincoln Ave.	Home of Ogden Raptors baseball team; seats 6,700
Park	Lester Park	663 24th St.	Grass areas, playground, picnic area, and restrooms; adjoins Ogden City Library Main Branch and Golden Hours Senior Center
Library	Weber County Library – Main Branch	2464 Jefferson Ave.	Public library services
Community center	Marshall White Community Center	222 28th St.	Indoor swimming pool and basketball court, weight training and craft rooms, gaming tables
Park	Marshall White Park	222 28th St.	Sports fields, playground, covered picnic area; adjoins Marshall White Community Center
Park	Lion's Club Park	1243 22nd St.	Playground, soccer field, grass areas, and restrooms
Park	Monroe Park	850 30th St.	Playground, picnic area, sports fields, tennis courts, basketball court, horseshoe pit, and restrooms
Park	Mt. Ogden Park	3144 Taylor Ave.	Playground, picnic areas, sports fields, grassy areas, tennis courts, and restroom; adjoins Mt. Ogden Golf Course
Golf course	Mt. Ogden Golf Course	1787 Constitution Way	Municipal 18-hole golf course
Park	Dee Memorial Park	2424 Harrison Blvd.	Grass areas and picnic areas
Park	Jaycee Park	2465 Fillmore Ave.	Grass areas, playground, picnic area, and restrooms
Park	Beus Pond Park	4240 Country Hills Dr.	Pond, trails, benches, picnic areas, playground, and restrooms; adjoins Forest Green Park

(continued on next page)



**Table 1. Public Community and Recreation Facilities in the Project Study Area**

Type of Facility	Name	Address	Amenities and/or Programs
Park	Forest Green Park	4302 Taylor Ave.	Sports fields (informal), picnic areas, and playground; adjoins Beus Pond Park
Community gathering place	Ada Lindquist Plaza	1905 University Cir.	Duck pond and green space; grounds used for concerts
Community sports center	Weber County Sports Complex	4390 Harrison Blvd. (on Weber State University campus)	Ice sheet and softball field
Events center	Dee Events Center	4444 Event Center Dr. (on Weber State University campus)	Venue for concerts and cultural events; used for Weber State University sports events
Park	Glassmann Pond Park	1126 East 4600 South	Pond, trails, benches, picnic areas, and restrooms

Source: Ogden City 2015c

**Table 2. Recreational Trails and Paths in the Project Study Area**

Type of Facility	Name and/or General Location
Trail	Weber River Parkway; follows Weber River, which is west of the Ogden Intermodal Transit Center
Trailhead with parking	Ogden Intermodal Transit Center
Trail	Paved trail that connects the Ogden Intermodal Transit Center to 21st Street
Trailhead	Grant Avenue trailhead
Trail	Bluff Trail; unpaved trail starting near the intersection of 20th Street and Ogden Avenue
Trailhead	Mt. Ogden Park trailhead; provides access to Gib's Loop Trail near intersection of 32nd Street and Taylor Avenue
Trailhead	Marquardt Park trailhead; unpaved trail segment that provides access to Gib's Loop Trail on Taylor Avenue just south of 32nd Street
Trail	Gib's Loop; paved/unpaved trail around Mt. Ogden Golf Course; connects to dirt trails in foothills east of the golf course
Trailhead	36th Street trailhead; provides access to dirt trails in foothills east of Weber State University
Trailhead	Trail access on Skyline Parkway; provides access to dirt trails in foothills east of Weber State University
Trailhead	Discovery trailhead; provides access from Skyline Parkway near Stewart Stadium to dirt trails in foothills east of Weber State University
Trailhead	Beus Drive trailhead; provides access to dirt trails in foothills east of Weber State University
Trailhead	Beus Canyon trailhead; provides access to dirt trails in Beus Canyon

Source: Ogden City 2015d



**Bicycle Facilities.** According to the Ogden City Bicycle Master Plan (Ogden City 2016), UTA’s First/Last Mile Strategies Study recommended implementing bicycle network improvements near transit stations, along with bike share stations and wayfinding to bike racks and lockers. UTA and Ogden City would work together to ensure that all of the enhanced station amenities associated with the Action Alternative meet the goals and objectives of both Ogden’s Bicycle Master Plan and the objectives of the First/Last Mile Strategies.

In addition, WFRC’s 2017–2022 Transportation Improvement Program includes a bike-share program in Ogden that would incorporate bike stations at several locations throughout Ogden, including at least two on the Action Alternative alignment (at the Ogden Intermodal Transit Center and on 25th Street). The bike-share program was included in the city’s Bicycle Master Plan and would help combat the first/last mile transit problem of providing a direct connection to a transit user’s final destination.

According to Ogden’s Bicycle Master Plan, the city has two connected streets in the central business district and the East Central community with dedicated bicycle lanes:

- **Washington Boulevard** – north-south from 20th Street to 26th Street
- **26th Street** – east-west from Washington Boulevard to Harrison Boulevard

**What are bicycle lanes and bicycle routes?**

A bicycle lane is a designated bicycle-only lane on the side of the road for one-way bicycle travel.

A bicycle route is a vehicle lane that is designated by signs as accommodating bicycle travel.

In addition, Ogden currently has a number of bicycle routes including one on Harrison Boulevard, although the Bicycle Master Plan acknowledges that Harrison Boulevard is a high-traffic road that is currently intimidating to most cyclists (Ogden City 2016). Ogden’s Bicycle Master Plan, as well as the 2013 Utah Collaborative Active Transportation Study (UCATS) and the 2014 State Bicycle Plan, all propose a bicycle lane along Harrison Boulevard in the project study area.

The Bicycle Master Plan also includes several other bicycle routes that have segments adjacent to or crossing the proposed transit corridor. Pedestrian and bicycle facilities would remain unaffected by the Action Alternative, though many improvements to bicycle facilities cited in the Ogden Bicycle Master Plan and other local and regional plans would be incorporated in conjunction with the Action Alternative.

As part of the bicycle master planning process, Ogden City staff and residents expressed a need for a comfortable bicycle connection between downtown Ogden (and the FrontRunner station) and the Weber State University campus (Ogden City 2016). The topography between the FrontRunner station and campus presents a hilly climb that can be challenging for some riders. Ogden City identified a zigzag route through the city to lead riders between the train station and campus on typically quiet streets with a gradual incline. This route (the Weber State Wildcat Bicycle Route) would essentially be a bicycle route, replacing the standard shared-lane pavement markings with a route-specific branded marking to indicate the route. The Weber State Wildcat Bicycle Route is included in the Bicycle Master Plan as a Phase 1 project, meaning that it is a high-priority project for the City, to be constructed as funds become available.

The Weber State Wildcat Bicycle Route will share one leg of the proposed transit corridor as it leaves the Ogden Intermodal Transit Center and heads east on 23rd Street. However, the bicycle route will stay off Washington Boulevard, 25th Street, and Harrison Boulevard en route to Weber State University and instead will stay on quieter streets.

**Recreation Programs.** In addition to providing recreational opportunities through developed facilities, Ogden City and Weber County operate community recreation programs that provide sports leagues and recreation activities for youth and adults.

**Schools and Pedestrians.** In addition to providing education, schools also provide recreational opportunities and places for residents to gather. There are several schools within one-half mile of the proposed transit corridor and a few right on the corridor, including Ogden High School at 2828 Harrison Boulevard, Mt. Ogden Junior High School at 3260 Harrison Boulevard, and Weber State University.

Table 3 lists the schools, including Weber State University, that have service areas through which the proposed transit corridor passes and/or that are within about one-half mile of the corridor.

**Table 3. Schools within One-Half Mile of the Proposed Transit Corridor**

Type	Name	Address
High school	Washington	55 28th St.
High school	Ogden	2828 Harrison Blvd.
High school	Bonneville	251 East 4800 South
High school	St. Joseph	1790 Lake St.
Junior high	Mt. Ogden	3260 Harrison Blvd.
University	Weber State	3848 Harrison Blvd.
Elementary	Odyssey	375 Goddard St.
Elementary	Dee	550 22nd St.
Elementary	James Madison	2563 Monroe Blvd.
Elementary	Polk	2615 Polk Ave.
Elementary	Wasatch	3370 Polk Ave.
Elementary	T.O. Smith	3295 Gramercy Ave.
Elementary	Shadow Valley	4911 South 1500 East
Elementary	Club Heights	100 East 4150 South
Elementary	Mar Lon	4400 S. Madison Ave.
Elementary	St. Joseph	2980 Quincy Ave.

Sources: Weber School District 2015a, 2015b; Ogden City 2010; Ogden School District 2015

**Churches and Other Private Institutions.** In addition to public facilities, several churches and other private institutions such as medical facilities (including McKay-Dee Hospital) and private schools serve the project study area.

## 4.4 Safety and Security

**Emergency Response Providers.** The Ogden City Fire Department provides fire incident response and paramedic services in the project study area, while the Ogden Police Department provides law enforcement services to the community. In addition, Weber State University campus police provide police services to the university community. McKay-Dee Hospital is located at the southern end of the social environment evaluation area. Table 4 lists the emergency response providers that are located within about one-half mile of the proposed transit corridor.

**Table 4. Emergency Response Providers within One-Half Mile of the Proposed Transit Corridor**

Type	Name	Address	Within ½ Mile of Corridor
Police	Ogden Police Dept.	2186 Lincoln Ave.	✓
Police	Weber State University Police	3734 Dixon Pkwy.	✓
Fire	Ogden Fire Station #1	2186 Lincoln Ave.	✓
Fire	Roy City Fire & Rescue Dept.	5051 South 1900 West	✓
Fire	Weber Fire District	2023 West 1300 North	
Fire	Fire Dept.	4459 South 700 West	
Fire	North View Fire District	315 East 2550 North	
Fire	Ogden Fire Station #4	738 West 2400 South	
Fire	Ogden Fire Station #5	3450 S. Harrison Blvd.	✓
Fire	Ogden Fire Station #2	1169 East 2100 South	✓
Fire	Ogden Fire Station #3	340 S. Washington Blvd.	
Hospital	McKay-Dee Hospital	4401 Harrison Blvd.	✓

In addition to the public and institutional emergency response providers listed above, UTA's Safety and Security Department and safety employees, including Transit Police Officers, regularly monitor UTA operations and properties. UTA has an ordinance that establishes safety, fare enforcement, parking enforcement, and orderly conduct requirements for public-transit users.

**Public Safety.** Transit riders are usually concerned about the safety of vehicles left in parking lots and their personal safety while using a transit system. Transit users in the project study area currently use existing park-and-ride facilities at the Ogden Intermodal Transit Center and parking areas at and near the Weber State University campus, the Dee Events Center, and McKay-Dee Hospital. These parking areas already exist and are patrolled by UTA police, Ogden City police, and Weber State University campus police.

How a person feels about security is an important element of personal safety. UTA's ordinance provides a framework for rider and employee safety, but how safe a passenger feels overall is also related to the environment within which a transit parking area, transit stop and boarding zone, and walking zone are located.

### What is a walking zone?

A walking zone is the area through which a transit passenger has to walk to reach a boarding zone.

The most recent Federal Bureau of Investigation Uniform Crime Report data available from 2013 show that, overall, crime in Ogden is decreasing. For the 10-year period from 2004 through 2013, the total number of all crimes in Ogden decreased by almost 20% (FBI 2014, 2015). The decrease in Ogden is greater than the national change during this period, which was a decrease of about 16.5% (FBI 2014). The overall decrease in crime increases the security for people living along the proposed transit corridor and using transit.

## 4.5 Public Services and Utilities

In general, utilities in and adjacent to the Action Alternative alignment include culinary water lines and storage reservoirs, sanitary sewer lines, storm sewer lines, natural-gas supply lines, power distribution lines and accessory structures (power poles), telephone lines and accessory structures (manholes, risers, and aerial facilities), and fiber-optic lines and accessory structures (manholes and risers, drainage structures, and storm drains) (Ogden City, no date).

Because the project study area is developed, it has many aboveground and underground utilities. Some of these utilities are publicly owned and operated, but others are owned and operated by licensed private entities, including Dominion Energy and Rocky Mountain Power. Ogden City has water, sewer, and stormwater facilities throughout the proposed transit corridor. According to public utilities officials with Ogden City, culinary water lines and sanitary sewer lines are typically located 10 feet off the centerline of a roadway on opposite sides. Water lines are typically buried 4 feet deep, and sewer lines are typically buried 8 feet deep.

Other utilities owned and operated by licensed private entities include Comcast, AT&T, CenturyLink, and Syringa. In addition, Weber Basin Water Conservancy District and Pineview Water Systems both supply irrigation and/or culinary water to parts of the project study area, while South Ogden City stores water near the Country Hills neighborhood in the study area. Dominion Energy natural gas lines are typically buried about 4 feet deep and are commonly aligned with the curb and gutter or sidewalk, and Rocky Mountain Power electrical lines that are typically pole-mounted within the park strip. Secondary-water irrigation pipes, street lighting, and communications lines are also present in the project study area.

Weber State University owns and operates numerous utilities on campus, including storm drain, culinary water, irrigation, sewer, power, electrical, and communication facilities. In addition, in 2016, the University installed 200 deep-water geothermal wells in the parking lot north of Stewart Stadium. The geothermal wells regulate temperatures in the older steam and chilled water system that the University uses to heat and cool campus buildings.

The project study area includes a segment of the South Ogden Highline Canal, which was originally built as part of the U.S. Bureau of Reclamation's Ogden River Project in the mid-1930s. The comparatively small Ogden River Project is located in Reclamation's Upper Colorado Region and includes Pineview Dam and Reservoir, the Ogden Canyon Conduit, the

### What are utility treatments?

Utility treatments are intended to prevent damage to utilities. Utility treatments are based on the level of potential conflict and can consist of protecting utilities during construction, removing or relocating utilities from the conflict area, extending the utility casing, installing a new utility casing, or other measures. A utility casing is a larger pipe in which the utility lines are enclosed.

Ogden Canyon Siphon, the South Ogden Highline Canal, and the Ogden-Brigham Canal (Stene 1993). For more information about the South Ogden Highline Canal, see Appendix C1, Bureau of Reclamation Coordination regarding South Ogden Highline Canal, of the Environmental Assessment.

## **5.0 Environmental Consequences**

### **5.1 No-Action Alternative**

The No-Action Alternative would not affect community conditions, community facilities, recreation opportunities, emergency response providers, or public services and utilities in the project study area. People who currently use the transit system to travel between the Ogden Intermodal Transit Center and Weber State University would continue to use UTA route 650 buses (nonstop from the Ogden Intermodal Transit Center to the campus), and people wanting to access areas along the proposed transit corridor would continue to use UTA route 603 buses and other local connecting buses.

As Weber State University growth continues, parking conditions will continue to deteriorate, and the University and students will need to develop alternative parking areas and/or alternative means to travel to campus. Students might extend parking into neighboring residential areas, which could be disruptive for people living in these neighborhoods. If students use all of the Dee Events Center parking capacity, the University would need to continue its campus shuttle service and possibly extend the service to other areas. UTA would need to continue and possibly expand its express bus service from the Ogden Intermodal Transit Center to campus if on-campus parking is not available.

The No-Action Alternative would not affect safety and security in the project study area. Transit safety employees would continue to monitor transit facilities and vehicles and apply the UTA ordinance. The safety conditions for pedestrians walking along existing transit routes, including children walking to schools along the proposed transit corridor, would not change. Emergency response access would not change, although response times could be reduced by increased congestion and reduced mobility.

### **5.2 Action Alternative**

#### **5.2.1 Community Conditions**

Because the Action Alternative would be located on existing roads and would operate with existing traffic north of 31st Street on Harrison Boulevard, it would not sever neighborhoods or cause a major change in community cohesion or neighborhood quality through the 25th Street neighborhood. South of 31st Street on Harrison Boulevard, the alignment would become bus-only lanes. The addition of the bus-only lanes along Harrison Boulevard and through the Weber State University campus would establish an opportunity for community placemaking—which could include a blend of architecture, landscaping, and pedestrian safety features—that would foster the creation of inviting public spaces.

The Action Alternative would increase ridership, attract more local riders, and provide improved access to the overall transit system by introducing premium transit service for an

area that is already served by transit. The Action Alternative would increase mobility, connectivity, and travel choices between downtown Ogden and the Weber State University/McKay-Dee Hospital area. By enhancing the transit opportunities that connect employment and educational hubs, residential areas, shopping areas, civic resources, historic districts, cultural landmarks, and entertainment venues in central Ogden, the Action Alternative would increase mobility and accessibility for the people who live, work, and visit the project study area.

The Action Alternative would provide better linkages to the regional transit network and would connect with the UTA FrontRunner commuter-rail line. The Action Alternative would promote transit use, bicycling, and walking in the project study area while reducing the need to travel by automobile and decreasing greenhouse gas emissions. Finally, the Action Alternative would provide improved transit service to low- to moderate-income populations in downtown Ogden and throughout the project study area.

The Action Alternative would not physically change community characteristics or interfere with the provision of community services. The Action Alternative would improve mobility for transit-dependent people and for people who do not want to drive into or through the project study area. This is a benefit that can improve quality of life.

The Action Alternative would replace the route 603 bus and would continue to provide transit access to employment destinations throughout Ogden and the Wasatch Front, and it would provide transit access to these destinations for all populations, including those who are transit-dependent. The project team expects the enhanced amenities from the Action Alternative to improve access and comfort for patrons of local community and recreation facilities. Design elements of the Action Alternative, such as level boarding and prepaid boarding, would help to quicken passenger boarding and alighting times, thereby reducing overall travel times.

The improved reliability resulting from the Action Alternative might cause positive changes in the behavior of people accessing different areas of the project study area. For example, faster and more-reliable service can encourage people wanting to attend a cultural event downtown or at the Dee Events Center to use transit instead of driving. Enhanced transit service and transit amenities to the Weber State University campus could entice students, staff, or faculty who have historically driven to the campus to get a UTA Ed Pass and use transit instead. This would not only relieve parking pressure in and around the campus but could also result in reduced mobile-source air pollutant emissions in the project study area. The dedicated busway through the University campus would offer a more-efficient travel option and would allow commuting passengers to get to work or school faster than having to park, so they could either work more hours, enjoy more leisure time, or both.



## 5.2.2 Safety and Security

No negative impacts to safety and security are anticipated from the Action Alternative. The bus-only lanes on Harrison Boulevard could act similarly to center medians and provide a level of traffic calming. Furthermore, studies have shown that center-lane BRT systems, such as what would be included with the Action Alternative configuration south of 31st Street on Harrison Boulevard, typically have more safety benefits than curbside bus systems due to the changes they introduce in the overall street configuration (Duduta and others 2015).

The Action Alternative would provide several additional improvements that would increase safety in the proposed transit corridor. At BRT stations, enhanced lighting, ramps that comply with the Americans with Disabilities Act (ADA), glass enclosures, and other features would be provided.

By providing well-lit stations, the Action Alternative could create a safer environment in those areas they serve. Higher frequency of bus service (every 10 to 15 minutes) and improved reliability would significantly decrease the amount of time spent waiting for the bus, which could bring a sense of safety and security to many riders. New buses with lower emissions would improve air quality and reduce the air pollution that contributes to asthma and other respiratory illnesses.

The bus-only lanes would be separated from mixed-flow traffic and demarcated by use of a different material (such as asphalt for the roadway and concrete for the dedicated busway), pavement striping, rumble strips, or any combination of these elements. Other vehicles would be restricted from using the bus-only lanes, and signs indicating bus use only in the dedicated busway would be included. In addition, a 9-inch-high median barrier would be installed between the two bus-only lanes to prevent automobiles from using the bus lanes as turning lanes and to prevent left turns at unsignalized intersections. Access to adjacent properties and Fire Station #5 (at 3450 S. Harrison Boulevard) would be maintained (that is, there would be a gap in the median barrier to safely allow emergency vehicles to cross the bus-only lanes when necessary), and the project team does not expect the Action Alternative to affect municipal police or fire-protection services.

Dedicated bus lanes reduce interactions between buses and other vehicles, minimizing the risk for collisions. Recent studies have shown that BRT corridors can have a positive effect on traffic safety by reducing the frequency of traffic incidents. A study of the safety benefits of BRT in Latin America found that streets with BRT systems experienced an average 40% reduction in fatalities and injuries (King 2013).

Finally, to be safe and effective, the bus-only lanes included in the Action Alternative must be enforced. Without active enforcement, interference and improper use by automobiles and trucks can significantly reduce bus performance and safety for all users. UTA would work with Ogden City and UDOT to ensure that the bus-only lanes are properly enforced.

### What is traffic calming?

Traffic calming includes techniques designed to lessen the impact of motor vehicle traffic by slowing it down (or “calming” it). This helps build human-scale places and an environment friendly to people on foot. Studies have shown that dedicated bus-only lanes calm car traffic to safer speeds (Car Free America, no date).



### 5.2.3 Bicyclist and Pedestrian Facilities and Safety

The Action Alternative would not affect the safety conditions for pedestrians walking along the proposed transit corridor, including children walking to schools along the proposed transit corridor, nor would the Action Alternative interfere with existing school zone crosswalks. Before opening the Ogden/Weber State University BRT line, UTA would implement Operation Lifesaver to alert the public and schools. In addition, the Transit Watch campaign encourages transit employees, passengers, and neighborhood residents to be actively involved in staying alert and working together to maintain a safe transit environment. UTA's Train for Safety program educates the public on rules to remain safe around transit vehicles, including buses.

The design configuration of the Action Alternative, particularly in the station areas, would ensure the safety and prioritization of all road users. On-street parking would be retained between stations, with the exception of on Harrison Boulevard south of 31st Street, to create an additional barrier between pedestrians and moving traffic. Ogden City has decided to eliminate on-street parking on Harrison Boulevard south of 31st Street to accommodate the bus-only lanes as well as a 5-foot-wide bicycle lane in each direction starting at about 31st Street, where the dedicated bus-only lanes begin, and ending at about 3850 South, where the Action Alternative turns onto the Weber State University campus as specified in the various bicycle plans described in Section 4.3, Community Facilities and Recreation Resources.

In conjunction with the Action Alternative, Ogden City would upgrade portions of 25th Street and 23rd Street to better accommodate the Action Alternative. Portions of 23rd Street between Wall Avenue and Kiesel Avenue would be upgraded to better support the Action Alternative and active transportation. A traffic signal would be installed at Lincoln Avenue to improve roadway operation and safety for both automobiles and the BRT. Angled parking would be removed on 23rd Street and replaced with parallel parking, and bicycle lanes would be incorporated in both directions on 23rd Street and a crosswalk would be added between Wall Avenue and Lincoln Avenue.

The majority of the Action Alternative stations in the mixed-flow portion of the alignment would be curbside stations located adjacent to the curb of the street and integrated into the surrounding sidewalk. An advantage of curbside stations is that they eliminate the need for some pedestrian street crossings. The disadvantage of curbside stations is that buses must use the outermost traffic lane in some locations to serve the stop, potentially creating conflicts with through vehicles in that lane, right-turning vehicles, parked cars, and bicycles. Bicyclists who currently ride on Washington Boulevard, 23rd Street, and 25th Street would be accustomed to the route 603 buses stopping at existing bus stops along the route; therefore, the cycling environment along the mixed-flow portions of the Action Alternative shouldn't change much for bicyclists. The addition of bicycle lanes on portions of 23rd Street would improve cycling conditions.

South of 31st Street on Harrison Boulevard, where the Action Alternative would operate in center-running, bus-only travel lanes, stations would be sited in the median. The 5-foot-wide bicycle lanes between 31st Street and 36th Streets wouldn't be affected by buses blocking the bicycles lanes since the Action Alternative stations would be in the median in this location. A median station is also an option on Washington Boulevard. Median stations require all passengers to cross some street traffic at every stop. A pedestrian crossing with a pedestrian-

activated flashing signal is planned on Harrison Boulevard and 33rd Street (not far from the Harrison Boulevard and 32nd Street station). The pedestrian-activated signal would need to be vetted through UDOT's signal warrant process during the final design of the Action Alternative.

Enhanced and more-robust station amenities similar to those at rail stations, including higher-capacity boarding areas, would benefit pedestrians and BRT patrons by creating a space for waiting passengers. These design approaches would improve the safety of motorists, pedestrians, and bicyclists along the proposed transit corridor.

According to the Ogden City Bicycle Master Plan (Ogden City 2016), UTA's First/Last Mile Strategies Study recommended implementing bicycle network improvements near transit stations, along with bike share stations and wayfinding to bike racks and lockers. UTA and Ogden City would work together to ensure that all of the enhanced station amenities associated with the Action Alternative meet the goals and objectives of both Ogden's Bicycle Master Plan and the objectives of the First/Last Mile Strategies.

In addition, WFRC's 2017–2022 Transportation Improvement Program includes a bike-share program in Ogden that would incorporate bike stations at several locations throughout Ogden, including at least two on the Action Alternative alignment (at the Ogden Intermodal Transit Center and on 25th Street). The bike-share program was included in the city's Bicycle Master Plan and would help combat the first/last mile transit problem of providing a direct connection to a transit user's final destination.

UTA would work closely with UDOT and the Ogden City transportation department to improve intersections with transit signal priority and the necessary street infrastructure to enable motorists, bicyclists, and pedestrians to interact safely with the BRT vehicles as they cross through the intersections along the transit corridor.

The Action Alternative would operate as a mixed-flow bus near Ogden High School; therefore, it is reasonable to assume that the Action Alternative would not affect the high school or students walking to the high school any differently than the existing route 603 bus does. The Action Alternative would be traveling in center-running, bus-only travel lanes near Mount Ogden Junior High School. A station is proposed at about Harrison and 32nd Street, and a new pedestrian-activated flashing light is proposed on Harrison Boulevard at 33rd Street to aid pedestrian movement across Harrison Boulevard in the area of the center-running, bus-only lanes. The pedestrian-activated flasher would need to go through UDOT's signal warrant process during the final design of the Action Alternative.

The Action Alternative would not affect safety conditions for pedestrians walking along the proposed transit corridor, including children walking to schools on Harrison Boulevard, nor would the Action Alternative interfere with existing school zone crosswalks. The Action Alternative would not affect safety conditions for pedestrians walking along the proposed transit corridor, including children walking to schools on Harrison Boulevard, nor would the Action Alternative interfere with existing school zone crosswalks. The enhanced stations would be more comfortable, secure, and weather-protected for students who use public transit compared to the current stations on bus route 603, and the enhanced crossing at Harrison Boulevard and 33rd Street would make the street crossing safer than under current conditions.

The Action Alternative through the Weber State University campus would need to limit access to the bus-only lanes by pedestrians and bicyclists as well as by vehicle traffic. Jaywalking is common on and around campus, and the danger arises from a pedestrian crossing a road at unexpected locations. If bus drivers have to brake hard to avoid hitting a pedestrian, riders could be injured. Features would be provided throughout the length of the busway to improve pedestrian safety and alleviate jaywalking.

As part of the Campus Master Plan, a multimodal trail would run adjacent to the Action Alternative at some campus locations. In the heart of campus near the Shepherd Union Building, the busway would be demarcated as described in 5.2.2, Safety and Security, and rolled curbs (see Figure 4), similar to what have been constructed on the University of Utah campus busway, would further delineate the sidewalk from the busway. In the less-dense areas of campus where a multi-use path is included alongside the Action Alternative, plantings or bollards (posts) and chains as well as signs would be used to further separate the busway and path.

**Figure 4. Rolled Curb at the University of Utah Busway**



As part of the Action Alternative, defined crosswalks would be added so pedestrians could safely cross the busway. Several existing sidewalks in the heart of the University campus would be rerouted or redesigned to be safer. In some cases, multiple existing crossings might be consolidated to eliminate redundancy. The existing pedestrian crossing on Village Drive would be relocated west to the Action Alternative's intersection with Village Drive and would be signalized for greater safety. These changes would result in a safer walking environment.

Stations would be accessible, safe, and secure, and would be designed consistent with UTA's standards for visibility and loading zones. At BRT stations; enhanced lighting, ramps that meet Americans with Disabilities Act requirements, glass enclosures, and other features would be provided. Curbside stations would be incorporated into the design at all stop locations.

A curbside station or stop can be integrated with buildings and might complement other uses of the sidewalk. It also eliminates the need for some pedestrian street crossings.

**What is a curbside station or stop?**

A curbside station or stop is located adjacent to the curb or parking lane of a street and is often integrated into the surrounding sidewalk.

## 5.2.4 Community Facilities and Recreation Resources

The Action Alternative would not physically affect any community facilities or recreation facilities. Operating BRT service in the proposed transit corridor would not prevent access to community and recreation facilities or to the way these types of facilities are used.

Accessibility for people who use transit to access community gathering places and community and recreation facilities would improve. Improved transit reliability (on-time service) with the Action Alternative could benefit residents who use transit to access community and recreation facilities. Better transit accessibility and new transit stops could also contribute to Ogden City's focus on neighborhood revitalization and redevelopment opportunities in the Neighborhood Revitalization Strategy Area by supporting increased residential densities. Improved transit reliability to Weber State University could also alleviate the need to increase parking on campus and could allow the University to instead expand campus development. (For more information about Neighborhood Revitalization Strategy Areas, see the section titled Household Income on page 11.)

## 5.2.5 Public Services and Utilities

**Effects on Utilities.** The Action Alternative could affect utilities along the Action Alternative alignment and could require utility treatments at stations. UTA would determine the effects on these utilities and appropriate utility treatments by working with local jurisdictions during the final design phase of the project. Utility conflicts are not likely in areas where the BRT vehicles would operate in mixed flow, since the vehicles would operate on existing roads much like the current UTA route 603 bus does currently. However, the construction required to accommodate the stations and bus-only lanes could affect utilities.

From a technological perspective, BRT systems do not inherently require any utility relocations, since they're not fundamentally different from regular bus service running on a city street. The main cause of utility relocations associated with the Action Alternative would be modifying or widening the existing road geometry in order to increase the amount of dedicated right-of-way (segregation) the BRT route would have. The Action Alternative would affect utilities on or under park strips or sidewalks if those utilities would need to be relocated or abandoned in order to widen the street to accommodate the bus-only lanes. Subsurface utilities (such as pipes and utility cables) might need to be buried deeper to allow for the greater weight placed on them by the BRT vehicles, while surface-level infrastructure (such as street lights, power poles, and junction boxes) would need to be relocated to the new sidewalk.

Intersections are commonly the focal point for accesses to sanitary sewers, culinary water valves, and storm drains, so conflicts with manholes, access boxes, or valves might be unavoidable. These types of conflicts could occur at intersections along Harrison Boulevard south of 31st Street where the bus-only lanes would be constructed.

Utility conflicts are not likely in areas where the buses would operate in mixed flow, since the buses would operate on the existing roads much like the current route 603 bus does. However, the construction required to accommodate the stations and bus-only lanes could potentially affect utilities, including relocating electric, water, sewer, telecommunication, and natural gas and water lines. Gas and water lines could run under areas slated for station platforms and

new curb and gutter. These lines can generally be protected in place, but UTA would work closely with utility companies during the final design phase of the project to determine exact locations of utilities and methods to protect or relocate utilities. Storm sewer piping and structures would need to be modified to accommodate adjustments to curb locations in areas where the roadway is proposed to be widened.

Utilities located close to the Action Alternative alignment might be affected by the additional weight of the BRT vehicles, though the Action Alternative would operate on roads that currently accommodate the route 603 bus service. Ogden City personnel have expressed concerns that older utilities, or shallow utilities such as the detention basin under 23rd Street, could be more susceptible to failure because of the additional weight.

As part of the project, UTA and Ogden City would reconstruct 25th Street between Adams Avenue and Jefferson Avenue from the bottom up. In certain instances, water mains would be replaced, storm sewers would be installed, and sanitary sewers would be repaired. The project team would determine the effects on these utilities—and any other utility within the Action Alternative alignment—and determine the appropriate utility treatments by working with local jurisdictions during the final design phase of the project.

**Conflicting Utilities.** Conflicting utilities are publicly owned and operated, or privately owned and operated, utilities that would be disturbed or interrupted by constructing the Action Alternative. Relocating, replacing, adjusting, protecting, or abandoning existing utilities would be required only where there is an actual conflict between the existing utility and the Action Alternative. A more-detailed evaluation of potential conflicting utility impacts would be required during the preliminary engineering and final design phases of the project to determine potential conflicts in station areas and in areas where additional construction would be necessary to accommodate the bus-only lanes.

**Crossing Utilities.** Crossing utilities are public or private utilities that currently exist underground and that the Action Alternative would cross. If such utilities cross the BRT right-of-way and would potentially be in conflict with construction, UTA would relocate and protect the utilities. A more-detailed evaluation of crossing utility impacts would be required during the preliminary engineering and final design phases of the project.

**Station Platforms.** The new station platforms would require connections to electrical power and a communication network to support their amenities, including lighting, real-time messaging systems, and security cameras. There is a high likelihood that some utilities would be affected and would need to be relocated due to station siting. According to the initial utility investigation, it appears that gas and water lines could run under areas slated for station platforms and new curb and gutter. These lines can generally be protected in place, but UTA would work closely with utility companies during the final design phase of the project to determine exact locations of utilities and methods to protect or relocate utilities.

**Power Infrastructure.** The Action Alternative BRT buses would likely be all-electric, hybrid diesel-electric, or super-low-emission diesel buses. Eight vehicles would need to be purchased to meet the required frequency, length of route, and spare ratio. If all-electric buses are used, bus-charging equipment would be installed at the Mount Ogden Business Unit Bus Maintenance Facility and at the new enhanced station near the Dee Events Center on the Weber State University campus. If all-electric buses are used, UTA would work with the bus



manufacturer to determine how much electricity each bus needs in order to build an energy load profile. UTA and the bus manufacturer would then work with Rocky Mountain Power to create a plan to support the load profile (APTA 2017). Because only eight vehicles are needed for this route, the project team assumes that existing Rocky Mountain Power infrastructure would support the bus load profile.

Planning and coordination with local utility providers during the final design and construction phases of the project would minimize or eliminate utility conflicts and reduce disruptions in service. This planning and coordination includes submitting a set of plans for the Action Alternative to the utility providers for their use in preparing their utility relocation plans. This close coordination would enable the project team to identify any potential conflicts early on and would provide time for them to formulate strategies to overcome them. No additional mitigation is anticipated.

**Weber State University.** The project team used a GIS shape file overlaid onto the Weber State University utilities maps to identify potential utility conflicts. The project team then reviewed the potential conflicts with University staff. The proposed busway crosses gas, communication, irrigation, power, sewer, storm drain and water utilities in several locations. The existing utility depths would need to be verified during the final design phase to ensure cover where construction of the new busway may reduce cover. Otherwise, the project team assumes that these utilities can for the most part be protected in place. University staff have noted that the existing irrigation mainline running under the proposed busway is old and possibly fragile and have recommended that the line be relocated outside the busway to prevent future damage.

The geothermal well field would extend under the proposed busway; however, the field would be protected in place, so no adverse impacts are expected.

## South Ogden Highline Canal

The project study area includes a segment of the South Ogden Highline Canal, which was originally built as part of the U.S. Bureau of Reclamation's Ogden River Project in the mid-1930s. Reclamation owns the South Ogden Highline Canal property in fee title. The canal is completely covered and is underground through and downstream of the Weber State University campus.

The Action Alternative would cross the South Ogden Highline Canal property in two places: (1) on a new alignment in an area just north of Country Hills Drive near the south end of the Weber State University campus (northern crossing) and (2) on an existing road (Fieldhouse Drive) just west of the Dee Events Center (southern crossing; see Figure 5 and Figure 6 of this report, and Appendix C1, Bureau of Reclamation Coordination regarding South Ogden Highline Canal, of the Environmental Assessment).

Figure 5. South Ogden Highline Canal Crossing (North)

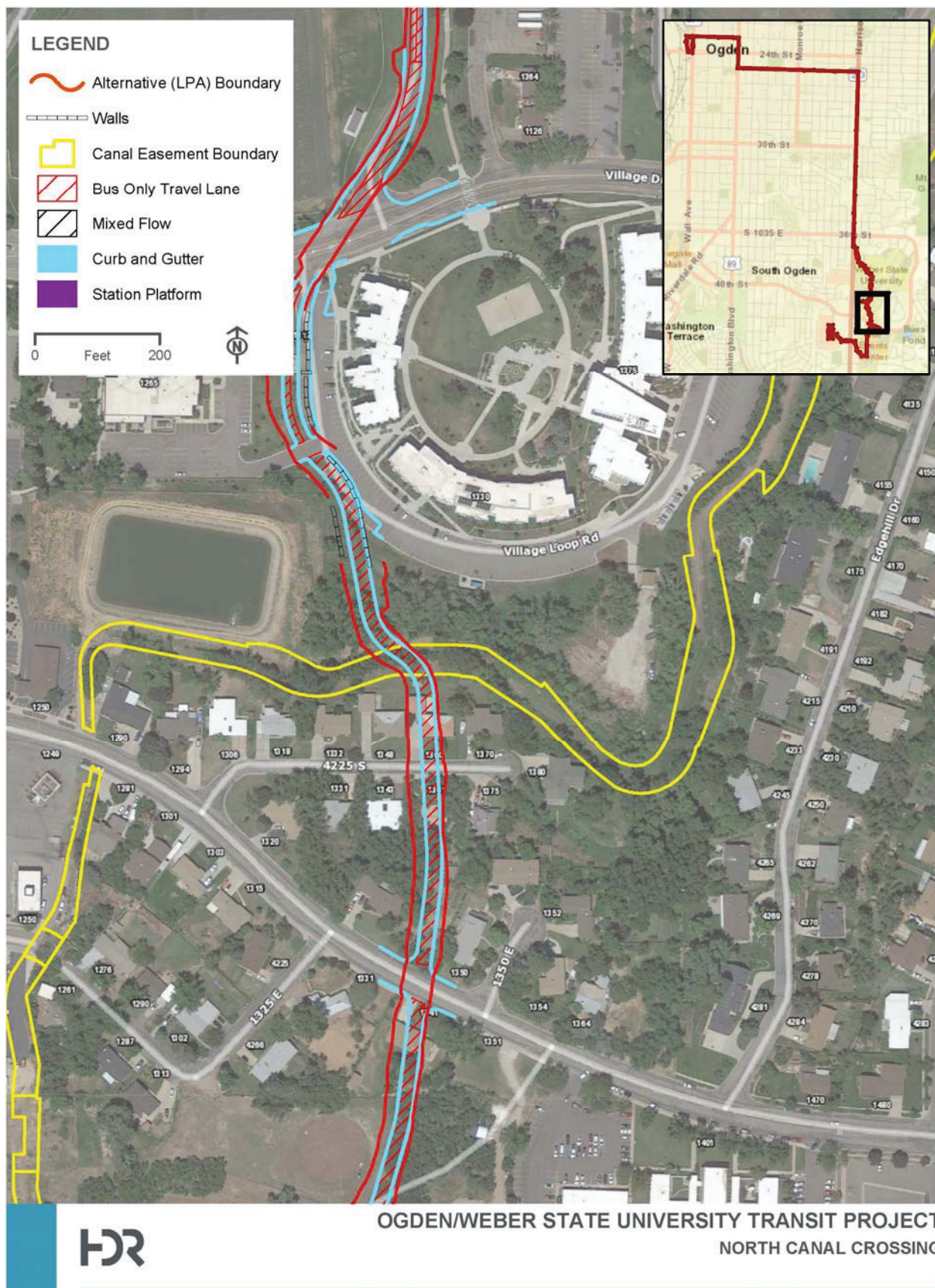
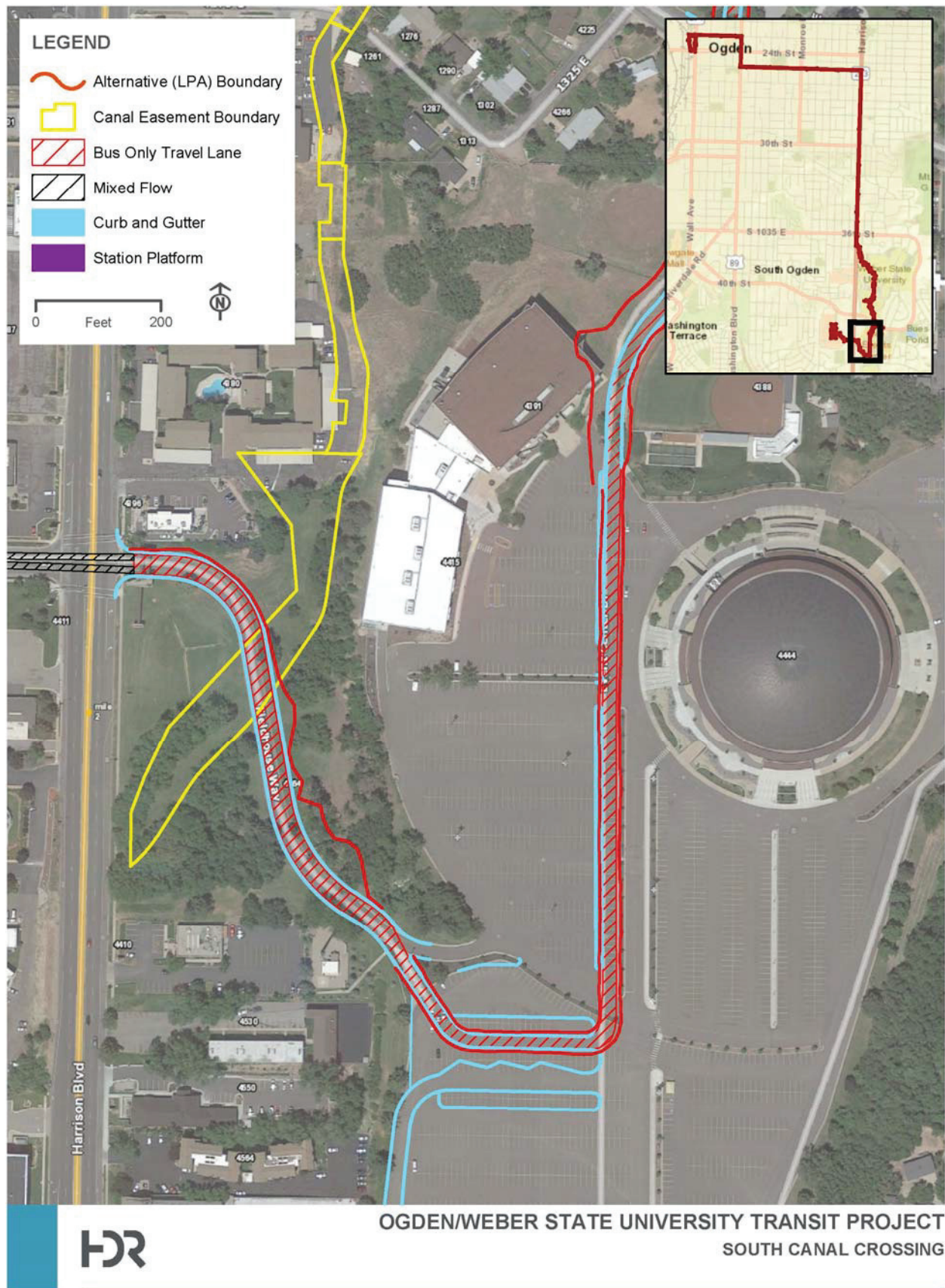




Figure 6. South Ogden Highline Canal Crossing (South)



The project team contacted Reclamation's Provo Area office to discuss the authorization process for the new northern crossing and what UTA would need to do (if anything) for the southern crossing. Because Reclamation owns the canal property, it would need to issue a license agreement for the new northern crossing. For the southern crossing, Weber State University provided historic documentation of an existing easement (see Appendix C1). Prior to construction, UTA would confirm with Reclamation that no authorization is needed for the new area of fill. According to Reclamation, adding fill could be considered regular roadway operation and maintenance and therefore would not need new or additional authorization. When final plans for the southern crossing are developed, UTA would coordinate with Reclamation to ensure that the final design is compatible with the existing easement.

Because the northern canal crossing requires federal authorization (issuance of a license agreement) since the crossing would be a new alignment, Reclamation would need to ensure that its action complies with NEPA. Reclamation could adopt the NEPA document prepared for this project but would need to review the document when it reviews the application for the license agreement.

The authorization process would begin with UTA submitting an application for a license agreement to the General Manager at the Ogden River Water Users' Association, who would then review the application and submit it to the Reclamation office in Provo, Utah. Reclamation would review the application for compatibility with the continued use of the canal. If it determines that the uses are compatible, Reclamation would ensure that its action complies with NEPA and would then issue the license agreement.

## 5.2.6 Summary

The Action Alternative would not adversely affect community conditions, community facilities, or recreation opportunities. The Action Alternative could result in community benefits such as improved mobility and improved transit reliability.

The design configuration of the Action Alternative, particularly in the station areas, would ensure the safety and prioritization of all road users. These measures could include an enhanced pedestrian space in the form of curb extensions with new curb ramps at stations, enhanced landscaped medians between stations to prevent pedestrians from making dangerous or prohibited mid-block crossings, and signs and pedestrian striping. On-street parking would be retained between stations in the segment of the proposed transit corridor that runs mixed-flow and north of 32nd Street on Harrison Boulevard to create an additional barrier between pedestrians and moving traffic. The result of the design approaches described above would improve the safety of drivers, pedestrians, and bicyclists using the proposed transit corridor.

The Action Alternative does not include the construction of any new park-and-ride lots. Transit customers would use existing lots at the Ogden Intermodal Transit Center, the Weber State University campus, the Dee Events Center, and McKay-Dee Hospital. The Action Alternative would not change safety and security associated with parking lots that serve the proposed transit corridor.

The Action Alternative alignment would abut some areas through which children walk to school. Other pedestrians would also use sidewalks in the proposed transit corridor,

especially in areas where the incidence of zero-car households is the highest. For the segment of the alignment that would operate in a bus-only lane, access to transit stops would be designed to encourage safe pedestrian behavior. For the mixed-flow segments, pedestrian safety would not change from the current conditions, since the new stops would be curbside, similar to the current stops. Although the type of service (BRT) would be different and the location of the new transit corridor would vary slightly from the current UTA route 603, operating BRT service would not adversely affect pedestrian safety near and in the proposed transit corridor.

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