Environmental Assessment

Ogden/Weber State University Transit Project

Ogden, Weber County, Utah

December 2018

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Ogden/Weber State University Transit Project Environmental Assessment

Prepared by:
U.S. Department of Transportation,
Federal Transit Administration
and
Utah Transit Authority

December 2018

This Environmental Assessment (EA) has been prepared pursuant to the National Environmental Policy Act (NEPA) of 1969, as amended, 41 United States Code (USC) §4332(2); the regulations of the Council on Environmental Quality, 40 Code of Federal Regulations (CFR) 1500–1508; the Federal Transit Laws, 49 USC §53; Environmental Impact and Related Procedures—Federal Highway Administration/Federal Transit Administration, 23 CFR 771 and 23 CFR 774; the National Historic Preservation Act of 1966, 16 USC §470(f); Section 4(f) of the Department of Transportation Act of 1966, as amended, 49 USC §303; Section 6(f)(3) of the Land and Water Conservation Fund Act, 16 USC §4601-U; the Clean Air Act, as amended, 42 USC §7401–7671; the Endangered Species Act of 1973, 16 USC §1531; the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended, 42 USC §4601; Section 402 of the Clean Water Act, 33 USC §1342; Executive Order 12898, Federal Actions To Address Environmental Justice in Minority and Low-Income Populations; Executive Order 11990, Protection of Wetlands; Executive Order 11988, Floodplain Management; and all relevant laws and procedures of the State of Utah.

Proposed Action

The proposed action, the Ogden/Weber State University Transit Project, is intended to improve the existing Route 603 bus route by implementing bus rapid transit (BRT). Route 603, a 6.5-mile route, is one of the Utah Transit Authority's (UTA's) most frequently used routes in its Weber County service area, with an average 1,610 weekday boardings in 2017. Route 603 runs from the heart of Ogden's downtown area to the city's east bench, providing a connection from FrontRunner commuter rail and the Ogden Intermodal Transit Center to Weber State University and McKay-Dee Hospital. Implementing BRT would enhance the transit facilities and amenities that connect employment and educational hubs, residential areas, shopping areas, civic resources, historic districts, cultural landmarks, and entertainment venues in central Ogden. The proposed action would further improve mobility and accessibility for the people who live, work, and visit the project study area.

This EA was prepared to address the impacts of constructing and operating a BRT system that 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.

The proposed action would improve linkages to the regional transit network and would connect with UTA's FrontRunner commuter-rail line. The proposed action would improve connectivity through the Weber State University campus. The enhanced transit amenities and improved trip reliability would further promote transit use and active transportation in the project study area while reducing the need to travel by automobile and contributing to decreased greenhouse gas emissions. The proposed action is specifically intended to:

- Increase mobility, connectivity, and travel choices between downtown Ogden and the Weber State University/McKay-Dee Hospital area
- Promote economic and community development and create jobs in Ogden
- Support local and regional land use initiatives
- Increase ridership, attract more local riders, and provide improved access to the overall transit system by introducing premium transit service with enhanced amenities in the project study area

The proposed action includes the following 16 brand-identified stations, though not all 16 would be constructed for opening day: Ogden Intermodal Transit Center, 23rd Street and Lincoln Avenue, 23rd Street and Kiesel Avenue, 25th Street and Washington Boulevard, 25th Street and Jefferson Avenue, 25th Street and Monroe Street, 25th Street and Jackson Avenue, 25th Street and Harrison Boulevard, Harrison Boulevard and 28th Street, Harrison Boulevard and 30th Street, Harrison Boulevard and 32nd Street, Harrison Boulevard and 36th Street, the Browning Center on the Weber State University campus, student housing near Village Drive on the Weber State University campus, the Dee Events Center, and McKay-Dee Hospital.

How To Comment

This EA is available for public review and comment from December 9, 2018, to January 20, 2019. Written comments on this EA must be postmarked or electronically submitted to UTA by midnight January 20, 2019, to be considered as part of the official public comment period. Comments can be submitted in the following ways:

- By email to hearingofficer@rideuta.com
- Online at https://www.rideuta.com
- At the public open house
- By postal mail to the following address:

  Ogden/Weber State University Transit Project
  Attn: Hal Johnson
  Utah Transit Authority
  669 West 200 South
  Salt Lake City, UT 84101

This EA is available for review at the following locations:

- https://www.rideuta.com/About-UTA/Active-Projects/Ogden-BRT
- UTA FrontLine Headquarters – 669 West 200 South, Salt Lake City, Utah
- UTA Ogden Intermodal Transit Center – 2393 Wall Avenue, Ogden, Utah
- Ogden City Offices – 2549 Washington Boulevard, Ogden, Utah
- Weber County Main Library – 2464 Jefferson Avenue, Ogden, Utah
- Weber State University Stewart Library – 3921 Central Campus Drive, Ogden, Utah

A public open house is scheduled for the following date, time, and location:

Wednesday, January 9, 2019
Ogden High School
2828 Harrison Boulevard, Ogden, Utah
5:30 PM to 7:30 PM

For additional information, visit the project website at https://www.rideuta.com/About-UTA/Active-Projects/Ogden-BRT. In compliance with the Americans with Disability Act (ADA), individuals needing special accommodations (including auxiliary communication aids and services) during the public open house should notify UTA at least 5 days in advance of the open house. Any individuals having questions relating to the EA or the public open house should contact UTA's project manager, Hal Johnson, at (801) 237-1905.

11/29/18
Date of Approval

Steve Meyer, Interim Executive Director
Utah Transit Authority

11/30/18
Approved for Circulation and Comment

Cindy Terwilliger, Regional Administrator
Federal Transit Administration

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Acronyms and Abbreviations

AA	Alternatives Analysis
ADA	Americans with Disabilities Act
APE	area of potential effects
BMP	best management practices
BRT	bus rapid transit
CFR	Code of Federal Regulations
CO	carbon monoxide
dBA	A-weighted decibels
EA	Environmental Assessment
EIS	Environmental Impact Statement
EPA	U.S. Environmental Protection Agency
FEMA	Federal Emergency Management Agency
FONSI	Finding of No Significant Impact
FTA	Federal Transit Administration
GHG	greenhouse gas
kW	kilowatt
kWh	kilowatt-hour
L_{dn}	day-night noise level
L_{eq}	equivalent noise level
LOS	level of service
LPA	Locally Preferred Alternative
MOA	Memorandum of Agreement
MSAT	mobile-source air toxic
NEPA	National Environmental Policy Act
NRHP	National Register of Historic Places
PAC	Policy Advisory Committee
PM_{10}	particulate matter less than 10 microns in diameter
$PM_{2.5}$	particulate matter less than 2.5 microns in diameter
RTP	Regional Transportation Plan
S.R.	state route
SHPO	State Historic Preservation Officer
TAC	Technical Advisory Committee
TSP	transit signal priority
UDOT	Utah Department of Transportation
UPRR	Union Pacific Railroad
USC	United States Code
UST	underground storage tank
UTA	Utah Transit Authority
VMT	vehicle-miles traveled
vpd	vehicles per day
WFRC	Wasatch Front Regional Council

Ogden/Weber State University Transit Project Study

December 2018

Executive summary

The Utah Transit Authority (UTA), in cooperation with project partners Ogden City, Weber County, the Wasatch Front Regional Council, the Utah Department of Transportation, Weber State University, and McKay-Dee Hospital, propose to construct a bus rapid transit (BRT) system that would connect the Ogden Intermodal Transit Center to Weber State University and McKay-Dee Hospital.

This executive summary of the Environmental Assessment (EA) for the Ogden/Weber State University Transit Project Study explains the basics of the proposed transit project, the purpose of and need for the project, and the project's effects.

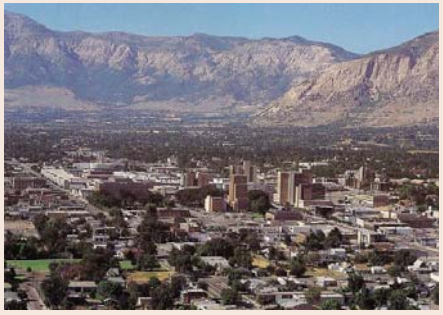
The Federal Transit Administration (FTA) is the federal lead agency for the Ogden/Weber State University Transit Project. UTA is the project sponsor in partnership with Ogden City and other project partners.

What are the project's objectives?

The project study area is located in a region of rapid population growth and has strong existing transit use. Currently, 380,000 daily person-trips occur in the study area, and this number is expected to increase to 515,000 (an increase of about 36%) by 2040.

Three of the most heavily used transit routes in the area have a combined daily ridership of nearly 5,000. The primary local bus route, 603, provides service between the Ogden Intermodal Transit Center, Weber State University, and McKay-Dee Hospital (via 25th Street). This route is one of the highest-producing local routes in the entire UTA system in terms of riders per hour, producing nearly 50 riders per hour, 3.2 riders per mile, and an average of 2,300 weekday riders when classes are in session at the university.

The proposed Action Alternative would capitalize on the success of route 603 and replace the existing route 603 bus service with more-efficient, reliable BRT service and improved transit amenities that enhance rider comfort and safety.



What are the project's purpose and need?

The purpose of the proposed project is to:

- Improve transit facilities and amenities, travel time, and reliability along the proposed transit corridor to provide greater comfort and safety.
- Connect the north and south campuses of Weber State University per the Weber State University Campus Master Plan.
- Reduce the growth in automobile trips and parking demand at Weber State University.
- Encourage transit-oriented land uses per Ogden City's General Plan and support other local and regional planning initiatives and land-use strategies that aim to foster economic development because of investment in transit infrastructure.
- Reduce transportation-related energy use, air pollutant emissions, and greenhouse gas emissions.

The proposed project is needed because:

- The existing transit service lacks the amenities, travel time competiveness, and reliability that would make it more attractive to new riders.
- Weber State University consists not of one campus but rather of two non-contiguous campuses.
- Growth forecasted for Weber State University will overwhelm roadway and parking capacity unless there are alternatives to auto travel.
- UTA's Mount Ogden Business Unit Bus Maintenance Facility must expand to accommodate the new fleet of eight BRT buses.
- Local and regional land-use plans and economic and redevelopment initiatives aren't adequately supported by UTA's existing fixed-route bus system.
- Traffic congestion is growing, and roadway level of service and local and regional air quality are declining.

What is the history of the project?

In 2008, UTA initiated an Alternatives Analysis (AA) to evaluate options for improved public transportation service in Ogden. An AA is the first step toward determining a project's eligibility for federal funding, and typically a Locally Preferred Alternative (LPA) is selected at the conclusion of the analysis.

In 2013, Ogden's Mayor and City Council selected two routes and two travel modes for consideration. The resulting four alternatives were studied as part of the AA process:

- 25th Street Streetcar
- 25th Street BRT
- 30th Street Streetcar
- 30th Street BRT

In 2014, UTA, in collaboration with the project partners, began the Ogden/ Weber State University Transit Project Study. The study's Technical and Policy Advisory Committees unanimously selected the BRT on 25th Street Alternative as the LPA and recommended this alternative to the Ogden City Council for adoption.

The committees felt that the 25th Street route better fits with Ogden's current land use, redevelopment initiatives, and real estate market. Also, BRT would be more affordable and fundable in the near term while still attracting riders and enhancing the existing route 603 bus.

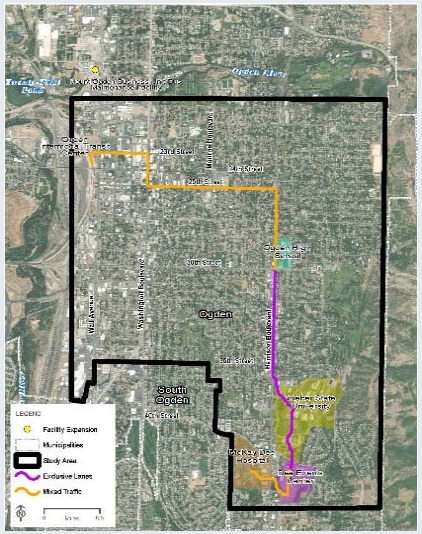
The Ogden City Council adopted the LPA by resolution in 2015, concluding the AA process. This alternative was then evaluated as the Action Alternative in the EA for the Ogden/Weber State University Transit Project Study.

What alternatives were studied?

In the EA, a No-Action Alternative was compared to the LPA, also known as the Action Alternative, to assess the effects of the proposed project.

The **No-Action Alternative** provides a basis for evaluating the environmental effects of the Action Alternative. It includes the existing transportation system in the project study area and all projects in the applicable Regional Transportation Plan that are programmed to occur in the study area and are expected to be completed by 2020, the anticipated opening year for the proposed transit improvements. The No-Action Alternative includes the current route 603 bus service using standard buses with the existing service schedule and headways and no enhanced amenities or additional infrastructure.

The **Action Alternative** includes a 5.3-mile BRT line with both bus-only and mixed-flow traffic segments.



What is the Action Alternative?

Upgrading transit service in Ogden would allow existing route 603 bus riders to travel faster and more comfortably with more-reliable service using specialized vehicles with distinctive branding.

The Action Alternative will likely include the following elements:

- 10- to 15-minute bus frequencies 7 days per week between 4:30 AM and 12:30 AM
- A campus circulator bus operating every 5 minutes between the Dee Events Center and Weber State University's main campus between 8:00 AM and 2:00 PM
- Low-floor buses and new platforms to allow safer and faster boarding and unloading times at stations
- New, modern buses, likely all-electric, hybrid diesel-electric, or super-low-emission diesel buses
- Bus-only lanes on Harrison Boulevard south of 31st Street and through the Weber State University campus that allow buses to bypass stopped or slower traffic
- Five-foot-wide bicycle lanes on Harrison Boulevard between 31st and 36th Streets
- Differentiation in the appearance of the BRT runningway via pavement markings, lane delineators, alternative pavement material and texture, and/or alternate pavement color
- Traffic signal priority, allowing transit vehicles to communicate with the traffic operations signals to provide priority for buses at intersections to extend the duration of the green light and reduce travel time
- Real-time transit information to eliminate riders' uncertainty about when the bus will arrive
- Enhanced fare collection, such as prepaid or smart card technologies, to reduce boarding time at bus stops
- Specially branded vehicles, stops, stations, signs, and information to set BRT routes apart from the rest of the transit system
- Stylish, comfortable vehicles with a railcar-like appearance to appeal to riders
- Amenities at the bus stops including enhanced lighting, glass enclosures, seating, weather protection, wayfinding information, bicycle racks, security cameras, landscaping, and public art
- Ramps that comply with the Americans with Disabilities Act (ADA)
- Higher-capacity boarding areas
- Community-friendly design that provides for the needs of bicyclists, pedestrians, and motorists
- More capability to help with special events on the Weber State University campus
- Expansion of the Mount Ogden Business Unit Bus Maintenance Facility to accommodate the new bus fleet
- Upgrades to the existing road, utility, and active transportation infrastructure on 25th Street between Adams Avenue and Jefferson Avenue and on 23rd Street between Wall Avenue and Grant Avenue to support the Action Alternative

What is the project study area?

This project study area includes the following major destinations that would be served by the enhanced transit service:

- 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
- 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
- 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)

What impacts would the project have?

The environmental analyses conducted for the Ogden/Weber State University Transit Project Study have determined that the Action Alternative wouldn't cause any significant impacts; however, the Action Alternative would still have some effects, both positive and negative.

There would be no adverse impacts to **land use**. The Action Alternative is consistent with existing land uses and zoning and complies with regional and local plans and policies.

Operation of the Action Alternative would result in **transportation** benefits to all populations along the Action Alternative alignment, including **minority and low-income populations**. Benefits would take the form of more-reliable bus service, enhanced stations, and landscape and sidewalk elements.

These physical enhancements could also contribute to **economic development** and livability improvements. The Action Alternative and associated street enhancements could incentivize new transit-oriented development along the alignment, which would be consistent with zoning.

Features would be provided throughout the length of the busway through the Weber State University campus to ensure **pedestrian safety**. Pedestrians would be encouraged to cross the busway at defined crosswalks, and plantings or bollards (posts) and chains as well as signs would be used to further separate the busway from pedestrians where necessary. **Bicycle lanes** would be included in some areas of the Action Alternative alignment, including on Harrison Boulevard south of 31st Street.

No significant **noise** or **vibration** impacts are anticipated to occur as a result of the Action Alternative, and the alternative would use newer and more-efficient buses—and possibly electric buses—which would emit less air pollutants compared to the existing buses, so no impacts to **air quality** are expected.

The Action Alternative would require the **acquisition** and demolition of one commercial building on Harrison Boulevard and would result in an **adverse effect** to 1 NRHP-eligible historic building. Additionally, the Action Alternative would have **no adverse effect** to 21 NRHP-eligible historic buildings, four historic districts, and one archaeological resource.

Traffic capacity wouldn't be reduced, though left turns across the bus-only lanes from Harrison Boulevard onto cross streets or businesses at unsignalized intersections would be restricted. Ogden City has stated that **parking** on Harrison Boulevard south of 31st Street wouldn't be allowed after the Action Alternative is implemented.

The Action Alternative would provide several additional improvements that would increase **safety** in the proposed transit corridor, including enhanced lighting and glass enclosures. The design would minimize potential **visual** impacts to historic resources and the visual setting through the proposed transit corridor.

The Action Alternative wouldn't affect prime or unique farmland, hazardous waste sites, wetlands, endangered species, fish, or wildlife.

How can I get involved?

You're invited to participate in this project by reviewing the EA, attending the public open house, and providing your comments on the information provided.

UTA will hold the public open house on Wednesday, January 9, 2019, from 5:30 to 7:30 PM at Ogden High School, 2828 Harrison Boulevard, Ogden. The open house will be accessible according to the requirements of the Americans with Disabilities Act. A Spanish-speaking representative will be available.

There are four ways to comment on the EA:

- By email to hearingofficer@rideuta.com
- Online at https://www.rideuta.com
- At the public open house
- By postal mail to the following address:

  Ogden/Weber State University Transit Project
  Attn: Hal Johnson
  Utah Transit Authority
  669 West 200 South
  Salt Lake City, UT 84101

Where can I get more information?

For more information, visit the project website at https://www.rideuta.com/About-UTA/Active-Projects/Ogden-BRT or call UTA's project manager, Hal Johnson, at (801) 237-1905.

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1.0 Introduction

1.1 What is the purpose of this document?

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), the Utah Department of Transportation (UDOT), Weber State University, and McKay-Dee Hospital, have prepared this Environmental Assessment (EA) under the National Environmental Policy Act (NEPA; 42 United States Code [USC] §§4321–4347) for the Ogden/Weber State University Transit Project.

Who are the project partners?

The project partners for the Ogden/Weber State University Transit Project are UTA, Ogden City, Weber County, WFRC, UDOT, Weber State University, and McKay-Dee Hospital.

This EA has been prepared to identify the environmental effects associated with project construction and operation and to provide agencies and the public with the opportunity to review and comment on the effects of the proposed project. This EA contains information necessary to determine whether the project would result in significant impacts to socioeconomic, environmental, and transportation conditions in the project area and what further actions or mitigation is required to address the identified impacts.

This EA briefly discusses the following topics:

- Project background
- Purpose of and need for the project
- Alternatives to the proposed action as required by NEPA, Section 102(2) (42 USC §4332)
- Environmental effects of the proposed action and alternatives
- Agencies and persons consulted (per 40 Code of Federal Regulations [CFR] 1508.9)

1.2 Who are the lead agency and project sponsors?

FTA is the federal lead agency for the Ogden/Weber State University Transit Project. UTA is the project sponsor in partnership with Ogden City and the other project partners.

1.3 Can the public comment on this Environmental Assessment?

Yes. The availability of this EA was announced using local media outlets and through letters sent to the project's list of interested parties (see Appendix E, Distribution List). The EA, in addition to a Spanish translation of the executive summary, is available on UTA's website at https://www.rideuta.com/About-UTA/Active-Projects/Ogden-BRT.

This EA and a Spanish translation of the executive summary are available for review at the following locations:

- https://www.rideuta.com/About-UTA/Active-Projects/Ogden-BRT
- UTA FrontLine Headquarters – 669 West 200 South, Salt Lake City, Utah
- UTA Ogden Intermodal Transit Center – 2393 Wall Avenue, Ogden, Utah
- Ogden City Offices – 2549 Washington Boulevard, Ogden, Utah
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- Weber State University Stewart Library – 3921 Central Campus Drive, Ogden, Utah

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- Online at https://www.rideuta.com
- At the public open house
- By postal mail to the following address:

  Ogden/Weber State University Transit Project
  Attn: Hal Johnson
  Utah Transit Authority
  669 West 200 South
  Salt Lake City, UT 84101

All comments received during the 6-week public comment period will be submitted to FTA and entered into the public record. Responses to comments will be published as part of FTA's decision document.

A public open house is scheduled for the following date, time, and location:

Wednesday, January 9, 2019
Ogden High School
2828 Harrison Boulevard, Ogden, Utah
5:30 PM to 7:30 PM

For additional information, visit the project website at https://www.rideuta.com/About-UTA/Active-Projects/Ogden-BRT. In compliance with the Americans with Disability Act (ADA), individuals needing special accommodations (including auxiliary communication aids and services) during the public open house should notify UTA at least 5 days in advance

of the open house. Any individuals having questions relating to the EA or the public open house should contact UTA's project manager, Hal Johnson, at (801) 237-1905.

See Sections 6.0 and 7.0 of this EA for more information regarding the EA's availability and accommodations pertaining to non-English-speaking participants and the ADA.

1.4 What happens after the comment period?

Based on the information in this EA and any comments received, FTA will determine whether the expected environmental effects of the proposed project are substantial enough to warrant preparing an Environmental Impact Statement (EIS). If FTA decides that the proposed project would have no adverse effects, it will prepare and sign a Finding of No Significant Impact (FONSI). The determination (EIS or FONSI) will be made available to the general public and all who commented on this EA.

1.5 What is the history of the project?

Transit improvements in Ogden have been evaluated and identified in numerous planning studies for the Wasatch Front.

Ogden/Weber State University Corridor Feasibility Study. In 2004, WFRC's 2004–2030 Long-Range Plan identified the need for improved transit connecting downtown Ogden and Weber State University. In 2004 and 2005, UTA, WFRC, Ogden City, and Weber State University conducted the Ogden/Weber State University Corridor Feasibility Study. This was the first step in determining the best transit mode (bus rapid transit [BRT], streetcar, light-rail transit, etc.), estimated ridership, possible routes and stops, and projected costs to build, operate, and maintain a transit system in Ogden.

This feasibility study recommended a public transit investment between downtown Ogden and the Ogden Intermodal Transit Center to Weber State University and McKay-Dee Hospital.

Ogden/Weber State University Transit Corridor Alternatives Analysis. In 2008, UTA initiated the Ogden/Weber State University Transit Corridor Alternatives Analysis (AA) to build on the findings from the 2004–2005 feasibility study, address community transit needs in WFRC's Long-Range Plan, and further evaluate options for improved public transportation service in Ogden.

In 2011, the Ogden City Council voted unanimously that the preferred alternative for transit improvements in Ogden should be a streetcar line running from 23rd Street to Washington Boulevard, Washington Boulevard to 25th Street, 25th Street to Harrison Boulevard, and Harrison Boulevard to Weber State University and McKay-Dee Hospital. The Council maintained that this route would foster development and would best serve residents. Also in 2011, as part of the Ogden/Weber State University Transit Corridor Alternatives Analysis process, UTA published a draft AA report (2011 draft AA).

In May 2013, Ogden's Mayor and City Council, through a joint resolution, selected two 5.3-mile routes for further consideration (Figure 1):

- **25th Street route** from the Ogden Intermodal Transit Center on 23rd Street to Washington Boulevard, Washington Boulevard to 25th Street, 25th Street to Harrison Boulevard, and Harrison Boulevard to Weber State University and McKay-Dee Hospital
- **30th Street route** from the Ogden Intermodal Transit Center on 23rd Street to Washington Boulevard, Washington Boulevard to 30th Street, 30th Street to Harrison Boulevard, and Harrison Boulevard to Weber State University and McKay-Dee Hospital

In addition, Ogden's Mayor and City Council selected two modes for further consideration: modern streetcar and BRT.

With two routes and two modes under consideration, UTA, in coordination with the study partners, developed the following four alternatives (see Figure 2 and Section 3.0):

1. 25th Street Streetcar
2. 25th Street BRT
3. 30th Street Streetcar
4. 30th Street BRT

Given all the previous work that had been conducted in support of transit improvements in Ogden, UTA and the study partners decided to update the 2011 draft AA to analyze the four new alternatives.

Ogden/Weber State University Transit Project. In 2014, UTA, in collaboration with project partners Ogden City, Weber County, WFRC, UDOT, Weber State University, and McKay-Dee Hospital, began the Ogden/Weber State University Transit Project to evaluate public transportation improvements in Ogden.

After reviewing the technical results and listening to feedback from the public, the project's Technical Advisory Committee and Policy Advisory Committee unanimously selected the BRT on 25th Street Alternative as the Locally Preferred Alternative (LPA) and recommended this alternative to the Ogden City County for adoption.

The Ogden City Council adopted the LPA through a resolution on July 28, 2015. As the next steps in the process, the Wasatch Front Regional Council amended the region's Regional Transportation Plan (RTP), which guides the development of the region's transportation system. The Ogden/Weber State University Transit Project LPA was incorporated into the RTP during the amendment process, and the project team has completed this EA and has developed advanced conceptual engineering and cost estimates.

Figure 1. Routes Considered

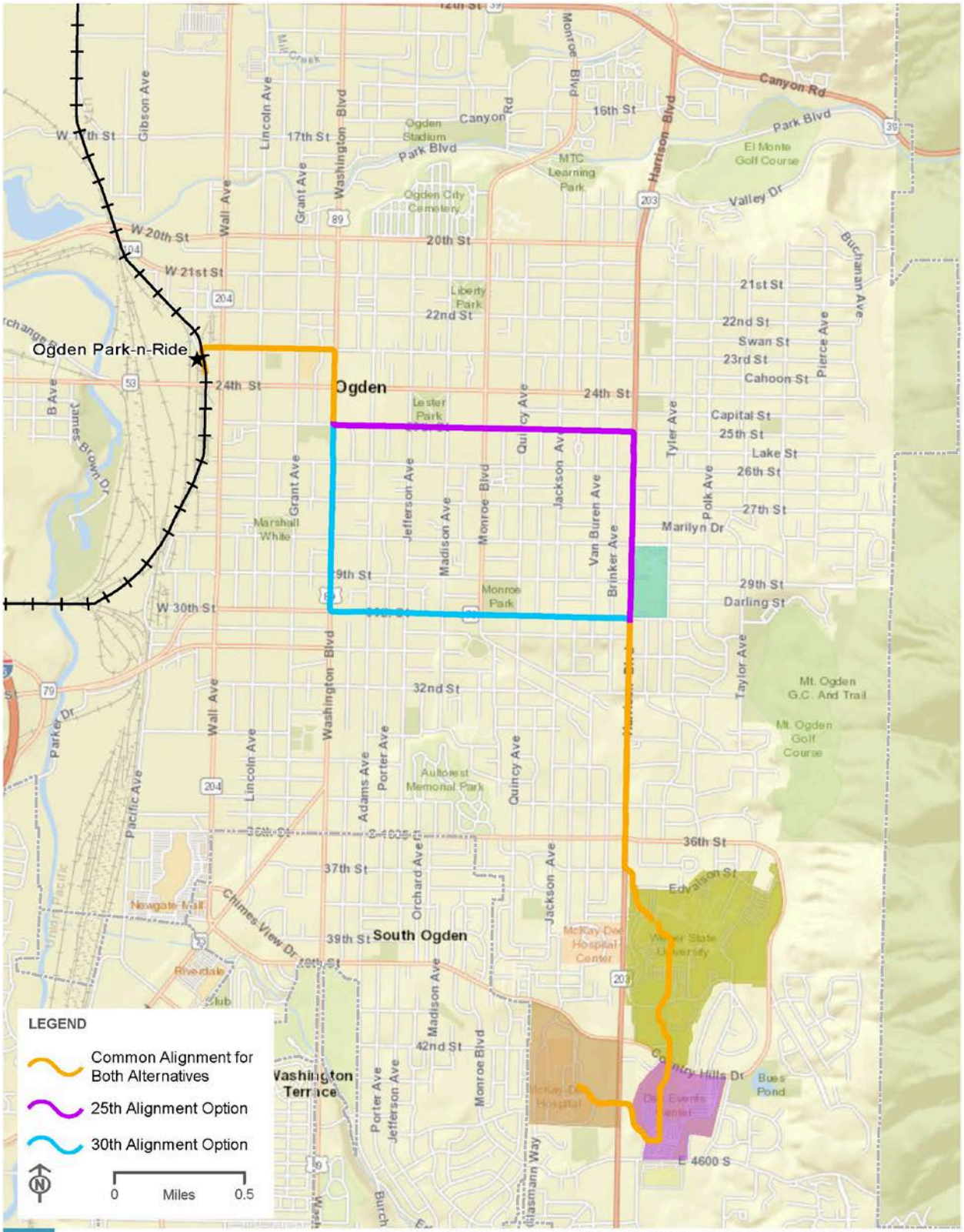
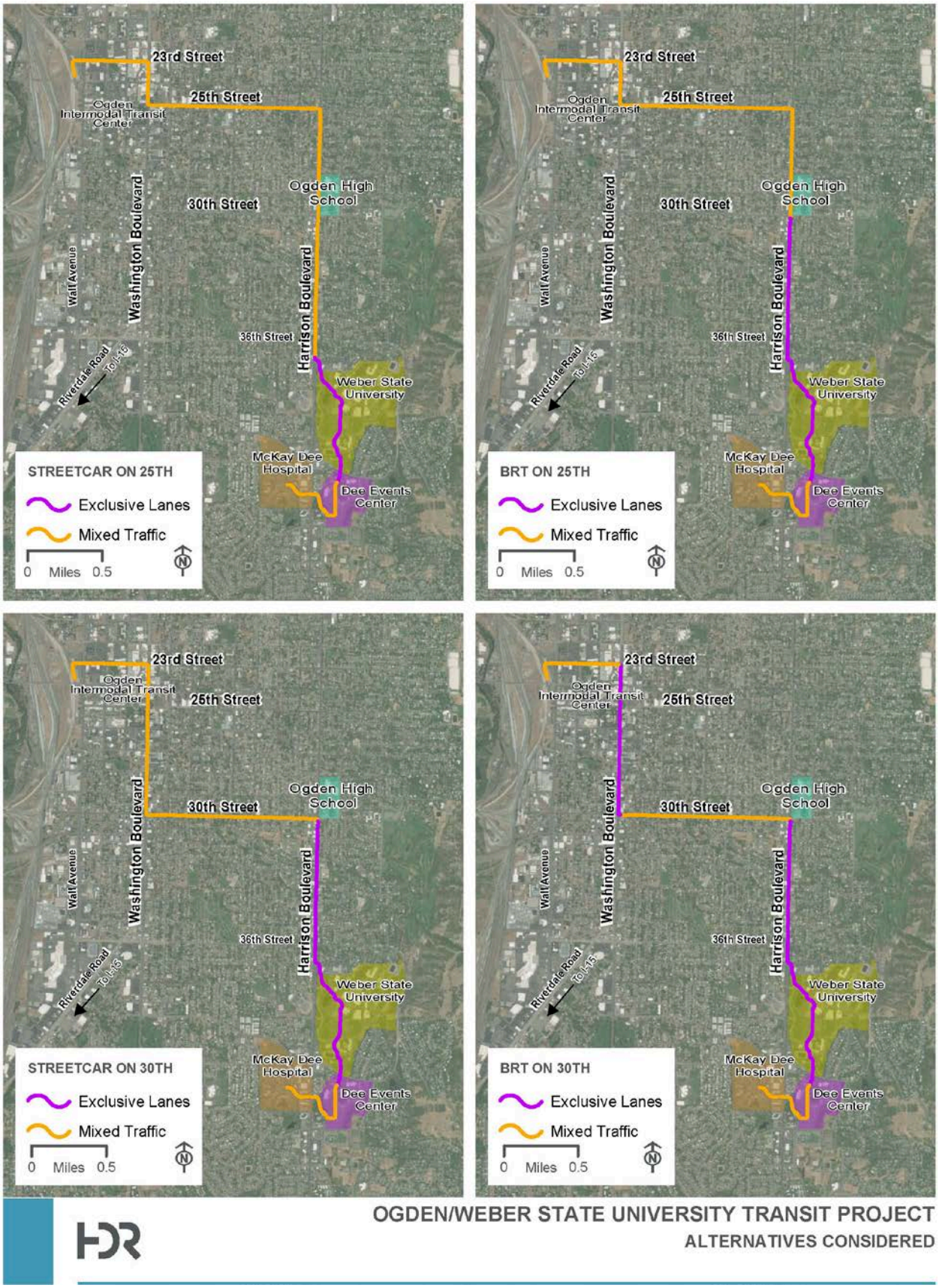


Figure 2. Alternatives Considered



1.6 What is the planning context of the project?

In addition to the previous studies described in Section 1.5, the planning context for this EA includes regional plans, local plans, and related studies. All of these plans and studies make either transportation or land-use recommendations specific to the project study area (for a map of the project study area, see Figure 3 above).

WFRC Regional Transportation Plan. WFRC's RTP is the blueprint for investments in transportation infrastructure in the Salt Lake–West Valley and Ogden-Layton Urbanized Areas. Updated every 4 years, the RTP is a collaborative effort by citizens and elected leaders to establish a list of transportation projects that can help achieve regional goals for mobility and the environment. The RTP must be fiscally constrained and must conform to federal air quality mandates.

What is a fiscally constrained RTP?

Fiscally constrained means that the RTP demonstrates that the listed projects can be implemented using committed, available, or reasonably available revenue sources, with reasonable assurance that the existing federally supported transportation system is being adequately operated and maintained.

WFRC's 2011–2040 RTP (WFRC 2011) includes the proposed Ogden/Weber State University Transit Project as a Phase 1 project (planned to be implemented between 2015 and 2024) with a 30th Street alignment and an undetermined transit mode. A recent amendment to the RTP updated the proposed project's alignment to 25th Street and the mode to BRT running in mixed-flow traffic with segments of bus-only lanes. The amendment was granted per Ogden City Council resolution #2015-24 approving an LPA for the Ogden/Weber State University Transit Project.

Ogden City General Plan. *Involve Ogden*, the city's General Plan (Ogden City 2002), cites the expansion of transit "to support the movement of people, both within the City and within the region." The General Plan goes on to say that neighborhoods will connect with the city's employment and activity center through mass transit, and mixed uses at key transportation points would further support the use of transit.

Weber State University Master Plan. The current Weber State University Master Plan (Weber State University 2004, maps updated 2016) acknowledges that the university consists of two noncontiguous campuses. The north, or main, campus houses the academic programs, administration, student services, and some athletic programs, while the south campus houses the Dee Events Center, a large parking lot, and student housing. The Master Plan establishes the goal of linking the two campuses with better pedestrian, bicycle, and transit connections.

Officials at Weber State University (Tarbox 2014) have said that policymakers established a 25% minimum transit mode share goal for all trips to and from Weber State University by 2030. The campus is very constrained, and increasing transit ridership will alleviate the need for additional parking on and near campus. Increased transit ridership will also help relieve congestion on the roads in the project study area, particularly Harrison Boulevard. The Master Plan shows a transit facility traversing the campus.

Ogden City Bicycle Master Plan and UTA's First/Last Mile Strategies Study. In concert with local efforts, the Ogden/Weber State University Transit Project would play a pivotal role in improving bicycle and pedestrian connections in the project study area. The Ogden City Bicycle Master Plan (Ogden City 2016) in conjunction with UTA's First/Last

Mile Strategies Study and the Utah Collaborative Active Transportation Study (UCATS) identified bicycle-related improvements at the Ogden Intermodal Transit Center that could increase transit ridership as well as in the East Central, Jefferson, and T.O. Smith neighborhoods near the central business district and in southeast Ogden near the Weber State University campus.

1.7 What are the project study area and proposed transit corridor?

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 (UPRR) 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 46th Street to the south, the southwestern part of which follows the Ogden/South Ogden municipal boundary (see Figure 3).

This project study area includes the following major destinations and Ogden neighborhood districts that could be served by the Action Alternative (see Figure 4):

- 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)

Figure 3. Project Study Area

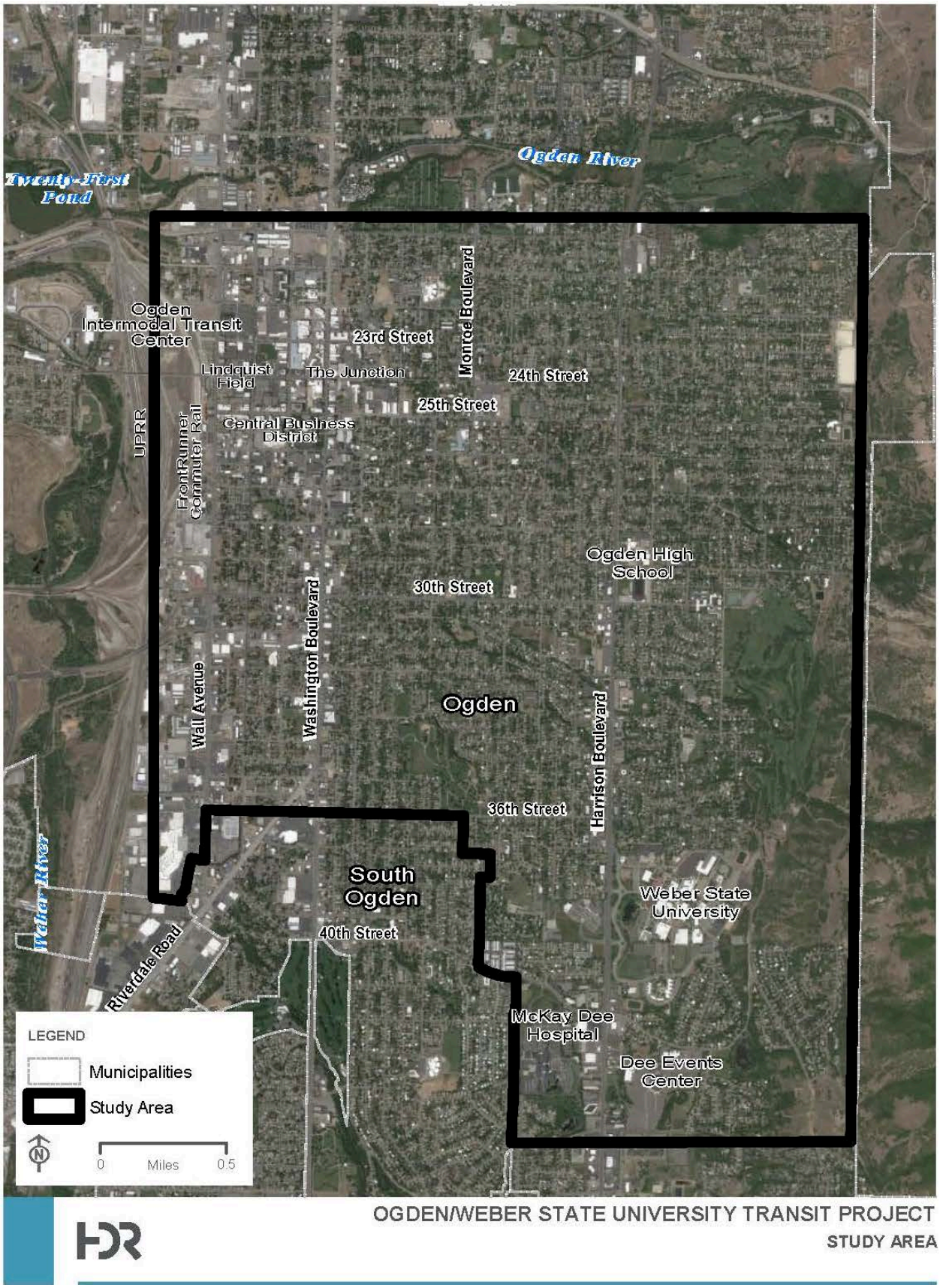
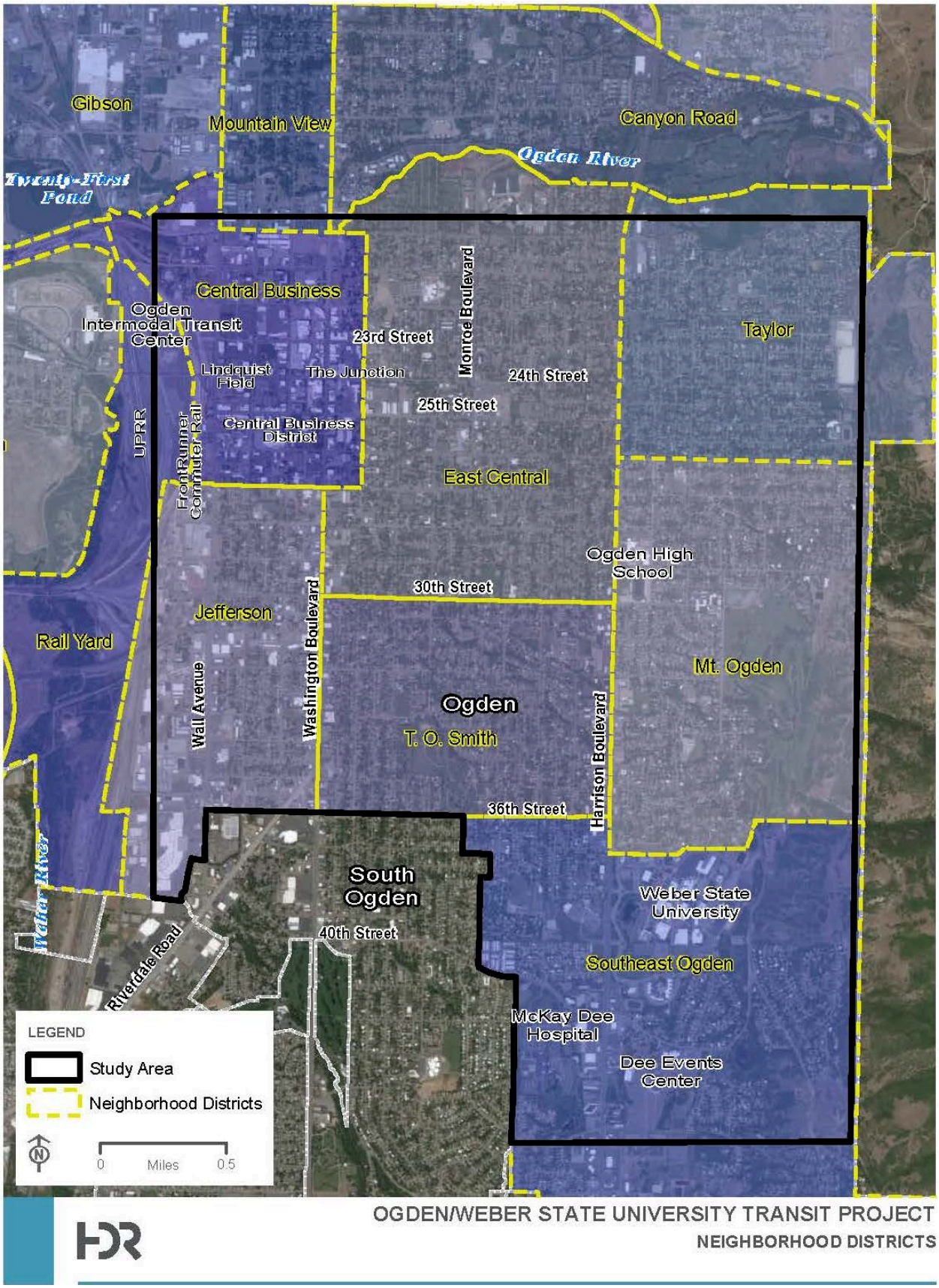


Figure 4. Neighborhood Districts



OGDEN/WEBER STATE UNIVERSITY TRANSIT PROJECT
NEIGHBORHOOD DISTRICTS

Upgrading transit service in Ogden would allow existing route 603 bus riders to travel faster and more comfortably with more-reliable service, using specialized vehicles, distinctive branding, and near-level and prepaid boarding while benefiting from faster boarding and alighting and increased on-time reliability from bus-only lanes and transit.

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 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 line and the Ogden Intermodal Transit Center are on the western edge of the city, and Interstate 15 is just west of the city.

Proposed Transit Corridor. The proposed transit corridor is the alignment of the Action Alternative (see Figure 8 on page 24). The Action Alternative alignment 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 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 through the Weber State University campus and then west to McKay-Dee Hospital. The BRT route would loop back on the same route.

What is bus rapid transit (BRT)?

BRT is an innovative, high-capacity public transit solution that can significantly improve urban mobility and increase travel choices in a community. This permanent, integrated system uses specialized buses on roads and dedicated lanes to quickly and efficiently transport passengers to their destinations. BRT systems can be customized to community needs and incorporate state-of-the-art, low-cost technologies that result in more passengers and less congestion.

1.8 What transit service currently exists in the project study area?

Table 1 on page 14 and Figure 5 on page 15 show the current UTA bus service in Ogden. In addition, UTA's FrontRunner commuter-rail service provides service between Ogden, Salt Lake City, and Provo (and points in between) from the Ogden Intermodal Transit Center. As described below, UTA's route 603 currently provides service along a similar alignment as the Action Alternative. It had about 1,650 average weekday boardings in 2017.

Additionally, routes 650 and 455 also provide service between the Ogden Intermodal Transit Center and Weber State University. Route 650 is an express route that runs straight from the intermodal center to three University locations with no stops in between. It had about 130 average weekday boardings in 2017. Route 455 is an intra-county route that runs from Ogden to the University of Utah via Weber State University and downtown Salt Lake City. This route had an average of about 725 weekday boardings in 2017, with about 100 occurring on the University campus. About 25 of those people rode route 455 between Weber State University and the Ogden Intermodal Transit Center. A total of 1,700 average weekday boardings occur between the University and the Ogden Intermodal Transit Center. It's

important to note that none of the buses that currently serve Weber State University take passengers to the heart of campus. Current University bus stops are on the far east or far north side of campus.

Weber State University's Wildcat Shuttle (Figure 6 on page 16) 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.

The Action Alternative would replace the Weber State University Wildcat Shuttle. In addition to the 10-minute BRT service provided by the Action Alternative, UTA would operate a campus circulator every 5 minutes between the Dee Events Center and the University's main campus from 8:00 AM to 2:00 PM.

UTA route 645 has been connecting the Dee Events Center to the Main Campus since 2016. It makes six trips from the Dee Events Center to the university campus in the morning and six trips back in the early afternoon.

Route 603: Ogden Intermodal Transit Center—Weber State University—McKay-Dee Hospital. The primary local bus route, 603, currently provides service between the Ogden Intermodal Transit Center, Weber State University, and McKay-Dee Hospital (via 25th Street). Route 603 also provides Sunday service to the Ogden Clinic (4650–4700 Harrison Boulevard). As shown in Figure 7 on page 17, the route 603 bus travels from the Ogden Intermodal Transit Center east via Wall Avenue, 26th Street, and 25th Street, then travels south on Harrison Boulevard to 36th Street where it travels as far east as Skyline Drive on the Weber State University campus and stops near the Social Science building and Lind Lecture Hall.

Route 603 doesn't currently serve the heart of the university campus, but it does provide service between the Ogden Intermodal Transit Center and the University while also providing service to popular locations in between, including the stores and restaurants on 25th Street, the Junction, and Lindquist Field.

The Action Alternative would capitalize on the success of route 603 and would replace the existing route 603 bus service with more-efficient, reliable BRT service and improved transit amenities that enhance comfort and safety. The northern segment of the Action Alternative wouldn't travel on 26th Street as route 603 currently does but would travel on 23rd Street and pass several employment opportunities and recreational areas. In addition, the Action Alternative route would serve the heart of the Weber State University campus rather than looping around the easternmost area of campus.

Route 650: Ogden FrontRunner—Weber State University Fast Bus. Route 650 travels from the Ogden Intermodal Transit Center to Wall Avenue, travels from Wall Avenue to 36th Street, and then travels as far east as Skyline Drive on the Weber State University campus, which is farther east than the Action Alternative route and doesn't bring travelers to the heart of the university campus. The route 650 bus makes six 15-minute trips each weekday.

Route 455: University of Utah—Davis County—Weber State University. Route 455 is one of the longer bus routes in UTA's Weber County service area. Route 455 runs between the Ogden Intermodal Transit Center and the University of Utah via downtown Ogden, Weber State University, Davis County, and downtown Salt Lake City. Each round trip takes 2 hours.

Route 640: Layton Hills Mall—Weber State University. This route provides 1-hour service between Weber State University's Ogden and Davis campuses as well as providing service to Freeport Center, Davis Hospital, and the Newgate and Layton Hills Malls.

Route 645: Monroe Boulevard. Route 645 provides service from 1100 North and Monroe Boulevard in Ogden to the Ogden Clinic at about 4700 S. Harrison Boulevard. Like routes 603 and 650, route 645 also serves the Weber State University campus via Skyline Drive.

Route 625: Harrison Boulevard. This route provides service to the Ogden-Weber Technical College, then along Harrison Boulevard to Weber State University and U.S. 89, ultimately terminating near the Ogden Regional Medical Center. This route also serves the Weber State University campus via Skyline Drive.

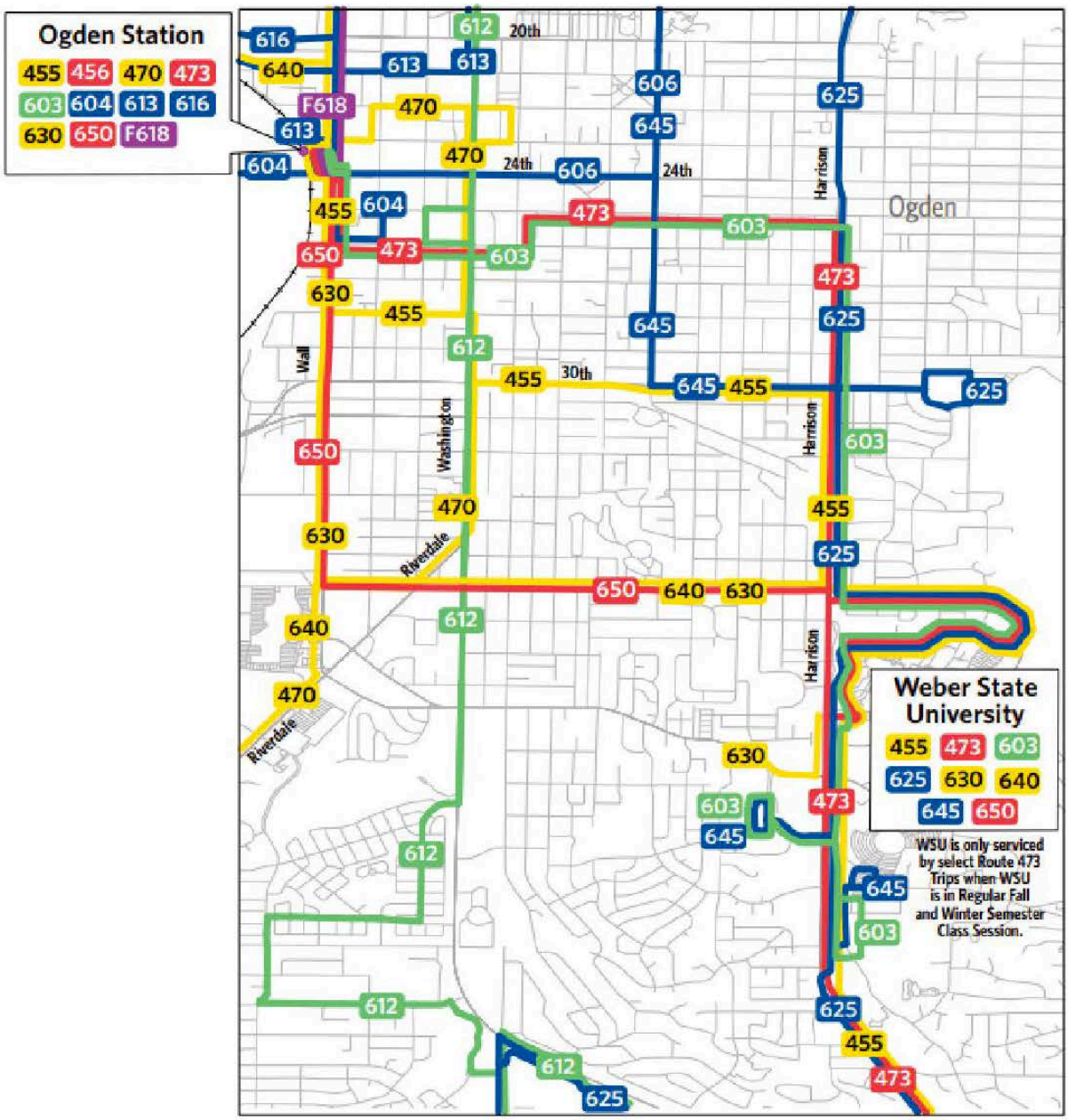
Route 473: Ogden/Hwy-89/Salt Lake Express. Route 473 is an express bus from the Ogden Intermodal Transit Center to downtown Salt Lake City and the University of Utah via U.S. Highway 89 (US 89) in Davis County.

Route 630: Brigham City/Ogden Commuter. Route 630, Brigham City/Ogden Commuter, provides service between Brigham City and the Ogden Intermodal Transit Center with some trips to the Weber State University campus during peak periods. At this time, UTA has no plans to alter routes 650, 455, 640, 645, 625, 473, or 630. Only route 603 would be replaced by the Action Alternative.

Table 1. Existing Bus Service in the Project Study Area

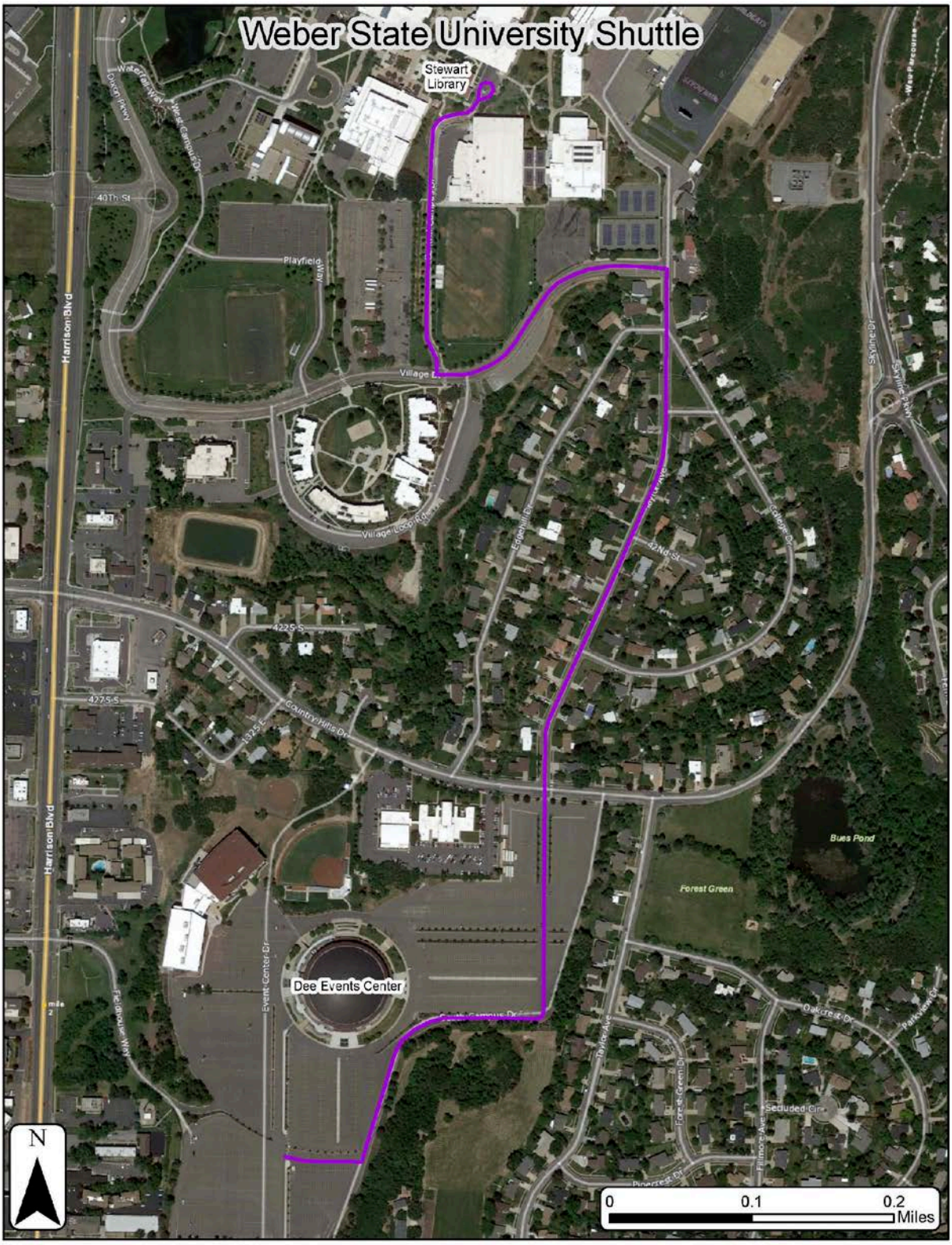
Route Number	Route Name	Route Details	Average Weekday Ridership (2017)
603	Ogden Intermodal Transit Center—Weber State University—McKay-Dee Hospital	Ogden Intermodal Transit Center to Weber State University and McKay-Dee Hospital via downtown Ogden and 25th Street	1,650
650	Ogden FrontRunner—Weber State University Fast Bus	Fast bus from Ogden Intermodal Transit Center to Weber State University with no stops in between	130
455	University of Utah—Davis County—Weber State University	Ogden Intermodal Transit Center to Weber State University and the University of Utah via Davis County and downtown Salt Lake City	725
640	Layton Hills Mall—Weber State University	Weber State University to Layton Hills Mall via Harrison Boulevard, Riverdale, Roy, Sunset, Clearfield, and Weber State University Davis campus	884
645	Monroe Boulevard	1100 North and Monroe Blvd to the Ogden Clinic (46th and Harrison Boulevard) via Monroe Boulevard, Harrison Boulevard, and Weber State University	387
625	Harrison Boulevard	Ogden-Weber Technical College (200 N. Washington Boulevard) to Ogden Regional Medical Center (5550 S. Adams Avenue) via Weber State University, McKay-Dee Hospital, and Harrison Boulevard	350
473	Ogden/Hwy-89/Salt Lake Express	Ogden Intermodal Transit Station to University of Utah and Research Park via US 89, Farmington, and downtown Salt Lake City	556
630	Brigham City/Ogden Commuter	700 North and Main Street in Brigham City to the Ogden Intermodal Transit Center via Perry, Willard, Pleasant View, and Harrisville with some trips to Weber State University Ogden campus during peak periods	457

Figure 5. Ogden Area Transit Map



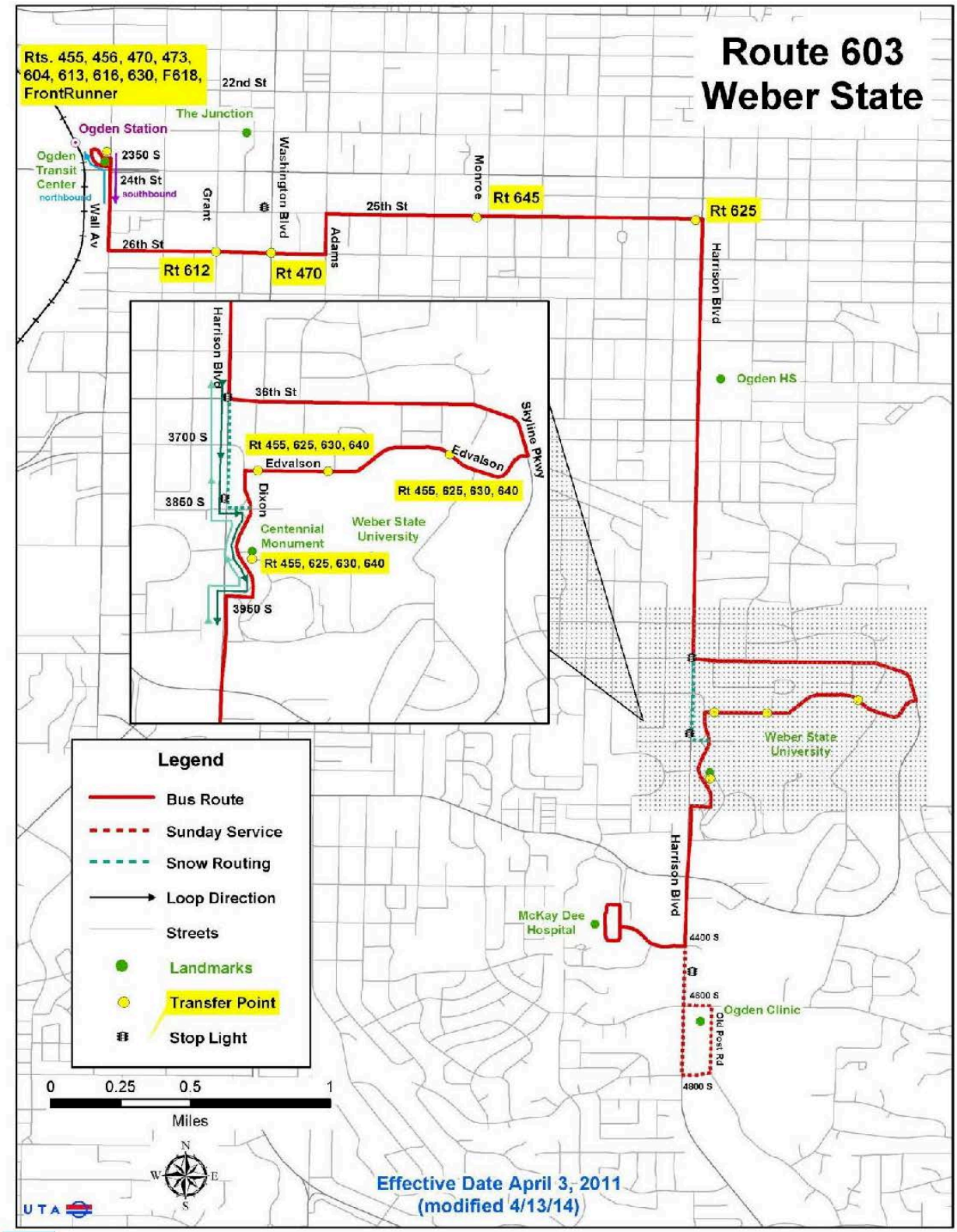
OGDEN/WEBER STATE UNIVERSITY TRANSIT PROJECT
OGDEN AREA TRANSIT MAP

Figure 6. Weber State University Wildcat Shuttle Map



OGDEN/WEBER STATE UNIVERSITY TRANSIT PROJECT
WILDCAT SHUTTLE

Figure 7. UTA Bus Route 603



OGDEN/WEBER STATE UNIVERSITY TRANSIT PROJECT
UTA BUS ROUTE 603

2.0 What are the purpose of and need for the project?

This Ogden/Weber State University Transit Project strives to improve the existing route 603 bus service, one of UTA's busiest routes in its Weber County service area, which had an average of 1,650 weekday boardings in 2017. By enhancing the transit facilities and amenities that connect employment and educational hubs, residential areas, shopping areas, civic resources, historic districts, cultural landmarks, and entertainment venues in central Ogden, the project would further improve mobility and accessibility for the people who live, work, and visit the project study area.

The project would improve linkages to the regional transit network and would connect with UTA's FrontRunner commuter-rail line. The enhanced transit amenities and improved trip reliability, as well as the improved connectivity through the Weber State University campus resulting from the project, would further promote transit use and active transportation in the project study area while reducing the need to travel by automobile and contributing to decreased greenhouse gas emissions.

Given the above potential improvements, the project partners agreed on the following objectives of transit improvements in Ogden:

- Increase mobility, connectivity, and travel choices between downtown Ogden and the Weber State University/McKay-Dee Hospital area
- Promote economic and community development and create jobs in Ogden
- Support local and regional land-use initiatives
- Increase ridership, attract more local riders, and provide improved access to the overall transit system by introducing premium transit service with enhanced amenities in the study area

These objectives helped to inform the purpose of and need for the project.

2.1 What is the purpose of the project?

The specific purpose elements of the project are to:

- Improve transit facilities and amenities, travel time, and reliability in the proposed transit corridor to provide greater comfort and safety.
- Connect the main and south campuses of Weber State University per the Weber State University Campus Master Plan.
- Reduce the growth in automobile trips and parking demand at Weber State University.
- Encourage transit-oriented land uses per Ogden City's General Plan and support other local and regional planning initiatives and land-use strategies that aim to foster economic development because of investment in transit infrastructure.
- Reduce transportation-related energy use, air pollutant emissions, and greenhouse gas emissions.

Consistent with NEPA, the purpose and need statement developed during the AA update process was a statement of a transportation problem, not a specific solution. The purpose and need statement developed during that process was specific enough to generate alternatives that could potentially yield real solutions to the problem at hand and was broader and less refined than the purpose elements listed above.

Per 23 CFR 450, Appendix A: Linking the Transportation Planning and NEPA Processes, a sound transportation planning process is the primary source of a project's purpose and need. Through transportation planning, state and local governments, with involvement of stakeholders and the public, establish a vision for the region's future transportation system, define transportation goals and objectives for realizing that vision, decide which needs to address, and determine the timeframe for addressing these issues. The transportation planning process also provides a potential forum to define a project's purpose and need by framing the scope of the problem to be addressed by a proposed project. This scope may be further refined as the transportation planning process progresses and as more information about the transportation need is collected and consultation with the public and other stakeholders clarifies other issues and goals for the region.

The refined purpose and need statement in this EA builds off of the more broad statement developed during the AA update process yet still supports the selection of the LPA.

2.2 Why is the project needed?

The need for the project is a result of the following conditions:

1. **The existing transit service lacks the amenities, travel time competitiveness, and reliability that would make it more attractive to new riders.** As congestion in the proposed transit corridor increases and trip reliability for transit users decreases, the attractiveness of public transit to existing and future users is reduced and continued public transit investment is jeopardized. Expedited boarding and payment systems are amenities that contribute to improved transit trip times and, therefore, the attractiveness of transit. Currently, the route 603 bus service doesn't provide near-level boarding (resulting in reduced access and the need for wheelchair lifts). Boarding and fare payment occur only at the front of the bus and require the driver's attention if a passenger is using cash (resulting in passenger queuing and delay). Faster service would reduce operating and maintenance costs because fewer buses would be needed to perform the number of round trips required to provide scheduled service. Additional passengers would mean a lower cost per passenger.

   In addition, delays due to traffic congestion decrease mixed-flow transit vehicles' likelihood of maintaining a schedule. A study prepared for the California Department of Transportation found that unreliability was a reason why 50% of former transit users stopped using transit (Iseki and others 2006). Further, a lack of reliable information as to when a bus will arrive contributes to a perception of unreliability and also affects ridership. A consistent travel time and accurate information about schedule are important features to establish reliability and encourage transit use (Carrel and others 2013). Bus-only travel lanes would provide more-reliable service because buses wouldn't be as affected by traffic as they would be in the mixed-flow lanes.

Finally, transit passenger facilities and streetscape enhancements, including adequate shelter, lighting, and seating at passenger waiting areas, are needed to encourage a modal shift of future corridor travelers to transit. Currently, the only amenities available for the route 603 bus passengers in the proposed transit corridor are basic shelters with small signs indicating route 603 bus service, plus benches and trash cans. Amenities characteristic of a full-service transit system, including upgraded shelters, enhanced fare collection (such as prepaid or smart card technologies), real-time service information, lighting, and security features, don't currently exist in the proposed transit corridor. With the provision of these support features and enhancements, transit ridership rises by 30% or more along corridors that provide a BRT service compared with regular transit service (U.S. Government Accountability Office 2012). If the current route 603 bus makes the transition to a complete BRT service with all the associated amenities, additional riders would be drawn to this service.

2. **Weber State University consists not of one campus but rather of two non-contiguous campuses.** Currently, there is a great separation between the two campuses. The north, or main, campus houses the academic programs, administration, student services, and some athletic programs, while the south campus houses the Dee Events Center, a large parking lot, and student housing. This student housing is over 1 mile from the north campus, and there is no trail system internal to the university to make pedestrian or bicycle travel between the north and south campuses safer and more convenient.

3. **Growth forecasted for Weber State University will overwhelm roadway and parking capacity unless there are alternatives to auto travel.** According to its 2004 Master Plan (the current 2017 Master Plan doesn't 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 aren't 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 (Johnson 2018).

   Weber State University has very limited dormitory space, and only limited on-campus dormitory expansion is planned. Thus, the university will continue to serve a very large number of students that commute to campus daily. Many of these students could be served by more-efficient, high-capacity/high-frequency transit service that connects the university with other regional transit services, including FrontRunner at the Ogden Intermodal Transit Center. Connecting parking needs with demand by

transit would result in better utilization of the available on-campus parking; would reduce the need for additional parking lots at the university; would reduce the overall carbon footprint of the campus, thereby keeping the university in line with its larger sustainability initiatives; and would allow the university to develop at a higher density.

Strong existing transit ridership on campus and in the project study area overall, and the projections for significantly increased transit mode share to and from the University, require transit 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' expectations for a more reliable trip.

4. **Local and regional land-use plans and economic and redevelopment initiatives aren't adequately supported by UTA's existing fixed-route bus system.** The project study area encompasses a wide range of established neighborhoods and community facilities as well as locations with substantial development and redevelopment opportunities. Future high-density, transit-oriented development in the project study area could provide a rich mix of housing, jobs, shopping, and recreational choices.

   Revitalization of downtown Ogden and the Central Business District, the East Central neighborhood (which is centered around 25th Street), and the Weber State University/McKay-Dee Hospital area are key focus areas of the city's general plan and sub-area planning. Improved transit service and increased ridership between downtown Ogden and Weber State University could reduce the environmental impacts of high rates of automobile use, relieve existing and projected traffic congestion, reduce the demand for parking, and encourage the use of alternative modes of travel. Improved transit service would also enable expanding Weber State University's Ogden campus by reducing the need for additional parking as the campus continues to grow. Increased transit ridership to McKay-Dee Hospital could also enable the future growth of its medical campus. Additional benefits realized throughout the community would include increased retail sales taxes and increased property values and tax revenue.

5. **Traffic congestion is growing, and roadway level of service and local and regional air quality are declining.** Population and employment growth in the project study area and throughout the Wasatch Front region will cause increased travel demand in the coming decades. Ogden is an established community that functions as a regional destination, but the city also experiences a high level of regional through trips. Without high-quality modal choices to reduce reliance on automobiles, Ogden residents and commuters are likely to face reduced mobility and degradation in their quality of life. In addition, Ogden City's goals for continued vitality and economic growth could be

What is level of service (LOS)?

Level of service is a measure of the operating conditions on a road or at an intersection. Level of service is represented by a letter "grade" ranging from A (free-flowing traffic and little delay) to F (extremely congested, stop-and-go traffic and excessive delay).

compromised. People traveling to regional destinations in Ogden would also have longer travel times and few options other than automobiles.

Many arterial roads in the project study area are beginning to experience peak-period congestion, and increasing capacity will be difficult and disruptive to established neighborhoods. Automobile emissions are a major contributor to the Wasatch Front's air quality concerns, and many short trips in the project study area could be served by improved transit. Both regional and local plans envision higher-capacity transit as part of a comprehensive solution to serve future travel needs and incrementally improve regional air quality by providing a real alternative to automobile trips. Further, cleaner transit vehicle technologies and fuels will lower the concentration of ambient air pollution citywide.

What is travel demand?

Travel demand is the expected number of transportation trips in an area. Travel demand can be met by various modes of travel, such as automobile, bus, light rail, carpooling, and bicycling.

3.0 What are the project alternatives?

The Bus Rapid Transit on 25th Street Alternative was selected as the LPA, referred to as the Action Alternative in this EA, by Ogden City and the project partners at the conclusion of a year-long AA update process completed in July 2015 (see Section 1.5).

During the AA update process, two modes and two alignments were evaluated. The AA update process built on previous planning efforts in Ogden and involved extensive collaboration between the project partners and the public. **The process by which the BRT on 25th Street Alternative was selected as the LPA is described in detail in the *Alternatives Analysis Update Report*** (provided as Appendix A of this EA).

For more information, see Appendix A, Alternatives Analysis Update Report.

In this EA, a No-Action Alternative is compared to the Action Alternative to assess the effects of the proposed project.

3.1 What is the No-Action Alternative?

The No-Action Alternative provides a basis for evaluating the environmental effects of the Action Alternative. The No-Action Alternative includes the existing transportation system in the project study area and all projects in WFRC's 2015–2040 Regional Transportation Plan (RTP; WFRC 2015) that are programmed to occur in the project study area and are expected to be completed by 2020, which is the anticipated opening year for the proposed transit improvements.

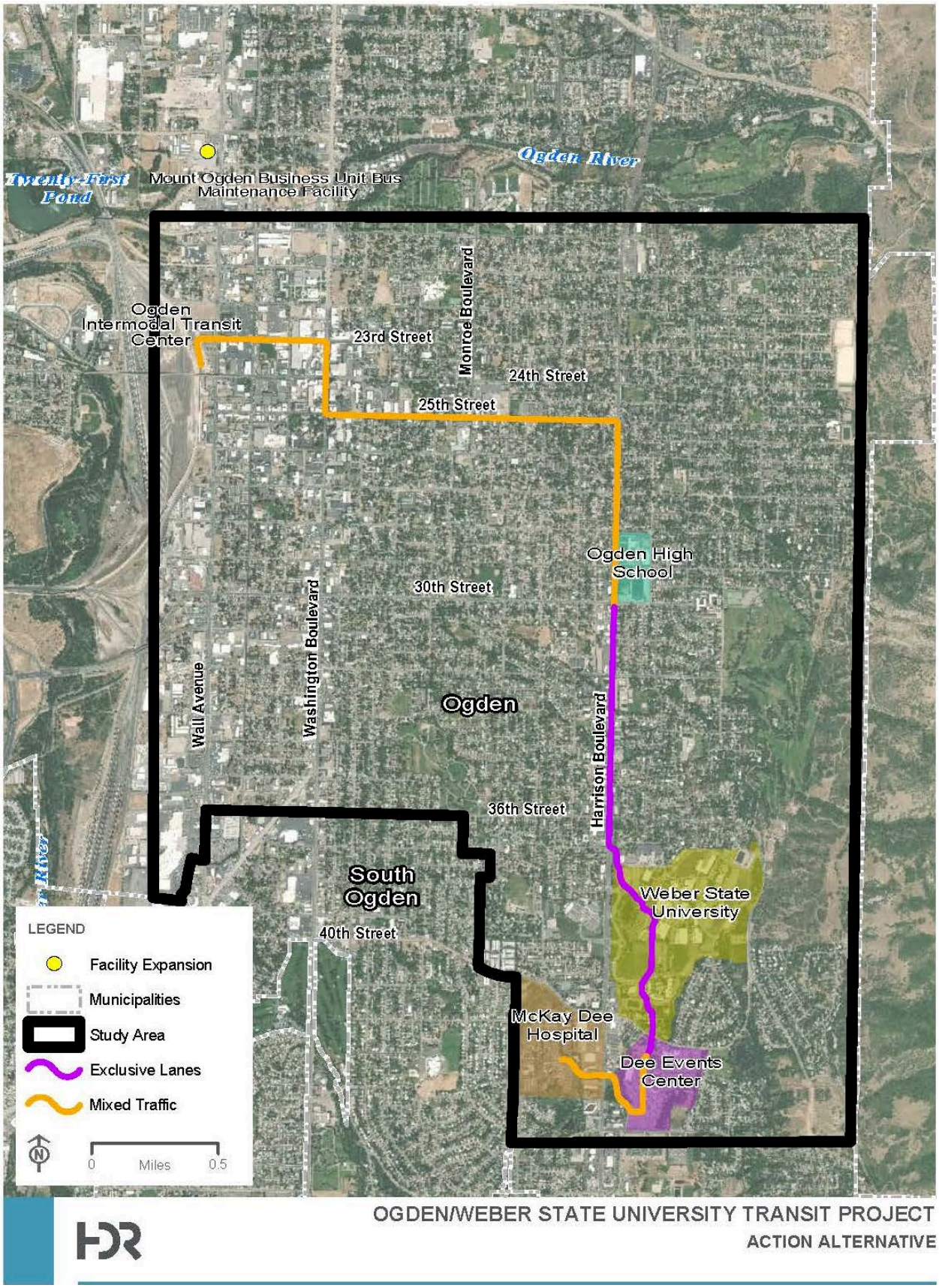
The No-Action Alternative includes current route 603 bus service using standard buses with the existing service schedule and headways. The No-Action Alternative doesn't include a significant new transit capital improvement in the project study area by 2020—that is, no bus-only lanes, no additional station amenities, and none of the additional enhancements that would support the BRT project, including no addition of bicycle lanes on Harrison Boulevard south of 31st Street, no expansion of the Mount Ogden Business Unit Bus Maintenance Facility, and no improvements to portions of 23rd Street and 25th Street to accommodate enhanced bus service and further support active transportation. Typical UTA buses would continue serving existing bus stops in the project study area with no construction of additional infrastructure.

3.2 What is the Action Alternative, and what are its physical and operating characteristics?

This EA evaluates one action alternative: the BRT on 25th Street Alternative, which was selected by the project partners and adopted by the Ogden City Council as the LPA (Figure 8). The Action Alternative would replace the existing bus route 603. Route 603 is one of UTA's busiest routes in its Weber County service area, having an average of 1,610 boardings in 2017. Upgrading transit service on this route in Ogden would allow existing route 603 bus riders to travel faster and more comfortably with more-reliable service, using specialized vehicles, distinctive branding, and near-level and prepaid boarding while benefiting from faster boarding and alighting and increased on-time reliability from bus-only lanes and transit while eliminating redundant service.

The 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.

Figure 8. Action Alternative



The Action Alternative would likely include:

- 10- to 15-minute bus frequencies 7 days per week between 4:30 AM and 12:30 AM
- A campus circulator bus operating every 5 minutes between the Dee Events Center and Weber State University's main campus between 8:00 AM and 2:00 PM
- Low-floor buses and new platforms to allow safer and faster boarding and unloading times at stations
- New, modern buses, likely all-electric, hybrid diesel-electric, or super-low-emission diesel buses
- Bus-only lanes on Harrison Boulevard south of 31st Street and through the Weber State University campus that allow buses to bypass stopped or slower traffic
- Five-foot-wide bicycle lanes on Harrison Boulevard between 31st and 36th Streets
- Differentiation in the appearance of the BRT runningway via pavement markings, lane delineators, alternative pavement material and texture, and/or alternate pavement color
- Traffic signal priority (TSP), allowing BRT vehicles to communicate with the traffic signals to provide priority for the buses at intersections to extend the duration of the green light and reduce travel time
- Real-time transit information to eliminate riders' uncertainty about when the bus will arrive
- Enhanced fare collection, such as prepaid or smart card technologies, to reduce boarding time at bus stops
- Specially branded vehicles, stops, stations, signs, and information to set BRT routes apart from the rest of the transit system
- Stylish, comfortable vehicles with a railcar-like appearance to appeal to riders
- Amenities at the bus stops including enhanced lighting, glass enclosures, seating, weather protection, wayfinding information, bicycle racks, security cameras, trash receptacles, emergency call boxes, landscaping, and public art
- Ramps that comply with the ADA
- Higher-capacity boarding areas
- Community-friendly design that provides for the needs of bicyclists, pedestrians, and motorists
- More capability to help with special events on the Weber State University campus
- Expansion of the Mount Ogden Business Unit Bus Maintenance Facility to accommodate the new bus fleet
- Upgrades to the existing road, utility, and active transportation infrastructure on 25th Street between Adams Avenue and Jefferson Avenue and on 23rd Street between Wall Avenue and Grant Avenue to support the Action Alternative

3.2.1 Vehicle Requirements

Preliminary ridership estimates indicate that opening-day (2020) ridership would range between 2,600 and 3,100 daily boardings, based on either a 15-minute or 10-minute headway, respectively. This is about a 50% increase from the existing 1,650 riders on the route 603 bus.

Additionally, the Action Alternative would replace the Weber State University Wildcat Shuttle (since service would be duplicative). In addition to the 10-to-15-minute BRT service provided by the Action Alternative, UTA would operate a campus circulator every 5 minutes between the Dee Events Center and the University's main campus from 8:00 AM to 2:00 PM, resulting in up to an additional 2,600 riders per day on the Action Alternative. The total projected ridership for the Action Alternative, including the campus circulator, is 5,200 to 5,700 passengers per day.

Therefore, eight new 40-foot-long buses would be added to UTA's fleet as part of the Action Alternative. Each bus would have seating capacity for 40 people with additional standing room. The BRT buses would likely be all-electric, hybrid diesel-electric, or super-low-emission diesel buses, though most of the project partners agreed that all-electric or hybrid diesel-electric vehicles are most preferred for the Action Alternative. 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 Maintenance Facility and at the new enhanced station near the Dee Events Center on the Weber State University campus.

3.2.2 Maintenance Facility

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 can't 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.

3.2.3 Roadway Improvements on 25th Street and 23rd Street

In conjunction with the Action Alternative, Ogden City would upgrade portions of 23rd and 25th Streets to better accommodate the Action Alternative. 25th Street between Adams Avenue and Jefferson Avenue would be rebuilt from the bottom up with a new or reclaimed aggregate base and at least two layers of new asphalt surfacing in order to extend the service life of the road as it supports more-frequent BRT service. The roadway reconstruction would include removing all existing asphalt surfacing and excavating the road subgrade materials. 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 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). A traffic signal would be installed at Lincoln Avenue to improve roadway operation and safety for both automobiles and the BRT. The following additional roadway upgrades would also be constructed on 23rd Street in conjunction with, and to facilitate, the Action Alternative:

- Restriping 23rd Street westbound at Wall Avenue to have left- and right-turn lanes
- Removing angled parking on 23rd Street and replacing it with parallel parking
- Adding bicycle lanes both directions
- Adding a crosswalk between Wall Avenue and Lincoln Avenue
- Some curb reconstruction along the street and reconfiguring the existing curb bump-outs
- Restriping eastbound 23rd Avenue at Grant Avenue to make the right lane a through/right-turn combination
- Adding a bicycle lane to Grant Avenue and narrowing the configuration of the general-purpose lanes to two lanes instead of three
- Extending the sidewalk radius at the corner of Grant Avenue and 23rd Street into the existing road and reconstructing the curb and gutter

Completing these roadway improvements in conjunction with the Action Alternative would improve safety, improve active transportation, and enhance the Action Alternative's operations. In addition, the service life of 25th Street would be extended, and older, potentially shallow utilities would be replaced, thereby saving money and reducing disruption to the community.

Figure 9 and Figure 10 show cross-sections of the proposed BRT stations and on-street parking on 23rd Street.

Figure 9. Cross-section of BRT Stations on 23rd Street

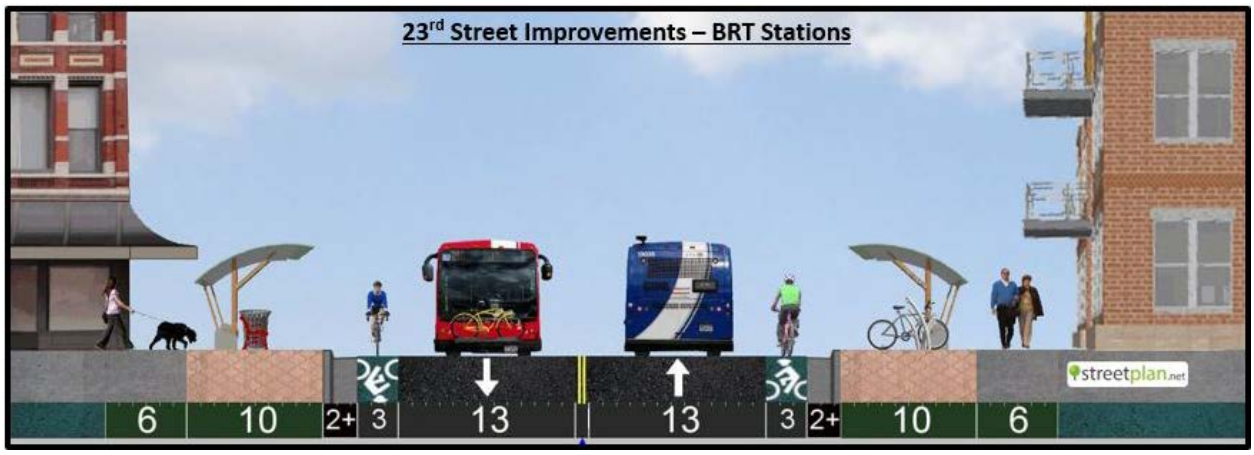


Figure 10. Cross-section of On-street Parking on 23rd Street

3.2.4 Bus-Only Lanes

By using exclusive bus-only lanes, transit service becomes more reliable and attractive to riders who want to avoid the congestion of traveling in mixed-flow traffic. However, incorporating bus-only lanes commonly requires widening existing streets and could have more impacts to surrounding features. During the AA update process, the project partners agreed to minimize impacts to historic properties and businesses in the project study area.

For more information, see Appendix D, Detailed Design Figures.

Therefore, bus-only lanes on Harrison Boulevard would start south of 31st Street, where the street is currently wider, and would continue through the Weber State University campus. North of 31st Street, the BRT buses would operate in mixed-flow traffic. The bus-only lanes on the southern segment of the alignment would improve the reliability of the Action Alternative and would contribute to a modern image for Ogden (see Appendix D, Detailed Design Figures).

Figure 11 and Figure 12 show cross-sections of the proposed station platform intersection and roadway on Harrison Boulevard.

Figure 11. Cross-section of Station Platform Intersection on Harrison Boulevard

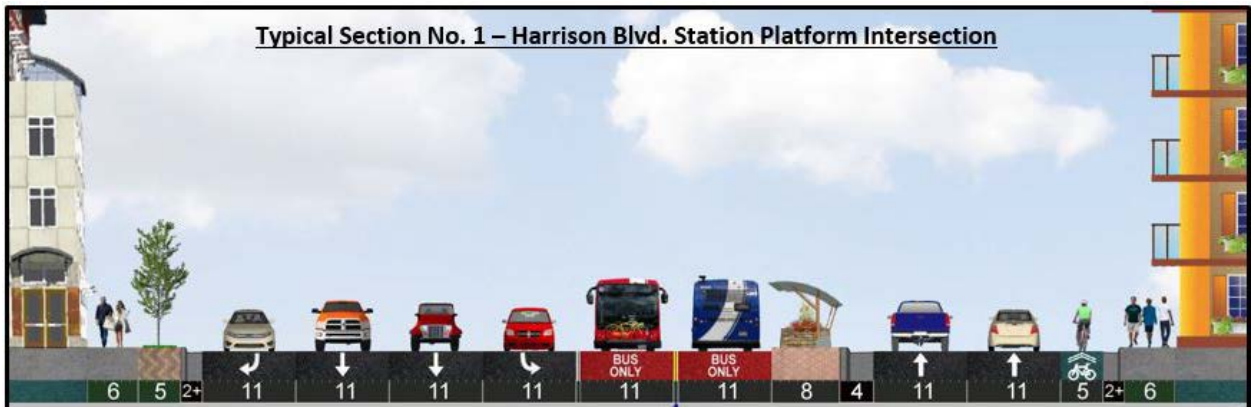
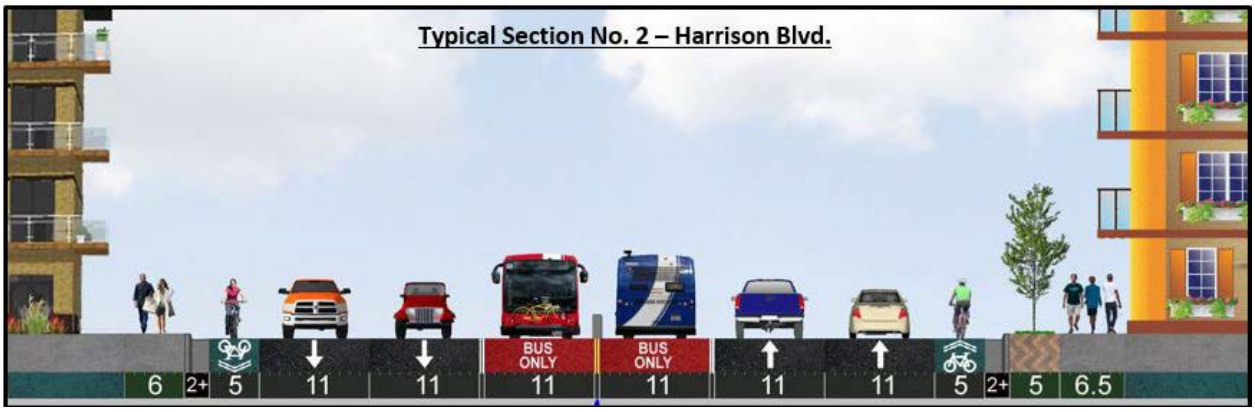


Figure 12. Cross-section of Roadway on Harrison Boulevard



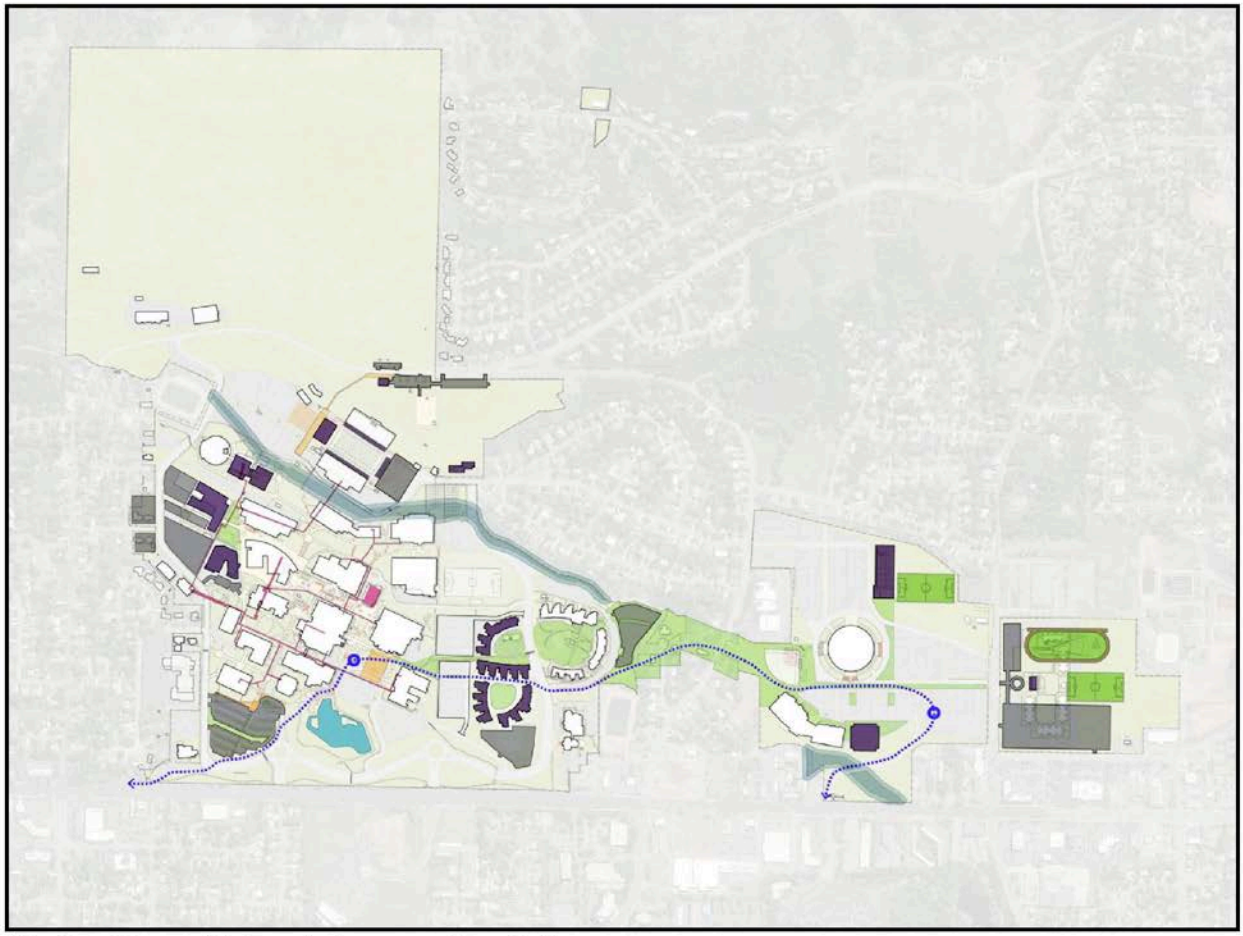
3.2.5 Alignment through the Weber State University Campus

The alignment through the Weber State University campus would be mostly bus-only lanes and would follow the transit alignment in the Weber State University Master Plan (Weber State University 2004, updated in 2016). The transit alignment is part of the University's plan to connect the north (main) campus, which houses the academic programs, administration, student services, and some athletic programs, with the south campus, which houses the Dee Events Center, a large parking lot, and student housing.

Figure 13 shows a cross-section of the proposed bus-only lanes through the Weber State University campus, and Figure 14 on the following page shows the proposed BRT alignment through the campus as illustrated in the University's Master Plan.

Figure 13. Cross-section of Bus-only Lanes through Weber State University Campus

Figure 14. Weber State University Master Plan Composite Graphic (2016)



The dotted line on this figure is the proposed transit alignment.
This figure is taken directly from the University Master Plan.

OGDEN/WEBER STATE UNIVERSITY TRANSIT PROJECT
WEBER STATE UNIVERSITY MASTER PLAN COMPOSITE GRAPHIC (2016)

Connecting North and South Campuses. Weber State University is using its campus Master Plan to guide campus development into the foreseeable future. Both the 2004 Master Plan and the updated 2016 Master Plan acknowledge that Weber State University consists of two noncontiguous campuses. The north (main) campus houses the academic programs, administration, student services, and some athletic programs, while the south campus houses the Dee Events Center, a large parking lot, and student housing. The two campuses are greatly separated, and the University wants to lessen this separation. To facilitate this goal, the Master Plan states the University's desire to link the two campuses with pedestrian, bicycle, and transit connections.

Serving the Heart of the Campus. University officials requested that the Action Alternative serve the heart of their campus, which includes the Shepherd Union Building (the social and recreational center of campus) as well as the nearby Browning Performing Arts Center and Kimball Visual Arts Center. University officials requested that a station be located as close to the front door of the student union building as possible. To accommodate this request, about a 1,000-foot segment between the duck pond and student union building would be single-track busway to avoid impacts to the iconic tiered pond and buildings.

With the single-lane option through this area, buses approaching from opposite directions would share the same road section and could overtake or pass each other only at the nearest bus stop. In the areas where a single-track busway is used, both the north- and south-bound buses would travel along the same busway lane by taking turns, and block signaling would be used to indicate when it's safe for a bus to enter the lane. Vehicles would travel over sensors installed under the concrete, and these sensors would signal approaching buses when the transitway is free.

Dee Events Center and New Enhanced Station. The Action Alternative would include a busway through the Dee Events Center parking lot that would run west of the events center for about 1,000 feet and then stop at a new enhanced station. The enhanced station would include additional amenities that enable passengers to efficiently transfer between the Action Alternative, local bus routes (without leaving the physical boundaries of the station for bus transfers), bicycle facilities, and automobiles. Additional amenities could include electric bus-charging equipment, a rest facility for drivers, and an area for performing minor vehicle maintenance. The enhanced station would function similarly to the Ogden Intermodal Transit Center but on a much smaller scale. This station would include a double-lane, dedicated busway to quickly move the buses through this area and maintain the reliability of the Action Alternative service. The route is shown in Figure 15 and Figure 16.

Figure 15. Busway through Dee Events Center Parking Lot (1 of 2)

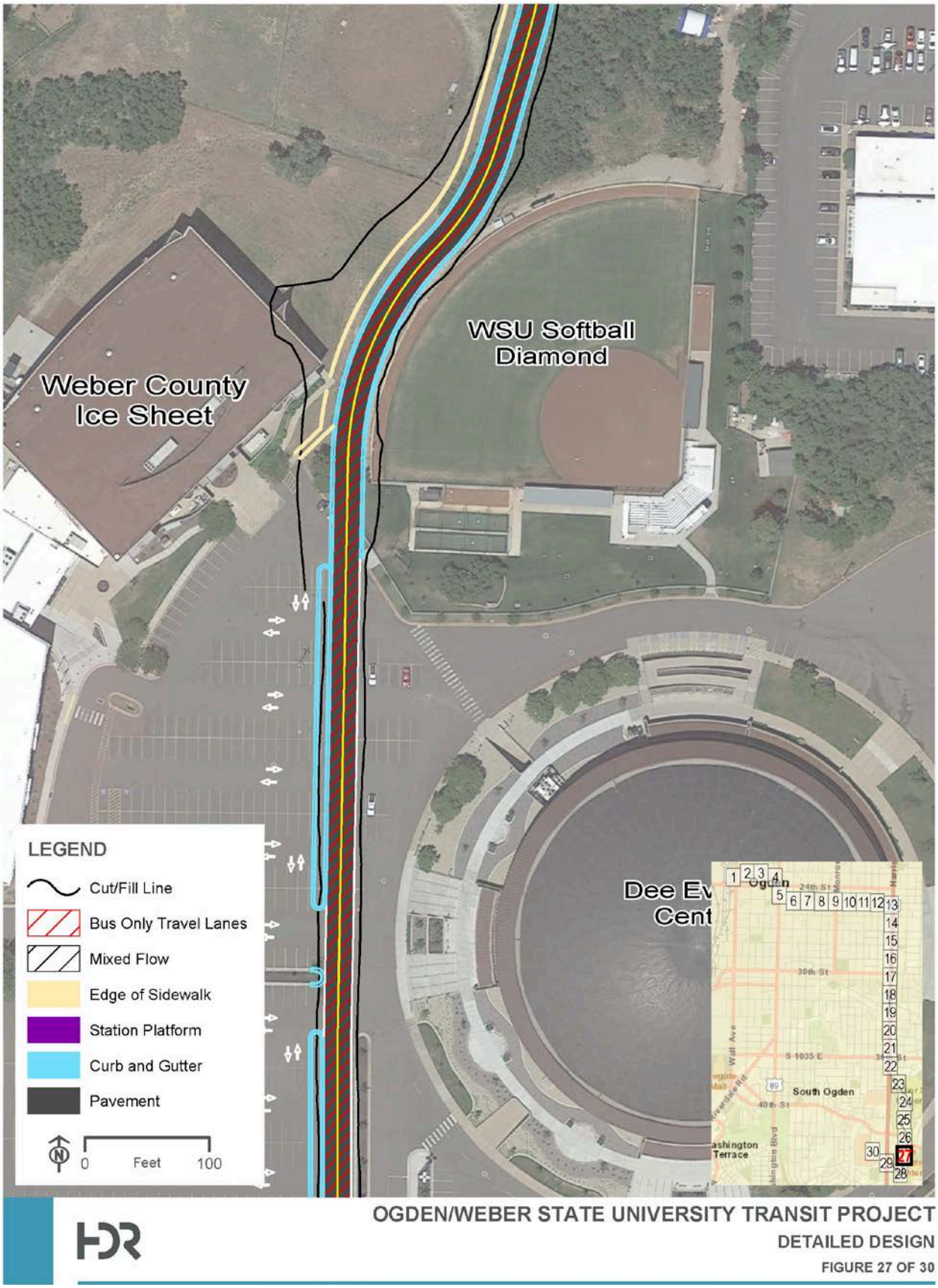
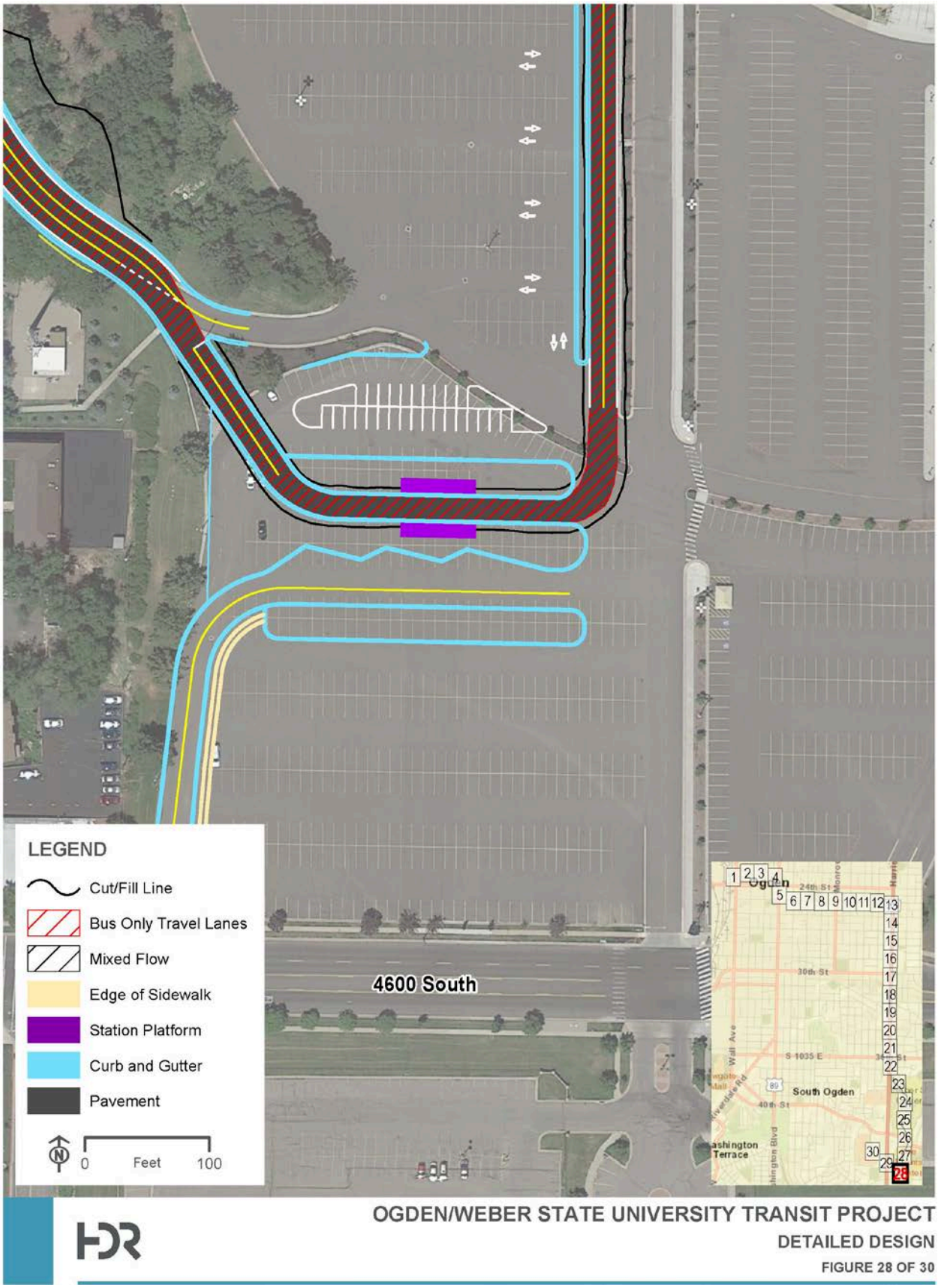


Figure 16. Busway through Dee Events Center Parking Lot (2 of 2)



3.2.6 Stations

The Action Alternative includes 16 brand-identified stations as shown in Table 2 and Figure 17. The station locations were chosen during the project's AA 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.

As part of UTA's Title VI review, the project team compared the existing bus route 603 route, shown in Figure 18, to the route and station locations for the Action Alternative to determine whether the route and station/stop location changes would affect riders (Title VI primarily concerns minority and low-income riders).

What is Title VI?

Title VI of the Civil Rights Act of 1964 prohibits discrimination on the basis of race, color, or national origin in any program or activity that receives federal funds or other federal financial assistance. FTA works to ensure nondiscriminatory transportation in support of its mission to enhance the social and economic quality of life for all Americans.

Station Locations. The Action Alternative would replace route 603, following most of the existing route 603 route but with two deviations.

- The northern portion of the Action Alternative alignment wouldn't travel on 26th Street like route 603 does, but it would travel on 23rd Street and pass several work and recreation locations.
- The second change would involve how the Action Alternative route interacts with the Weber State University campus. Instead of looping around locations north of campus, the Action Alternative would go through campus and would replace the existing campus shuttle service. The Action Alternative would also have 10-to-15-minute headways from 8:00 AM to 5:00 PM.

Figure 19 shows the stops on the existing bus route 603 compared to the stations proposed with the Action Alternative. For more information about route 603, see Section 3.2.8. For more information about FTA's Title VI review, see the *Environmental Justice Technical Report* in Appendix B3.

For more information, see the *Environmental Justice Technical Report* in Appendix B3.

Of the proposed 16 stations for the Action Alternative, 11 are existing bus route 603 stops (including the termini at the Ogden Intermodal Transit Center and McKay-Dee Hospital) that would become enhanced stations as part of the Action Alternative.

The project team agreed that not all 16 stations would be constructed and open for the Action Alternative's opening day (2020). As shown in Figure 17, 3 of the 16 stations are designated as future station locations. The existing route 603 bus currently stops at 2 of these 3 locations. These 2 existing route 603 stop 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. Most of the current route 603 stops are basic stops that include a small bus shelter but few additional passenger amenities. The enhanced stations included with the Action Alternative would distinguish the BRT service from traditional bus service. 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.

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.

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).

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 using that lane, right-turning vehicles, parked cars, and bicycles.

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. A median station is also an option on Washington Boulevard. The advantages of median stations are that they can serve both directions simultaneously and feel more "rail-like." Median stations maximize BRT reliability by minimizing car conflicts and make it easier to create a distinct station or stop to identify and enhance system visibility. The disadvantages of median stations are that they might require taking more street space than curbside options; might conflict with other uses of the road, such as left-turn lanes; and might require unique signal timing. Also, median stations require all passengers to cross some street traffic at every stop. Median platforms would be located on the outside of the Action Alternative runningway.

Table 2. Action Alternative Station Locations, Distance from Previous Stop, and Station Status

Station Number[a]	Station Location/Name	Distance from Previous Stop in Miles	Station Status	Station Location Relative to Existing Stop
1	Ogden Intermodal Transit Center/Ogden FrontRunner Station	Not applicable	Existing	A new BRT station would be sited at the Ogden Intermodal Transit Center
2	23rd Street and Lincoln Avenue[b]	0.23	Proposed	Not applicable
3	23rd Street and Kiesel Avenue – "The Junction"	0.21	Proposed	Not applicable
4	25th Street and Washington Boulevard – "Washington Blvd"	0.27	Existing	Station proposed in one of two locations: in center of Washington Boulevard or in sidewalk in front of Peery's Egyptian Theater
5	25th Street and Jefferson Avenue	0.35	Existing	Same locations as existing shelters
6	25th Street and Monroe Street	0.29	Existing	Same locations as existing shelters
7	25th Street and Jackson Avenue[b]	0.34	Existing	Same locations as existing shelters
8	Harrison Boulevard and 25th Street	0.24	Existing	Same locations as existing shelters
9	Harrison Boulevard and 28th Street	0.47	Existing	Same locations as existing shelters
10	Harrison Boulevard and 30th Street[b]	0.23	Existing	Same locations as existing shelters
11	Harrison Boulevard and 32nd Street	0.34	Existing	New stations in center-running, bus-only lanes
12	Harrison Boulevard and 36th Street	0.57	Existing	New stations in center, running, bus-only lanes
13	Browning Center on Weber State University campus – "Central Campus"	0.41	Proposed	Not applicable
14	Student Housing near Village Drive on Weber State University campus – "Student Housing"	0.33	Proposed	Not applicable
15	Dee Events Center Campus Shuttle Stop	0.53	Proposed	Not applicable
16	McKay-Dee Hospital	0.57	Existing	Same locations as existing shelters

[a] Station locations are shown in Figure 17.

[b] Denotes future station.

Figure 17. Action Alternative Station Locations

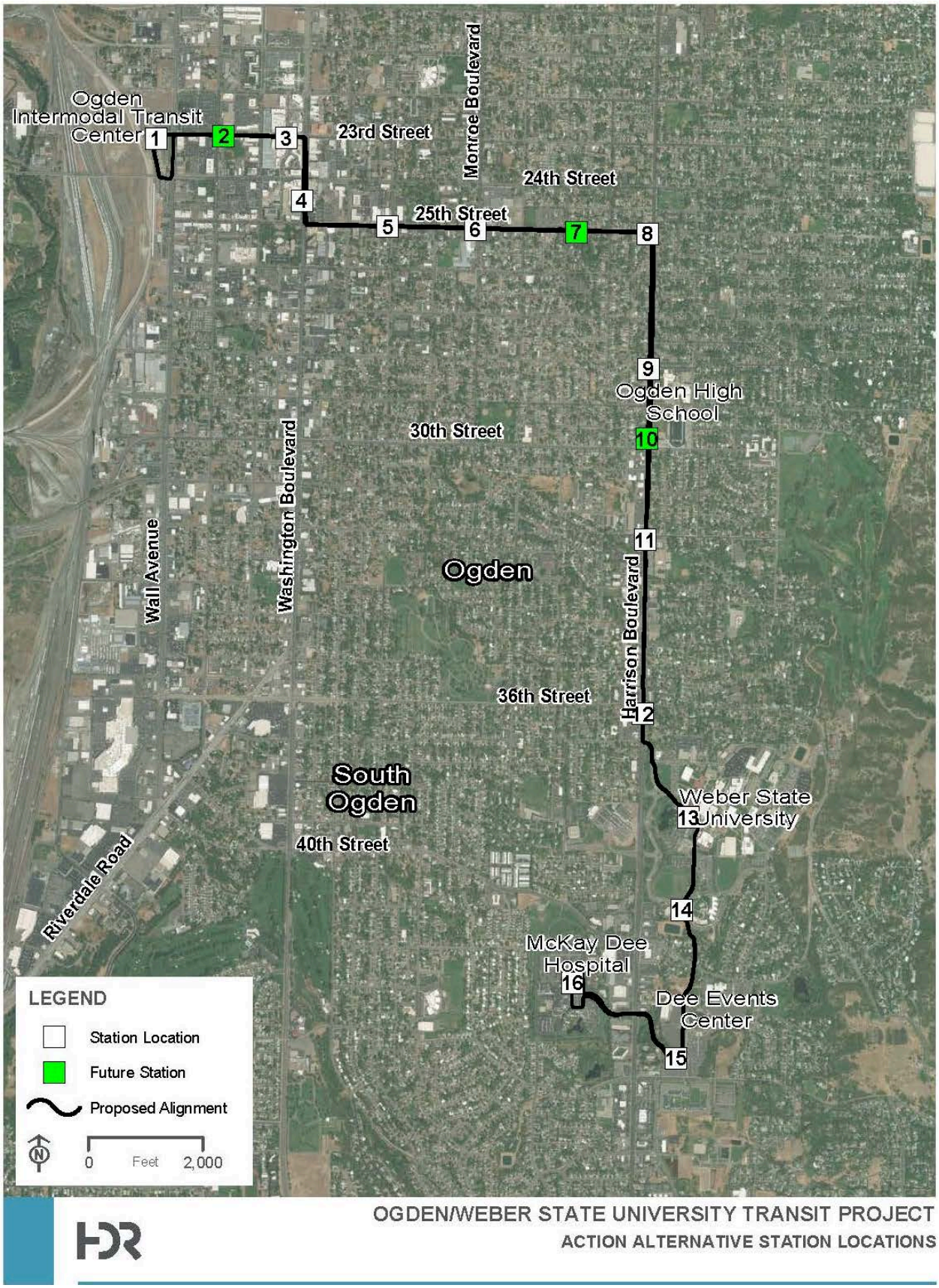
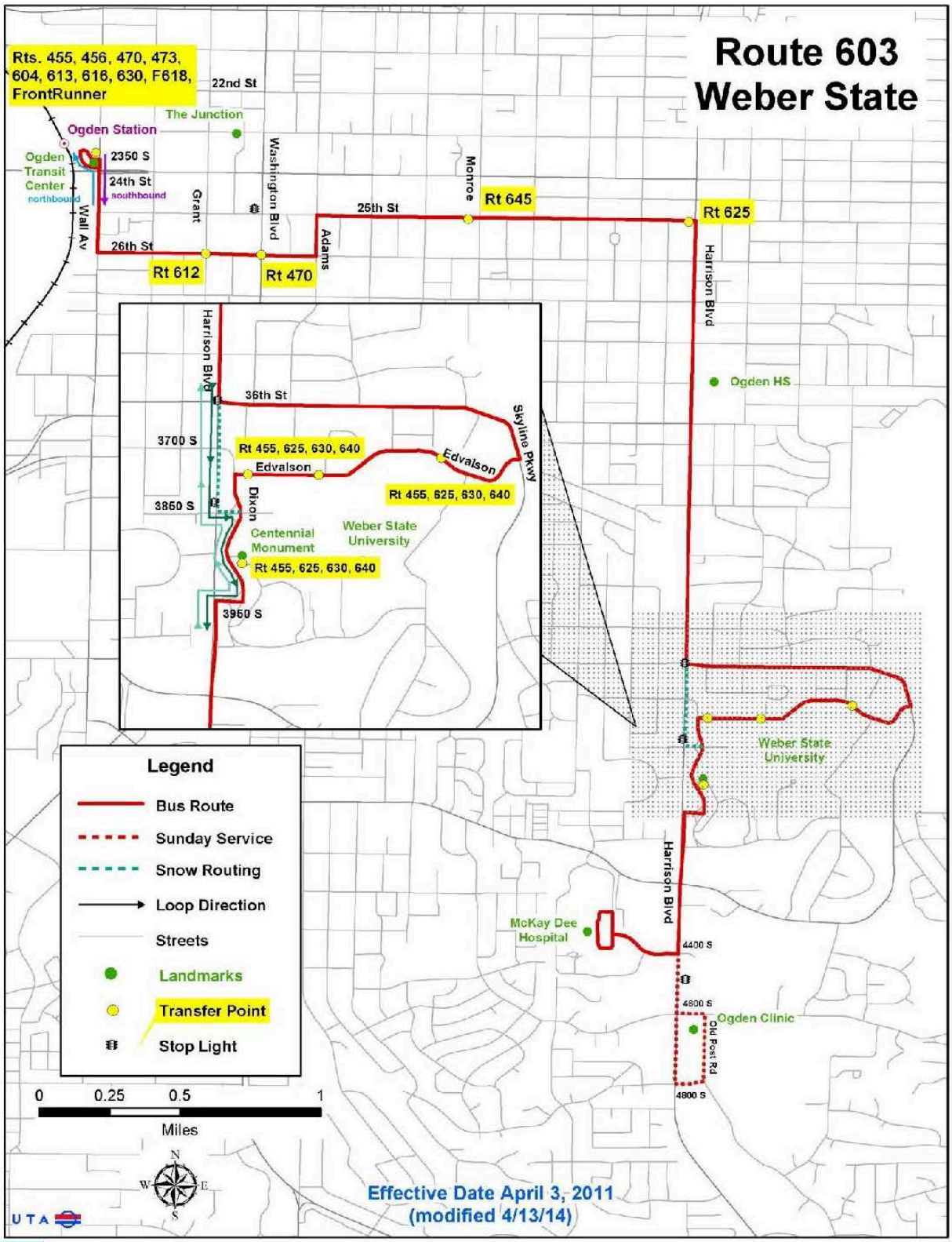
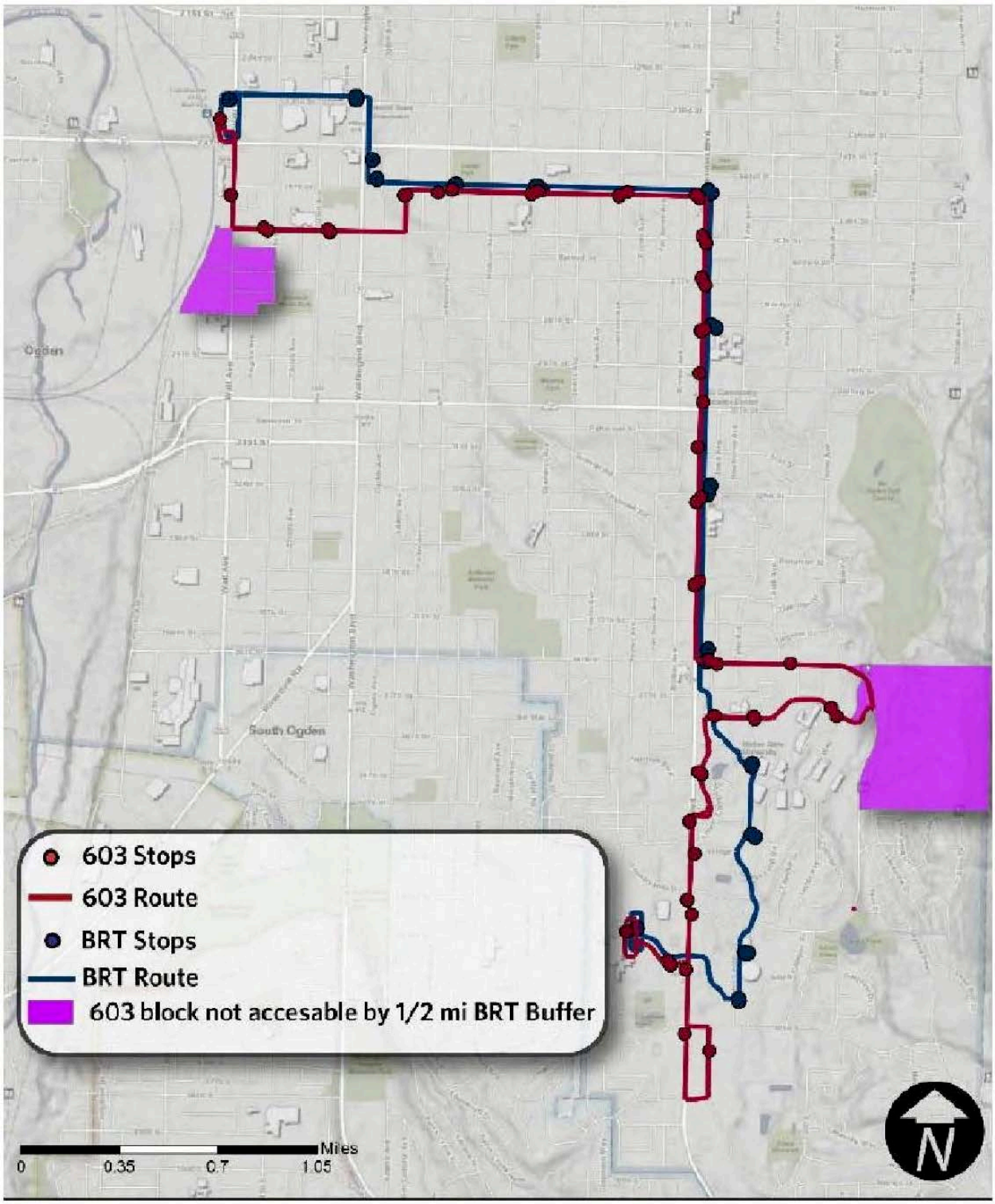


Figure 18. UTA Bus Route 603



OGDEN/WEBER STATE UNIVERSITY TRANSIT PROJECT
UTA BUS ROUTE 603

Figure 19. Route 603 Bus Stops and Action Alternative Stations



OGDEN/WEBER STATE UNIVERSITY TRANSIT PROJECT
ROUTE 603 BUS STOPS AND ACTION ALTERNATIVE STATIONS

As shown above in Figure 19, because of the route and station/stop variations at the northernmost project terminus and at the University campus, some route 603 riders would no longer be within the ½ mile walkshed to an Action Alternative station. However, these people would still have access to other transit service.

What is a walkshed?

A walkshed is the area that can be conveniently reached on foot from a geographic point. In the case of transit, a transit walkshed refers to the catchment area around transit service that generates walk ridership. For a high amenity transit service such as the Action Alternative, the walkshed is typically considered to be ½ mile.

UTA's routes 455 and 604 provide service to those affected on the north end of the Action Alternative alignment. Route 455 runs on Wall Avenue from 17th Street to 28th Street, providing service to the Ogden Intermodal Transit Center; continuing south to Weber State University and Salt Lake City. Route 604 comes from Roy on 24th Street, looping to the transit center via Lincoln Avenue and 26th Street. Several local bus routes (455, 625, 640, 645, and 650) will continue to run to Weber State University via Skyline Drive and Edvalson Street, providing service to those affected near the campus.

In addition, the Action Alternative's route and new station changes would increase transit access for nearly 9,900 people, mainly as a result of the increased walkshed of the Action Alternative.

3.2.7 Transit Signal Priority

Transit signal priority (TSP) treatment of transit vehicles, such as buses, gives them priority when approaching a traffic signal. With TSP, sensors on traffic signals detect approaching transit vehicles to extend the duration of a green signal or shorten the duration of a red signal as the bus approaches the intersection.

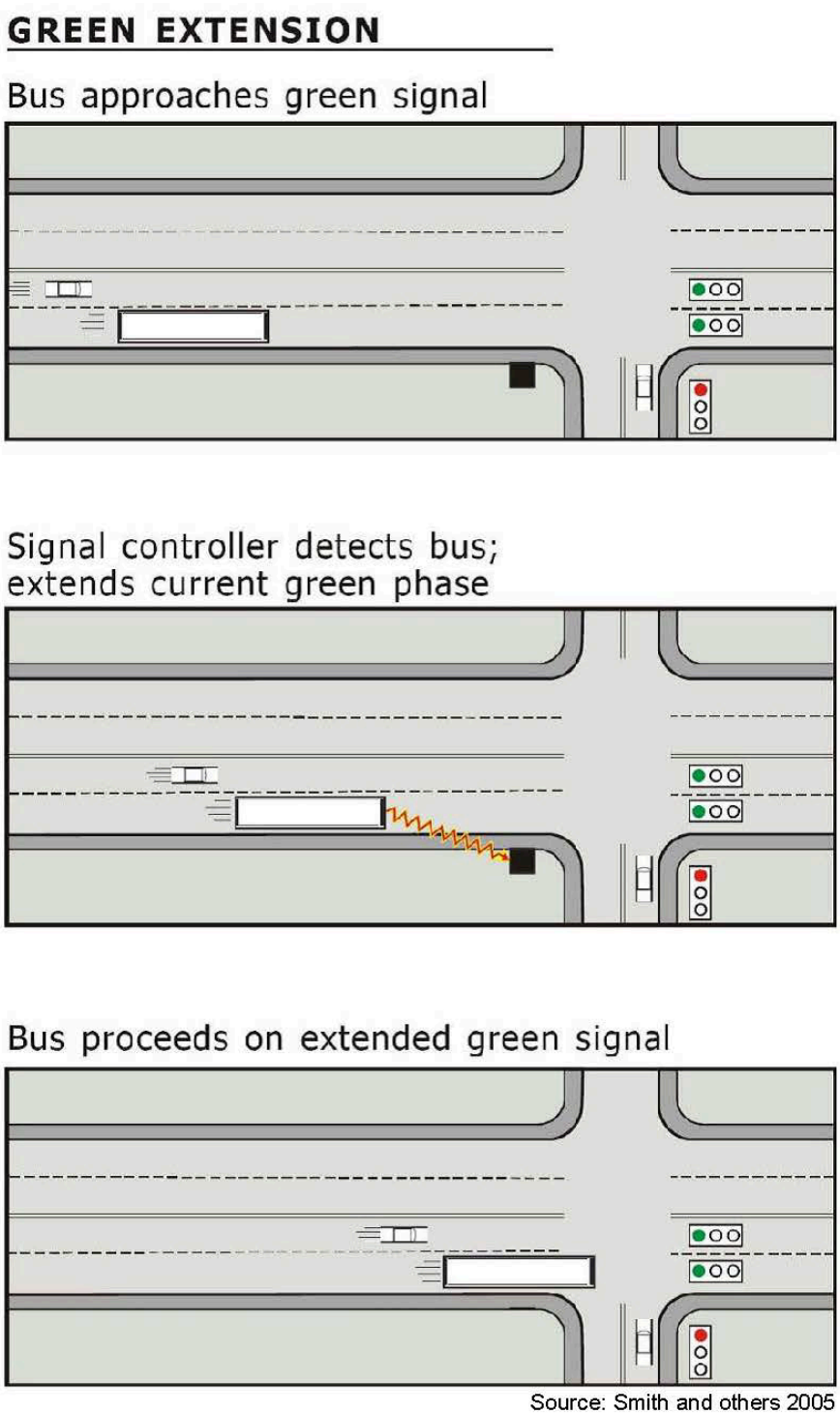
TSP improvements were briefly analyzed in the AA update process, and the project team found that TSP would slightly benefit travel time for the Action Alternative's BRT vehicles. TSP would have a relatively small effect on transit performance because the levels of congestion on 25th Street and Harrison Boulevard are relatively low. In addition, there are only five traffic signals on Harrison Boulevard in the project study area, and these signals already operate with very short cycle lengths, meaning that a BRT vehicle arriving at a red light wouldn't wait long before it receives a green light.

The project team assumed that any travel time benefit from TSP would be greatest at traffic signals in the part of the Action Alternative alignment with bus-only travel lanes. In areas where the BRT vehicles would travel in mixed-flow traffic, there wouldn't be much travel time savings for the BRT vehicles because the transit vehicle would be stuck in the traffic queue or because the intersections already have a short traffic signal cycle length, as discussed in the previous paragraph.

UTA wouldn't include aggressive TSP treatments that would reduce regular traffic operations to an unacceptable level of service. The locations for TSP would be determined during the final design phase of the project.

Figure 20 illustrates TSP using the example of an extended green signal (green extension).

Figure 20. Example of Transit Signal Priority



Source: Smith and others 2005

3.2.8 Hours of Operation and Headways

The Action Alternative's BRT service is planned to open in 2020 and would operate 7 days per week between 4:30 AM and 12:30 AM the following day at 10- to 15-minute frequencies, which would be an upgrade from the current route 603 bus service that serves bus stops every 15 to 30 minutes depending on the time of day.

For more information, see Appendix A, Alternatives Analysis Update Report.

In late 2015, WFRC conducted ridership projections for the Ogden/Weber State University Transit Project AA update (see Appendix A, Alternatives Analysis Update Report). WFRC's study projected 2,500 daily boardings in 2016 and 3,100 in 2020 for the Action Alternative. In addition, WFRC conducted sensitivity testing on the effects of 10- and 5-minute all-day headways. These shorter headways resulted in forecasted ridership increases of 15% and 31%, respectively, over the forecasted ridership with 15-minute headways. Using the assumptions provided by WFRC, UTA expects the number of daily boardings in 2020 to increase from 3,100 to just over 3,300 if 10-minute headways are used instead of 15-minute headways (UTA 2018).

The BRT travel time is projected to be about 18 minutes from the Ogden Intermodal Transit Center to the center of the Weber State University campus and about 23 minutes to McKay-Dee Hospital. The travel time for the existing route 603 bus varies between about 24 and 28 minutes traveling between the Ogden Intermodal Transit Center and McKay-Dee Hospital depending on the time of day. It's important to note that route 603 travels up 36th Street as far east as Skyline Drive on the Weber State University campus, which is farther east than the Action Alternative alignment. However, the Action Alternative would bring riders to the heart of the campus and then continue through the campus to the Dee Events Center, a major attraction located near student housing and parking. In comparison, route 603 is designed to bring students to only two locations on campus.

4.0 What would be the environmental effects of the Action Alternative?

Resource Topics Discussed in This EA. The environmental analyses conducted for the Ogden/Weber State University Transit Project have determined that the Action Alternative wouldn't cause any significant impacts; however, the Action Alternative would still have some effects, both positive and negative. Sections 4.1 through 4.18 summarize the expected effects of the construction and operation of the Action Alternative by resource topic. Specifically, Sections 4.1 through 4.18 focus on the following resource topics:

1. Land use and economic development
2. Social environment, including minority and low-income populations, safety and security, and utilities
3. Land acquisition and relocations
4. Traffic and transportation
5. Hazardous waste sites
6. Energy use
7. Air quality
8. Visual and aesthetic resources
9. Noise
10. Vibration
11. Water quality
12. Floodplains
13. Geology and soils
14. Paleontological resources
15. Historic properties
16. Construction impacts
17. Cumulative effects
18. Section 4(f) resources

Resources of No Concern. Based on early coordination, database searches, site visits, analysis, and public involvement, the project team either didn't find the following resources in the project study area or determined that they would have no or negligible effects from the Action Alternative:

- Prime and unique farmland per the Farmland Protection Policy Act of 1981
- Wetlands per Executive Order 11990, Protection of Wetlands
- Endangered species per Section 7 of the Endangered Species Act of 1973
- Section 6(f) resources per the Land and Water Conservation Act of 1965
- Wildlife or waterfowl refuges per Section 4(f) of the Department of Transportation Act of 1966
- Fish and wildlife per the Council on Environmental Quality Regulations for Implementing NEPA, Section 1502.16

Resource Evaluation Areas. The affected environment for most resources was evaluated within the project study area (as defined in Section 1.7), and impacts to most resources were considered within one-half mile of the proposed transit corridor. This impact evaluation area was chosen because impacts or changes to a resource caused by a transit project generally occur within about one-half mile of the transit facility.

The following resources were evaluated within an area different from the project study area:

- **Land Use and Economic Development.** The land use evaluation area includes all land within about one-half mile of the Action Alternative alignment and the stations.
- **Social Environment.** The social environment evaluation area includes all land within about one-half mile of the Action Alternative alignment and the stations.
- **Environmental Justice.** The environmental justice evaluation area consists of the U.S. Census Bureau–defined census tracts associated with the Action Alternative transit corridor and adjacent areas.
- **Traffic and Transportation.** The traffic and transportation evaluation area includes the roads and transit, bicycle, and pedestrian facilities along the Action Alternative alignment that would be affected by project construction and operation.
- **Hazardous Waste Sites.** The hazardous waste sites evaluation area is the area within one-quarter mile of each side of the edge of the Action Alternative footprint.
- **Energy.** The energy evaluation area is the same as the evaluation area used for the traffic data analysis.
- **Air Quality.** The air quality impact evaluation area focuses on the areas around the Action Alternative and the greater Weber County airshed.
- **Visual and Aesthetic Resources.** The visual and aesthetic evaluation area consists of the Action Alternative alignment, the proposed station locations, and the viewshed for these areas.
- **Noise and Vibration.** The noise and vibration evaluation area is a corridor within about 200 feet of the centerline of the Action Alternative.
- **Water Quality.** The water quality evaluation area focuses on the Action Alternative and all areas within one-half mile of the alignment centerline.
- **Floodplains.** The floodplain evaluation area is from Weber State University on the east to the Weber River on the west and from 46th Street on the south to 23rd Street on the north.
- **Geology, Soils, and Paleontological Resources.** The geology and soils evaluation area, which is also the paleontological resources evaluation area, includes the northern Ogden Valley for regional geology and seismicity and about 1 mile on each side of the proposed transit corridor and stations for geologic hazards.

- **Historic Properties.** The area of potential effects (APE) is the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties. The APE serves as the evaluation area for effects on historic properties.
- **Cumulative Effects.** Cumulative effects were assessed at a local level for the area of Ogden through which the Action Alternative would operate.

No-Action Alternative. Implementing the No-Action Alternative wouldn't cause adverse impacts to the 18 resource topics listed at the beginning of Section 4.0. Resources would remain unchanged from their current conditions and therefore aren't analyzed for the No-Action Alternative.

The primary local bus route, 603, provides service between the Ogden Intermodal Transit Center, downtown Ogden (25th Street and Washington Boulevard), the Weber State University main campus, and McKay-Dee Hospital and is one of the most-used local routes in the UTA system. Route 603 is the route that the Action Alternative would replace with the enhanced service and amenities of a BRT system. With the No-Action Alternative, the existing route 603 bus would continue to operate on its existing route with no additional amenities—that is, no bus-only lanes, no BRT station amenities, no expansion of the Mount Ogden Business Unit Bus Maintenance Facility, and no roadway or utility improvements to 23rd and 25th Streets—thereby not adversely affecting any of the 18 resource topics listed at the beginning of Section 4.0.

The strong existing transit ridership on the Weber State University campus and in the project study area overall, and the projections for significantly increased travel demand, would require that the capacity of the local bus service be increased substantially in the project study area at some time in the future. The capacity needed will eventually exceed UTA's capability to satisfy the demand with the existing conventional bus service and will also exceed UTA's capacity at the Mount Ogden Business Unit Bus Maintenance Facility.

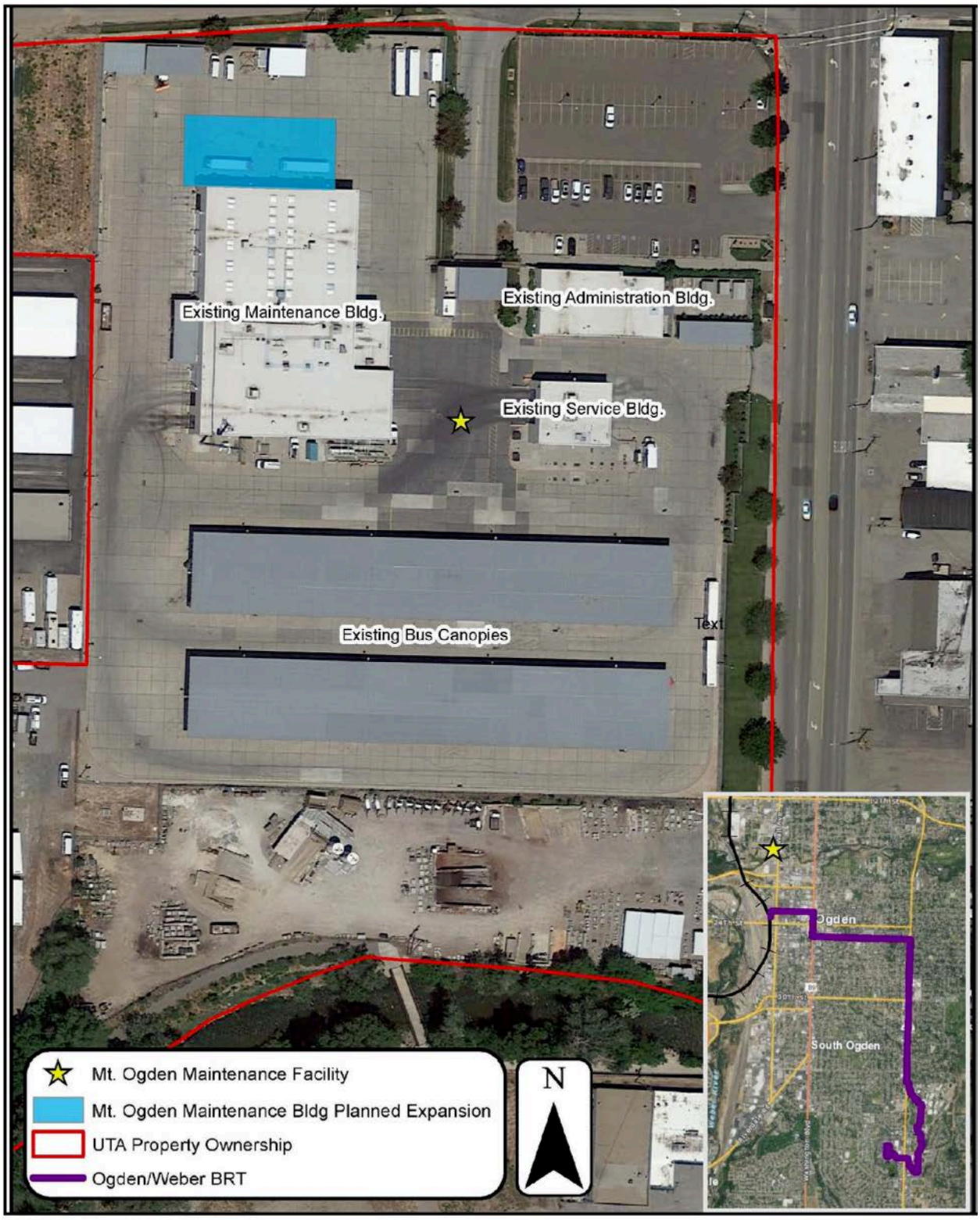
Further, the Weber State University's Wildcat Express Shuttle would continue to serve university riders between the Dee Events Center and Stewart Library. Based on campus ridership projections, the shuttle service's capacity would need to be increased in the future as well. In addition, with the No-Action Alternative, parking on campus would become increasingly difficult, and the University wouldn't be able to fully implement its Master Plan.

Mount Ogden Business Unit Bus Maintenance Facility. The Action Alternative includes expanding the existing Mount Ogden Business Unit Bus Maintenance Facility by about 8,000 square feet. The existing facility is at capacity and can't efficiently accommodate the addition of eight new buses required for the Action Alternative. The proposed expansion would add four maintenance bays to the east side of the existing north maintenance building and enlarge the overall facility from 32,000 square feet to just under 40,000 square feet. The use resulting from the modification is compatible with the existing uses of the facility.

As shown in Figure 21, the building's expansion would be built entirely on the existing UTA maintenance facility site, so no additional right-of-way would be required. Indoor bus storage allows all operating procedures to take place under one roof and reduces the impact of operations on the surrounding neighborhood. Vehicle movements, washing, fare retrieval, and maintenance occur inside the structure. Additionally, because the maintenance facility is enclosed, negative effects from headlights, taillights, backing noises, and service cycle vehicle circulation are minimized.

All proposed modifications are intended to improve UTA's ability to serve the public via public transportation, and they wouldn't change from the current uses of the facility. The expansion wouldn't generate adverse environmental or community impacts (Table 3). **The project team doesn't anticipate that the proposed improvements to the site would have any adverse effects on any of the 18 resource topics listed at the beginning of Section 4.0.**

Figure 21. Planned Expansion of the Mount Ogden Business Unit Bus Maintenance Facility



OGDEN/WEBER STATE UNIVERSITY TRANSIT PROJECT
PLANNED EXPANSION OF MOUNT OGDEN BUSINESS UNIT BUS MAINTENANCE FACILITY

Table 3. Effects of Expanding the Mount Ogden Business Unit Bus Maintenance Facility

Resource Topic	Effects
1. Land use and economic development	Expanding the facility would have no adverse effects on adjacent land uses, since the current use of the facility wouldn't change and since the facility would remain separated from the adjacent neighborhood by both distance and a large wall that already exists around the facility's perimeter. The maintenance facility is zoned for commercial land uses, and the proposed expansion is consistent with the existing and planned land uses in the area.
2. Social environment, including minority and low-income populations, safety and security, and utilities	Expanding the facility wouldn't disrupt, disable, or isolate any segments of the community. Safety features incorporated into the expansion would include adequate lighting, sufficient circulation for bus traffic, and easy access for fire and police vehicles. There are a few homes in the neighborhood on 17th Street north of the existing facility. However, the homes currently coexist with the existing facility, which is surrounded by high brick walls. The project team doesn't expect the expansion to create any additional impacts to the residential area.
3. Land acquisition and relocations	Expanding the facility would have no adverse effects on adjacent land uses, since the current use of the facility wouldn't change and since the facility would remain separated from the adjacent properties by both distance and a large wall around the facility's perimeter.
4. Traffic and transportation	Daily operations at the facility wouldn't change, and the Action Alternative would replace the existing route 603 bus service. Although the headways might be reduced from 15 minutes to 10 minutes, the additional two buses per hour wouldn't affect existing traffic in or around the facility.
5. Hazardous waste sites	Due to the nature of operations at the existing maintenance facility, hazardous materials might be encountered during construction of the proposed expansion. The hazardous materials would be contained wholly within the footprint of the UTA-owned property, and UTA would implement procedures in conformance with local, state, and federal regulations if necessary.
6. Energy use	If all-electric buses are used, bus-charging equipment would be installed at the facility. 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. For more information, see Section 4.6.
7. Air quality	No additional air quality impacts are expected from the expansion. The expansion would permit UTA to operate a new fleet of vehicles with lower air pollutant emissions as part of the Action Alternative and would contribute to improved regional air quality.
8. Visual and aesthetic resources	The expansion wouldn't affect visual and aesthetic resources. The expansion would visually conform to the current maintenance facility.
9. Noise	The expansion wouldn't cause additional noise impacts. Because the facility would continue to house indoor operations, backing noises and other bus noises would be minimized. In addition, the facility is surrounded by an existing noise wall.
10. Vibration	The expansion wouldn't cause additional vibration impacts.
11. Water quality	No impacts. Appropriate vehicle washing and drainage facilities would be included in the design.
12. Floodplains	The facility isn't located in the 100-year floodplain and wouldn't cause or contribute to flooding on the site or on other properties.
13. Geology and soils	No impacts.
14. Paleontological resources	No impacts.

(*continued on next page*)

Table 3. Effects of Expanding the Mount Ogden Business Unit Bus Maintenance Facility

Resource Topic	Effects
15. Historic properties	No impacts.
16. Construction impacts	Construction impacts would be temporary. Prior to construction, UTA would coordinate with utility providers, including but not limited to gas, electric, telephone, stormwater, sanitary sewer, and water systems providers, to decrease the possibility of utility disruptions.
17. Cumulative effects	No impacts.
18. Section 4(f) resources	No impacts.

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 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. Section 3.2.3 provides more information regarding the proposed improvements.

All proposed roadway modifications are intended to improve UTA's ability to serve the public via public transportation and improve Ogden City's ability to serve automobile traffic and provide safer active transportation facilities. All improvements would occur within the existing roadway right-of-way. The proposed roadway improvements wouldn't generate adverse environmental or community impacts (Table 4). **The project team doesn't anticipate that the proposed improvements to either 23rd Street or 25th Street would have any adverse effects on any of the 18 resource topics listed on page 44.**

Table 4. Effects of Improving Portions of 23rd and 25th Streets

Resource Topic	Effects
1. Land use and economic development	The roadway improvements would have no adverse effects on adjacent land uses,
2. Social environment, including minority and low-income populations, safety and security, and utilities	The roadway improvements wouldn't disrupt, disable, or isolate any segments of the community. Active transportation facilities and safety would be improved for residents through the addition of bike lanes and crosswalks. Some utilities could be replaced which would cause temporary disruption; however, the service life of older and potentially shallow utilities would be extended.
3. Land acquisition and relocations	No impacts.
4. Traffic and transportation	The roadway improvements would improve safety, improve active transportation and enhance the Action Alternative operations.
5. Hazardous waste sites	No impacts.
6. Energy use	No impacts.
7. Air quality	No additional air quality impacts are expected from the roadway improvements. The improvements wouldn't add capacity to the roads. Temporary air quality impacts could occur during construction.
8. Visual and aesthetic resources	No impacts.
9. Noise	No impacts.
10. Vibration	No impacts.
11. Water quality	No impacts.
12. Floodplains	No impacts.
13. Geology and soils	No impacts.
14. Paleontological resources	No impacts.
15. Historic properties	No impacts.
16. Construction impacts	Construction impacts would be temporary. Prior to construction, UTA would coordinate with utility providers, including but not limited to gas, electric, telephone, stormwater, sanitary sewer, and water systems providers, to decrease the possibility of utility disruptions. Appropriate permits and best management practices (BMPs) would be in place during construction.
17. Cumulative effects	No impacts.
18. Section 4(f) resources	No impacts.

Section Overview. The following Sections 4.1 through 4.18 briefly summarize the analyses that were conducted to determine the effects of the Action Alternative on the 18 resource topics listed at the beginning of Section 4.0. For some resources, the analysis required by NEPA and other federal, state, and local laws needed to be a detailed analysis. For those resources, the project team developed the following technical reports, which are included in Appendix B:

- Appendix B1: Land Use and Economic Development Technical Report
- Appendix B2: Social Environment Technical Report
- Appendix B3: Environmental Justice Technical Report
- Appendix B4: Traffic and Transportation Technical Report
- Appendix B5: Hazardous Waste Sites Technical Report
- Appendix B6: Energy Technical Report
- Appendix B7: Air Quality Technical Report
- Appendix B8: Visual and Aesthetic Resources Technical Report
- Appendix B9: Noise and Vibration Technical Report
- Appendix B10: Water Quality Technical Report
- Appendix B11: Floodplains Technical Report
- Appendix B12: Geology, Soils, and Paleontological Resources Technical Report
- Appendix B13: Historic Properties Technical Report
- Appendix B14: Section 4(f) Evaluation

4.1 How would the Action Alternative affect land use and economic development?

The project team conducted a land use evaluation of the project study area as well as analyses of regional and community growth, employment, housing, and the local business environment. The *Land Use and Economic Development Technical Report* in Appendix B1 describes the project's compatibility with adjacent land uses and plans.

For more information, see the *Land Use and Economic Development Technical Report* in Appendix B1.

Existing Land Use. The Action Alternative would be located in a heavily developed urban area with a mix of residential, commercial, office, retail, institutional, and park space along major arterial and collector roads. The project study area is characterized by vacant inner blocks and some vacant buildings. Major destinations anchor both ends of the proposed transit corridor, with UTA's Ogden Intermodal Transit Center anchoring the north end and Weber State University, the Dee Events Center, and McKay-Dee Hospital anchoring the south end.

Because central Ogden was built around historic streetcar lines, it has compact neighborhoods with diverse land uses. The East Central neighborhood area centered on 25th Street and shown above in Figure 4, has the highest level of land-use diversity outside the Central Business District/downtown with a wide range of residential densities, housing types, and land uses. The land-use pattern becomes markedly less mixed along other segments of the Action Alternative alignment, where either single-family (Harrison Boulevard north of 30th Street) or commercial (Harrison Boulevard south of 30th Street) land uses predominate.

Effects on Land Use. The Action Alternative wouldn't cause adverse impacts to land use, land-use patterns, access to land, or zoning in the project study area. Most of the project improvements would be implemented within the existing roadway rights-of-way. The Action Alternative is consistent with and complementary to existing land uses and zoning and complies with regional and local plans and policies including Ogden City's General Plan, Central Business District Community Plan, and East Central Community Plan and the Weber State University Master Plan and Master Plan update.

The Action Alternative would allow Weber State University to redevelop its campus per its Master Plan. Weber State University officials have provided substantive input into the Action Alternative alignment through the university campus. University officials have requested that the alignment be made up almost entirely of bus-only lanes throughout the campus. University officials have also requested that the bus-only lanes follow the alignment shown in the Weber State University Master Plan (Weber State University 2004, updated in 2016).

Similarly, McKay-Dee Hospital has continued to expand its campus including the 2016 addition of its 82,000-square-foot Orthopedics and Surgery Center, also known as the "north campus," at 3903 Harrison Boulevard. The Action Alternative would continue to serve the hospital campus similar to the existing route 603 bus service and is consistent with McKay-Dee Hospital's land-use plans.

Effects on Businesses and Economic Development. The Action Alternative would support economic development plans by providing greater cohesion between land use and transportation by adding permanent and differentiated fixed transit elements in the proposed transit corridor. The appearance of the BRT runningway would be differentiated in a number of ways including pavement markings, lane delineators, alternative pavement material and texture, or alternative pavement color. Related infrastructure would be specially branded and designed. Other enhanced and more-robust amenities similar to those at rail stations, including real-time passenger information, fare ticket machines, enhanced lighting, larger, distinctively designed shelters, higher-capacity boarding areas, and accompanying street enhancements, could incentivize new transit-oriented development in the proposed transit corridor, which would be consistent with local plans.

The Action Alternative could create permanent opportunities for higher-density economic development along with potential opportunities for mixed-use and commercial redevelopment along Washington Boulevard and 25th Street and several redevelopment opportunities on Harrison Boulevard between 25th Street and Weber State University. Higher densities in the proposed transit corridor would in turn provide increased ridership for transit services over time.

The Action Alternative would have positive effects on transit access to the commercial areas along Washington Boulevard, 25th Street, and Harrison Boulevard and near Weber State University and McKay-Dee Hospital. Left turns across the bus-only lanes from Harrison Boulevard onto cross streets or businesses at unsignalized intersections would be restricted via a raised median that would be installed between the two bus-only lanes on Harrison Boulevard south of 31st Street as well as by the addition of no-left-turn signs. Therefore, motorists would no longer be able to access some businesses by making midblock left turns. However, many studies have been conducted to determine the effect of medians on businesses, and the overall benefit appears to outweigh any negative effects.

According to a summary report by the City of Portland, Oregon, "when installed as part of a toolkit of street design elements, medians can improve safety and support nearby businesses." Studies have found that medians typically have a neutral to positive effect on local businesses for several reasons, including drivers experiencing a quicker, easier, and safer drive. Also, drivers usually have no problem making U-turns at median openings or at intersections where U-turns are legal. In fact, most businesses report higher sales after medians are installed (City of Portland 2017). The alternative would have long-term indirect benefits for businesses and the local economy because of improved mobility and increased economic investment throughout the proposed transit corridor.

Effects on Employment Opportunities. As described in the *Land Use and Economic Development Technical Report* in Appendix B1, future development projections and existing land-use patterns, population, and employment densities along 25th Street in concert with an enhanced transit system would support public transportation, which would also support increased levels of development and consequently increased employment opportunities. The improved amenities of the Action Alternative, including the introduction of permanent transit amenities such as defined bus-only lanes, robust station amenities, and a

For more information, see the *Land Use and Economic Development Technical Report* in Appendix B1.

branded BRT route, would leverage opportunities for mixed-use, transit-oriented development that would in turn encourage economic development, which brings jobs.

4.2 How would the Action Alternative affect the social environment?

BRT provides a higher quality of service than traditional urban bus operations because of reduced travel and waiting times, increased service reliability, and improved user experience (Carrigan et al. 2013) The project team expects that all of these attributes contributing to a higher quality bus service would have a positive effect on the neighborhoods and communities in the project study area.

For more information, see the *Social Environment Technical Report* in Appendix B2 and the *Environmental Justice Technical Report* in Appendix B3.

The analysis of the social, or community, environment is described in the *Social Environment Technical Report* in Appendix B2 and the *Environmental Justice Technical Report* in Appendix B3. The social environment was analyzed in terms of neighborhood and community impacts, minority and low-income populations, safety and security, community facilities and recreation resources, and public services and utilities.

Various community resources are present in the neighborhoods in the social environment evaluation area, including schools, police and fire protection, government facilities, medical facilities, places of worship, and providers of retail goods and services. Because of its enhanced design elements, the Action Alternative would have positive effects on the social environment.

4.2.1 How would the Action Alternative affect neighborhoods and communities?

Because the Action Alternative would be located on existing roads and would operate with existing traffic north of 31st Street on Harrison Boulevard, it wouldn't 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.

Community integrity would remain intact during the operation of the Action Alternative because neighborhoods in the vicinity are already well-established. Access to community faculties and recreational areas would remain unchanged. Pedestrian and bicycle facilities would remain unaffected by the Action Alternative, though the improvements to bicycle facilities cited in the recently completed Ogden City Bicycle Master Plan as well as other local and regional active transportation plans would be incorporated in conjunction with the Action Alternative.

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 ride transit. 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. 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.

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.

4.2.2 How would the Action Alternative affect minority and low-income populations?

In general, the service provided through transit projects benefits environmental justice populations. Improved service can provide greater opportunities for transit-dependent populations to move within and between neighborhoods, thereby enhancing access to jobs, housing, and services.

The Action Alternative, which WFRC identifies as a high-priority transit project, would directly serve environmental justice populations that live along the transit corridor between the Ogden Intermodal Transit Center and Weber State University. The corridor improvements are intended to benefit the occupants of the area and the users of the modes of transport through the corridor. Many of the people living along the route currently use the existing route 603 bus service and will continue to use the improved transit service.

What is environmental justice?

Environmental justice is a term used to describe the fair and equitable treatment of minority and low-income people (environmental justice populations) with regard to federally funded projects and activities. *Fair treatment* means that no minority or low-income population should be forced to bear a disproportionately high share of negative effects from a project.

As described in the *Environmental Justice Technical Report* in Appendix B3, some people might lose access to the Action Alternative stations compared to the existing route 603 bus stops because of slight differences between the existing and proposed routes. However, those people would still have access to other transit service. UTA's routes 455 and 604 provide service to those who would be affected on the north end of the proposed transit corridor. Route 455 runs on Wall Avenue from 17th Street to 28th Street, providing service to the Ogden Intermodal Transit Center, and continuing south to Weber State University and Salt Lake City. Route 604 comes from Roy on 24th Street and loops to the transit center via Lincoln Avenue and 26th Street. Several other local routes (455, 625, 640, 645, and 650) would continue to run to Weber State University via Skyline Drive and Edvalson Street, providing service to those affected near the campus.

The Action Alternative wouldn't have disproportionately high and adverse effects on minority or low-income populations or on resources or services that are especially important to minority or low-income populations. The Action Alternative would have beneficial effects for all populations, effects including additional mobility choices and improved access to the larger UTA transit system, increased access to employment and job opportunities, increased access to community facilities and other services in the project study area, improved connectivity and reliability to popular destinations, additional access to services, travel time savings, and increased opportunities for community revitalization.

UTA conducted numerous outreach efforts to reach minority, low-income, and other special groups to convey information about the Ogden/Weber State University Transit Project. UTA conducted this outreach, also known as "environmental justice" outreach, to ensure that the proposed transit improvements wouldn't disproportionately affect minority or low-income populations. The details of UTA's analysis can be found in the *Environmental Justice Technical Report* in Appendix B3.

For more information, see the *Environmental Justice Technical Report* in Appendix B3.

4.2.3 How would the Action Alternative affect 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, no date).

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).

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 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 with signs and/or pavement markings. In addition, a raised median 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 Fire Station #5 (at 3450 S. Harrison Boulevard) would be maintained (that is, there would be a gap in the median barrier to allow emergency vehicles to safely cross the bus-only lanes when necessary), and the project team doesn't expect the Action Alternative to affect municipal police or fire-protection services.

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.

4.2.4 How would the Action Alternative affect bicyclist and pedestrian safety?

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.

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.

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.

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.

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. The Action Alternative wouldn't 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 operate as a mixed-flow bus near Ogden High School, which is located at 2828 Harrison Boulevard. Therefore, it's reasonable to assume that the Action Alternative wouldn't affect the high school or students walking to the high school any differently than the existing route 603 bus does. Mount Ogden Junior High School is located at 3260 Harrison Boulevard, where the Action Alternative would be traveling in center–running, bus-only lanes. A station is proposed at about Harrison Boulevard 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. These enhancements should make traveling to school by public transit easier for students and make crossing Harrison Boulevard safer than under current conditions.

The Action Alternative through the Weber State University campus would also 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 Section 4.2.3, Safety and Security, and rolled curbs (see Figure 22), 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.

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. In addition, 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.

Figure 22. Rolled Curb at the University of Utah Busway

4.2.5 How would the Action Alternative affect community facilities or recreation resources?

The Action Alternative wouldn't physically affect any community facilities or recreation facilities. The Action Alternative would improve transit on-time reliability, which could benefit residents who use transit to access community and recreation facilities.

As described in the *Social Environment Technical Report* in Appendix B2, about 47 community and public facilities are within one-half mile of the proposed transit corridor, facilities that include schools, parks, trails, and other recreation facilities; hospitals and medical centers; churches and religious facilities; libraries; and other public and community facilities. None of these 47 facilities would be affected by the Action Alternative. The enhanced transit

For more information, see the *Social Environment Technical Report* in Appendix B2.

amenities included with the Action Alternative, including bicycle racks and real-time bus information, would provide a benefit to people accessing community facilities or using Ogden's extensive trail network.

4.2.6 How would the Action Alternative affect public services and utilities?

Existing 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). Weber State University also owns and operates numerous utilities on campus, including storm drain, culinary water, irrigation, sewer, power, electrical, geothermal and communication facilities. A detailed description of existing utilities and potential conflicts is included in the *Social Environment Technical Report* in Appendix B2.

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.

Effects on Utilities. From a technological perspective, BRT systems don't inherently require any utility relocations, since they're not fundamentally different from regular bus service running on a city street. However, the Action Alternative would affect some utilities along the BRT alignment and could require utility treatments at stations and in areas where bus-only lanes would be constructed and in areas of new alignment (through the Weber State University campus). Station platforms would require connections to electrical power and a communication network to provide lighting, real-time messaging systems, security cameras, and fare collection.

For more information, see the *Social Environment Technical Report* in Appendix B2.

Utility conflicts aren't likely in areas where the Action Alternative 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. 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.

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.

Effects on South Ogden Highline Canal. The Action Alternative would cross the South Ogden Highline Canal property in two places near the Weber State University campus. The U.S. Bureau of Reclamation owns the South Ogden Highline Canal property in fee title. 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 more information regarding the South Ogden Highline Canal, see Appendix C1, Bureau of Reclamation Coordination regarding South Ogden Highline Canal.

For more information, see Appendix C1, Bureau of Reclamation Coordination regarding South Ogden Highline Canal.

4.3 Would land be acquired? Would there be any residential or business relocations?

For the portion of the alignment operating in mixed-flow traffic, stations would be located on either the street pavement or the park strip, neither of which would require purchasing any right-of-way from property owners. The roadway wouldn't be widened in portions of the alignment where the BRT would operate in mixed-flow traffic, and no homes or businesses would need to be relocated in those portions of the alignment.

As shown in Figure 23 through Figure 26, UTA anticipates some right-of-way or property acquisitions to accommodate the bus-only lanes on Harrison Boulevard south of 31st Street and through the Weber State University campus.

Harrison Boulevard. The Action Alternative would require acquisition of about 1 acre of right-of-way to construct the bus-only lanes on Harrison Boulevard from 31st Street to the Weber State University campus. One business, Carriage Cleaners, at 3205 S. Harrison Boulevard, would need to be acquired, demolished, and relocated in order to construct the bus-only lanes on Harrison Boulevard.

In addition, the 7-Eleven at 3195 S. Harrison Boulevard would lose its sign and gas pumps due to the Action Alternative alignment, though the convenience store building itself wouldn't be affected. Removing the gas pumps would subsequently require the associated underground storage tanks (UST) to be closed (for more information, see Section 4.5). The sign could likely be relocated, but it might not be possible to relocate the gas pumps on this site, and the loss of the gas pumps could affect the overall viability of the business. UTA would make a final determination about the viability of this business during the preliminary engineering and final design phases of the project.

The Action Alternative would also require minor strips of property from several other home and business parcels on Harrison Boulevard, though no structures would be affected (see Figure 23 through Figure 26).

Figure 23. Land Acquisition and Relocations (1 of 4)

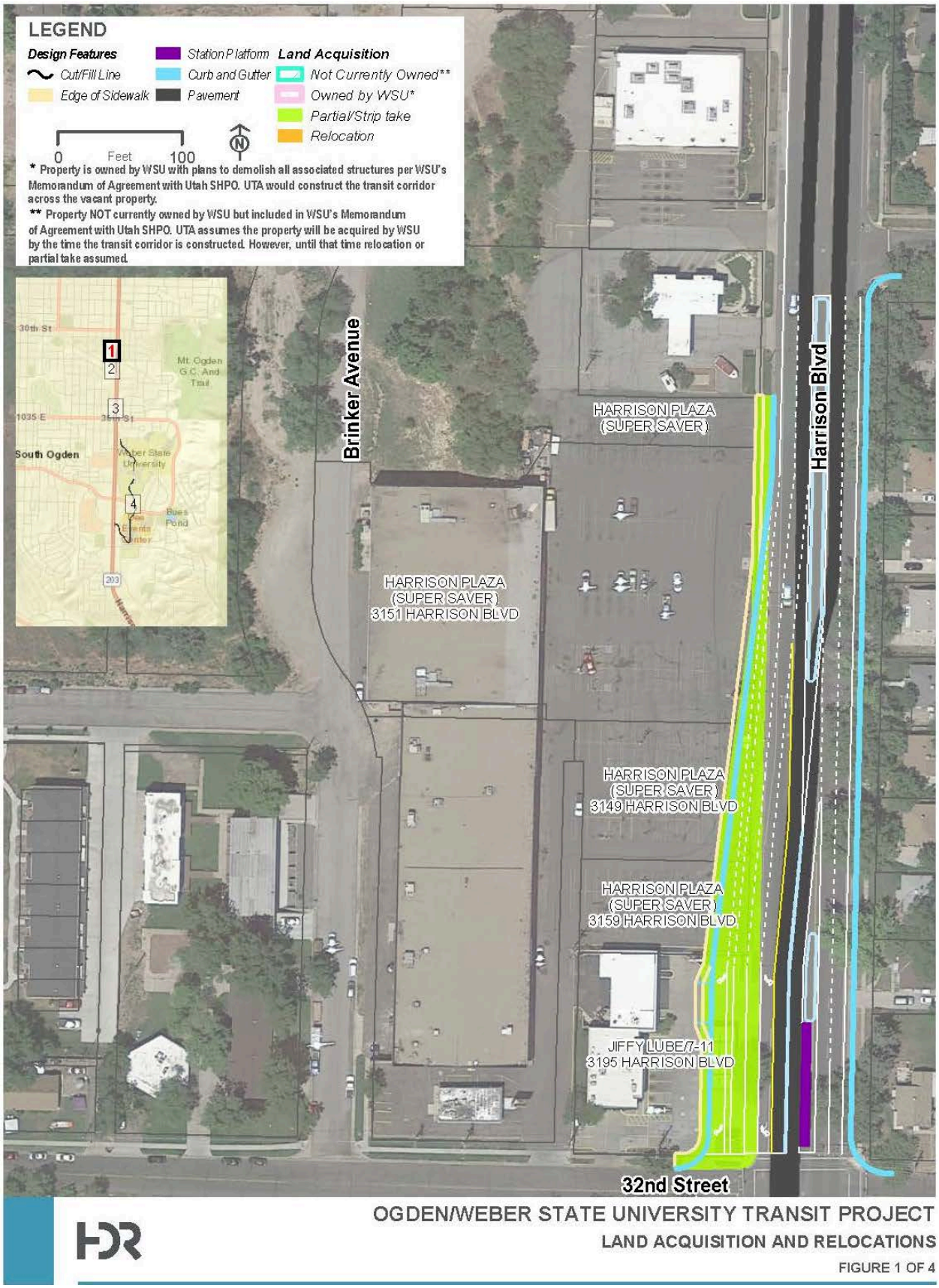


Figure 24. Land Acquisition and Relocations (2 of 4)

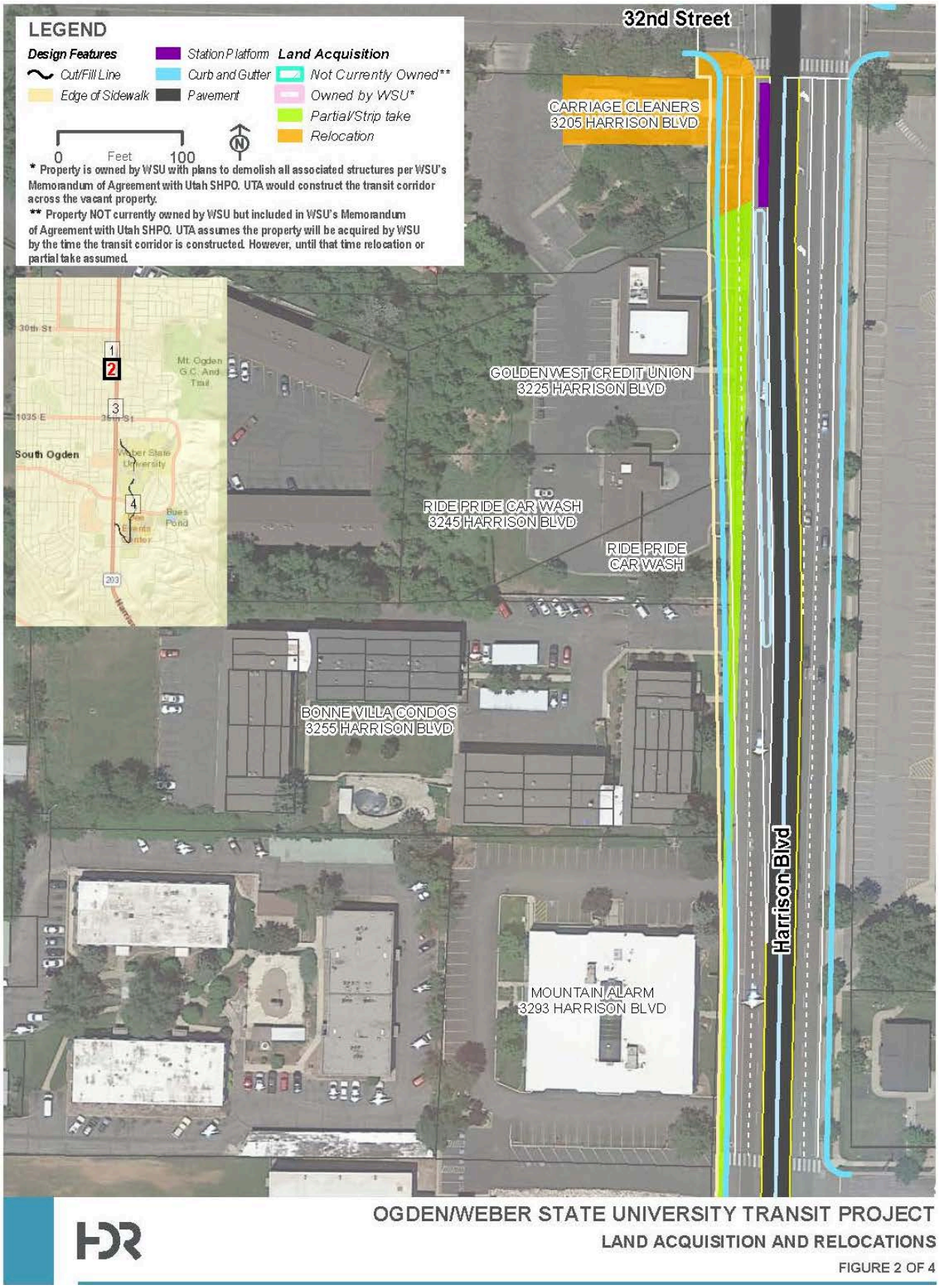


Figure 25. Land Acquisition and Relocations (3 of 4)

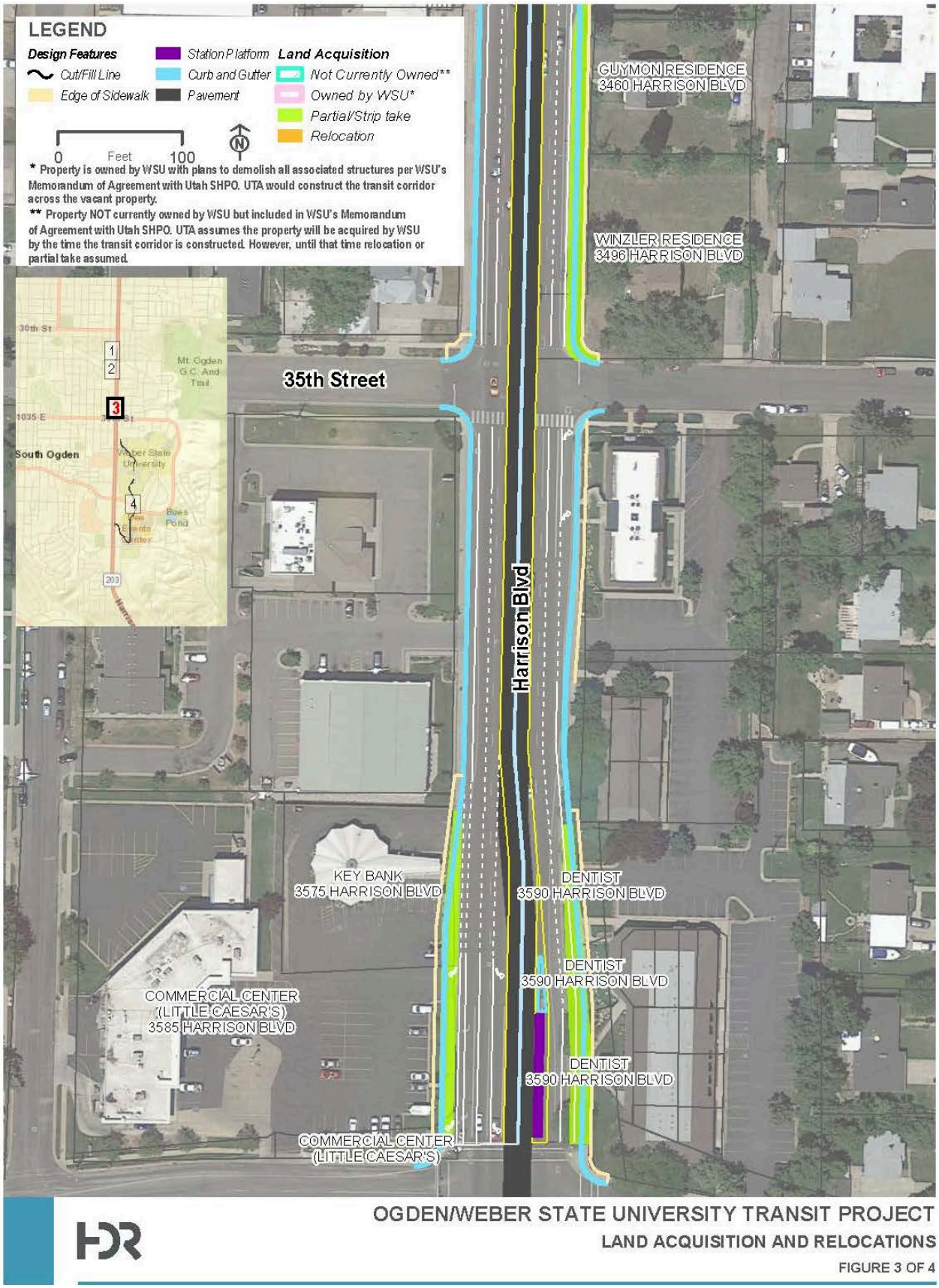
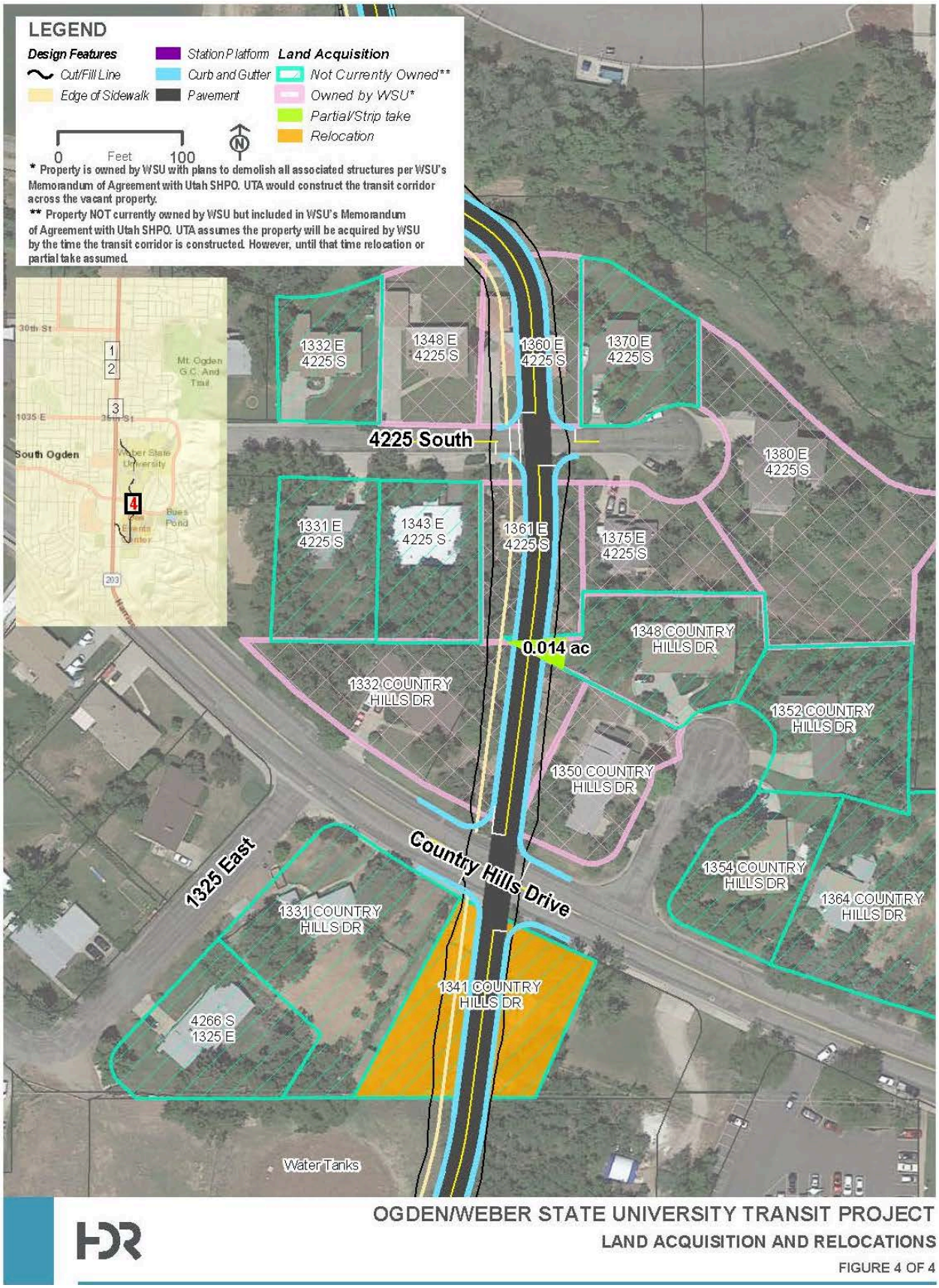


Figure 26. Land Acquisition and Relocations (4 of 4)



Weber State University. About 5.6 additional acres would be required from the campus itself. This property would be mostly converted to busway, though a small portion of property where the Action Alternative enters Weber State University from Harrison Boulevard could be converted in order to accommodate equipment for a proposed traffic signal. Weber State University would donate the acreage to accommodate the Action Alternative, and UTA and the University would develop an agreement for UTA to operate the Action Alternative on the campus.

Several properties would be directly affected by the Action Alternative through the Weber State University portion of the alignment, specifically in the Country Hills neighborhood, which is the neighborhood that currently divides the north and south campuses and is an area the University considers its acquisition zone in support of its campus Master Plan. The buildings at 1360 East 4225 South, 1361 East 4225 South, 1332 Country Hills Drive, and 1350 Country Hills Drive are currently owned by Weber State University and are slated for demolition by the University in support of its campus Master Plan. UTA would construct the Action Alternative across these vacant properties, and all property acquisitions would be considered land donations by Weber State University to the project.

Because the properties listed above are eligible for inclusion in the National Register of Historic Places, as a separate process under Section 106 of the National Historic Preservation Act, a Memorandum of Agreement (MOA) has been executed between Weber State University and the Utah State Historic Preservation Officer (SHPO) regarding the purchase and demolition of these properties, and mitigation efforts are completed and approved by the SHPO. For this reason, the project team has assumed that all four buildings would no longer be present by the time property acquisition and construction activities related to the proposed project begin. For more information regarding the MOA, see the *Historic Properties Technical Report* in Appendix B13 and Section 4.15 of this EA.

Two additional properties in the Country Hills neighborhood that are *not* owned by Weber State University would be directly affected by the Action Alternative. A strip take of about 0.014 acre (about 610 square feet) along the southwest corner of 1348 Country Hills Drive would be required to accommodate the Action Alternative. Additionally, the building at 1341 Country Hills Drive would need to be removed due to the Action Alternative going directly over the structure.

It’s important to note that a four-way stop would be installed at 4225 South, and a signalized intersection would be installed at Country Hills Drive (an Ogden City–managed road) to ensure safe access across the busway and safe entrance to and exit from the neighborhood.

Mitigation Measures. UTA will conduct acquisitions in accordance with the provisions in the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (42 USC §61 and the implementing regulation 49 CFR 24). This process will ensure just compensation for all properties and will minimize any adverse effects on the current owners and residents. Relocation resources are available, without discrimination, to all eligible residents and businesses. UTA will prepare a relocation plan in advance of displacements. Additional information will be collected, possibly through property owner interviews, to identify the specific needs of any business that would be relocated.

4.4 How would the Action Alternative affect traffic and transportation?

For more information, see Appendix A, Alternatives Analysis Update Report, and Appendix B4, Traffic and Transportation Technical Report.

The traffic evaluation is provided in the *Traffic and Transportation Technical Report* in Appendix B4, which describes the preliminary simulation analysis conducted during the AA update process and further analysis conducted once the Action Alternative was selected with details regarding the project team's coordination with UDOT and the methodology developed for and the results of a microsimulation evaluation for the No-Action and Action Alternative's opening day (2020) and the conditions in the design year (2040).

Mixed-Flow Lanes. The areas of mixed flow wouldn't have substantial effects on the transportation system because the BRT vehicles would operate similarly to the existing conventional bus service. Because of the relatively low impact of BRT vehicles in mixed-flow operations, an approach for the traffic analysis was crafted to focus primarily on the bus-only segment of the alignment. For this reason, the results and methodologies presented in the *Traffic and Transportation Technical Report* target mostly Harrison Boulevard. Additionally, since Harrison Boulevard is a state highway, the analysis approach was developed in cooperation with UDOT. Results and conclusions, including traffic microsimulation models, were reviewed and vetted by UDOT staff.

Bus-Only Lanes. The segments of the Action Alternative with bus-only lanes were evaluated with detailed microsimulation analysis. The results show that the Action Alternative wouldn't cause failing levels of service at any of the analyzed intersections on the project's opening day. For conditions in 2040 without the Action Alternative, the 36th Street/Harrison Boulevard intersection would have a failing level of service (LOS E) because of projected growth in the volume of traffic. Adding the BRT service to the intersection would add a slight delay (5 seconds) to this already-failing intersection.

Because of expected PM peak-hour vehicle queues at the 36th Street/Harrison Boulevard intersection by 2040, the project team recommends adding a transit-only signal at the Action Alternative's northern entrance to the Weber State University campus (at about 37th Street). The signal would help prevent the BRT vehicles' movements into and out of the campus from being blocked by vehicle queues.

Although this traffic signal isn't merited from a queuing standpoint for opening day, the project team nonetheless recommends considering adding the signal during project construction to improve safety and transit reliability. The project team modeled signal performance for conditions on opening day in coordination with UDOT staff and found that a 37th Street signal can operate adequately within the signal timing scheme on Harrison Boulevard. Whenever a 37th Street signal might be installed, the installation would be subject to UDOT's signal warrant analysis processes.

The bus-only lanes would be physically separated from mixed-flow traffic and demarcated by the 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. Signs

indicating bus use only in the dedicated busway would also 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 Fire Station #5 (at 3450 S. Harrison Boulevard) would be maintained via a gap in the median barrier.

UTA would work with UDOT during the final design phase of the project to properly sign and mark intersections in order to make sure that other vehicles don't mistakenly enter the busway. Further, left turns from side streets onto Harrison Boulevard would be allowed at signalized intersections only. Left turns onto Harrison Boulevard from 33rd, 34th, and 35th Streets would be eliminated, and signs for right turns only would be posted. Additionally, left turns across the bus-only lanes from Harrison Boulevard onto cross streets at unsignalized intersections would also be restricted via the median barrier described above as well as by the addition of no-left-turn signs.

4.5 How would the Action Alternative affect hazardous waste sites?

Although there are hazardous waste sites in the project study area, none would be affected by construction or operation of the Action Alternative, nor would construction or operation of the Action Alternative affect these sites. The technical analysis of hazardous waste sites is included in the *Hazardous Waste Sites Technical Report* in Appendix B5.

For more information, see the *Hazardous Waste Sites Technical Report* in Appendix B5.

The screening process for hazardous waste sites and materials in the project study area shows that there are no high-probability sites of concern associated with the Action Alternative alignment. One of the proposed stations, the station at 25th Street and Washington Boulevard, is within a high-probability area that's a Brownfields targeted site (an area between 22nd Street and 24th Street north to south and between Washington Boulevard and Grant Avenue west to east), though no known contamination is present specifically at the proposed station location.

The proposed future station at 30th Street and Harrison Boulevard would be within 100 feet of a UST associated with the USA Mini Mart, an active fueling station located at 3026 Harrison Boulevard. However, because construction of the station would be limited to the area immediately adjacent to the road, it wouldn't affect the UST, and no impacts to the USA Mini Mart are expected from the project.

In addition, the gas pumps at the 7-Eleven located at 3195 S. Harrison Boulevard would be directly impacted by the Action Alternative (though the convenience store wouldn't be affected). Removing the gas pumps would subsequently require closing the associated USTs. Gas pumps and USTs will be closed in accordance with state regulations.

Prior to beginning construction, UTA would confirm the locations of all additional USTs near the alignment and would work with the site owners to ensure that construction activities wouldn't disturb the tanks. If a UST site can't be avoided, UTA would work with UDEQ and the site owner to relocate and/or close the site (if it's no longer needed) per the regulations mentioned above.

4.6 How would the Action Alternative affect energy use?

The transportation sector is one of the primary users of energy in the United States. Energy supplies primarily include energy sources potentially used by the project. The project team conducted a qualitative assessment of the energy impacts of the Action Alternative (see the *Energy Technical Report* Appendix B6).

For more information, see the *Energy Technical Report* in Appendix B6.

Vehicle-miles traveled (VMT) are calculated per capita on an average daily basis and/or on an annual basis. Reducing VMT would decrease energy consumption and thus decrease air pollution from fuel combustion. For the Ogden/Weber State University Transit Project, WFRC used its travel demand model to estimate the VMT by residents living within a given geographic boundary and then determined the reduction in VMT that the Action Alternative would provide over the No-Action Alternative. According to WFRC (UTA 2015), the reduction in VMT per day was about 1,300 for the Action Alternative (which equates to about a 0.06%–0.07% reduction). VMT reduction is also a function of development patterns, and, once Ogden City's land-use and development plans are realized, further reduction in VMT could be achieved in concert with the Action Alternative.

The Action Alternative is expected to reduce regional VMT by about 1,300 miles per day, which in turn would reduce direct greenhouse gas emissions. If ridership numbers increase and corresponding VMT are further reduced, then further reductions of greenhouse gas emissions would occur. The project team expects that the Action Alternative would contribute to improved energy efficiency and improved air quality compared to the No-Action Alternative.

UTA is considering using a new generation of environmentally friendly buses for the Action Alternative that would be all-electric, hybrid diesel-electric, or diesel buses. As of 2010, the U.S. Environmental Protection Agency requires highway diesel vehicles to use ultra-low-sulfur diesel. Because of these requirements, new diesel buses emit significantly less sulfur dioxide and particulates than older diesel buses. Hybrid diesel-electric buses are subject to the same recent standards but use less diesel fuel than diesel-only buses because they operate partly on battery power.

Because of the reduced diesel consumption and engine operation of the all-electric or hybrid diesel-electric buses, the project team expects that hybrid diesel-electric buses or all-electric buses would produce even less sulfur dioxide and particulates than new diesel buses as well as less carbon monoxide and oxides of nitrogen. Furthermore, the project team expects that hybrid diesel-electric buses would reduce greenhouse gas emissions by 30% to 45% compared to new diesel buses (Grütter Consulting 2014).

As shown in Table 1 of the *Energy Technical Report* in Appendix B6, based on annual tailpipe emissions for different bus technologies, if all-electric buses are selected, greenhouse gas emissions would be reduced even further, though it's important to note that all-electric buses require electricity for charging their battery, and the type of charging technology and

For more information, see the *Energy Technical Report* in Appendix B6.

charging strategies used affect the amount of power drawn and the efficiency of the charge (see the *Energy Technical Report* in Appendix B6).

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. In order to build an energy load profile, UTA would work with the bus manufacturer to determine how much electricity each bus needs. 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.

4.7 How would the Action Alternative affect air quality?

Ogden is classified as a maintenance area for carbon monoxide (CO) and a nonattainment area for PM_{10} (particulate matter less than 10 microns in diameter). Parts of Weber County have also been designated as a nonattainment area for $PM_{2.5}$ (particulate matter less than 2.5 microns in diameter).

For more information, see the *Air Quality Technical Report* in Appendix B7.

The Utah Division of Air Quality maintains a network of air quality monitoring stations throughout the state. In general, these monitoring stations are located where there are known air quality problems, so they're usually in or near urban areas or close to specific emission sources. Other stations are located in suburban locations or remote areas to provide an indication of regional air pollution levels. The monitoring results for criteria pollutants CO, PM_{10}, and $PM_{2.5}$ from 2010 through 2015 at the monitoring stations in Weber County are included in the *Air Quality Technical Report* in Appendix B7.

What are attainment, non-attainment, and maintenance areas?

An attainment area is an area that meets (or "attains") the national standard for a given air pollutant. A nonattainment area is an area that doesn't meet the national standard for a given air pollutant. A maintenance area is an area previously designated as a nonattainment area that has been redesignated to attainment status and is required to have a maintenance plan.

PM_{10} and $PM_{2.5}$. Project-level (local) quantitative analyses for PM_{10} and $PM_{2.5}$ are required only for projects that are considered by the U.S. Environmental Protection Agency and other agencies to be of "local air quality concern."

Traffic volumes on Harrison Boulevard in 2040 between 25th Street and 37th Street are projected to be about 54,000 vehicles per day (vpd) (Allen 2016), which is much less than the 125,000-vpd threshold at which point a quantitative PM hot-spot analysis could be warranted if Harrison Boulevard were a new transportation facility; Harrison Boulevard has a relatively small volume of truck traffic as a percentage of overall traffic; and the Action Alternative wouldn't significantly increase the number of diesel-fueled transit buses compared to the existing route 603 bus service.

For these reasons, the proposed project isn't considered a project of air quality concern under the transportation conformity regulations. Therefore, project-level quantitative analyses for

PM_{10} and $PM_{2.5}$ aren't required. Vehicle emissions associated with the Action Alternative would be minor and wouldn't cause significant local air quality effects.

CO. The project study area is a maintenance area for CO. Under the transportation conformity rule, FTA projects must not cause or contribute to any new local CO violations, increase the frequency or severity of any CO violations, or delay timely attainment of the National Ambient Air Quality Standards in nonattainment or maintenance areas. Utah has been below the CO standard since 1994 (Utah Division of Air Quality 2018).

What is transportation conformity?

Transportation conformity is a way to ensure that federal funding and approval goes to those transportation activities that are consistent with air quality goals.

Under the transportation conformity rule, local CO modeling isn't required if a project proponent demonstrates that, during the timeframe covered by WFRC's 2015–2040 RTP (WFRC 2015), no new local violations of the national standards would be created, the severity of existing violations wouldn't be increased as a result of the project, and the project has been included in a regional emissions analysis.

WFRC's most recent transportation conformity analysis demonstrates that the regionally significant transportation projects included in the RTP, including the proposed project, would conform to the State Implementation Plan and the U.S. Environmental Protection Agency conformity guidelines for all pollutants in applicable nonattainment or maintenance areas (WFRC 2018). The Action Alternative wouldn't cause any local exceedances of the national standards for CO.

Mobile-Source Air Toxics (MSATs). The project team expects traffic volumes on Harrison Boulevard in 2040 to be about 40,000 vehicles per day or less, which is below the Federal Highway Administration's suggested guideline of 140,000 to 150,000 vehicles per day at which point a quantitative analysis of MSAT effects might be required (FHWA 2016). The Action Alternative has a low potential for MSAT effects.

Greenhouse Gases (GHGs). Transportation accounts for 29% of GHG emissions in the United States (FTA 2016). By moving more people with fewer vehicles, public transportation can reduce GHG emissions. According to FTA, national averages demonstrate that public transportation produces significantly lower GHG emissions per passenger-mile than private vehicles. Bus transit produces 33% less GHG emissions per passenger-mile than an average single-occupancy vehicle (FTA 2016). Transit can also reduce GHG emissions by facilitating compact development, which conserves land and decreases the distances people need to travel to reach destinations, which in turn can reduce emissions from cars stuck in traffic. Finally, transit can minimize its own GHG emissions, not to mention other tailpipe emissions, by using efficient vehicles and alternative fuels.

As described in Section 4.6, the Action Alternative is expected to reduce regional VMT by about 1,300 miles per day, which in turn would reduce direct GHG emissions, though by a small amount. If ridership numbers increase and corresponding VMT are further reduced, then further reductions of GHG emissions would occur. In addition, the Action Alternative would provide an alternative transit mode that can connect with other transit options (commuter rail or buses), thereby contributing to reduced single-occupant-vehicle travel in Weber County and consequently reduced GHG emissions.

For informational purposes only, the project team used the MOVES2014 model to estimate GHG emissions in Weber County in 2015 and 2040. As described in the *Air Quality Technical Report* in Appendix B7, GHG emissions are expected to decrease in the future because of more-efficient vehicle technology (including for transit vehicles) despite a 28% increase in VMT in Weber County between 2015 and 2040. In addition, at the project level, the VMT associated with the Action Alternative would be less than 1% of the VMT on Harrison Boulevard. Therefore, the GHG contribution of the Action Alternative would be a very small proportion of the overall GHG emissions in the county.

For more information, see the *Air Quality Technical Report* in Appendix B7.

Construction-Related Effects of the Action Alternative. Constructing the Action Alternative would cause local and temporary air quality impacts as described in the *Air Quality Technical Report* (Appendix B7) and in Section 4.16.

Summary. The project team doesn't expect the Action Alternative to have adverse effects on air quality. The Action Alternative would provide an incentive for commuters to use transit instead of personal vehicles. As a result, the project team expects reduced regional VMT, which in turn would cause the number of vehicles spending time in congestion to decline, which would contribute to improved local and regional air quality, including reduced greenhouse gas emissions. In addition, UTA and the project partners are considering using all-electric, hybrid diesel-electric, or super-low-emission diesel buses, which would produce less air pollution and GHG emissions than would the existing UTA route 603 fleet diesel buses.

4.8 How would the Action Alternative affect visual and aesthetic resources?

4.8.1 Existing Conditions

As described in the *Visual and Aesthetic Resources Technical Report* in Appendix B8, the architecture, landscaping, and streetscape in the project study area vary substantially, giving the project area an eclectic feel. The general visual character of the proposed transit corridor is mainly urban, with vehicle-oriented streets and a mix of commercial, retail, and institutional buildings and single- and multi-family residential buildings. Residents and other viewers adjacent to the proposed transit corridor have views of the streets and sidewalks. The area is highly developed, but views of Mt. Ogden and Ben Lomond Peak are visible and create a visual backdrop to the east and northeast.

For more information, see the *Visual and Aesthetic Resources Technical Report* in Appendix B8.

4.8.2 Effects on Visual and Aesthetic Resources

Action Alternative in Mixed-Flow Traffic. The project team expects a low degree noticeable changes in the physical characteristic of the areas where the Action Alternative would operate in mixed-flow traffic. The frequency, bus numbers, routing, and schedule of bus service would change; however, the changes wouldn't be very noticeable. The Action Alternative improvements along the roads in the proposed transit corridor would involve

milling pavement, repaving, restriping, and adding median and spot landscaping improvements, though a portion of 25th Street would be rebuilt from the bottom up. These improvements would occur within the existing right-of-way and, when complete, would likely contribute to an improved streetscape aesthetic.

Bus-Only Lanes on Harrison Boulevard. On Harrison Boulevard, some pavement would be widened and retaining walls would be added to accommodate the bus-only lanes that begin just south of 31st Street and continue to the entrance of Weber State University at about 47th Street. There would be slight visual changes to Harrison Boulevard in that new center lanes would be specially marked to separate the bus-only lanes from the traffic in the general-purpose lanes. The areas surrounding Harrison Boulevard through the bus-only lanes segment of the Action Alternative would likely benefit from the addition of a fixed-guideway transit system by experiencing redevelopment of blighted or run-down commercial areas. This redevelopment could improve the visual surroundings through the area as a whole.

Bus-Only Lanes through the Weber State University Campus. A new busway to accommodate the Action Alternative would be constructed through the Weber State University campus, and this construction would also include retaining walls in the steeper portions of the alignment. The University has been planning for the BRT alignment and has included it the University's Master Plan, and University officials have been clear that they understand the nature of cuts and fills that would be required to accommodate a bus-only roadway through their campus. Some existing walkways and landscaping treatments through the campus would be removed or realigned. However, spot landscaping improvements and walkway and crosswalk improvements would benefit not only circulation and safety but also the aesthetics around the Action Alternative.

Stations. The Action Alternative's stations would be designed to be sensitive to the local character of the project study area and not detract from the context of surrounding architecture. As described in the *Visual and Aesthetic Resources Technical Report* in Appendix B8, station design would minimize potential visual impacts to historic resources and the visual setting through the proposed transit corridor. UTA anticipates that the final design of the shelters would be consistent with the context of the surrounding community while also being consistent with UTA's other BRT systems. In addition, the introduction of the enhanced station structures wouldn't substantially screen views of homes, since the sidewalk would be behind the station, nor would it obstruct views of distant mountains that are intermittently visible from locations along the Action Alternative alignment.

For more information, see the *Visual and Aesthetic Resources Technical Report* in Appendix B8.

Summary. Overall, the project team doesn't expect the Action Alternative's stations and shelters to change the aesthetic character along the proposed transit corridor. Most existing bus route 603 stops along the corridor would become enhanced stations. Enhancements would be constructed in a thoughtful and context-sensitive way, as shown in Figure 27.

Figure 27. Rendering of Potential Enhanced Station Design on 25th Street and Harrison Boulevard

In addition, new stations on the Weber State University campus would also be designed to be sensitive to the modern-yet-still-historic feel of the campus as shown in Figure 28, while also keeping some station branding features consistent among all Action Alternative stations regardless of location in order to achieve continuity along the Action Alternative alignment. Note that the station designs shown below are preliminary and would be finalized during the final design phase of the project. Additional station renderings are included in Appendix B8, Visual and Aesthetic Resources Technical Report.

The project team doesn't anticipate any adverse visual impacts from the Action Alternative nor any adverse proximity or visual effects on the location, design, setting, materials, workmanship, feeling, or association of nearby historic resources in the areas between the proposed stations. The project team expects the visual quality of the surrounding environment to benefit from the Action Alternative.

Figure 28. Rendering of Possible Station Design for Weber State University Campus

4.9 How would the Action Alternative affect noise levels?

A noise and vibration assessment was conducted using FTA's guidance manual *Transit Noise and Vibration Impact Assessment* to identify potential noise and vibration impacts. Details of the assessment can be found in the *Noise and Vibration Technical Report* in Appendix B9. There would be no noise impacts at the evaluated Category 2 locations (residential locations and places where people sleep) in the project study area, and vibration impacts are also unlikely.

For more information, see the *Noise and Vibration Technical Report* in Appendix B9.

4.9.1 Existing Noise Levels

The noise screening procedure described in FTA's guidance manual is used to identify locations where a project could cause noise impacts. If no noise-sensitive land uses are present within a defined area of project influence, then no further noise analysis is necessary. The area described by the screening procedure is intended to capture all potentially affected locations.

How are noise levels measured in this EA?

In this EA, noises levels are measured in A-weighted decibels (dBA).

Based on the design available at the time of the evaluation, the project team used a distance of 70 to 75 feet to represent the distance from the Action Alternative alignment to a potential receiver location at the Weber State University dormitory, the adjacent residential neighborhood, and the McKay-Dee Hospital where a new, dedicated BRT facility could be located.

FTA uses different categories of land uses to evaluate noise impacts. Category 1 includes uses where quiet is an essential element in their intended purpose, such as indoor concert halls, outdoor concert pavilions, or outdoor National Historic Landmarks where outdoor interpretation routinely takes place. Category 2 land uses include residences and buildings where people sleep, and Category 3 includes institutional land uses with primarily daytime use such as schools and libraries.

Category 2 land uses in the noise and vibration evaluation area include residences on 25th Street, Washington Boulevard, and Harrison Boulevard; residences on Harrison Boulevard between 25th and 32nd Streets; dormitories on the Weber State University campus; the residential neighborhood on 4225 South; and McKay-Dee Hospital. Category 3 land uses include several churches and schools on both 25th Street and Harrison Boulevard. No FTA land-use Category 1 receptors were identified in the evaluation area.

Existing noise levels in the noise evaluation area are relatively loud and are typical of an urban arterial street that's dominated by transportation noise. Because residents who live on 25th Street or Harrison Boulevard experience ongoing traffic noise from vehicle traffic, they experience higher noise levels due to those traffic volumes (average daily traffic volumes are about 5,000 vehicles per day on 25th Street and about 32,000 vehicles per day on Harrison Boulevard; traffic volumes on Harrison Boulevard are projected to increase to about 40,000 vehicles per day in 2040). In addition, the proportion of buses added by the Action Alternative would be small (less than 1% of the total traffic volume) and would have an imperceptible effect on the noise levels being experienced by those residents. As a result, it wasn't necessary to measure noise levels in order to describe the expected impacts at those locations.

For more information, see the *Noise and Vibration Technical Report* in Appendix B9.

However, the project team did measure existing noise levels at three monitoring locations representative of Category 2 noise-sensitive receptor locations (residential locations and places where people sleep) on the Weber State University and McKay-Dee Hospital campuses. At the university locations, the Action Alternative would be on a new alignment, and, at the hospital location, the Action Alternative would operate more frequently than the existing route 603 bus, therefore potentially causing more-substantial noise impacts since none of the three measurement sites are on an urban arterial such as 25th Street or Harrison Boulevard. For illustrations of these monitoring locations, see Figures 4 through 6 in the *Noise and Vibration Technical Report* in Appendix B9.

The 24-hour equivalent noise level (L_{eq}) at these locations ranged from 54 dBA in the residential neighborhood around 4225 South to 59 dBA at the Weber State University dormitory location. The 24-hour day-night noise level (L_{dn}) ranged from 58 dBA to 59 dBA at the same locations. Measured noise levels were typical of the sound levels expected in relatively quiet locations not affected by other noise sources such as traffic on nearby arterial roads.

4.9.2 Effects on Noise Levels

The project team conducted both a qualitative assessment and the FTA General Noise Assessment to determine the noise impacts from the Action Alternative at sensitive land uses in the evaluation area.

25th Street. As discussed in Section 4.0, Affected Environment, in the *Noise and Vibration Technical Report* in Appendix B9, a simplified noise model was developed to represent mixed-flow traffic on 25th Street. Thirteen receptors were included in the model and located in front-yard locations with direct line of sight to 25th Street. Therefore, these receptors represent worst-case, outdoor areas with direct exposure to pass-by traffic on 25th Street. Modeled noise levels on 25th Street ranged from 64 dBA to 65 dBA and were below the residential noise abatement criteria (NAC) if noise levels were being evaluated under the UDOT Noise Abatement Policy (UDOT 08A2-01, June 15, 2017). Also, as shown in Table 3, Building Noise Reduction Factors, in the *Noise and Vibration Technical Report*, interior noise levels would be substantially lower than the modeled noise levels due to the noise attenuation (reduction) provided by the building material (for example, masonry brick or wood frame) and the condition of the windows (storm windows or double-glazed).

Harrison Boulevard. As described in Section 4.0, Affected Environment, in the *Noise and Vibration Technical Report* in Appendix B9, Harrison Boulevard is a principal arterial in a more urbanized part of Ogden, so residents who live on Harrison Boulevard experience louder traffic noise than do residents who live on 25th Street.

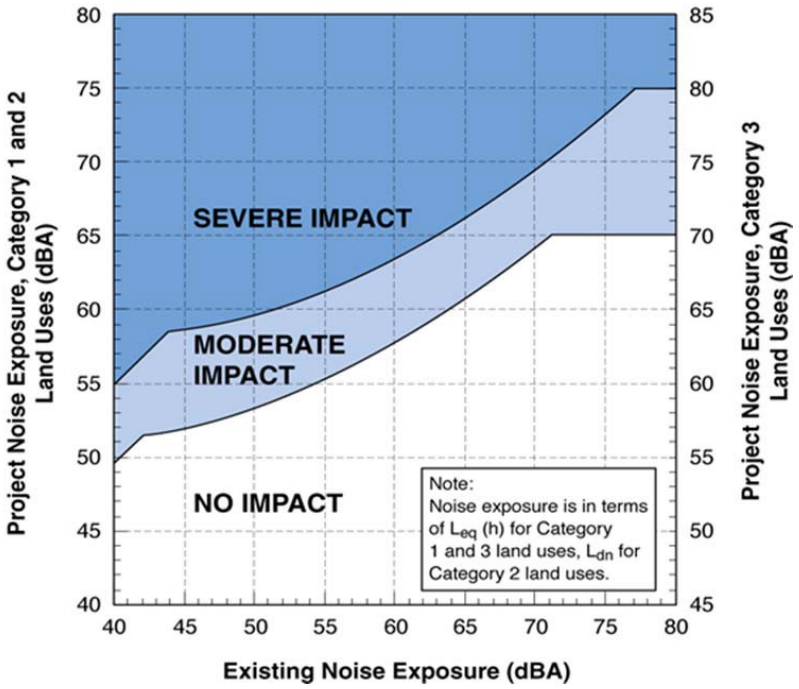
For more information, see the *Noise and Vibration Technical Report* in Appendix B9.

Based on the project team's experience with similar projects on busy principal arterials, outdoor locations with direct line of sight to Harrison Boulevard (that is, front lawn or front porch locations) would likely experience noise levels in the range of 70 dBA to 75 dBA depending on the volume of pass-by traffic.

Based on the existing high volume of traffic (about 32,000 average daily traffic), the fact that bus traffic is only about 1% of overall traffic, and the fact that the roadway widening wouldn't place the general-purpose lanes closer to homes, the project team doesn't expect that the very low volume of transit buses operating on Harrison Boulevard would cause significant noise impacts beyond the existing noise levels.

Weber State University and McKay-Dee Hospital Campuses. The project team estimated noise effects from the Action Alternative using FTA's Noise Impact Assessment Spreadsheet (HMMH 2007). The operational noise from buses (the column labeled Project Noise in Table 5 on page 80) was used in conjunction with the existing noise level (as determined from the 24-hour noise measurements). The resulting noise level was then compared to FTA's transit noise impact criteria (Figure 29) to determine whether the Action Alternative would cause noise impacts.

Figure 29. FTA Transit Noise Impact Criteria



Source: FTA 2006

Table 5 shows the predicted operational noise impacts from the Action Alternative at the three locations monitored for this project. In addition, the operational impacts don't include indoor noise reduction from masonry materials at the dormitory and hospital sites.

By way of example, at Location 1 (the Weber State University dormitory), the 24-hour L_{dn} was 59 dBA, and the predicted project noise level was 56 dBA. In Figure 29 above, the intersection of 59 dBA (existing noise level) and 56 dBA (project noise level) falls in the no-impact area of the chart.

Similarly, in terms of the cumulative impact due to the project, the existing noise level was 59 dBA, and the predicted total noise level due to the project was 61 dBA. The noise level increase due to the project was 2 dBA (61 dBA minus 59 dBA), which is just barely perceptible to the human ear (see Section 3.2, Human Perception of Noise, of the *Noise and Vibration Technical Report* in Appendix B9).

As shown in Table 5, there would be no noise impacts at the evaluated Category 2 locations.

Table 5. Noise Impacts in the Noise and Vibration Evaluation Area

Location	General Land-Use Category	Noise Level (dBA)[a]				Impacts
		Existing[b]	Project Noise[c]	Total Noise Exposure (Existing + Project)	Noise Exposure Increase due to Project[d]	
1 – Weber State University dormitory[d]	Residential (Category 2)	59	56	61	2	No impact
2 – Residences (4225 South)	Residential (Category 2)	58	55	60	2	No impact
3 – McKay-Dee Hospital	Residential (Category 2)	59	55	61	1	No impact

[a] Source: HMMH 2007

[b] The noise descriptor for Category 2 residential land uses is the 24-hour L_{dn} where nighttime sensitivity is a factor.

[c] Project noise is noise due to operation of the bus system, not including existing noise (see Figure 29 above). Input parameters for the calculations are included in the noise impact assessment spreadsheets in Appendix A, FTA Noise Impact Assessment Spreadsheets, of the *Noise and Vibration Technical Report*. The *Noise and Vibration Technical Report* is provided as Appendix B9 of this EA.

[d] Includes operational noise from the on-campus shuttle service between 7 AM and 2 PM.

4.10 How would the Action Alternative affect vibration levels?

For more information, see the *Noise and Vibration Technical Report* in Appendix B9.

Because the Action Alternative includes the use of rubber-tired vehicles, the project team doesn't anticipate any vibration impacts. A screening-level vibration evaluation was prepared using the guidelines recommended by FTA (2006) for such analyses and is included in the *Noise and Vibration Technical Report* in Appendix B9.

A key aspect of the vibration evaluation included considering buildings, such as concert halls, recording studios, and theaters that can be sensitive to vibration but don't fit into any of the three categories included in FTA's ground-borne root-mean-square vibration impact criteria (Table 5 in the *Noise and Vibration Technical Report*). Within the proposed project corridor, these buildings include the Val A. Browning Performing Arts Center and the Kimball Visual Arts Center on the Weber State University campus. The University has provided substantive input into the Action Alternative alignment through the campus. The proposed alignment would pass within about 50 to 60 feet of both the Browning Performing Arts Center and the Kimball Visual Arts Center.

Because the busway through the Weber State University campus would be newly constructed, the potential for poor roadway surface conditions that could lead to vibration potential would be negligible. In addition, the buses would operate at low speed (about 20 miles per hour) through the Weber State University segment of the Action Alternative alignment, further reducing the potential for vibration impacts. Moreover, significant vibration impacts from rubber tire–fitted vehicles are rare because the tires themselves as well as the suspension systems of buses isolate vibration.

In addition, the project partners are considering using all-electric or hybrid diesel-electric buses. The magnitude of vibrations and emissions from electric vehicles is less than that from conventional gasoline-powered vehicles (Chen 2015). Apart from the reduction in emissions, electric buses operate with lower noise and vibration due to the absence of mechanical parts compared to conventional diesel buses (Teoh et al. 2017). Therefore, little to no vibration impacts are expected from the Action Alternative that would adversely affect activities at the Browning Performing Arts Center or the Kimball Visual Arts Center.

At McKay-Dee Hospital, the buses would run on an existing alignment next to the hospital that has an operational bus route. No vibration issues have been identified with the existing route 603 bus operation at this location, so none are expected from the Action Alternative.

4.11 How would the Action Alternative affect water quality?

For more information, see the *Water Quality Technical Report* in Appendix B10.

Along the proposed transit corridor, surface water is managed via a system of catch basins, stormwater pipes, and detention basins. The water quality evaluation area includes numerous pipelines and detention basins including the Weber State University Duck Pond, the 44th Street/South Ogden Highline Canal detention/overflow basin, the Smith's Pond detention basin, and the Country Hills Drive detention basin as described in the *Water Quality Technical Report* in Appendix B10.

In addition, Waterfall Gulch and Strongs Gulch, which are aboveground streams east of the water quality evaluation area, combine in the evaluation area and are directed into a 42-inch pipe at Goddard Road, which is east of Harrison Boulevard. This pipe crosses under Harrison Boulevard just south of 32nd Street. Downstream at Harrison Boulevard and within the evaluation area, the combined flow is directed into a 54-inch pipe that intersects with several smaller pipes. The 54-inch pipe eventually discharges to the Sullivan Hollow detention basin, which is more than a half mile west of Harrison Boulevard.

What are water right points of diversion?

Water right points of diversion are locations from which water can legally be diverted from a source and beneficially used.

Also, as described in the *Water Quality Technical Report* in Appendix B10, there are many legal points of diversion, both underground as well as surface springs, in the water quality evaluation area. Water right points of diversion are locations from which water can legally be diverted from a source and beneficially used.

North of 31st Street. North of 31st Street, the Action Alternative wouldn't require any substantial construction that could affect the stormwater system or a detention basin. Constructing the bus stations wouldn't disturb any part of the stormwater system. Implementing the Action Alternative in this area wouldn't affect water quality. The locations of existing points of diversion north of about 31st Street are well outside the area that would be disturbed during project construction.

South of 31st Street. South of 31st Street, the Action Alternative would cross the pipe carrying the combined flow of Waterfall Gulch and Strongs Gulch at about 32nd Street. The Action Alternative crosses this pipe in an area where the existing roadway would be widened to the west to allow bus-only lanes in the center of Harrison Boulevard. As a result, the

Action Alternative could require modifying up to about 150 linear feet of the pipe west of Harrison Boulevard. The pipe would be modified so that it could accommodate the same flow and would be compatible with the existing stormwater system. Because the system would remain closed, the modification wouldn't affect the quality of water that flows through the water quality evaluation area and ultimately discharges to the Sullivan Hollow detention basin.

Weber State University. The Action Alternative would require constructing a new single bus lane adjacent to the Weber State University Duck Pond at about 39th Street. The Duck Pond, which is normally filled and is a visual campus amenity, receives drainage via a 24-inch pipe that comes from the southeast, a 30-inch pipe that comes from Harrison Boulevard, and an open channel that's part of landscaping southwest of the pond.

The Duck Pond isn't a natural feature, so it isn't regulated as a water of the United States. The Action Alternative wouldn't encroach into the Duck Pond detention area in a way that would reduce capacity or would result in additional discharge directly to the pond. The Action Alternative would include a stormwater drainage system that's compatible with the existing system.

South Ogden Highline Canal. The Action Alternative would also cross the South Ogden Highline Canal at about 42nd Street. This canal crossing is in an area where a new bus lane on new right-of-way would be constructed. However, because the canal is underground, construction wouldn't directly affect this water feature, though it would need to be protected in place. Crossing the feature would require UTA to obtain a license agreement from the U.S. Bureau of Reclamation because the Bureau owns the canal in fee title (see Appendix C1 for a technical memorandum regarding the coordination conducted for the South Ogden Highline Canal).

For more information, see Appendix C1, Bureau of Reclamation Coordination regarding South Ogden Highline Canal.

Detention Basins. A 2.4-acre detention basin associated with the South Ogden Highline Canal is located just north of 4225 South and south of Village Drive. Because this detention basin is a federal facility, it isn't included in the City's stormwater master plan. The detention basin is part of the South Ogden Highline Canal system and sits on a hill adjacent to the Action Alternative alignment. The detention basin isn't a natural feature, so it isn't regulated as a water of the United States. The basin sits about 125 feet from the center of the Action Alternative busway to the edge of basin. The top of the basin ranges from roughly 20 feet above the busway to level with the busway as the busway climbs the hill and passes beyond the detention basin. The detention basin wouldn't be affected by the Action Alternative.

Points of Diversion. South of about 36th Street, construction activity near the Duck Pond would be close to existing points of diversion. As part of the final design process, UTA will coordinate with all service providers and managers, including those managing points of diversion on the Weber State University campus, to ensure that the Action Alternative doesn't affect the place and purpose of use of any points of diversion along the proposed transit corridor.

Culinary Water Tanks. South Ogden City has an underground storage water tank buried just southwest of 1341 Country Hills Drive. According to South Ogden City public works

personnel, the underground storage water tank is a large 1-million-gallon water reservoir, and the City has future plans to build another reservoir just west of the existing one on a currently empty lot (Hu 2018). The Action Alternative wouldn't affect the existing storage reservoir nor the parcel to the west where the future reservoir is planned to be installed.

Stormwater System. The part of the Action Alternative that would be in the existing right-of-way wouldn't require any physical modifications to the roadway and, therefore, construction wouldn't affect the existing stormwater system.

The Action Alternative would create about 10 acres of new roadway surface in the water quality evaluation area, all of which would be south of 31st Street. This increase in impervious area would slightly increase the volume of stormwater runoff from the proposed transit corridor and could also slightly increase the amount of pollutants in the stormwater system. However, given the urban nature of the evaluation area and the amount of existing impervious surfaces in the area, the additional impervious area and associated increase in runoff are unlikely to substantially affect the pollutant load for the entire watershed.

Activity along the segment of Harrison Boulevard that would be widened south of 31st Street could affect the stormwater system if the activity were to require moving or modifying stormwater-collection features that are part of the roadway (for example, construction could require moving stormwater inlets). As currently proposed, the stormwater system modifications south of 31st Street would be designed and implemented so that they're compatible with the existing system.

The busway through the Weber State University campus would cross stormwater and culinary water lines. UTA will verify the depths of the existing utilities during the final design process to ensure that the stormwater and culinary water lines remain adequately covered and protected in place.

Permits and Plans. As part of the final design process, UTA would coordinate with all service providers and managers, including Ogden City and the Bureau of Reclamation, regarding the stormwater system's pipes and detention basins. Prior to construction, UTA or its construction contractor would obtain a general permit for construction activities under the Utah Pollutant Discharge Elimination System from the Utah Division of Water Quality. A detailed Stormwater Pollution Prevention Plan (SWPPP) would be prepared to control stormwater runoff and erosion at construction sites. This plan would contain specific structural and procedural measures, including best management practices (BMPs), to reduce stormwater impacts.

Water Quality Protection Measures. As described in the *Water Quality Technical Report* (Appendix B10), several measures would reduce or prevent project-related water quality impacts, including preparing a SWPPP and associated BMPs. In addition, UTA will coordinate with Weber State University during the final design process to ensure that construction of the new BRT right-of-way through the campus wouldn't affect the use of or access to existing legal points of diversion.

For more information, see the *Water Quality Technical Report* in Appendix B10.

4.12 How would the Action Alternative affect floodplains?

Existing Streams and Floodplains. The Weber River watershed includes all land that drains into the Weber River from Weber Canyon (located at about Interstate 84 and U.S. Highway 89) northward to where the river empties into the Great Salt Lake. The Weber River roughly parallels the western boundary of the floodplain evaluation area.

For more information, see the *Floodplains Technical Report* in Appendix B11.

Beus Creek runs east to west from Beus Canyon into the southern portion of the floodplain evaluation area near Harrison Boulevard and 46th Street. Beus Creek itself doesn't cross the Action Alternative alignment, but the floodplain associated with Beus Creek does cross the alignment.

There are several types of flood zones, but only the following zones are present in the floodplain evaluation area (FEMA 2016):

- **Zone X (Shaded)** – Areas with a moderate risk of flooding (usually between the limits of the 100-year and 500-year floods) from the principal source of flooding in the area.
- **Zone AE** – Areas that would be flooded by a 100-year flood and where the base flood elevations have been determined. A Zone AE floodplain might include a defined floodway.
- **Zone A** – Areas that would be flooded by a 100-year flood determined using approximate methodologies. Because detailed hydraulic analyses haven't been performed, the base flood elevations haven't been determined.
- **Zone AH** – Areas with a 1% annual chance of shallow flooding—usually areas of ponding—with an average depth ranging from 1 to 3 feet. Base flood elevations derived from detailed analyses are shown within these zones.
- **Zone X (Unshaded)** – Areas of minimal flood hazard. This zone is present in the floodplain evaluation area but isn't pertinent to impact analysis and therefore isn't shown in Figure 4, Floodplains, in the *Floodplains Technical Report* in Appendix B11.

What is a 100-year flood?

A 100-year flood is a runoff event with a 1% chance of occurring in any given year, or, in other words, a flood that happens, on average, once every 100 years.

Table 6 lists the floodplains defined by the Federal Emergency Management Agency (FEMA) in the floodplain evaluation area. Figure 4, Floodplains, in the *Floodplains Technical Report* in Appendix B11 shows the locations of these floodplains and their associated water bodies.

For more information, see the *Floodplains Technical Report* in Appendix B11.

Table 6. Flooding Sources and Flood Hazard Zones

Flooding Sources	Flood Hazard Zones
Beus Creek	Zone X (Shaded)
Sullivan Hollow (localized flooding south of drainage)	Zone AH, Zone X (Shaded)
Sullivan Hollow (localized flooding along main drainage)	Zone A, Zone AH, Zone X (Shaded)
Weber River	Zone X (Shaded)

Effects on Floodplains. North of 31st Street, the Action Alternative wouldn't require any substantial construction that would affect floodplains.

South of 31st Street, the Action Alternative would cross Sullivan Hollow (at about 33rd Street and Harrison Boulevard), which has a floodplain with designated Zones AH, X (Shaded), and A. In this location, the Action Alternative includes road widening to accommodate the bus-only lanes, and this would encroach on all three zone types of the regulatory floodplain.

Additionally, the Action Alternative would cross a designated Zone X (Shaded) floodplain associated with Beus Creek. No new construction is planned for this area, so the floodplain wouldn't be affected.

Mitigation Measures. UTA or its construction contractor will obtain floodplain development permits for the segment of the Action Alternative that would encroach on the Sullivan Hollow regulatory floodplain. The design of the roadway widening to accommodate the bus-only lanes will follow the more stringent of FEMA requirements or local floodplain ordinances. UTA or its construction contractor will also obtain a stream alteration permit from the Utah Division of Water Rights.

Based on the nature of the expected impacts to the Sullivan Hollow regulatory floodplain, pre- and/or post-project revisions to FEMA maps might be required. Detailed floodplain impact analyses could require significant time and effort and should be performed early in project development to avoid potential coordination and permitting delays.

4.13 How would the Action Alternative affect or be affected by geology and soils?

For more information, see the *Geology, Soils, and Paleontological Resources Technical Report* in Appendix B12.

Existing Geology and Soils. The geology and soils evaluation area is developed with urban uses. The soil associated with many developed parcels isn't exposed, or, if it's exposed, it's stabilized using planted landscaping. Subsurface materials are primarily unconsolidated Quaternary soils deposited from the Pleistocene Lake Bonneville and from rivers that fed the lake during the Holocene Epoch. These deposits generally consist of alternating and intermittent layers of clay, silt, and sand with some zones of gravel. The sediments deposited in such formations are generally loose and soft in nature and extend to depths of more than 500 feet (Bissell 1963).

Several potential geologic hazards are associated with the frequency and distribution of earthquakes along the Wasatch Front, which is dominated by the Wasatch fault zone. These hazards include ground shaking, liquefaction, and tectonic subsidence. Landslides are another geologic hazard that can be directly or indirectly related to earthquake activity.

For more information about these potential hazards, see the *Geology, Soils, and Paleontological Resources Technical Report* in Appendix B12.

Construction Effects on Soils and Geology. For the most part, constructing the Action Alternative wouldn't cause adverse effects on soils or geology. Aside from the segment through the Weber State University campus, the Action Alternative would be implemented mostly on existing roads and would be located mainly within existing public rights-of-way, so it would have little to no effect on the surrounding geology and soils. Through the University campus, the areas with the greatest potential for slope failure have steep slopes and weak underlying rock or soil conditions. Factors that increase the risk of slope failure are saturated ground, rock bedding parallel to the slope gradient, and the occurrence of past landslides subject to reactivation, where there might be a zone or plane of weakness in the subsurface on which ground movement could be triggered.

Between Village Drive and Country Hills Drive on the University campus, busway impacts would require retaining walls, particularly near the student housing complex, that range from 3 to 10 feet high. The grades through this area would require a 7% longitudinal grade to minimize the impact at Country Hills Drive. In addition, the new busway alignment would be about 125 feet from the center of the alignment to the edge of the South Ogden Highline Canal detention pond, located just north of 4225 South and south of Village Drive. The top of the basin ranges from roughly 20 feet above the busway to level with the busway as the busway climbs the hill and passes beyond the detention basin. Although a major landslide or slope failure isn't likely to occur along the project alignment, a geotechnical survey of the busway through the University campus, with emphasis in areas with the steeper grades and near the detention basin, would be required during the final design phase of the project.

No mapped landslides cross the Action Alternative alignment, and the steepest slopes are about 7%. The overall risk for slope instability or failure along the Action Alternative alignment is low because slopes are flatter than 10%. More likely to occur would be minor slope failure, including instability resulting from local construction-induced settlements, or slumping if there were an improperly supported excavation near the base of a hillside.

Erosion would be a concern during construction. Implementing a temporary erosion and sedimentation control plan will substantially reduce the volume of eroded soil and the potential for discharging silt-laden runoff into nearby waters.

Operational Effects on Soils and Geology. The Action Alternative would be located in an area that's subject to ground shaking, liquefaction, and landslides. Specifically, placing the BRT alignment through the neighborhood that separates the north and south Weber State University campuses could introduce or increase the potential for landslides on the steep hillside at this location. Specific geotechnical investigation and design measures might be required by UTA during the final design phase of the project to ensure a stable final slope configuration in areas of bus-only lanes and through the Weber State University campus.

UTA would design the BRT system to withstand seismic effects using the best available technology.

4.14 How would the Action Alternative affect paleontological resources?

Because no known paleontological resources were identified in the paleontological resources evaluation area, no analysis of specific paleontological localities was conducted, and no known paleontological resources would be affected by the Action Alternative. For more information, see the *Geology, Soils, and Paleontological Resources Technical Report* in Appendix B12.

For more information, see the *Geology, Soils, and Paleontological Resources Technical Report* in Appendix B12.

4.15 How would the Action Alternative affect historic properties?

Section 106 of the National Historic Preservation Act of 1966, as amended, requires federal agencies to take into account the effects of their undertakings on historic properties. FTA initiated Section 106 consultation with the Utah SHPO on May 6, 2016. Tribal consultation was initiated on May 16, 2016.

For more information, see the *Historic Properties Technical Report* in Appendix B13.

Historic Properties in the APE. A variety of historic properties, including historic buildings and archaeological sites, were identified within the area of potential effects, or APE, for the Ogden/Weber State University Transit Project. For this analysis, archaeological sites include historic linear resource sites such as railroads and canals. No prehistoric or historical archaeological sites other than the historic linear resource sites were identified in the APE. For more information and a map of the APE, see the *Historic Properties Technical Report* in Appendix B13.

What is the area of potential effects (APE)?

The evaluation area for each type of historic property is the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties. This area is called the area of potential effects, or APE.

Through consultation with the Utah SHPO and other consulting parties, the project team evaluated 223 historic buildings and three archaeological sites eligible for the National Register of Historic Places (NRHP) and qualifying as historic properties per 36 CFR 800. In addition, portions of four historic districts are located in the APE/survey area: the Crossroads of the West Historic District, the Ogden Central Bench Historic District, the Jefferson Avenue Historic District, and the Eccles Avenue Historic District. For more information, see the *Historic Properties Technical Report* in Appendix B13. In the report, the Documented Historic Buildings and Districts figures in the report's Appendixes A and B show the locations of identified historic resources, with the exception of archaeological resources, within the APE.

Summary of Findings of Effect. FTA has determined that the Action Alternative would result in **no historic properties affected** for 201 of the 223 NRHP-eligible historic buildings and two of the NRHP-eligible archaeological resources (sites 42WB000357 and 42WB000534).

FTA has determined that the Action Alternative would result in **no adverse effect** to 21 NRHP-eligible historic buildings, the four historic districts, and the one remaining archaeological resource (site 42WB000373) due to minor strip takes or because new station platforms and shelters would be placed near NRHP-eligible structures but outside the parcel boundaries. Additionally, FTA has determined that the Action Alternative would result in an **adverse effect** to 1 NRHP-eligible historic building, located at 1341 Country Hills Drive, due to a direct impact to the historic building on the property. Although this property is included in the MOA between Weber State University and the Utah SHPO, the property is not currently owned by the University; therefore, FTA cannot assume that the historic building on this property would no longer be present when construction activities related to the proposed transit project begin.

For more information, see the *Historic Properties Technical Report* in Appendix B13.

FTA consulted with the Utah SHPO, which concurred with FTA's Determination of Eligibility and Finding of Adverse Effect for historic properties on October 22, 2018 (see Appendix C2, Section 106 Consultation). In addition, the SHPO also concurred that mitigation for the undertaking has been completed. FTA subsequently notified the Advisory Council on Historic Preservation of the adverse effect to a historic property and invited the Advisory Council to consult. The Advisory Council stated on November 8, 2018, that its participation in the consultation to resolve adverse effects is not needed (see Appendix C2, Section 106 Consultation).

On November 20, 2018, the consulting parties listed in Section 3.4.3, Local Governments and Historical Societies in the *Historic Properties Technical Report* in Appendix B13, were sent a project update email and a copy of the Utah SHPO's October 22, 2018 concurrence letter (see Appendix C2, Section 106 Consultation, of the EA). No consulting parties have provided any comments to date. FTA and UTA will continue to consult with the local governments and historic societies that agreed to become consulting parties as well as with Native American tribes and will accept comments on this EA and the Section 106 and Section 4(f) processes during the public comment period when this EA is released to agencies and the public.

For more information about the effects of the undertaking on historic buildings, historic districts, and archaeological resources, see the *Historic Properties Technical Report* in Appendix B13.

Unanticipated Resources. In accordance with 36 CFR 800.13(b), FTA and UTA are providing for the protection, evaluation, and treatment of any historic property discovered prior to or during construction. If unanticipated historic properties—such as old utility lines known to be in the area or buried archaeological deposits—are inadvertently discovered during construction, UTA will immediately stop work while FTA consults with the Utah SHPO as to whether the find is eligible for inclusion in the NRHP and, if so, is subject to adverse effects from construction. If potential adverse effects to historic properties are identified, FTA will continue consultation with the SHPO under Section 106 of the National Historic Preservation Act to resolve those effects before work resumes.

Mitigation Measures for Potential Adverse Effects. Mitigation measures for the adverse effect to 1341 Country Hills Drive have been completed by Weber State University.

While the University does not currently own 1341 Country Hills Drive, the property was included in the MOA between the University and the SHPO regarding the demolition of a number of historic buildings in support of the Weber State University Master Plan. The mitigation obligations specified in the MOA between the University and the SHPO required an Intensive-Level Survey (ILS) for the Halverson Subdivision which includes an ILS for 1341 Country Hills Drive (Certus Environmental Solutions 2017). Weber State University submitted the required ILS to the SHPO in March 2017. In addition, Weber State University submitted a report to the SHPO regarding the neighborhood history for the area including the Halverson, Naisbitt, and College Heights subdivisions as also required under the MOA between the University and the SHPO.

In July 2018, the SHPO acknowledged that the mitigation commitments stipulated in the MOA between Weber State University and the SHPO had been fulfilled (Hansen 2018). Since the Intensive-Level Survey (ILS) of the Halverson neighborhood completed by Weber State University included 1341 Country Hills Drive and is the same mitigation measure that FTA would propose to complete, the SHPO agreed that the mitigation for the adverse effect to 1341 Country Hills Drive was therefore complete. FTA has determined, and the SHPO has concurred, that mitigation measures for the adverse effect to 1341 Country Hills Drive from the Action Alternative have been completed (see Appendix C2, Section 106 Consultation).

Next Steps. FTA and UTA will provide information to the public regarding impacts to historic properties at the public open house and will accept comments on the EA and the Section 106 process during the EA public comment period. All consulting parties and all Native American tribes initially contacted for this project (see Section 3.4, Agencies, Tribes, and Other Consulting Parties and Their Roles, in the *Historic Properties Technical Report* in Appendix B13) will receive instructions to download an electronic copy of this EA.

4.16 Would there be construction impacts from the Action Alternative?

This section discusses the short-term (construction-related) impacts of the Action Alternative and UTA's proposed mitigation for these impacts.

4.16.1 Noise and Vibration

Though noise from constructing the Action Alternative would be temporary, it could be a nuisance at nearby locations. Noise levels during construction are difficult to predict, and they vary depending on the types of construction activity and equipment used for each stage of work. Heavy machinery, which is the major source of noise in construction, is constantly moving in unpredictable patterns and isn't usually at one location for very long. Construction noise varies greatly depending on the construction process, the type and condition of equipment used, and the layout of the construction site. Construction activities would be carried out in compliance with all applicable local noise regulations.

Constructing the Action Alternative could cause some degree of ground vibration. Buildings founded on the soil near the construction site could respond to these vibrations, though, given the nature of the project, the effect would likely be imperceptible or only moderately noticeable for a short time.

Mitigation Measures. Noise- and vibration-control measures that would be applied as needed to meet the noise and vibration limits include the following:

- Avoid nighttime construction in residential neighborhoods.
- Use quieter equipment with enclosed engines or high-performance mufflers.
- Locate stationary construction equipment as far as possible from noise-sensitive sites.
- Operate earth-moving equipment as far away from sensitive sites as possible.
- Avoid impact pile-driving if possible.
- Avoid vibratory rollers and packers near sensitive areas.

4.16.2 Utilities

The utilities in the proposed transit corridor include electric, natural gas, telephone, water, sewer, cable, and stormwater drainage. Although utility service would be maintained throughout most construction activities, utility service could be temporarily disrupted during construction. The affected utilities could include electric, natural gas, telephone, water, sewer, cable, and stormwater drainage. Constructing the Action Alternative could cause short-term impacts to utilities as the construction contractor temporarily takes utilities out of service, relocates utilities, and makes general improvements. Residents and businesses would be informed at least 2 weeks before any planned utility disruptions.

Mitigation Measures. The construction contractor will be required to coordinate with Ogden City public utilities, Weber State University, or other utility companies to plan work activities so that any utility disruptions to a business occur when the business is closed or during off-peak times.

4.16.3 Air Quality

Constructing the Action Alternative would cause local and temporary air quality impacts. Typically, construction activities associated with roadway projects temporarily generate particulate matter (mostly dust), odors, and small amounts of other pollutants. Particulate emissions vary from day to day, depending on the level of activity, specific operations, and weather conditions. Thus, the quantity of particulate emissions during construction would be proportional to the area of the construction operations and the level of activity. Fugitive dust from construction activities would be noticeable near construction sites if it's uncontrolled. Emissions during construction would be temporary, limited to the immediate area surrounding the construction site, and would contribute only a small amount to the total air pollutant emissions in the project study area.

Mitigation Measures. A fugitive-dust-control plan will be submitted by the construction contractor to the Utah Division of Air Quality as required by Utah Administrative Code Rule R307-309 to minimize fugitive dust associated with construction of the Action Alternative. Additional mitigation measures to control dispersion of dust, transmission of particulate matter and emissions of CO and nitrogen oxides during construction are described in the *Air Quality Technical Report* in Appendix B7.

For more information, see the *Air Quality Technical Report* in Appendix B7.

4.16.4 Traffic and Accessibility

Construction activities can disrupt vehicle and pedestrian access at different locations and times throughout project construction. Temporary detours could affect locations as construction occurs along the proposed transit corridor, but no single location is expected to be disturbed for the entire duration of construction.

Construction could involve temporary lane closures or detours in the vicinity of the project. However, auto access to public services, facilities, and businesses would be maintained during normal business hours to the extent possible. Similarly, pedestrian access to Weber State University buildings and services and local businesses affected by construction would be maintained by providing safe pathways.

Turning movements would likely be restricted in areas of construction. Construction could require closing streets and intersections, but these measures would be temporary and of limited duration. Existing bus service is provided by route 603 along the full length of the proposed transit corridor (with the exception of the new busway through the Weber State University campus). Construction activities could require closing bus stops. Temporary bus stops would be located nearby during the active construction period. Construction could affect the speed and reliability of the existing bus service. These impacts would be temporary and of limited duration. Pedestrian access, including temporary wheelchair accessible ramps and temporary sidewalks where needed, would be maintained during construction.

Mitigation Measures. To inform the public about construction, UTA will conduct public outreach in areas of construction, including on the Weber State University campus, that will advise residents, business owners, and others about the details of the project phasing and schedule. These efforts will enable businesses to better understand and prepare for the construction activities and access changes that could affect their operations. Similar outreach efforts will be coordinated with Weber State University for the benefit of students, faculty, and staff when construction occurs on campus.

Construction activity schedules will be publicly available and posted on a project status website maintained by UTA. Weber State University, other community facilities, and businesses will be provided signs indicating points of access, parking areas as appropriate, and hours of operation.

All construction specifications, traffic-control plans, and mitigation measures must be approved by Ogden City, UDOT, and/or Weber State University before construction begins. During construction, the contractor will be required to provide vehicle and pedestrian access along the proposed transit corridor subject to the approval of UTA, Ogden City, and Weber State University. Special provisions will be included in the contract documents for the project that establish the requirements that the contractor will be held to throughout construction. Some of those provisions include traffic control, access, notifications, construction hours, and public outreach.

UTA will make efforts to minimize the inconvenience to residents, business owners, and University students, faculty and staff. During construction, the contractor will be required at all times to provide access through the construction zone for police, fire, and other emergency vehicles as necessary to reach their destination with a minimum of delay. When road or lane

closures are required during construction, the contractor will coordinate with Ogden City's engineering division and with UDOT in order to maintain reasonable and safe traffic operations on affected roads.

Barricading and flaggers will be used when appropriate. Private business parking areas and driveways won't be used for equipment maneuvering or parking unless negotiated with the property owner. Construction specifications will include provisions for a maximum number of lanes blocked during peak traffic hours, maintenance and removal of traffic-control devices, efficient traffic rerouting measures, and scheduling of construction activities within roadway rights-of-way for times other than during peak traffic periods.

4.16.5 Water Quality

The Action Alternative would require acquisition of about 1 acre of right-of-way to construct the bus-only travel lanes on Harrison Boulevard from 31st Street to the Weber State University campus. About 5.6 additional acres would be required from the campus itself.

Mitigation Measures. Because the amount of disturbance would exceed 1 acre, UTA would need to demonstrate compliance with the State's general permit for stormwater construction discharges. To comply with this requirement, UTA or its contractor would prepare a SWPPP and file a Notice of Intent with the Utah Division of Water Quality to obtain a construction stormwater permit. Construction activities such as ground clearing, excavation, grading, and soil stockpiling could stimulate soil erosion that could increase turbidity (suspended sediment) downstream. The SWPPP will describe erosion-control BMPs to minimize impacts to surface water during the construction of the Action Alternative.

Construction activity would also require the use of potentially hazardous materials such as diesel fuel. BMPs that address the proper handling and storage of these types of materials would reduce water quality–related risk associated with accidental spills at the construction site.

4.16.6 Visual Quality and Aesthetics

The short-term, construction-related impacts to visual and aesthetic resources would include construction vehicle activity and accompanying staging areas, stockpiling of excavated material, traffic congestion, and construction-related dust. Temporary clutter could appear in some views because of the presence of construction activities, equipment, stored materials, and the general disruption of landscaping with fences, equipment, vehicles, and lights.

Construction impacts would occur mainly along Harrison Boulevard south of 31st Street where the bus-only lanes would be constructed, along the new busway alignment through the Weber State University campus, and at station locations. However, because the Action Alternative would be completed in phases, only specific segments would experience construction-related impacts at any given time.

During construction on the Weber State University portion of the Action Alternative alignment, the work zone would be cleared of vegetation. The exposed bare ground would likely contrast visually with the built and landscaped environment that the viewer is accustomed to seeing. Visual quality from sensitive viewer locations (such as residences and

university buildings) would be temporarily reduced during construction and would include the presence of construction equipment and staging and storage areas. Until the construction is completed and the disturbed areas are revegetated or become part of the proposed Action Alternative right-of-way or station location, the construction areas would stand out.

In addition, potential temporary effects such as detours, traffic-control devices, or lane shifts would require greater driver attention and could distract motorists from views outside the construction area.

Mitigation Measures. The contractor will prepare and implement an appropriate landscaping plan to enhance aesthetics. The contractor will keep the storage area for equipment, materials, and other accessories clean and orderly. The contractor will promptly remove unused or unnecessary traffic-control equipment.

4.16.7 Communities and Neighborhoods

Construction would create minor inconveniences because of travel delays, changes in business access, possible parking reductions, and traffic rerouting. Some travelers might choose alternate routes to avoid construction activity. These detours and delays would be brief and localized; they wouldn't affect social interaction or the economic vitality in local neighborhoods or the project study area.

Mitigation Measures. UTA, in coordination with UDOT and Ogden City, will prepare and implement a traffic-management plan. If local streets must be temporarily closed during construction, detour routes will be provided and clearly marked with signs. UTA will coordinate with the schools and emergency service organizations along the proposed transit corridor before construction. Access to McKay-Dee Hospital will be maintained during construction. UTA would likely use social media to update the public about construction activities.

UTA will coordinate with utility providers prior to construction to identify conflicts and resolve the conflicts before or during construction. UTA will maintain access to businesses throughout the construction period.

4.17 Would there be cumulative effects from the Action Alternative and other actions?

The purpose of a cumulative effects analysis is to determine whether the proposed action, when combined with other foreseeable actions, would result in significant degradation of a resource, loss of biological diversity, or significant social or economic effects that wouldn't result from the proposed action by itself. Cumulative effects can be positive as well as negative depending on the environmental resource being evaluated.

What are cumulative effects?

Cumulative effects are defined as "the impact on the environment which results from the incremental impact of the [proposed] action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such actions."

Cumulative effects are assessed on a local level and need to be analyzed in terms of each specific resource affected. The analysis must focus on affected resources that are truly meaningful. For this cumulative effects analysis, the effects of concern are:

- Land use and economic effects
- Effects on historic properties

Traffic effects are discussed in Section 4.4 and aren't repeated here.

The timeframe for this cumulative effects analysis extends from the recent past (about 2000) to the foreseeable future (about 2040).

Other Actions in the Project Study Area. Ogden has been working on remaking itself. The initial effort to rebuild Ogden centered on outdoor recreation after the city was a host site during the 2002 Winter Olympics. Redevelopment projects such as the Business Depot Ogden, located just north of the proposed transit corridor on 12th Street, transformed a closed military facility into a successful business and industrial park. Additional retail, commercial, and residential development, primarily on the western end of the proposed transit corridor in and around the downtown Ogden area and along 25th Street, has been occurring over the last 16 years. Since 2004, Weber State University has been working on a campus Master Plan that includes increased density and building development on campus. New buildings will be placed by locating them on current vacant sites or by replacing buildings slated for demolition. In addition, the University has identified a pedestrian network as a priority in its Master Plan in an effort to make the campus more pedestrian-oriented. As part of this plan, a multimodal trail would run adjacent to the proposed transit corridor at some campus locations.

Land Use and Economic Effects. A study prepared by researchers at the University of Utah (Nelson and Ganning 2015) found that BRT lines can shape real estate and attract jobs if the BRT systems are designed and operated at a high standard. In addition to having high frequencies, BRT routes that affect development have features such as dedicated lanes, near-level boarding, off-board fare collection, and signal priority for buses at intersections. Because of its fixed and enhanced elements, the Action Alternative would likely accelerate planned development and redevelopment in the project study area and could encourage developers to look more closely at the potential for projects in the proposed transit corridor.

The Action Alternative would have the overall general socioeconomic benefit of improving the local and regional transportation system. This benefit, when combined with the positive socioeconomic effects of other planned development and redevelopment projects, along with the positive mobility and circulation benefit provided by the future multimodal trail through the Weber State University campus, would mean a considerable improvement in local mobility, pedestrian circulation, convenience, and access.

For development and redevelopment to occur, demand for developable property, supplies of developable property, and institutional requirements must be compatible and must be present at the same time and place. Recent development in Ogden, primarily in the East Central part of the city, has demonstrated that this is the case. In anticipation of some type of upgraded and enhanced transit service (based on over 10 years' worth of study and discussion), redevelopment is already occurring.

The Action Alternative could influence the location, intensity, and nature of redevelopment near the proposed transit stations. However, based on the future land uses projected in local land-use and transportation master plans and redevelopment plans, some level of development would occur with or without the Action Alternative.

Two additional expected positive cumulative effects are an improved tax base and economic development. UTA also expects the Action Alternative to have positive effects on commercial and residential development near transit stations. In addition, it would contribute economic benefits by encouraging and supporting higher-density residential, commercial, and institutional land uses around the proposed transit stations.

Effects on Historic Properties. FTA determined that 223 historic buildings and three archaeological sites in the APE are eligible for the National Register of Historic Places (NRHP). Additionally, four NRHP-listed historic districts are intersected by the APE and also qualify as historic properties. FTA determined that the Action Alternative would result in **no adverse effect** to 21 individual historic properties and one archeological site, and **no adverse effect** to four historic districts including the Crossroads of the West, Ogden Central Bench, Jefferson Avenue, and Eccles Avenue historic districts. In addition, FTA has determined that the Action Alterative would result in an **adverse effect** to a historic property located at 1341 Country Hills Drive.

In a separate project, Weber State University has prepared a Master Plan to guide its campus development. The plan includes acquiring historic homes, some of which are privately owned, and demolishing or renovating those buildings over the next 5 to 10 years. The University has been actively purchasing homes from willing sellers in the neighborhood around 4225 South and Country Hills Drive with the intent to connect the north and south campuses. The University eventually intends to demolish the buildings it owns in this neighborhood to facilitate the campus Master Plan. The University and the Utah SHPO have a MOA per Utah Code Annotated 9-8-404(1)(a) that requires the University to take into account the effect of its undertakings on historic properties. Per the MOA, both parties agree that (1) implementation of the University's Master Plan could result in adverse effects to up to 14 eligible buildings and (2) when the University proceeds with demolishing or renovating any of the eligible properties, it will implement mitigation measures to resolve adverse effects per the stipulations in the MOA.

The land once occupied by these buildings would be redeveloped by the University for campus uses, including a multimodal transportation corridor for buses, bicycles, and pedestrians. Acquiring and demolishing properties would occur over a period of years as willing sellers are identified. Under the Master Plan, university funds would be used to purchase the properties in question as well as to demolish or otherwise redevelop the buildings.

For the Master Plan and the MOA, the University defined an APE that encompasses all properties that the University envisions acquiring as well as adjacent properties that could be indirectly affected by visual intrusion from redeveloping the acquired properties. At least a portion of this APE overlaps with the APE for the Action Alternative. For this reason, both undertakings will report several of the same cultural resource sites.

Weber State University anticipates demolishing existing buildings on all properties that it acquires (that is, all properties within the direct effects portion of the APE). Based on the MOA developed between the University and the Utah SHPO, demolishing buildings would result in an **adverse effect** to 14 historic properties, seven of which are the same properties that would be affected by the Action Alternative. However, because Weber State University currently owns five of the seven properties that would be affected by the Action Alternative with the intent to demolish them in support of the campus Master Plan, FTA has assumed that the five historic buildings would no longer be present when construction activities related to the proposed transit project begin.

The mitigation as required in the MOA for the anticipated demolition of all 14 historic buildings has been completed by the University and approved by the Utah SHPO. The other two buildings that are included in the MOA between the University and the Utah SHPO and that would be affected by the Action Alternative were included in the paragraphs above describing the effects on NRHP-eligible properties from the Action Alternative.

Mitigation measures for the adverse effect to 1341 Country Hills Drive have been completed by Weber State University. While the University does not currently own 1341 Country Hills Drive, the property was included in the MOA between the University and the SHPO regarding the demolition of a number of historic buildings in support of the Weber State University Master Plan. The mitigation obligations specified in the MOA between the University and the SHPO required an Intensive-Level Survey (ILS) for the Halverson Subdivision which includes an ILS for 1341 Country Hills Drive (Certus Environmental Solutions 2017). Weber State University submitted the required ILS to the SHPO in March 2017. In addition, Weber State University submitted a report to the SHPO regarding the neighborhood history for the area including the Halverson, Naisbitt, and College Heights subdivisions as also required under the MOA between the University and the SHPO.

In July 2018, the SHPO acknowledged that the mitigation commitments stipulated in the MOA between Weber State University and the SHPO had been fulfilled (Hansen 2018). Since the mitigation measures completed by Weber State University are the same mitigation measures that FTA would propose to complete, the SHPO agreed that the mitigation for the adverse effect to 1341 Country Hills Drive was therefore complete.

Because of the documentation already submitted by Weber State University associated with this property, FTA has determined, and the SHPO has concurred (on October 22, 2018), that

mitigation measures for the adverse effect to 1341 Country Hills Drive from the Action Alternative have been completed.

The completed mitigation measures identified in the MOA between Weber State University and the Utah SHPO, have reduced impacts to historic properties as a result of the implementation of the University's Master Plan and from future construction of the Action Alternative. Although UTA anticipates that other cumulative projects would similarly be required to comply with all applicable existing regulations, procedures, and policies that are intended to address historic property impacts, the potential impact to future unknown historic properties due to development coupled with the impacts to historic properties due to implementation of the Weber State University Master Plan and the Action Alternative could contribute to a cumulative impact on such resources.

However, the cumulative effects aren't anticipated by the project team to be substantial, because remaining properties in the neighborhood and the surrounding neighborhoods along the east bench of Ogden have many similar historic properties. With the protections provided by the Section 106 process for federal actions, it's reasonable to assume that the loss of properties in this neighborhood would be rather insignificant given that the properties are eligible for the NRHP because of their age and not because of any special architectural features or important historic events and given that the surrounding neighborhoods have better examples of mid-century architectural properties.

4.18 How would the Action Alternative affect Section 4(f) resources?

The Action Alternative would have a Section 4(f) ***de minimis* use** of 22 properties (21 NRHP-eligible historic buildings and one archaeological resource, site 42WB000373) and four historic districts—the Crossroads of the West, Ogden Central Bench, Jefferson Avenue, and Eccles Avenue Historic Districts—due to a finding of **no adverse effect** under Section 106. In addition, one NRHP-eligible historic building would have a full Section 4(f) **use** due to a finding of **adverse effect** under Section 106.

What is Section 4(f)?

Section 4(f) is a regulation that requires federal agencies to take into account the effects of their undertakings on historic properties. For more information, see the *Section 4(f) Evaluation* in Appendix B14.

FTA and UTA will provide information to the public regarding the Section 4(f) ***de minimis* use** of 22 properties and four historic districts and Section 4(f) **use** of one property during the EA public comment period.

After taking into account the ability to mitigate impacts, the severity of the remaining harm, the significance of the resources, and the views of the officials with jurisdiction over the resources, FTA has concluded that there are no prudent or feasible avoidance alternatives to the Action Alternative and, therefore, in accordance with 23 CFR 774.3(a), the Action Alternative would cause the least overall harm to Section 4(f) properties.

For more information, see the *Section 4(f) Evaluation* in Appendix B14.

5.0 What coordination and public involvement have been conducted for the Ogden/Weber State University Transit Project?

Public and agency involvement is critical to the success of any project that could affect the surrounding community. The planning for the Ogden/Weber State University Transit Project involved extensive coordination and consultation with the affected community and Ogden City. The project team proactively shared project information with and sought comments from the public, resource agencies, and stakeholders throughout the project process. The planning process for the Ogden/Weber State University Transit Project was structured and implemented to ensure that all relevant factors were considered, especially including the affected community's and stakeholders' concerns and issues related to engineering solutions, transportation impacts, social impacts, economic effects, and financing.

The public and agency involvement for this Ogden/Weber State University Transit Project EA picks up where the AA update process left off. This section summarizes the public coordination that took place for the AA process, then summarizes the consultation and coordination activities that were undertaken specifically for this EA.

5.1 What previous coordination was conducted for the Ogden/Weber State University Transit Project?

UTA and the project partners conducted a 2-year planning effort as part of the AA process to arrive at the selection of a Preferred Alternative (the Action Alternative). Further details regarding the AA process are provided in Section 1.5. The AA process included an extensive public outreach program with four public open houses, numerous small-group meetings, and a number of other stakeholder and agency outreach efforts.

For more information, see Appendix A, Alternatives Analysis Update Report.

Public and Agency Coordination Conducted during the AA Planning Process

The AA planning process began in June 2014 with a public open house sponsored by UTA and Ogden City. This meeting allowed the public to comment on the project goals and objectives, the purpose of and need for the project, and the proposed alternatives. The planning for the AA update involved extensive coordination and consultation with the affected community and agencies. The affected community included not only residents of the project study area but also property owners, individuals, businesses, groups, and others interested in the study area.

The public outreach process was structured and implemented to ensure that all relevant factors were considered, including the affected community's concerns and issues related to the project's purpose and need, alignment and engineering solutions, social impacts, environmental impacts, economic effects, financing, and other items of concern to the community. The goal of the public and agency involvement program and process was to have

an informed local community and government leadership to help make decisions regarding the selection and implementation of the LPA. The public and agency involvement process was open to ensure that interested parties had an opportunity to be involved in planning. Stakeholders had an opportunity to direct, review, and comment during the entire course of the AA update process.

Several methods for engagement were used to provide multiple avenues for receiving public guidance. Specific activities included meetings with key stakeholder groups, public open-house meetings, targeted engagement of the Latino/Latina community, door-to-door conversations with business owners and representatives, focus groups, a telephone survey, community and City Council presentations, and online questionnaires via "Open UTA" and other web and online engagement. A project website and Facebook account were actively maintained by UTA staff to disseminate news, information, and project materials to the wider public.

Technical Advisory and Policy Advisory Committees

A collaborative, multi-jurisdictional approach was used for the Ogden/Weber State University Transit Project, which allowed the project team to draw from the collective knowledge and expertise of staff members and elected officials representing the project partners. Meetings of these groups coincided with key decision points including developing project goals and objectives, developing evaluation criteria, initial corridor and technology screening, reviewing detailed alternatives, and selecting an LPA to be forwarded to the Ogden City Council for adoption.

The Technical Advisory Committee (TAC) consisted of staff representatives from all of the project partners: UTA, Ogden City, Weber County, WFRC, UDOT, Weber State University, and McKay-Dee Hospital. The TAC gave technical input to the project team, helped resolve technical issues in the committee members' respective fields, and provided its LPA selection to the Policy Advisory Committee (PAC) to further inform the LPA selection that was eventually advanced to the Ogden City Council for adoption.

Focus Groups and Telephone Survey

Focus groups were convened during the AA update process to assess the transportation needs within the target market and to gauge public perceptions of specific transportation modes. The target market for the Ogden/Weber State University Transit Project included a broad range of people in the project study area (Ogden) and in UTA's service area in northern Utah (Davis and Weber Counties). To accomplish the project objectives, participants were guided through a discussion that encompassed the topics and themes that included consumer habits and transit perceptions, the impact of public transit on local communities, and transit mode and alignment preferences.

Focus group participants recognized the economic importance of transit, believed that public transit allows access for individuals from outside a community, preferred the 25th Street route, and slightly preferred modern streetcar. The focus group findings were shared with the Technical Advisory and Policy Advisory Committees for the project to help inform the decision-making process. The focus group findings are summarized in Appendix B,

For more information, see Appendix A, Alternatives Analysis Update Report.

Ogden/Weber State University Transit Project Master Public Involvement Report, of the *Alternatives Analysis Update Report*. The *Alternatives Analysis Update Report* is provided as Appendix A of this EA.

A telephone survey of residents in Davis County and Salt Lake City was also conducted during the AA update process to capture additional input on travel behaviors and preferences for the project study area. Survey objectives included the desire to understand and confirm regional travel patterns, modes used, and purpose for travel; discover whether respondents use public transportation to get to work or school and, if so, identify the modes of transit respondents typically use; discover the likelihood of respondents increasing their ridership of public transit if public transit were improved; determine the perceived impact of public transit on economic growth within Ogden; and gather demographic information such as gender, age, education, annual household income, marital status, household size, and city of residence. The survey findings were shared with the TAC and PAC for the project to help inform the decision-making process. The survey findings are summarized in Appendix B, Ogden/Weber State University Transit Project Master Public Involvement Report, of the *Alternatives Analysis Update Report*. The *Alternatives Analysis Update Report* is provided as Appendix A of this EA.

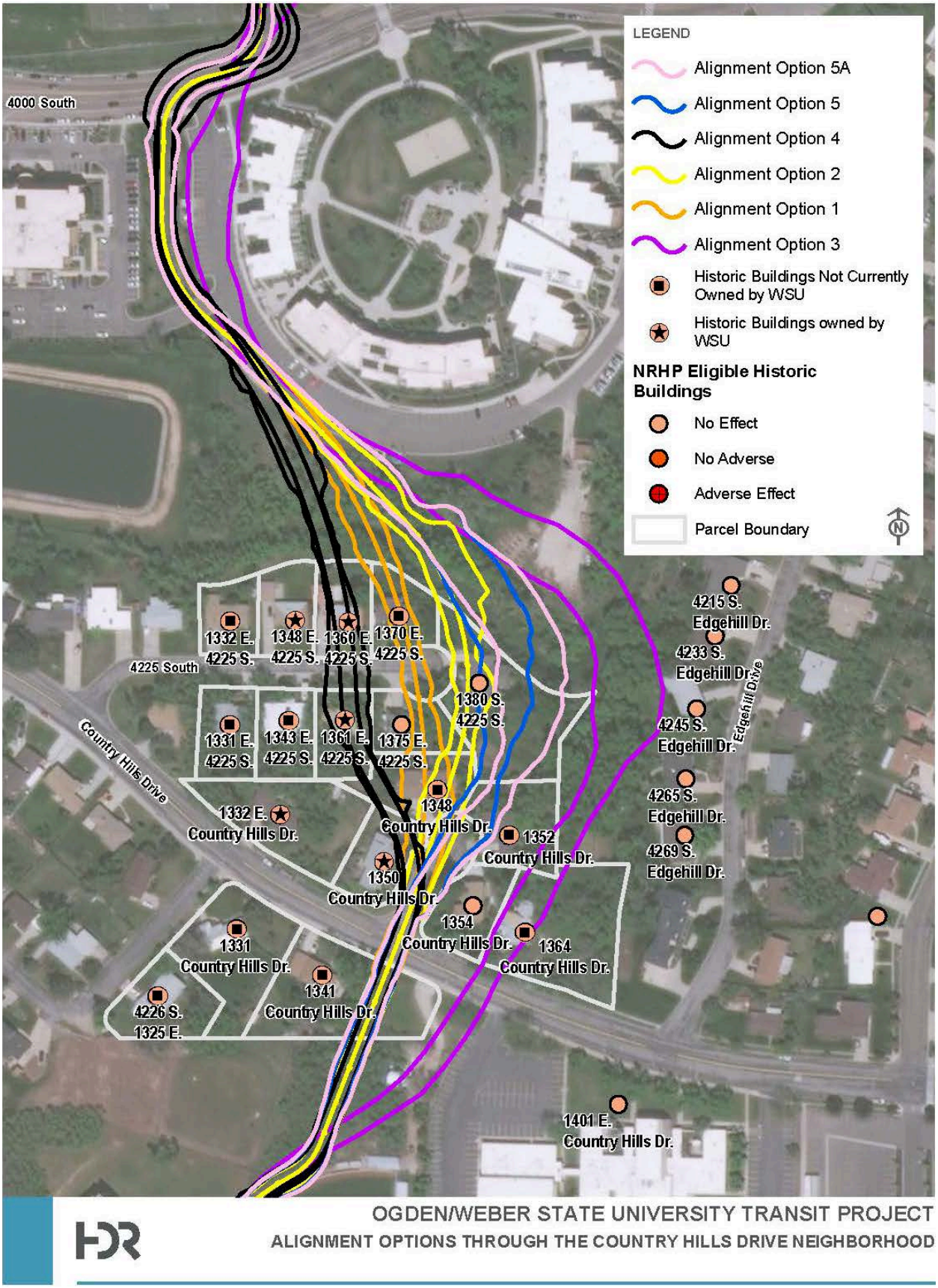
Community and Business Outreach

UTA conducted a comprehensive grass-roots community and business outreach program. Public participation was important to developing sound recommendations and selecting a transit alternative that will be supported by the community. UTA's commitment at the beginning of the AA update process was to proactively involve the public so decisions could be made that reflect the goals of those who live, work, and travel in the project study area.

Throughout the AA update process, the project team kept the public informed, incorporated their feedback, and helped the public to identify issues and develop solutions to improve transportation in the project study area. The community outreach gave the public an opportunity to provide input and collaborate on the processes of defining the project purpose and identifying the LPA. UTA relies on public comments to help identify issues as well as to gauge public sentiment about the proposed transit improvements.

In August 2016, UTA met with residents from the Country Hills neighborhood (the neighborhood that divides the Weber State University campus) to discuss Action Alternative alignment options. The meeting was organized by Senator Ann Millner, and about 10 residents attended. UTA presented Figure 30 to the attendees so that they could understand the level of detail UTA put into evaluating the best route through the neighborhood that also supported the University's Master Plan. Meeting attendees expressed concerns about the alignments that went farther to the east.

Figure 30. Alignment Options through the Country Hills Drive Neighborhood



Via Senator Millner, UTA followed up with the neighbors to inform them that the western alignment was the preferred option for several reasons including fewer impacts to the Country Hills neighborhood, fewer impacts to eligible historic properties, and the fact that the westernmost alignment better met the University's Master Plan goals.

Since the westernmost alignment was selected, the engineering design has been further refined to address steep slope issues. The refined design required adjusting the alignment through this area, though it's still in the same general area as the westernmost alignment that's shown above in Figure 30. The preliminary design for the Action Alternative, including through the Country Hills neighborhood, is included in Appendix D, Detailed Design Figures.

UTA held a follow-up meeting in November 2016 to discuss the western alignment. Four residents attended the meeting, and all were satisfied with the preferred alignment.

In addition, UTA visited all businesses door to door to make sure that no one was left out. UTA and the outreach team contacted all area chambers of commerce as well as other civic organizations to provide presentations about the project including the potential impacts from construction. Project partners were informed and invited to every outreach effort.

A total of about 576 comments were received during the 18-month project period. Comments regarding alignment alternatives were most prevalent, followed by statements of mode preference and the desire for transit improvements. In addition to the group meetings described above, additional outreach strategies included visiting with and educating individual business and property owners on project options and processes while recording their input on opinions and concerns.

Latino/Latina Community Outreach

Ogden has a history of rich cultural diversity. Ogden residents who are Hispanic or Latina/Latino are nearly 30% of Ogden's population. UTA and Ogden City proactively coordinated with Latinos United Promoting Education and Civic Engagement (LUPEC) in an effort to engage the Latina/Latino community in matters pertaining to the Ogden/Weber State University Transit Project.

A public open house was held specifically for Spanish-speaking residents. Outreach materials were provided in both English and Spanish, and Spanish speakers were available for translation at the meeting. Surveys were taken by Spanish-speaking students from Weber State University in order to better determine the needs and preferences for transit in the Latino/Latina community. An English/Spanish informative video was also created for the event. The meeting was well attended with over 100 participants.

Overall Public Outreach Conclusions from the AA Planning Process

Through the course of the public outreach process, about 576 individual public comments were received. Not everyone expressed a mode or alignment preference, but the vast majority of respondents supported transit improvements in general. More commenters supported the 25th Street route and slightly more commenters supported the streetcar mode, though public support didn't substantially favor one mode over another. Wherever the location and whatever the mode, the majority of people expressed support for a transit project in Ogden.

Overall, people felt that not only would transit improvements increase connectivity and mobility, but investing in premium transit service would also help economically revitalize Ogden and raise Ogden's profile as a major city along the Wasatch Front. For more information, see Appendix B, Ogden/Weber State University Transit Project Master Public Involvement Report, of the *Alternatives Analysis Update Report*. The *Alternatives Analysis Update Report* is provided as Appendix A of this EA.

For more information, see Appendix A, Alternatives Analysis Update Report.

LPA Selection Process and Stakeholder Engagement

The LPA decision was made by the Ogden City Council in consultation with representatives on the TAC and PAC and was presented to the public in a variety of forums and media. The LPA selection followed over 10 years of study to develop and evaluate transit improvements in central Ogden. Many of the TAC representatives acknowledged that there was good information in support of either alignment or mode but believed that the 25th Street route better fit with the City's current land-use and economic redevelopment initiatives and existing real estate and development market. The TAC representatives also believed that, even though the public supported streetcar slightly over BRT, BRT would be more affordable and fundable in the near term while still attracting riders and enhancing the existing route 603 bus.

In July 2015, UTA held a community meeting to give the public an opportunity to review the findings of the AA update and the recommended LPA and to ask the project team questions regarding the alternatives. On July 28, 2015, the Ogden City Council voted to adopt BRT on 25th Street as the LPA. Several of the Ogden City Council members acknowledged that the concept of a streetcar line was very appealing, but that Ogden City simply didn't have the funding to make up the difference in cost between BRT and a streetcar system. The City Council members acknowledged that it was a matter of moving forward with a project and taking steps to ensure that the project would have the most positive impact on the community as possible versus doing nothing, and the fact that an alternative on 25th Street was ultimately selected celebrates the history and vibrancy of the community.

Since the 2015 LPA selection, the concept of BRT has become even more appealing since bus technologies have been rapidly evolving and since other cities in Utah have begun to build their own BRT systems, such as in Provo, or have started to use electric bus technology, such as in Park City.

5.2 What coordination was conducted for this EA?

For more information, see Appendix C, Pertinent Correspondence and Agency Coordination.

During the EA phase of the Ogden/Weber State University Transit Project, UTA and the project partners continued to engage the community, elected officials, and other agencies in the project's development. Public outreach activities conducted during the EA phase included general outreach and community meetings for concept designs, agency coordination with agencies with jurisdiction over potentially affected resources (see Appendix C, Pertinent Correspondence and Agency Coordination), stakeholder and technical advisory meetings, elected official briefings, and an upcoming public open house. The information obtained through public and agency involvement has been incorporated into this EA.

Scoping

What is scoping?

Scoping is an early and open process for determining the scope of issues to be addressed and for identifying the significant issues related to a proposed action.

In November 2016, the start of the EA process, FTA sent scoping letters to all state and federal agencies and Native American tribes with a potential interest in the Ogden/Weber State University Transit Project. The scoping letter described the history of the project dating back to the public and agency scoping process that was initiated for the initial 2008 transit study described in Section 1.5. The scoping letter went on to describe the AA update process, the LPA selection process, elements of the LPA, and preliminary effects of the proposed transit improvements based on the findings of the AA update process.

For more information, see Appendix C3, Agency Scoping Letters.

None of the recipients of the scoping letter had any comments on the project. The list of scoping letter recipients and a sample letter are included in Appendix C3, Agency Scoping Letters.

Community and Business Outreach

UTA continued to conduct a comprehensive grassroots community and business outreach program during preparation of this EA. At a work session on June 12, 2018, UTA presented an update to the Ogden City Council on the status of the EA.

Website for the Ogden/Weber State University Transit Project

The Ogden/Weber State University Transit Project website, https://www.rideuta.com/About-UTA/Active-Projects/Ogden-BRT, is referenced on the UTA home page and allows the public to view current Ogden/Weber State University Transit Project information. The website provides all project-related materials and is updated periodically as new information becomes available. The site includes the following elements:

- Upcoming project events and recent news
- Overview of and background information about the project
- Documents in portable document format (PDF)
- Comment forms and contact information

Adoption of the Locally Preferred Alternative by the Wasatch Front Regional Council

UTA presented the LPA to WFRC as the Action Alternative to be carried forward for more detailed technical and environmental analysis in this EA. In 2017, WFRC adopted the Action Alternative as the LPA and included the LPA as a Phase 1 project in its latest RTP.

6.0 How can I review the EA?

This EA, in addition to a Spanish translation of the executive summary, is available on UTA's website at https://www.rideuta.com/About-UTA/Active-Projects/Ogden-BRT. This EA and a Spanish translation of the executive summary are also available for review at the following locations:

- https://www.rideuta.com/About-UTA/Active-Projects/Ogden-BRT
- UTA FrontLine Headquarters – 669 West 200 South, Salt Lake City, Utah
- UTA Ogden Intermodal Transit Center – 2393 Wall Avenue, Ogden, Utah
- Ogden City Offices – 2549 Washington Boulevard, Ogden, Utah
- Weber County Main Library – 2464 Jefferson Avenue, Ogden, Utah
- Weber State University Stewart Library – 3921 Central Campus Drive, Ogden, Utah

This EA is available for public review and comment from December 9, 2018, to January 20, 2019. Written comments on this EA must be postmarked or electronically submitted to UTA by midnight January 20, 2019, to be considered as part of the official public comment period. Comments can be submitted in the following ways:

- By email to hearingofficer@rideuta.com
- Online at https://www.rideuta.com
- At the public open house (for more information, see Section 7.0)
- By postal mail to the following address:

  Ogden/Weber State University Transit Project
  Attn: Hal Johnson
  Utah Transit Authority
  669 West 200 South
  Salt Lake City, UT 84101

7.0 What are the next steps?

A public open house is scheduled for the following date, time, and location:

Wednesday, January 9, 2019
Ogden High School
2828 Harrison Boulevard, Ogden, Utah
5:30 PM to 7:30 PM

In compliance with the ADA, individuals needing special accommodations (including auxiliary communication aids and services) during the public open house should notify UTA at least five 5 days in advance of the open house. Any individuals having questions relating to the EA or the public open house should contact the UTA's project manager, Hal Johnson, at (801) 237-1905.

To ensure full participation at the public open house, accommodations for effective communication, accommodations such as sign language interpreters or printed materials in alternate formats, or a language interpreter for non-English-speaking participants, must be requested at least 5 working days before the date of the scheduled event. Requests for ADA accommodations should be directed to UTA's ADA Compliance Officer at (801) 287-3536. Deaf or hearing-impaired individuals can dial 711 to make a relay call. A Spanish-speaking representative will be available at the public open house. To request an interpreter for another language, please contact UTA's Title VI Compliance Officer at (801) 741-8871.

Although this EA is subject to the final public comments received during the 6-week comment period and at the public open house, FTA expects to find that there would be no significant impacts from the Action Alternative and to issue a Finding of No Significant Impact (FONSI). The FONSI document would summarize the results of this EA and would reflect all applicable public and agency comments and responses. FTA and UTA would distribute the FONSI to federal, state, and local agencies. Copies of the FONSI would be made available upon request by the public.

UTA will conduct additional public outreach and stakeholder coordination during the final design and construction stages of the project.

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