

BRIGHAM CITY UTAH

LAEP CHARRETTE 2013



Utah State University
BRIGHAM CITY



Planning and Design Visioning Charrette

for

Brigham City, Utah



Utah State University
Department of Landscape Architecture and Environmental Planning
4005 Old Main Hill
Logan, UT 84322

March, 2012

Acknowledgements

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This project was produced by the

**Utah State University
Department of Landscape Architecture and Environmental Planning
4005 Old Main Hill
Logan, UT 84322**

March, 2012

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Introduction

A visioning charrette can be defined as an effort to develop alternative planning and design suggestions for a discrete entity during a limited period of time. The term *charrette* means cart in French, and its application in this context derives from the practice of collecting design projects created by students at the French Ecole Nationale des Beaux Arts at the end of semester, when a small cart was pushed around to student work stations to gather completed work. The term has generalized to refer to the intense burst of creative activity compressed into the final hours of project finalization.

The Department of Landscape Architecture and Environmental Planning has conducted an annual visioning charrette for communities throughout the State of Utah since 2003. Brigham City was selected as the focus of this effort, the eleventh consecutive such study to be undertaken. Fifteen diverse issues were identified to serve as focus topics for the student effort, ranging from suggestions for the Brigham City I-15 “gateways”, to detail designs for a community conference center known as Academy Square in the city center. Other topics included plans for the new USU BC campus and its interface with the adjacent community, plans for a new Frontrunner station and associated transit-oriented development, an assessment of opportunities for expansion of the annual Peach Days celebration, and an examination of future urban growth and annexation.

Student involvement began in fall, 2012, when the LAEP Site Analysis class conducted preliminary site assessments and collected base materials for later use. Senior students served as team captains for the project, developing individual team programs early Spring Semester, researching their specific topics, developing base maps, and creating resource packets. Up-front work by the seniors also included a meeting with public officials and department heads at the Brigham City offices, followed by a stakeholders meeting at Box Elder High School.

The charrette itself occurred over a seven-day period between January 25 and February 1. Charrette teams were created using a vertical studio model, with each senior captain coordinating the efforts of 6 to 8 person teams, comprised of freshmen, sophomores, juniors and graduate students. In all, 110 students participated on the project, along with 13 faculty advisors. The products generated by team effort were edited, re-worked, and reformatted by senior captains into over sixty 24” x 36” posters, this report document, and a presentation of results given to the Brigham City Council and interested citizens on March 7, 2013.

The students and faculty of the USU LAEP Department would like to thank the numerous citizens who participated by generously sharing their time, ideas, hopes, and aspirations for their community. We hope that the visions for the future of Brigham City contained herein will serve as inspiration for the future growth and enhancement of this wonderful city.

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TEAM 1 - 1100 South / US 91 Gateway Corridor

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FACULTY LIASON- DAVE ANDERSON

1100 South Corridor and I-15 Interchange

Motorists traveling down Highway 91 have little idea of the treasures that are cached in this small town. Brigham City is rich in culture, history and natural resources. It is the Box Elder county seat and the home to the world's greatest migratory bird refuge. This community maintains its agricultural roots, supports commerce and recreational opportunities, and fosters education and growth.

The gateway to any community should be interesting and inviting. New and alternative design solutions were developed to enhance the 1100 South/Highway 91 corridor. The entry experience to Brigham City should

1. Create a community gateway
2. Promote economic development by attracting motorists into Brigham City at the Main Street intersection
3. Distinguish and identify Brigham City and its amenities
4. Appeal aesthetically

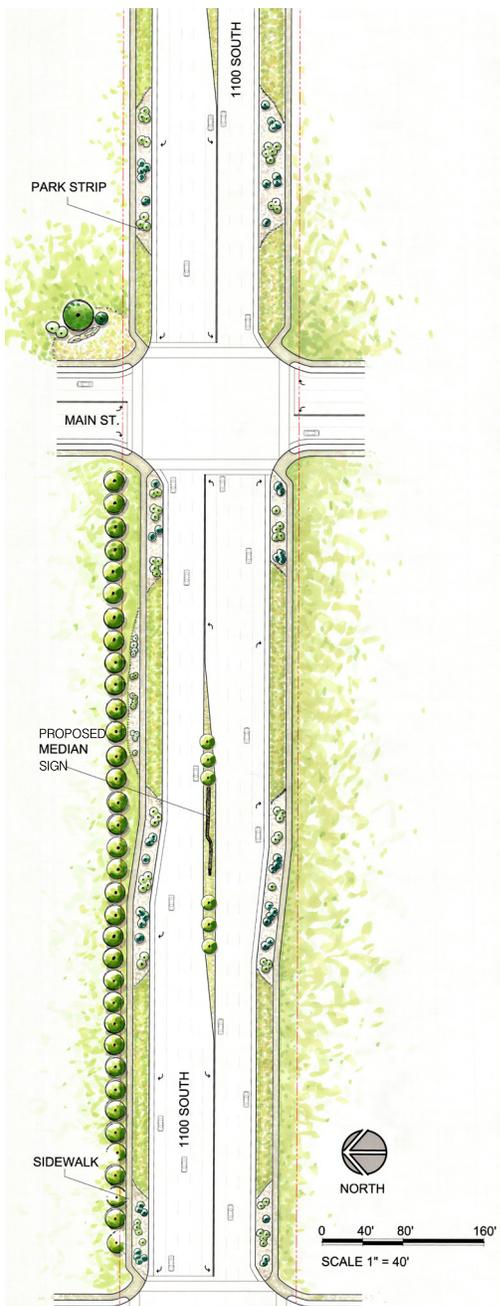
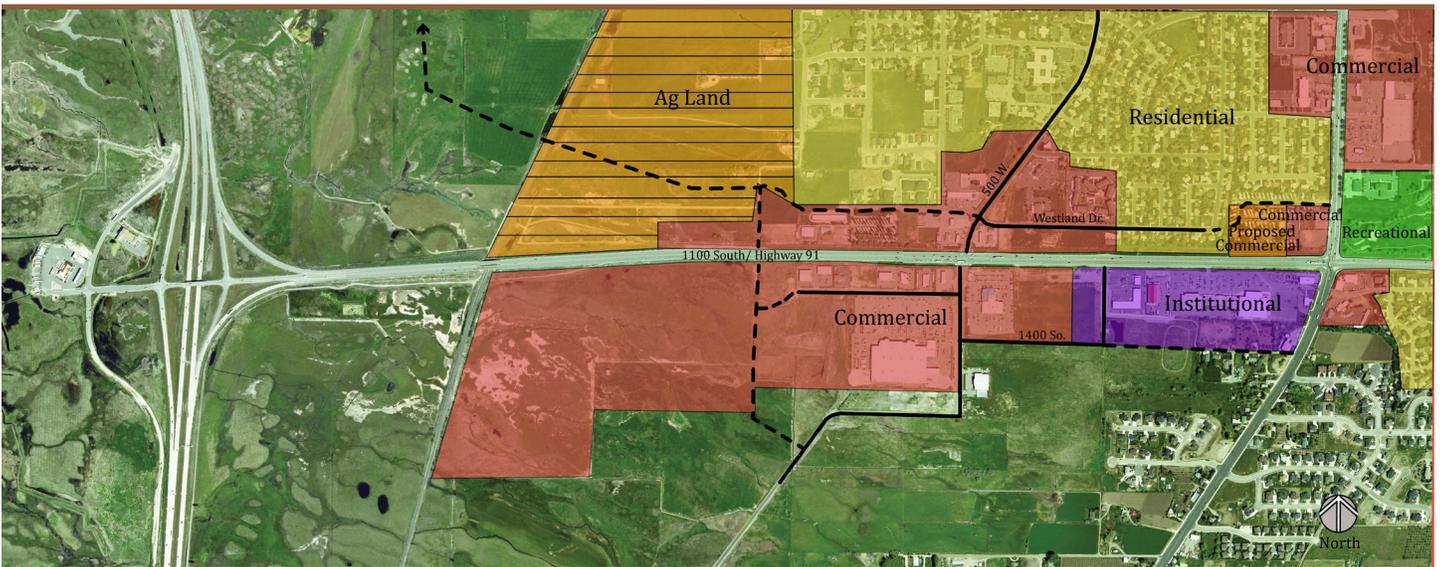
The Utah Department of Transportation owns and regulates much of the land use around I-15 and Highway 91. Because it is Utah's lifeline to Cache County it is vital that traffic continue flowing. The Brigham City General Plan states that economic development is "essential and desirable". This as an opportunity to increase the economic vitality of the community by presenting Brigham as the premier destination for recreational and cultural tourism in northern Utah.

Assumptions:



- Diverging Diamond Interchange at I-15 and 1100 South
 - UDOT will implement a Diverging Diamond Interchange (DDI) as early as 2015 to improve traffic flow and safety on Highway 91.

- Highway 91 Improvement
 - Expansion to 3 lanes in each direction with curb and gutter from the east point of the railroad crossing east to Main Street.
- Continuous Flow Intersection at 1100 West and Highway 91
 - New intersection design will provide access to future commercial development and connection to new sports facilities.
- Upland Square Development will be built on the south-west corner of the future intersection of 1100 West and Highway 91.
- Drainage ditch on 1100 South will be piped on the north side to allow for additional lanes on Highway 91.
- Frontage on Highway 91 in front of USU/BATC center will be acquired by the state allowing additional landscaping. Current access point to the parking lot of this campus will be removed.
- Access to the USU/BATC center will be routed to the 350 West intersection.
- Design standard document proposed in 2007 by Design Workshop will be used as guide for all development.



Corridor Zoning and Connectivity Recommendations:

- Rezoning is proposed for part of the 1100 South corridor to accommodate commercial development.
- A north frontage road is proposed for necessary vehicular connection running west to east beginning at 1100 West (unbuilt) and 1075 South, continuing through Westland Dr. until intersecting Main Street.
- A south frontage road is suggested beginning at 775 W continuing 1400 South eastward until intersecting Main Street.
- The property on the north-west corner of Highway 91 and Main Street should be acquired by one developer and zoned for commercial retail. Design should reflect standards suggested by Design Workshop and should maintain the “small-town feel”. The existing trailer park would be relocated.
- Main Street intersection and the 1100 South corridor should be developed following the same guidelines as proposed by Design Workshop in the 2007 design standards document.

Signage and Wayfinding Recommendations:

On the north-east corner of Highway 91 and Main Street, where the golf course is located, a new sign should be installed. The new sign will be 10' tall, made of Corten steel, saying "Welcome to Brigham City". Behind this sign a London Plane tree will be planted to coincide with those along Main Street. The design and materials of the sign will match that of a smaller sign placed in the median. Matching signs will create a cohesive gateway presentation. The existing sign could be placed in the nearby Constitution Park.



A planted median should be installed between intersections on Highway 91. This contributes to an aesthetically pleasing entry corridor to Brigham City. Designed to be attractive without distracting drivers, the median consists of a mixture of native grasses and decorative plantings. Breaks in the median will allow for left-turning autos helping to control entry points and providing better separation of traffic flow.

Uniform construction materials should be used throughout the gateway corridor to create visual uniformity and place identity. Black iron, reminiscent of that used on the Brigham City arch downtown, is recommended. The overpasses on the new interchange should incorporate this design element with black iron railings. Each intersection will continue this pattern by installing black iron "antique" traffic light posts.



Consolidation of highway and pedestrian signage along Highway 91 is *highly* recommended to facilitate easy way finding and reduce visual clutter.

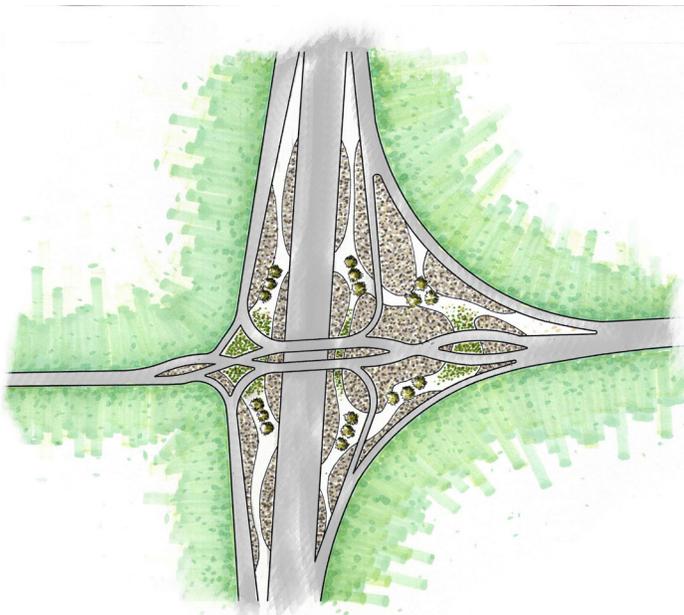


Section Elevation of 1100 South with Proposed Median

Diverging Diamond Interchange:

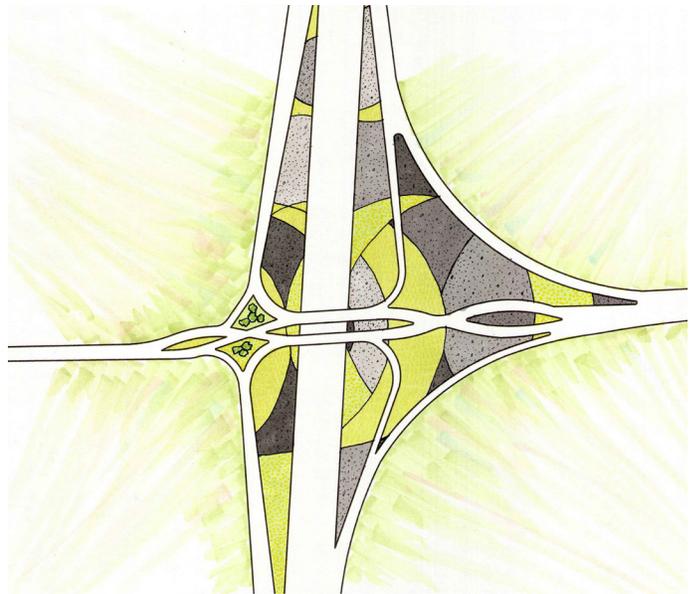
Currently Brigham City experiences a severe amount of vehicular backup during peak traffic hours along 1100 South. As the dominant highway corridor of the area, UDOT plans to construct a diverging diamond interchange at 1100 South and I-15 to resolve this congestion. This type of interchange eliminates the need for a left hand turning lane for entrance on to the interstate. With two bridges, traffic crosses to the opposite side of the interchange creating a lane unobstructed by stop lights or opposing traffic for merging on to the freeway. This interchange design decreases overall wait time while increasing the amount of vehicular traffic that can flow through the interchange.

Design A



This design introduces a less conventional outlook for interchange plantings. To reduce maintenance, plantings are kept to a minimum with decorative gravel as a dominant feature. Another prominent feature of the design is a mixture of native grasses. A variety of grasses and gravel colors allow the site to maintain visual interest, while minimizing the upkeep needed to preserve the visual appeal. The layout itself also provides a visually pleasing experience to motorists as they pass by.

Design B



This concept uses previous UDOT interchange designs from elsewhere in the state as precedents. Like Design A organic lines throughout the plantings connect the various areas by using similar materials, including gravel, hardy trees and drought tolerant grasses. In this plan decorative gravel covers most of the landscaped areas, reducing the overall need for maintenance. In areas with a sufficient setback from the road, clusters of trees provide height variance. Native grasses are concentrated around the road to connect the disjointed planting areas around the interchange.

Suggested Plant Materials:



- Uniform planting materials will be used throughout the I-15 interchange, median and shoulder. Hardy native grasses are recommended due to the harsh microclimates created and the salt distributed winter months.
- For street trees we recommend Spring Snow Crabapple, Chinese Elm and Common Hackberry.
- Native grasses may included Little Bluestem, Blue Oat Grass, Forester's Feather Reed Grass and Blue Fescue.
- Yarrow and Sedum are the suggested perennials for this area.

TEAM 2 - Forest Street Gateway Corridor

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FACULTY LIASON- BEN GEORGE

FOREST STREET CORRIDOR

Statement of Purpose

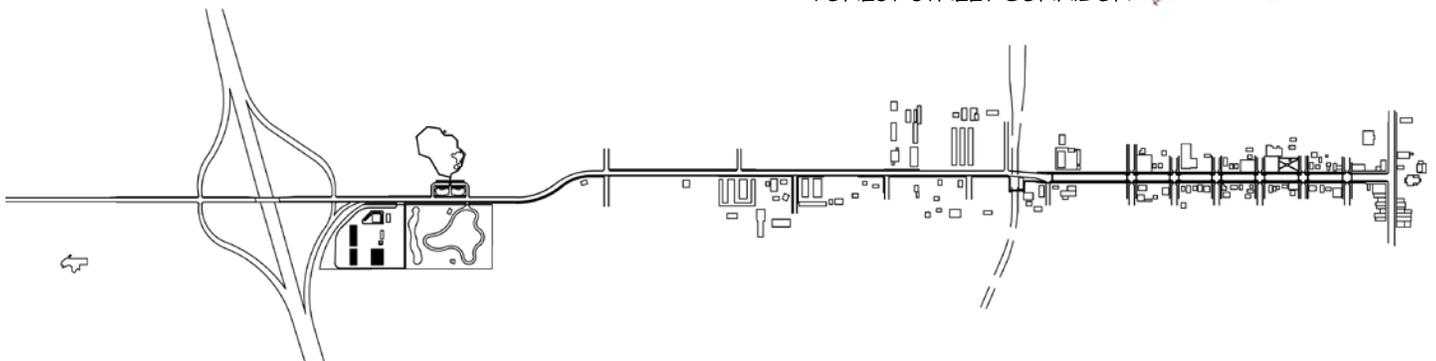
Forest Street is the historic entrance to downtown Brigham City and a critical circulation corridor. The cultural heritage and social value of the street are crucial to defining and maintaining the identity of the city. Forest Street is the city’s showcase during Peach Days, hosting the majority of the festival.

We believe that the present condition of Forest Street is incompatible with its context and future within Brigham City. In particular, we will focus on the circulation difficulties at the railroad crossing, the lack of visual continuity with downtown, the economic choices that must be made, and the corridor’s aesthetic shortcomings. Our approach to addressing these conflicts is to develop a plan that visually connects Forest Street to the historic center of town, encourages compatible uses along the corridor, improves recreational amenities, and beautifies the street. We aim to offer a vision for the future of Forest Street that will inspire residents and visitors alike.

Historic Downtown

The easternmost section of Forest Street is currently recognized as part of the historic downtown. Unfortunately, the experience and feel of downtown quickly dissipates as one moves west on Forest Street, away from Main Street, and is nearly gone past 200 West. This is partly due to a lack of continuity in form and aesthetic. *The visual cues that create the experience of downtown are not present for the majority of the Forest Street corridor.*

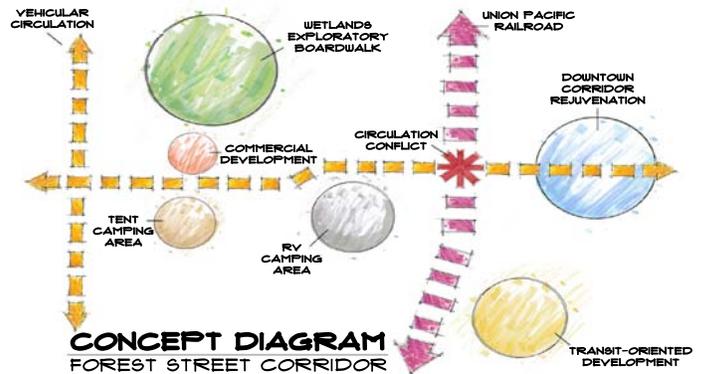
By inventorying and replicating the elements of downtown that collectively impart that specific ‘feel’ and sense of place that one experiences when strolling along Main Street, our proposal can extend this atmosphere along east Forest Street. Some of these design elements include historic light poles, vertical signage on building fronts, exposed, and native stone on building faces, the use of brick in facades and sidewalk pavement, parking lots that are not visible from the street, breezeways between buildings, and plantings that include trees similar to the famous Brigham City sycamores.



Peach Days

The annual Peach Days festival draws more people to Brigham City than any other event. It is the cultural highlight of the town’s calendar and its importance to the residents cannot be overstated. Currently, the majority of events occurring during Peach Days happens on or directly adjacent to Forest Street; the car show is held in Pioneer Park, the carnival is operated in the middle of the street, and vendors line the street offering food.

Our proposal recommends the continuation of the Peach Days, and accommodation of related functions. Our design takes the needs of Peach Days into account by maintaining Forest Street as a wide road that is capable of hosting the carnival and other events.



FOREST STREET CORRIDOR

Main Street – 800 West

The heart of Brigham City is Main Street, and, like any heart, it relies on the major veins and arteries flowing to and from it. Forest Street serves as a major corridor flowing directly into Main Street and the center of town, and thus is a vital facet of Brigham City's cultural, historic, and economic well-being. Historically, transportation to Brigham City was accomplished by train, and Forest Street provided visitors with their first glimpse of the town, along the wide thoroughfare leading directly to the courthouse. In recent decades, the increasing dominance of the automobile and of thru traffic to Cache Valley has shifted the city's focal point south. Nevertheless, Forest Street is an integral part of Brigham City and can, with forethought and planning, regain a portion of its lost glory while forging ahead and redefining itself in new ways as a vital recreational and cultural corridor. In order to reclaim Forest Street our design plan focuses on preserving and bolstering historical functions and aesthetics, creating more pedestrian and cyclist friendly circulation, and encouraging exploration and business development.

Circulation Concerns

Forest Street is currently dominated by automobile traffic and panders to the needs of motorists. Though wide sidewalks exist, they are underutilized and do not provide pedestrians with a buffer from vehicular traffic. Crosswalks are not visually prominent and do not offer a high degree of safety for those venturing across multiple lanes of traffic on foot. Cycling lanes are absent and current parking and speed conditions further discourage from using the street.

While not negating the necessity of automobile circulation, our proposal recommends several design solutions to address pedestrian and bicycle circulation on Forest Street. First, we propose that the planted park strips be moved away from the sidewalk to allow for a separate, buffered bicycle lane. The new bike lanes will connect with other proposed lanes throughout Brigham City including the paths on Watery Lane. The three lanes of traffic in each direction should be reduced to two, with a shared turning lane in between. Existing 45 degree parking stalls should be converted to parallel parking. Approaches to intersections should be constricted with bulb-outs, reducing traffic speed and allowing for safer, more visually prominent pedestrian crossings.



Pocket Parks

Along Forest Street there are several vacant street front lots that detract from the visual aesthetic and cultural possibilities of the corridor. These lots are located on the northeast corner of the 600 West intersection, the northwest corner of the 300 West intersection, and the southwest corner of the 200 West intersection. Our proposal recommends developing these vacant lots into pocket parks -small areas of predominately green space that offer opportunities for repose, activity, or gathering. These mini-parks encourage pedestrian exploration, extend the attractions of downtown further down Forest Street, and beautify the area. The inclusion of community garden space could increase the sense of ownership and connection for residents.



<http://www.openideo.com/open/localfood/concepting/vacant-lot-farmer-s-market-community-pocket-park-for-the-perfect-picnic>

FOREST STREET CORRIDOR

Train Tracks to 1200 West

Railroad Conflict

The current conflict between pedestrian/vehicular circulation and the railroad is untenable. Although the fiscal cost of moving the switching yard or bridging Forest Street over the railroad tracks is high, the potential costs of accepting the existing situation may be higher.

The unreliable nature of vehicle access across the tracks presents a serious safety concern, especially as it bisects the direct route between the Brigham City fire station and the Interstate. *Without dependable traffic flow, the city of Brigham cannot guarantee the response times of its emergency services.*

The lack of a safe and speedy crossing for pedestrians and cyclists limits access to the existing recreational and cultural opportunities west of the tracks, including the world-renowned bird refuge and wetlands.

Our proposal recommends the adoption of "Alternative 4" developed by Caldwell, Richards, Sorenson, which outlines a vehicular bypass of the railroad yard via a curved bridge, if moving the switching yard is not feasible. This concept offers the best long-term solution to the issue, while also allowing for a separation of vehicular and pedestrian traffic.

We highly recommend the installation of a skywalk for pedestrian and cyclist use. This could be installed prior to the extensive work needed to reroute vehicles over the tracks, allowing for enhanced safety and circulation in the short term.

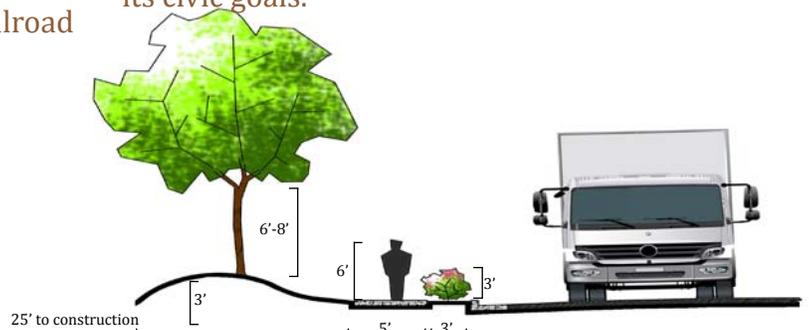


<http://www.dreamstime.com/stock-photo-pedestrian-rail-crossing-image261840>

800 West – 1200 West

This section of Forest Street acts as a transition area between the interstate and wetland environs to the west, and the historical downtown corridor and residential district to the east. As such, it is a vital connection point that has the potential to serve as an enticement for motorists on the interstate to venture further from the expressway and into downtown Brigham City, as well as to draw Brigham City residents beyond the traditional borders of the city's heart delineated by the railroad tracks.

The existing growth pattern, circulation, zoning, and design guidelines for this corridor have resulted in a streetscape that does not conform well to the stated goals of Brigham City: economic development, public safety, and enhancing the quality of life through the preservation of the town's culture and heritage. Our design plan addresses the serious issues facing this section of the corridor and offers the opportunity for Brigham City to achieve its civic goals.



FOREST STREET CORRIDOR

Aesthetic Improvements

The current limitations on street front property development along this section of Forest Street lack the necessary stringency for creating a visually appealing streetscape. The beauty of the Wellsville Mountains in the background is incongruent with the chain link fencing, drab industrial units, and parking lots that constitute the foreground. The result is a corridor that does not invite exploration or coincide with the desired appearance or function of the town.

In order to facilitate the goals of Brigham City, our proposal recommends aesthetic improvements to buffer the existing development and implementation of more visionary guidelines to guide construction in a new manner. Some primary aspects of the proposal are the use of vegetation to screen unwanted views, increasing the setback requirements for new buildings to allow for a more pedestrian friendly streetscape, and the moving of parking lots from the street front to the rear of buildings.



Using plants to screen buildings brings the built environment down to a more human scale, and softens the visual impact.

Zoning Concerns

According to the 2012 Brigham City General Plan, this section of Forest Street is zoned primarily as Office/Industrial. This will lead, over time, to an accrual of businesses along the road front that are consistent with the current character: storage units, waste disposal, and dilapidated auto yards. The visual aesthetics of these businesses are incompatible with a main artery leading to downtown Brigham City, and would be better located in less visually prominent locations. In the long run, these businesses will not contribute as much towards an economic and tax base for the city as thoughtful, planned development directed by smart zoning.



Our proposal recommends the adoption of mixed-use commercial zoning regulations for this section of Forest Street. By shifting the zoning regulations Brigham City will gain better control over the nature of the businesses that grow along Forest Street, and the result can be a neighbourhood that is pedestrian friendly, attractive to visitors and residents, and conducive to encouraging further exploration of Forest Street and Brigham City as a whole.

FOREST STREET CORRIDOR

Interstate 15 – 1200 West

Interstate 15 (I-15) is a major thoroughfare passing through Utah. Residents and visitors alike use this road as the primary means of transportation throughout the Wasatch Front and beyond. Downtown Brigham City is located only a few miles east of the interstate, yet most vehicular traffic bypasses the city. Although Brigham City boasts numerous attractions and amenities to entice motorists to visit the town, these opportunities are not clear from the interstate. In particular, the Forest Street exit does not currently offer visual appeal, commercial/retail options, or recreational possibilities. The world renowned Bear River Bird Refuge, a major tourist destination, offers no camping options to visitors, many of whom drive miles south to Willard to stay. Instead, this section is dominated by a dilapidated horse track that is bound up in legal restrictions. Forest Street offers a key opportunity for Brigham City to showcase its historical and recreational assets, create a greater tax base, and promote interstate motorists to visit the town. To achieve these goals this proposal offers a variety of possibilities for the horse track property, envisions commercial growth near the interchange, beautifies the area, and takes advantage of the surrounding wetland resources.

Interchange Beautification

The existing interchange between I-15 and Forest Street is functional but lacking in most considerations of aesthetics or wayfinding. Little information is available to passing vehicles to inform them that Forest Street provides direct access to downtown Brigham City or to differentiate the area from the surrounding landscape. While this area forms the first impression for many visitors to Brigham City, little has been done to shape that impression in a favorable light.

Our design proposal recommends the installation of a sign to inform motorists on I-15 that Forest Street provides the most direct access to downtown Brigham City. In addition, some general beautification of the area can be accomplished through plantings on either side of the highway and the ramps.



<http://santaclaritacitybriefs.com/tag/i-5-interstate-onoff-ramp/>

Commercial Opportunities

The northern side of this section of Forest Street is zoned as retail/office mixed use. Despite this, it currently hosts scrap yards, storage units, and corrugated tin structures of unknown use. This area is in clear view from the Interstate and could act to funnel visitors into Brigham City if it were more attractive and offered amenities that would appeal to travelers and tourists. The design proposal for this area repurposes it and moves towards a vision of an attractive retail/office park that would provide a suitable front door image for Brigham City.



<http://www.medialifemagazine.com/your-client-on-gas-station-television/>

FOREST STREET CORRIDOR Wetlands Exploratory Boardwalk

The property north of Forest Street and adjacent to the interstate is wetland. While nearby acreage has been acquired by the Bird Refuge, this site is unsuitable for annexation due to its location on the east side of the interstate. Nevertheless, this land offers unrealized opportunities for recreation and education.

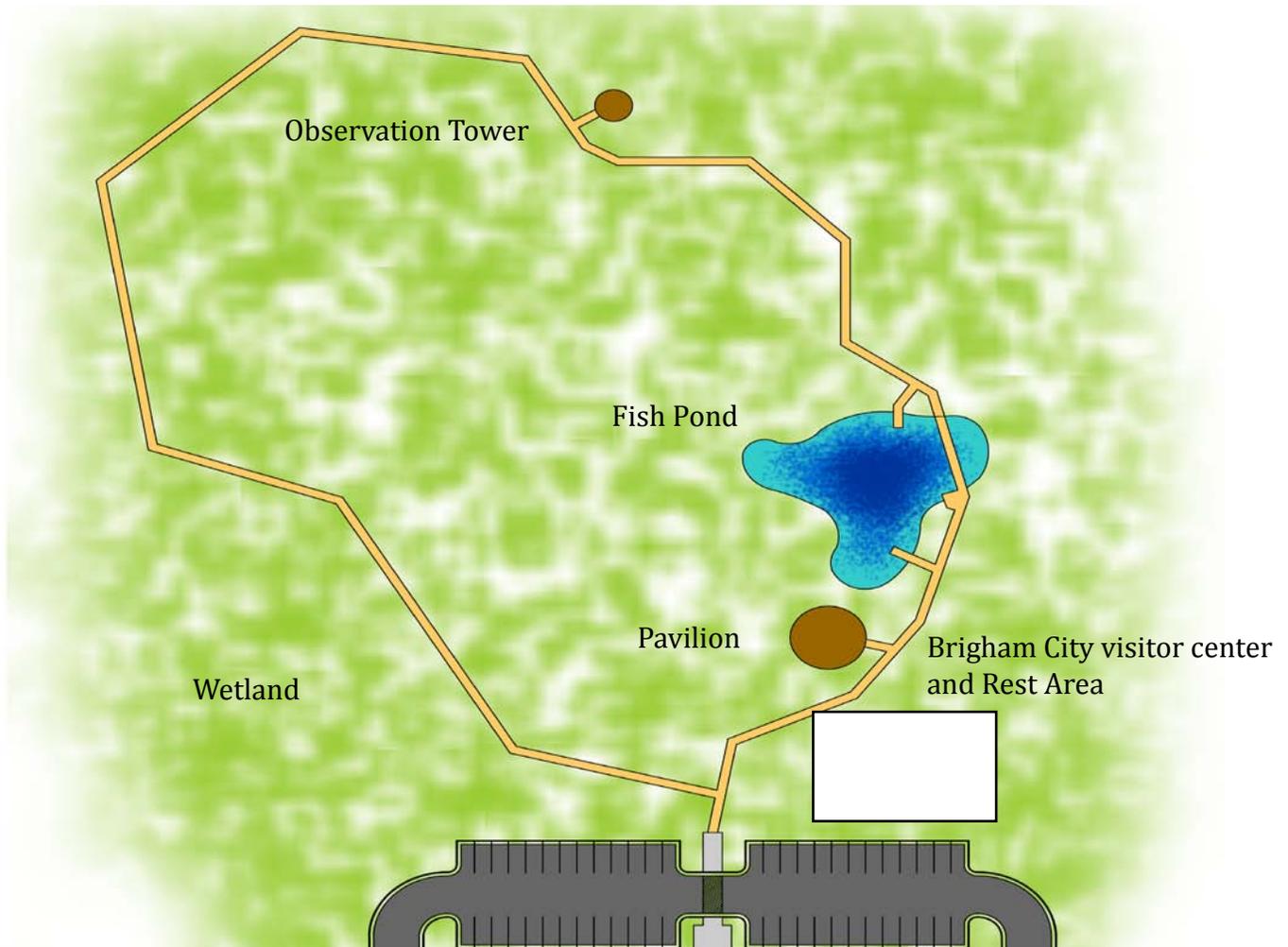
Our design proposal recommends that this site be acquired and dedicated as a rest area/Brigham City visitor center. A boardwalk could be constructed to take advantage of the recreational and educational opportunities provided by the wetlands. This boardwalk would provide access for the public to experience the vibrant wetlands, and, complete with interpretative signage, could offer an interactive experience. The addition of a fishing pond could attract anglers as well.



<http://www.fws.gov/upperouachita/tower.html>



<http://springcreekwetlands.wordpress.com/2008/10/>



FOREST STREET CORRIDOR

Development of horse track property

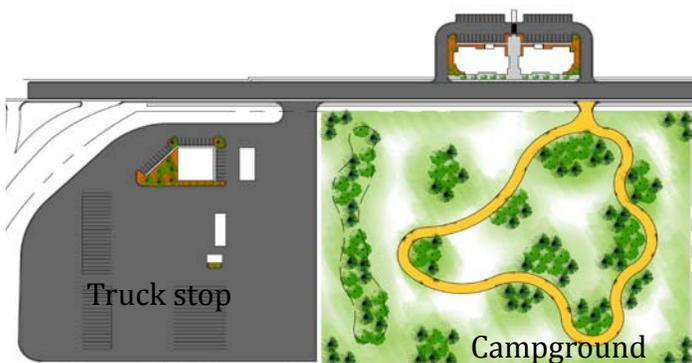
This property, which sits adjacent to the I-15 interchange, is constrained by its legal status. It is currently only available for use as a non-revenue producing recreation site. The land is valued at \$1.3 million. It is also currently under contract to the Loves Travel Stop and Country Stores, who intend to develop the land into a truck stop when and if the legal restrictions are resolved. Towards this end, there is the possibility of a land swap, but this option would most likely not result in the entire property losing its current status.

One of our design proposals (option 1) assumes that the contract with Loves will come to fruition through a land swap or other means. In this case, 13 of the 30 acres will be developed as a truck stop. We strongly recommend that stringent design restrictions be placed on the property, so that the travel stop must conform to stringent guidelines that protect the surrounding wetlands, reduce visibility of the property from Forest Street, and allow for compatible use of the remaining 17 acres as a recreational site.

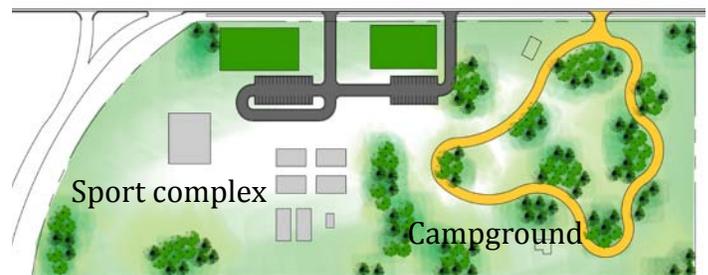
The recreational half presents an opportunity for providing a campground and related amenities, primarily to serve visitors to the bird refuge. The use of earth berms and planting buffers would be necessary to protect campers from views of and sounds generated by the interstate.

An alternative design proposal (option 2) assumes that the contract with Loves will not materialize and the land will remain with its current restrictions. In this case, our proposal recommends developing the land as a recreation destination. Camping, a nature walk, forest park, sporting courts, fields, and a skate park could all be supported on the available land, creating a unique sports complex that would benefit residents as well as accommodate visitors from out of town.

The adjacent property to the south could also be acquired and developed into a campground for tenting and RV camping. This scenario would offer needed overnight services to bird refuge visitors (and others), fulfil the legal requirements tied to the horse track property, and produce revenue through the campsite.



Horse Track Option 1



Horse Track Option 2



<http://skatepark-blog.com/tag/concrete-skatepark-design/page/2/>



<http://www.dtleisure.com/what-we-do/bmx-track-builders/>

TEAM 3 - Highway 13 Gateway Corridor

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HIGHWAY 13 CORRIDOR

GOALS

- To establish an identity for the Highway 13 corridor that ties into the rest of Brigham City while recognizing the unique land use issues of the northern end of the city. In doing so we hope to improving Brigham City’s branding & wayfinding, streetscapes & aesthetic quality, and create safe pedestrian & cyclist routes throughout the Highway 13 corridor.

OBJECTIVES

- Establish a new gateway into Brigham City from the I-15 for south bound travelers that will define Brigham City, orient visitors, and add visual quality to the corridor.
- Create a northern gateway that will safely merge travelers from Honeyville SR 38 & Hwy 13 into Brigham City’s famous Sycamore lined Main Street.
- Create a trail corridor that will connect these two gateways, soften the industrial image and create recreation opportunities along this corridor.
- Connect new trail corridors back to other city trails and integrate them with surrounding regional trails.



ANALYSIS WORK

1 WEST GATEWAY

Google Earth

Google Earth

Google Earth

2 EAST GATEWAY

Google Earth

Google Earth

Google Earth

3 TRAIL CORRIDORS

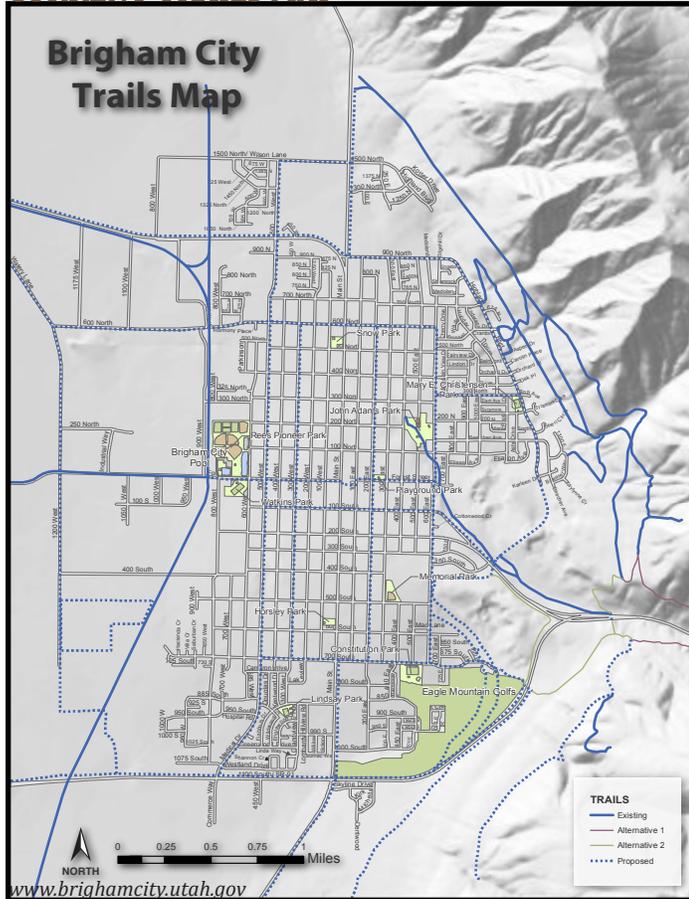
Google Earth

Google Earth

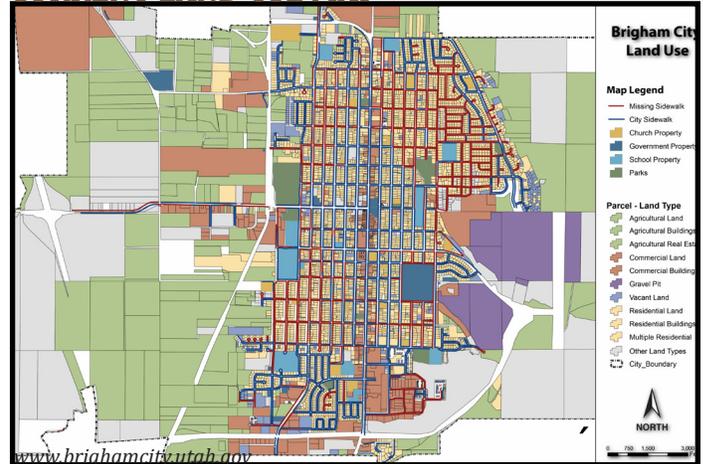
Google Earth

HIGHWAY 13 CORRIDOR

CURRENT TRAILS MAP

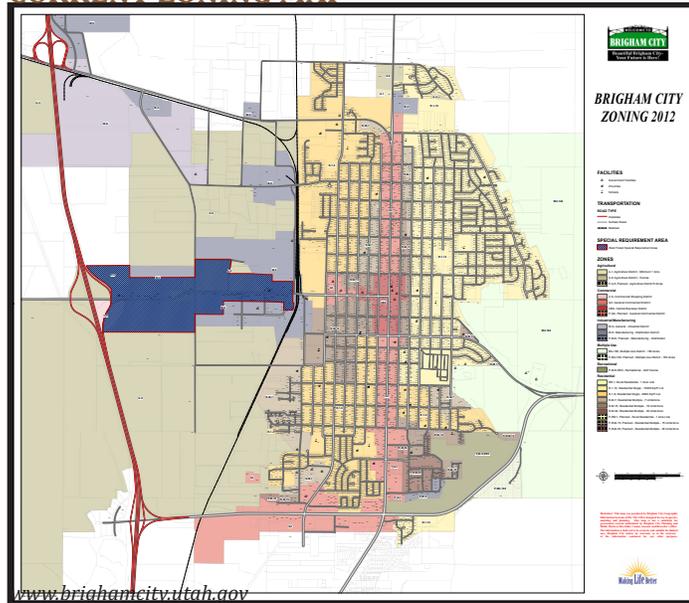


CURRENT LAND USE MAP

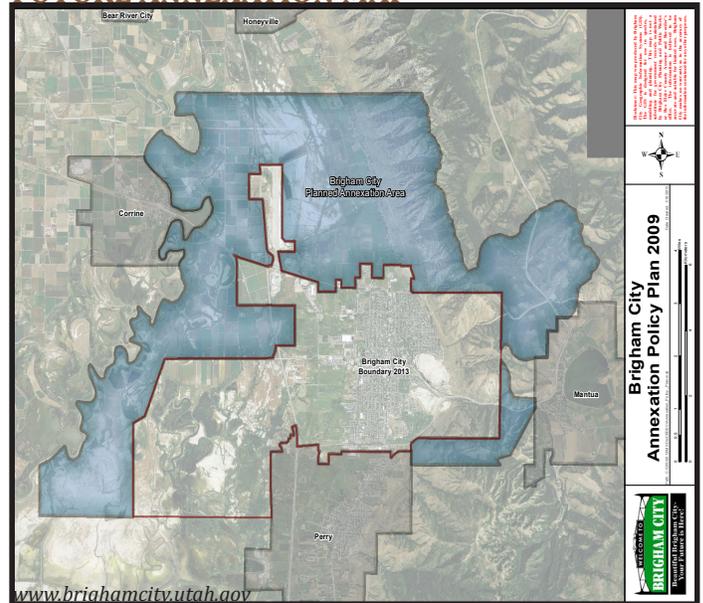


- Existing trails maps were utilized to determine suitable locations for potential pedestrian & cyclist trails that would provide the most benefit for users.
- Land use & zoning maps helped to identify areas where traffic congestion could potentially become a safety concern for drivers, pedestrians, and cyclists.

CURRENT ZONING MAP



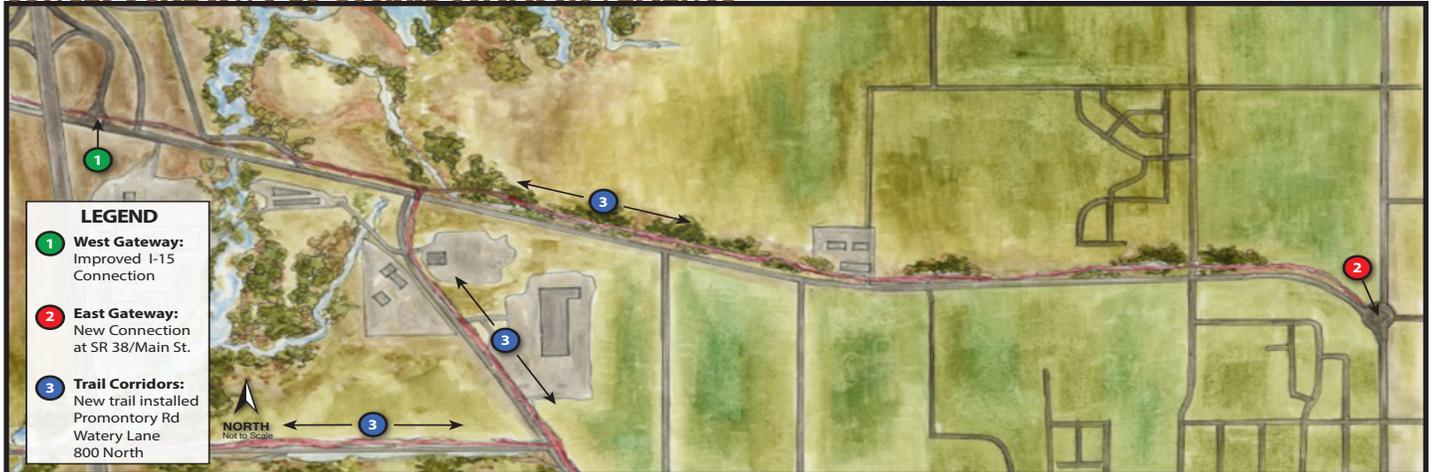
FUTURE ANNEXATION MAP



- The future annexation map was analyzed to help determine how Brigham City will grow in the future, and where this growth could potentially affect traffic and trail connections.

HIGHWAY 13 CORRIDOR

CONCEPTUAL HWY 13 CORRIDOR IMPROVEMENTS

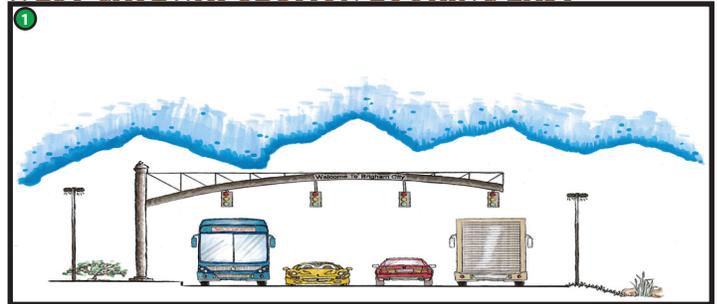


Highway 13 (Promontory Road) serves as an important corridor in Brigham City’s proposed trail system, connecting Main Street to Watery Lane and out to Corinne. This corridor allows cyclists and pedestrians to travel safely between Brigham City and communities west of I-15. The highway has also been identified as an important segment of the proposed Promontory Road regional trail, which would link the city with Golden Spike National Historic Site. However, at present there is no provision for bikes on the road, and though cyclists still use the corridor, conditions are neither safe nor enjoyable. There are several options to improve Highway 13 and to make it a safe and pleasant ride for bike commuters, families, and visitors.

WEST GATEWAY SECTION LOOKING SOUTH



WEST GATEWAY SECTION LOOKING EAST



EAST GATEWAY SECTION LOOKING SOUTH



POTENTIAL TRAIL CORRIDOR SECTION



HIGHWAY 13 CORRIDOR

WEST GATEWAY PERSPECTIVE



The West Gateway at the I-15 & Highway 13 interchange has been enhanced with the addition of the following features.

- A raised physical median for improved lane definition and traffic safety.
- A traffic light to help improve flow and prepare for future traffic needs.
- Visible signage and vegetation for improved city identity, wayfinding, and aesthetic quality.

EAST GATEWAY PERSPECTIVE

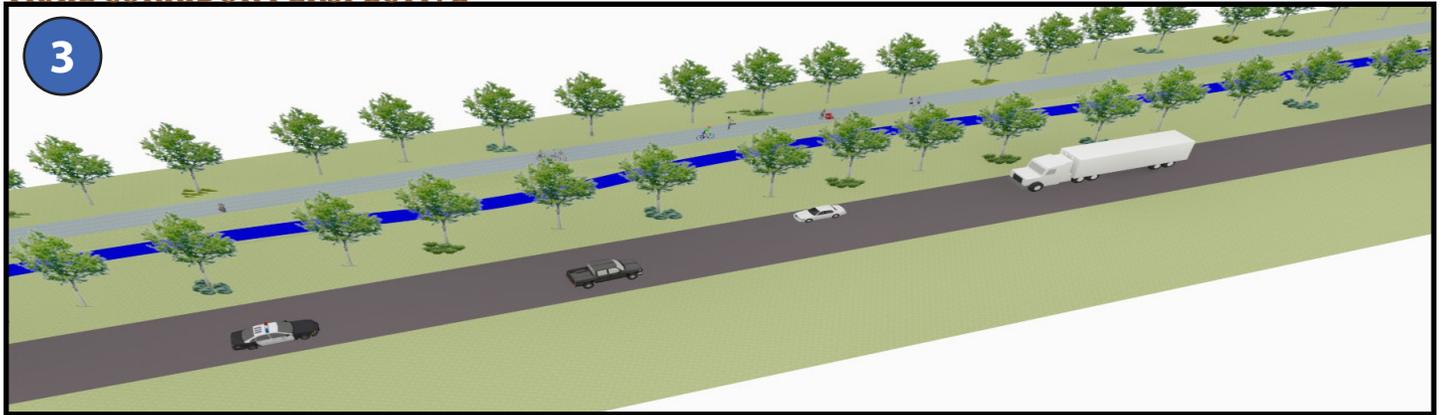


The East Gateway at the Main Street, SR 38, and Hwy 13 intersection has been improved with the following features.

- A traffic roundabout big enough to safely & adequately handle current and future traffic needs.
- Walkways with connections to existing trails to safely meets pedestrian and cyclist needs.
- New vegetation that complements the existing iconic Sycamore trees lining Main Street.

HIGHWAY 13 CORRIDOR

TRAIL CORRIDOR PERSPECTIVE



The trail corridors along Hwy 13 have been utilized and improved with the addition of the following features.

- A separated trail that safely connects users with existing trails throughout Brigham City and surrounding areas.
- New vegetation and landscape features to improve visual quality and help safeguard pedestrians and cyclists.
- Widening the roadway to improve traffic safety and accommodate for future needs.

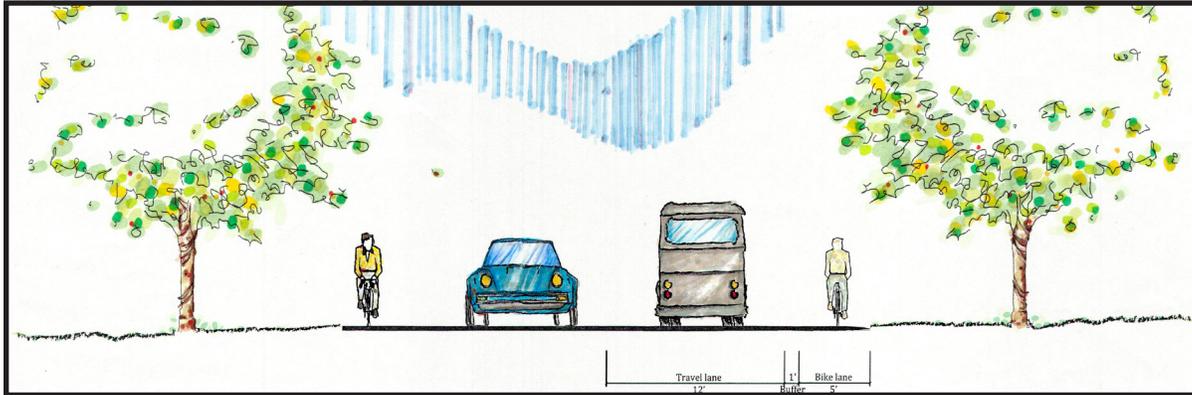
POTENTIAL TRAIL CORRIDORS



Highway 13 (Promontory Road) serves as an important corridor in Brigham City's proposed trail system, connecting Main Street to Watery Lane and out to Corinne. This corridor allows cyclists and pedestrians to travel safely between Brigham City and communities west of I-15. The highway has also been identified as an important segment of the proposed Promontory Road regional trail, which would link the city with Golden Spike National Historic Site. However, at present there is no provision for bikes on the road, and though cyclists still use the corridor, conditions are neither safe nor enjoyable. There are several options to improve Highway 13 and to make it a safe and pleasant ride for bike commuters, families, and visitors.

HIGHWAY 13 CORRIDOR

WATER LANE BIKE LANES



Watery Lane is the major cross street running north-south that connects with Highway 13. Once it is extended south to 1100 S., the road will become a significant connection to the southern end of town, and will allow cyclists to use this road to loop back to town via Forest Street. The two lane road is wide, with generous shoulders, providing ample room for a bike lane on both sides of the road.

Some recommendations for bike lanes are:

- 5' bike lane on both sides of the road for bike travel in the same direction as vehicular traffic.
- 1' painted buffer between the travel lane and the bike lane to alert drivers to the presence of the bike lane.
- Wayfinding signs can help to inform cyclists of destinations that can be reached from the road.

BOX ELDER CREEK MULTI-USE GRAVEL PATH



Box Elder Creek crosses Watery Lane at approximately 800 N. An unpaved road runs next to it, down an avenue of trees. The road was once used as a primary route to the west, a route now blocked by I-15, and Brigham City still owns the land. This road has the potential to become an amenity, a way for pedestrians and cyclists to follow the creek through wetlands, apart from the road network. A pedestrian underpass under I-15 would allow users to connect to the Bear River Bird Refuge via the proposed north-south rail trail just west of the freeway.

Some recommendations for the Box Elder Creek path are:

- 10-12' gravel path of well-graded fine aggregate (3/8-inch minus).
- Vertical clearance of 8-10' and a horizontal clearance of 3' to any vegetation for safety and to maintain sight lines.
- Viewing areas will allow users to look for birds and wildlife in the adjacent wetlands and creek

HIGHWAY 13 CORRIDOR

WATER LANE BIKE LANES



Due to the highway's significance as a principal arterial road, a trail separated from the road would allow users to travel the corridor safely, giving them the chance to enjoy the rural scenery and the views of the Wellsvilles. One opportunity for a path lies on the north side of the highway separated from the road by an irrigation ditch and existing trees. This placement provides enough separation to prevent automobile/bike conflicts, giving users a sense of security away from speeding traffic. Easements from private property owners will be needed to allow access. An alternative is to place the trail in the active railroad corridor on the south side of the road, requiring an easement from the railroad company to use the right-of-way. Some recommendations for this trail include:

- 10-12' asphalt path, wide enough to accommodate two-way traffic.
- Vertical clearance of 8-10' and a horizontal clearance of 3' to any vegetation for safety and to maintain sight lines.
- Signage, striping, and perhaps even crossing lights will be required to facilitate crossing the highway at Watery Lane.
- Trail crossings at grade will be necessary where the railroad and 500 W. cross Highway 13. The road is narrow and constrained at these two bridges, impacting the ability of the path to cross underneath.

TEAM 4 - Wellsville Canyon / 200 S Gateway Corridor

Gordo Wood
Aubrey Christensen
Eric Anderson
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Yuying Xu
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Colin Maxfield

FACULTY LIASON- SEAN MICHAEL

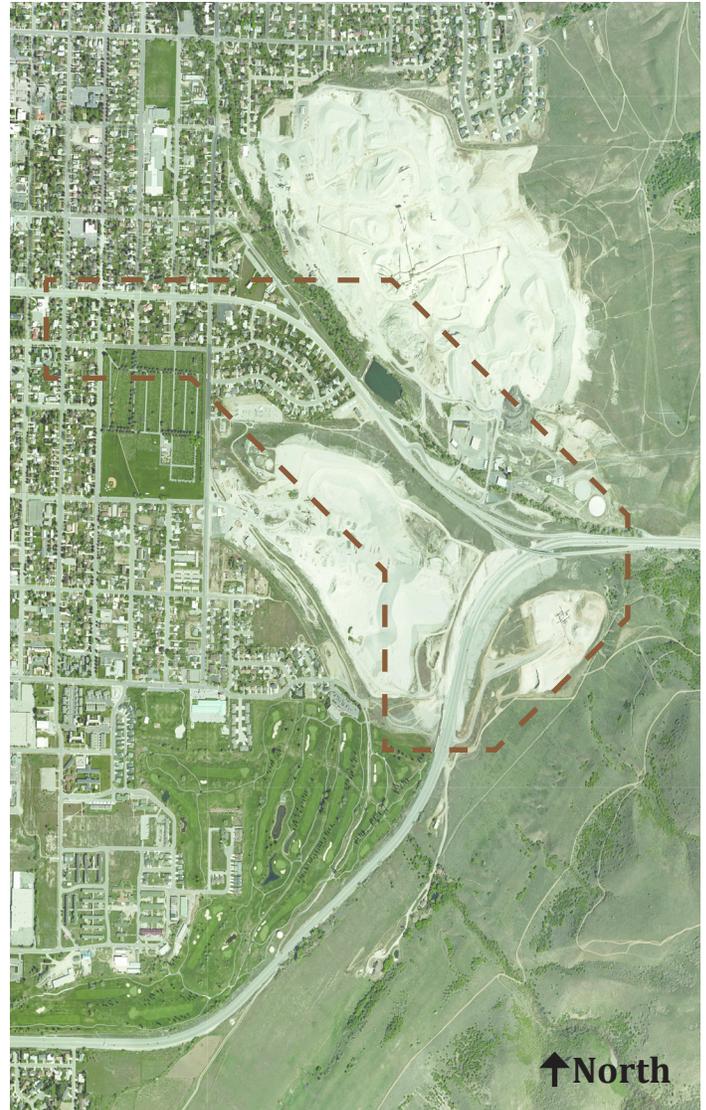
Area Information

The Highway 89/90 corridor is an integral connection from Sardine Canyon into the heart of downtown Brigham City. For those coming from Cache Valley, this corridor provides a direct route to Main Street, the LDS Temple, the Tabernacle, the central business district, Peach Days events, the proposed UTA Front-Runner station and the civic center of town. As such, this important corridor provides many people with their first impressions of Brigham City. There are many opportunities to not only enhance the overall entry experience from the road, but to improve recreational connections through trails and open space, to beautify the landscape. Through strategic changes this entry can more fully project an image of Brigham City as laid out in their vision statement: "Beautiful Brigham City, your future is here!"

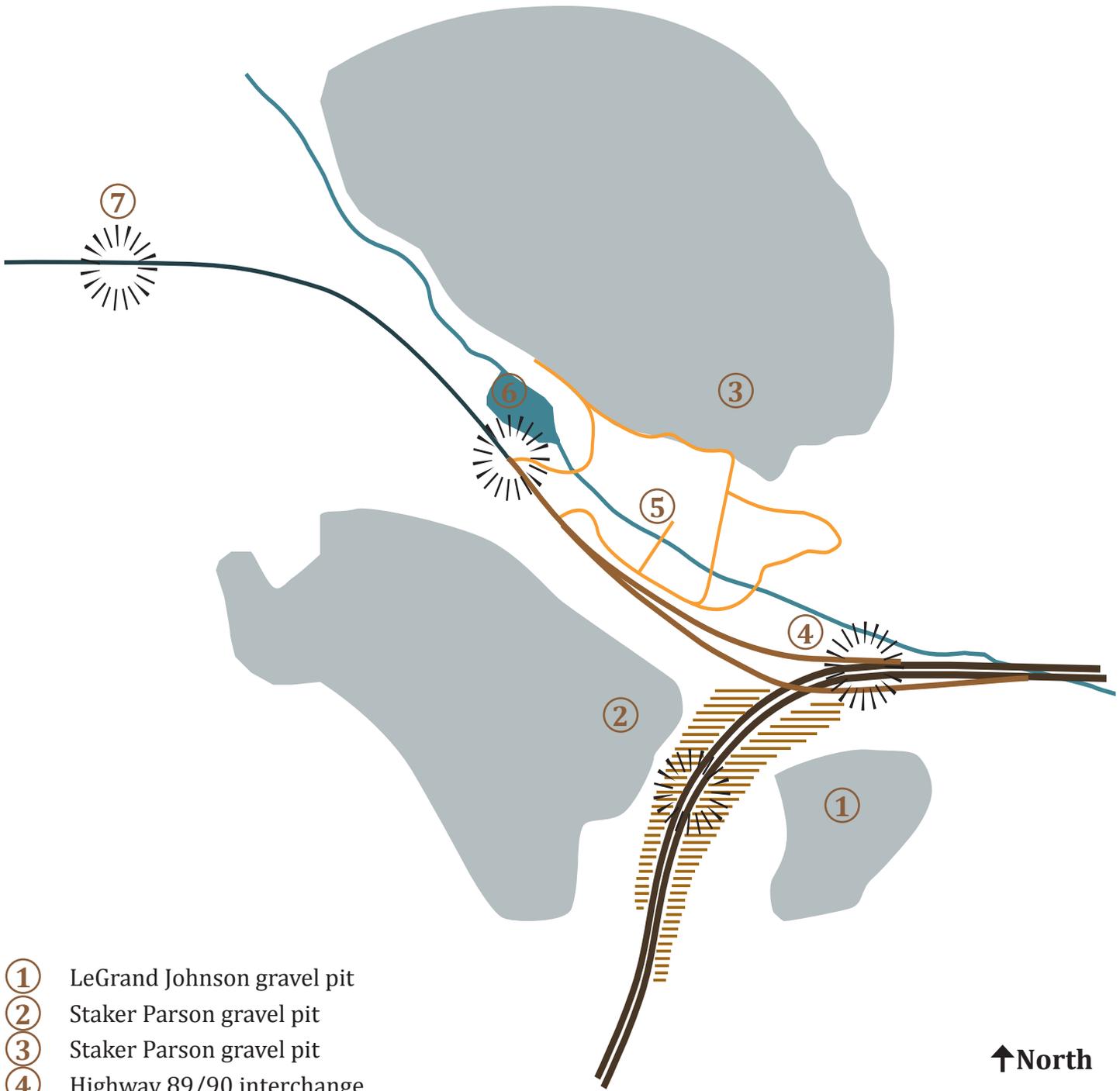
Currently, the Highway 89/90 corridor is comprised of Box Elder Creek, scattered residential units (both single family and multifamily), a Lutheran church, a funeral home, and a plethora of heavy extractive industry in the form of several rock and gravel quarries that greatly reduce the overall aesthetic quality of the corridor.

Gateway Program

- Create an open-space greenway that provides trail connections from the mouth of Sardine Canyon to 600 East along the Box Elder Creek. This greenway should include picnic areas, a trailhead with parking lot, vegetated buffers (to visually screen the quarries), paved and unpaved trails, and Box Elder creek access.
- Enhance the entry experience by improving the street treatment along the corridor into town through memorable, consistent and pleasing enhancements
- Improve the roadside from the mouth of Sardine Canyon along Highway 91 (as it goes to 1100 south) before it reaches the golf course. This will be accomplished through erosion mitigation measures coupled with aesthetic improvements utilizing native plant materials and xeriscaping techniques.



Area of interest. image not to scale



- ① LeGrand Johnson gravel pit
- ② Staker Parson gravel pit
- ③ Staker Parson gravel pit
- ④ Highway 89/90 interchange
- ⑤ UDOT, Staker Parson, & Brigham City access
- ⑥ Mayor's Pond
- ⑦ 200 South

 Critical areas

↑North

*Sardine Canyon Gateway Diagram.
Not to scale*

The Box Elder Creek Greenway

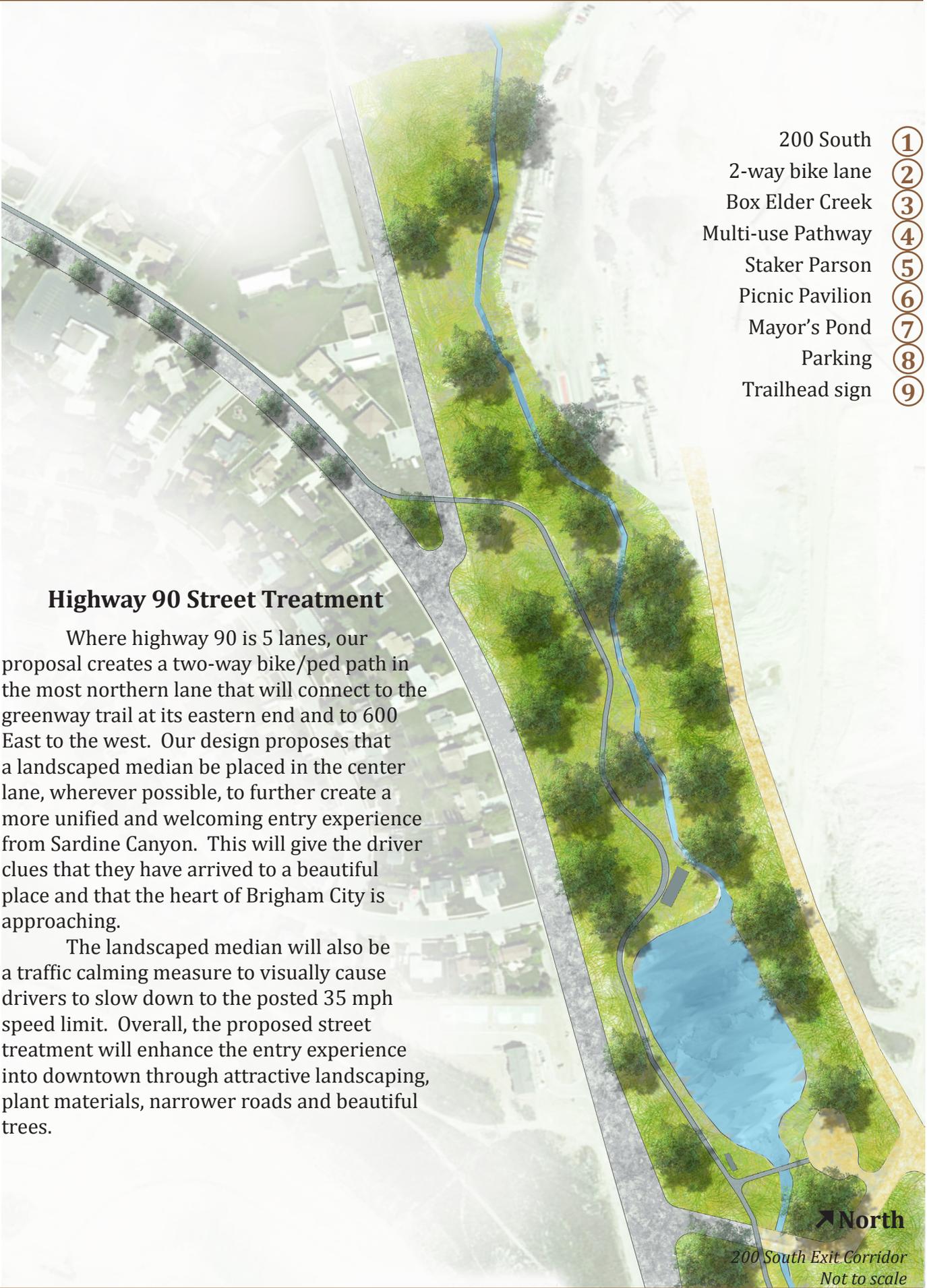
- Mayor's Pond ①
- Trailhead sign ②
- Parking ③
- Vehicle entrance ④
- UDOT Facility ⑤
- Box Elder Creek ⑥
- Truck roundabout ⑦
- Brigham City facilities ⑧
- Multiuse pathway ⑨
- Water treatment ⑩
- Pathway roundabout ⑪
- Connection to regional trails ⑫

Through a combination of picnic areas and landscaped berms, the river greenway is connected by a trail that runs parallel to Box Elder Creek. This greenway will provide a vegetated and attractive buffer for the rock quarry from the Highway 90 corridor. This greenway will be accessed from a trailhead and parking lot on the east side of Mayor's Pond. The trail will provide river access at different points along its length, and will connect to the Bonneville Shoreline Trail and the bike/pedestrian path proposed on highway 90.

This plan also continues to allow Staker Parson, Brigham City and UDOT to access their facilities through one road. Entrances to these areas will be located on the north side of the building instead of the south.



200 South Exit Corridor
Not to scale



- 200 South ①
- 2-way bike lane ②
- Box Elder Creek ③
- Multi-use Pathway ④
- Staker Parson ⑤
- Picnic Pavilion ⑥
- Mayor's Pond ⑦
- Parking ⑧
- Trailhead sign ⑨

Highway 90 Street Treatment

Where highway 90 is 5 lanes, our proposal creates a two-way bike/ped path in the most northern lane that will connect to the greenway trail at its eastern end and to 600 East to the west. Our design proposes that a landscaped median be placed in the center lane, wherever possible, to further create a more unified and welcoming entry experience from Sardine Canyon. This will give the driver clues that they have arrived to a beautiful place and that the heart of Brigham City is approaching.

The landscaped median will also be a traffic calming measure to visually cause drivers to slow down to the posted 35 mph speed limit. Overall, the proposed street treatment will enhance the entry experience into downtown through attractive landscaping, plant materials, narrower roads and beautiful trees.

North

200 South Exit Corridor
Not to scale

Highway 90 Roadside Improvements



*Sardine Canyon Gateway Perspective.
looking west from mouth of conyon*

To mitigate the entry experience along highway 91 as it approaches 1100 South in Brigham City, viewshed analysis was conducted and determined that the steep roadside needs to be mitigated against erosion and beautified to improve the quality of the corridor and entry both into Sardine Canyon from Brigham City and vice versa. As this is the route the vast majority of people take from Salt Lake, Ogden and Brigham City to Logan, this is the most heavily used road in the community.

In order to accomplish the task of mitigating and improving the corridor, we suggest using roadside xeriscape landscape techniques utilizing native plants and attractive rock work. The native plants are perfectly suited to Utah's climate and can survive arid conditions, high salinity, alkaline soils and pollution making them hardy species that will thrive along this busy road way. These specified plants, being Utah natives, have spreading root systems (due to arid conditions, their roots have to go further to search out water) which will help to mitigate erosion along the roadside.



↗ North

*Plan view of Highway 89/90
Not to scale*

Highway 90 Roadside Planting Palette



Utah Juniper



Big Sage Brush



Alkali Sacaton



Mormon Tea



Bigtooth Maple

Grasses

1. Indian Ricegrass
2. Purple Threeawn
3. Mountain Brome
4. Bottlebrush Squirreltail
5. Needle & Thread grass
6. Alkali Sacaton

Woody Plants

1. Big Tooth Maple
2. Big Sagebrush
3. Curl-Leaf Mtn. Mahogany
4. Singleleaf Ash
5. Fringed Sagebrush

Forbes

1. Mormon Tea
2. Lacy Buckwheat

Evergreens

1. Utah Juniper



Purple Threeawn

Mayor's Park

Brigham City has an expansive park and trail system. Taking advantage of Mayor's Pond as another park is an easy way to link green space for the use of nearby residents. The plan shown to

the right has a trail head for the multiuse path that will connect to John Adam's Park and the future Bonneville Shoreline Trail system. It also has parking, and a picnic pavilion.



- ① Picnic Pavilion
- ② 2-way bike lane
- ③ Restrooms
- ④ Trailhead
- ⑤ Service storage

Plan view of Highway 89/90
Not to scale



Section cut of Mayor's Park
Not to scale

200 South Entry Corridor

Entering downtown Brigham City through 200 south can be confusing. After exiting from highway 89 commuters enter a 55 mph zone. The speed is quickly reduced to 45 and then 35 mph. At each of these signs the road widens, sending a mixed message to automobile drivers. When a driver merges with a wider road the tendency is to speed up. However, this unusual pattern provides a unique opportunity to improve the corridor's experience.

We propose that Brigham City acquire the road from UDOT and install planting medians and bicycle lanes. These few improvements will enhance the experience of entering town and slow down drivers.

A two-way bike lane connects the Box Elder creek greenway and Mayor's Pond to John Adam's Park. This is a multi-use paved pathway that runs the entire corridor.



*Section 3:
Typical section view of 200 South near Mayor's Pond.*



Typical section view of 200 south near cemetery and funeral home.

- ① Picnic Pavilion
- ② 2-way bike lane
- ③ Restrooms
- ④ Trailhead
- ⑤ Service storage



TEAM 5 - Historic downtown opportunitites / cultural
center / public art

Tanner Snow
Kim Cloward Drown
Di Wang
Luigi Dragonetti
Macklin Stoddard
Kirsten Ford
Kelsey Nelson

FACULTY LIASON- CAROLINE LAVOIE

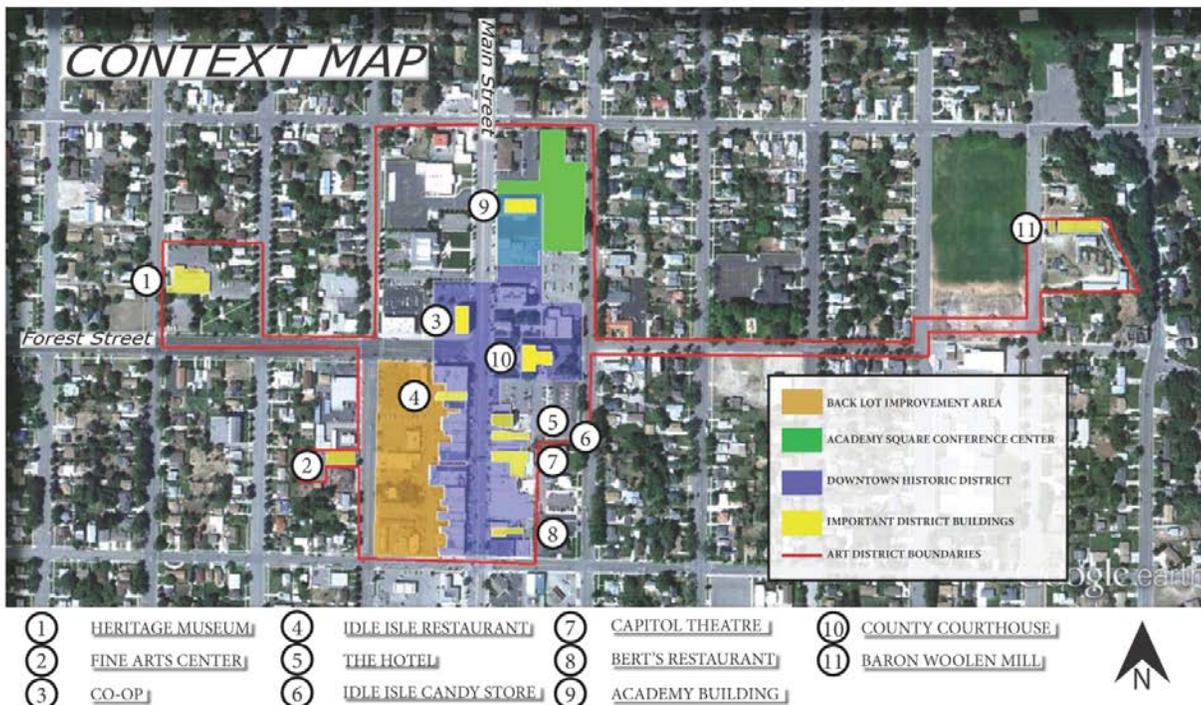
Historic Downtown Opportunities/Cultural Center/Public Art

This subject of the charrette was originally proposed by the Academy Square Foundation. The main objective of this group was to develop a historic district for downtown and to incorporate art to support Academy Square.

Brigham City has a very historic downtown and there are buildings that are great anchors to both the historic and artistic district. These anchors help to connect the district to the pedestrians as important buildings and help define the character of the district. The first anchor is the **Academy Building** and conference center. This center creates an immense opportunity to facilitate art and history festivals. The second anchor of the district is the **Capitol Theater**. This building is in the direct center of the district and creates a very historic cultural amenity.

Our third anchor is the **Fine Arts Center** on 100 west. This building serves the community by providing an environment for artistic expression and development. It also houses the World of Puppetry Museum, which displays a plethora of different shaped and sized puppets from cultures all over the world. This center is a fantastic art amenity for the community and serves as the main artistic hub of the downtown district. Our fourth anchor is the **History Museum** that is located on the corner of 200 west and Forest Street. This is a major historical asset to the district, and helps synergize both the historic and artistic characters that permeate the district. Below is a context map that includes our four district anchors and also delineates the district boundaries.

Context Map



As well as the four main anchors, other historically, and artistically, important buildings are included on the map. A specific building that may seem a reach to include in the art district is the Baron-Woolen Mill. This mill has great potential in the amount of unused space that can be repurposed to serve as dance, art, and music studio space. The mill can then serve the district as the “production floor” for the art that is displayed and performed in the district.

A specific area that is also highlighted on the map is the specific area that was suggested to us by the Academy Building Foundation as an area that could have improvements made to help accommodate the pedestrian users coming and going through the parking lot that is behind the businesses on the west side of main street. These are the main focuses that our group deemed most important for the district development and success.

Analysis of Opportunities

We decided to become more familiar with the downtown area and had some specific goals for analysis of the area. Our first objective was to

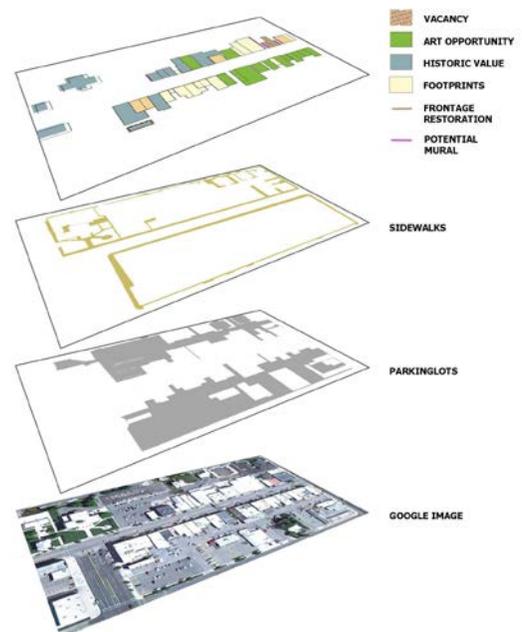
Opportunity Analysis Map



take note of any buildings with historic frontages that needed improvements or refurbishing. Our second focus was to identify vacancies that can be filled by artistic uses such as galleries, studios, and music stores. Our third study of the area was to identify the frontage of buildings that could be used to display art to the public. Finally was the analysis of the way pedestrian and parking interacted and if the existing system needed improvements.

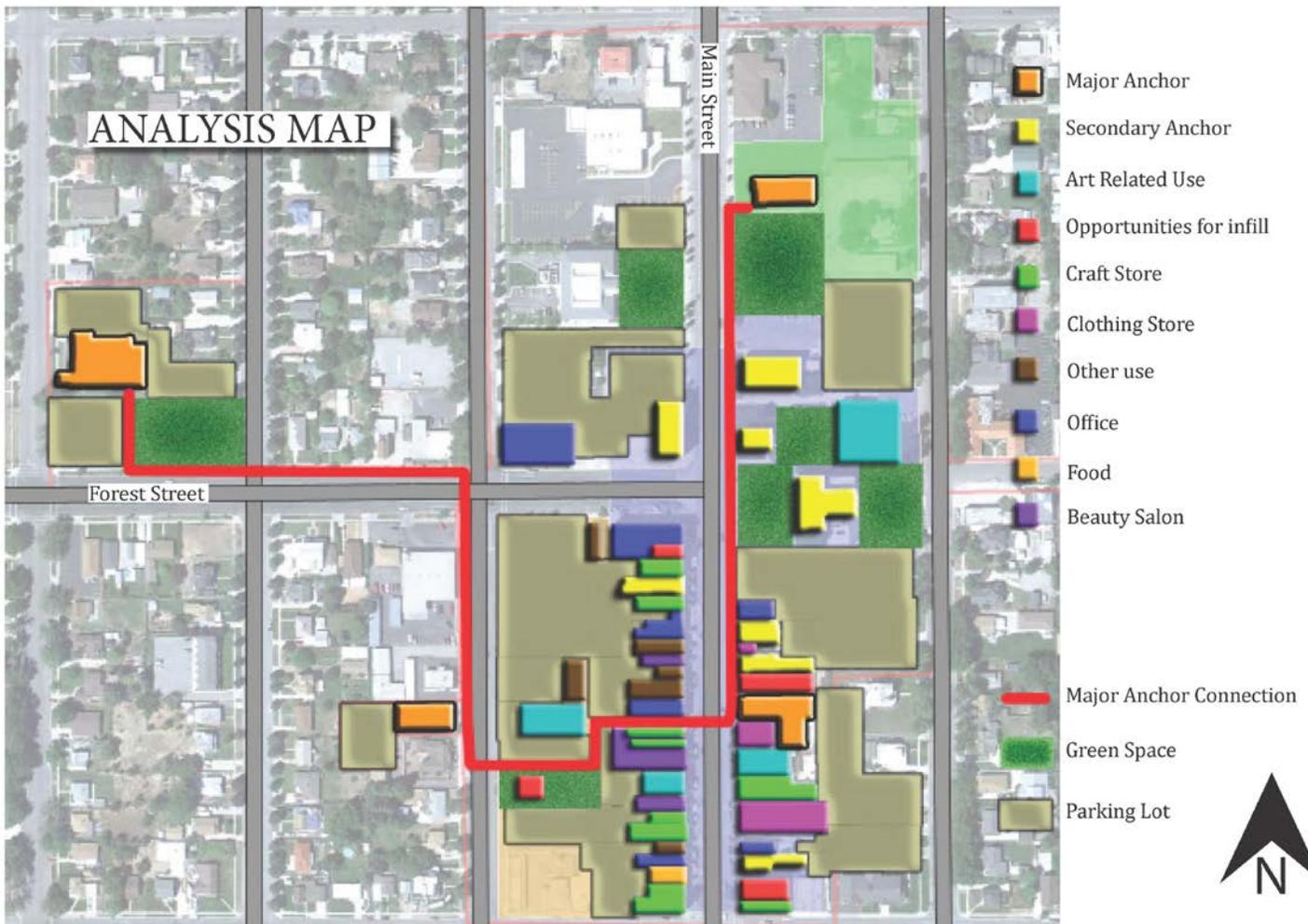
These two graphics include the analysis of those specific foci and are combined in the first and separated in the second. To delineate those numbers of either buildings needing restoration, or vacant buildings with artistic opportunity, here are those numbers: buildings needing refurbishing: 12, vacancies: 6, and opportunities for displaying art to the public: 14. Through our investigation we can comfortably conclude that there is a great amount of opportunity for “face-lifting” historic frontages, inviting new “artistic” uses to the vacancies along Main Street, and important improvements that could create friendlier pedestrian access to the main street businesses.

Overlay mapping of Opportunities



This brings us to the new map of the district that demonstrates the new anchors we propose, how those anchors can be connected, where the green space for the district is, and the

uses that are existing for the buildings on main street. With this map as reference we are able to move forward with the specific building foci that will make this district successful.



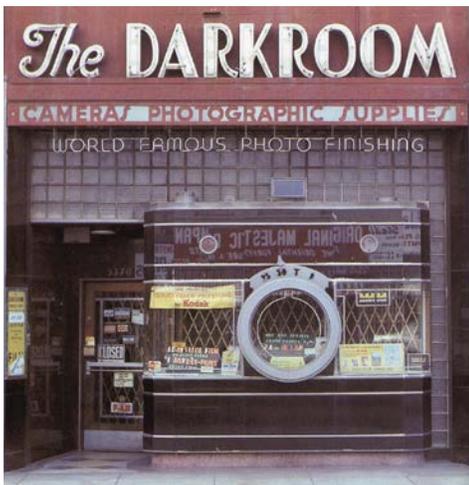
District Character Guidelines

Another important tool in creating a district is to give the district character so that when visitors enter the district they will perceive the change. This can be accomplished by apparent cues such as signs, but can also be subtle like changes in pavement and site furnishings such as street lights and trees. Here is a list of guidelines, taken from the guidelines for Boulder, Colorado, that we feel are important to the character that is desired for Downtown Brigham City:

1: Preservation and Renovation

- Preserve historic façade
- Maintain historic building setback
- Maintain traditional recessed access to building frontage

Below are examples of the style that is desired:



- Preserve transom and board features
- Minimize visibility of HVAC units and other mechanical, structural, or electrical appurtenances

2: Construction Guidelines

- Incorporate traditional design elements
- No half-level or split-level first floors
- Maintain Human Scale for building sizes
- Maintain proportions of storefront windows and doors similar to those in district
- Use building materials that reflect historic building materials such as brick or stone masonry, wood framing for doors and windows, and ceramic tiles.

Design Solutions

Our team took these guidelines and theoretically applied them to images so that there is a visual connection between the guidelines and how they will affect the look of the store frontages and property. Each guideline has a corresponding image that comes after the guideline list. These images try to address the guidelines effectively and apply them to actual buildings in the district. The bike shop, art gallery, and alcove all are in response to vacancies and opportunities along Main street. The Café is a different opportunity because of the opportunity to purchase the property that is situated on 100 West, just south of the News Journal.

A part of the district character we are also proposing is the treatment of Main Street in between 100 south and 100 north. We are proposing that the two existing lanes be converted into one and then the second lane be converted into street-side parking so that customers are able to access the businesses right from the street. We are also proposing a median for displaying art and to help slow traffic. These modifications are demonstrated in the section view of Main Street.

To address the parking lot configurations, we have proposed pedestrian walks so that they know where to walk when moving through the parking lots. These paths also connect the pedestrian to the important anchors that we have identified such as the Capitol Theater and the Fine Arts Center. These improvements can be seen in the plan view graphic of the district.

Elements of Historic Value –
ex. Bike Shop

Incorporate a clerestory form in the display window.

Kick plate as a base to the store front. Align the kick plate height with others in the block. 1st floor display window. Align with height of others in the block when others are appropriately placed.

Sign band.

Transom, align with others when others are appropriately placed.

More Guidelines – ex. Café

Materials such as metal rails and posts, stone or brick piers, and wood may be used when properly finished.

Seating areas, plazas, and small open spaces should be located throughout the district. They should be accessible and comfortable.

It is strongly encouraged to use plant materials and trees to provide shade and

pedestrian scale.

All elements including walls, trees, paving, seating, pedestrian scale lighting, and water features should be designed as an integral part of the overall site design concept.

Materials Included –
ex. Art Gallery

Brick and stone masonry

Wood details such as windows

Finished lumber, applied to achieve traditional patterns e.g.: horizontal siding rather than diagonal

Finished painted metal and sheet metal

Clear or lightly tinted glass

Ceramic tiles

Brick, clay and ceramic pavers

Slate, finished metal, glazed ceramic and tile roofs

Concrete and stone as lintels and wood or concrete columns

Embossed metal or corrugated metal
Re-configuration of Main Street and Parking Lots

Changes to Main Street include, bike lane, 30 degree parking, planted median with sculpture space.

Parking lots made more pedestrian friendly to create links between the various anchors.

Addition of shade trees to both the street median and parking lots

Paving changes from asphalt to brick in crosswalks to define district and alert drivers of pedestrians

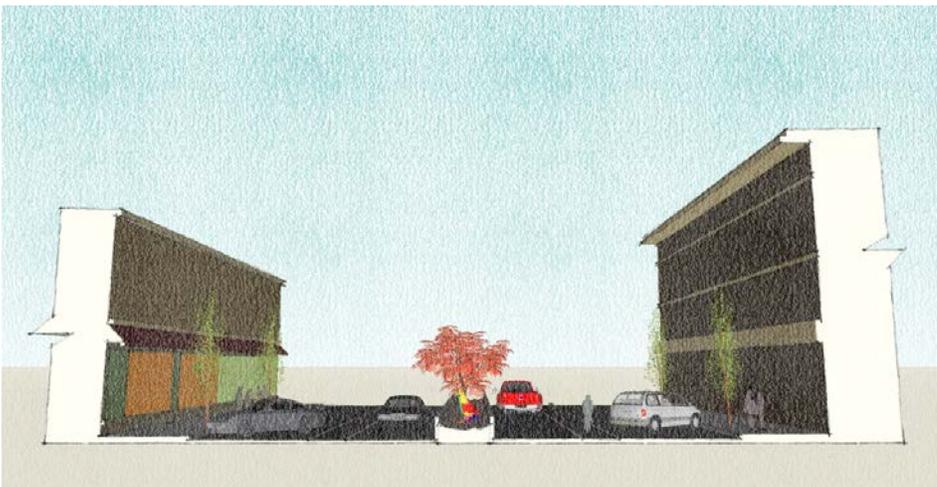
Public art displayed in Main street median

Plan View of District



SCALE: 1" = 70'

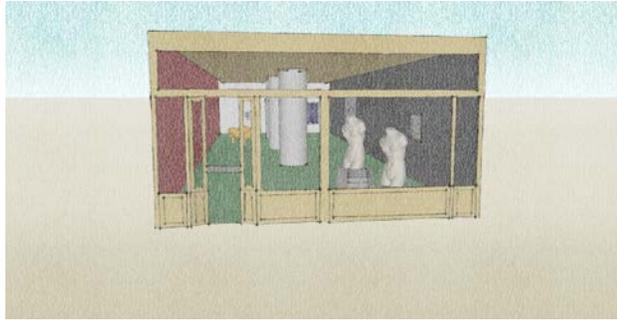
Main Street Section View



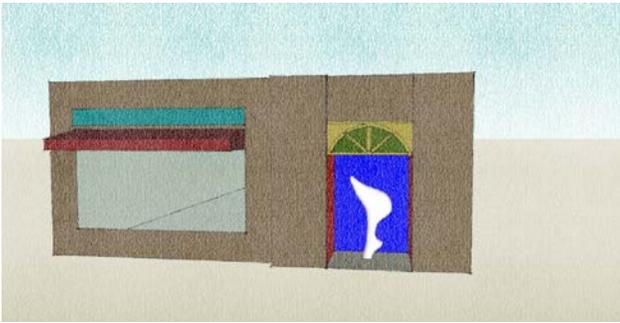
Café



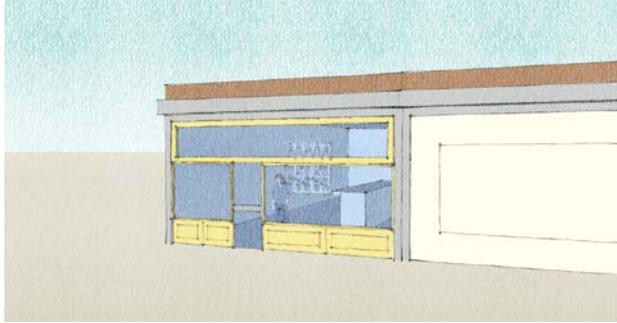
Art Gallery



Alcove



Bike Shop



As a team we believe that these guidelines and opportunities are a very important part of creating a culturally active historic downtown for Brigham City. This district will bring economic and cultural rejuvenation to downtown and will be a great support for the Academy Square community center. Implementation can be gradual and this planning is structured for the eventual combination of these elements. Future growth and development should conform to the guidelines so that the historic character can be preserved in the district. Historic districts help to remind the community of the importance of the history of the city, and help to inform the visitor of the richness that is Brigham City.

TEAM 6 - Academy Square

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Marleny Santana
Scott Allred
Sam England
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FACULTY LIASON- KRIS KVARFORDT

Academy Square

Vision

Our vision is to provide alternative concepts for the Academy Square in Brigham City, UT in order to create a vibrant and multifunctional plaza with the focal point as the Academy.

Objectives

- Provide a plaza space that will accommodate various activities.
- Maintain the Academy as the focal point.
- Provide a design solution that addresses community concerns regarding the hotel and restaurant.
- Address environmental impacts such as sun, wind, and noise surrounding the plaza.
- Tell the Christensen brothers story.
- Address the need for signage.

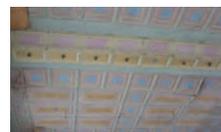
Context Map



Inventory



Image provide by Sam England



Images provide by Marleny Santana

Introduction

In an effort to provide a viable use for the historic Academy, as well as to reinforce the economic vitality of the project, Brigham City has undertaken studies that propose the development of a hotel and restaurant.

The Academy will fulfill a vital service to the community as a gathering place for wedding receptions, plays, and performances. In order for the Academy to fully serve these needs a utility room and hotel are required to house a maintenance closet and traveling performers and business men/ women who currently find lodging in Logan or Ogden.

The Academy will form the centerpiece of this new development known as the Academy Square.

Site Issues

- Utility lines run the length of the site where the pedestrian corridor is currently proposed.
- Selection of appropriate restaurant.
- 4' retaining wall at the south-eastern end of the site.
- Excess parking required due to the currently proposed restaurant and hotel.

Brief History

The Christensen Legacy

- Three brothers from Brigham City, UT, born in the early 1900's, changed the American dance culture to what we know it as today.
- William headed the San Francisco Ballet and founded Utah's Ballet West.
- Harold directed the San Francisco Ballet School for 33 years.
- Lew starred in many of the time eras most influential ballets such as the Filling Station and Apollo.

Academy of Music and Dancing

- The Academy opened in 1903.
- The lower level was a manger where guests could hitch their horses.
- Upstairs was the elegant dance hall and studio.
- During the week Christian Christensen directed dance classes.
- The center was used by many groups throughout Box Elder County and the surrounding areas.
- The building was sold in 1909.
- From 1909 to 1980 it went through a variety of owners.
- It was vacated in 1980.
- Despite the building's 110 year life span the presence of the once glorious dance hall still remains.
- The first phase of restoration has been completed on the building to provide safety and earthquake measures.
- The next phase will restore the building to its former glory.

Design Considerations

Restaurant

If the restaurant remains attached to the Academy Building the facade must compliment and mimic the appearance of the Academy in order to provide a complimentary relationship. When selecting a restauranter; avoid chain restaurants, greasy spoons, and pizza places. The reason for these stipulations are in result to the associations that will be made between the Academy and the surrounding restaurants. It is proposed that the restaurant be unique and modern with an antique twist to present a similar atmosphere as the Academy.

Utility Lines

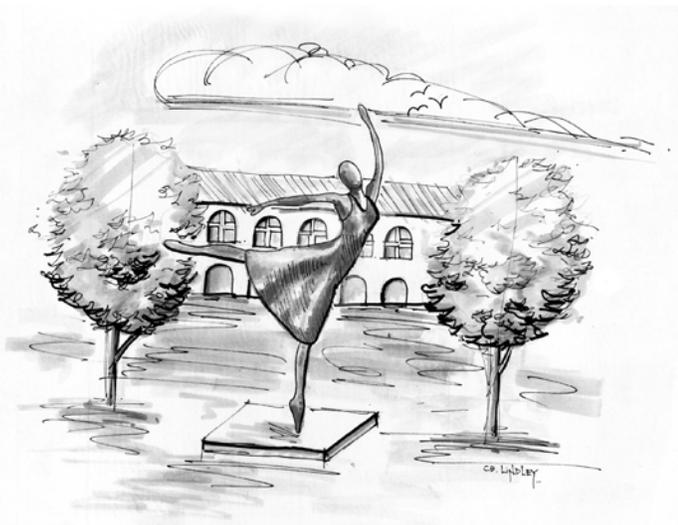
A series of utility poles runs above the corridor between the Academy and the proposed hotel. It is proposed that these lines be placed underground for safety and aesthetic purposes.

Surrounding Uses

Areas around the Academy should not conflict with the historical building nor its influence as a symbol of the arts. To accomplish this, extreme building colors and shapes should be avoided to avoid competing with and detracting from the Academy. Also, it is important to keep the Academy as the focal point of the area.

Additional Design Considerations

Entry Sculpture



This graceful statue symbolizes the poise and grace of the Academy and the activities that have and will continue to be held on the grounds.

Hotel Signs



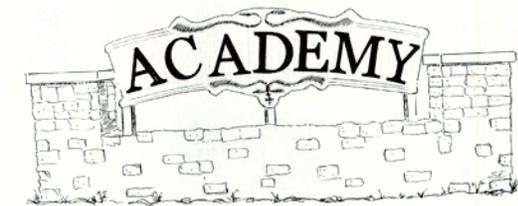
Standard Hampton Inn & Suite Signs

Christensen Brothers



Depicted here on this bench are the figures of William and Lew Christensen. These statues provide a ground piece to tell their story.

Main Academy Sign



A bold sign declares the Academy's presence to passing pedestrian and vehicular traffic.

Academy Building Sign



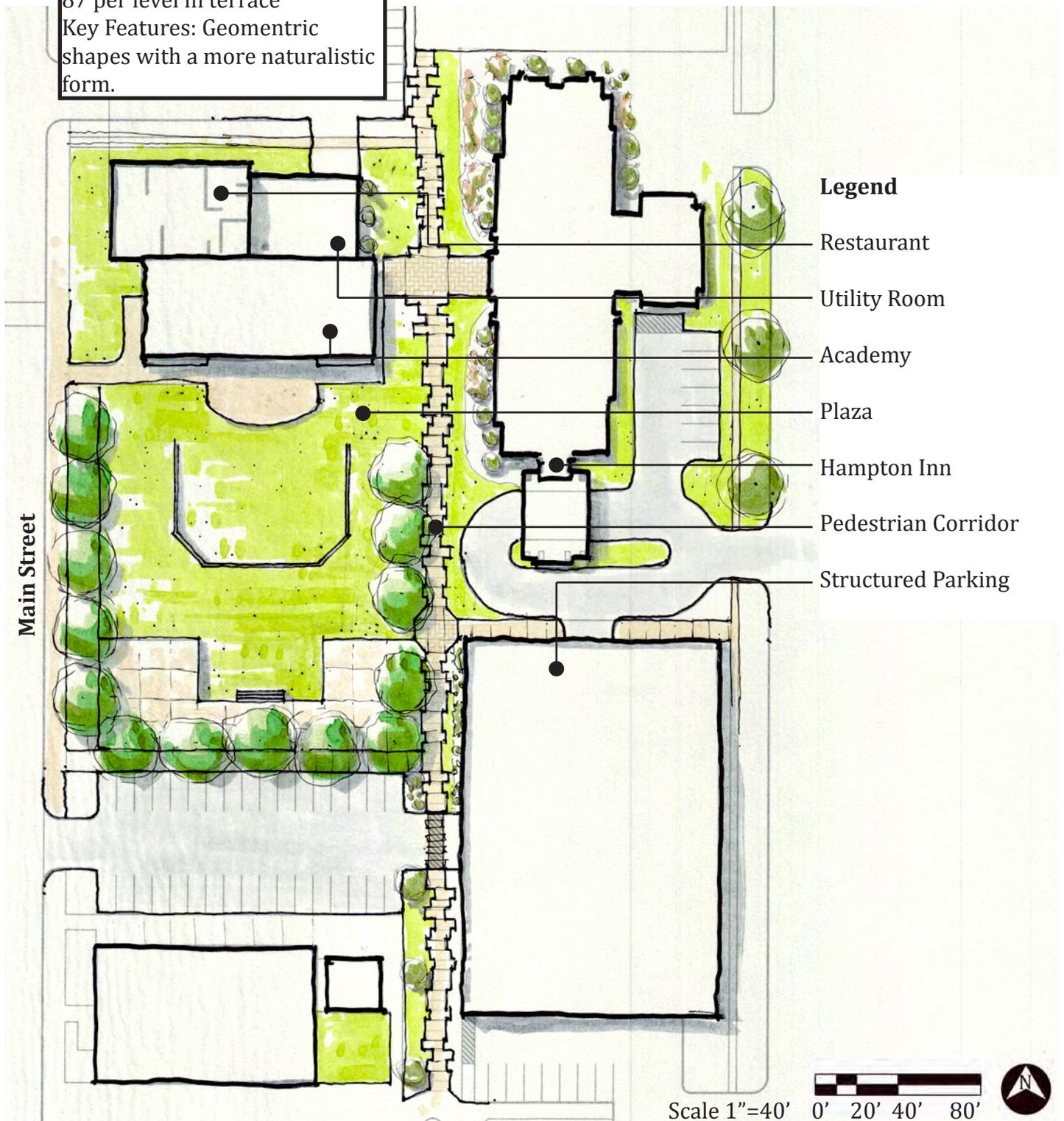
The sign placed above the first level arches creates a grand and informative entrance, while emphasizing the location in Box Elder County.

Alternative I

The emphasis of this configuration is the structured/ terraced parking and a strong pedestrian core. An informal plaza is accented by geometric modern paving patterns. The alignment of the Hampton Inn's back door with the back door of the Academy building provides easy access while utilizing a nice plaza node. A portion of the lower right hand corner has been left as open space that can be utilized for parking or events as necessity dictates.

Attributes Chart

Parking Stalls: 41 surface and 87 per level in terrace
Key Features: Geometric shapes with a more naturalistic form.



Legend

- Restaurant
- Utility Room
- Academy
- Plaza
- Hampton Inn
- Pedestrian Corridor
- Structured Parking

Scale 1"=40' 0' 20' 40' 80'

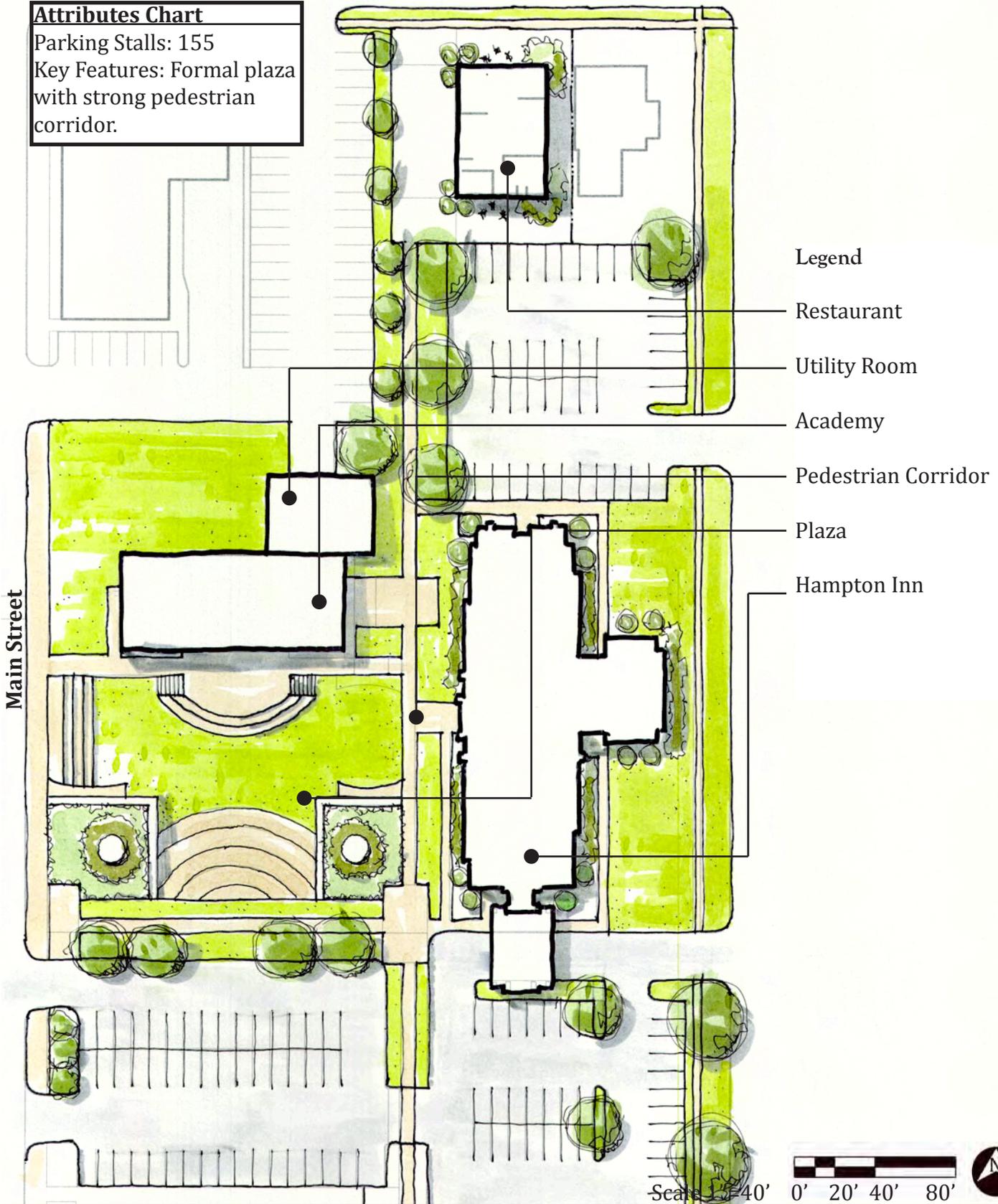


Alternative II

The emphasis of this concept is shared parking with an overall geometric formality. This configuration combines the necessity for parking without compromising the pedestrian experience. It proposes a fairly formal plaza while keeping the pedestrian corridor simple. Unlike the other configurations this one proposes the restaurant be located away from the Academy.

Attributes Chart

Parking Stalls: 155
 Key Features: Formal plaza with strong pedestrian corridor.

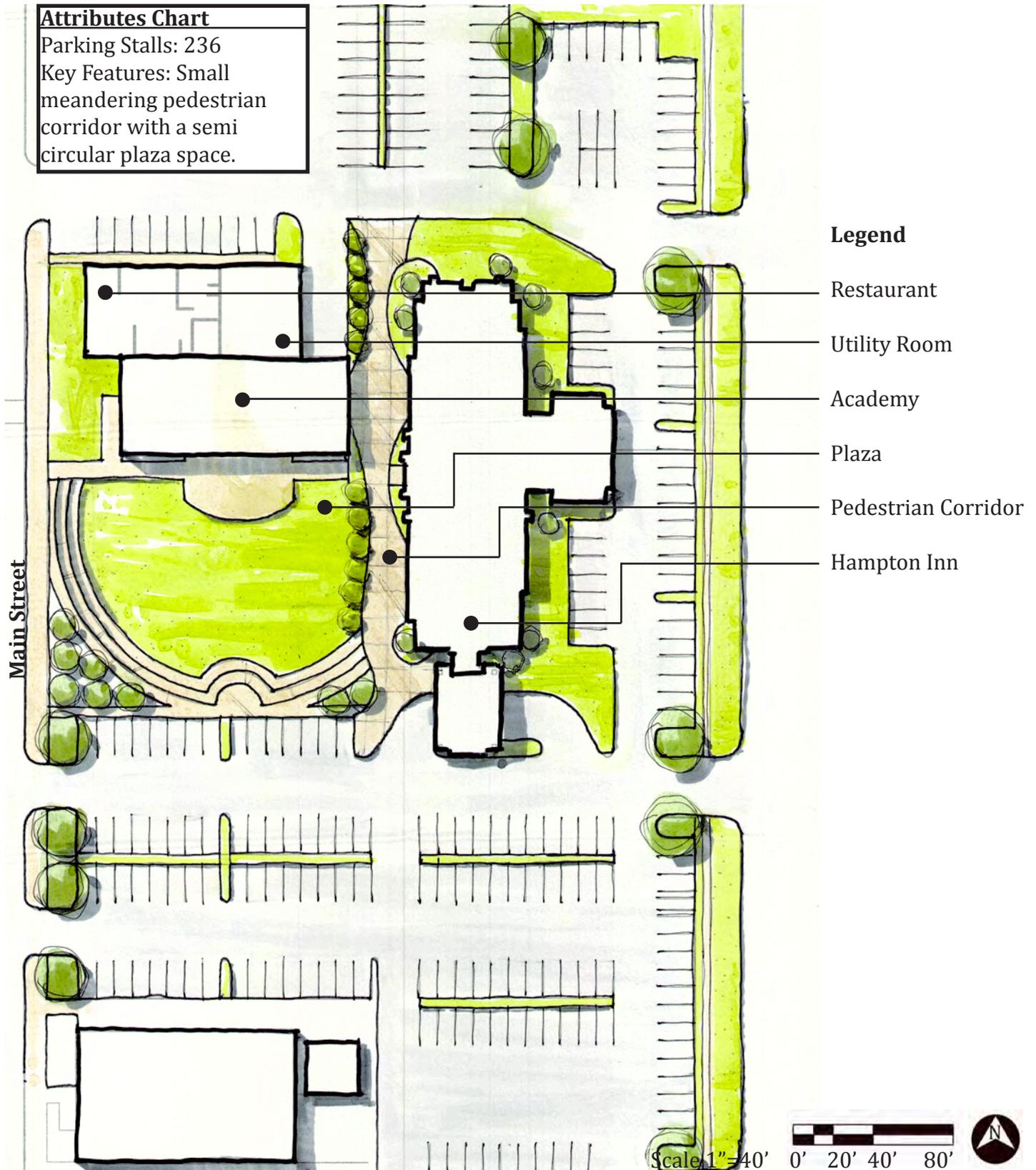


Alternative III

The emphasis of this configuration is maximum parking without jeopardizing pedestrian movement. With so much parking the pedestrian experience becomes a small corridor extending as far as the hotel is long. The plaza area is fairly formal with its swooping terraces, however the large grass field provides plenty of room and informality. The footprint for the hotel has been pushed towards the Academy building in order to provide more up front parking.

Attributes Chart

Parking Stalls: 236
 Key Features: Small meandering pedestrian corridor with a semi circular plaza space.



Legend

- Restaurant
- Utility Room
- Academy
- Plaza
- Pedestrian Corridor
- Hampton Inn

Scale 1" = 40'



Master Plan

Attributes Chart
 Parking Stalls: 180
 Key Features:
 Handicap accessibility into the plaza,
 geometric pedestrian corridor, and
 uplighting for the plaza.

Signage Positioning



- Legend**
- Restaurant
 - Utility Room
 - Academy
 - Pedestrian Corridor
 - Plaza
 - Hampton Inn

Plaza Perspective



This plaza perspective shows how the space would feel and function. The plaza is framed with the Academy and the hotel in the background. Trees are used to provide sun and some wind protection, while allowing the plaza to feel open. The berm in the foreground topped with wind and noise barriers are meant to block the noise from vehicles on main street and to somewhat prevent concert sound from echoing throughout surrounding neighborhoods.

Section A: Plaza Section- Elevation



The plaza section-elevation to the left depicts the grade changes throughout the plaza, while displaying the hotel in the background and how it would interact with the pedestrian experience. It also displays how the hotel facade mimics the Academy in order to provide a complementary relationship between the two building and their different uses.

Section B: Site Section



TEAM 7 - Front-runner expansion / TOD

Devon Gibbey
Matt Coombs
Bret Nielsen
Tim Bowler
Seth King
Katie Gerratt
Yuning Fang

FACULTY LIASON- CARLOS LICON

FRONTRUNNER EXPANSION AND TRANSIT-ORIENTED DEVELOPMENT

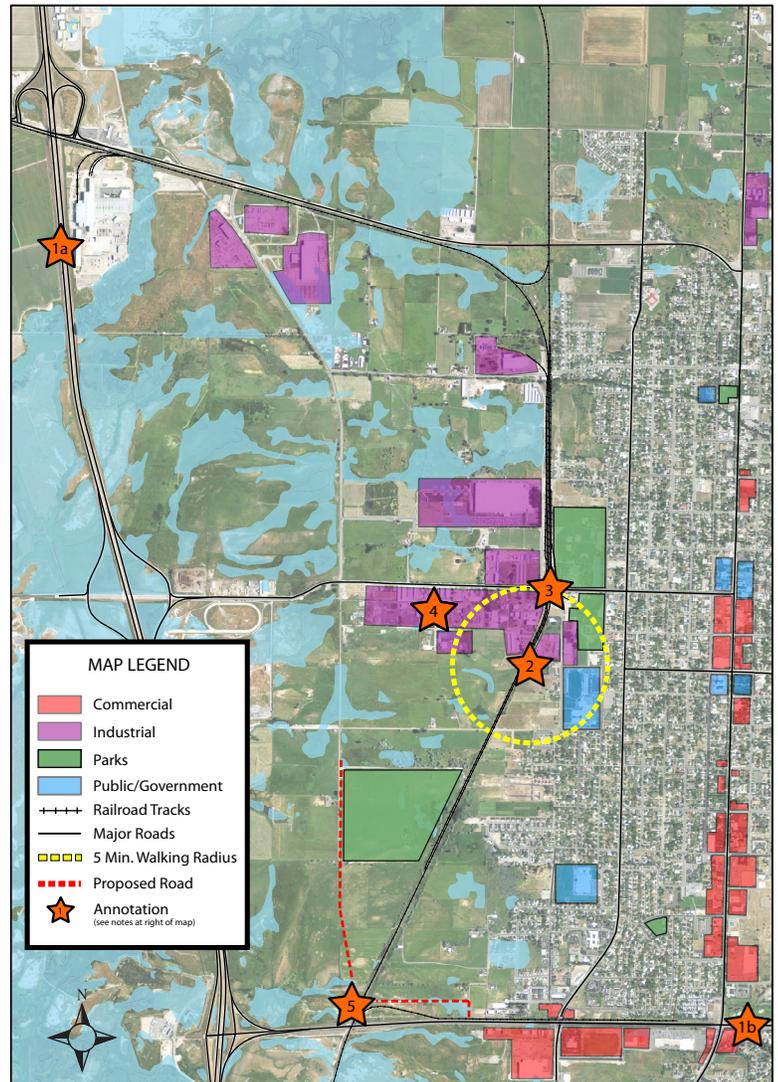
CONTEXT/ANALYSIS MAP

1 The expansion of the Front Runner transit line to Brigham City is expected to bring increased traffic due to commuters from Cache Valley and Northern Box Elder County. The circulation plan must acknowledge and facilitate increased traffic in and out of the new transit station.

2 This is the preferred site for the new Front Runner Transit Station and new “transit-oriented development.” The platform and any bike pedestrian crossover should be located south of where the tracks separate from two to three lines. The tracks themselves can be utilized as a hard edge separating pedestrian from vehicular oriented development. “Kiss and Ride” drop-off areas will be beneficial elements on both the east and west sides of the railroad tracks.

3 A design solution will be needed to provide bicycle and pedestrian access between the planned park south of the site through the new transit oriented development to the existing swimming and sports parks to the north. This work will be discussed and coordinated with the Trails and Forest Street Corridor Design Teams.

4 Small industry currently located along the Forest Street Corridor may be transitioned toward mixed use residential and commercial due to an increased demand for these areas in close proximity to the Front Runner Transit Station and its associated commuter parking areas.



5 The route shown by the red dashed line is a new road that has been proposed by Brigham City. Automobiles and shuttles arriving from the South or from Cache Valley to the East may take advantage of this road to reach commuter parking at the transit stop. This would avoid excessive traffic through downtown Brigham City, surrounding residential areas, and past the nearby intermediate and high schools. If this road is to be developed a solution must be developed to cross over the Union Pacific railroad tracks and avoid any unnecessary disturbance of the wetlands in this area.

FRONTRUNNER EXPANSION AND TRANSIT-ORIENTED DEVELOPMENT

DESIGN APPROACH

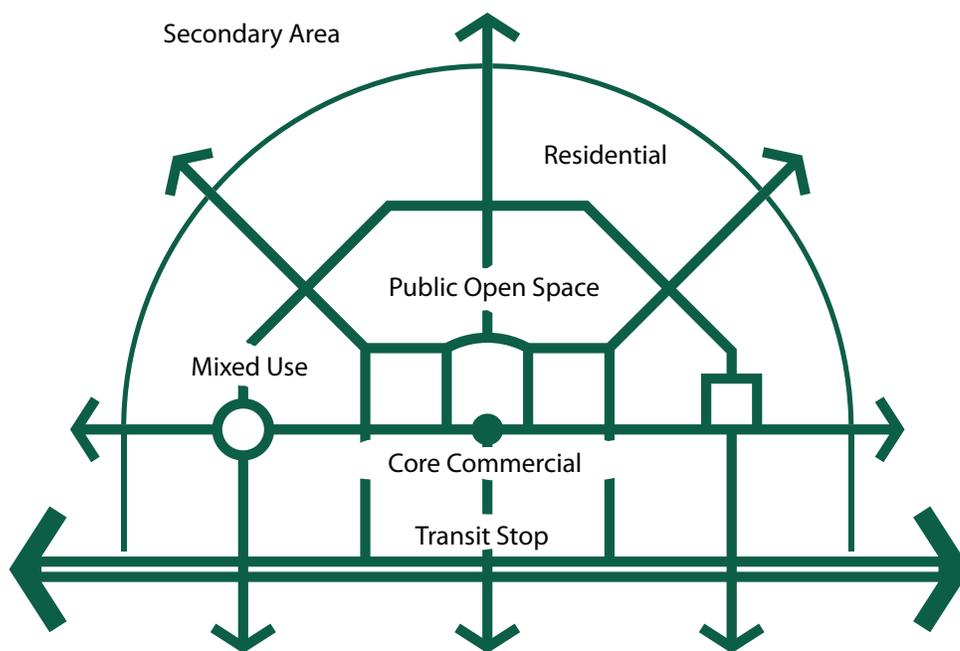
Transit-Oriented Development:

Transit oriented development refers to residential and commercial areas designed to maximize access by transit and non-motorized transportation. Four major design objectives characterize this type of development.

1. Design oriented for bicycle and pedestrian traffic throughout the site with adequate facilities and attractive street conditions.
2. Streets have traffic-calming features.
3. Mixed use development includes shops, and other public services with a variety of housing types and prices within each neighborhood.
4. Parking within the development is managed to reduce the amount of land devoted to parking compared to conventional development and takes advantage of cost savings associated with reduced automobile use.

Additional Design Considerations:

5. Provide a modern, creative design solution that integrates and reflects the rich historical significance and culture of Brigham City.
6. Create a gateway to Brigham City for visitors arriving from southern areas via the FrontRunner Transit System.
7. Facilitate increased vehicular traffic and parking for commuters arriving from Cache Valley, Northern Box Elder County, and other outlying areas while maintaining the objectives of pedestrian-friendly transit oriented development.
8. Provide connections through the development to existing community resources and key areas to integrated the new development into the existing fabric of the city.



Source: *The Next American Metropolis*, Calthorpe

FRONTRUNNER EXPANSION AND TRANSIT-ORIENTED DEVELOPMENT

CIRCULATION

The circulation plan integrates the new transit-oriented development into the existing fabric of the city. The adjacency of the development to the city core allows for people to easily visit Brigham City without the use of a vehicle. Its proximity to major roads and proposed roads allows for commuters using the FrontRunner station to access the site without increasing traffic in the city's residential areas.

● Vehicle:

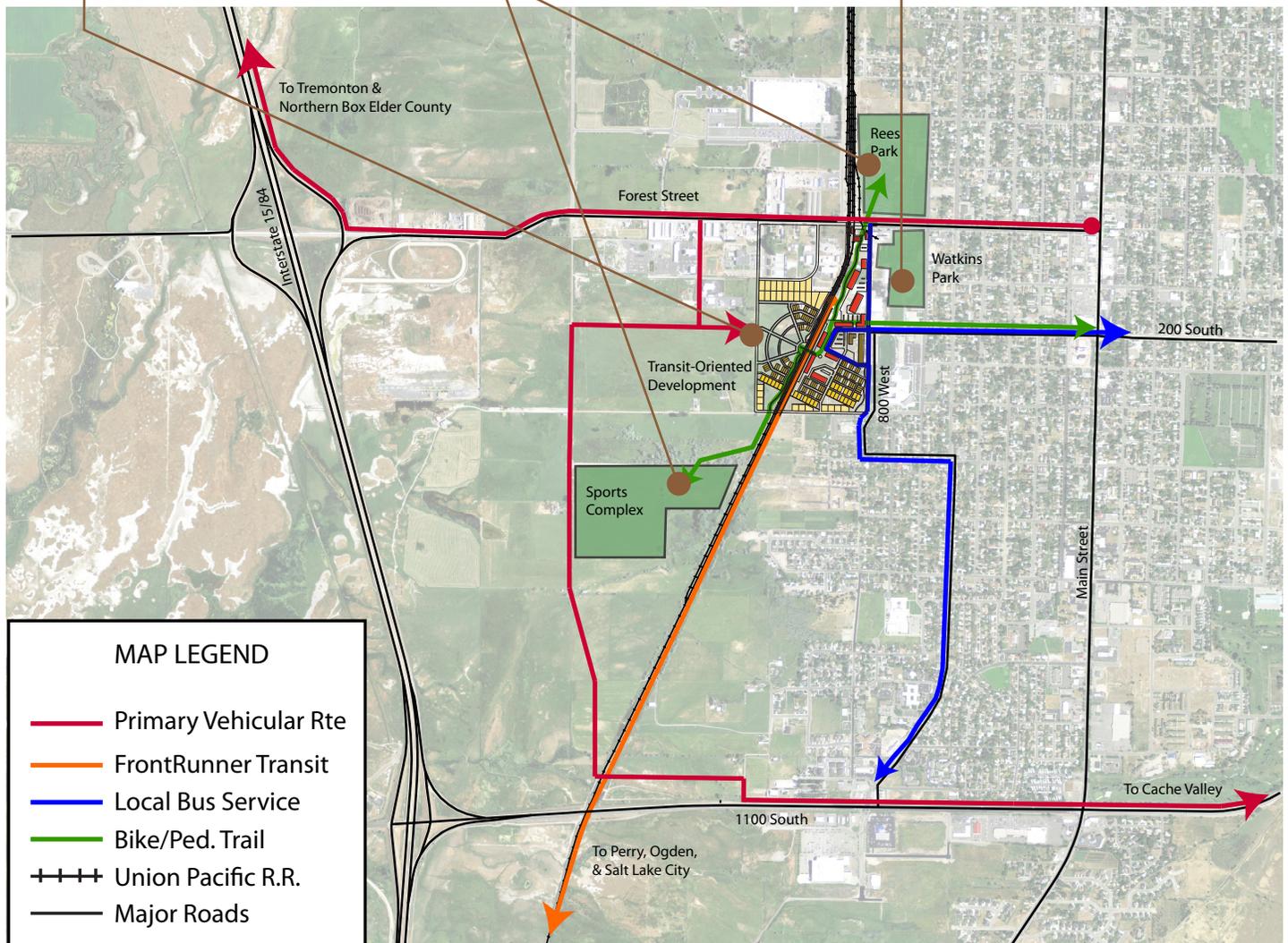
Primary vehicular access into the transit site is facilitated from the West in order to reduce vehicle and pedestrian conflict in the core pedestrian areas of the development.

● Bicycle/ Pedestrian:

Routes for pedestrians and cyclists are provided throughout the development. Additionally, a trail has been implemented to link park spaces along the rail lines and through the core of the development.

● Bus:

Local bus service can be brought into a one-way drop-off area from the East just at the end of 200 South. This is especially convenient for commuters coming from Cache Valley.



FRONTRUNNER EXPANSION AND TRANSIT-ORIENTED DEVELOPMENT

SPATIAL QUALITIES



Transit Hub

This kind of public space lies at the core of the development. It provides a transitional space for those using the FrontRunner station who arrive on foot, vehicle, bus, or bicycle. It will provide a variety of indoor and outdoor amenities for transit users.



Commercial/Mixed Use

Commercial uses such as restaurants, bookstores, convenience stores, and coffee shops along with mixed use amenities such as offices, hotels, and apartments are situated near the transit hub. This provides goods and services very near to transit users and residents.



Open Space

Open spaces such as this will serve the residents in the development. These spaces will contain trails, playgrounds, sport courts, and gardens. The shared open spaces will vary from semi-public to completely public.

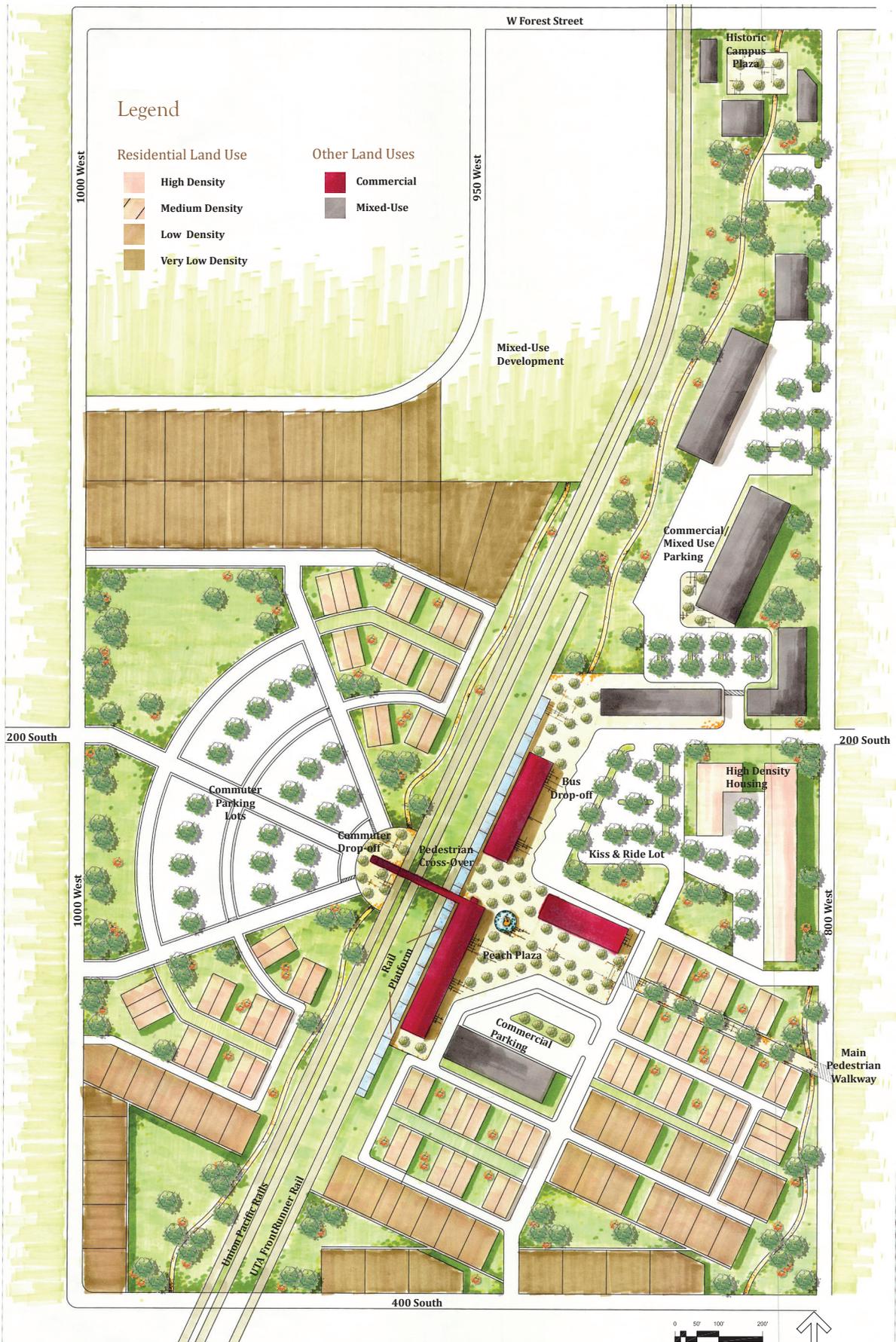


Residential

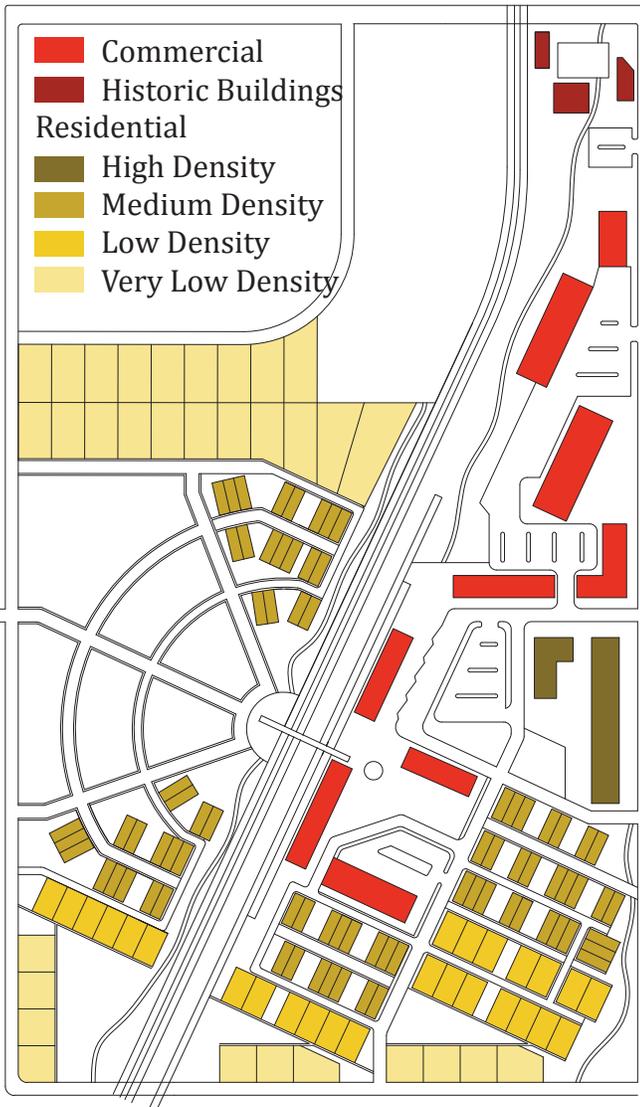
Varying densities of residential spaces will be offered, such as high density apartments, medium density townhomes, and low density single family residences. Having such variety allows for diversity in the community and accomodates multiple housing options.

FRONTRUNNER EXPANSION AND TRANSIT-ORIENTED DEVELOPMENT

SITE PLAN



FRONT RUNNER EXPANSION & TRANSIT ORIENTED DEVELOPMENT



Zoning

It is important in a Transit Oriented Development, a T.O.D., to have variety of homes and commercial uses. An important aspect of a T.O.D. is to orient the commercial space around the Train/Bus stations. The increase in pedestrian traffic around these locations brings with it extra commerce opportunities for the businesses surrounding them.

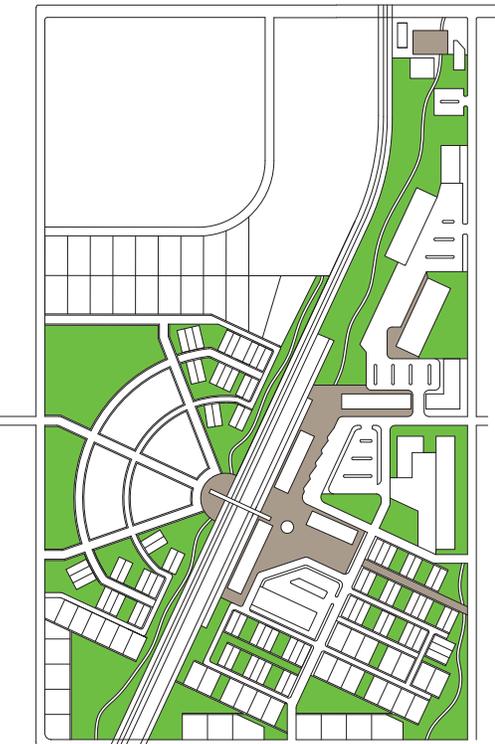
Radiating out from the commercial zone high/medium density are located so that more people can walk to the commercial zones as well as to the train. Radiating even further out the density decreases and merges into the surrounding neighborhood with low/ very low density housing.

Public Uses

Commercial	Mixed Use
78,700 sq. ft.	68,300 sq. ft.
50 parking stalls	250 parking stalls

Residential Uses

High Density	Medium Density
46,600 sq. ft.	210,600 sq. ft.
62 Units	78 Units
Low Density	Very Low Density
12,400 sq. ft.	385,300 sq. ft.
28 lots	32 lots
Total Sq. Ft.	Total Units/Lots
654,900 sq. ft.	200
Overall Density: 0.3 acre per unit	



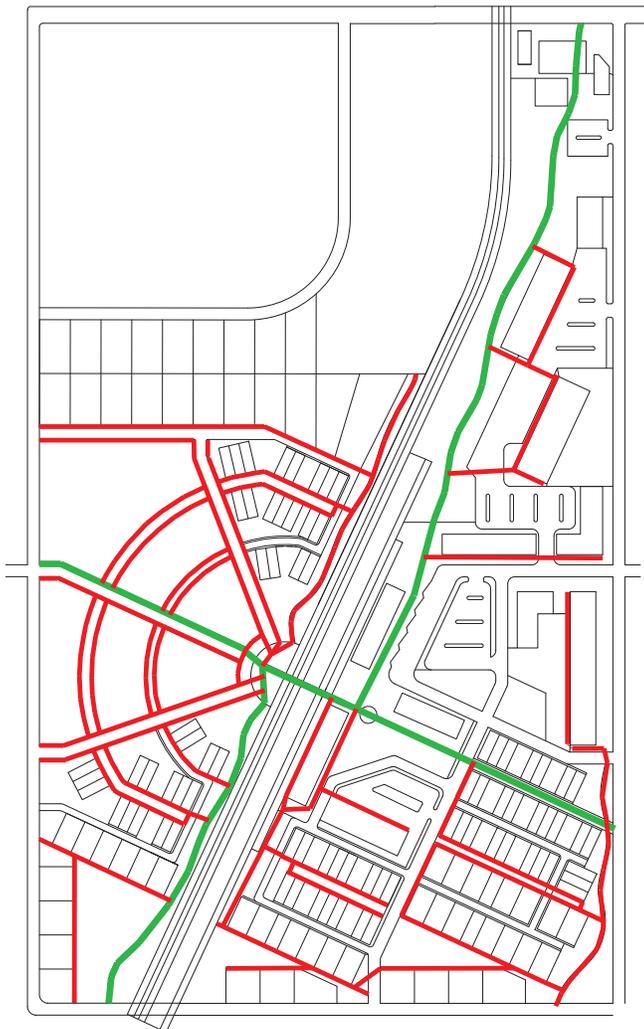
Open Space

We are proposing that a large portion of the site be set aside for open space such as parks/walkways and plaza spaces. Open space is very important in a high density development as most of the parcel space allocated to residents will be built upon. Open space also facilitates pedestrian use of the site which is essential in a T.O.D.

FRONT RUNNER EXPANSION & TRANSIT ORIENTED DEVELOPMENT

Pedestrian Circulation

Essential to the success of a T.O.D. is pedestrian circulation. A T.O.D. with ineffective circulation will not be successful. As part of our open space plan we have included an extensive circulation plan mostly centered around getting users to the train. Another important part of circulation in a T.O.D. is its connection to the surrounding community. We focused on Forest St., the high school, and the new park that is going in to the southwest.

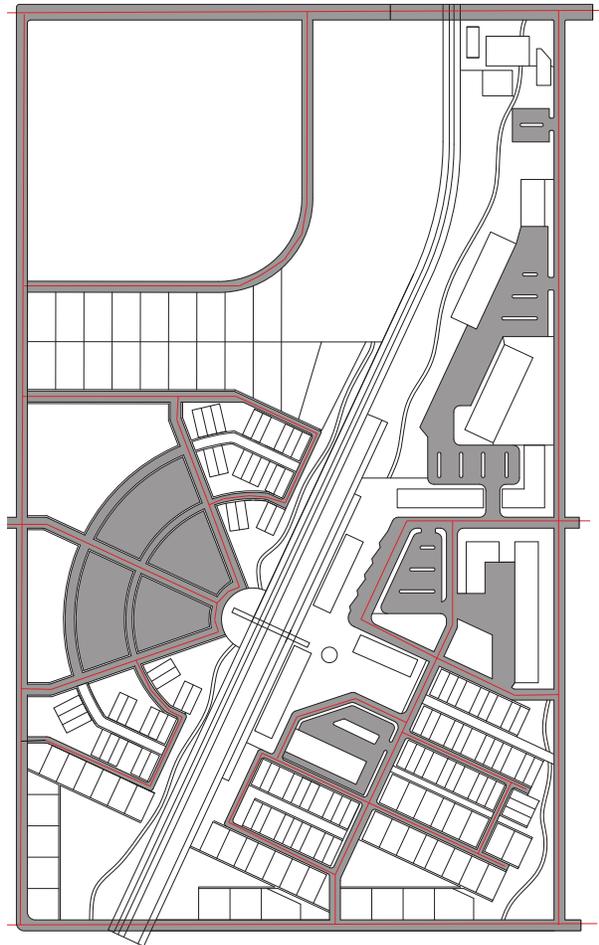


— Major Inter-City Trails
— Sidewalks and Paths

Vehicular Circulation

Although the main focus of a T.O.D. is the mass transit, the pedestrian and vehicular circulation is important as well. We are proposing the creation of a commuter lot to the west side of the tracks with a pedestrian bridge to transport pedestrians to the train station. Our second focus is pedestrian circulation and by placing the commuter lot of the opposite side of the tracks we hope to keep most of the vehicles away from pedestrians near creating a safer environment near the high school.

Closer to the train station on the east side of the tracks we are proposing a kiss and ride lot. This lot will be for dropping off and picking up passengers of train. This lot can also double as short term parking which can be used for people shopping as well as by people going to high school sporting events across the street.



Transit Parking

Commuter Lot	Kiss and Ride Lot
180,00 sq. ft.	37,000 sq. ft.
450 stalls	85 lots

FRONT RUNNER EXPANSION & TRANSIT ORIENTED DEVELOPMENT

Section Elevations



A Section-Elevation - Outdoor eating area in Peach Plaza along the main walkway.



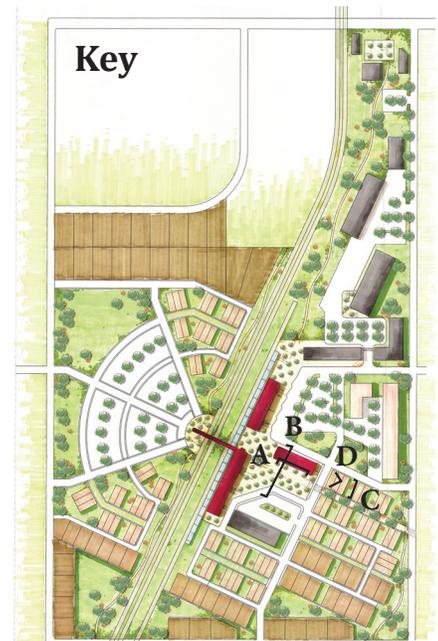
B Section-Elevation - Showing Peach Plaza



C Section-Elevation - Showing the shared green space between the townhouses.



D Perspective showing the street crossing of the main walkway into the plaza.



FRONT RUNNER EXPANSION & TRANSIT ORIENTED DEVELOPMENT

Transit Hub



The crossover structure becomes a gateway to Brigham City. This perspective is shown from the commuter lot looking east.



Image showing kiss and park and its location in proximity to the bus stops and the FrontRunner.



Image showing the bus drop-off area. The commercial buildings create a separation between the drop-off and the train platform but allow site users to easily move through.

FRONT RUNNER EXPANSION & TRANSIT ORIENTED DEVELOPMENT

Transit Hub



Image showing the Front Runner pulling up to the platform. Shelters provide a place for signage and seating along the length of the platform.



Image showing the Front Runner and the look out to the bus terminals.



Image showing the Front Runner and Peach Plaza as visitors would see it arriving by bus or via the kiss and ride lot.



Image showing pedestrians moving into the plaza. Peach trees are arranged in a grid pattern through the plaza. A peach fountain acts as a strong focal point along the axis of the path.

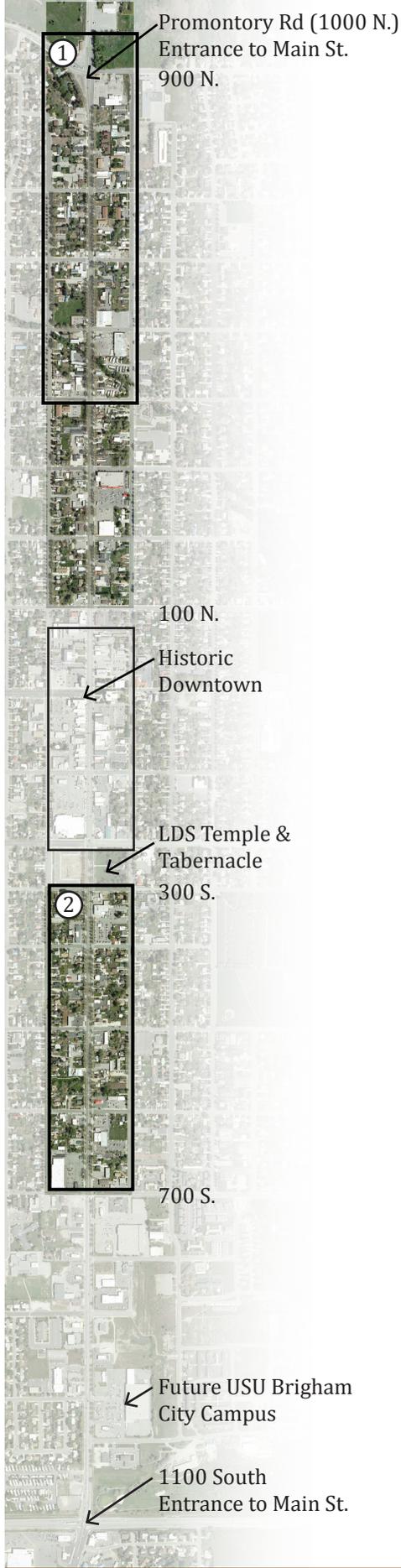
TEAM 8 - New development in the downtown / mixed
use development

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Zach Scott
Rob Owens
Nathan Jaramillo
Layne Morrison
Laurel Clayson
Luis Flores

FACULTY LIASON- DAVID EVANS

NEIGHBORHOOD COMMERCIAL DEVELOPMENT

Main Street Corridor



Preserving Main Street Character

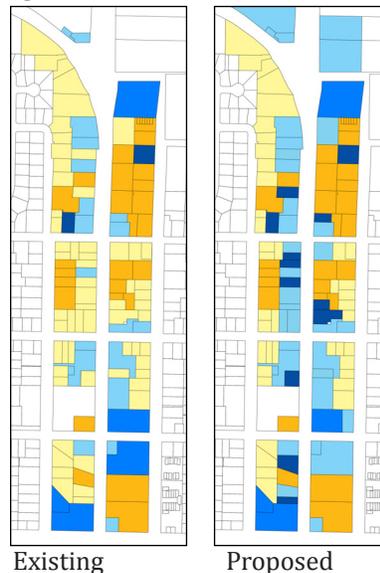
As the population of Brigham City continues to grow, so will the opportunities for commercial development, especially along Main Street. While residential family homes are currently prominent along Main Street, Brigham City has planned for this area to become an attractive commercial district. In the city's general plan, the areas north and south of the Historic Downtown district have been zoned "Neighborhood Commercial". This is a proactive measure to preserve the character and visual quality of Main Street and prevent the dominance of big box developments along this historic corridor. Under the direction of the general plan, we have provided design examples as suggestions for achieving the following goals:

- Improve the quality of life for current and future residents, while recognizing the challenges associated with growth and change
- Economic development through small-business growth and home-run business strategies including live-work facilities, offices, restaurants, and retail shops for those within walking, biking, or a short driving distance of the store.

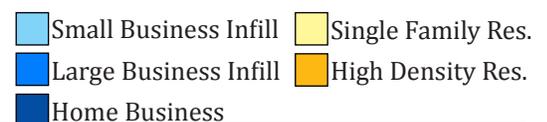
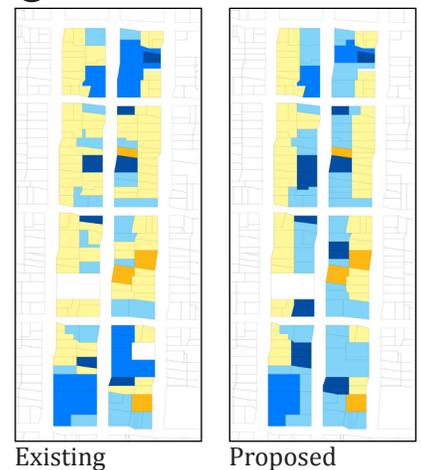
Parcel Inventory

The areas highlighted on the context map to the left have been designated by Brigham City's General Plan as neighborhood and mixed-use commercial zones. The inventory of existing property use shows how these areas are beginning to develop commercially. With the right planning, the transition from residential to commercial land use can preserve the residential character of Main Street while providing new services to surrounding residents. In the proposed parcel maps, small business infill (light blue) and home businesses (dark blue) are preferred over large business development (medium blue) that is not compatible with the surrounding area.

① North Main Entrance



② South Main



Visual Analysis

Corner Store

This example shows a business advantageously located on a street corner, next to a marked crosswalk with a stop sign. The building is on a similar scale to its neighbors and painted with pleasant colors that are not distracting. Parking is in the rear, which has two major advantages: first, pedestrian access is easy and safe, and second, the building (not the parking lot) is the first thing to be spotted by both drivers and pedestrians increasing the visibility of the business.



Small Business Infill

This building has a façade very similar to the style and scale of the surrounding homes. This creative interpretation of tradition creates a pleasing rhythm and a feeling of connectedness with the rest of the district, as well as adding to the local character. The structure is framed by two street trees which also provide shade for pedestrians, making walking in this area more pleasant and comfortable. The store signs are easily seen and the position of the building close to the street make this building very visible and attractive to potential customers walking or driving by.



Existing Home Reuse

Converting an existing home into a small business is an excellent way to increase commercial activity in an area while retaining the local character. With a few interior modifications to open up floor space, many homes along Main Street are suitable for businesses such as flower shops, hair salons/barber shops, legal offices, and small retail establishments. Many of these homes are already landscaped or could improve their landscaping easily, forming an attractive and inviting edge to the roadway. Parking can be added behind the house.



NEIGHBORHOOD COMMERCIAL DEVELOPMENT

Empty Lot

If left alone, an empty lot is a gap in the rhythm of the district. However, a lot is best seen as an opportunity for positive infill. A few small one or two story buildings, designed to harmonize with existing structures, could house small businesses and emphasize the local character. Placed at the front of the lot and equipped with well-designed signs, the businesses would be very visible and easily accessible to pedestrians, increasing the walkability of the district. There is space in the rear for a small parking lot, which would make the businesses accessible to drivers as well. Finally, a planting of trees, grass, and perhaps some shrubs or flowers would make the new buildings even more welcoming and form an attractive edge to the roadway.



Large Business Infill

Here is an example of a building arrangement that does not contribute to a cohesive, pedestrian-friendly district atmosphere. This arrangement, with a large parking lot in front of the building facing the street, is not visually pleasing or welcoming, especially not to pedestrians, who may feel wary of crossing a parking lot busy with cars to get to their destination. The view of this business from the street is dominated by a large stretch of asphalt and cars, unbuffered by trees or other landscape elements. The boxy, cinder block building does not fit in with the traditional residential brick architecture of the surrounding area.



In order for the building to fit comfortably in with its surroundings and contribute to the rhythm of the streetscape, the parking must be relocated to the rear and the building brought forward to “front” the street. This prevents the business from being hidden behind asphalt and cars, and brings the building in line with the other buildings on the street, avoiding a “gap toothed” look. The architecture doesn’t need to match the older homes and businesses on this street, but it should be harmonious with the local character. This could be achieved with a change in paint color or the use of different building materials. Finally, the addition of trees and greenery would add visual interest, provide shade, and contribute to Brigham City’s historic sycamore-lined Main Street.

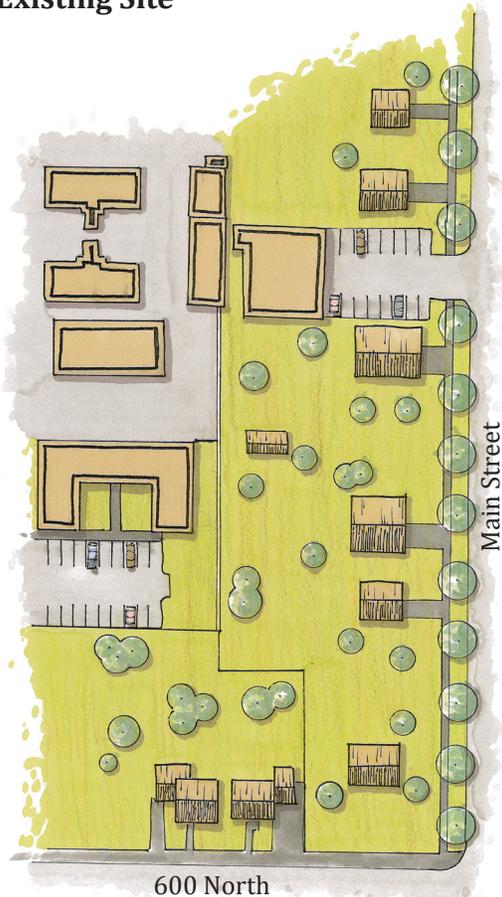
**North Main Revitalization
A Prototypical Scenario for Small Scale Commercial Infill**

Using existing homes or structures along Main Street for retail or business use increases the residence-friendly services for those within walking or short driving distance. Small scale infill of empty lots is also suitable for this area. As an example of the potential North Main holds for this type of development, we propose developing a portion of the block found between 600 North and 700 North. It is currently composed of single family homes, apartment buildings, and a small church. In order to turn this into an attractive, walkable, and neighborhood-serving commercial area, shared parking, additional sidewalks and paths, and more trees have been introduced. Several homes along North Main Street could easily be turned into small businesses and offices that enhance, rather than detract from, the character of the neighborhood.

Fill unused areas with new, compatible structures to increase density and character. Increased density allows more businesses and services to fit into a smaller space, increasing walkability. Parking lots are generally unattractive and can decrease the visibility of a businesses from the street. Moving parking to the center of the block and sharing lots between multiple businesses decreases the area devoted to parking and allows buildings to be located along the street. This contributes to visibility and an attractive, harmonious edge to the roadway. Parking is easily accessible by alleys leading to and from the street. Additional sidewalks and paths give nearby residents access to businesses. Finally, adding more trees and other plants to the area will provide shade and increase the attractiveness and desirability of the development.

Existing Site

Proposed Development



Proposed Elevation along North Main Street

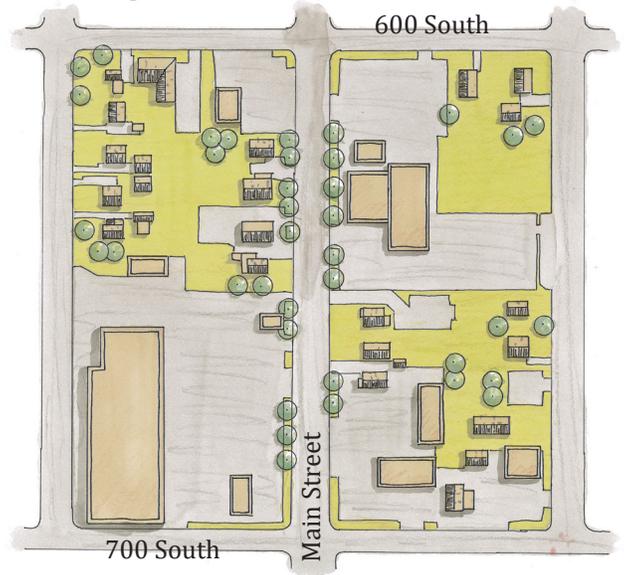


South Main Corridor Development A Prototypical Scenario for Small Scale Commercial Infill

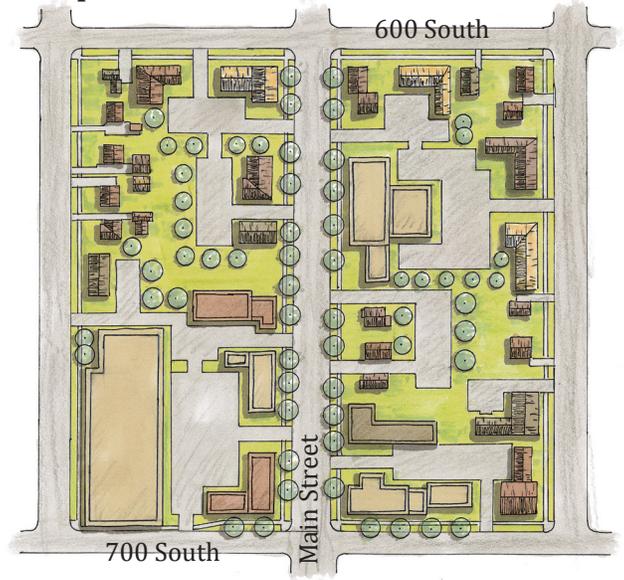
Improving the commercial corridor along South Main is needed to preserve downtown character. This type of commercial development is auto-oriented and consists of larger businesses compared to the North District. However, similar strategies can be used to create a cohesive transition to Historic Downtown. In this example, buildings are added to the corners and sides of Main Street, with parking lots moved behind the buildings. Some existing structures will need to be removed in this area to allow for efficient parking and business location. New buildings are designed to be compatible with local architecture and contribute to a atmosphere of the surrounding community.



Existing Block



Proposed Block



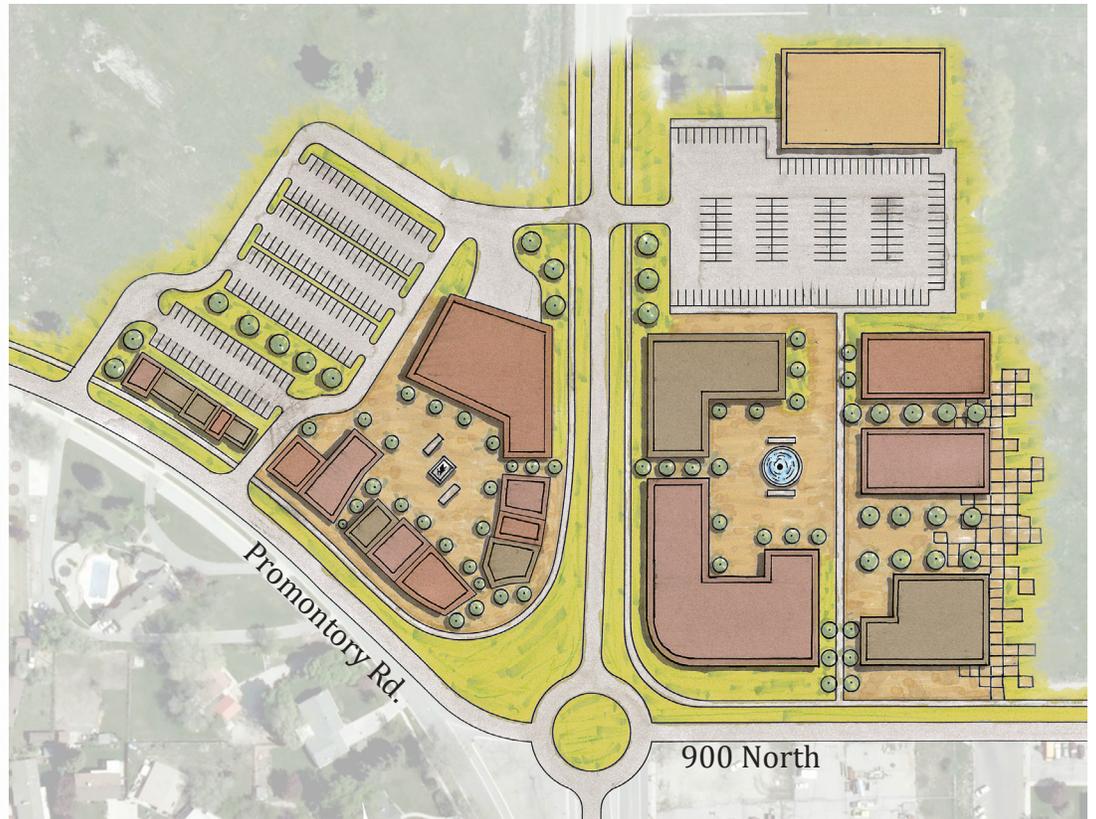
Proposed Elevation along South Main Street



South Main Corridor Development

The proposed, all-new development at the north end of Main Street is designed to be a commercial/business center with space for small to medium sized retail spaces and restaurants on the west side of Main and several office and mixed-use buildings to the east. The complex follows the neighborhood-enhancing principles of the other proposed developments. It is designed to be pedestrian friendly, with crosswalks, sidewalks, shade trees, and resting places in the form of plaza seating and an open green space to the east of the complex for passive recreation. Each of the inviting central plazas can hold outdoor seating usable for eating, drinking, and socializing. This complex could lessen car usage as it has work space, food, shopping, and recreation all within a relatively small area. The parking for this development, as in the others, is proposed to be located near the back, screened by trees and other landscape elements, to once again give an attractive face to the street.

Proposed Plan



Proposed Model looking North



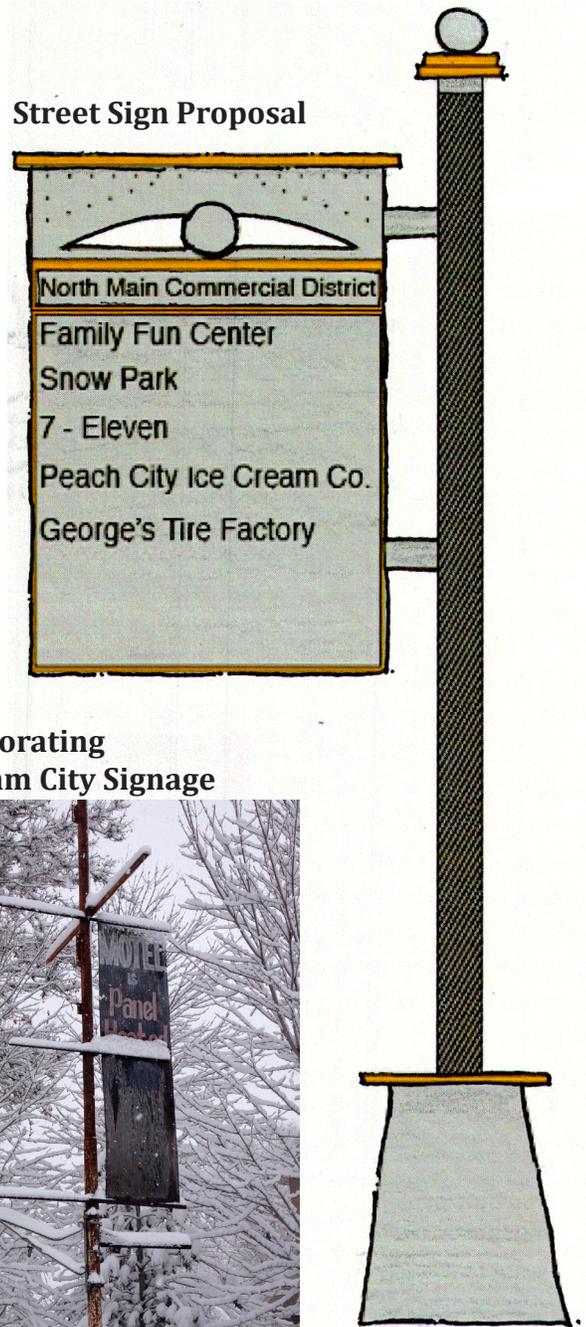
Signage and Wayfinding

The lack of signage along North Main is detrimental to its identity and survival as a commercial district. Taking this into consideration, as well as the very large street trees and the need for wayfinding both on foot and in a vehicle, we have provided examples for signs that would line the streets and sidewalks of Main Street. To increase walkability, signs for local businesses will be placed on the sidewalk, accompanied with a small map, enabling anyone to easily find the business of choice. Keeping safety in mind, we suggest crosswalks with pedestrian warning lights at key Main Street intersections. With these improvements, the new commercial districts will allow more patrons to know where they're going and increase walking throughout the North Main Commercial District all within a safe environment.

Signage Precedents



Street Sign Proposal



Deteriorating Brigham City Signage



TEAM 9 - Neighborhood commercial

Andrew Noorlander

Mike Pace

Brooklyn Riley

Scott Arbon

Joshua Usry

Clara Glabau

Myron Benally

James Hansen

FACULTY LIASON- DAVID EVANS

New Development in Downtown

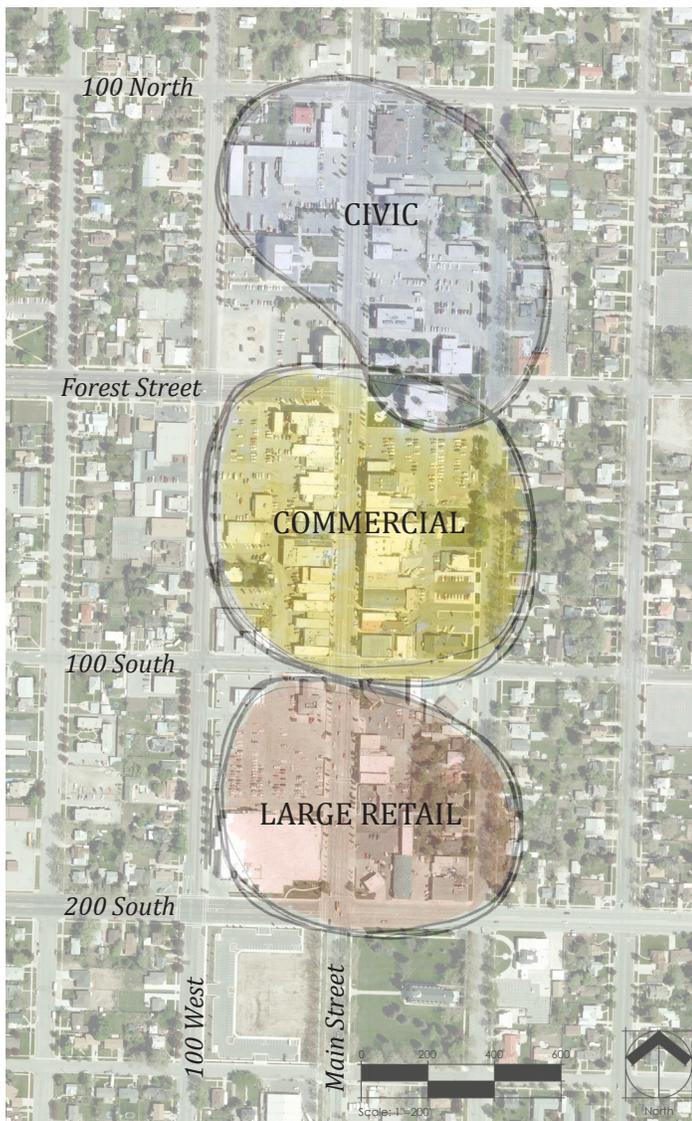
The design team was charged with developing alternative concepts for new development in the downtown area. Brigham City's general plan designates the downtown district as the 3 blocks along Main Street between 100 North and 200 South.

Goals:

To create a vibrant, inviting and walkable downtown district while enhancing the economic viability of downtown.

Objectives:

- Increase the density of downtown through mixed-use infill.
- Enhance the "visibility" of downtown (create an identifiable district).



The map above shows a vision for future development within the downtown district, while acknowledging existing building functions. Existing Civic uses include both county and city buildings. Commercial uses exist between 200 South and Forest Street. Maintaining and building upon these uses will help create an identifiable downtown district.

Mixed-Use Development Precedents:



Widner & Associates, Inc.



World Changing Seattle



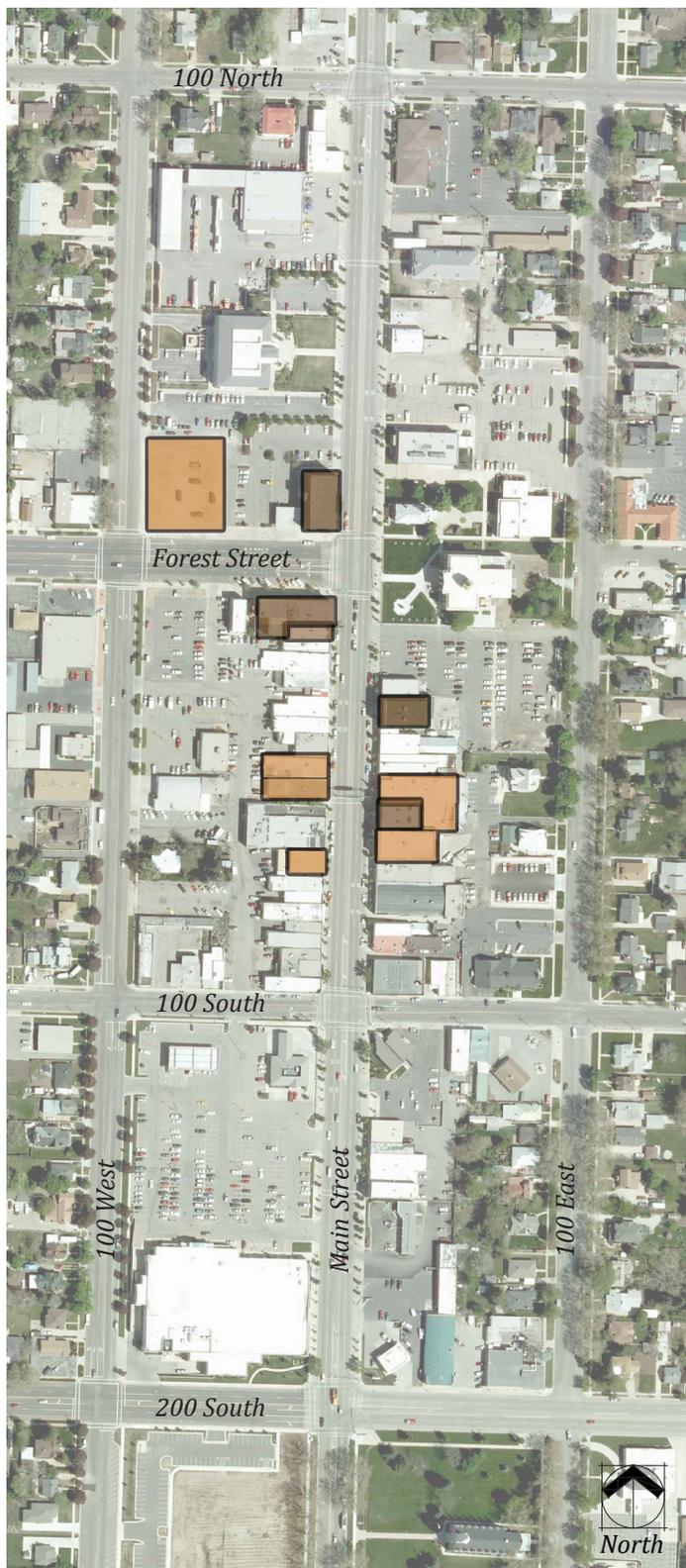
Valley Blueprint



Peabody Place Mixed-Use

Downtown Development Analysis

A thorough analysis of the downtown district was conducted to identify potential opportunities and constraints within the area. The maps below show buildings that are currently vacant or underused. Vacant buildings should be occupied by successful businesses as a means to enhance the appeal of downtown Brigham City. Almost all second and third stories in the downtown district are empty, and could be converted to residential units. This conversion from underused space to apartments will help build a strong consumer base for existing businesses to rely on.



Existing structures with vacant 2nd or 3rd stories



Existing vacant or for sale buildings

Downtown Development Analysis

The maps below show the abundance of usable parking space in downtown as well as potential areas where walkability and connectivity can be enhanced.

The following data represents the most common businesses in the downtown area:

- Banking: 4
- Restaurants/Cafés: 4
- Salons: 6
- Entertainment/Activities/Dining: 7
- Print/Copy: 5
- Insurance/Mortgage: 4



Existing downtown parking



Existing city-owned parking and mid-block throughways

West Commercial Block Infill Development - Concept A

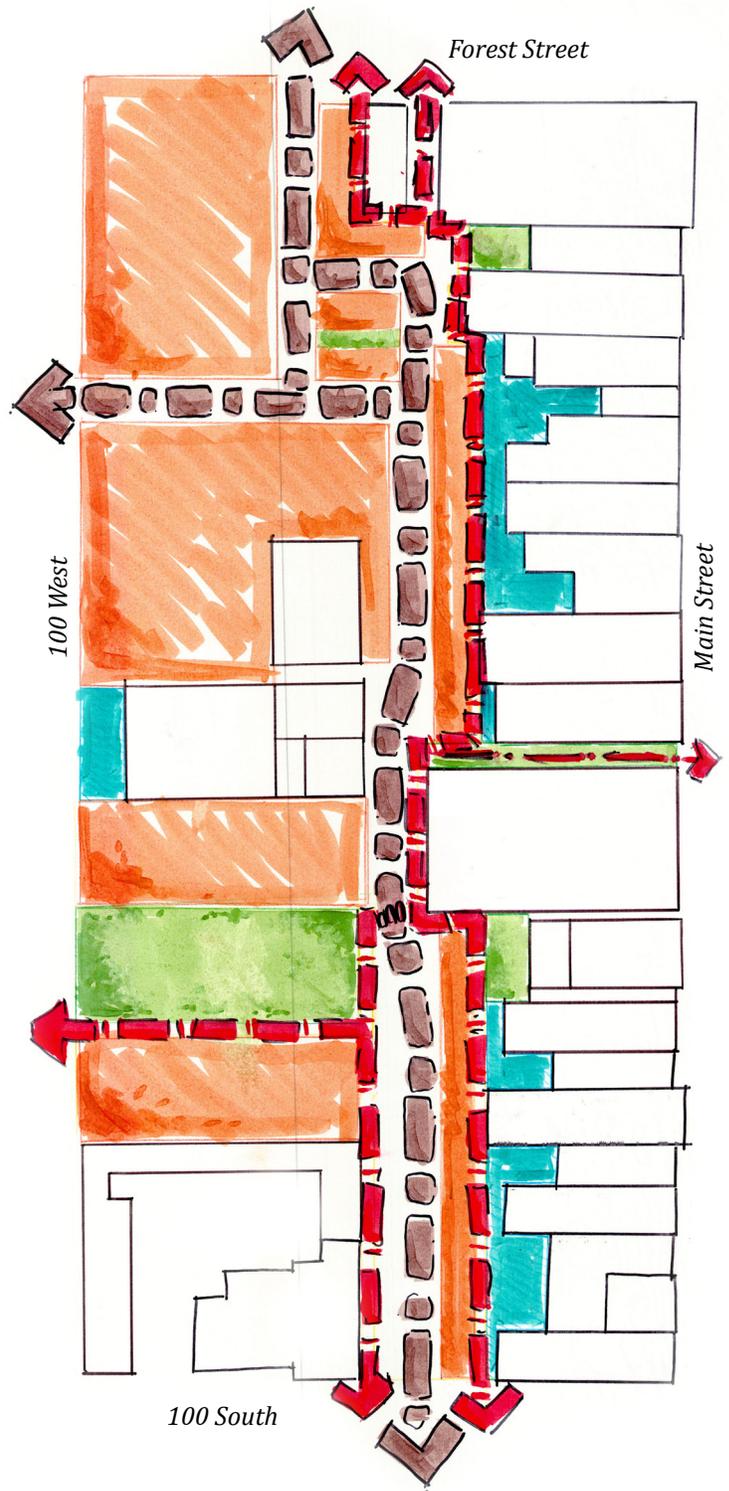
The block west of Main Street between Forest Street and 100 South was focused on as a starting place for future development within the downtown area. This concept emphasizes the need for vacant buildings to be occupied by successful businesses as a means to enhance the appeal of downtown Brigham City. Second and third stories in the downtown district should be converted to residential living space, helping to build a strong consumer base for existing businesses to rely on.



Context Map

Legend

	Green Space		Commercial
	"Flex" Space		Vehicular
	Parking		Pedestrian
	Residential		



Concept A - Conservative Approach

- Preserve existing buildings and parking
- Enhance pedestrian connectivity
- Clearly delineate vehicular circulation
- Create "flex" space behind buildings
- Propose facade grant program for backside of buildings

West Commercial Block Infill Development - Concept B

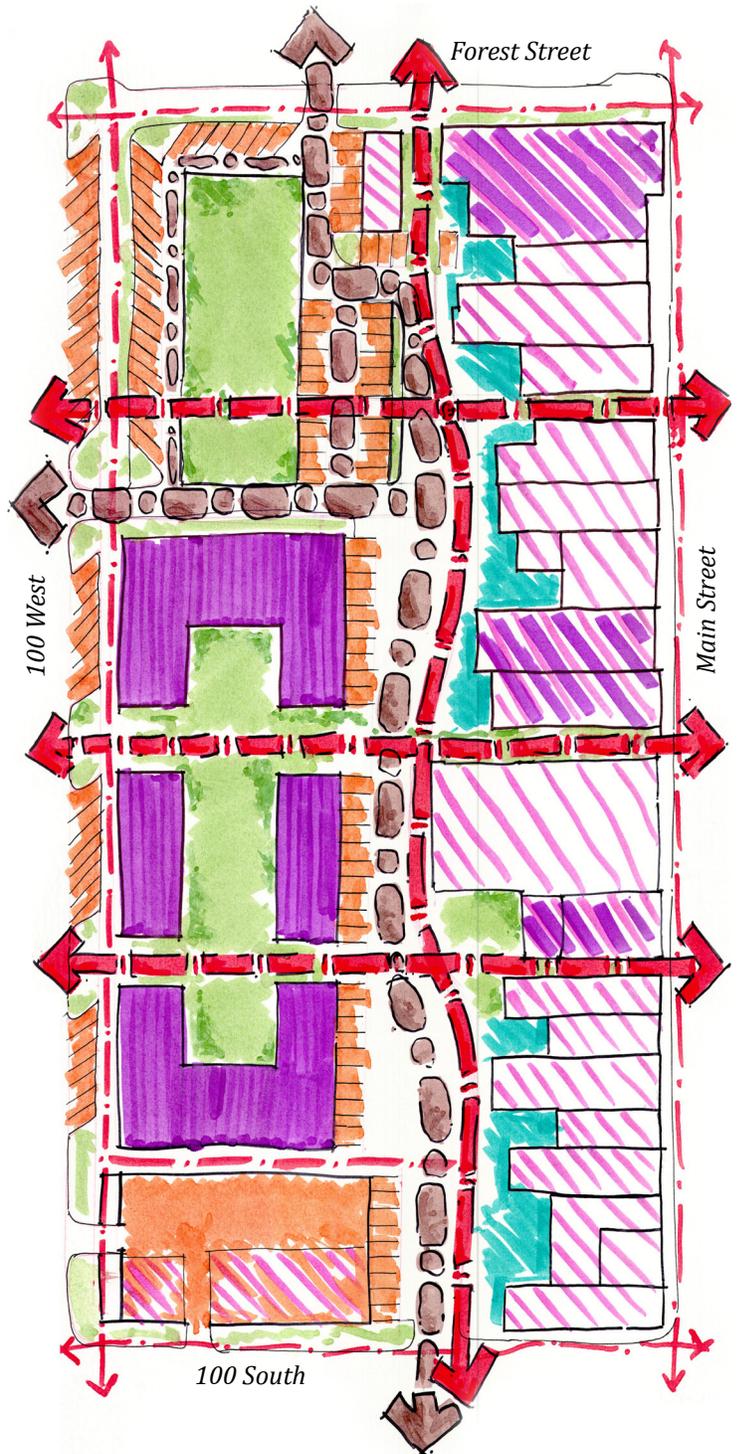
This concept, for the block west of Main Street between 100 South and Forest Street, builds on "Concept A" by applying a more pro-active approach to future land use planning and design. While emphasizing the need for vacant spaces to be occupied by successful businesses as a means to enhance the appeal of downtown Brigham City this concept creates a larger consumer base for the downtown district by implementing several mixed-use (residential/commercial) buildings.



Context Map

Legend

- | | | | |
|--|--------------|--|------------|
| | Green Space | | Commercial |
| | "Flex" Space | | Vehicular |
| | Parking | | Pedestrian |
| | Residential | | |

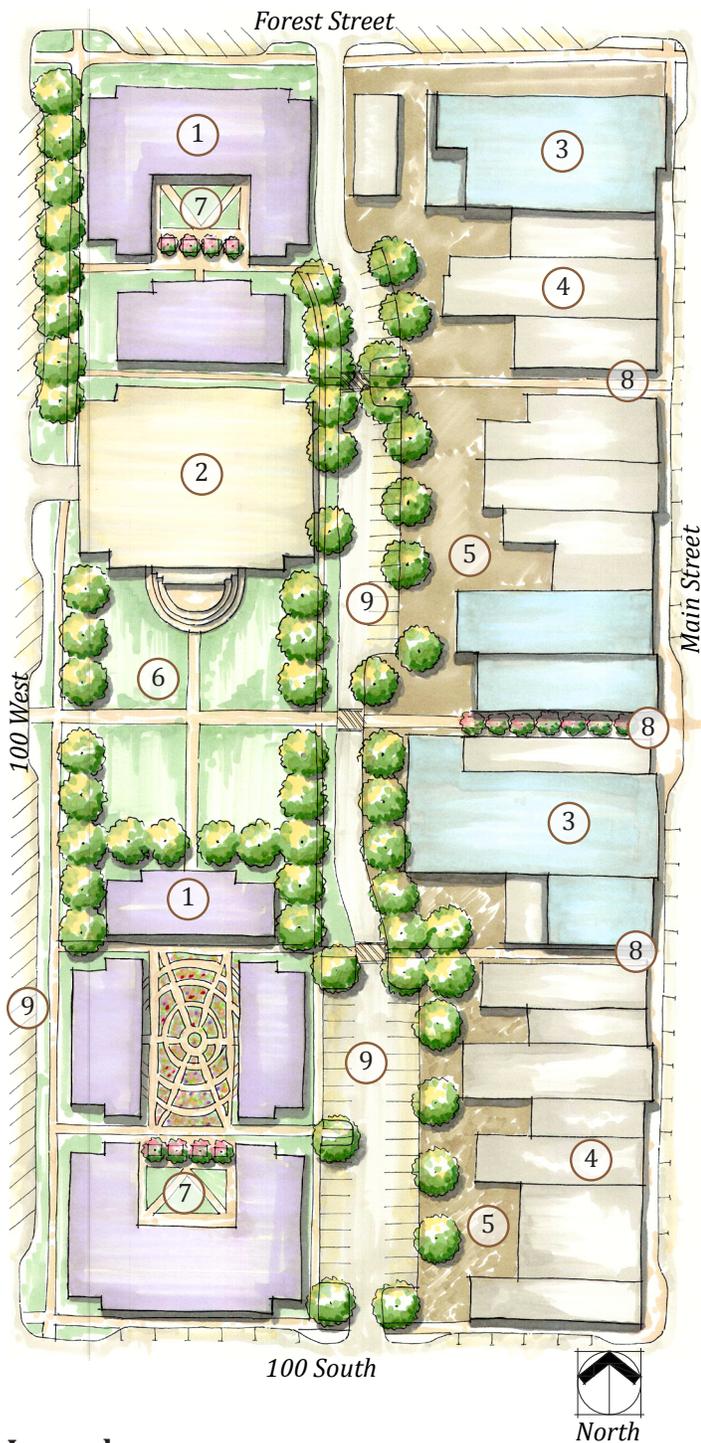


Concept B - Pro-Active Approach

- Increase density by mixed use infill
- Preserve existing commercial buildings
- Enhance walkability with new throughways
- Clearly delineate vehicular circulation
- Create public green space for events and private green space for residents

West Commercial Block Infill Development - Illustrative Master Plan

This Illustrative Master Plan for the west commercial block of downtown focuses on increasing the walkability and economic vitality of the district.



Legend

- | | |
|--|-----------------------|
| ① Residential Mixed-Use | ⑥ Event/Green Space |
| ② Parking Structure | ⑦ Private Green Space |
| ③ 2 nd /3 rd Story Residential | ⑧ Throughways |
| ④ Commercial | ⑨ Parking |
| ⑤ Flex space | |

Existing structures with vacant 2nd and 3rd story buildings should be developed to support residential use. New multi-family residential and mixed use buildings are proposed on the west side of the block to increase the consumer base for the downtown area. These approaches will allow for the growth of existing businesses and the creation of new businesses in the downtown area.

A parking structure is proposed on site to allow parking for those coming to shop within the district as well as for on-site residents. It's location near the main thoroughway provides an essential connection to Main Street and the historic theater area.

The event/green space is designed to become a place that can handle large amounts of people for events such as concerts or peach days activities.

Flex space behind commercial buildings will remain at the same grade as the alley and parking to accommodate the delivery/parking needs of businesses. It can also be transformed into public space such as outdoor dining areas for restaurants.



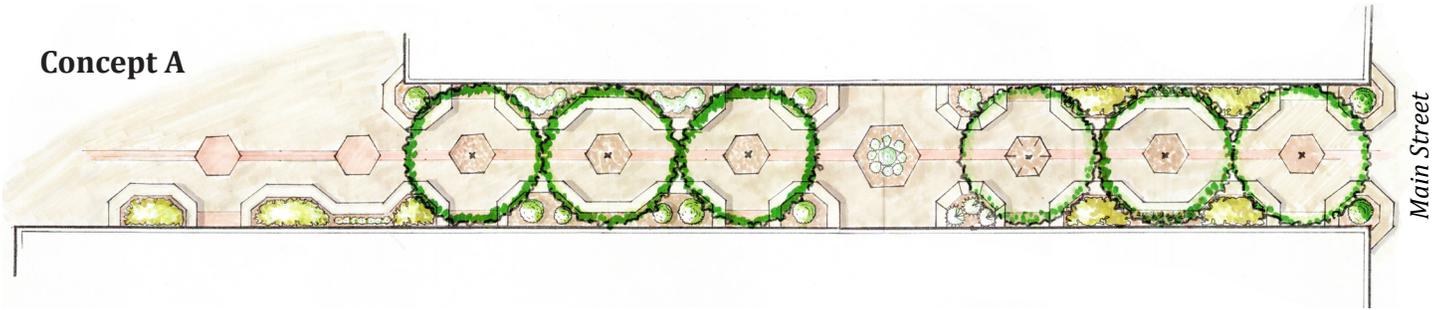
Model Looking Northeast



Alleyway Perspective

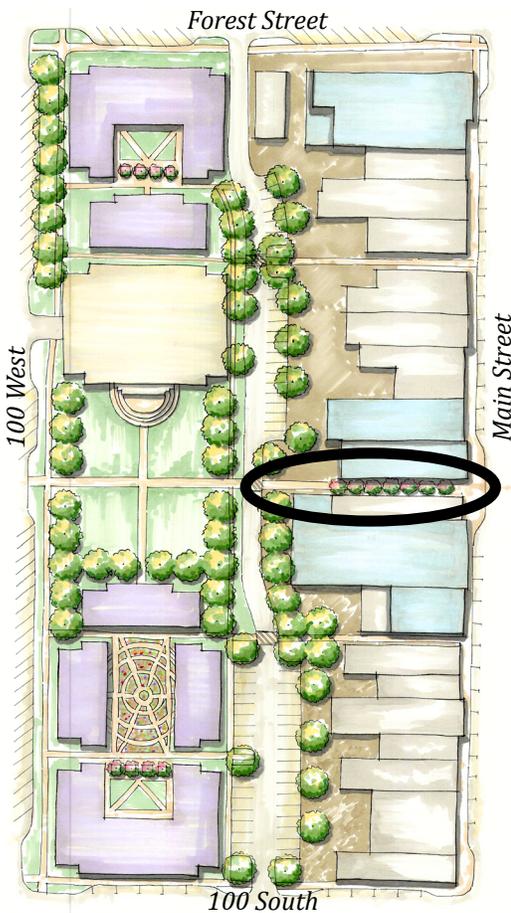
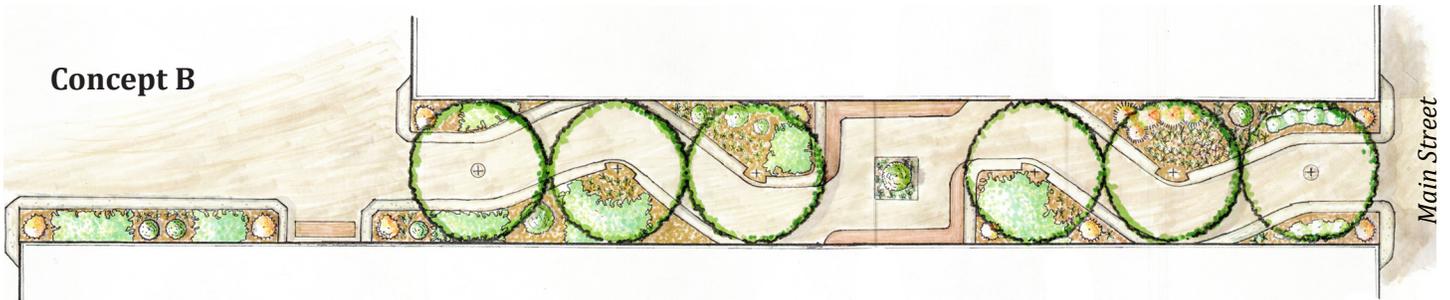
West Commercial Block Infill Development - Connectivity Enhancements

Concept A

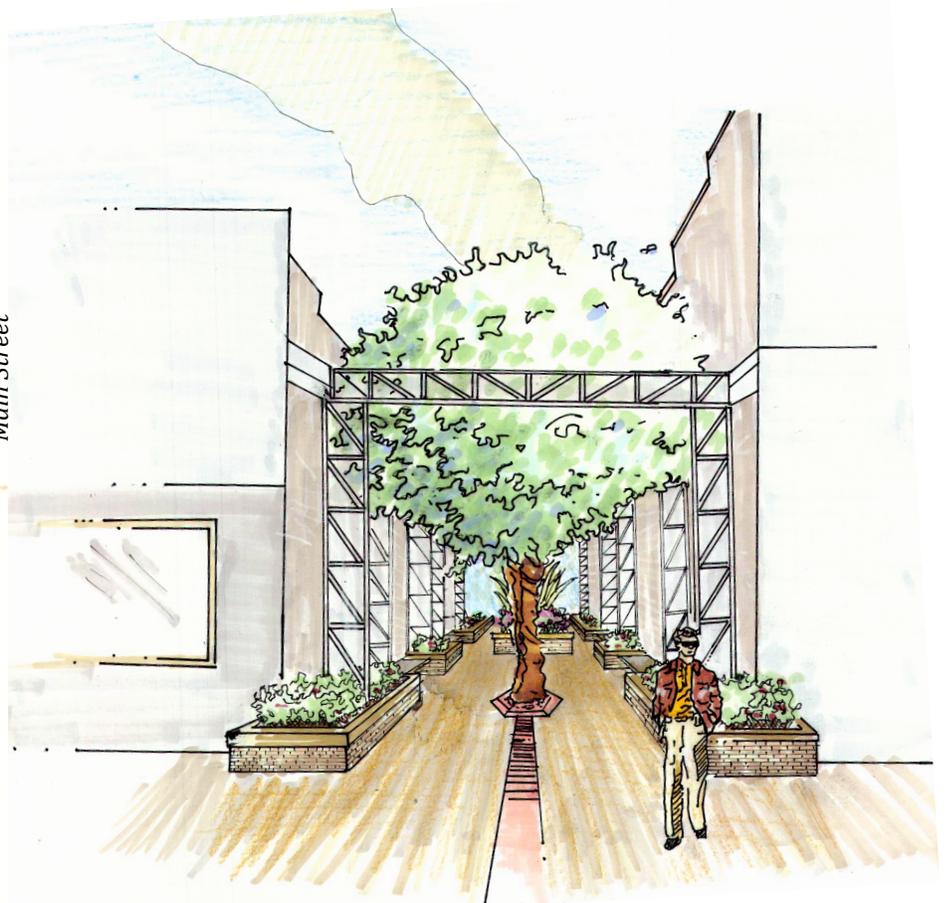


The existing thoroughway connecting the mid-block to Main Street is redesigned to enhance the pedestrian experience. It is intended to become a major connection between Main Street and the proposed event/green space. Other thoroughways should be incorporated where possible to increase the overall connectivity of the block and district as a whole. Two alternative concepts were created.

Concept B

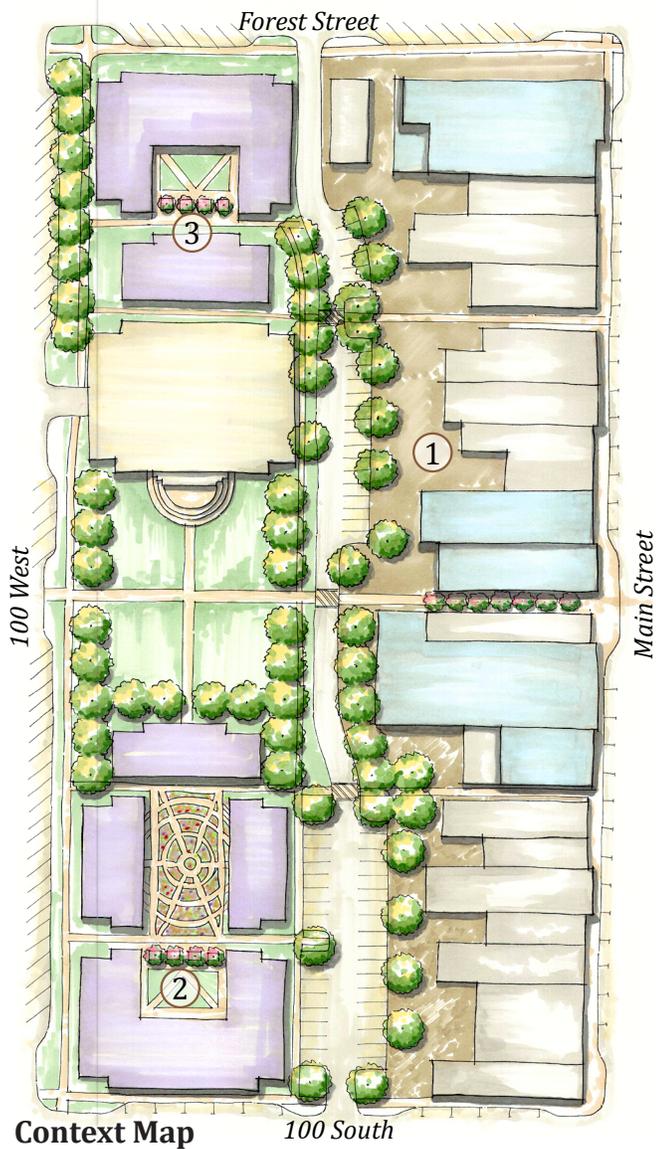


Context Map



Pedestrian Throughway Perspective

West Commercial Block Infill Development - Visualizations



The various renderings on this page illustrate what potential improvements to the west commercial block of downtown may look like.



① Alley Facade Upgrade



② Residential Courtyard Perspective



③ Residential Garden Section

TEAM 10 - USU BC campus / city interface

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Christian Orr
Graydon Bascom
Joanie Christiansen
Samuel Taylor
Liming Ding
Caleb Camp
Matthew Christensen

FACULTY LIASON- PHIL WAITE

USU Brigham City Regional Campus Future Growth and City Interface

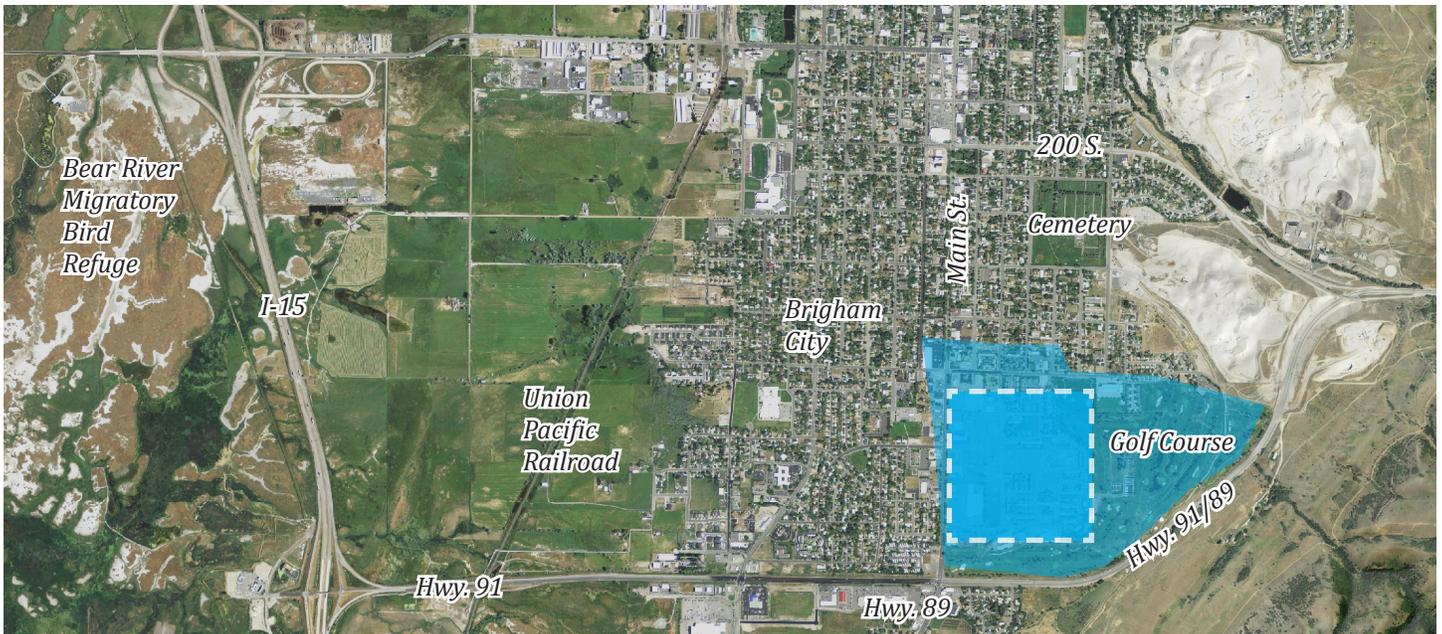
Context



New Administrative Building, USU BC Regional Campus. Image: CRSA

The Utah State University Brigham City Regional Campus began in 1983. From that time campus has grown to more than 1,000 students and has outgrown its current facility in the old Fred Meyer building. A new 60-acre parcel of land has now been acquired to build a new campus on the site of the former Intermountain Indian School. A master plan for this site was designed by CRSA Architects to accommodate the next 100 years of campus growth. As the campus grows over the coming century it will be increasingly important to its connectivity with Brigham City in a mutually beneficial way.

The land uses surrounding the new campus site have been identified in this project and include single and multi-family housing, commercial and retail space, senior housing, golfing green, and light industrial uses. With the purchase of the new property, and with the expiration of a supporting Redevelopment Area (RDA), community leaders found it imperative to continue the development of this area on the south side of Brigham City by creating a Community Development Area (CDA). The purpose of this CDA is to support the growth, economy and vitality of the area through the use of a state bond. The area that incorporates this CDA includes the University acreage and up to 700 South, and south to Highway 91.



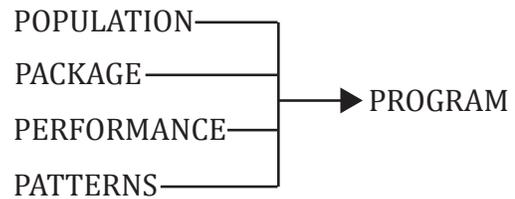
Context Map of Southern Brigham City with surrounding area and connections. Image: ArcMap 10.1 Imagery

Future USU BC Campus		Community Development Area	
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Program

The overall objective of this project is to identify the future growth issues for the areas surrounding USU BC Regional Campus and provide design solutions for stakeholders that focus on physical, cultural and aesthetic interfaces with the community.

In order to address this goal, the parameters of the design must be established. This will be accomplished through focusing on the four aspects of a program as outlined by Kevin Lynch in *Site Planning*. These aspects are population, package, performance, and patterns.



Kevin Lynch, "Site Planning," pg. 107 -125.

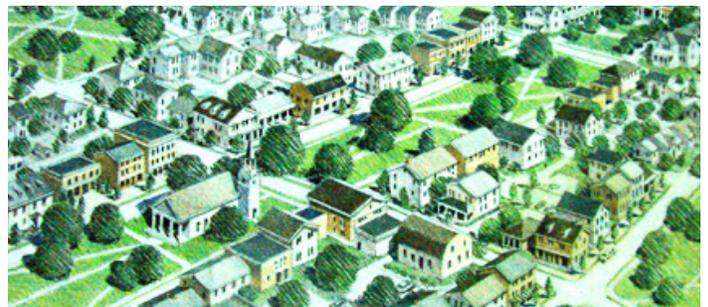
Population

Population is defined as the users of an area. The users of this site includes current homeowners, commercial customers, business owners, students, faculty, staff, administrators, recreation areas attendees, and travelers passing by on Main Street. An emphasis should be placed on making the area ADA accessible, with universal design standards as the template for pathways, crossings, etc.

Performance

Performance is the degree of convenience, comfort, stimulation, safety, access, fit, sense, control, maintainability, adaptability, or any other quality desired in a design. The following parameters will be followed as to the performance of this project:

- (1) Walking routes should be safe, direct, and follow universal design standards.
- (2) Residences around the campus should be able to maintain privacy.
- (3) Integration of the campus tree plan should coincide with Brigham City's tree plan.
- (4) Neighborhood parking should be maintained for residences only.



Randall Arendt, "Envisionina Better Communities."



Package

The package involves deciding on the type and quantities of elements to be provided by a design. We will provide the following as part of the design solutions:

- (1) Provide examples of the possible form of the urban interface between the university and the community. This will include the form of commercial and residential development surrounding the university campus.
- (2) Establish a number of desired secondary services within the CDA for the campus and determine minimal distances to these services.
- (3) Provide design concepts for a shopping center on the north-west corner of the campus.
- (4) Establish connections to possible mass transit sites and provide solutions for how it would function.
- (5) Identify safe crossings for Highway 13/ Main Street to campus site.

Patterns

Patterns are precedents or workable examples. These examples should show some pertinence to the project that it is influencing. The following are precedents for this project to be referenced as inspirations:



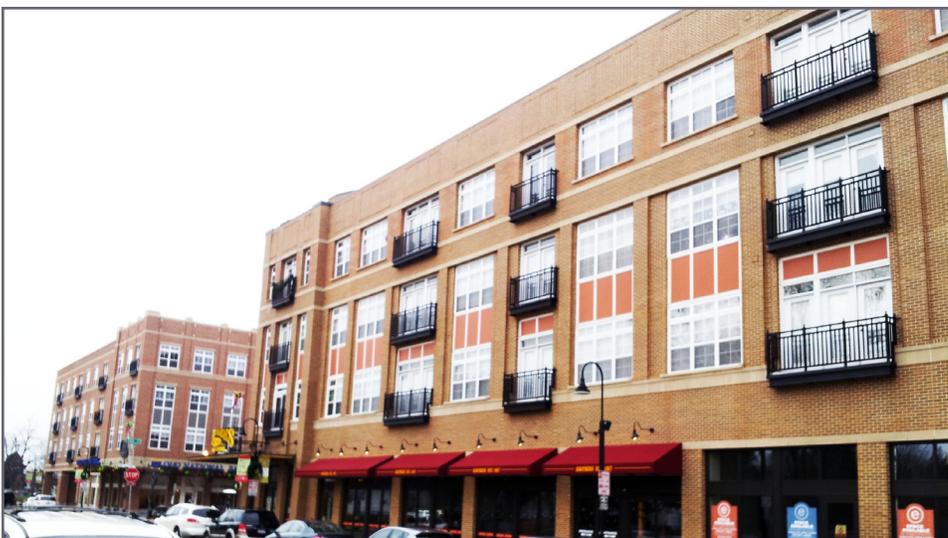
*Colorado State University,
Fort Collins, CO.*

This parking structure integrates smoothly into the surrounding landscape without drawing attention to its function. It also serves as a multi-use function, providing retail space on the first floor that can generate revenue for the complex.



*The Market Common,
Arlington, VA.*

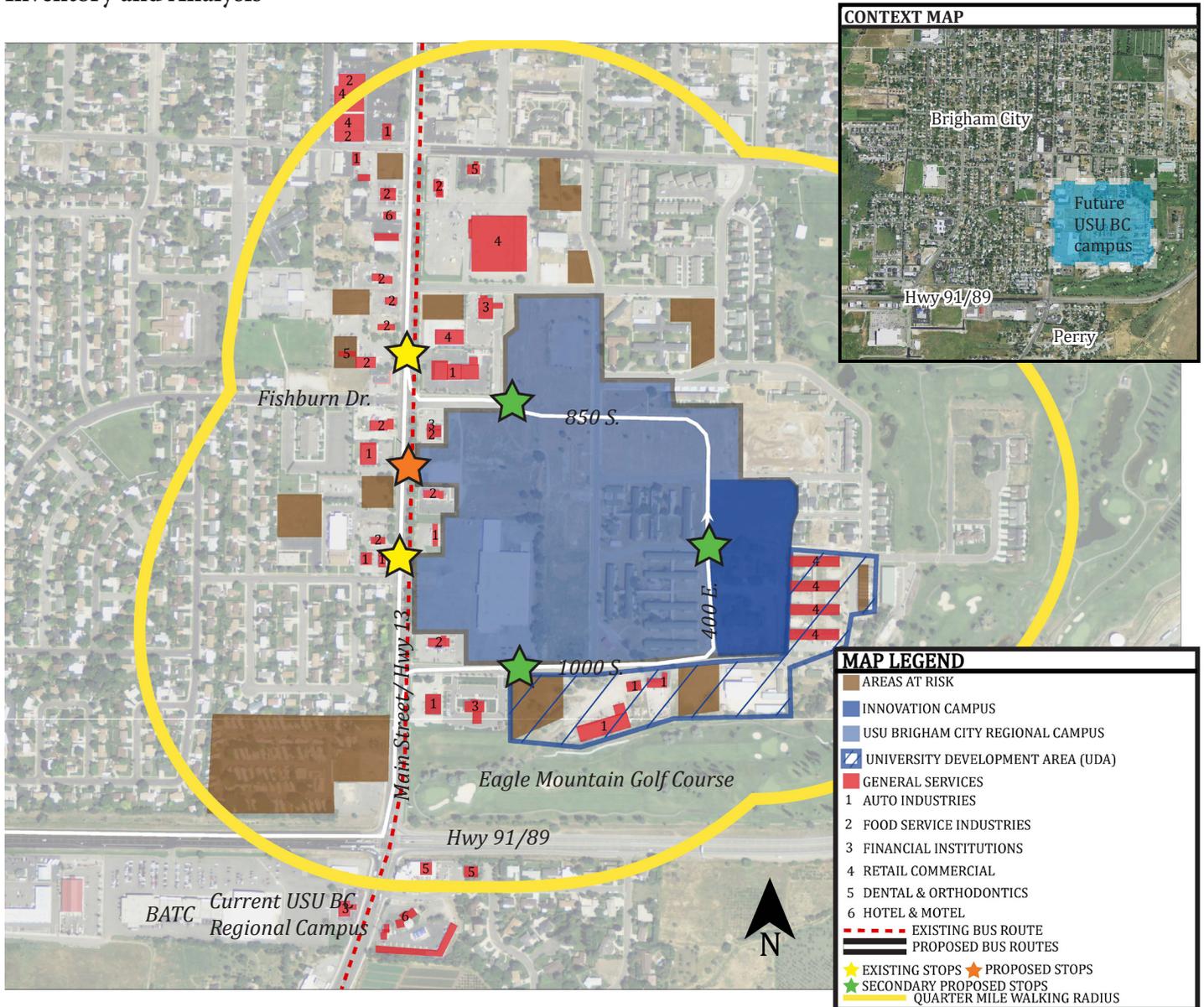
This development is unique in its form. Retail, parking, and residential housing form a perimeter around a central island, with a drive and parking surrounding the central island. This island forms a linear element that is informative in the extension of CRSA's intended design of USU BC campus.



*Eddy Street,
South Bend, IN.*

This development is relevant because of its function as a mixed-use development within a university's periphery. It includes retail and shops on the first floor, with residential on the top floors. One of the retail spaces serves as Notre Dame University's bookstore, thus drawing students and university faculty into the area. Note: the scale of this development is larger than the intended scale of USU BC campus.

Inventory and Analysis



Existing residential areas surrounding the campus should be treated sensitively. The university will need to ensure that future growth does not conflict with neighborhood access, uses, or views. Additionally, Brigham City should enforce strict zoning ordinances to prevent the deterioration of these residential areas. Special attention should be given to the prohibition of basement rentals within family housing areas, as this practice often leads to the demise of neighborhoods adjacent to university campuses.

In addition to the proposed retail development on the USU campus, many other opportunities exist for commercial development along the Main Street corridor. Empty buildings and vacant lots should be purchased and developed for new commercial

uses, either by the university, the city, or third-party developers given tax incentives to follow prescribed uses. The trailer park at 1060 South and Main Street and the Breitenbeker's strip mall should be redeveloped as new commercial hubs. New commercial development should be focused on retail and entertainment services to support both the students and the community. Specific design templates should serve as a model for new developments to create uniformity along the district. Both university and city will be strengthened as infill sites along the Main Street commercial district are developed.

The light industrial district on 1000 South runs along the southern border of the USU-BC campus. In years past, this street was considered a part of

Inventory and Analysis (cont.)

the “edge of town” and was suitable for industrial uses. However, as the campus grows, these existing activities will become incongruent with neighboring land uses. Furthermore, the Eagle Mountain Golf Course potentially offers a more natural edge to the campus on the South.

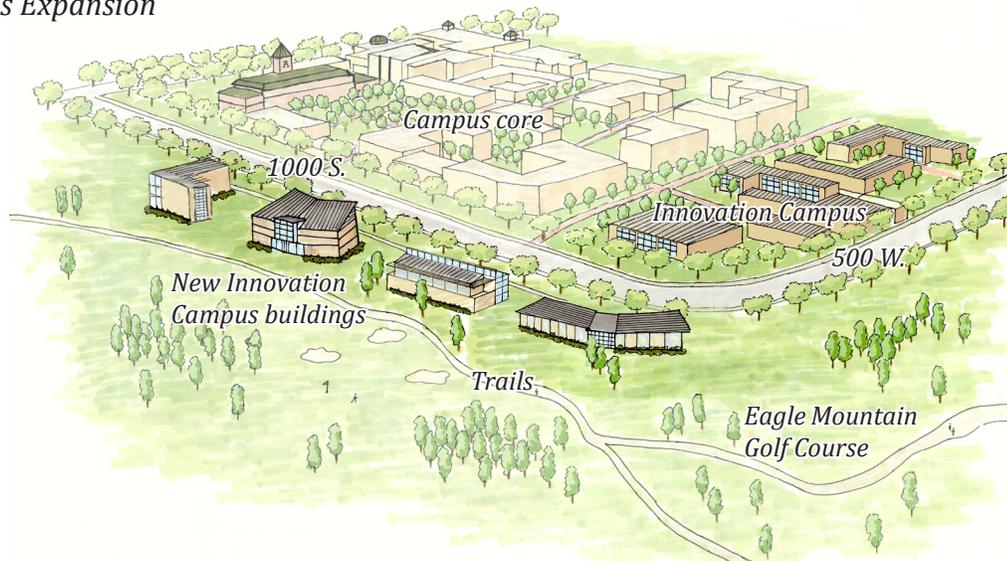
In response to this inconsistency of land uses, Brigham City is advised to rezone this area as a University Development Area (UDA). The UDA will allow land use for support services to the campus, including an extension of the innovation campus. The university is advised to purchase all properties currently vacant or for sale, and then continue to purchase any other properties which existing businesses along 1000 South may desire to sell in the future years. Over time the UDA will transform this street from its former use into a more comfortable link between the university campus and the golf course.

Additionally, pedestrian trails and green spaces within the UDA are proposed to connect the university and the golf course, offering students and community members an opportunity for additional recreational walking routes.

An estimated two-thirds of students attending the USU-BC campus commute from areas outside of Brigham City. In order to reduce the need for parking and the amount of carbon gas emissions from automobile trips, it is suggested that an additional bus route be created to directly service the university campus. Bus stops would be placed at the main academic building and the proposed campus retail development, as well as a connection at the new Frontrunner transit hub. Other stops would be placed on the campus as expansion occurs. Further analysis will be required to determine where additional stops along the route should be placed.

Design Recommendations: Future Growth

Innovation Campus Expansion



This rendering depicts a view from the bluff above Eagle Mountain Golf Course looking over the campus and beyond. As part of the proposed University Development Area (UDA), the Innovation Campus would expand to the east and south of campus to the golf course. Establishing a crisp relationship between campus and golf course is vital for community image and campus development. The placement of the buildings along this redeveloped

edge provides a manicured feel, and this new interface helps views into the site be pleasant and seamless with the surrounding landscape. Establishing a park-like feel to this southern edge gives viewers from the bluff above a positive impression of not only USU Brigham City, but also of Brigham City itself. Commuters and passers-by would be more inclined to enter into Brigham City proper because of a premier landmark landscape.

Design Recommendations: City Interface

Single Family Residential



As part of the response to the established pattern of buildings in this southern part of Brigham City, a facade design for single family residential homes is proposed. This facade is an example of architectural elements that mimic the surrounding area in addition to the university building. The style and size integrates well within the area surrounding the university.

To have such an example is valuable to stakeholders, such as the university, Brigham City, and developers, so that a congruent vision would be perpetuated as the area surrounding the university grows. Stakeholders could use this example to show developers the style of buildings desired, and the developer could respond in kind.

Mixed Use Residential Retail

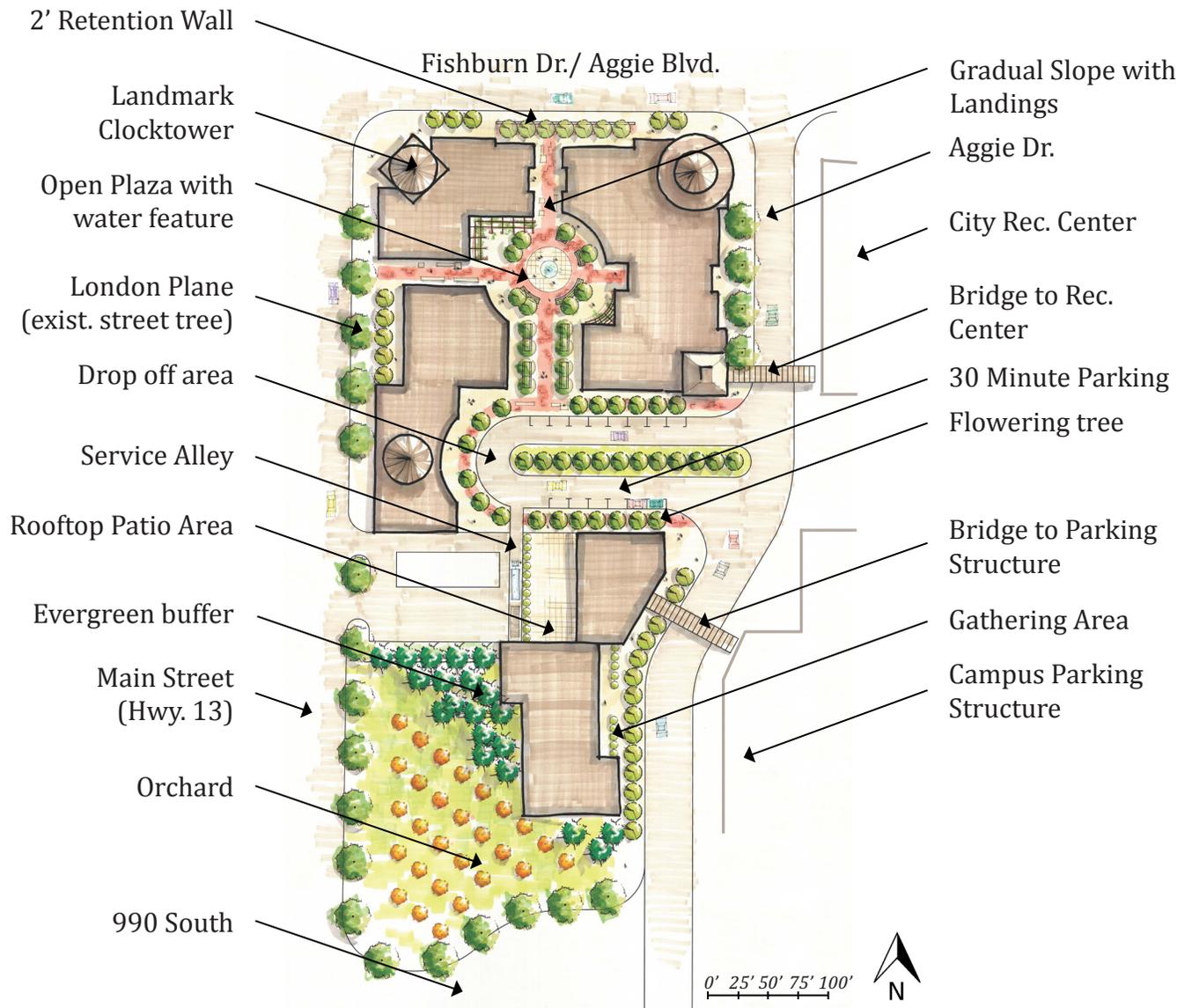


In addition to the example of single-family residential dwelling, a facade design for mixed use development is also proposed. This facade is proposed in response to the possibilities of commercial redevelopment along the southern corridor of Main Street. The same architectural elements that are found in Figure A, and in the university buildings, is emulated here again. Incorporating a mixed use development in this

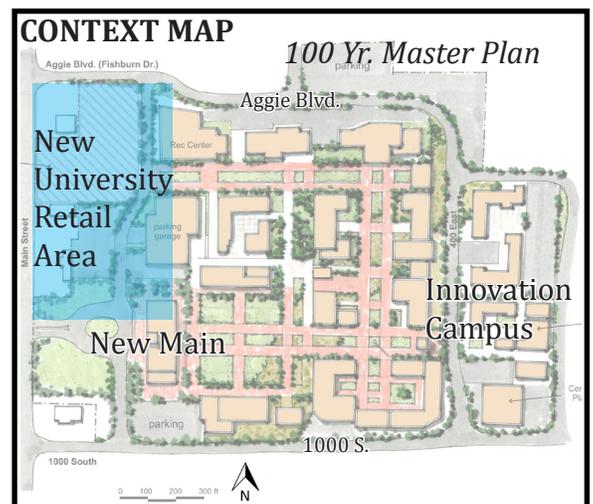
area would support economic growth and help the vitality of this southern corridor. There is ample opportunity for this redevelopment, and with the help of the CDA, it has the potential to be implemented. This development would be frequented by not only the university, but also by citizens and visitors entering the southern gateway of town attracted by university related upscale retail shops.

Design Recommendations: University Retail Development

Illustrative Plan of "University Bridges" Retail Development



The Utah State University Brigham City Regional Campus has a primary mission of supplying educational facilities and services to its students. Meanwhile, students who attend the campus will need a variety of other services, including a bookstore, copy center, dining, and other shopping and entertainment. The campus master plan calls for a three-acre retail development to be constructed on the northwest corner of the campus. This development, hereafter referred to as the "University Bridges," will contain the above mentioned retail services and provide a connection between the campus and the greater community.

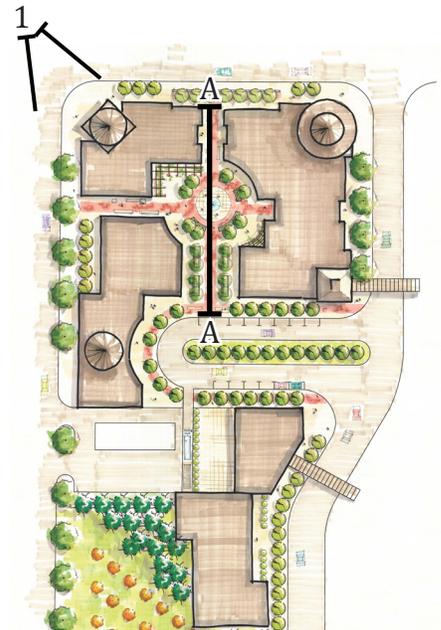


Design Recommendations: University Retail Development (cont.)

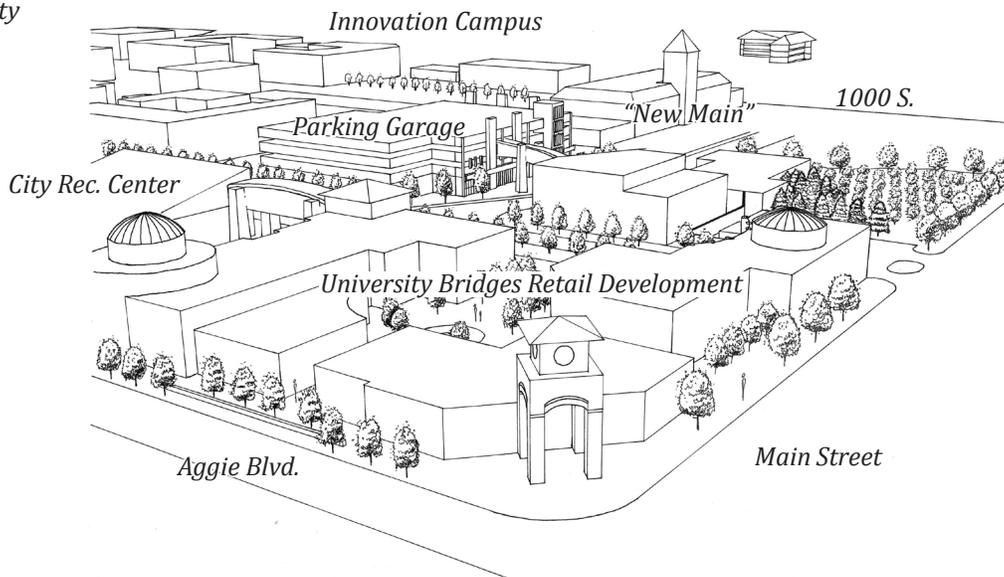
Illustrations

A series of spatial experiences will be used in construction to create a gradual link between the academic core and the University Bridges development. The parking garage planned for the north side of the main academic building will be the primary buffer for this transition. The structure will house a number of student-oriented businesses on the first floor such as the bookstore, copy center, and Aggie Ice Cream. Cleverly and appealing building facades subtly disguise the parking structure on the upper floors. First level retail space provides rental revenue to fund the much needed parking structure. In order to maintain the aesthetic integrity of the campus, architectural standards for the structure will be similar to those set for academic buildings within the campus master plan. Natural materials such as flagstone and wood create an aesthetically pleasant façade.

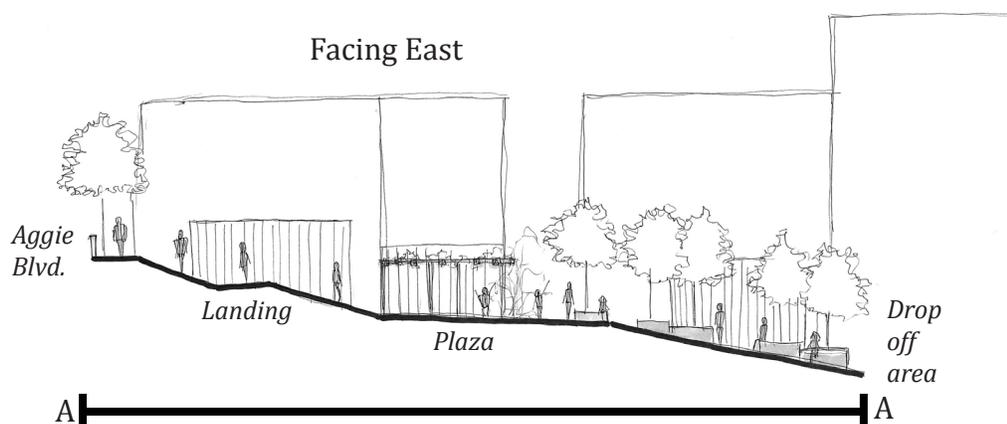
Context Map



1. View of University Bridges Retail Development from Main Street



Section Elevation illustrating the elevation change from Aggie Blvd. to drop off area. Elevation change is exaggerated.

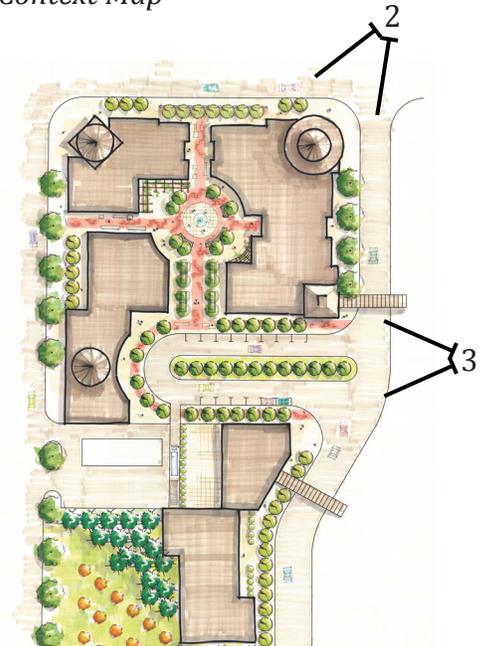


Design Recommendations: University Retail Development (cont.)

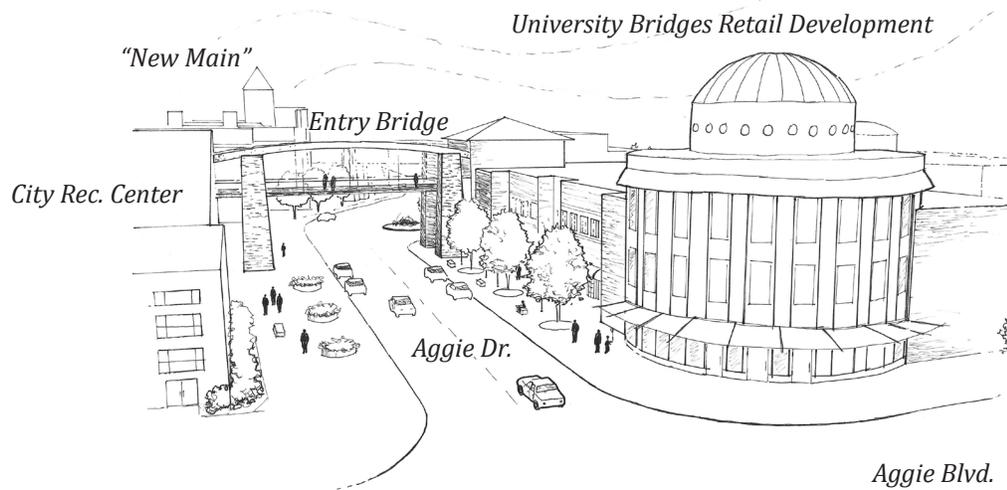
Illustrations

The University Bridges will provide an incredible opportunity for of introducing new and needed services to both students and the community of Brigham City. These will include a bookstore, copy center, laundromat, cafes and dining, clothing and electronics merchants, and Famous Aggie Ice Cream. Store hours will be extended to be open during into evening in order to cater to students attending night classes. The shopping area will be an iconic getaway for those who use it and would serve as a “gateway into Downtown Brigham City and USU BC Regional Campus.”

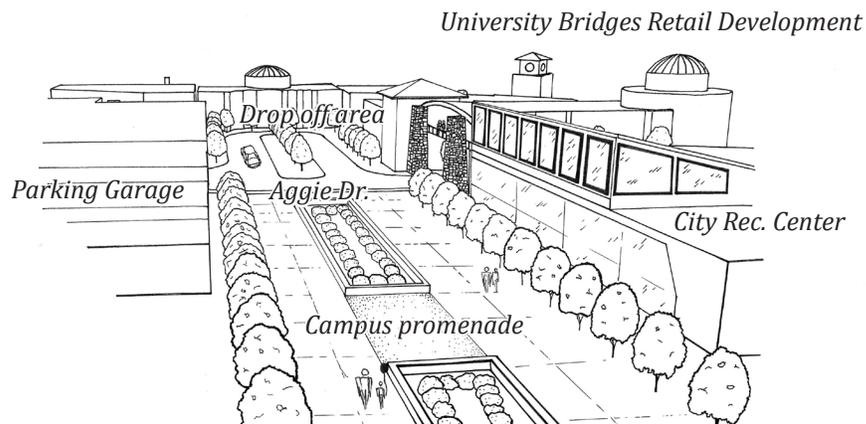
Context Map



2. North Entry of Aggie Drive heading south to “New Main.”



3. View of University Bridges Retail Development from campus corridor.



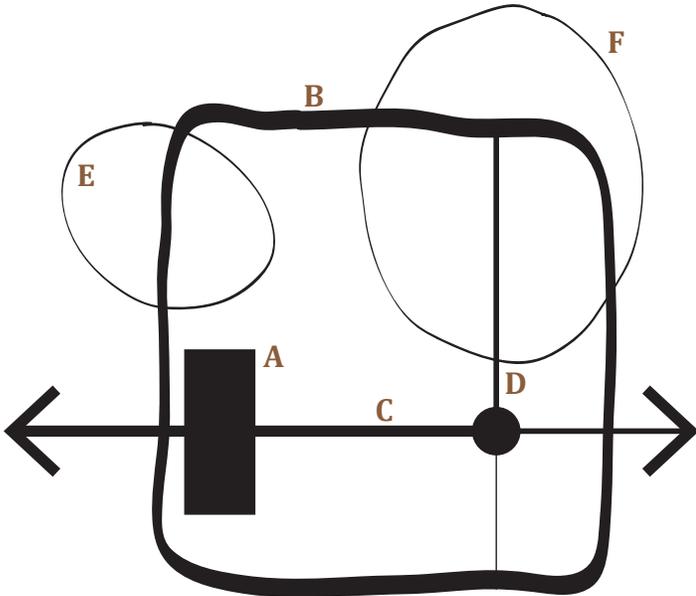
TEAM 11 - USU BC campus landscape development

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FACULTY LIASON- PHIL WAITE

UTAH STATE UNIVERSITY BRIGHAM CITY CAMPUS LANDSCAPE PLAN

The purpose of this project is to create a landscape master plan for the first development phase of the Utah State University Brigham City (USU BC) campus 100 year plan which will draw in the community and benefit the students. The landscape should be relatively low maintenance, educational, and communicate the history of the site.



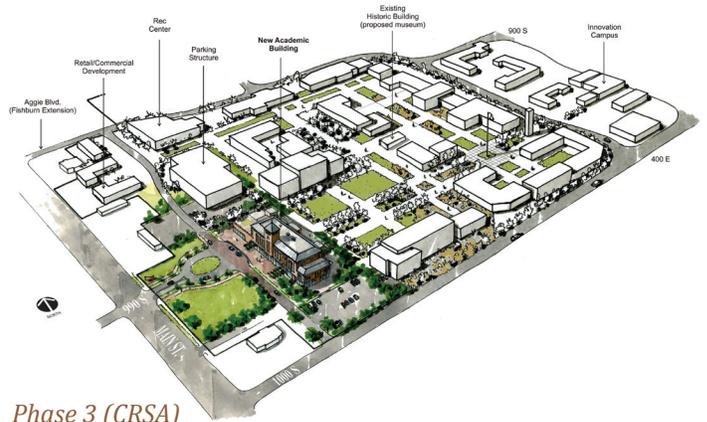
The design concept or “parti” as shown above is a simple diagram that illustrates the general arrangement of the major site components of the campus plan. In the diagram above, “A” represents the first building to be constructed on the USU Brigham City campus; “B” represents a ring road that provides vehicular circulation for the whole campus site; “C” represents the major east-west pedestrian circulation spine through the site; “D” represents the major north-south pedestrian circulation spine through the site; “E” represents the area where the campus intersects the commercial district along Main Street; “F” represents the area where soccer fields will be built because of its proximity to the community and the ease of providing parking.



East-West Pedestrian Circulation Spine

LONG RANGE MASTER PLAN

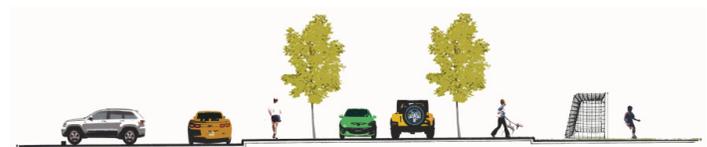
A 100 year master plan has been developed by CRSA. There are three proposed phases. The full build-out will accommodate 4,000-5,500 students.



Phase 3 (CRSA)

PEDESTRIAN CIRCULATION

Pedestrian use and safety is important within the site. There will be a wide sidewalk around the perimeter and smaller trails throughout. All trails inside the site eventually connect with the ring trail surrounding the site. Various seating will be provided throughout.



Pedestrian Crossing

Near the soccer field, the road has been narrowed and elevated. A change in pavement material is also used to help reduce traffic speeds and keep pedestrians safe.



Pergola, Path, and Seating

MASTER PLAN



SITE ELEMENTS

1. Commercial District Interface
2. Future Rec Center
3. Future Building Site
4. Steps/ Seating
5. Half Basketball Court
6. Parking
7. Soccer Fields
8. Main Entrance
9. Ornamental Orchard
10. Community Pond
11. Demonstration Orchard
12. Nursery Orchard
13. Community Garden
14. Academic Building
15. Lawn
16. Pergola
17. Alcoves
18. Museum
19. Practice Field

DESIGN OPPORTUNITIES

SOCCER FIELDS AND PARKING:

The location of the soccer fields in the original plan has potential to cause parking issues if community members that come for the games take the student parking. Due to apprehensions concerning overcrowded parking lots, the soccer fields have been moved northeast. This new location allows an expansion of parking for both church and soccer use.

ORCHARDS

DEMONSTRATION ORCHARD

The Utah State University Cooperative extension could use the demonstration orchard to teach courses on tree care, fruit raising, and harvest. There could be different varieties of trees used here.

ORNAMENTAL ORCHARD

Brigham city and the surrounding areas are very well known for their orchards. The area in front of the university will welcome citizens and visitors with orchards of ornamental trees. These will be lower maintenance than fruit trees.

NURSERY ORCHARD

The nursery will be a place where trees can be started out for future use around the city.



Peach Orchard



Ornamental Trees (Crab apple)

DESIGN OPPORTUNITIES CONTINUED

TREES

Brigham City is well known for the large Sycamore Trees that line Main Street. Sycamore Trees are also proposed in front of the main academic building and around many of the edges to reinforce the connection to the Brigham City image. Additional options are listed below.



Sycamore

DECIDUOUS TREES	TYPE	SIZE
Acer platanoides [Norway Maple]	deciduous	M, L
Acer pseudoplatanus [Sycamore Maple]	deciduous	M, L
Carpinus betulus 'Fastigiata' [European Hornbeam]	deciduous	M, L
Celtis occidentalis [Common Hackberry]	deciduous	M, L
Fagus sylvatica [European Beech]	deciduous	M, L
Ginkgo Biloba [Ginkgo]	deciduous	M, L
Malus floribunda 'snowdrift' [Crab Apple]	deciduous	S
Prunus cerasifera 'thundercloud' [Flowering Plum]	deciduous	S
Pyrus calleryana 'Bradford' [Flowering Pear]	deciduous	S
Quercus robur [English Oak]	deciduous	M, L
Tilia cordata [Littleleaf Linden]	deciduous	M, L
CONIFEROUS TREE	TYPE	SIZE
Picea mariana 'fastigiata' [Black Spruce]	conifer	L
Picea pungens [Blue Spruce]	conifer	L
Pinus edulis [Pinyon Pine]	conifer	L
Pinus nigra [Austrian Pine]	conifer	L

LOW MAINTENANCE VEGETATION/ GRASSES

Native and low-water use vegetation/grasses would be used to decrease the amount of maintenance required. Two possible grass seed mixes are Berm Seed Mix and Cabin Seed Mix. The first consists of 50% Festuca idahoensis, 30% Fesruca ovina, and 5% Koeleria macratha and is applied at a rate of .7 lbs per square foot. The second consists of MX-86 Sheep Fescue, Roadcrest Crested Wheat grass, and Sodar Streambank Wheatgrass and can be applied at a rate of .5 to 2 lbs per square foot.

The grass would be relatively simple to maintain. It would grow naturally on the berms with a mowed strip around the perimeter.

INTEGRATING SITE HISTORY

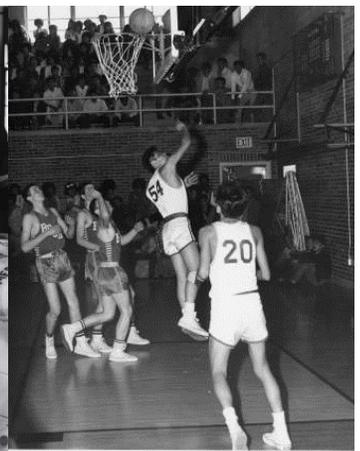
The property was once used by the U.S. Army's Bushnell General Military Hospital which served soldiers wounded in World War II. It specialized in treating amputations, maxillofacial surgery, neuropsychiatric conditions, and tropical diseases.

In 1950, after the closure of the hospital, the buildings were used as a school for Navajo students. The school was called the Intermountain Indian School until 1974 when the name was changed to the Intermountain Inter-Tribal School. The school taught several different tribes until 1984 when it closed its doors.

Several of the buildings have been demolished and deconstruction will continue until May 2013. One building will be preserved for a historical museum. The small historical building on the site will display the history of the Bushnell hospital. This museum will be brought outdoors through historical signage and by various materials and patterns such as from Navajo or other tribes that attended the school.



Bushnell Hospital



Intermountain Indian School

POSSIBLE SIGNAGE TOPICS:

- Information on US Native American schools
Specifically the Intermountain Indian School
- Information about the tribes which attended
- Information about the Bushnell Hospital
- Stories about the Bushnell Hospital and its patients

DESIGN OPPORTUNITIES CONTINUED



Alcoves with Signage

SIGNAGE

Signage is one way which the history of the site can be addressed. The signage above and in the image to the right show rotating signage similar to that at the City Creek Center in Salt Lake City.

Other signage may be used at the museum, along trails, and other points in the site.



City Creek Center, SLC

Signage Option



History Museum

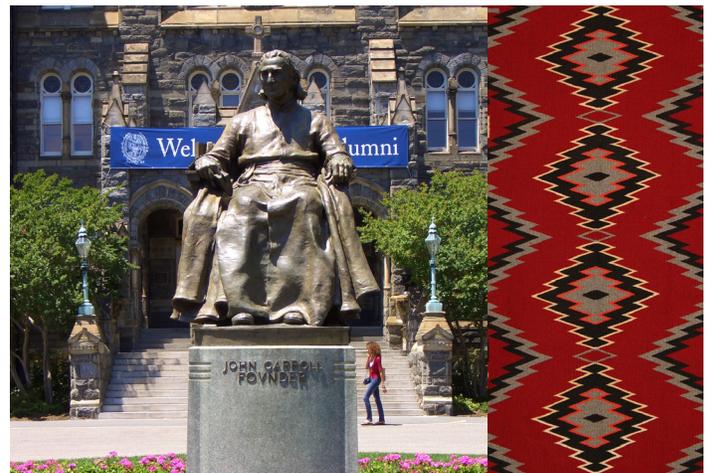
MONUMENTS, ART, AND PATTERNS

Monuments and art are other means of showing the history of the site.

The monuments could commemorate certain individuals such as those who worked at the Bushnell Hospital or those who were treated there.

Artwork could include sculpture of a soldier or something related to the army hospital.

Patterns could be shown in pavements and plantings similar to patterns in Navajo rugs or blankets.



Monument/Sculpture

Navajo Blanket

PRECEDENTS

The following photographs are examples from other Universities which can be used as inspirations for the USU Brigham City campus.



Step Seating



University of Cincinnati: Curved Pathways



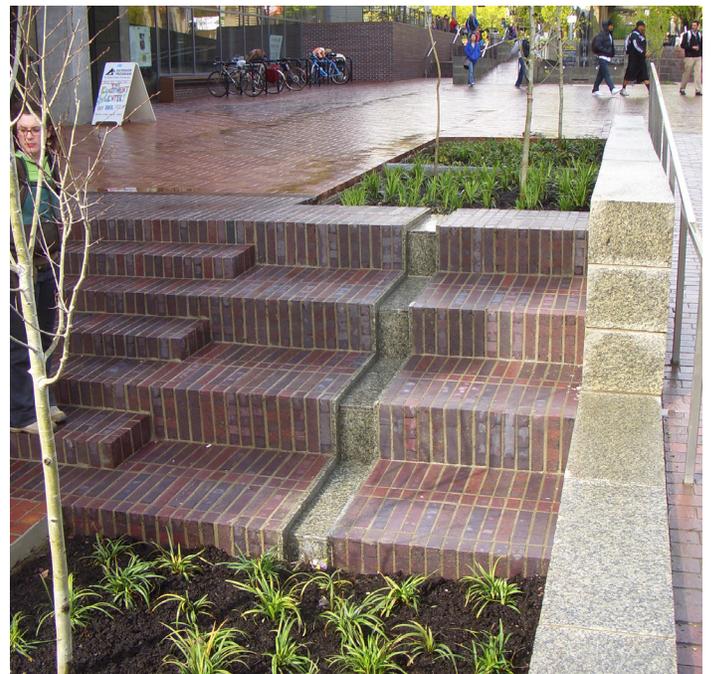
Alcove Area with Benches and Seating



Use of Boulders in Landscape



Rain Garden: would exist adjacent to the USU BC parking lots



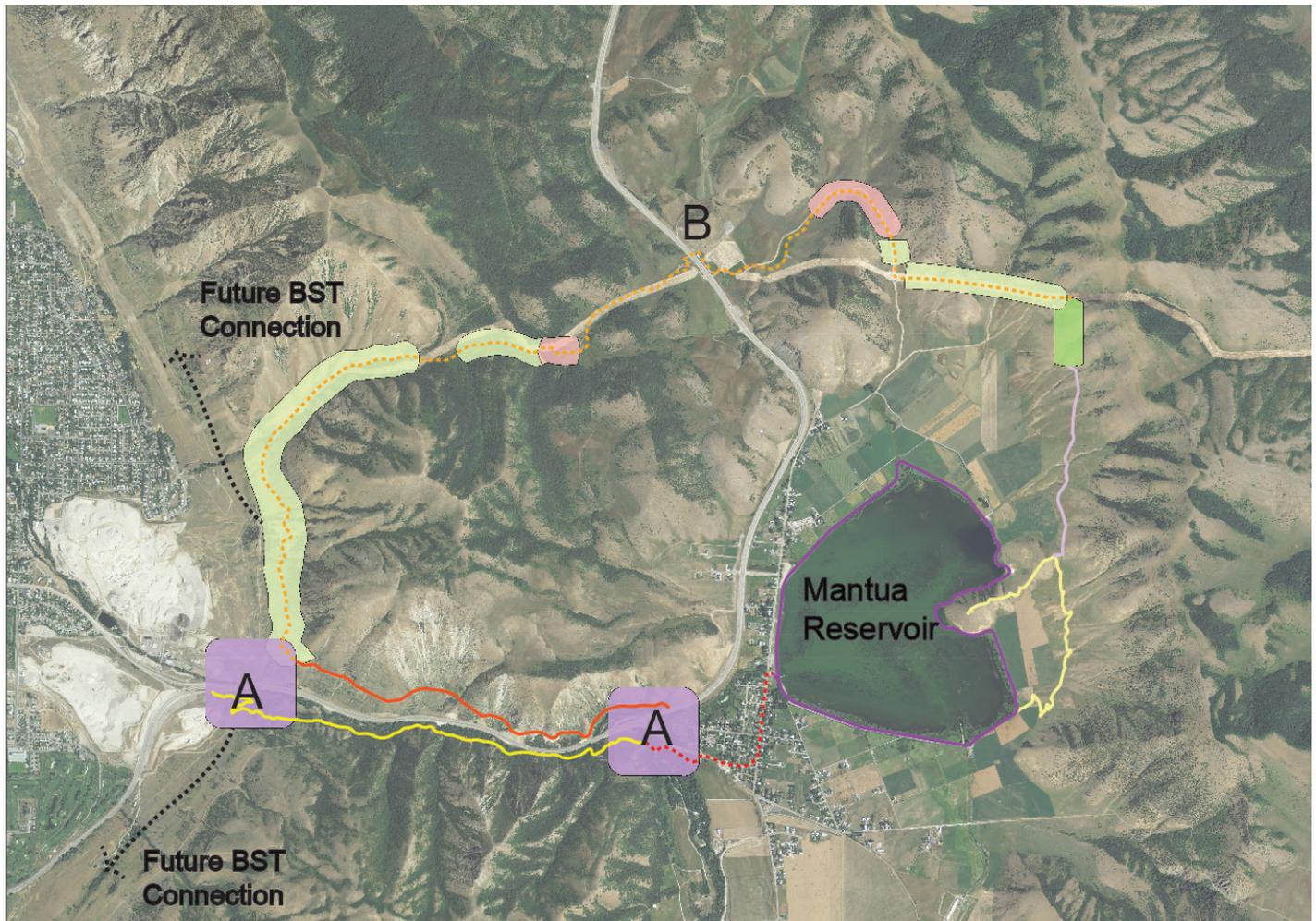
Rain Garden: would exist adjacent to the USU BC parking lots

TEAM 12 - Parks, Recreation, O.S., Trails - (2 teams
combined into one)

Pam Blackmore
Chris Jensen
Whitney May
James Leo
Grant Hardy
Nathan Christiansen
Nike Cleverly
Madison Binford
Nathan Cutler

FACULTY LIASON- LAURA BANDARA

Regional Trails: The Flat Bottom Canyon Bicycle and Equestrian Loop



A mountain bike loop and equestrian trail allows citizens to explore the natural amenities in a complete loop between Brigham City and Mantua.

Designed to be a Trail Class 4 Highly Developed Trail” (following the Forest Service Trail Class Matrix), this trail would be approximately six feet wide, and have a natural dirt and gravel tread. As the trail continues farther away from civilization, the trail may narrow to a Class 3 “Developed”, providing a more intimate wilderness experience.

With a considerable amount of bikers and horse riders, it is expected that this trail will be used extensively.

Stormwater Management

Implement bioswales, rain gardens and other vegetated remediation measures to collect and clean polluted runoff. Along this trail route, a bioswale between Highway 89 and the trail running along side it (near the culvert underpass) would be an optimal location to collect and cleanse highway runoff.

Legend

- Alternative A: Waterline Trail
- Alternative B: Southern Highway 89 Trail
- - - Future Bike Route Connection
- - - Ruby Pipeline Trail
- Mantua Reservoir Trail
- Existing Unofficial Trails
- Existing Mantua Bike Track
- A Conflict Area: Highway Crossings
- B Conflict Area: Impassable Slopes for Equestrian Users
- A Conflict Area: Impassable Slopes for Equestrian and Bicycle Users
- A Conflict Area: Missing Loop Connection through Private Land

Mitigation Measures for Conflict Areas:

Tips for Working with Private Property Owners

In order to successfully route trails through private property, several measures may be taken to facilitate the process:

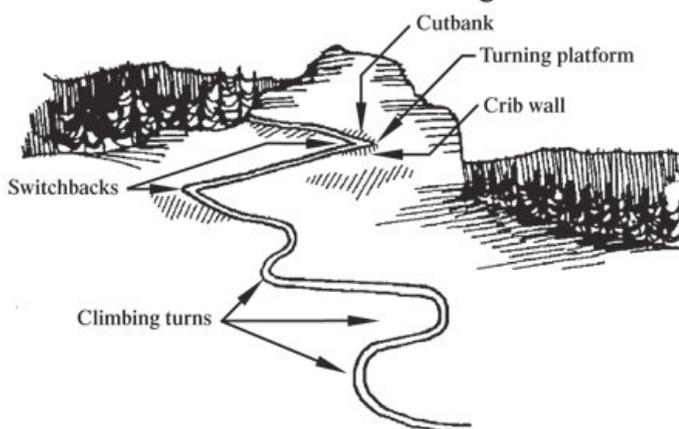
- Communicate with landowners early in the process, and be able to clearly address their concerns regarding trail crime, management, liability, etc.
- Provide landowners and other citizens with opportunities to be actively involved in the design and planning process. Create a point of contact for any public comments and concerns, identify all user groups of the trail and conduct public meetings. At these meetings, introduce former opponents of trails to provide a testimony of positive experiences, and allow for a variety of communication methods (for example, options for written, anonymous stakeholder concerns as well as open floor comment).

Refer to Appendix (Brigham City Trails Master Plan - Lori Porreca)

Management of Steep Slopes for Trail Design

According to the International Mountain Biking Association, slopes of single-track bicycle trails must remain below 20%; conversely, slopes for sustainable and safe equestrian trails must remain under 10% (according to the Equestrian Trail Guidelines for Construction and Maintenance). Though some of the trail route occurs along milder slopes, much of the trail consists of slopes from 20 - 60%. A popular solution to such steep slopes is the implementation of trail switchbacks. To prevent these from becoming an “eyesore” along the mountain, plant native vegetation in random, clustered form surrounding the trail (typical of what you would see in a native Utah landscape) to break up the strong linear aspect of the trail when seen at a distance.

Switchbacks and Climbing Turns

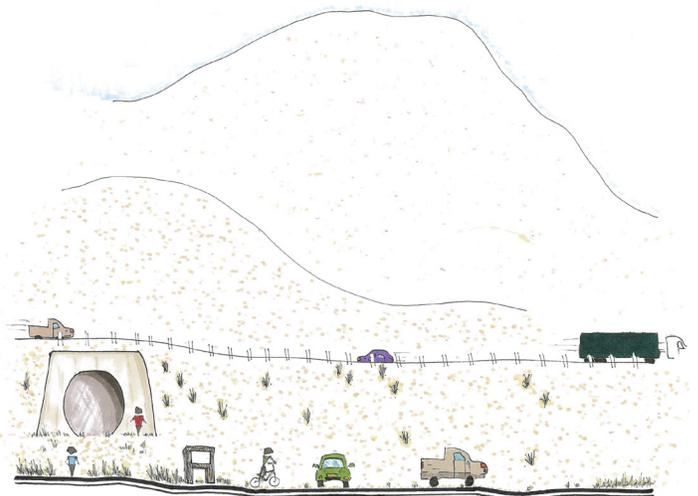


Highway Crossings

The southern segment of Highway 89 in Sardine Canyon is a major barrier to the completed Flat Bottom Canyon trail loop. Highway trail overpasses are an effective solution. Though costly to construct, long-term planning and fundraising will create a safe and well-utilized trail overpass to complete the mountain bike trail loop system from Mantua to Brigham City. The crossing located at the mouth of the canyon would also serve as the crossing for the Bonneville Shoreline Trail.



A. Highway Crossing at Mouth of the Canyon



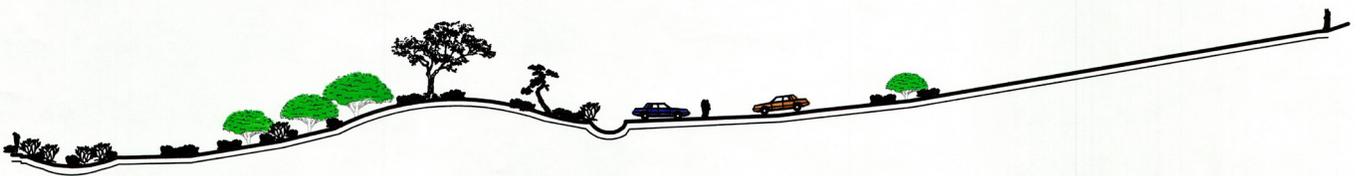
B. Highway Crossing With Trailhead

An elevation of the existing wildlife culvert underpass. By utilizing this culvert, trail users have safe passage from one side of Highway 89 to the other. A trailhead near the culvert will direct users to their destinations and welcome those who choose to start the trail at this location.

Bonneville Shoreline Trailhead at the Anderson Sisters' Property



Schematic View of Trailhead Design

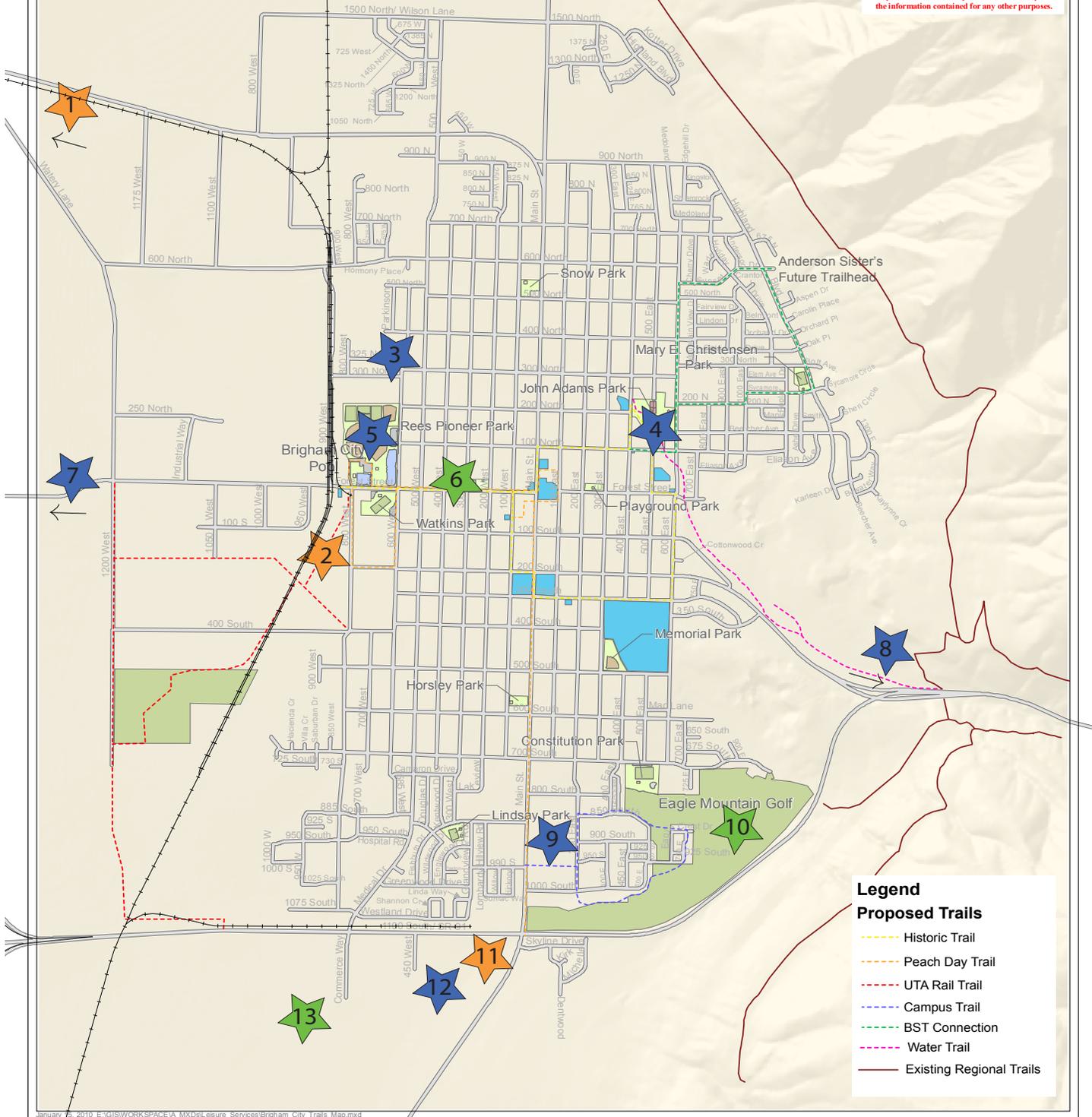


Section Elevation A-A

BRIGHAM CITY TRAILS MAP



Disclaimer: This map was produced by Brigham City Geographic Information Systems (GIS). The GIS is designed for use in queries, modeling and planning. This map is not a substitute for government records maintained by Brigham City Planning and Public Works or Box Elder County Assessor and Recorder's office. The information is believed to be accurate and suitable for limited uses. Brigham City makes no warranty as to the accuracy of the information contained for any other purposes.



Legend

Proposed Trails

- Historic Trail
- Peach Day Trail
- UTA Rail Trail
- Campus Trail
- BST Connection
- Water Trail
- Existing Regional Trails

January 9, 2010 E:\GIS\WORKSPACE\IA_MXD\BLeasure_Services\brigham city Trails Map.mxd

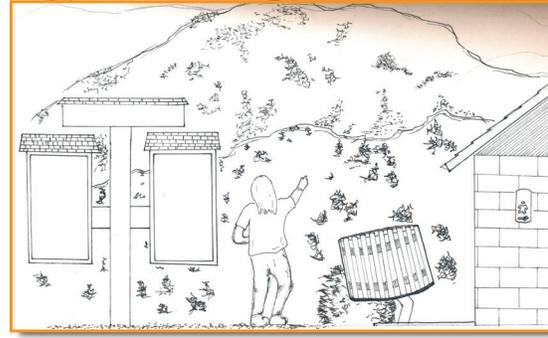
This masterplan introduces two new themed trails in the city: the Peach Trail and the Brigham City Historic Trail, each designated with wayfinding signage. Brigham City has a wealth of intriguing historic sites that could be more easily identified by visitors and locals alike if a trail was designated to honor them. Also, to affirm the importance of the Peach Days festival, a trail that connects site locations can be retraced throughout the entire year. These trails designate connections between destinations throughout the city and add interest to the street experience. Of particular importance is the connection to the Bonneville Shoreline Trail from downtown. With this new trail head, Brigham City will be the gateway to the Bonneville Shoreline Trail in Box Elder County. With a connection to downtown, economic activity from trail users will more likely be retained in Brigham City. This connection will improve wayfinding and accessibility to the site.

On the west side of town, trails will be added using a variety of plants and porous pavements rather than conventional sidewalks. A connection between the UTA transit stop and the new sports complex will reduce automobile traffic and allow users freedom to visit surrounding parks, historic sites, downtown, and the Bonneville Shoreline Trail.

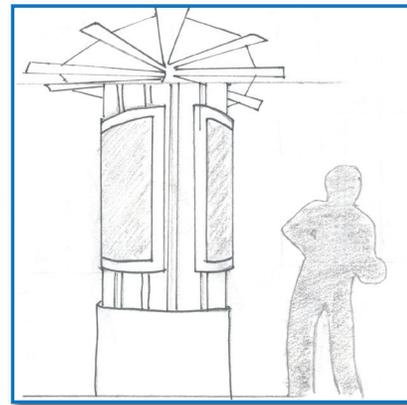
Each star  represents a key location in or near Brigham City limits. These high-traffic locations serve many types of people. At each location, one of three levels of design will be implemented to provide wayfinding information for the parks and recreation available in the area. See color coded sketches on attached details sheet for proposed amenities.

Legend

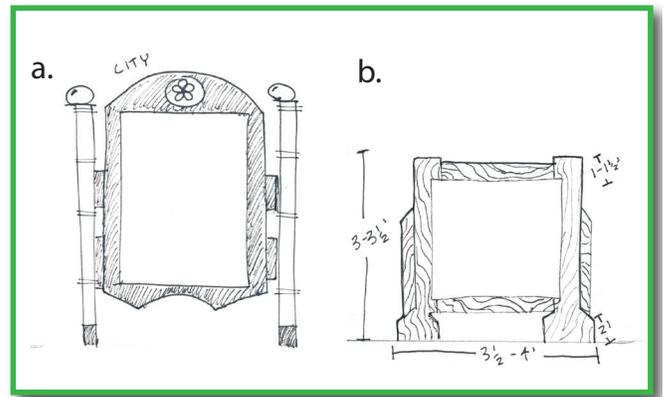
- 1. Promontory Road
- 2. Future Front Runner Station
- 3. Box Elder High School
- 4. Rees Park
- 5. John Adams Park
- 6. Brigham City Museum
- 7. Bear River Bird Refuge
- 8. Mantua Marina
- 9. Future USU Brigham City
- 10. Eagle Mountain Golf Course
- 11. Future Peach Corner
- 12. USU-Brigham City
- 13. Trail Connection to Perry



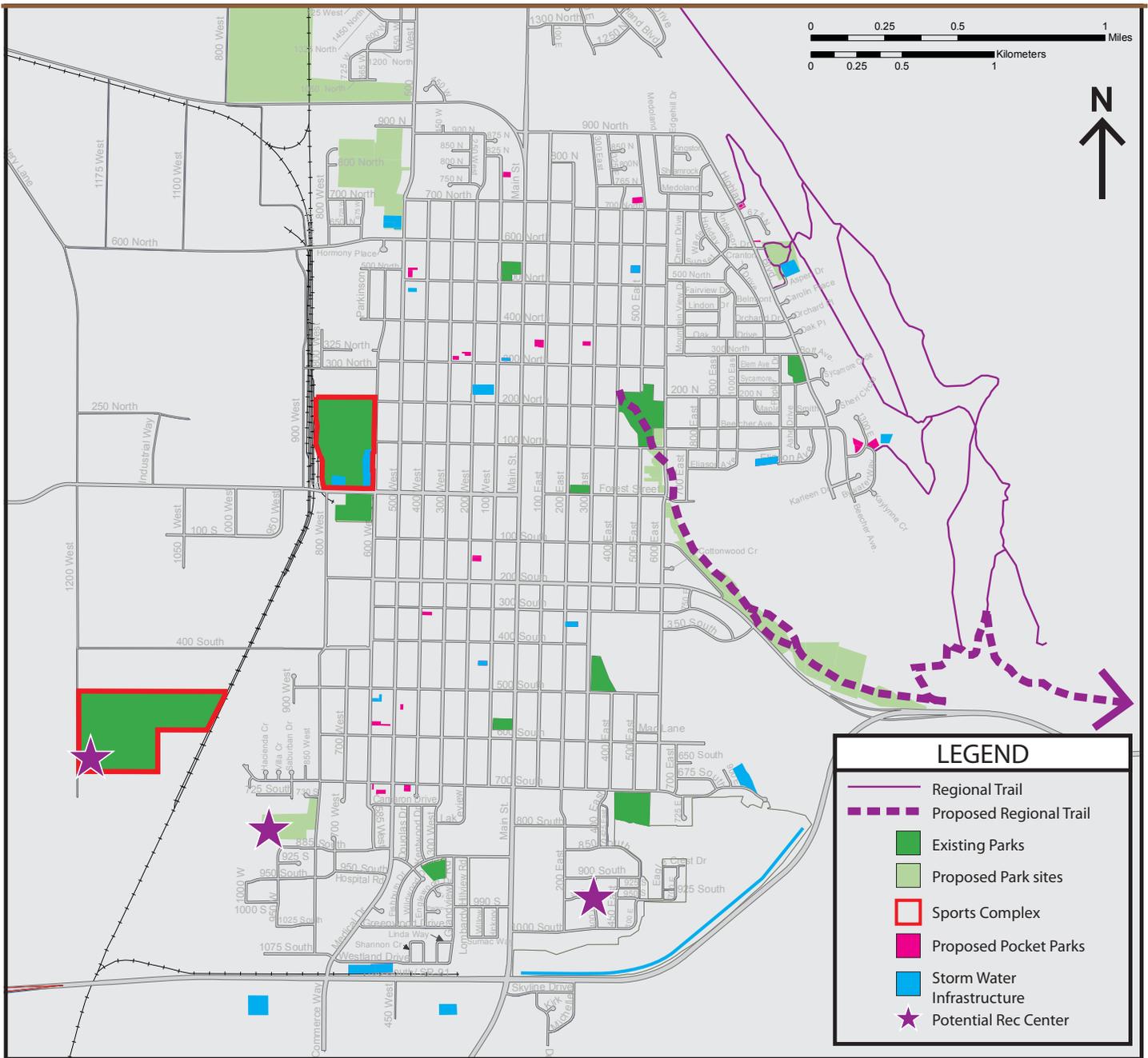
Level One: Fully Developed Site Amenities
These areas provide restrooms, trash cans, and main kiosks.



Level Two: Semi-Developed Site Amenities
These areas accommodate a kiosk and waste receptacles.



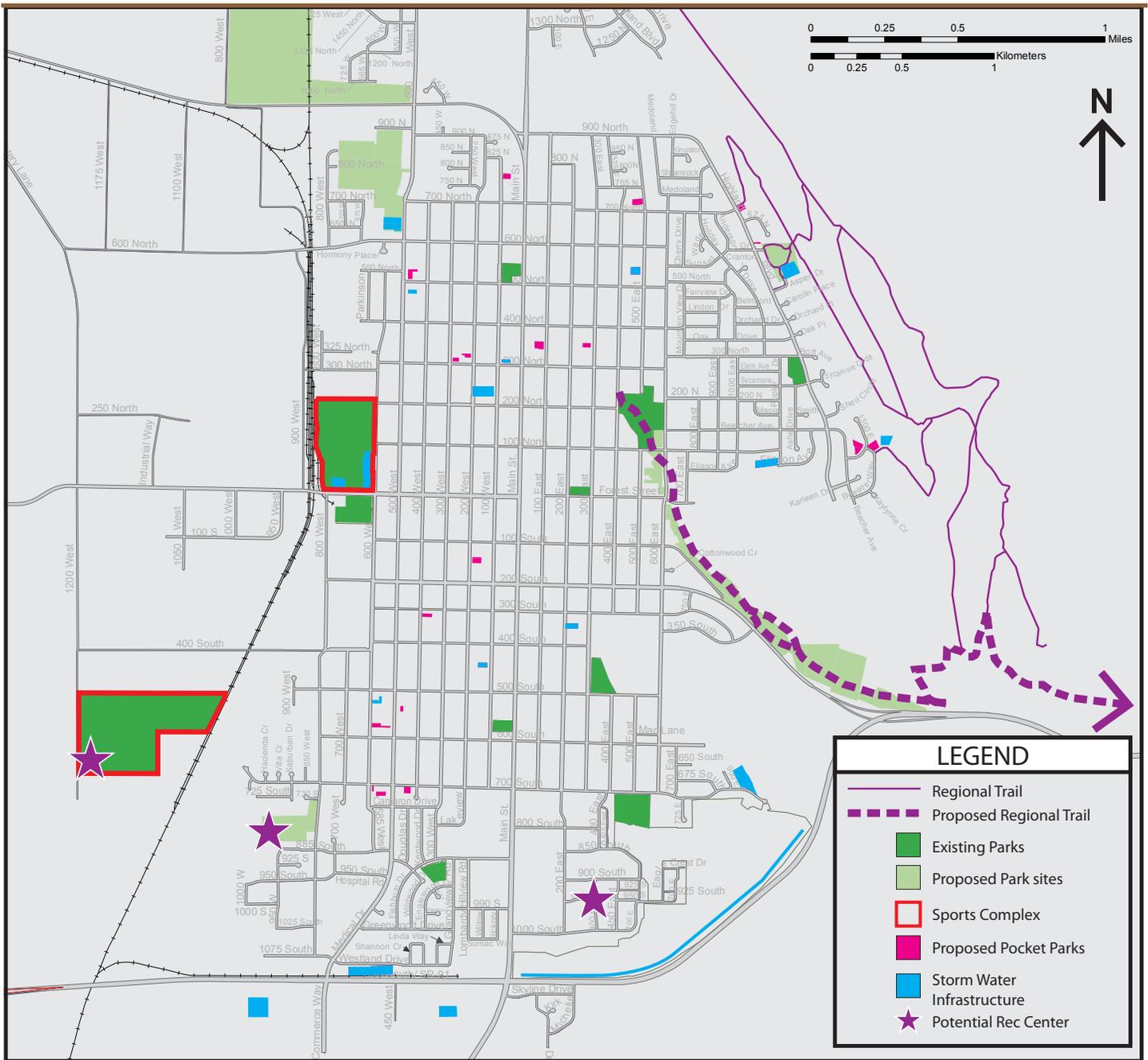
Level Three: Minimal Site Amenities
These areas provide wayfinding signage. According to the location, two options are present: a) signs for city use and b) signs for regional use.



Brigham City officials expressed several needs and desires for their parks system, including the following:

- 1) The creation of parks for passive recreation.
- 2) The creation of pocket parks system and potential locations for them.
- 3) An identifiable city parks theme.
- 4) A location for a new recreational center; and
- 5) An integrated pathway system for the parks and surrounding trail systems.

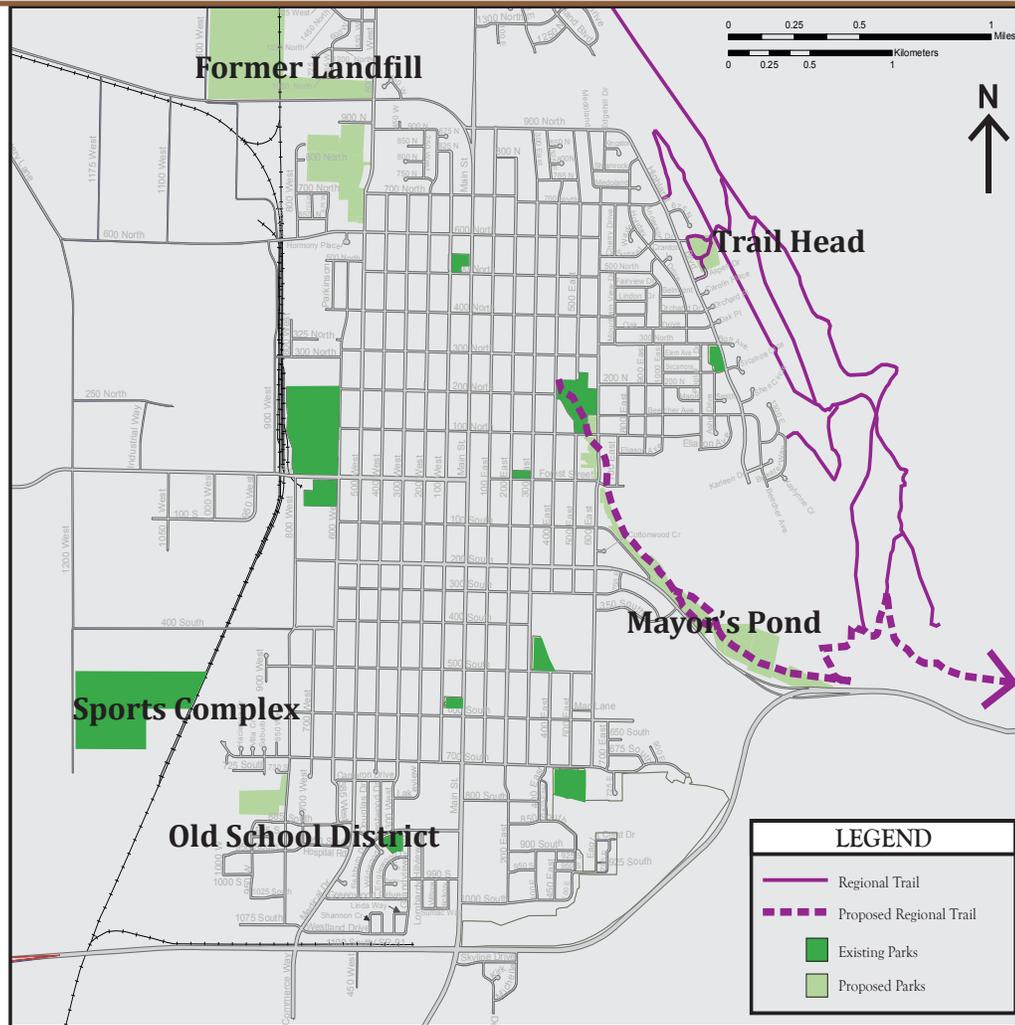
The proposed plan seeks to meet the needs and desires of Brigham City.



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The proposed plan seeks to meet the needs and desires of Brigham City.



PROPOSED PARKS

In evaluating the needs of Brigham City it proposed that the following parks be implemented:

Mayor’s Pond

- This park acts as a visual and ecological buffer between the northern gravel pit site and Box Elder Creek.
- Utilize a vegetation to filter noise and water contamination.
- Integrate a recreational trail connecting John Adams Park, the Bonneville Shoreline Trail, and a regional trail to Mantua Reservoir Park.

Sports Complex

- The sports complex provides recreational facilities for organized sports leagues and organizations. This will relieve the stress on the existing parks and create recreational opportunities for new users and local children.

Old School District

- This area provides a large city park for the south-

western portion of the city.

- Utilize as a passive park for the local residents.

New Sports Complex

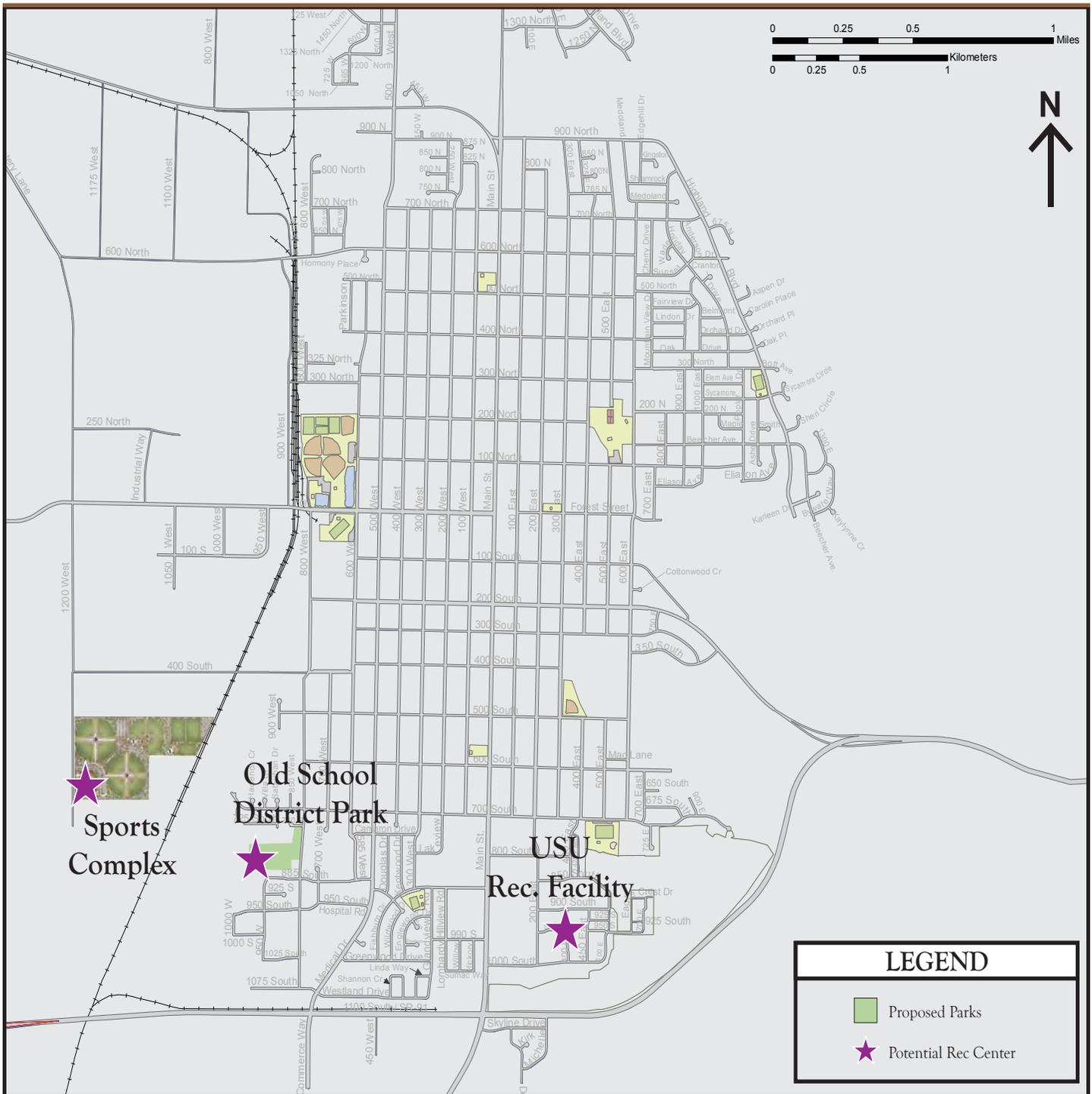
- It is anticipated that with the future growth of Brigham City that additional recreational facilities will be needed. Preserve this property as open space and utilize it for additional park space and recreational facilities as the population grows.

Former Landfill

- This area provides a large city park for the north western portion of the city. Utilize as a passive park for the local residents. Develop this area into storm water infrastructure. Two Sisters

Trail Head

- This trail head provides access to the Bonneville Shoreline Trail while also providing a large city park to service the north-eastern portion of Brigham City.



PROPOSED RECREATION CENTER

In evaluating the needs of Brigham City the following location are proposed as potential sites for the new recreation center:

Sports Complex

Per the Brigham City Sports Complex plan provided by GSBS, locate the new recreational center on the south-west corner of the new site.

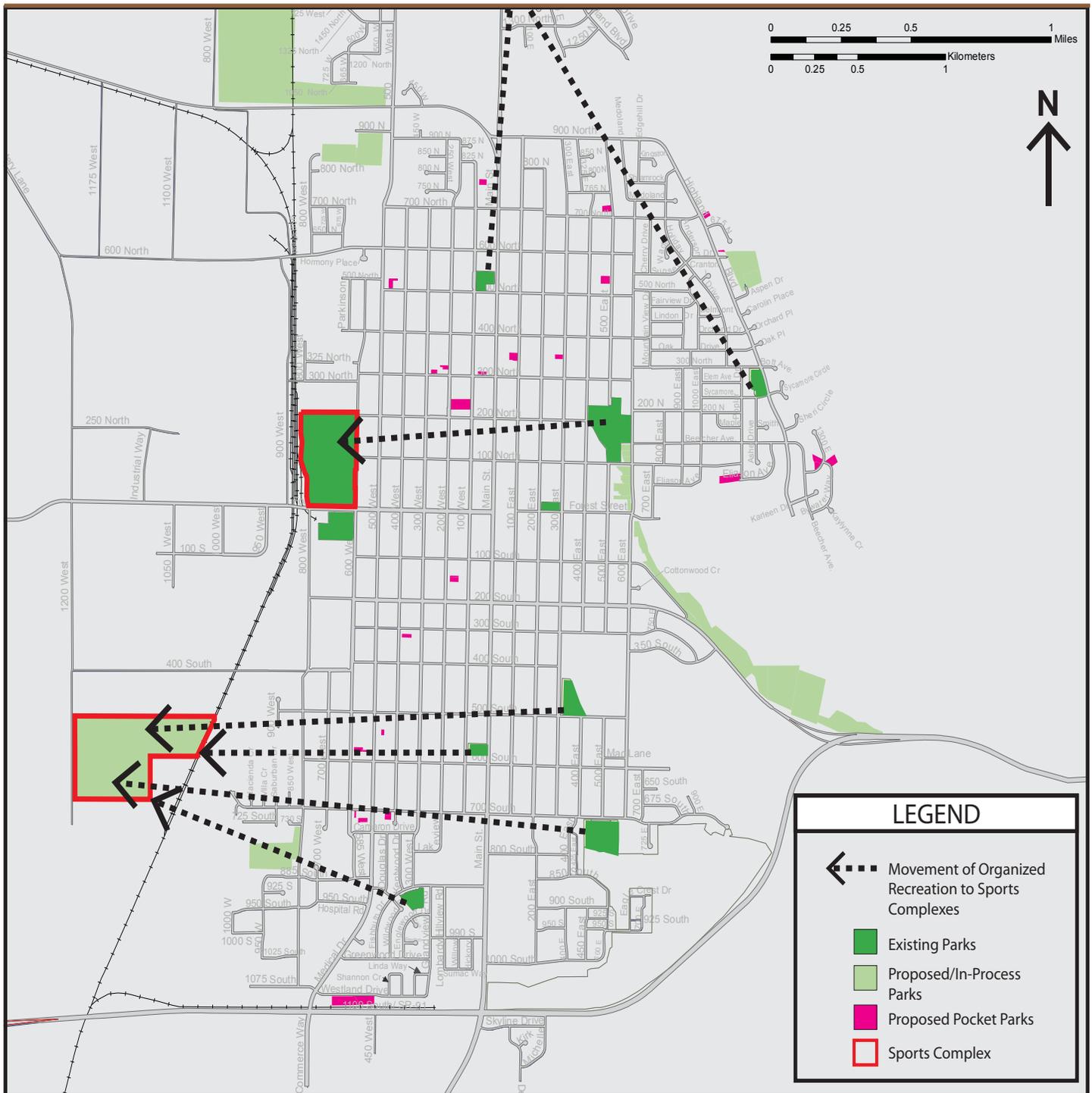
Old School District Park

Using the proposed park on the old school district

property located near the new sports complex, locate a new recreational center on this 10 acre site.

USU Campus

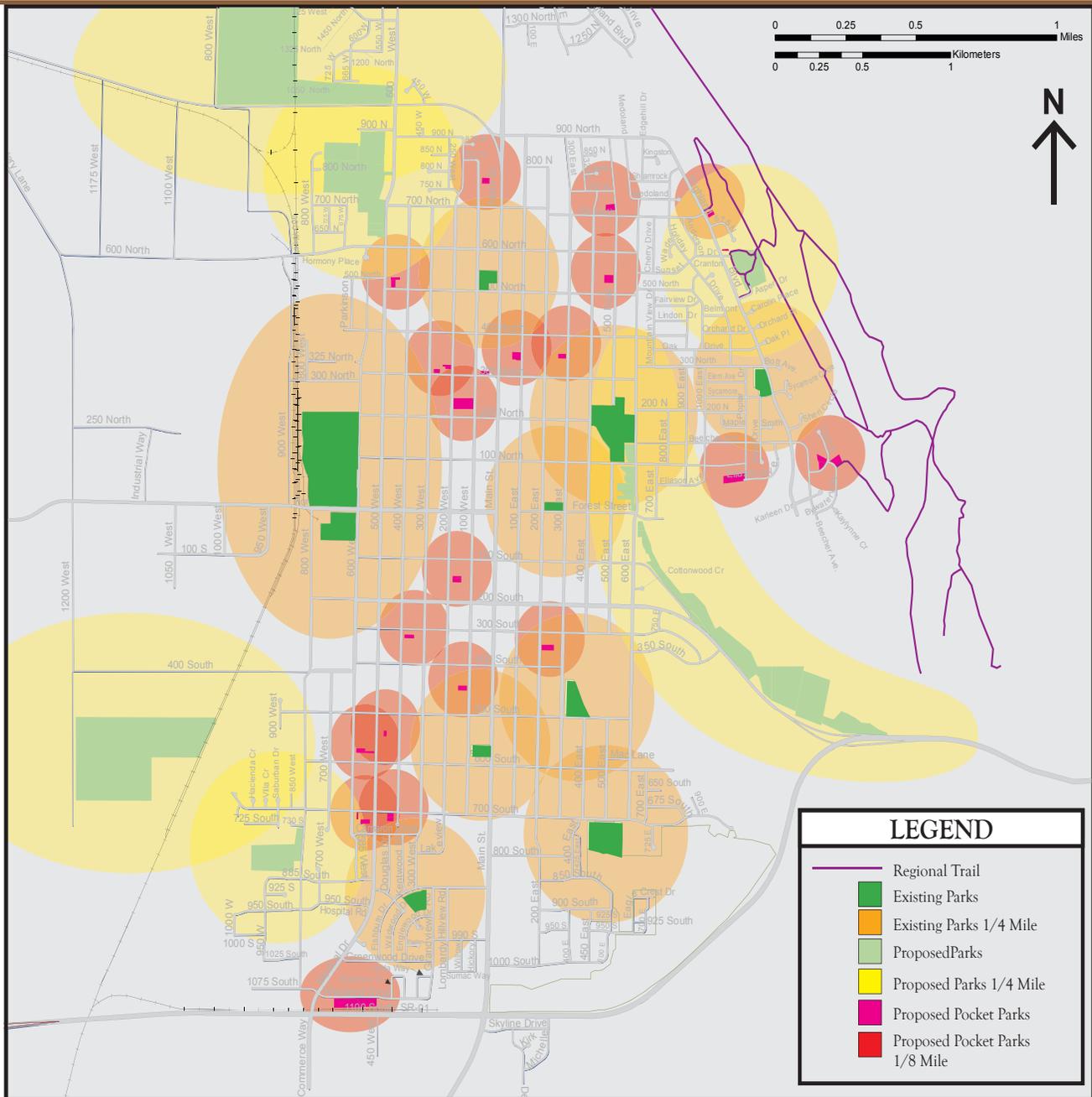
Coordinate with USU’s new Brigham City campus to combine their proposed recreational center with the city’s. This will eliminate duplication of services, pool resources, and strengthen the campus - community relationship.



PASSIVE vs RECREATIONAL PARKS

The city's current recreational facilities within the parks are overutilized. A new sports complex is under construction and being installed on the south western quarter of the city. We propose that Brigham City acquire another section of land in the north-western quarter of the city to allow for later expansion. Once the three sports complexes are used for organized sports leagues and affiliations, the recreational facilities of the existing parks will be freed up for the use of the neighborhood

residents. This will increase the number passive parks for the city. Combined with our proposal for the acquisition and installation of pocket parks, this will provide a three-tiered system of parks for the city, namely sports complex, city park, pocket park.



POCKET PARKS

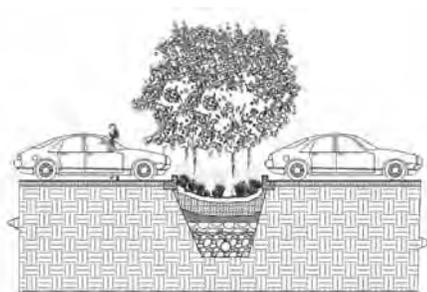
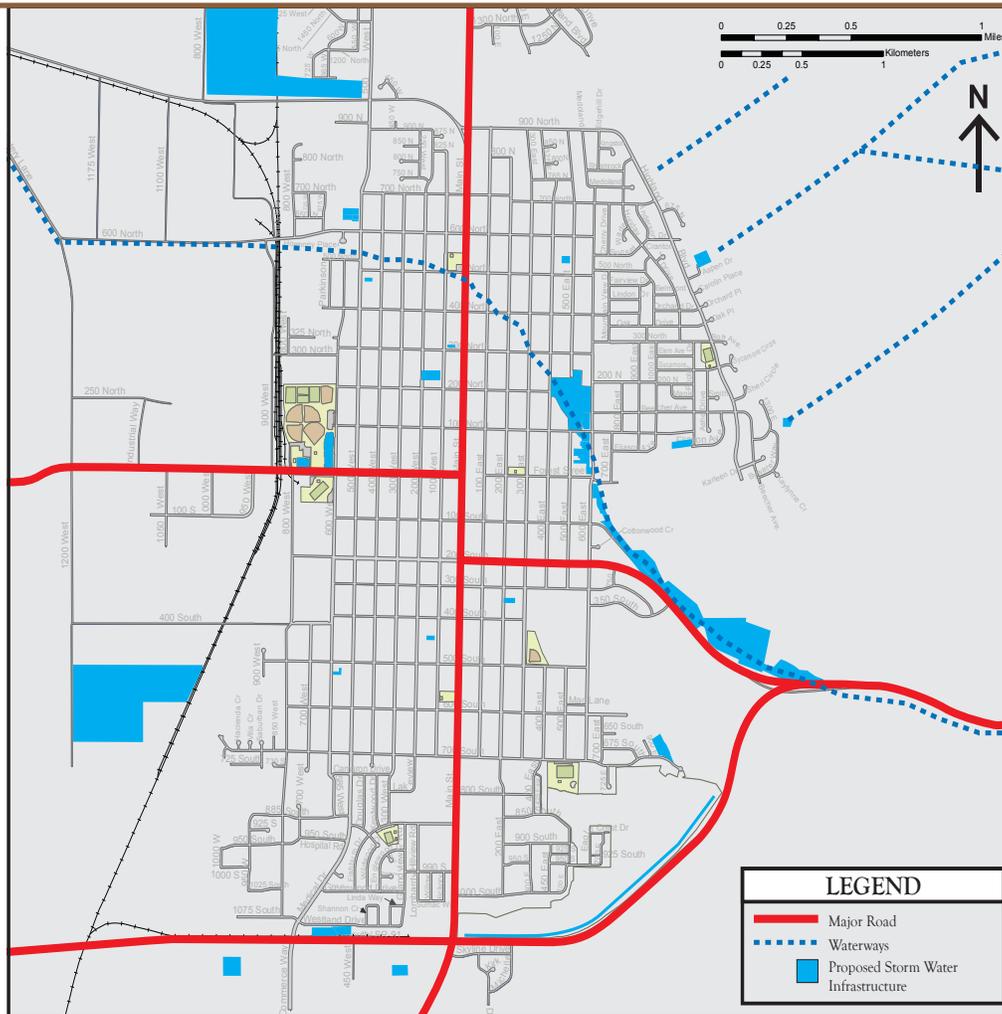
In response to Brigham City’s desire for more passive parks we analysed the availability of vacant lots throughout the city compared to the current coverage provided by existing and proposed parks. The process is as follows:

Vacant Lots

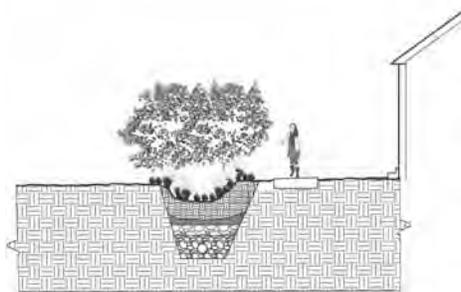
- Vacant lots were identified in the 2007 Land Use Areas map. We analyzed the vacant lots based on the presence of existing structures, topography maps created in GIS, and google earth 2011 imagery. The Remaining lots are the best potential park or pocket park locations.

1/4 Mile Walking Radius

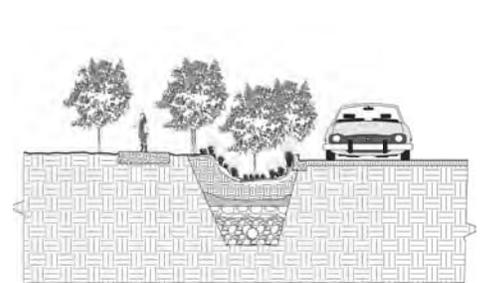
- Overlaid vacant lots with 1/4 mile walking distance radius from existing and proposed parks.
- Vacant lots within walking distance were eliminated to give priority to the areas not currently being serviced in the city



Parking Lot Bioswale



Residential Bioswale



Street Bioswale

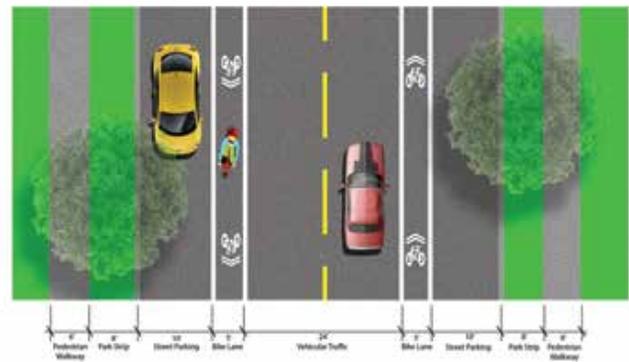
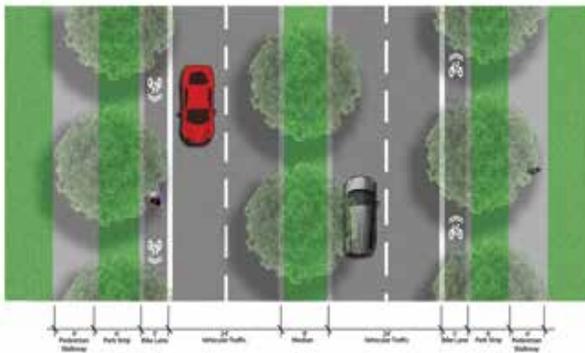
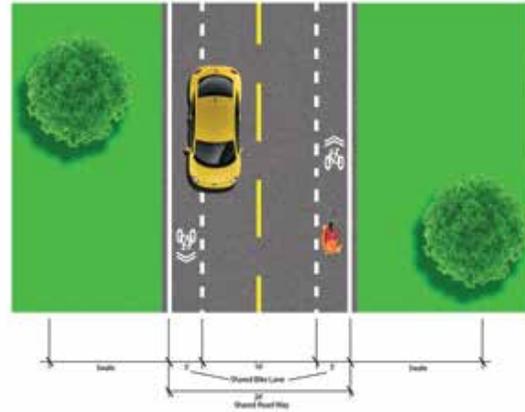
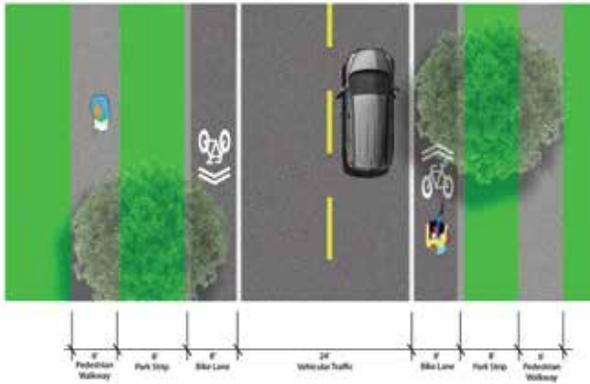
STORM-WATER INFRASTRUCTURE

The new Brigham City parks will enhance the current storm water infrastructure for the city. By pairing strategic locations of existing, proposed, and pocket parks with storm water infrastructure the city will be able to efficiently and creatively manage storm water throughout the city. Major roadways, major waterways, and topographical low points in the city were cross-referenced to find areas suitable for storm water infrastructure. These

sites can be utilized for bioswales, rain gardens, detention ponds, and other management strategies to slow and infiltrate water and integrate clean water back into the ground water and waterways. Below are three different cross-sections of what these sites could look like:



The current residential and rural streets that are marked as bicycle routes only have bicycle route signs. These three options allow for dedicated bicycle lanes painted on these corridors. Dedicated bicycle lanes gives a share of the road for bicyclists by having physically painted lines and signs of the road. This effectively reduces hazards between the vehicle and the bike because all road users can visually separate lanes.



Implementation of a “complete street,” is proposed for Forest Street, Main Street, 600 North, 200 South, and 1100 South.

A complete street is comprised of a boulevard, aided with median a planter and street trees.

This style of a street layout was chosen for these streets because of their high volume traffic. Constructing complete streets also mitigates the issue of safety that arises between the bicyclist, pedestrian, and vehicular circulation. The presence of vegetation on roads slows vehicular circulation speed.

Another key element of a complete street is the idea of invitation into an area. The proposed complete street corridors stated above will mark a better entrance into Brigham City.

BRIGHAM CITY BIKE RACKS



These bike racks exemplify Brigham City's notorious bird refuge. In placing these bike racks strategically around the city, bicyclists will be able to secure their bicycle when making a quick stop at the local super market.

Option 1 bike rack represents forged metal tubes that takes shape of a bird in flight. It is attached from the wing of the bird directly into the surface of the sidewalk.

a cut-out silhouette of a bird in flight.

Option 2 bike rack is a more traditional bike rack. It is made out of a core-ten steel construction.



Proposed Roads to increase “bike ability” and “walkability” West 500 South currently ends at 900 West. The proposed 900West to 1200 West segment makes West 700 South currently ends at 1100 West. The proposed connection to the north by future sports complex. The current bike routes within the city are marked bicycle route signs. This raises a safety concern for vehicular circulation and the bicyclist. To mitigate this hazard, this proposed Brigham City Bicycle Route Map encompasses a two- level system that provides bicyclists a safer commute. Under this plan, bicyclists can ride freely in their designated bike lanes.

lanes are reduced to accommodate on-street parking and the physically painted bicycle right-of-way.

This proposed Brigham City Bicycle Route also provides direct connections to open space, parks, and schools. These connections were created to establish a loop which circulates throughout Brigham City. This network, connects residential commercial, educational and recreational areas in Brigham City.

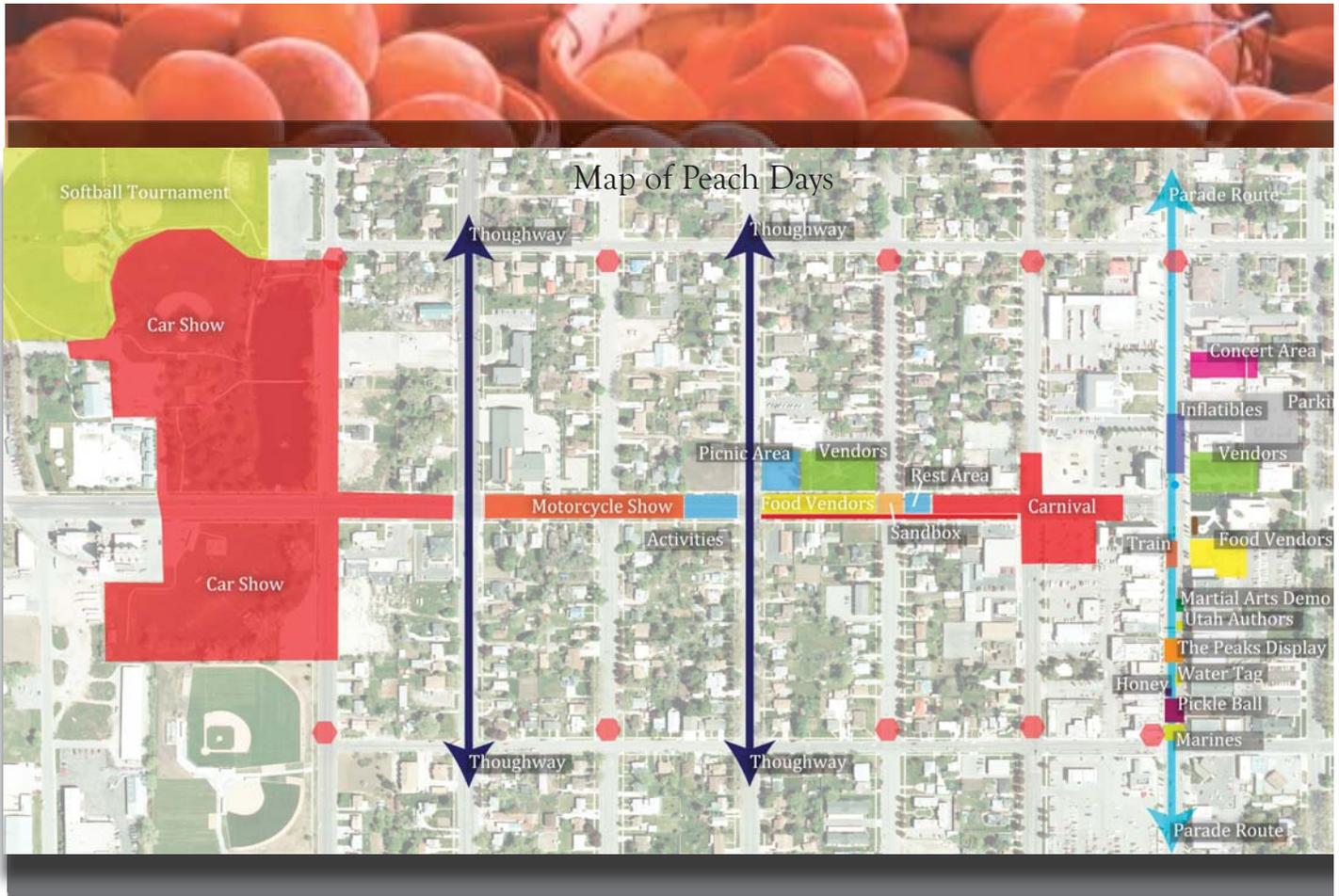
TEAM 13 - Peach Days / Fruitway

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Joel Warren
Jared Lundquist
Niccole Hanks
McKenna Drew
Bradley Janssen
Nathan Clarke
Mickelle Yeates

FACULTY LIASON- MICHAEL TIMMONS

PEACH DAYS

Peach Days officially began in 1904 and has been a city tradition ever since. It boasts being the longest running city event in the state of Utah and second in the nation. It brings in an estimated 75,000 visitors each year and with that millions of dollars into the community. Peach Days events are held in and around the downtown area along Main Street and down Forest Street. The main issue that becomes problematic each year is finding ways to deal with the increasing congestion.



HERITAGE

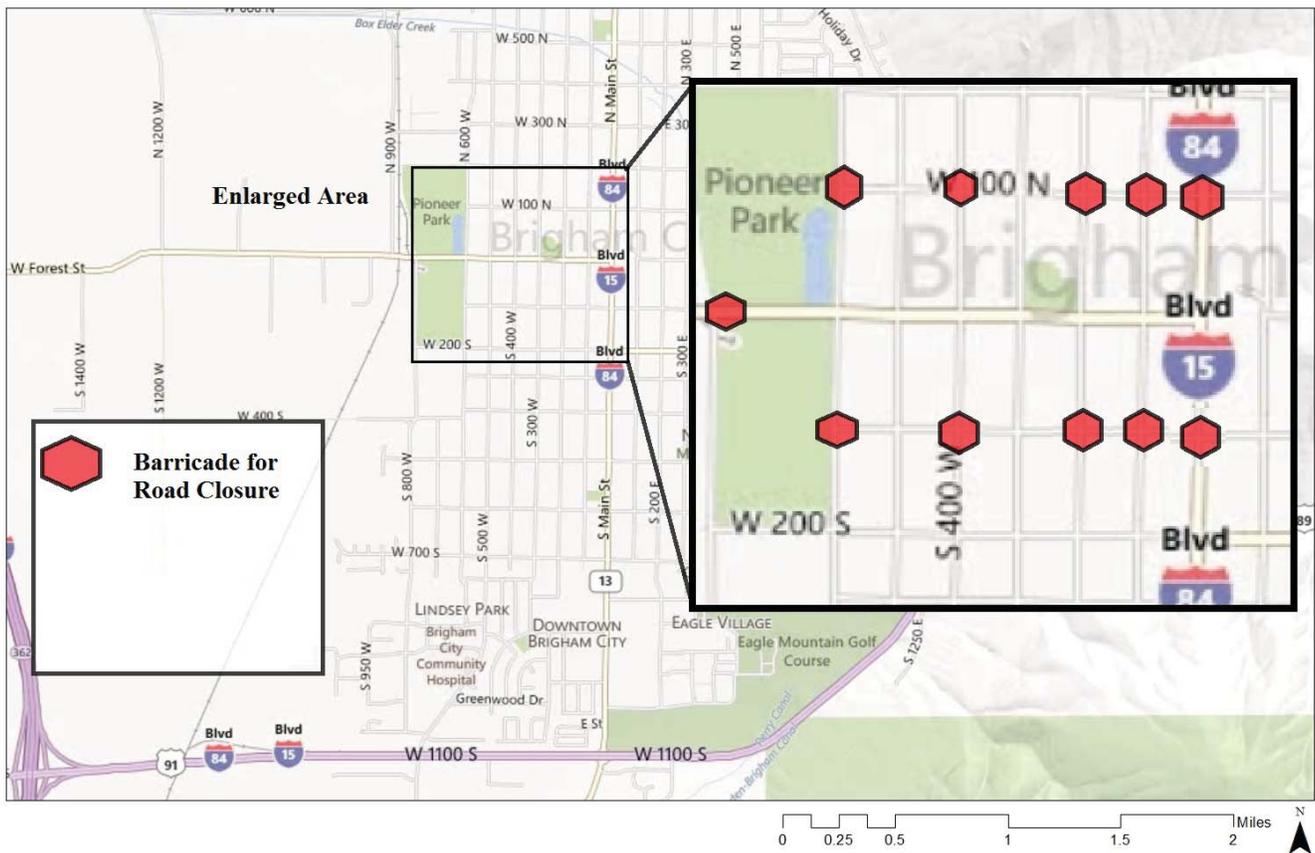


TRADITION



HISTORY

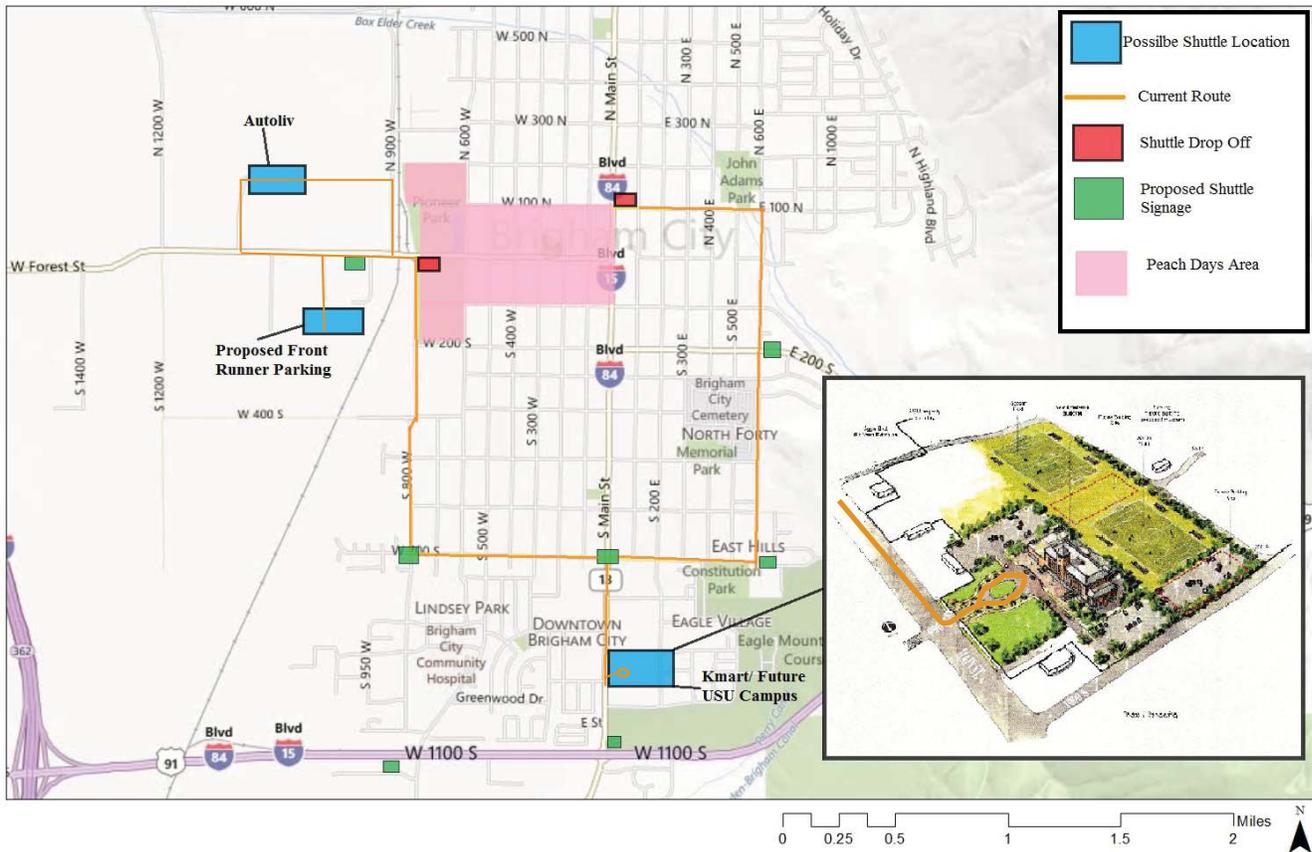
Photos courtesy of Brigham City Chamber of Commerce



PARKING

NO PARKING!
 Residents and Peach
 Days Vendors Only!
 Parking Pass Required

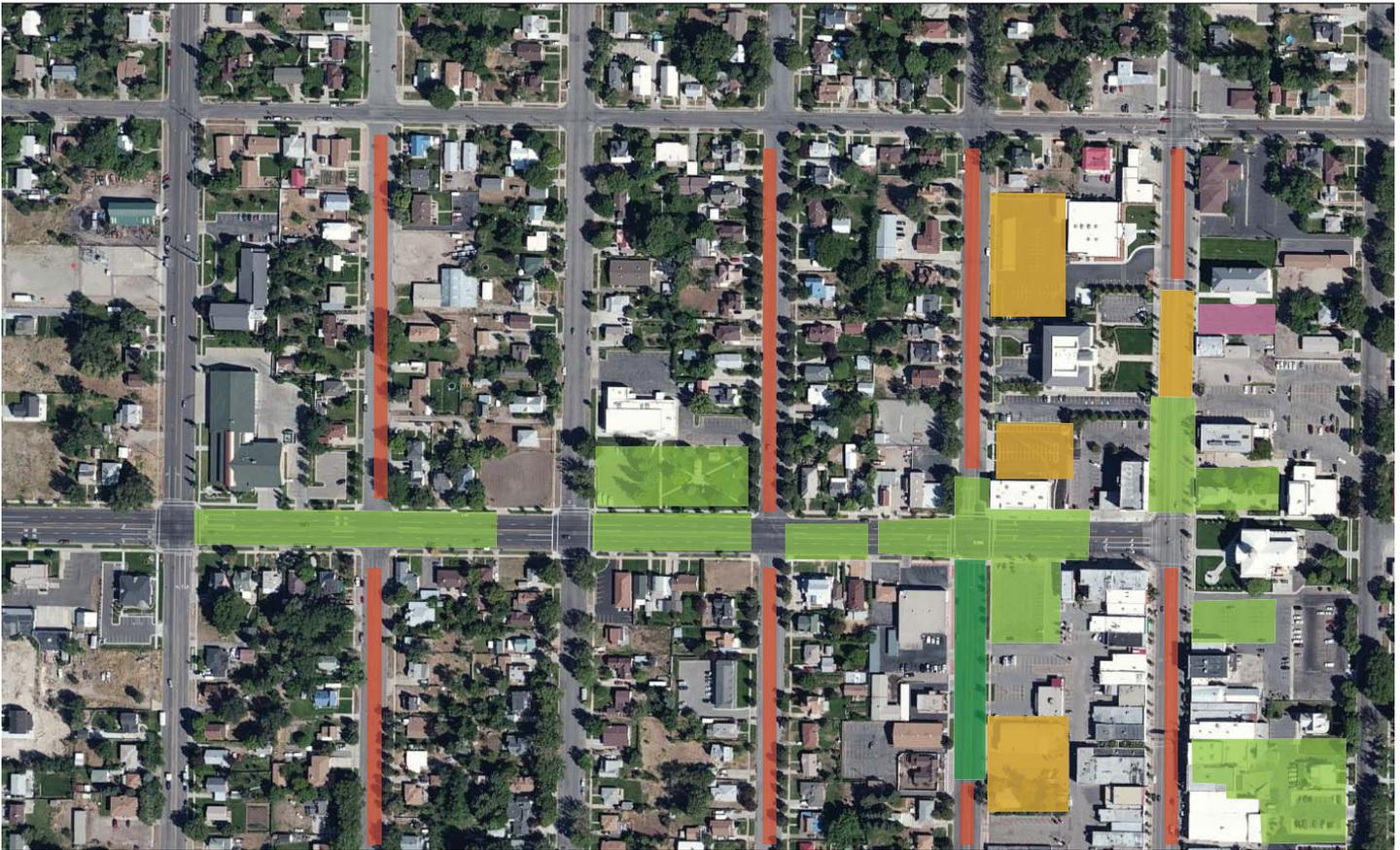
Parking has been an issue during the Peach Days celebrations. The main areas of concern are the areas immediately surrounding the festivities along Forest Street and Main Street. We propose that barricades be placed where the red hexagons are on the map with signs reading, “No Parking! Residents and Peach Days Vendors Only! Parking Pass Required.” Right now the signage indicates that the roads are closed to through traffic, but not to parking. They are having problems with too much congestion due to the number of cars parking in these residential areas. They do not have the manpower to have officials stationed at each of these intersections to assure the proper people are using the roads. We also propose that parking passes be given to the residents of the area of 100 South and 100 North from Main Street to 600 West. This pass would be displayed on the dashboard of the vehicles to assure they have access to their homes. We believe this will help with the congestion of the area, and also help to increase the number of users of the shuttle.



SHUTTLES

The shuttles during Peach Days are not being used as much as the organizers would like. A major advantage to more people using the shuttles would be a decrease in the congestion for downtown parking. The map shows in orange the current shuttle route with its 2 drop off points labeled in red. These allow access to the downtown festivities and to the car show. One way the usage of the shuttle can increase is by placing more signs at intersections as people drive into Brigham to guide them to the shuttle parking lots. Indicated with green boxes are suggested locations for the signs. This will raise the awareness that the shuttle is available. In the near future the USU Brigham City campus will be built where the Kmart now stands. There is planned to be 600 parking stalls there that can still be used on Saturdays for the events. Other future options for shuttle locations include the proposed area for the Front Runner, and the Autoliv. All of these locations are shown with a blue box.

PEACH DAYS CONCERT AREA

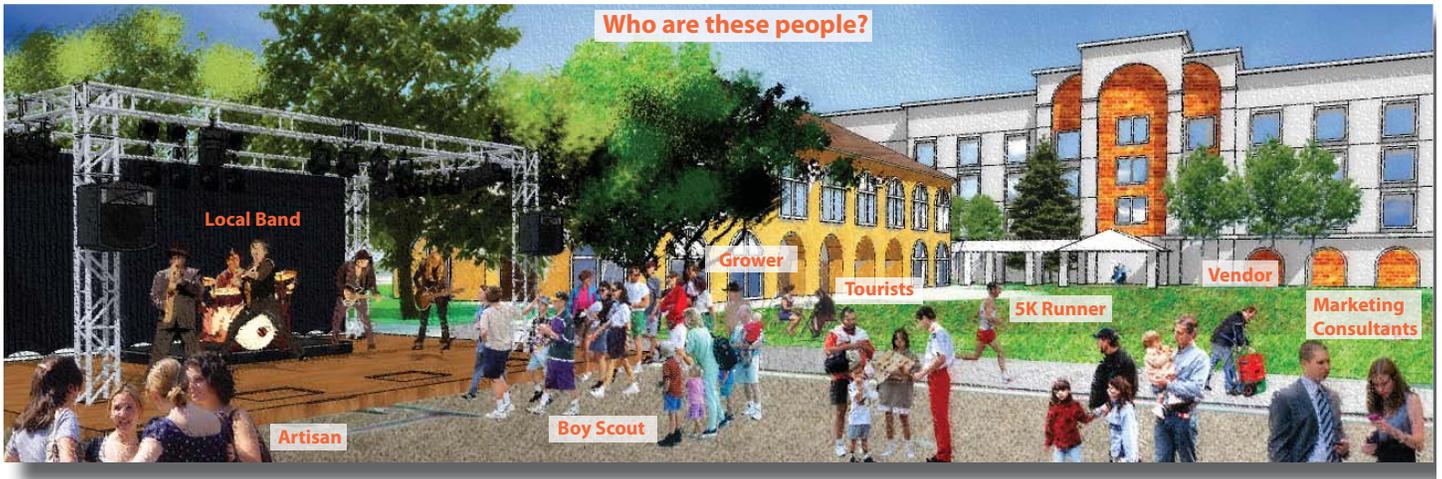


- Existing Peach Day
- Proposed Carnival Extension
- Current Concert Area
- Proposed Areas for Concerts
- Roads Closed to Vehicles



Future plans for the Academy Square include a stage and amphitheater that meet the demands and future growth of Peach Days. There is a lot of strength in having the future Peach Day Concerts in this particular area. The location is at the heart of downtown, within walking distance, and in the middle of the festival activities. It still would help with congestion by being away from vendor shops and the car show.

During construction of Academy square, the proposed concert location are streets and vacant parking lots. These areas are suitable for temporary concert. Having different smaller musical events on the stage throughout the whole day would add to the Peach Days ambiance and give locals another way to get involved and excited about Peach Days.



LOCAL INTEREST IN PEACH DAYS

While Peach Days started as a local tradition in 1904, over the decades as more and more outside visitors have come to the events less residents from Brigham City have had a desire to participate in the tradition. Disenfranchised by congested crowds and people much different from they are, some Brigham City residents would rather sit at home or get out of town. Providing residents with ideas on what they might do to be more involved and holding new events to create locals interest will bring back the pride Brighamites once had in Peach Days.

NEW LOCAL EVENT IDEAS:



Pie Contest



Movie in the Park



Hot Air Balloons



Soap Box Derby



Peach Princess



Mud Volleyball

THE FRUITWAY

While Peach Days started as a local tradition in 1904, over the decades as more and more outside visitors have come to the events less residents from Brigham City have had a desire to participate in the tradition. Disenfranchised by congested crowds and people much different from they are, some Brigham City residents would rather sit at home or get out of town. Providing residents with ideas on what they might do to be more involved and holding new events to create locals interest will bring back the pride Brighamites once had in Peach Days.



WHY IS THE FRUITWAY IMPORTANT?

- The Fruitway provides jobs and supports local business and economy
- It preserves open space, beautifies the landscape, and attracts tourists.
- The orchards provide fresh, wholesome food with excellent taste.
- The unique climate of the Fruitway produces the best tasting peaches in the United States.
- Local farms benefit the environment by protecting watersheds.
- The Fruitway allows people to connect to their cultural heritage.
- Local farms provide a good environment to raise a family and contribute to a strong middle class.

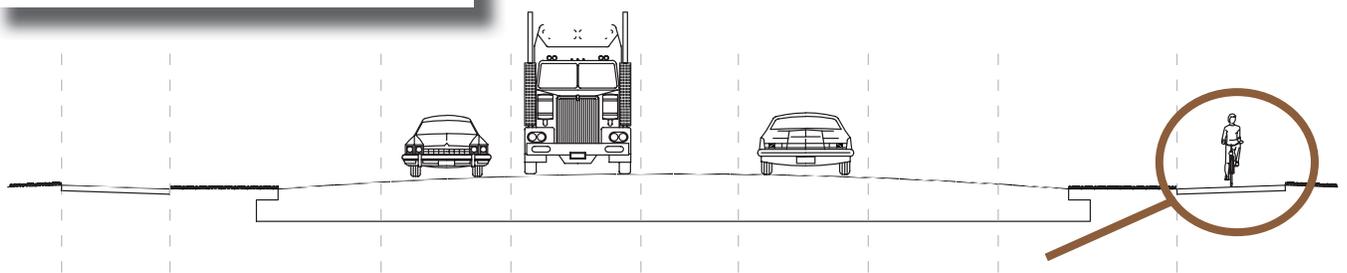
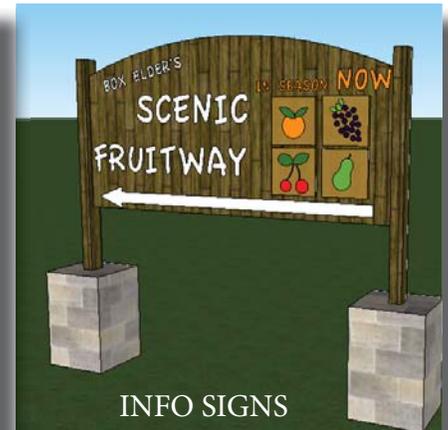


<http://www.standard.net/stories/2012/07/23/despite-abnormal-heat-fruit-and-vegetables-are-thriving-utah>

HOW CAN WE SUPPORT THE FRUITWAY?



- Informational Signage - To direct traffic and business to the Fruitway
- Fruitway Trails - Develop biking and hiking trails for locals and tourists alike to promote business and provide another way to enjoy the byway.
- Greenbelt taxes- Allows agricultural property to be taxed on its productive capabilities instead of the market value. If agricultural land is taxed at market values, farming options can be economically prohibitive.
- School field trips- Promotes learning about the importance of agriculture as well as learning about the community's history.
- Community Supported Agriculture (CSA)- Directly links the consumer to the local farmer. The consumer invests at the beginning of the year, which helps the farmer defer the early year costs of farming. As food is produced, it can be delivered within hours of harvest directly to the consumer.
- Protect farmland of unique importance- Prevent specific farming areas from being developed.
- Historic tours- Brigham City is located at an ideal distance from Salt Lake as a place for tour busses to stop on their way to Yellowstone and the Tetons. Providing tours of orchards and historic communities of Willard and Perry to visitors will increase the visibility of the Fruitway and bring more the visibility of the Fruitway and bring more people into Brigham City.



Rural highway with bike path section according to UDOT standards

WHAT IS HAPPENING TO THE FRUITWAY

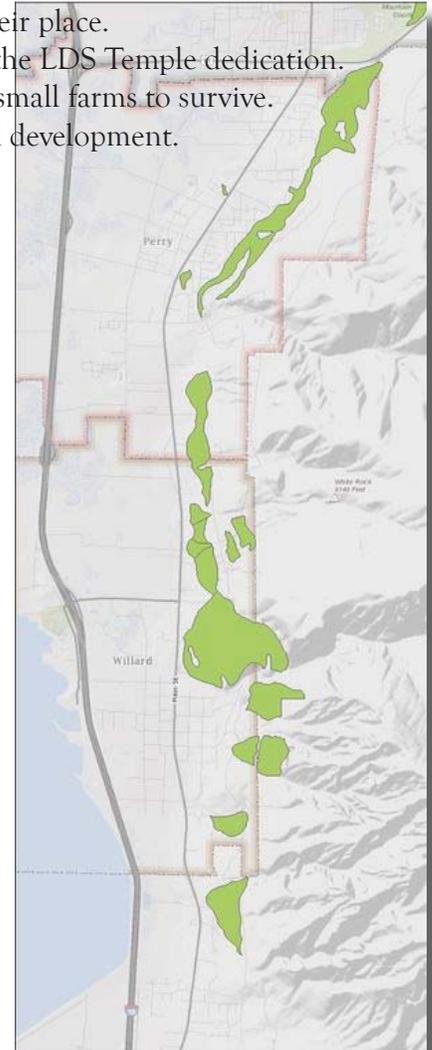
- Housing development is rapidly overtaking the orchard areas, decreasing the amount of space left for orchards.
- Economic pressure makes it more profitable to sell the farm rather than continuing fruit production.
- Fruit growers are relying on old customers for business, not very many new customers are showing up.
- As the current growers retire, there aren't new growers stepping in to take their place.
- Sales along the Fruitway have been declining each year, except in 2012 with the LDS Temple dedication.
- Current farming practices favor large-scale production, making it harder for small farms to survive.
- As shown on the maps to the left, orchard area is yielding to new residential development.



Fruitway Orchards, 1997



Fruitway Orchards, 2012

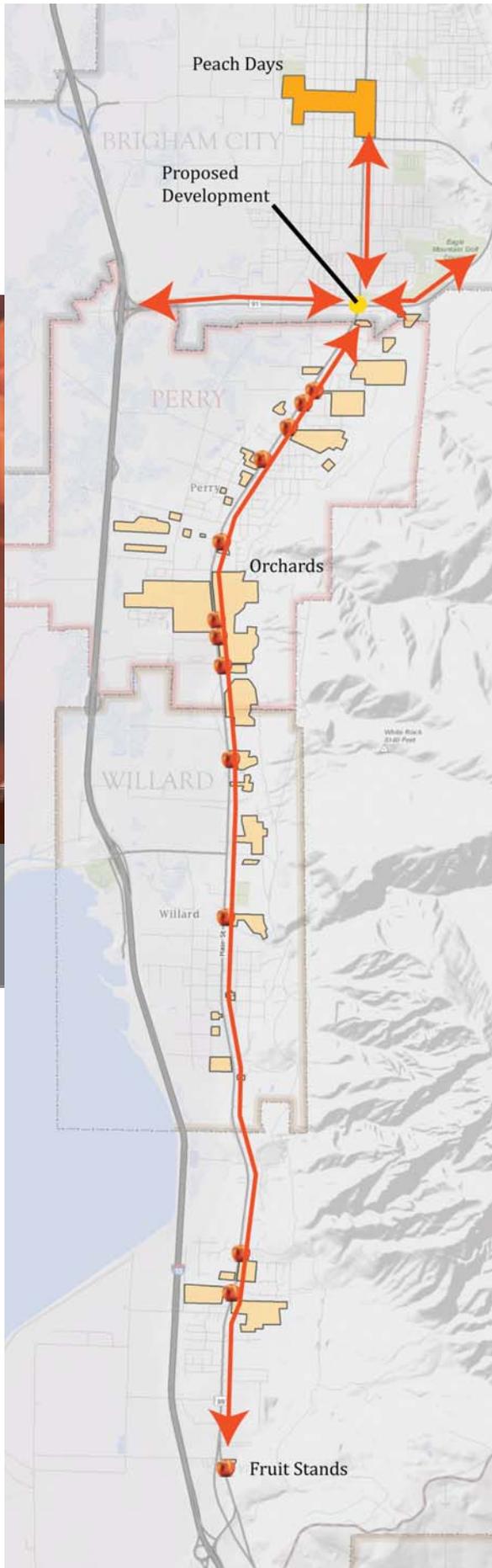


HIGHLY VALUED LAND

The land shown in green is categorized as “Farmland of Unique Importance”, defined as “land other than prime farmland that is used for the production of specific high-value food and fiber crops...such as, citrus, tree nuts, olives, cranberries, fruits, and vegetables”. It comprises only 8,858 acres of land, or less than two-tenths of one percent of all land in Box Elder County. This information comes from the Box Elder County, Utah Resource Assessment, published by the NRCS in 2005, p.8.

PEACH DAYS and FRUITWAY CONNECTION POINT

The map to the left shows the connection between the Fruitway growers and the Peach Days festival. We propose that a fruit-related development located at the 1100 South Main Street intersection will facilitate the relationship between these two parts of the community.



The Utah Department of Transportation recorded an average of 17, 820 Vehicles per day at a location down the road from this intersection on HWY 91 toward Logan in 2010. This must be taken into account when considering the location of identity-preserving developments and sign placement. Proper sign placement will allow more drivers to change their trip to include the Fruitway.



LEGEND

- LOCATION FOR SET BACK SIGNS
- LOCATION FOR SIGNS AT INTERSECTION
- LOCATION FOR INFORMATION KIOSK AND SIGNAGE

SUITABLE SITES

Visits to the site suggest that some areas of the intersection are more suitable for development than others due to visibility. This means that the orchard on the south side of HWY 89 may be an ideal opportunity to preserve and enhance the natural character of the town. We propose that the fostering of a strong relationship with the owners of this property would be beneficial to the future character of the site.

PROPOSED PEACH VILLAGE

In order to better promote and create a connection between Peach Days and the Fruitway, we propose a site to be developed with the soul purpose of focusing on these historic traditions that are so unique to the Brigham City area. A mixed use development that would include commercial, public museum, and tourist opportunities to visitors would enhance awareness and appreciation of the historic and economic value of Peach Days and the Fruitway. It would also become a place to market locally produced fruit related products such as preserves, candies, and memorabilia. This development might be known as the "Peach Village." We propose developing the village near the 1100 South and Main Street intersection in order to attract more visitors passing through Brigham City and also linking Peach Days to the north with the Fruitway to the South. Shown below are two possible options for a Peach Village development.



Key:
■ Suitable
■ Moderately Suitable

The suitable areas are those that are most visible to vehicle traffic coming north and south on Highway 89. These areas would be ideal for advertising Peach Days and the Fruit High Way.



Option #1
 Property on the North-West corner of 1100 South and Main Street could be developed as an interactive cottage industry. This site would give visitors the opportunity to participate in the growing, picking, and artisan process.

Option #2
 Retail development on the South-West corner of 1100 South and Main Street could provide an opportunity to bring orchards into the forefront of the public space. With parking in the back, fruit trees will be the primary visual cue for pedestrians and vehicles traveling through this space.

TEAM 14 - Urban Forest

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Urban Forest

Brigham City is known for its tree-loving people. With over 25,000 trees, you would hope that the city has a sense of unity but as can be seen in the images on the left, there is a disconnect from the rest of Main Street.



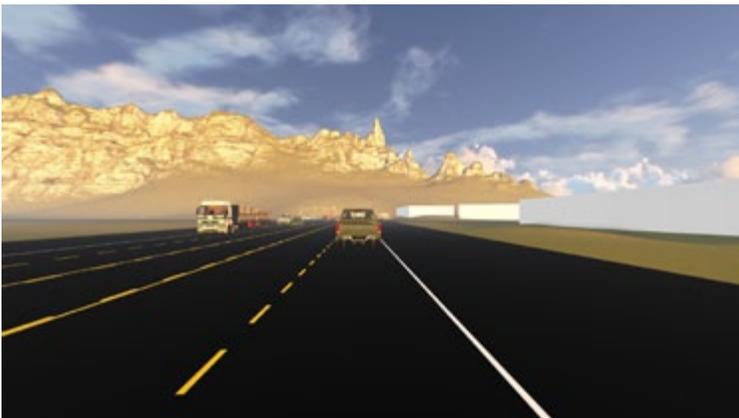
North Entrance Before

Presently a four-way stop with a merging lane on the west side and very little landscaping. Mostly paved surfaces in this area. unidentified entry to the city.



Downtown Before

The unused middle turn lane between 2nd South and Forest Street is a missed opportunity. The Maple trees in the downtown core are dying/suffering from sun scald, with almost half the trunk missing. There are trees on either side of Main Street but those on the East are dying. There is little space for healthy trees on the road sides.



South Entrance Before

It is a very busy intersection with a lot of pavement and concrete, with nothing of interest to draw travelers into Brigham City.

Urban Forest



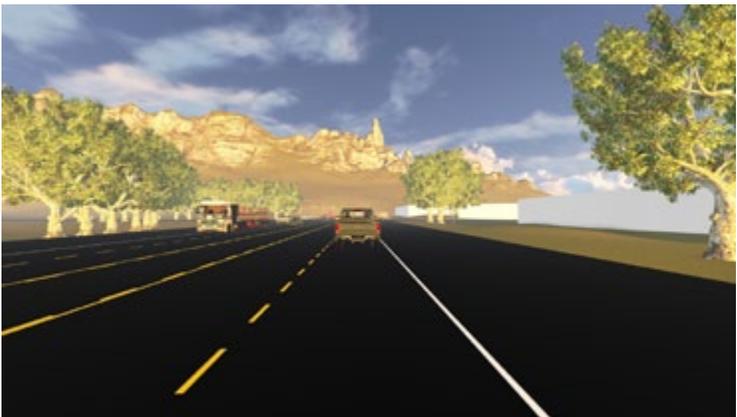
North Entrance After

Round about with trees in middle providing better circulation pattern. Better defines entry to the city and historic main street.



Downtown After

Repurpose the center median as a large planting strip to extend the tree feel through downtown. With the Maple trees that are in the park strips, we highly encourage a couple things to give them a better chance of surviving the harsh conditions. First to wrap the tree trunks with a white tree wrap during the winter to prevent winter sun damage. Second to either replace the Maple trees with a new species or evaluate and replace the most sickly of them. Lastly, to either use bump outs in the sidewalk to give more growing room for the trees or use structural soils that are more porous to allow for the roots to expand more freely and not be severely confined.



South Entrance After

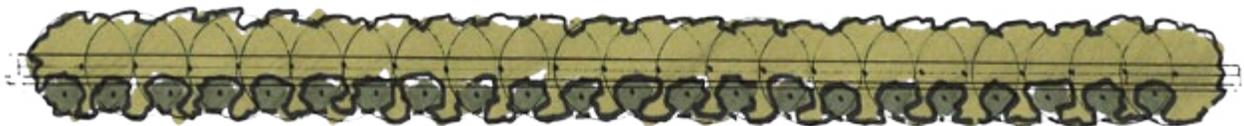
Recommend extending the iconic Sycamore into the intersection to connect Main Street and establish a strong link with the history and activity of Brigham City.

The Trees of Main Street

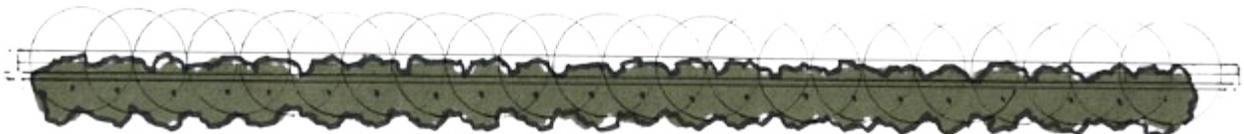
The iconic London Plane Trees of Main Street are a source of pride for Brigham City. Residents and visitors alike have developed a profound attachment to the stately trees and the tunnel effect they create over the road. Under ideal circumstances a London Plane Tree can survive hundreds of years. In urban settings they tend to decline rapidly around 75 years. Unfortunately, many of Brigham City's trees are showing signs of stress and decline. In order to avoid a total loss of trees and iconic character along Main Street, a tree succession plan must be adopted.

Several options are available with different pros and cons for each. These options are intended to provide a general idea for how the city can plan for and preserve this unique asset to the city. An official succession plan should be developed with a professional arborist based on the needs of each block and individual tree.

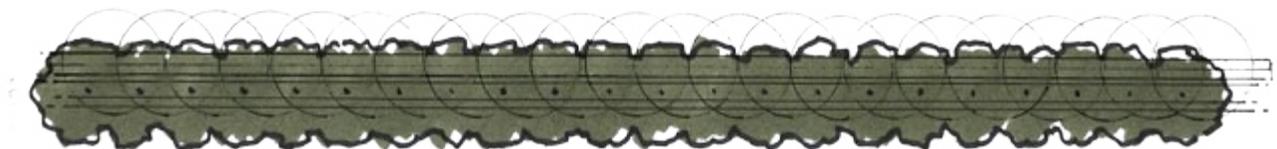
The first succession option is to plant an entirely new row of trees adjacent to the existing ones. Due to limited space in the park strip, this would require the trees to be on the opposite side of the sidewalk or moving the sidewalk further from the road. While this will allow for a uniform row of new trees without removing the existing ones, it requires a large up front investment. Also, many areas along Main Street do not have room to move sidewalks and trees further from the road easily. Other than a few residential blocks, this plan is likely not feasible. The examples below are based on 700' blocks, 30' tree spacing, with 60' diameter canopies.



Plant a new row of trees behind the existing trees. The sidewalk will either need to be moved back or the trees can be placed on the opposite side of the sidewalk.



As existing trees die off and are removed, the row of newer trees will already be growing and filling in. However, the canopy will be significantly smaller.



In 50 years, the uniform row of trees will be approaching maturity.

Urban Forest

Tree Selection

The use of a single species for street tree plantings provides a formal and stately uniformity. However, the use of monoculture also has inherent risks. A pathogen or insect that targets the London Plane tree could threaten the entire Main Street aesthetic. In addition, the density and spacing of the trees in Brigham City make spread of disease very difficult to control. Alternating tree types can help to limit direct contact between like trees, thus reducing the ability of disease to spread. In the event that all trees of one type were wiped out by disease, the alternative trees would still remain to provide some shade and aesthetic benefits. Several alternatives for diversifying Main Street are listed below.

Platanus x acerifolia **London Plane Tree**

- Height: 75'-100'
- Spread: 80'
- Growth Rate: Medium
- Lifespan: More than 300 years in ideal situations. 75 years is more common in urban settings.
- Fruit: Round seed pods require occasional cleanup.
- Additional Info: Widely used in urban settings due to its pollution tolerance. Grows 1.5'-2.5' per year leading to some weak limbs, but generally very sturdy.

Quercus macrocarpa **Burr Oak (Recommended)**

- Height: 70'-80'
- Spread: 80'
- Growth Rate: slow
- Lifespan: 200-300 years
- Fruit: Acorns provide food for squirrels. Will require occasional cleanup.
- Additional Info: Perhaps the best alternative to London Plane Tree in terms of comparable size and shade cover. Well suited to urban environments. Has a deep tap root that makes it very drought tolerant. Though growth is slow (approximately 1' per year), the strong limbs and long lifespan make the Burr Oak an excellent investment.

Celtis occidentalis **Common Hackberry**

- Height: 40'-60'
- Spread: 40'-60'
- Growth Rate: medium to fast
- Lifespan: 100 years in urban conditions
- Fruit: Non-ornamental berries are a major source of food for birds. Can be messy.
- Additional Info: A tough tree that is adaptable to urban stresses. Medium to fast growth rate would help to fill gaps in the street canopy quickly, but also results in weaker limbs that are prone to breakage.

Zelkova serrata **Japanese Zelkova**

- Height: 50'-80'
- Spread: 50'-75'
- Growth Rate: Fast while young, medium to slow as it matures
- Lifespan: 150-300 years
- Fruit: Inconspicuous
- Additional Info: A very low maintenance tree with a graceful vase shape. Arching branches create a dense canopy. Rapid growth early on allows the zelkova to begin providing shade benefits quickly. Growth then slows down.

Urban Forest

A more practical plan involves a steady succession program that begins by selectively replacing trees. This will undoubtedly create immediate controversy as some trees are removed but will also provide a more gradual transition by avoiding a sudden mass die-off. The example below illustrates a general pattern for how this can occur. A specific plan should account for the health of individual trees and the impact they have on the overall canopy.



2013 Remove every third tree and plant new trees in their place. The close spacing will allow existing trees to fill the canopy while the new tree grows.



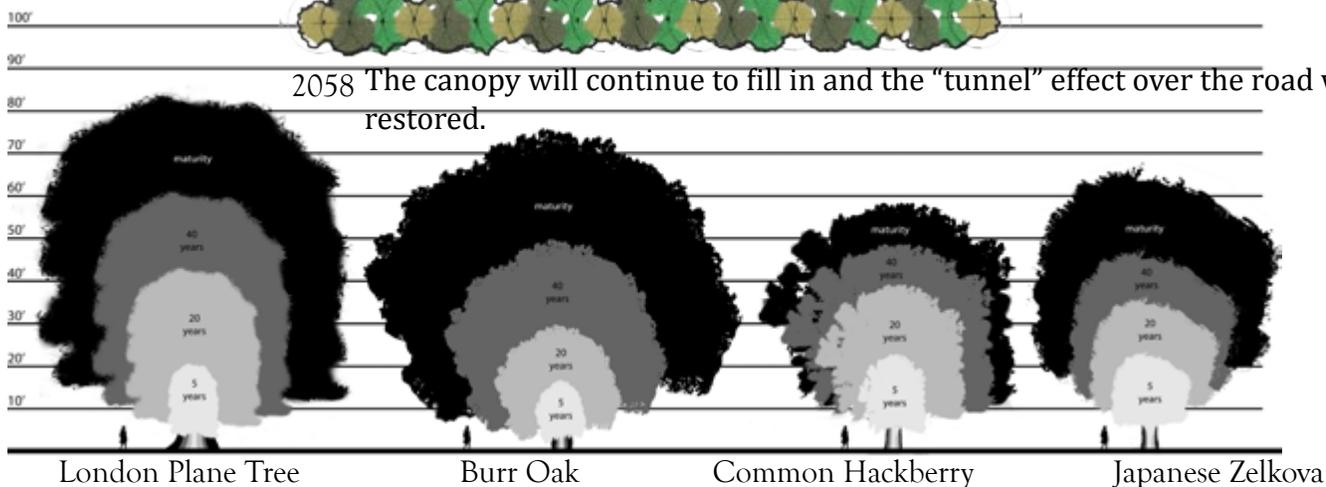
2028 In fifteen years, remove another third of the trees and replant. By now the previous plantings are established and beginning to provide shade.



2043 Replace remaining trees. This period may cause the most dramatic visual changes as the "tunnel" effect will be reduced. However, established trees will continue to provide shade.



2058 The canopy will continue to fill in and the "tunnel" effect over the road will be restored.



Community Involvement

Brigham City residents have a deep attachment to the London Plane Trees of Main Street. A succession plan will undoubtedly be an emotional issue and residents ought to be involved in a variety of ways.

Adopt/Donate a Tree Program: Allow residents to purchase trees for the succession plan. A small plaque or brick with the donors name could be located near the base of the tree.



Milled Wood Purchasing Program: Provide the opportunity for residents to buy the lumber to create their own keepsake and honor Brigham City's rich history.



Furniture Auction: Create furniture to be auctioned off at Peach Days or other community functions. Proceeds go directly into the arboriculture fund for maintenance of new trees.

Downtown Street Furnishings: Create places for rest and relaxation available to all community

TEAM 15 - Future growth and annexation

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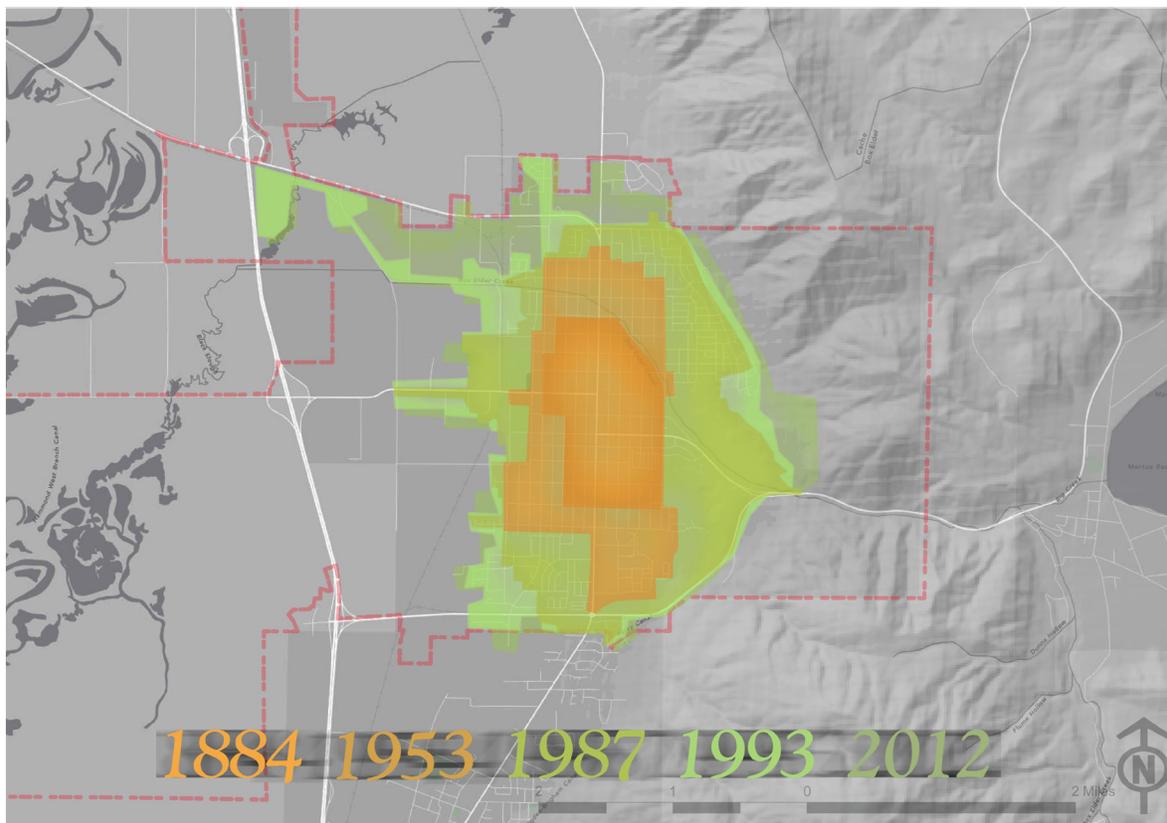
Where Have We Been? Historical Trends

Scenario planning helps stakeholders make decisions for the present and prepare for the future. In order to shape the long-term future of Brigham City, historical factors and trends were identified and current land-use patterns and variables were analyzed.

Images of Resources Used to Track Brigham City Over Time



Brigham City Over Time

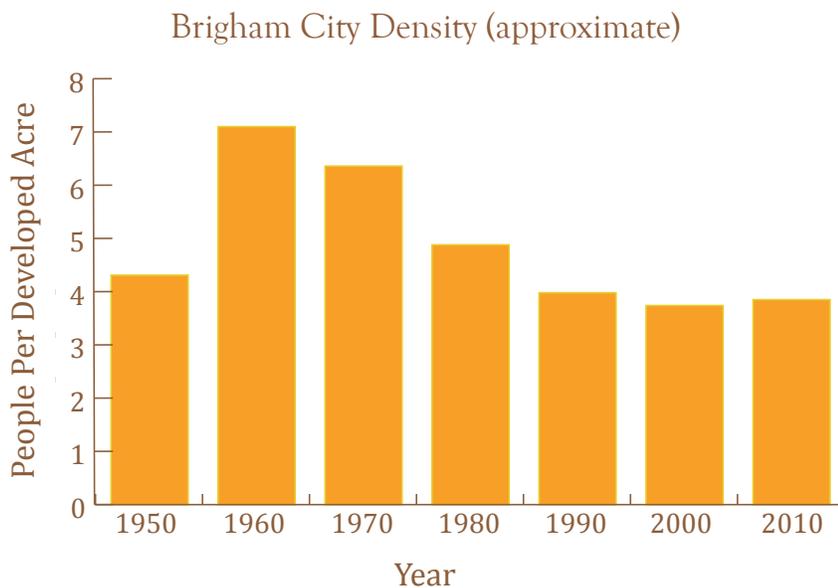
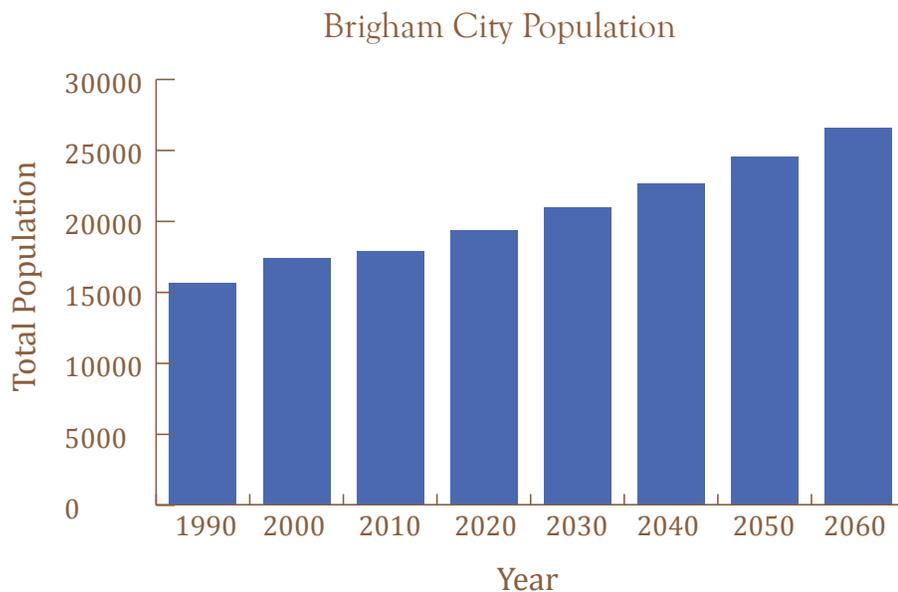


Developed area as it expands outwards from the original Brigham City fort.

This image illustrates how Brigham City's development areas have grown since its inception. Utilizing historical maps and aerial photography; the developed borders of Brigham City were analyzed and delineated in the largest map above.

Currently Brigham City has developed right up against the ridge line

Where Have We Been? Historical Trends



Accommodating Growth

The team measured the acreage of the city's development throughout the years and compared that data to concurrent populations.

The resulting charts show a trend of increasing growth of population and land consumption, with decreasing density.

When considered alongside Brigham City's geography, bordered by wetlands and the Bear River to the west, and mountains to the east, we must consider current and future densities and growth patterns.

Where Are We Now?

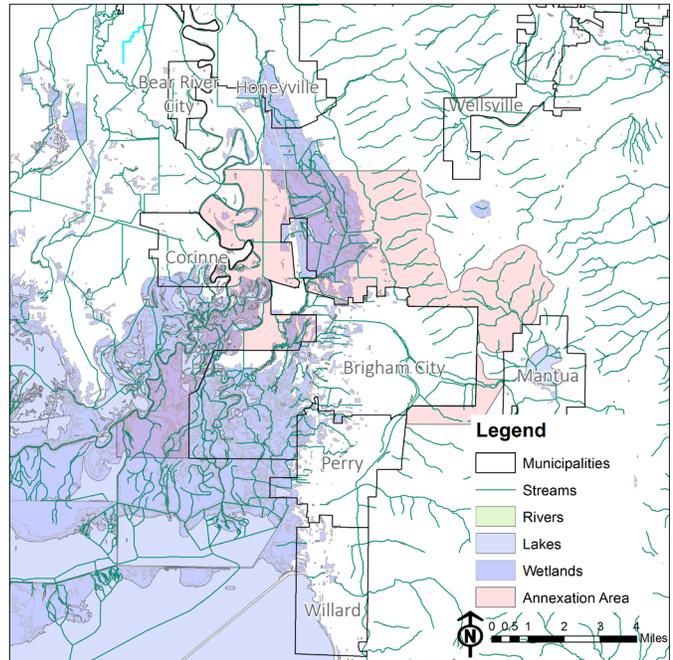
Land Suitability Analysis - Physical

Geographic, environmental, cultural, physical, and biological factors all affect the suitability of land for future growth. These factors were analyzed using ArcGIS to determine which areas of Brigham City's proposed annexation area are suitable for city expansion, and which areas are better suited for preservation.

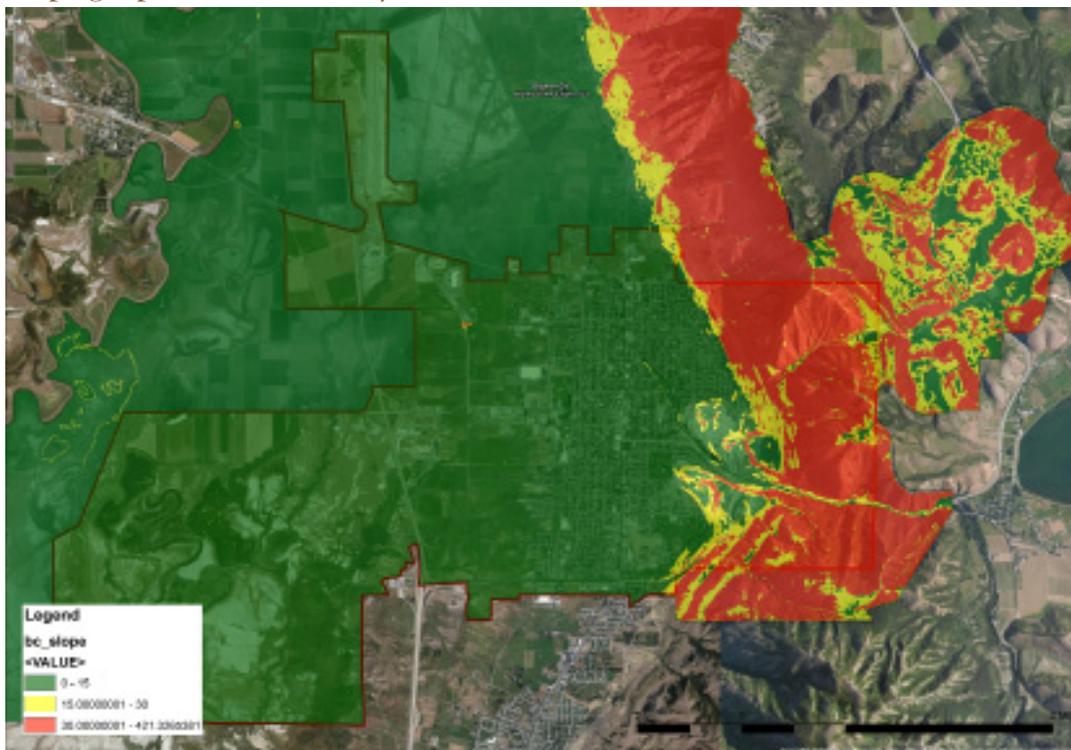


www.city-data.com

Hydrological Inventory



Topographical Inventory



Where Are We Now?

Land Suitability Analysis - Habitats

Local wildlife inhabits virtually all areas of the annexation areas. Any development may conflict with the Brigham City goal of targeting wildlife-oriented tourism and recreation.



Black Bear



Rocky Mountain Elk

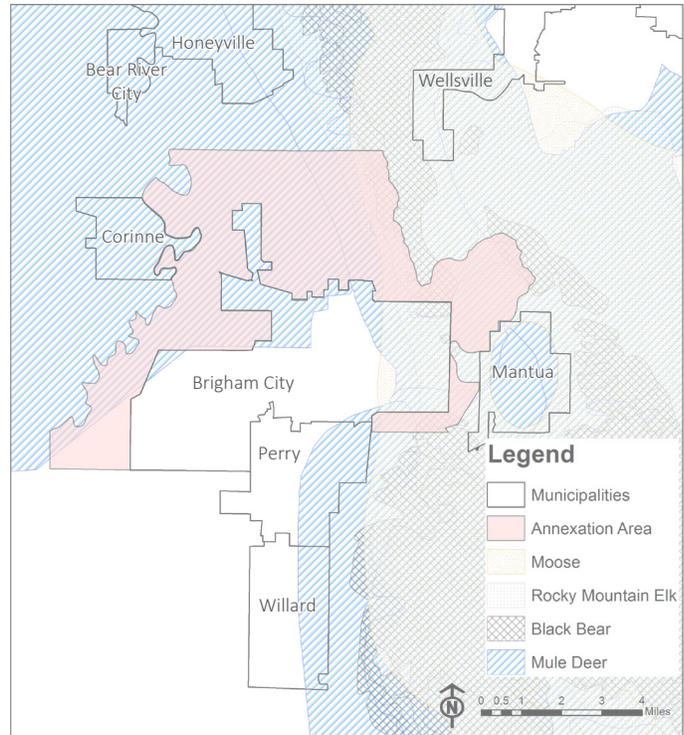


Moose



Mule Deer

Mammal Habitats



Ruffed Grouse



Hungarian Partridge



Blue Grouse



California Quail

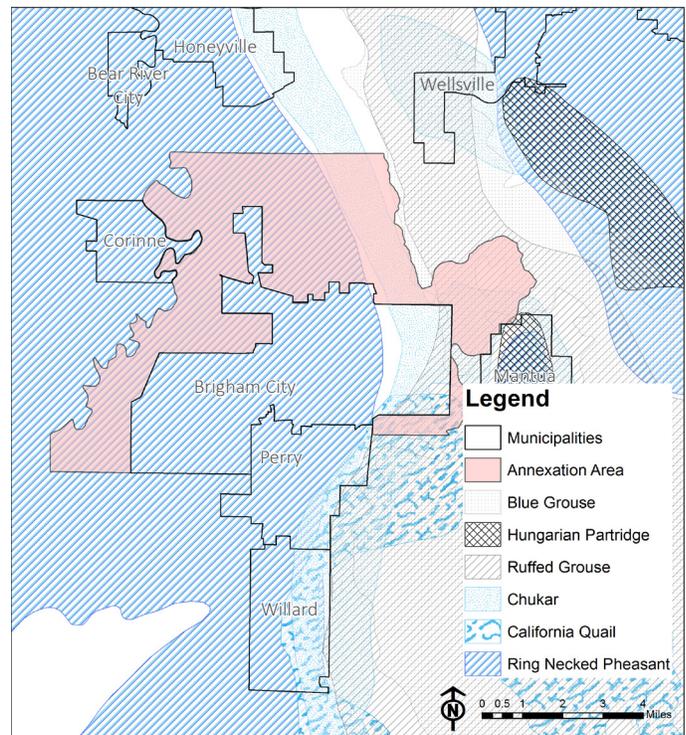


Ring-Necked Pheasant



Chukar

Bird Habitats

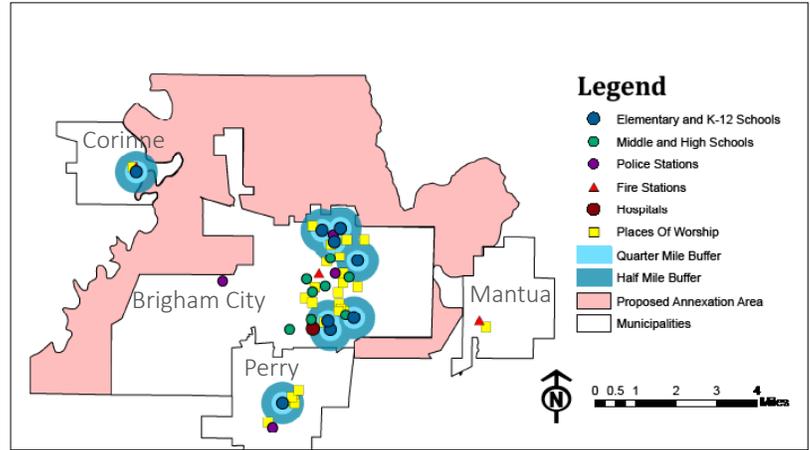


Where Are We Now?

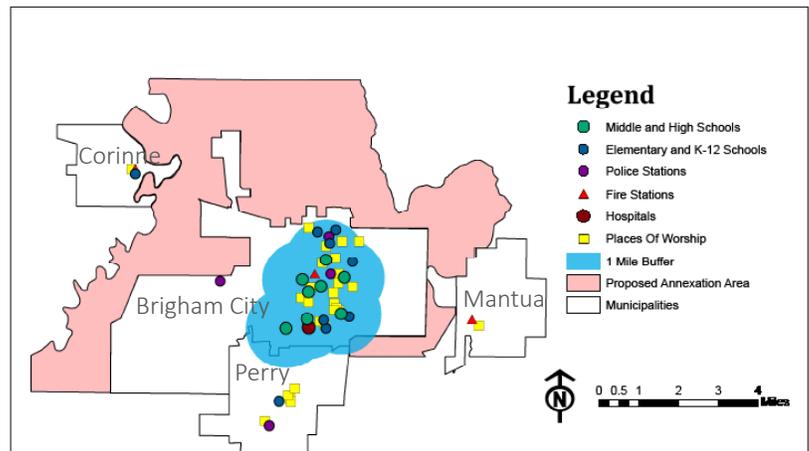
Land Suitability Analysis - Viewsheds and Schools

Although cultural factors like viewsheds, existing infrastructure, and proximity to schools are not a direct hindrance to expanding growth, these things need to be taken into consideration when differentiating land suitable for development and land better suited for preservation.

Cultural Analysis of Elementary and K-12

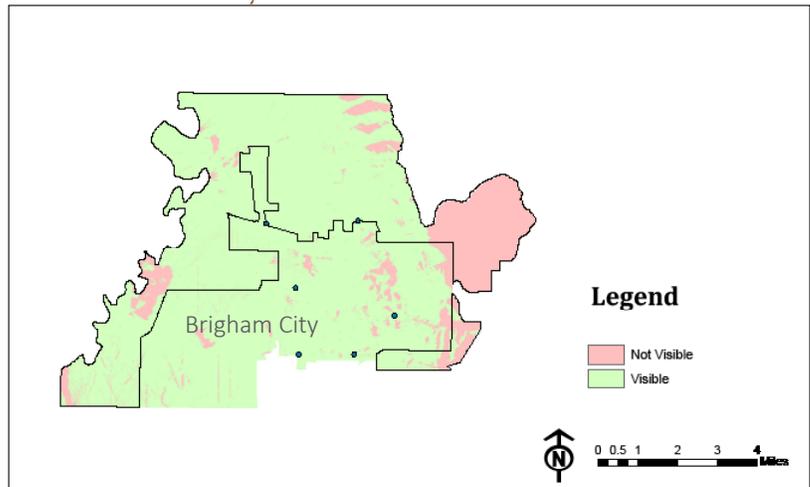


Cultural Analysis of Middle & High School



classreport.org

Viewshed Analysis

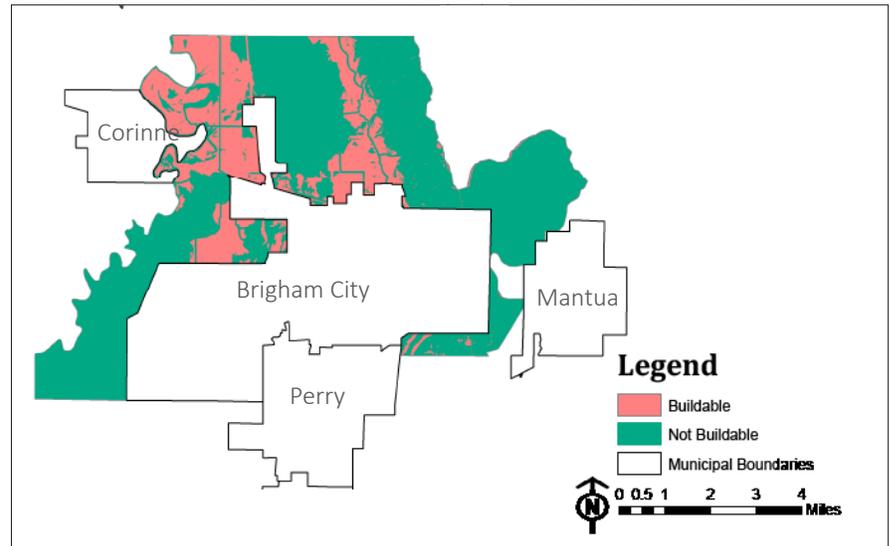


www.airphotona.com

Where Are We Now? Aggregate Map

By combining all of the previous ArcGIS layers, except the habitat layers, the aggregate map to the left was yielded. This map shows areas in the proposed annexation area that are best suited for Brigham City development. The areas identified as unbuildable were eliminated because they are environmentally sensitive or have scenic vistas that should be protected. The relationship of annexation areas to major roads or local amenities improved their suitability while proximity to the airport and bird refuge lessened suitability for development.

Buildable Versus Preservation Lands in Annexation Area



There is some concern regarding local wildlife. Important species inhabit virtually all areas of the annexation area. Developing in these areas may fragment some species or remove them from some areas completely and doing so would contradict Brigham City's goal for targeting wildlife-oriented recreation and tourism as stated in their general plan.

However, if development must expand, the areas in red are most suitable for expanded future development. We will explore growth scenarios using this map as our guide.

Population Versus Land Availability Analysis

Total Acreage Selected for Future Residential Zoning <u>4192.34 Acres</u>	÷	Projected Population For Year 2060 <u>26,595</u>	=	Number of Acres Available Per Person in 2060 <u>≈1.5 Acres/Person</u>
--	---	---	---	--

Brigham City has enough land available that they can provide low density housing for many years to come. The table above illustrates that by adding up the total acreage of proposed residential zones and dividing it by the expected population for the year 2060 the number of acres available per person is about 1.5 housing units per acre. However, it is recommended that Brigham City **grow inward to increase walkability** and **preserve undeveloped lands for wildlife** to support a wildlife-tourism and recreation economy base. a Brigham City goal.

If development areas must expand beyond the existing boundaries these two scenarios are options to accommodate this.

What Will Brigham City Look Like? Scenarios

Scenario A: Compact/Contiguous Growth

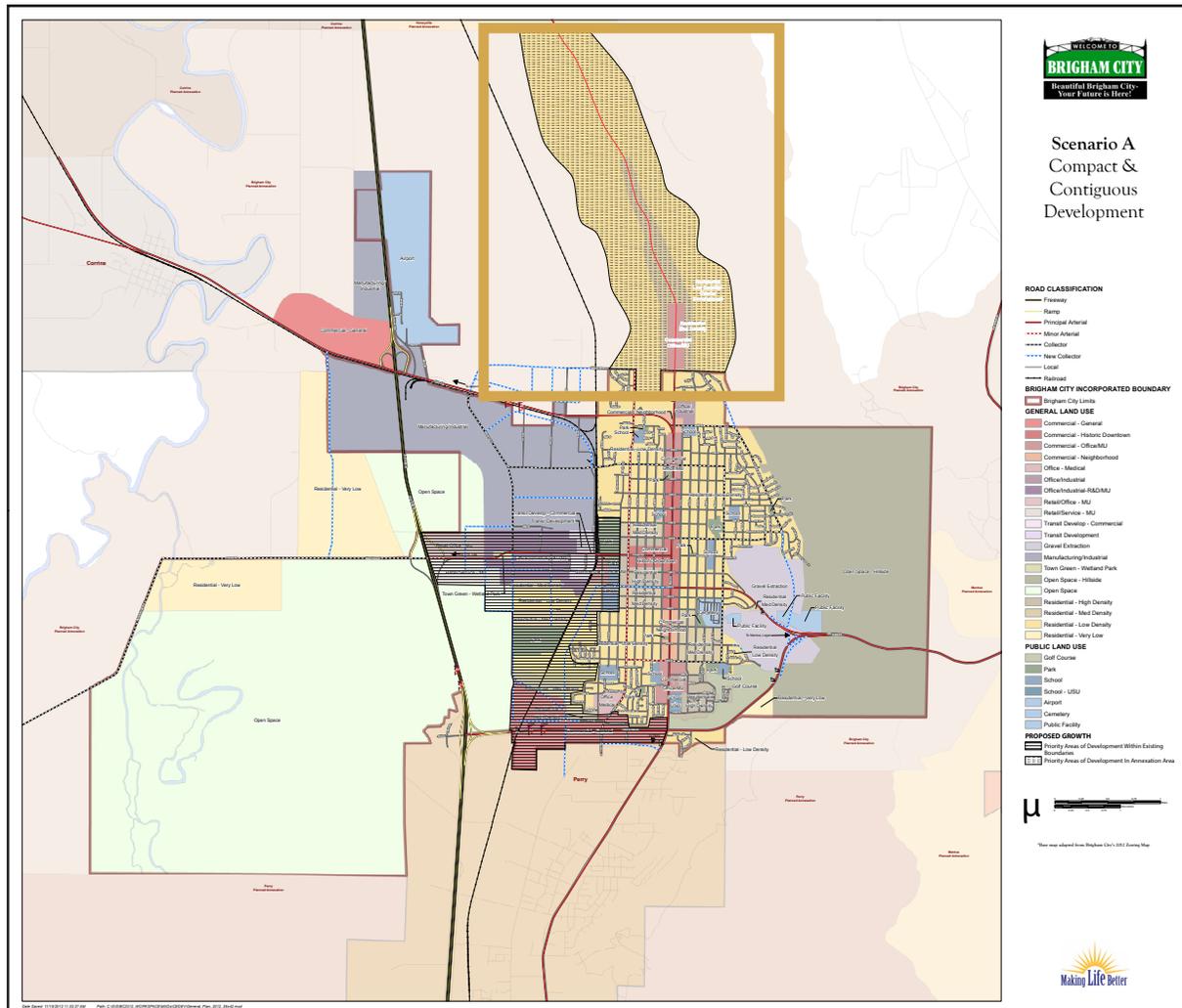
- If growth does occur outside the current municipal boundaries, this scenario guides growth along the Main Street (UT-38) corridor preserving lands outside of the corridor for wildlife-oriented recreation and tourism, a Brigham City goal.



- Mixed-use zoning should be placed along the southern end of this new corridor, adjacent to existing Brigham City development. Then development gradually progresses from mixed-use, down to medium density residential, then down to low density as development moves southward and outward from where the new development starts. This would help Brigham City's identity stay distinguishable from other municipalities in close proximity.

- These areas should uphold the cluster development policy stated in Brigham City's General Plan, allowing developers flexibility in lot sizes thereby providing a variety of housing sizes and types for various income levels and for various stages in the resident's lives.

- A drawback would be a decrease in walkability in the lower residential areas and possible wildlife species fragmentation may occur.



What Will Brigham City Look Like? Scenarios

Scenario B: Town/Village Center or Cluster Development

•In this scenario development occurs in districts with each character district consisting of mixed-use cores surrounded by a variety of housing types lessening in density from the core outward.

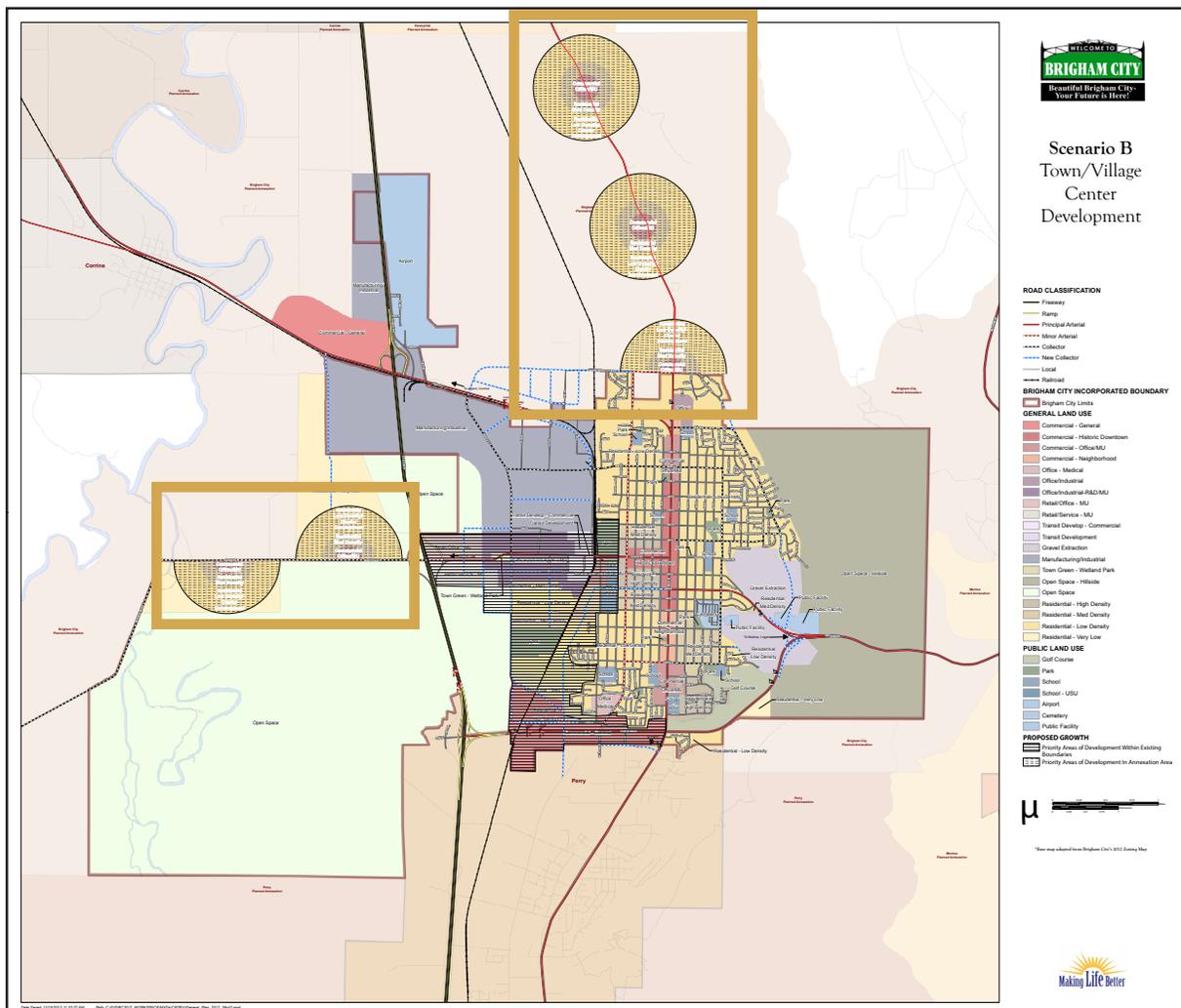


•Mixed-use, commercial with high density housing, then to medium-density residential communities, then low-density residential areas on the fringe.

•Ideally, the cores of these areas would be made up of small stores for basic community functions. These districts would provide housing options and community walkability.

•This solution would keep the identity of Brigham City's commercial core distinct from other cities in close proximity. Further, the gaps between character districts would provide corridors for wildlife.

•However, these character clusters stand the risk of being "disconnected" from the heart of Brigham City in more ways than just proximity.



What Do We Want?

General Plan Audit

Executive Summary

→ Insert Intro to Brigham City/guiding principles of growth/community

Brigham City's General Plan and Annexation should be revised to include more clear growth management goals in order to adequately address the problems that arise with population and economic growth. The future needs of the City in respect to housing, land-use, and employment must be identified so that a sound growth management plan can be developed. Preserving public goods, reducing taxpayer costs, creating complimentary land-use interactions, equally distributing benefits and burdens, and elevating the quality of life are elements of growth management that should be incorporated throughout the revised Plan.

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1. Introduction

Growth management is the regulation of the amount, timing, location and character of developments. It is a planning tool used to shape and guide community growth. As municipal populations across the United States continue to grow at accelerating rates, cities and towns across the country have enlisted the tools of growth management programs to facilitate residential and economic development needs. Brigham City, Utah should address future growth and annexation with growth management goals, objectives and principles in mind, similar to the updates Envision Utah proposed for nearby Cache County.

Historical growth in Brigham City is mapped in this document followed by current land uses. The goals and strategies of the City's plan have also been assessed based on their inclusion of the growth management principles: the preservation of public goods, reduction of taxpayer cost, land-use interactions, equal distribution of benefits and burdens, and elevation of the quality of life. The findings of the audit are listed in the form of a matrix. Inventories and analyses were conducted and have been included.

The historical maps, current land use maps, general plan, inventories and analyses have been synthesized and the findings formed the scenarios put forth by this charrette group. The document concludes with the shortcomings found and recommendations for improvement.

1.1 Historical Land Use Patterns

1.2 Current Land Use

2. Development Needs

A well-written, thoughtful comprehensive plan should identify its development needs by including land-use needs projections, population projections, housing projections and employment projections. An idea of these hard numbers helps guide

growth in ways that can and should benefit the community. The following table identifies whether Brigham City has taken these projections in to consideration in their Comprehensive Plan and, if the projections are addressed, the location of where they can be found in the Plan.

Table 2.1

Development Need	Identified
Land-Use Needs Projections	N/A
Population Projections	Part I: 2.2 Population Growth
Housing Projections	N/A
Employment Projections	N/A

2.1 Land-Use Needs Projections

While the General Plan contains valuable information on current land-use problems and attempts to develop solutions, it does not contain projections for future land-use needs.

2.2 Population Projections

People are the most important resource to consider when planning for the future of a region. The demand for residential units is based on the increase or decrease of residents within a community, employment opportunities revolve around an available workforce, population guides the need for public facilities; this list could go on. People have a profound effect on the place in which they reside; therefore, it is crucial that communities address growth trends in order to adequately provide for future generations.

Within the Demographic Profile of Brigham City’s General plan are past population counts in ten-year increments beginning in 1860 to 2000 and projections from 2010 up to 2020; the projections have not been updated with results from the 2010 census. The projected population for 2010 was 19,500 when in fact the actual population was 17,899 according to the United States Census Bureau. The population projections are based on anticipated growth from a result of natural increase, while recognizing that Brigham City’s growth rate has been less than that of the State of Utah since the 1980 census. The plan should be updated with current population projections; knowing these growth trends will help Brigham City plan for and meet the needs of its future residents.

2.3 Housing Projections

While the housing section in the Demographic Profile seemingly understands that planning for residential development “will need to expand to meet future population growth and housing demand,” nowhere in this section, or the Plan as a whole, are projected needs for housing units (p. 11). Brigham City derives much of

its residential character from its large-lot, rural homes, but this prevalent form of housing will not facilitate its expected growth. The Plan does recognize that the demand for housing is increasing but simply states that there are sufficient opportunities within the plan to address the issue.

2.4 Employment Projections

Healthy communities are built upon a prospering economy. Understanding regional development helps determine the required commercial and industrial growth necessary to uphold a strong tax base and keep unemployment low. In the Demographic Profile are employment totals for the City broken down by industry. The highest rate of employment is currently seen in the manufacturing sectors and that trend is expected to continue. Projections of future employment is not included in the plan.

3. Growth Management

Growth management is determining and accommodating the needs of future growth while maintaining a balance between development and conservation. The techniques used to manage growth have been developed to mitigate the problems of unregulated land markets, which have resulted in patterns of urban sprawl. Through the application of growth management policies, goals and principles, a community can better regulate the amount, timing, location and character of developments. Growth management requires substantial effort and a cooperative relationship among municipalities, counties and regions in order to achieve an overall vision.

The five growth management elements that will be utilized for the purpose of this audit are as follows: preservation of public goods, reduction of taxpayer costs, creation of complimentary land-use interactions, equal distribution of benefits and burdens, and elevation of the quality of life. When applied together, these goals can guide desirable community growth and protect existing natural resources.

The audit included in the following section intends to evaluate the current Brigham City General Plan from a growth management perspective for the Brigham City planning commission. First, it will be identified whether the comprehensive plan includes projections for future development needs. Then, the goals and strategies of the City's plan will be assessed based on their inclusion of the growth management principles. Whether or not such growth management ideals exist in the City's current plan will be shown in the form of a matrix.

4. The Audit and Matrix for Brigham City

The focus of this audit will be on the current plans and policies within the elements of Brigham City's general plan. The City's existing general plan will be evaluated against growth management goals, principles, and strategies with the ultimate

objective of changing the plan, policies and practices to further include topics of growth management. The audit will also search for inconsistencies in Brigham City's intentions and actual application of its goals and strategies.

4.1 Quality of Life

The goals and principles of growth management are intertwined and connected to improve the quality of urban life. The urban sprawl that is evident in most metropolitan areas has led to an increase in automobile travel, a lack of low-income housing and a complicated system to cover costs of new infrastructure that hardly addresses long-term needs. Substantial growth management efforts, on the other hand, offer strategies to correct the urban sprawl and effectively improve the quality of life.

The new vision of urban form, put forth by Anthony Downs, includes five parts. The first part being that urban areas must contain sizeable areas of moderately high-density development containing housing and workplaces, which facilitates residents living closer to where they work, the second part. Third, governing structures should preserve local authority but in a way that compels local governments to act responsibly to meet regional needs. Fourth, citizens should be encouraged to take account for collective cost of their individual actions through incentive arrangements. Lastly, stable and predictable strategies should be incorporated to finance infrastructure to accommodate growth.

Following is a list of growth management goals that correlate with the overall improvement of the quality of life, which are followed by a brief description of the said goal. A matrix is included after the description of the growth management goal that identifies whether Brigham City's Goals and Strategies from the Comprehensive Plan's Land Use Element incorporate facets of the discussed growth management policies, measures and goals. More specifically, the following matrices adapt growth management topics from Jerry Weitz's *Smart Growth Audit*.

4.2 Preservation of Public Goods

What constitutes a public good can be up to personal interpretation, but, for the purpose of this audit, a growth management approach to the definition will be taken. Environmentally sensitive areas and significant landscapes are areas that should be preserved for their public good qualities. Features of a public good for Brigham City may include the protection from natural disasters such as earthquakes or seasonal flooding, maintaining air and water quality, maintaining scenic views of the surrounding mountain ranges, and protecting ecologically sensitive areas such as the surrounding watershed.

Accessible open spaces within a community are considered valuable assets; action should be taken to protect these spaces. In order to maintain a healthy balance between an increasing population and acres of open space, a number of

communities have initiated development criteria with an emphasis on conservation. In the context of Brigham City, this growth management technique would be highly beneficial for the unique mountain ranges that sit against the City. The canyons near Brigham City provide endless recreational activities and are an important water source for the area residents. Protecting these sensitive areas is in the best interest of the City; limiting development in watersheds will improve water quality and help sustain future generations.

Like water quality, air quality is of utmost importance for the public good. Currently, Northern Utah is subjected to very poor air quality. Severe respiratory problems, like childhood asthma, have been associated with this region of Utah. Measures need to be implemented to reduce and monitor the local air quality. Furthermore, the City must take immediate action to clean up current air conditions for the good of its residents.

The following matrix looks at the open space preservation, water and air quality and energy conservation measures that are currently employed within Brigham City’s general plan.

Table 4.1

Open Space/Green Space				
Topic	Document(s)	Yes	No	Topic Location
Does the Brigham City Plan establish a goal, policies, and implementation measures that emphasize open space or green space within the community?	8. Sensitive Lands 10. Annexation	X		8.2 Sensitive Land Goals Goal 8.2.1 Policy 8.2.1.1, 8.2.1.2, 8.2.1.3, 8.2.1.4, 8.2.1.5 Goal 8.2.2 Policy 8.2.2.1 Goal 8.2.3 Policy 8.2.3.1, 8.2.3.2, 8.2.3.3 10.2 Annexation Goals Goal 10.2.1 Policy 10.2.1.1 Goal 10.2.2 Policy 10.2.2.1
Do local land-use regulations provide for “conservation subdivisions” or “cluster subdivisions” as a matter of right?	8. Sensitive Lands 10. Annexation	X		8.2 Sensitive Land Goals Goal 8.2.1 Policy 8.2.1.1, 8.2.1.2 10.2 Annexation Goals Goal 10.2.1 Policy 10.2.1.1
Are open spaces and greenspaces accessible to all or most of the residents of Brigham City	8. Sensitive Lands	X		8.2 Sensitive Land Goals Goal 8.2.2 Policy 8.2.2.1 Goal 8.2.3 Policy 8.2.3.1, 8.2.3.2,
Do land use regulations require developers to consider connecting open spaces and greenways to existing destinations and open space reservations?	8. Sensitive Lands 10. Annexation	X		8.2 Sensitive Land Goals Goal 8.2.3 Policy 8.2.3.1, 8.2.3.2 10.2 Annexation Goals Goal 10.2.2 Policy 10.2.2.1
Have special funding measures such as a special local option sales tax or general obligation bond referendum been	8. Sensitive Lands	X		8.2 Sensitive Land Goals Goal 8.2.1 Policy 8.2.1.4, 8.2.1.5 Goal 8.2.3 Policy 8.2.3.2

considered for the acquisition or preservation of greenspaces				
Does the City's plan provide for and promote the protection of its unique features such as canyons, forested areas and wildlife?	8. Sensitive Lands 10. Annexation	X		8.2 Sensitive Land Goals Goal 8.2.1 <i>Policy</i> 8.2.1.1, 8.2.1.2, 8.2.1.3, 8.2.1.4, 8.2.1.5 10.2 Annexation Goals Goal 10.2.1 <i>Policy</i> 10.2.1.1 Goal 10.2.2 <i>Policy</i> 10.2.2.1
Since agriculture is a large part of Brigham City's economic infrastructure, does the Plan provide for the protection of farmland from urban development?	8. Sensitive Lands	X		8.2 Sensitive Land Goals Goal 8.2.1 <i>Policy</i> 8.2.1.1, 8.2.1.4
Do all (or most) zoning districts require a minimum open space ratio (i.e., percentage of land area for each development that must be open space)?	General Plan		X	

Water Quality

Topic	Document(s)	Yes	No	Topic Location
Do the City land use regulations prohibit development within, and the filling of, floodways, floodplains, watersheds and other sensitive areas?	8. Sensitive Lands 10. Annexation	X		8.2 Sensitive Land Goals Goal 8.2.1 <i>Policy</i> 8.2.1.1, 8.2.1.2, 8.2.1.3, 8.2.1.4, 8.2.1.5 10.2 Annexation Goals Goal 10.2.1 <i>Policy</i> 10.2.1.1 Goal 10.2.2 <i>Policy</i> 10.2.2.1
Does the City have the minimum required water quality ordinances in place as required by Utah state administrative rules?	General Plan		X	
Do City water regulations encourage or require best management practices for water quality?	General Plan		X	
Has the City instituted programs of water quality monitoring and other related programs to ensure total maximum daily loads are not exceeded?	General Plan		X	

Air Quality

Topic	Document(s)	Yes	No	Topic location
Does the comprehensive plan discuss the issue of air quality and identify policies and implementation measures to protect air quality?	General Plan		X	
Is the plan consistent with, and does it reference, regional and Utah state goals for the management of air quality?	General Plan		X	

Energy Conservation				
Topic	Document(s)	Yes	No	Topic Location
Does the Comprehensive Plan identify energy conservation as a goal, and do policies exist to promote energy conservation?	General Plan		X	
Do land use regulations require the planting of shade trees along new subdivision roads and within parking lots?	3. Residential Development	X		3.2 Residential Goals Goal 3.2.3 Policy 3.2.3.1
Have guidelines been established for development sites and buildings for energy efficiency?	General Plan		X	
Does the zoning code provide an option for subdivisions to be designed for solar power use?	General Plan		X	

4.3 Minimize Taxpayer Cost

Growth management policies, when applied correctly, can actually minimize taxpayer costs. The compact urban form that results from properly managing growth minimizes leapfrog, or scattered, development, which prevents the extension of costly infrastructures. Planning future construction to take place near and around existing development leaves little need for expensive road additions and consolidates the need for further water and sewer lines, ultimately saving the community taxpayers money.

Efficient use of land is a very effective way of providing the optimal level of public services to the community while reducing the costs of providing necessary public services. The following matrix identifies the means through which Brigham City’s comprehensive plan attempts to reduce taxpayer costs.

Table 4.2

Urban Form				
Topic	Document(s)	Yes	No	Topic Location
Does the land use plan propose a sequential, phased pattern of future development in areas contiguous to developed areas, so that a compact urban (or suburban) form can be obtained?	2. General Development 4. Commercial Development 10. Annexation	X		2.2 General Development Policies Goal 2.2.1 Policy 2.1.1 Goal 2.2.2 Policy 2.2.2.1 4.4 West Forest Street Plan Goal 4.4.1 Policy 4.4.1 10.2 Annexation Goals Goal 10.2.1 Policy 10.2.1.1 Goal 10.2.2 Policy 10.2.2.1 Goal 10.2.3 Policy 10.2.3.1
Does the comprehensive plan zone much of the fringe land as exclusively agricultural, or with a substantial minimum lot size	General Plan		X	

that discourages single family tract housing and preserves large sites for viable farm use?				
Transportation				
Topic	Document(s)	Yes	No	Topic Location
Does the general plan include a transportation element that addresses long-range needs for roads, sidewalks, bicycle paths, transit and freight movement?	4. Commercial Development 7. Transportation 8. Sensitive Lands	X		4.2 Commercial Goals Goal 4.2.3 <i>Policy</i> 4.2.3.1 7.2 Transportation Goals Goal 7.2.1 <i>Policy</i> 7.2.1.1, 7.2.1.2, 7.2.1.3, 7.2.1.4 Goal 7.2.3 <i>Policy</i> 7.2.3.1 Goal 7.2.4 <i>Policy</i> 7.2.4.1, 7.2.4.2 Goal 8.2.3 <i>Policy</i> 8.2.3.1, 8.2.3.2, 8.2.3.3
Do local transportation policies for the maintenance of current roads and existing transportation systems before spending money on new ones?	General Plan		X	
Do transportation policies and the future transportation system provide for local street networks (as opposed to the conventional hierarchal system of arterials, collectors, and local streets)?	7. Transportation	X		7.2 Transportation Goals Goal 7.2.1 <i>Policy</i> 7.2.1.1
Do development regulations have some requirement to consider and if appropriate provide for new local streets at designated intervals?	General Plan		X	
Does the general plan provide for an analysis of local street standards and recommendations for reducing excessive right-of-way and pavement widths?	7. Transportation	X		7.2 Transportation Goals Goal 7.2.1 <i>Policy</i> 7.2.1.1
Have street standards been revised to reduce street pavement width standards for local subdivisions?	7. Transportation	X		7.2 Transportation Goals Goal 7.2.1 <i>Policy</i> 7.2.1.1
Are sidewalks required within new residential subdivisions?	7. Transportation	X		7.2 Transportation Goals Goal 7.2.1 <i>Policy</i> 7.2.1.1, 7.2.1.3, 7.2.1.4
Do land use regulations encourage or require the provision of bike paths or pedestrian trailways in accordance with a bikeway or pedestrian master plan?	5. Downtown District	X		5.2 Downtown Goals Goal 5.2.1 <i>Policy</i> 5.2.1.2, 5.2.1.3
Do development regulations require the installation of a sidewalk along existing public	7. Transportation	X		7.2 Transportation Goals Goal 7.2.1 <i>Policy</i> 7.2.1.1, 7.2.1.3

streets abutting the development, where such sidewalk does not already exist?				
Do subdivision regulations allow the planning commission or local governing body to require the connection of subdivision streets to existing streets and the stubbing of streets to allow connections to future subdivision developments?	7. Transportation	X		7.2 Transportation Goals Goal 7.2.1 <i>Policy 7.2.1.4</i>
Do land use regulations encourage, if not mandate, the provision of interparcel connections between individual developments, where compatible?	4. Commercial Development 7. Transportation	X		4.2 Commercial Goals Goal 4.2.3 <i>Policy 4.2.3.1</i> 7.2 Transportation Goals Goal 7.2.1 <i>Policy 7.2.1.4</i>
Are land use regulations “transit-friendly” or “transit supportive?”	4. Commercial Development 7. Transportation 8. Sensitive Lands			4.2 Commercial Goals Goal 4.2.2 <i>Implementations</i> 4.4 West Forest Street Plan Goal 4.4.1 <i>Policy 4.4.1</i> 7.2 Transportation Goals Goal 7.2.4 <i>Policy 7.2.4.1, 7.2.4.2</i> Goal 8.2.3 <i>Policy 8.2.3.1</i>

Parking

Topic	Document(s)	Yes	No	Topic location
Have local parking regulations been reviewed with an eye toward reducing excessive on-site parking requirements?	5. Downtown District 7. Transportation	X		5.2 Downtown Goals Goal 5.2.3 <i>Policy 5.2.3.1</i> 7.2 Transportation Goals Goal 7.2.2 <i>Policy 7.2.2.1</i>
Do land use regulations include maximum parking ratios (i.e., a cap on the number of parking spaces that can be built in a particular development), in addition to minimum parking requirements?	General Plan		X	
Do parking regulations provide for reductions of on-site spaces in places where transit is available?	5. Downtown District 7. Transportation	X		5.2 Downtown Goals Goal 5.2.3 <i>Policy 5.2.3.1</i> Goal 5.2.5 <i>Policy 5.2.5.3</i> 7.2 Transportation Goals Goal 7.2.2 <i>Policy 7.2.2.1</i>
Is on-street parking allowed in places where it can be safely provided, such as in downtown areas and pedestrian-retail districts?	7. Transportation	X		7.2 Transportation Goals Goal 7.2.1 <i>Policy 7.2.1.1</i> Goal 7.2.2 <i>Policy 7.2.2.1</i>
Do engineering construction specifications for parking lots allow for porous pavements where appropriate?	General Plan		X	

Water, Sewer, and other Infrastructure				
Topic	Document(s)	Yes	No	Topic Location
Does the comprehensive plan provide clear discussions of how water, sewer and other infrastructure policies are tied to the goals and objectives of the land use plan or transportation plan?	10. Annexation	X		10.2 Annexation Goals Goal 10.2.3 Policy 10.2.3.1, 10.1.3.2
Do water and sewer facility master plans provide for the phasing of future trunk water and sewer extensions into areas designated for development in the short-term, versus allowing such lines to be extended without restraint anywhere in the community?	10. Annexation	X		10.2 Annexation Goals Goal 10.2.3 Policy 10.2.3.1, 10.1.3.2

4.4 Maximize Positive Land Use Interactions

A community’s zoning ordinance dictates the appropriate uses for any given property. Traditional zoning attempts to minimize incompatible land uses by segregating development. Various housing types are kept from one another. Condominiums and apartment complexes are constructed apart from single-family homes, where mother-in-law apartments or accessory units are not allowed outright. Neighborhoods are then separated from employment locations and commercial entities like grocery stores and retail shops. Growth management ideals, however, promote the mixing of certain compatible uses.

A neighborhood designed with growth management goals in mind would provide homes for all stages of life and income levels by integrating multi-family houses with single-family homes and apartments. Mixing housing types diversifies communities and increases density, which adds character and conserves open space. Centers of economic activity would conveniently be placed throughout neighborhoods and corner stores would provide walkable access to necessities. An urban core containing a mix of housing, work and shopping opportunities, while focusing on inward development rather than relocating development to the suburbs, would be established.

The following matrix compares and contrasts Brigham City’s idea of compatible uses to the land use attitude of growth management. More specifically, do the goals and strategies of the City’s plan favor an inward direction of growth, increased densities, or mixed-use developments?

Table 4.3

Direction of Growth (Inward, not Outward)				
Topic	Document(s)	Yes	No	Topic Location

Do land use policies favor a “direction of growth” that is inward, toward existing developed areas (where such areas exist), instead of promoting or favoring new development on the fringe of developed areas?	2. General Development 3. Residential Development 4. Commercial Development 5. Downtown District	X		2.2 General Development Policies Goal 2.2.1 <i>Policy 2.1.1</i> Goal 2.2.2 <i>Policy 2.2.2.1</i> 3.4 Moderate Income Housing Goal 3.4.1 <i>Policy 3.4.1</i> 4.2 Commercial Goals Goal 4.2.1 <i>Policy 4.2.1.1</i> 5.2 Downtown Goals Goal 5.2.5 <i>Policy 5.2.5.1, 5.2.5.2</i>
Does the land use analysis identify in quantitative terms what the potential is for residential infill development?	General Plan		X	
Are there specific policies that promote and encourage infill development (where such areas exist)?	2. General Development Element 3. Residential Development 4. Commercial Development 5. Downtown District	X		2.2 General Development Policies Goal 2.2.1 <i>Policy 2.1.1</i> Goal 2.2.2 <i>Policy 2.2.2.1</i> 3.4 Moderate Income Housing Goal 3.4.1 <i>Policy 3.4.1</i> 4.2 Commercial Goals Goal 4.2.1 <i>Policy 4.2.1.1, Policy 4.2.1.2, Policy 4.2.1.3</i> 4.4 West Forest Street Plan Goal 4.4.1 <i>Policy 4.4.1</i> 5.2 Downtown Goals Goal 5.2.5 <i>Policy 5.2.5.1, 5.2.5.2</i>
Does the plan contain an analysis of redevelopment potential? If it finds there is redevelopment potential, does the land use analysis identify what the redevelopment potential means in terms of new housing units and square footage of nonresidential development?	General Plan		X	
Does the plan recognize the need to reclaim and reuse any temporarily obsolete or abandoned sites and to clean up and reclaim for future use any “brownfields”?	4. Commercial Development	X		4.2 Commercial Goals Goal 4.2.1 <i>Policy 4.2.1.1, Policy 4.2.1.2, Policy 4.2.1.3</i> 4.4 West Forest Street Plan Goal 4.4.1 <i>Policy 4.4.1</i>
Density				
Topic	Document(s)	Yes	No	Topic Location
Do the elements contain an analysis of developed residential densities and how they relate to planned densities and densities permitted by zoning districts?	3. Residential Development	X		3.2 Residential Goals Goal 3.2.1 <i>Policy 3.2.1.1</i>
Do land use policies encourage the establishment of minimum (not just maximum) densities to promote the efficient use of	General Plan		X	

lands designated for higher densities?				
Do land use regulations establish minimum densities to promote efficient use of lands designated for higher densities?	General Plan		X	
Do minimum lot sizes allow for urban-sized lots?	3. Residential Development	X		3.2 Residential Goals Goal 3.2.1 <i>Policy 3.2.1.1</i>
Is at least some of the residential land in the community planned and zoned for densities between 8 and 15 dwelling units per acre, with even higher densities provided for in urban centers?	3. Residential Development	X		3.2 Residential Goals Goal 3.2.1 <i>Policy 3.2.1.1</i>
Land Use				
Topic	Document(s)	Yes	No	Topic location
Does the land use plan designate areas, where appropriate, for mixed-use development?	3. Residential Development 4. Commercial Development 9. Historic Resources	X		3.2 Residential Goals Goal 3.2.2 <i>Policy 3.2.2.1</i> 4.2 Commercial Goals Goal 4.2.3 <i>Policy 4.2.3.1</i> 4.3 Commercial Land Use Categories 9. Historic Resources Goals Goal 9.2.3 <i>Policy 9.2.3.1</i>
Do plan policies discuss opportunities and encourage the mixing of land uses at the building, site, and neighborhood levels?	3. Residential Development 4. Commercial Development 9. Historic Resources	X		3.2 Residential Goals Goal 3.2.2 <i>Policy 3.2.2.1</i> 4.2 Commercial Goals Goal 4.2.3 <i>Policy 4.2.3.1</i> 9. Historic Resources Goals Goal 9.2.3 <i>Policy 9.2.3.1</i>
Does the local zoning ordinance provide at least one or more zoning districts that allow mixes of residential and commercial uses?	3. Residential Development 4. Commercial Development 9. Historic Resources	X		3.2 Residential Goals Goal 3.2.2 <i>Policy 3.2.2.1</i> 4.2 Commercial Goals Goal 4.2.3 <i>Policy 4.2.3.1</i> 4.3 Commercial Land Use Categories 9. Historic Resources Goals Goal 9.2.3 <i>Policy 9.2.3.1</i>
Are residential uses allowed in the central business zoning district?	5. Downtown District	X		5.2 Downtown Goals Goal 5.2.3 <i>Policy 5.2.3.1</i> Goal 5.2.4 <i>Policy 5.2.4.1</i>
Do the future land use plan and zoning ordinance allow for compatible, small-scale neighborhood commercial uses adjacent to or within residential neighborhoods?	3. Residential Development 4. Commercial Development 9. Historic Resources	X		3.2 Residential Goals Goal 3.2.2 <i>Policy 3.2.2.1</i> 4.2 Commercial Goals Goal 4.2.3 <i>Policy 4.2.3.1</i> 4.3 Commercial Land Use Categories 9. Historic Resources Goals Goal 9.2.3 <i>Policy 9.2.3.1</i>
Does the zoning ordinance provide for traditional	3. Residential Development	X		3.2 Residential Goals Goal 3.2.1 <i>Policy 3.2.1.1</i>

neighborhood development?				
Are home occupation regulations flexible enough to allow a wide variety of telework activities, while maintaining the peace and quiet of the neighborhoods in which they are located?	3. Residential Development 9. Historic Resources	X		3.2 Residential Goals Goal 3.2.2 <i>Policy</i> 3.2.2.1 9. Historic Resources Goals Goal 9.2.3 <i>Policy</i> 9.2.3.1
Does the plan recognize the importance of agriculture in the county's economy and take steps to encourage and protect agriculture land uses?	8. Sensitive Lands	X		8.2 Sensitive Land Goals Goal 8.2.1 <i>Policy</i> 8.2.1.1, 8.2.1.4

4.5 Equal Distribution of Benefits and Burdens

Populations in any given location are rarely homogenous. Residents in communities vary in age, race and income levels. One aspect of growth management is to ensure that the needs of all community members are addressed and that one group is not bearing unreasonable burdens. Integrating employment opportunities within or near residential areas accommodates the local workforce. Balancing jobs with housing units in a locality provides an accessible means of income for residents. Varying housing types within neighborhoods provides housing opportunities for residents throughout the phases of their life and also provides housing options for lower income residents.

The matrix below addresses jobs-housing balance, affordable housing, and housing types within Brigham City.

Table 4.4

Jobs-Housing Balance				
Topic	Document(s)	Yes	No	Topic Location
Do any small area plans or corridor plans for the community consider and integrate the notion of jobs-housing balance?	4. Commercial Development	X		4.3 Commercial Land Use Categories
Do planned unit development regulations provide for an appropriate mixture of housing and jobs, or do the PUD regulations result in predominantly single-family residential developments with no jobs nearby?	4. Commercial Development	X		4.4 West Forest Street Plan Goal 4.4.1 <i>Policy</i> 4.4.1
Housing				
Topic	Document(s)	Yes	No	Topic Location
Does the planning element of the comprehensive plan contain a housing needs assessment?	General Plan		X	
Does the comprehensive plan	3. Residential			3.2 Residential Goals

establish a policy of providing for a wide range of housing types (detached single-family, duplex, manufactured home, apartment, etc.)?	Development	X		Goal 3.2.1 <i>Policy 3.2.1.1</i> 3.4 Moderate Income Housing Goal 3.4.1 <i>Policy 3.4.1</i>
Do the provisions within at least some of the residential zoning districts allow for a wide range of housing types, by right rather than requiring a conditional use or special use permit?	General Plan		X	
Is there a policy established that provides for meeting the housing needs for all income levels?	3. Residential Development	X		3.2 Residential Goals Goal 3.2.1 <i>Policy 3.2.1.1</i>
Do local regulations allow for mixed-income housing developments?	3. Residential Development	X		3.2 Residential Goals Goal 3.2.1 <i>Policy 3.2.1.1</i>
If the housing needs assessment identifies a need for multiple-family residences, does the zoning ordinance provide sufficient vacant land to meet future needs?	General Plan		X	
Does the zoning ordinance allow for “accessory apartments” within single-family zoning districts?	3. Residential Development		X	3.4 Moderate Income Housing Goal 3.4.1 <i>Policy 3.4.5</i>
Are manufactured homes a use permitted outright in at least one residential zoning district?	3. Residential Development	X		3.4 Moderate Income Housing Goal 3.4.1 <i>Policy 3.4.5</i>
Are minimum lot sizes set low enough in at least one residential zoning district to provide for homeownership for all income classes?	3. Residential Development	X		3.2 Residential Goals Goal 3.2.1 <i>Policy 3.2.1.1</i>
Does the local zoning ordinance provide flexibility with regard to house sizes (i.e., do they allow small-sized units versus establishing large minimum floor areas for all dwelling units)?	3. Residential Development	X		3.2 Residential Goals Goal 3.2.1 <i>Policy 3.2.1.1</i>

5. Land Use Inventory and Analysis

6. Scenarios

7. References

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