



State of Utah

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ADDENDUM NO. 1

Date: April 25, 2012
To: Architects/Engineers
From: Rick James – Project Manager
Reference: SJ Quinney College of Law Building
University of Utah – Salt Lake City, Utah
DFCM Project No. 11292750
Subject: **Addendum No. 1**

Pages	Addendum Cover Sheet	1 page
	<u>University of Utah Southwest Precinct Plan - Draft</u>	<u>43 pages</u>
	Total	44 pages

Note: This Addendum shall be included as part of the Contract Documents. Items in this Addendum apply to all drawings and specification sections whether referenced or not involving the portion of the work added, deleted, modified, or otherwise addressed in the Addendum. Acknowledge receipt of this Addendum in the space provided on the Bid Form. Failure to do so may subject the Bidder to Disqualification.

While we contend that SB220 should only be potentially applicable to a contract issued after the effective date of said bill, this is to clarify that for purposes of this contract, regardless of the execution or effective dates of this contract, the status of Utah Law and remedies available to the State of Utah and DFCM, as it relates to any matter referred to or affected by said SB220, shall be the Utah law in effect at the time of the issuance of this Addendum.

1.1 SCHEDULE CHANGES: For your information, the Requested Substantial Completion date is February 1, 2015.

1.2 GENERAL ITEMS: See attached draft University of Utah Southwest Precinct Plan dated April 24, 2012 from VCBO Architects.

UNIVERSITY OF UTAH SOUTHWEST PRECINCT PLAN

April, 24, 2012

DRAFT

ACKNOWLEDGEMENTS

UNIVERSITY OF UTAH

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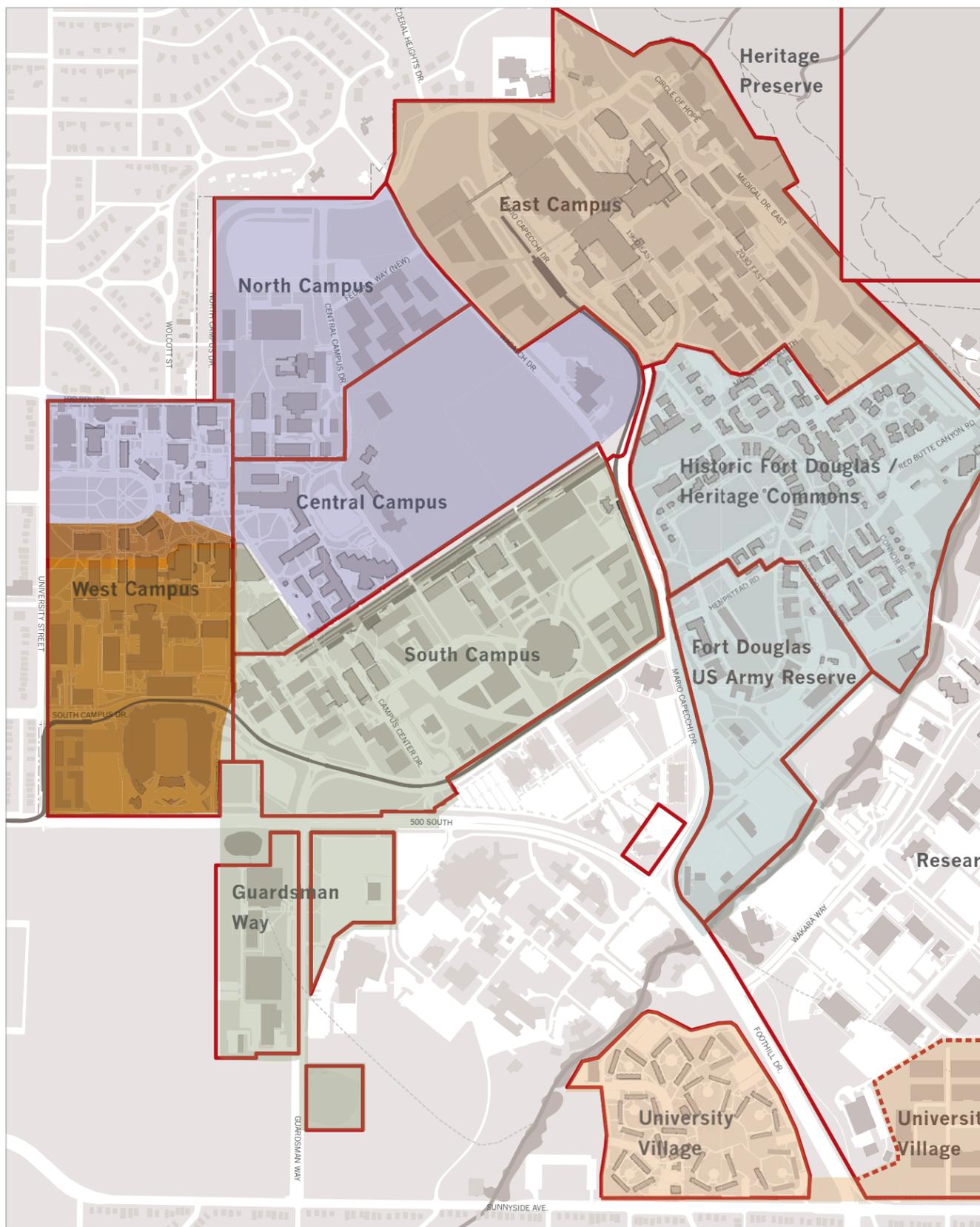
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INTRODUCTION



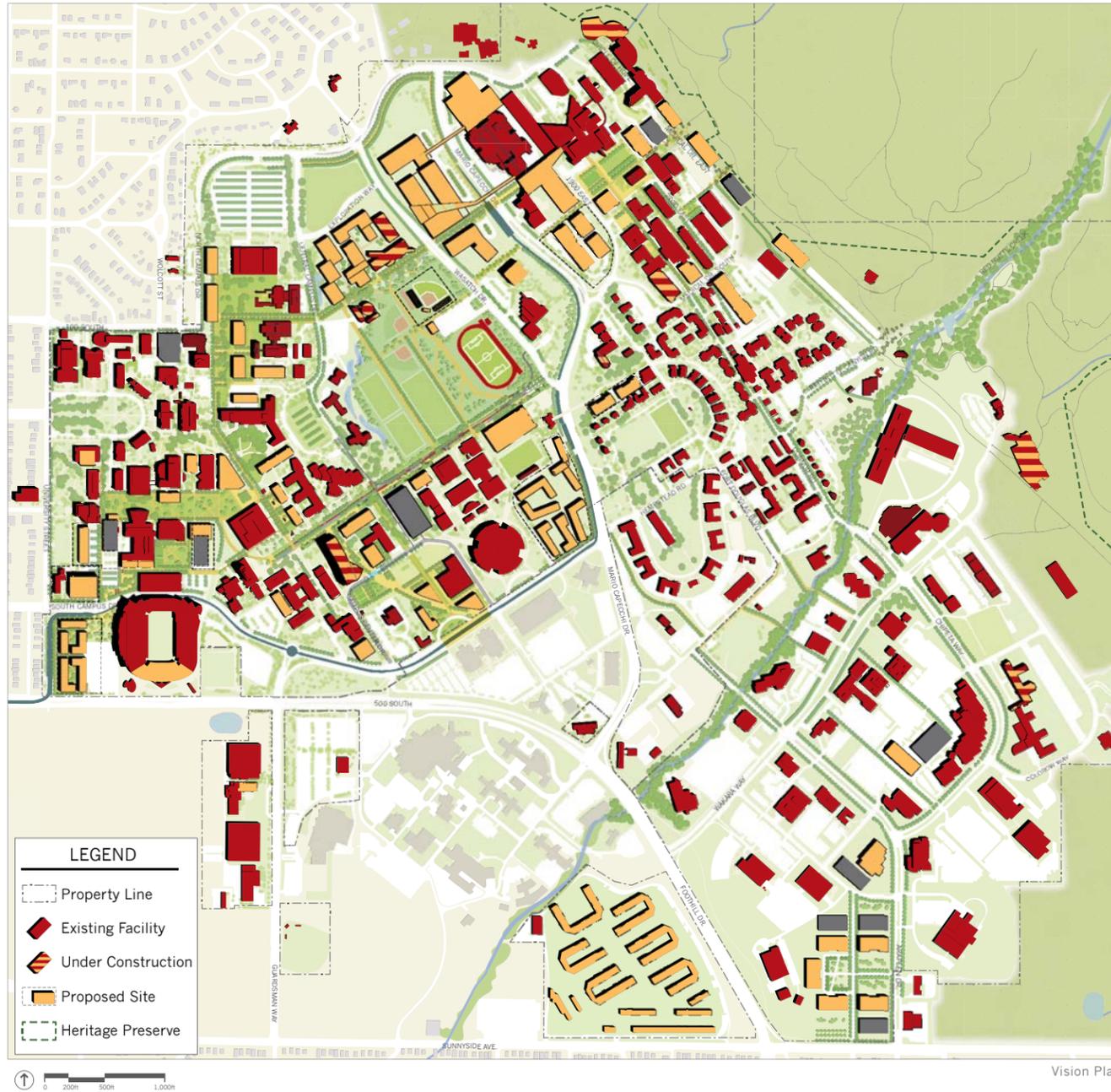
The University of Utah completed a campus wide Master Plan in 2008. This Master Plan defines the vision for the campus and addresses pedestrian access and experience, transit, automobile and parking access and configuration, as well as growth opportunities at a fairly high level. The Master Plan, although thorough, did not have the ability to address specific issues within distinct campus areas or create a clear road map for implementation.

The University of Utah Campus has been divided into neighborhoods and precincts. There are five neighborhoods and 11 precincts on campus. Each precinct and neighborhood contributes to the campus community in a unique way and has varying and individual needs. As such, the University of Utah is developing a Precinct Plan for each of these areas to provide valuable guidance on development projects within these areas.

The South portion of the West Campus Precinct plan is the first to be completed due to the number of improvement projects either in process or slated to occur within the next year in this area of campus. This precinct plan has been created to more clearly define the projects and steps required to bring the Master Plan vision to fruition, and ensure existing projects contribute to the betterment of the area.

Through the exploration process of this plan a number of physical limitations have been identified that either hinder the Master Plan vision in the precinct or preclude the implementation of a master plan element. This precinct plan attempts to address these items, suggest alternate approaches and more clearly define the implementation strategies for the projects within the precinct.

EXISTING MASTER PLAN



Updated: 2010

This section presents the vision and goals for the precinct as defined in the original 2008 and 2010 update of the Campus Master Plan.

THE VISION

The following vision statements were defined in the Master Plan.

- A lively campus; a magnet for student, faculty, staff and public life.
- State of the art facilities to support the University's mission for teaching, research and public life.
- A setting to foster interdisciplinary collaboration and interaction.
- Campus as a destination for the public.
- Functional and sustainable transportation systems.
- Capitalize on the natural landscape setting.
- Leaders in environmental stewardship.

These vision statements apply to all projects undertaken by the University of Utah and all projects and planned improvements to the precinct will work toward the achievement of these statements.

DISCOVERY

The 2008 Campus Master Plan undertook an extensive analysis process to assess existing building conditions, project future growth opportunities, explore plan elements and define transformative projects in the document. The analysis completed during the Master Planning process will be used as a base for this precinct plan.

GROWTH PROJECTIONS

The 2008 Campus Master Plan established a four phase capital development plan for the entire campus. The new projects identified for the precinct include the College of Law, Chemistry Expansion, Central Campus Chiller Plant, the Universe Project, Stadium TRAX, Center for Cell and Genome Science, a Student Learning Center and an infill teaching lab.

Since the Master Plan was completed; The Chemistry Expansion is under construction, the College of Law has completed preprogramming and is in the programming phase. The planning for the Chiller plant has begun and the Universe project has transitioned into a more amorphous Stadium Mixed Use Development project.

The extent and status of each of these expansion projects will be clearly addressed in this Precinct Plan.

PLAN ELEMENTS

The 2008 Master Plan addresses a number of plan elements including:

- Land Use
- Open Space
- Recreation and Athletics
- Campus and Community
- Pedestrian Circulation
- Bicycle Circulation
- Vehicular Circulation
- Parking
- Transit
- Infrastructure
- Sustainability

Each of these elements exist within this precinct. The images on the following pages illustrate the elements defined in the Master Plan, and their relation to this precinct.



PRIMARY PEDESTRIAN PATHS

A primary pedestrian path is identified from the Stadium TRAX line to the Marriott Library. A secondary pedestrian path is identified at President's Circle and along the Science Walk within the precinct.



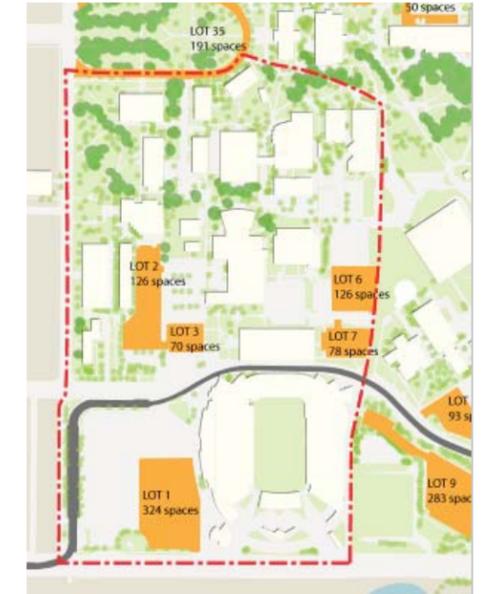
AUTOMOBILE PATHS

Primary secondary and tertiary automobile paths are identified in the Campus Master Plan. The primary paths are 500 South and University Street. South Campus Drive was identified as a secondary path and President's Circle is a tertiary path.



TRANSIT

A primary campus TRAX stop is on the west side of the Stadium Lot and three campus shuttles run down South Campus Drive, along University Street and around President's Circle. A number of UTA bus lines also serve this southwest edge of campus.



PARKING AREAS

Surface Parking is identified within the precinct in the Stadium Lot, east of the Law School and east of the Fieldhouse. Parking structures have been identified in the Stadium Lot and east or west of the Chemistry Building.



LANDSCAPE AND WALKWAY IMPROVEMENTS

Enhanced landscape corridors and walkways are also defined in the 2008 Campus Master Plan. These areas relate to the transformative projects and growth projections from the plan.



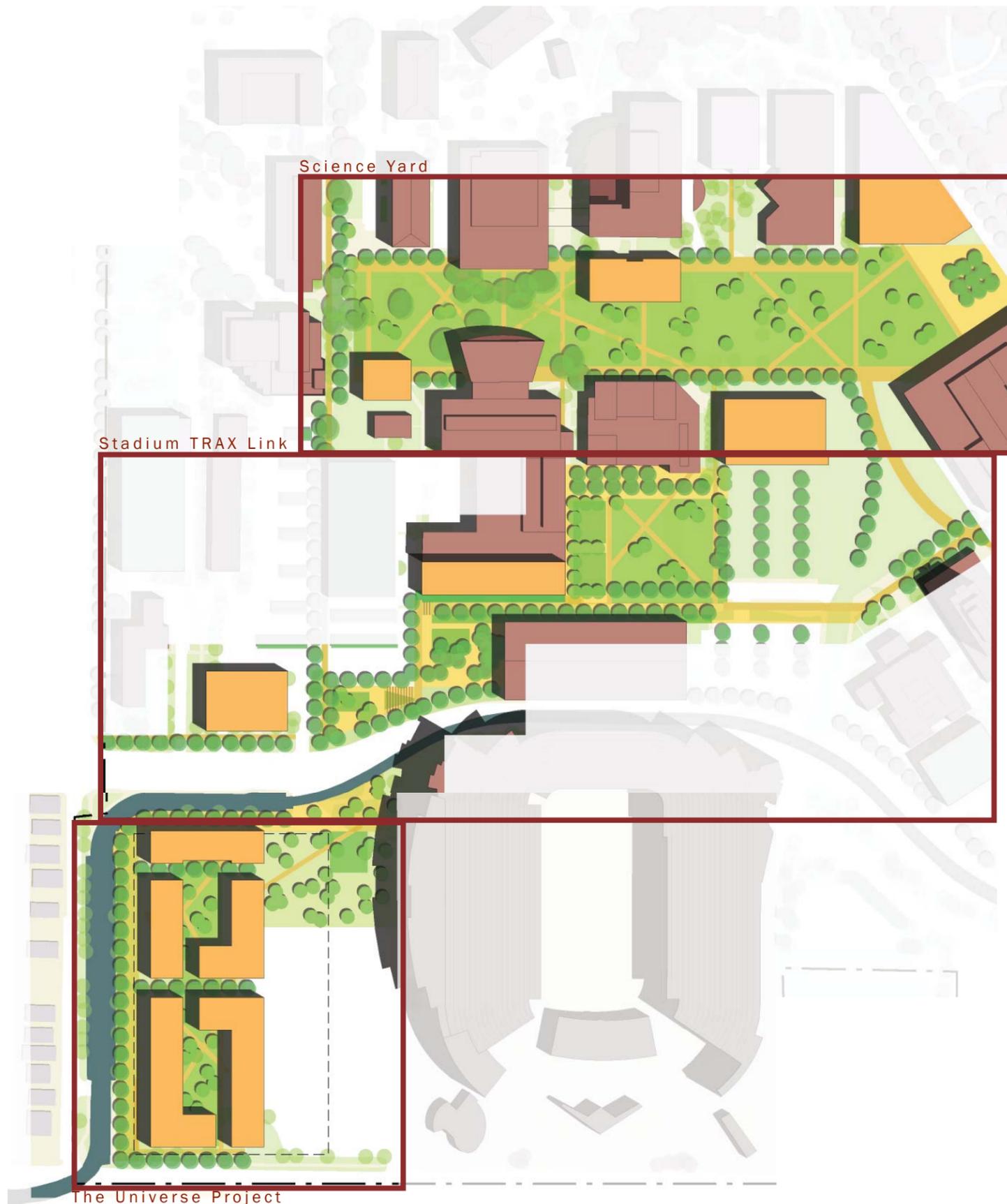
SERVICE ACCESS

Service access to each of the buildings within the precinct exists and is mapped above. The existing service access was slated to be maintained in the master Plan.



BICYCLE PATHS

Bicycle paths were not identified within the precinct. A primary bicycle route has been identified at President's Circle and along Union Lawn up to Library Plaza.



TRANSFORMATIVE PROJECTS

The 2008 Campus Master Plan defines three transformative projects that occur within the Southwest precinct. These are:

- The Stadium TRAX Link, which identifies a pedestrian corridor from the stadium TRAX stop to the Marriott Library.
- The Universe Project, which has become the Stadium Mixed Use project.
- The Science Yard, which is an enhanced pedestrian corridor from Pioneer Memorial Theater to the Marriott Library.

Each of these projects will be addressed and expanded on in the Projects section of this Precinct Plan.

Science Yard

The existing pedestrian corridor that extends from the Pioneer Theater Company to the Marriott Library Plaza is slated for enhancements as part of the Science Yard Transformative Project.

In order to implement this project, the existing parking lot south of the bookstore will be replaced with landscaping and sidewalks.

The quad atmosphere that is presented in this section of the Master Plan is not in keeping with the organic lawn that exists in this area. However, the green space connecting the Library Plaza to the Pioneer Memorial Theater would clearly enhance this section of campus.

As this vision becomes a reality, the parking and service needs of the bookstore and the service needs of buildings along the yard should be considered.

Stadium TRAX Link

The Master Plan seeks to enhance the pedestrian connection from the Stadium TRAX stop to the center of campus and the Marriott Library.

According to the Master Plan, as improvement projects occur within the spaces adjacent to this route they should undertake the implementation of a segment of the connection. This, in

theory, takes the larger project and subdivides it into smaller and more manageable pieces that can be absorbed within individual projects.

This approach requires individual projects to include additional site work costs to achieve the Campus vision. This is not the ideal approach as departments want to spend their project money on the facility that will benefit the program. In addition, the improvements and routes were schematic in nature making implementation difficult and inevitably creating a disjointed pedestrian experience. In addition, the steep slope of the existing topography was not taken into consideration in the development of this vision. A more specific route that allows for safe pedestrian and TRAX interaction and an achievable ADA accessible route needs to be defined.

This project will be addressed in more detail in the Projects section of this Precinct Plan.

The Universe Project

The Master Plan defined lot 1, the Stadium Lot, as a primary candidate for new development on campus.

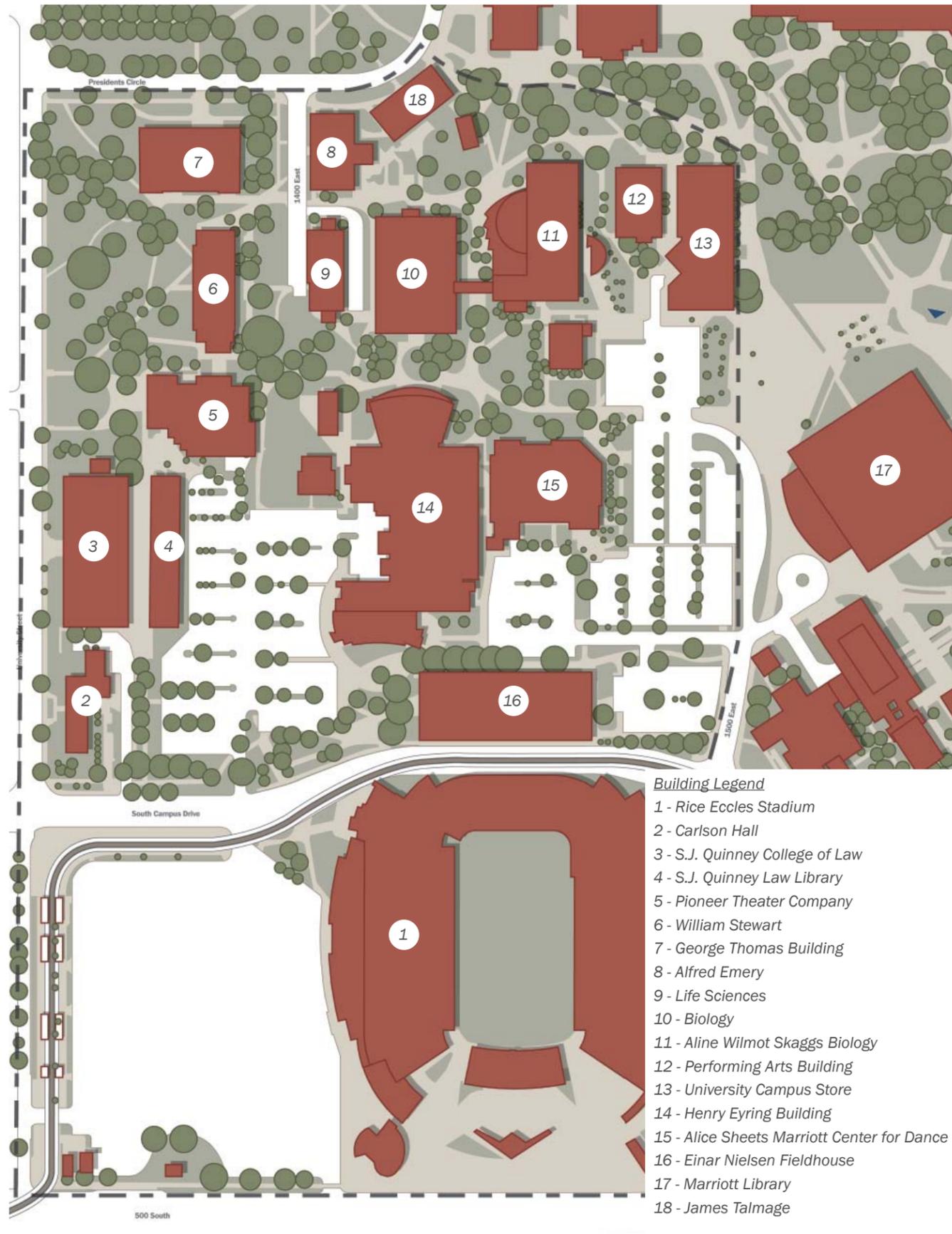
The Universe project as defined in the Master Plan was slated to include a mix of student and community uses. The plan proposed a minimum of 40,000 SF of building for the Department of Continuing Education and other University Administrative functions, 500 structured parking stalls and 150 town home or condominium units as well as 85,000 SF of entertainment, restaurant and life-style retail on the site.

This is a very ambitious project that would require a very sizable financial commitment by the University of Utah.

Currently, this site is slated for mixed use development, but the scope and scale of the project has not been defined.

A list of alternative uses and site objectives are presented in the Projects section of this document.

ANALYSIS



This section analyzes access, circulation and projected improvements within the Master Plan and explores relationships and interactions within the precinct.

The following plan components have been analyzed and synthesized in this section:

- Growth
- Automobile Access
- Parking
- Transit Access
- Service Access
- Pedestrian Access and Accessibility
- Bicycle Access
- Infrastructure
- Open Space

Each element is presented in three parts; the existing conditions, the master plan vision and, finally, the precinct vision. The precinct vision is a conceptual approach to each element to provide guidance on the location and scale of the proposed improvement.

GROWTH**Master Plan Vision**

The 2008 Campus Master Plan defined new facility growth within the precinct. The locations for new or expanded facilities include undeveloped areas framing the science yard as well as the Thatcher Addition to Chemistry, the Universe Project and the new College of Law building.

Precinct Vision

The precinct vision generally aligns with the Master Plan vision. The three variations from the Master Plan in the growth diagram to the right are:

1. The College of Law has been relocated to a new gateway location facing South Campus Drive and framing the gateway.
2. The Universe project has been replaced with a general mixed use project within the stadium parking lot.
3. An addition to Thomas has been proposed and is shown on this diagram.
4. A new building opportunity exists at the intersection of South Campus Drive and the entrance to the parking structure west of the Marriot Library.

Additionally, the potential new chiller plant, shown in light blue, and the proposed parking structures, in yellow and parking lot are illustrated on this diagram to show future precinct build-out. More information regarding these improvements can be found later in this section.

Three buildings have also been slated for demolition. These are:

- Carleson Hall
- The Central Chiller yard
- The white storage building 126

Priority Improvements

The priority improvement for this precinct is the S.J. Quinney College of Law facility and associated demolition of Carlson Hall.

Carleson Hall, although on the National Register for Historic Places, is in poor physical condition. The small spaces within the building that were once dormitory rooms do not accommodate uses outside of office and a couple of classrooms.

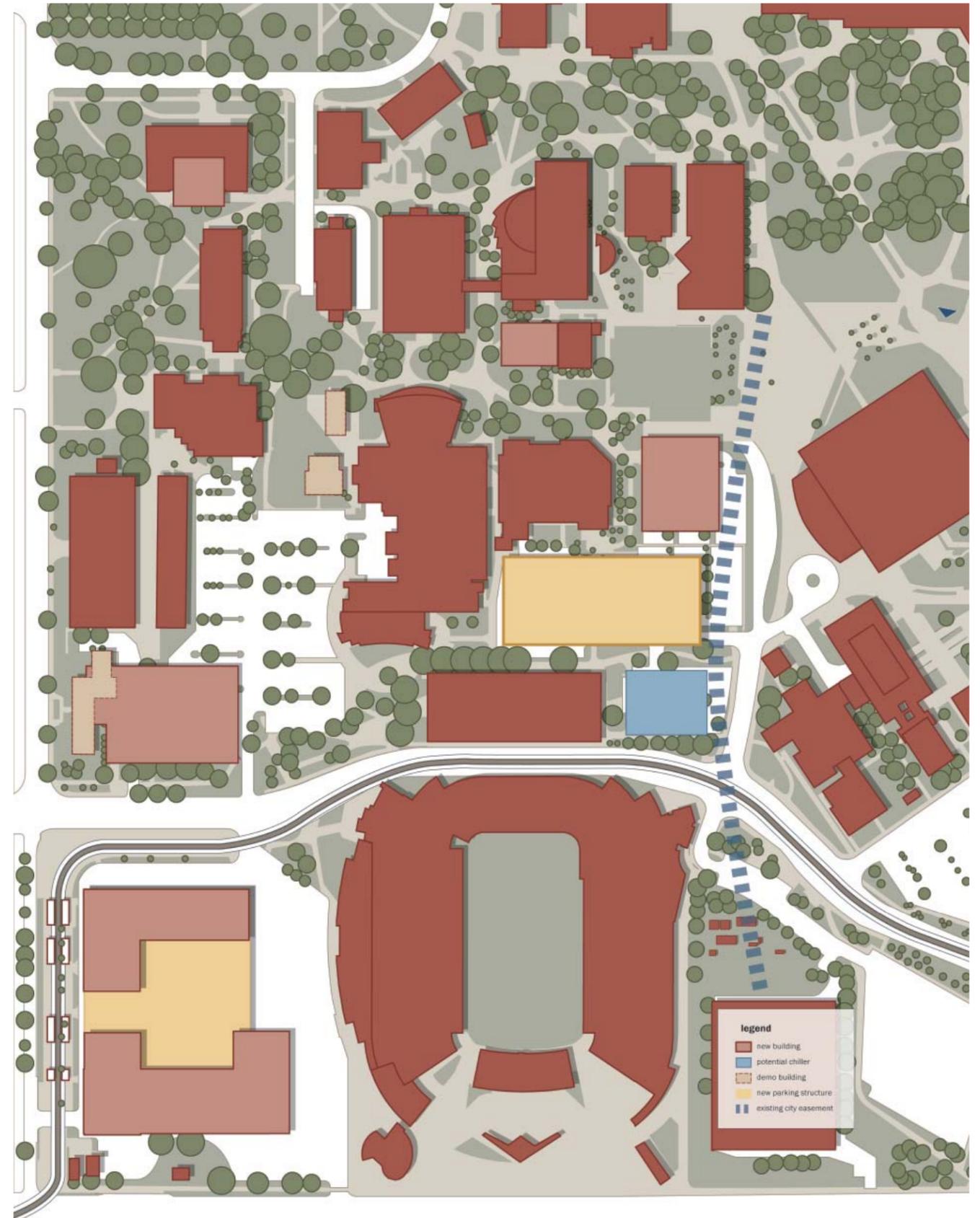
**GROWTH**

The master plan identified facility growth throughout the precinct. The image above illustrates the projected growth in gray and the existing buildings in cream.

According to the Carlson Hall ADA report conducted in August of 1993, a significant renovation would have to occur to provide for accessible access throughout the building and accessible restroom facilities within the building.

A structural and system analysis was also completed for Carlson Hall in 1991. Due to the unreinforced masonry construction, a very poor seismic rating was assigned to the structure, and a full building seismic upgrade was recommended. The building mechanical and electrical systems were also assessed at this time. If the building were upgraded, the building mechanical and electrical systems would need to be completely removed and re-built. Upgrading this building is not recommended as the cost is too great in comparison to the future potential of the structure.

The new central chiller plant is another precinct priority and is discussed further in the infrastructure section. The existing central chiller yard will be demolished as the chiller plant comes on-line.

**DRAFT**

AUTOMOBILE ACCESS

Existing Conditions

Current automobile access exists on 500 South, South Campus Drive and University Street. This access will be maintained as precinct improvements occur.

Master Plan Vision

There was no modification to automobile access within the Master Plan.

Precinct Vision

As improvements occur within the precinct, automobile access should be secondary to pedestrian, transit and bicycle access. This will demote drivers and promote alternative transit, working toward reduced parking requirements on campus and reducing emissions and working toward the American College and University President's Climate Commitment.

PARKING

Existing Conditions

Currently, surface parking exists in the Stadium Lot, between the Law School and the Chemistry Building, and west of the Marriott library from South Campus Drive to the Campus Bookstore.

Master Plan Vision

The Master Plan had both surface parking and structured parking outlined in this precinct. A parking structure was slated for the Stadium lot as well as a second parking structure north of South Campus Drive. The location of this second parking structure was disputed and as a result, has not been defined.

Precinct Vision

The precinct vision is similar to the Master Plan vision, but the second parking structure has been relocated to the north side of the Fieldhouse and east of the Chemistry building. In addition, the parking structure at the stadium has been enlarged to accommodate additional vehicles.

Priority Improvements

The priority improvement is maintaining and improving the parking lot north of the future law school.

A parking structure will also be needed within the precinct and should be a priority improvement.



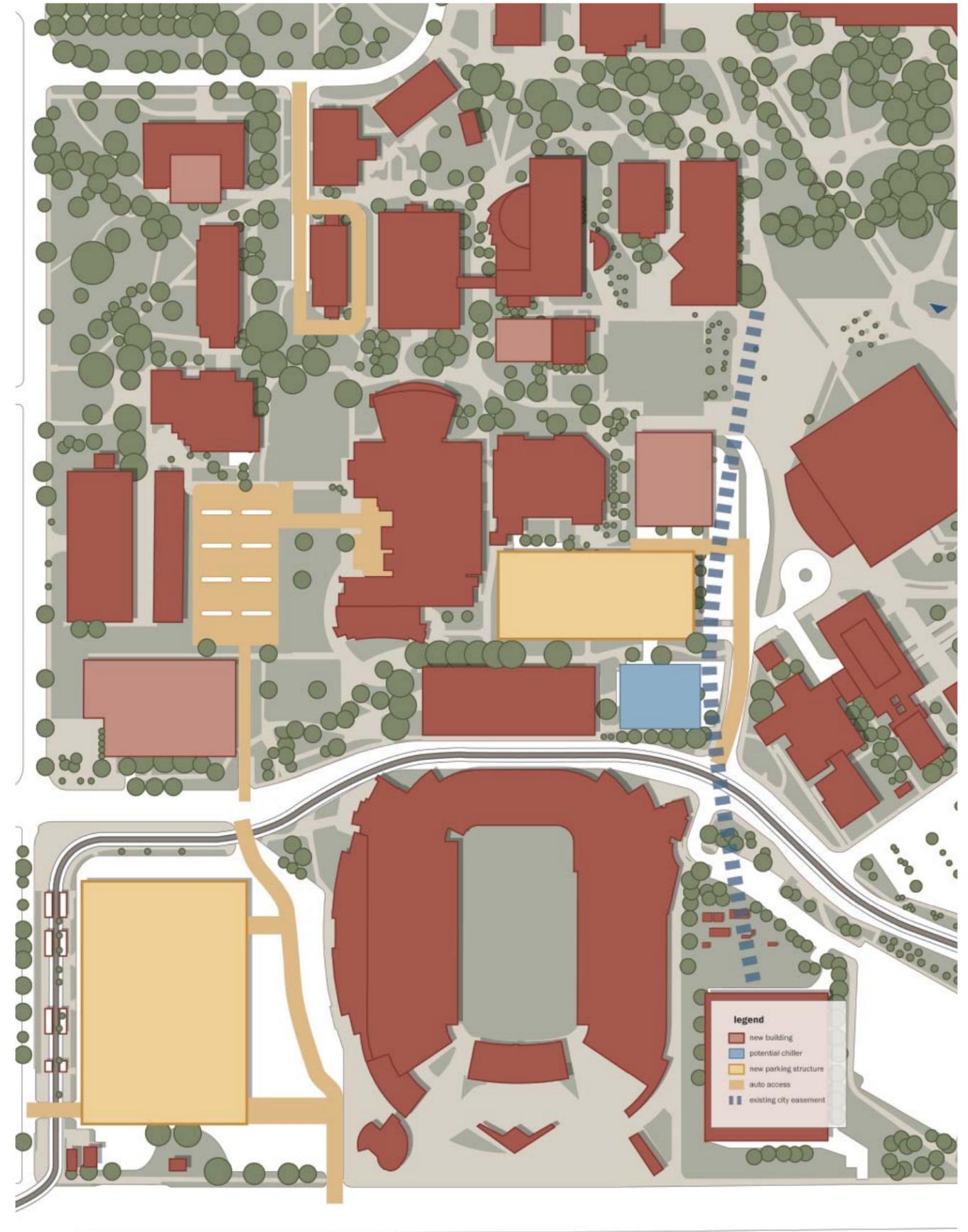
VEHICULAR ACCESS

The master plan illustrates the existing automobile access ways at the precinct. These are not slated to change.



PARKING

Parking was identified in two structures, one in the stadium parking lot and a second north of South Campus Drive.



TRANSIT

Existing Conditions

This precinct is a very well connected and transit oriented part of campus. The existing campus shuttle lines, UTA lines and TRAX access create an informal transit hub in this area.

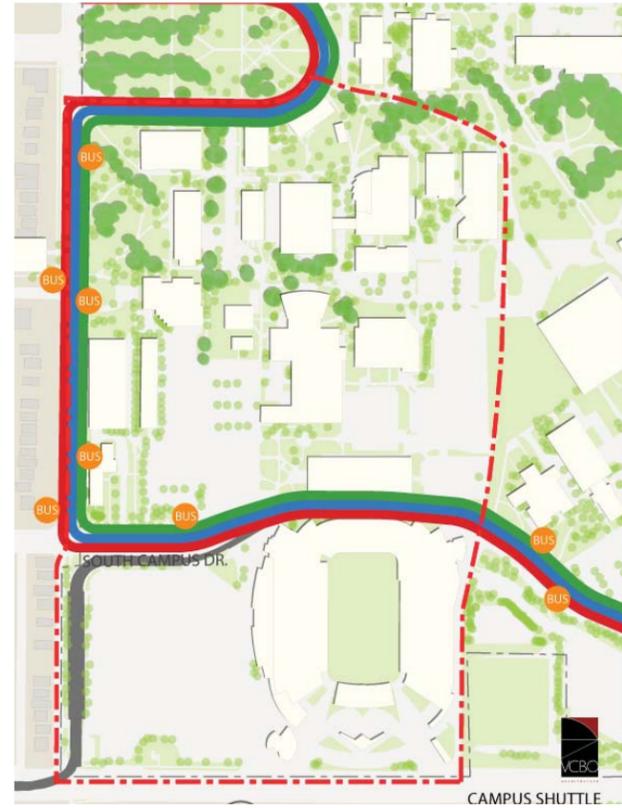
Master Plan Vision

The existing transit lines are slated to remain. No improvements to this area were identified in the Master Plan

Precinct Vision

The existing transit lines should remain, but the bus and shuttle stops should be re-located to create a safer, more integrated and accessible pedestrian experience. The following improvements should be made to the transit stops and connections in this precinct:

- Create a transit hub at the northeast corner of South Campus Drive and University Street. This will include new enhanced stops with seated waiting areas around a gateway plaza.
- Relocate the stop on the south side of South Campus Drive to an ADA accessible location, west of University Street.
- Provide a bus shelter with safety lighting, an emergency phone and an informational UTA and campus shuttle display with schedules at each stop.
- Where possible create pull outs for the busses to minimize traffic and pedestrian conflicts.

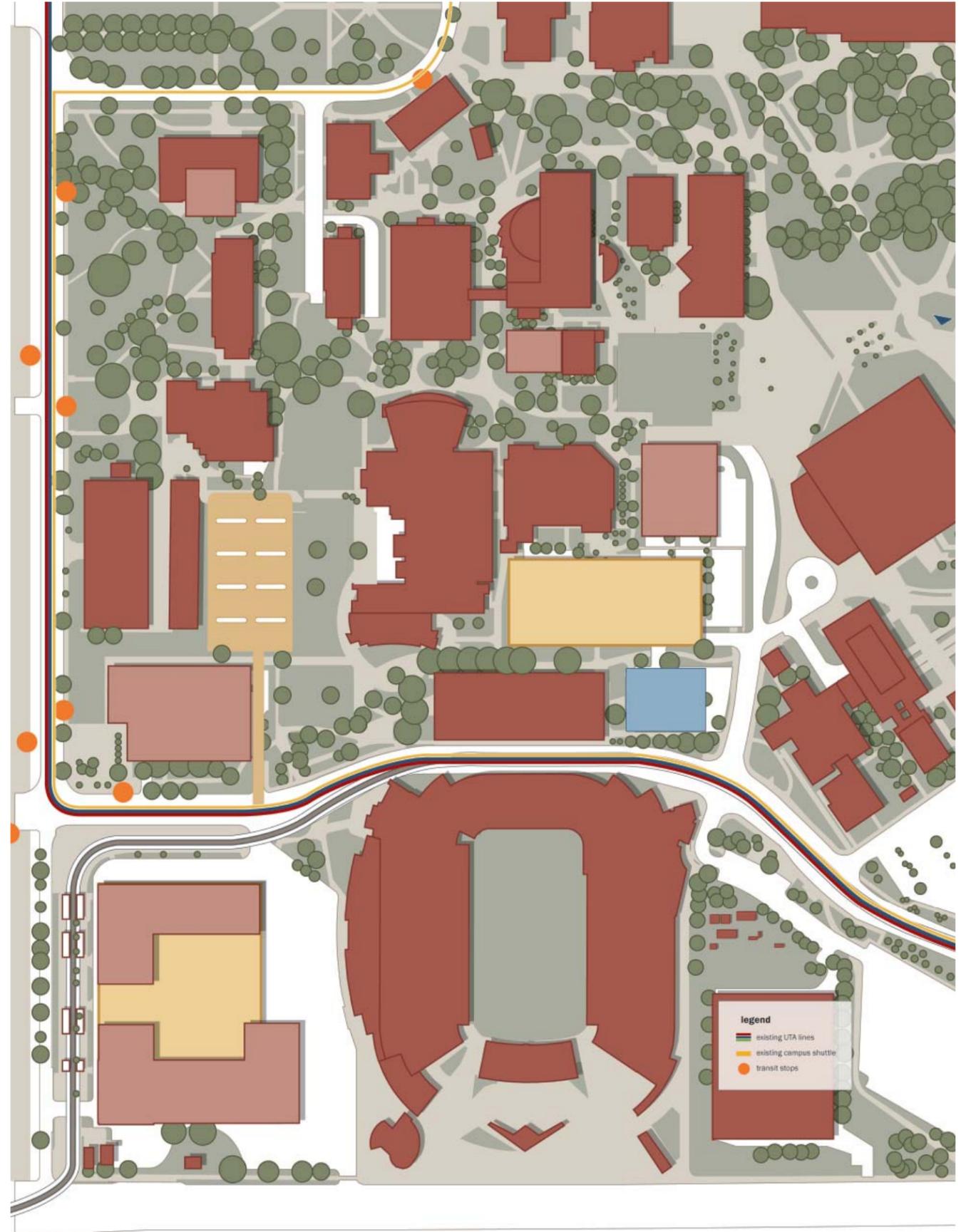


TRANSIT

The diagram above illustrates the existing campus shuttle lines as well as the existing TRAX line (gray line). This area of campus is very well connected and the intersection of University Street and South Campus Drive is a transit hub for this area of campus.

Legend

- Red Line
- Blue Line
- Green Line
- Purple Line



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SERVICE ACCESS

Existing

Service access is provided to most every building within the precinct, but service access has not been planned on a campus or precinct wide level. The image to the left illustrates the existing service access drives and service yards for precinct buildings.

Master Plan Vision

The 2008 Campus Master Plan does not recommend changes to the service access in this precinct.

Precinct Vision

In an effort to reduce the quantity of service drives and improve the quality of service drives and yards, this plan recommends consolidating service access within the core of the area. The image to the far right illustrates the proposed service access.

In addition, a portion of the proposed service access is overlaid on a primary pedestrian path. This concept is used on campuses across the country and is a very effective method of managing service and pedestrian access in limited campus areas. This area is discussed in more detail in the Projects - Enhanced Pedestrian Paths section of this document.

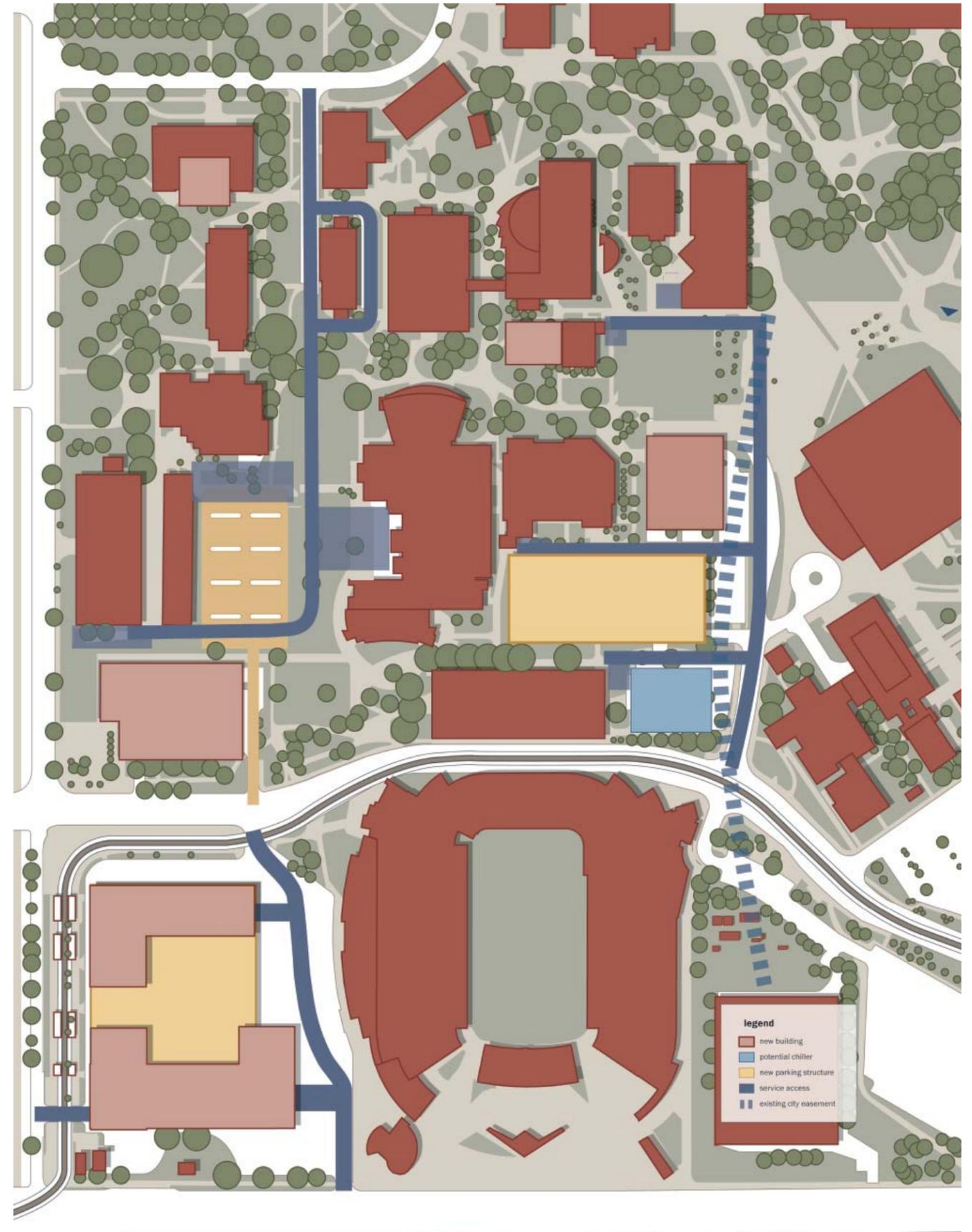
Priority Improvements

The priority improvement is the creation of a central service drive from President's Circle to the parking lot north of the new law school building. This drive would be a shared service and pedestrian boulevard and is expanded upon later in this document.



SERVICE ACCESS

The diagram above illustrates the existing campus service access. This access was not modified in the 2008 Campus Master Plan.



PEDESTRIAN ACCESS AND ACCESSIBILITY**Existing Conditions**

A series of narrow concrete sidewalks exist within the Precinct. These walk ways allow students to move around the precinct, but do not meet Americans with Disabilities Act requirements, nor do they provide the most direct route between parking, transit and facilities within the precinct.

The black dashed lines on the image to the right delineate a virtual barrier to accessibility. This illustrates the discontinuity in accessible routes from the Stadium TRAX line to almost every building within the precinct. The following series of challenges exist for someone looking for an accessible route:

1. The east bound bus stop on South Campus Drive is not accessible.
2. The only accessible route from TRAX to campus requires moving east on the south side of the stadium and then traversing north, east of the stadium.
3. There is a non-accessible line that traverses the precinct west of the bookstore and east of the Fieldhouse. This requires one to go to the north of the Bookstore to access the lower west side of the precinct.
4. The bus stop west of Carlson Hall is located on a very narrow sidewalk, when people stop to wait for the bus they force pedestrian traffic off into University Street.

In addition, The buildings within the precinct fall into three categories:

Accessible (AA). These buildings are accessible from adjacent parking and campus walkways.

Limited Accessibility (LA). These are buildings that are only accessible if you park in a nearby accessible stall or are coming from a nearby building.

Not Accessible (NA). These buildings are not accessible, no matter the approach.

Master Plan Vision

The Master Plan illustrates improved pedestrian routes from TRAX to the Marriott Library and President's Circle and enhanced pathways along the Science Yard.

Precinct Vision

After a thorough study of the existing conditions, typical paths and routes and the precinct topography, the following improvements to pedestrian access in this area are recommended:

- Enhance the pedestrian path from the TRAX stop, across South Campus Drive and along University Street.
- Widen and enhance the sidewalk along University Street.
- Create a pedestrian gateway at the northeast corner of South Campus Drive and University Street.
- Provide an accessible pedestrian path from University Street to the Marriott Library on the north side of South Campus Drive
- Create an accessible, enhanced and defined pedestrian path from the TRAX stop to the tunnel at the stadium.
- Create a primary accessible pedestrian path from the tunnel north to President's Circle.
- Complete the pedestrian connection at the Science Yard, south of the bookstore.

Priority Improvements

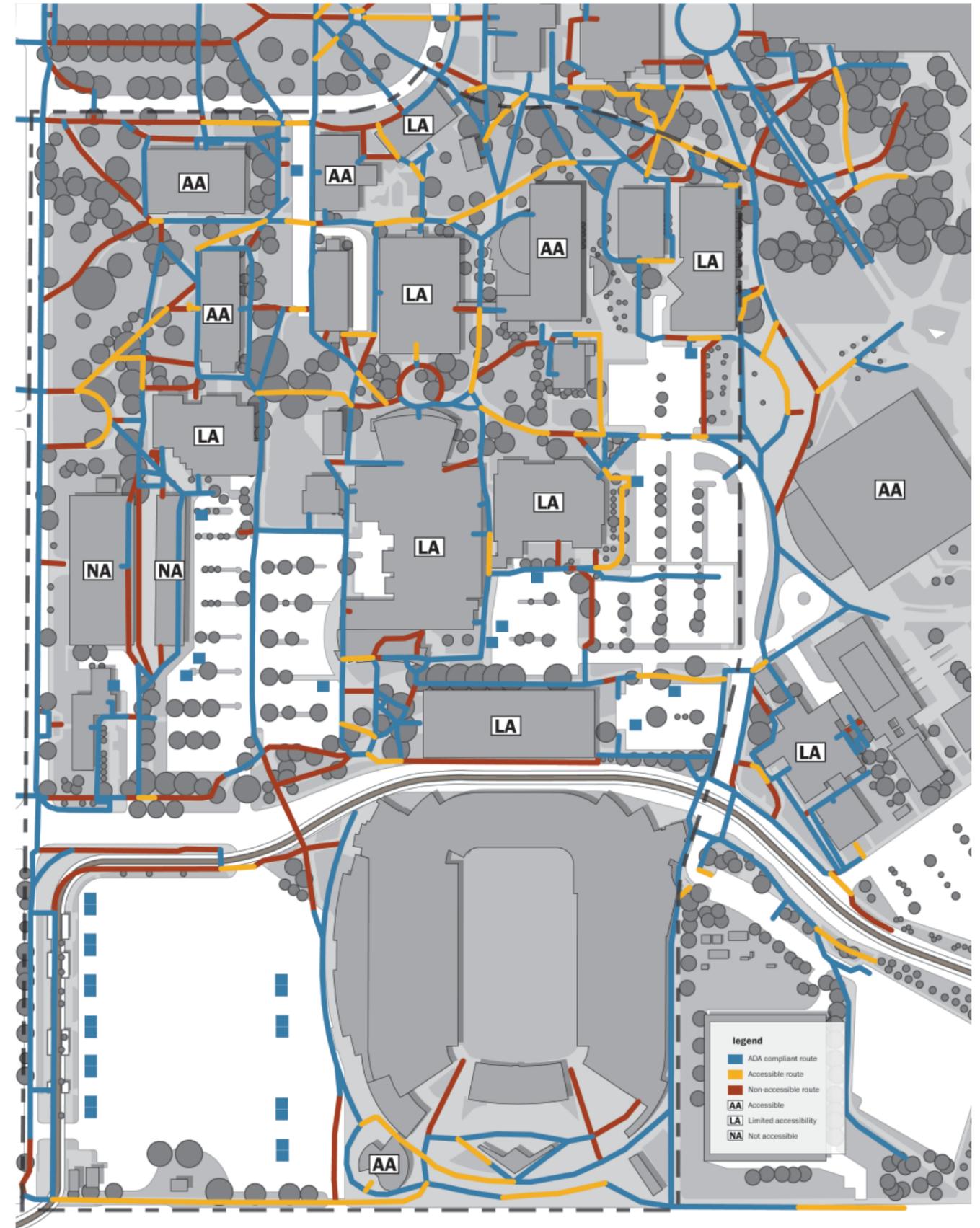
The priority improvements include:

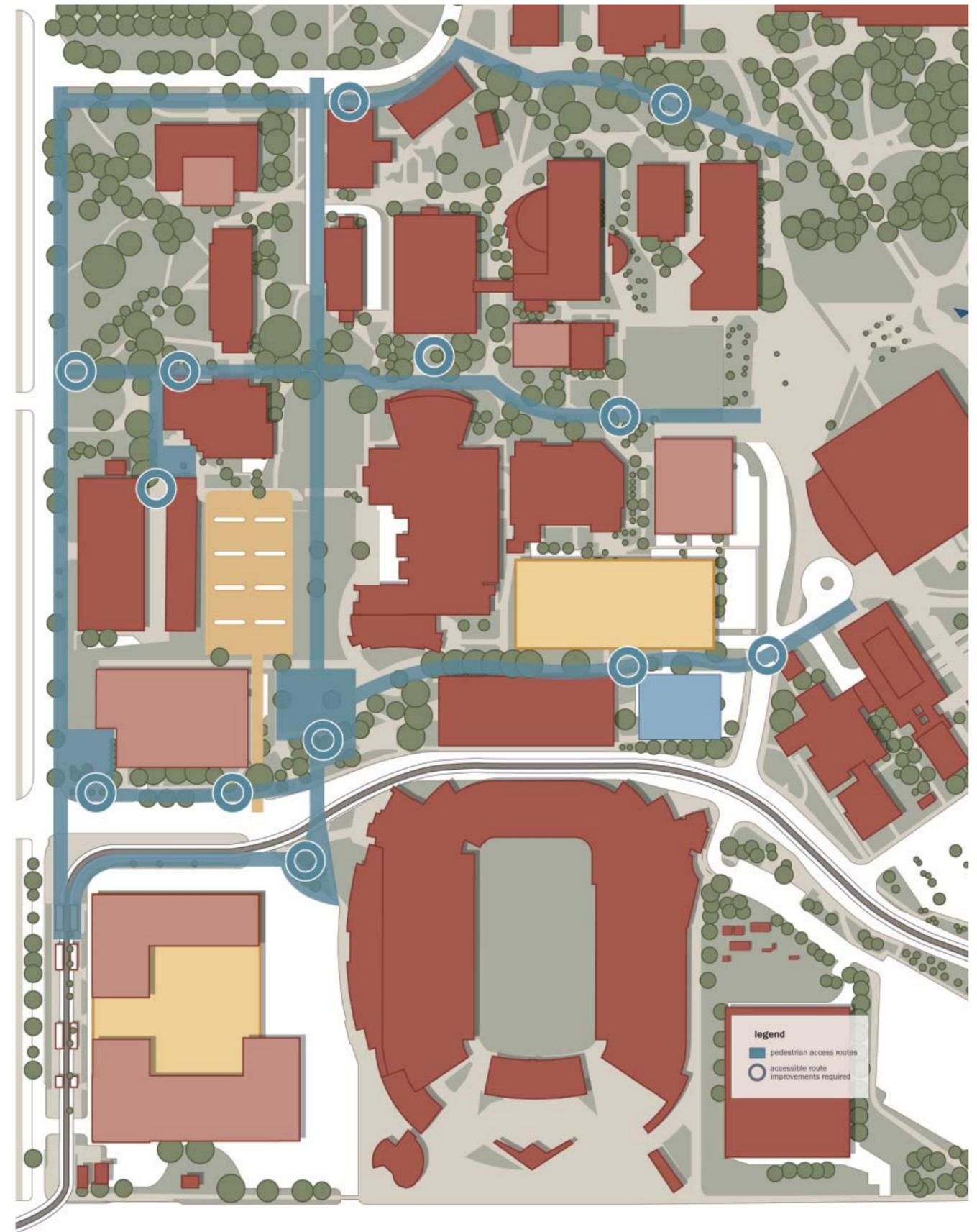
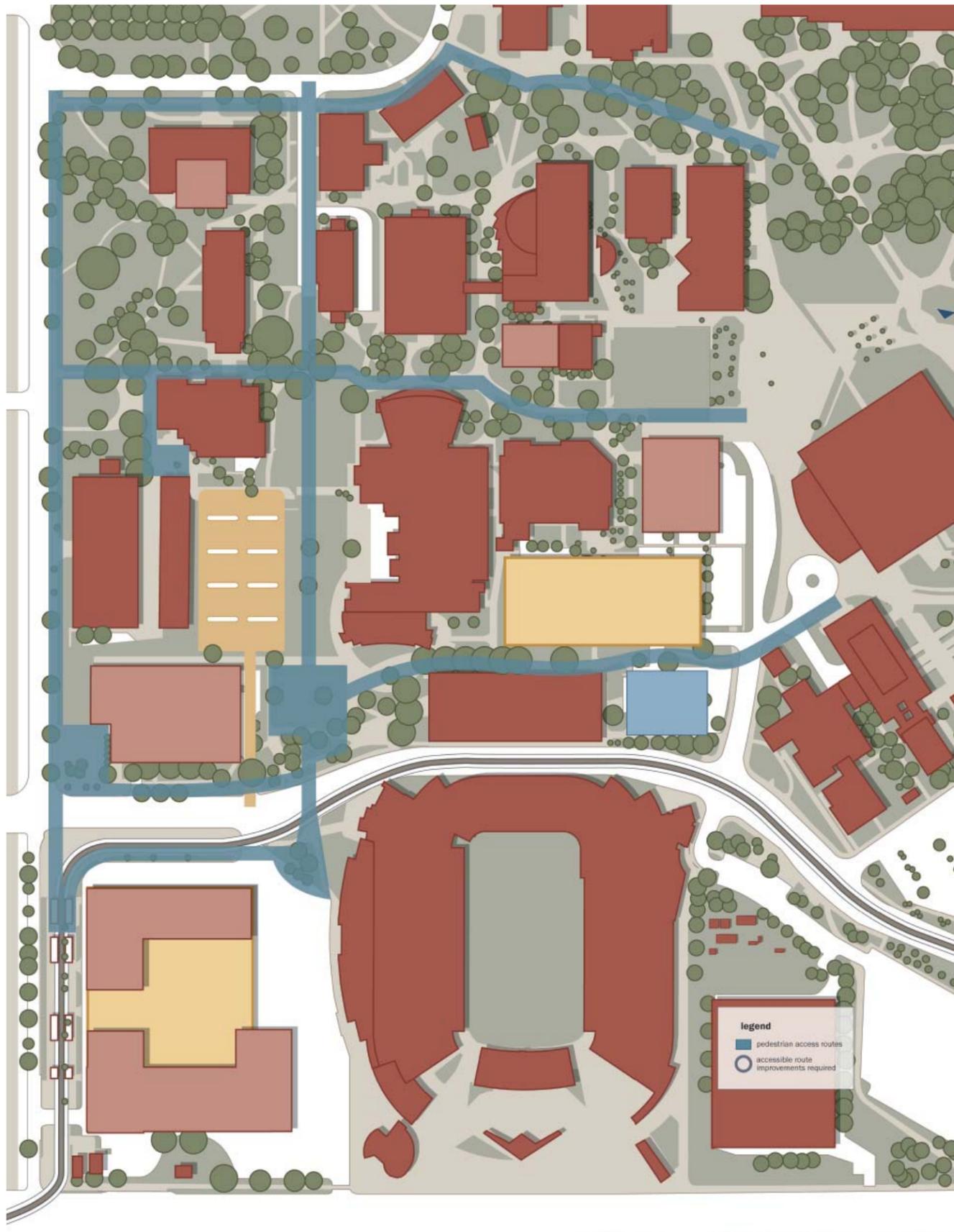
- Improving ADA Access through the addition of ADA accessible ramps and sidewalk improvements throughout the precinct.
- Enhance the pedestrian connection from TRAX to the tunnel and from TRAX to the gateway at University Street and South Campus Drive.
- Create a pedestrian Boulevard from President's Circle to the Tunnel.

In order to maintain a continuity of experience along each pedestrian path, specific placemaking elements and design features for various types pedestrian paths are defined in the Elements and Projects sections of this document.

PEDESTRIAN ACCESS

The diagram to the right illustrates the existing sidewalks as well as the accessibility, or inaccessibility of these paths. This diagram clearly shows the lack of accessible paths and the difficulty of moving in and around this precinct.





DRAFT

BICYCLE ACCESS

Existing Conditions

Currently, there are no defined or dedicated bicycle paths in this precinct.

Master Plan Vision

The Master Plan identified an enhanced bicycle route just north of the precinct at President's Circle.

Precinct Vision

In keeping with the Campus Bicycle Master Plan, specific bicycle routes should be created and physically identified within the precinct to encourage bicycle transportation and avoid bicycle and pedestrian conflicts.

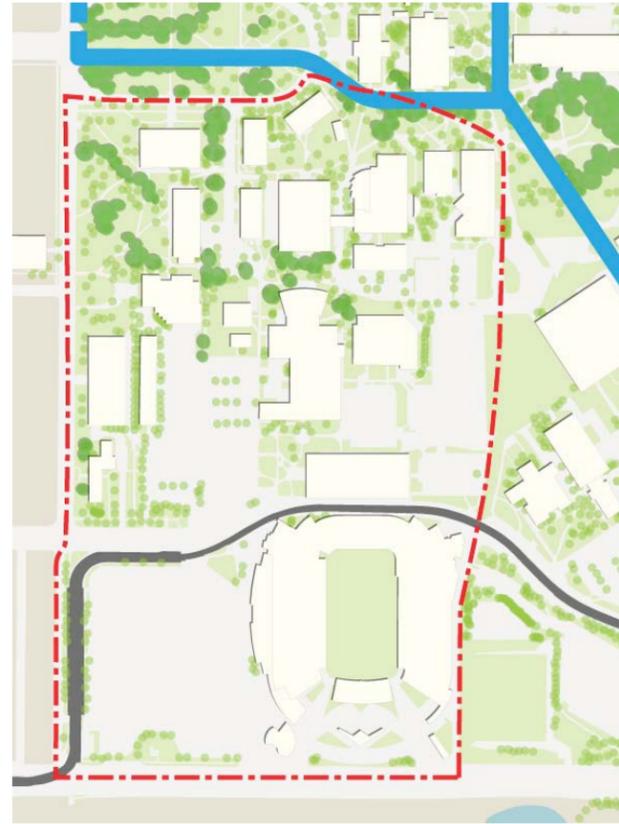
Bicycle paths can be co-located with pedestrian paths along primary paths that run north to south. These paths do not have a large amount of slope and are safer for pedestrian and bicycle interaction.

Bicycle paths should be separate from pedestrian paths running east to west. These paths are generally sloped and combining pedestrian and bicycle traffic on these paths would be dangerous.

The following bicycle routes should be created within the precinct.

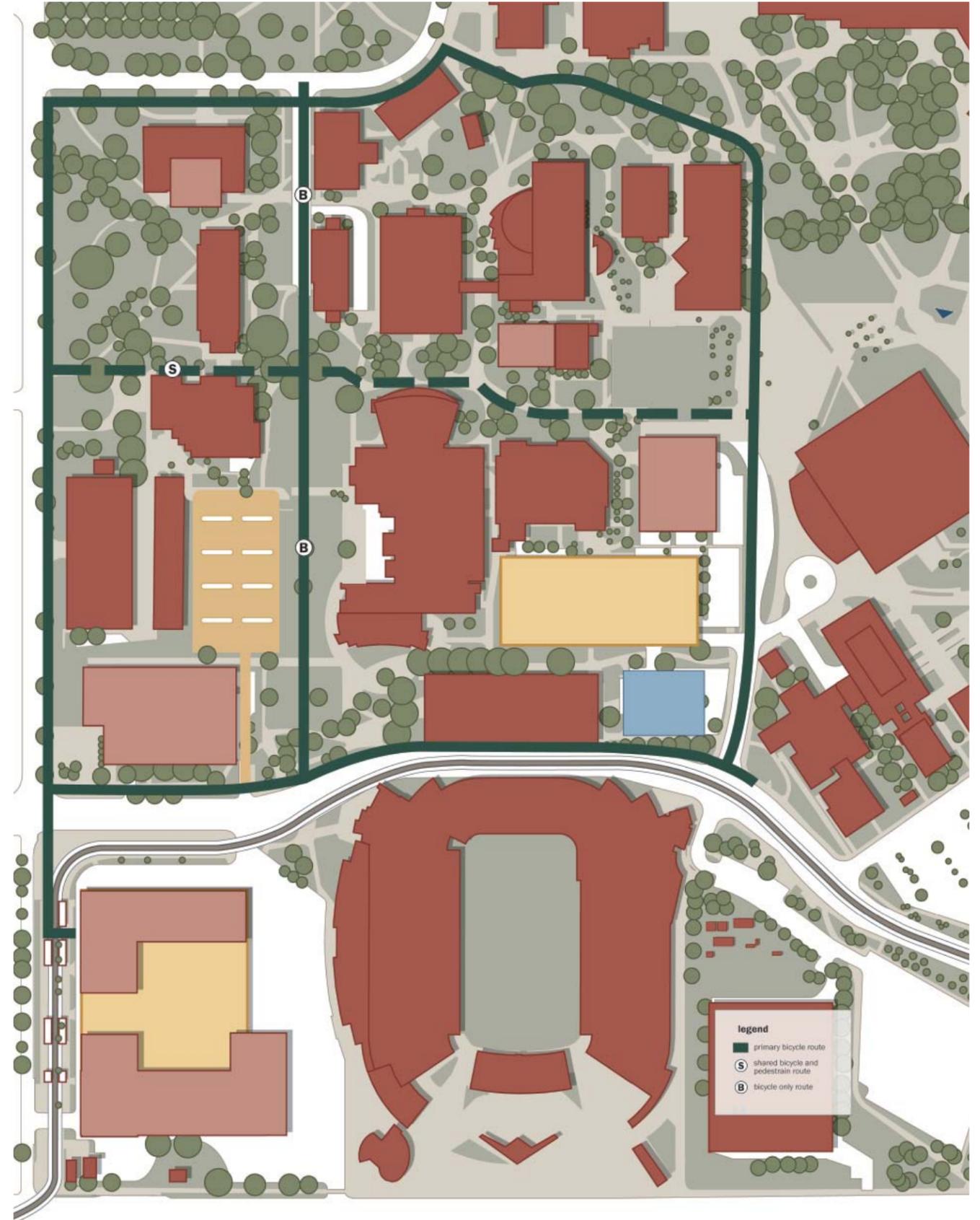
- From President's Circle to the Stadium TRAX line.
- From the Stadium TRAX line, along South Campus Drive to the Marriott Library.

Additional information on the pedestrian and bicycle paths can be found in the Elements and Projects sections of this document.



BICYCLE PATHS

Bicycle paths were not identified within the precinct in the original Master Plan. A primary bicycle route has been identified at President's Circle and along Union Lawn up to Library Plaza.



INFRASTRUCTURE

Existing Conditions

Utilities that serve the precinct buildings as well as campus waste piping run throughout the precinct. The image in the center illustrates the various utility locations within the Precinct, as understood by the University of Utah.

The utility locations need to be defined for each specific project due to the complexity of infrastructure located in this precinct.

Master Plan Vision

The Master Plan stated a need for a new chilled water plant within the precinct as well as a more sustainable storm water infrastructure within the area.

In addition, the University of Utah is striving to achieve a net zero water campus. In order to achieve this goal stormwater recharge areas and stormwater retention areas were defined. This precinct was slated for stormwater capture, but the exact holding areas were not outlined in the Master Plan.

Precinct Plan Vision

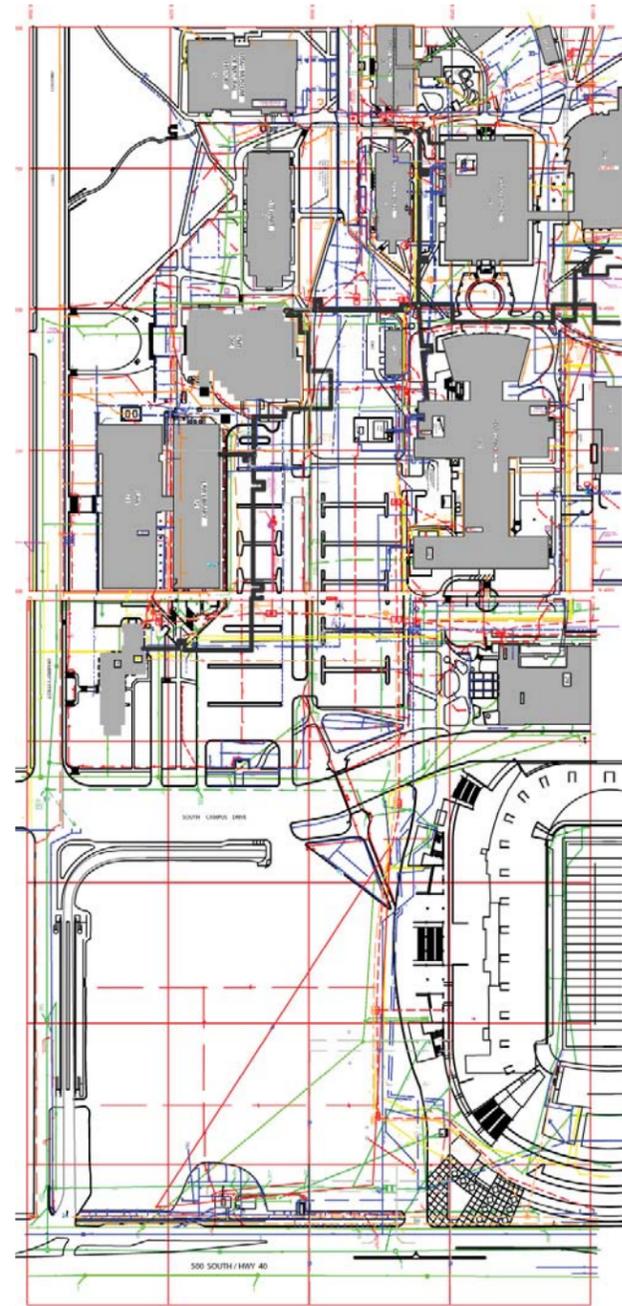
While analyzing the infrastructure improvements, and the general precinct access improvements, the original location of the chiller plant was no longer a feasible or beneficial improvement to the precinct. The image to the right illustrates the proposed chiller plant location and scale. This location, at the east side of the Fieldhouse was chosen for the convenient access to the precinct facilities as well as a back yard location that would not negatively impact the precinct access or aesthetic vision.

The image to the right also shows areas for stormwater retention and re-use. These areas are located under paved surfaces such as parking and pedestrian boulevards. The water that is stored could be re-used for landscape irrigation in the precinct, and slowly recharged into the aquifer.

All of the grass areas are inherently storm water re-charge areas. As improvements occur within the precinct, these should be graded for detention and re-charge.

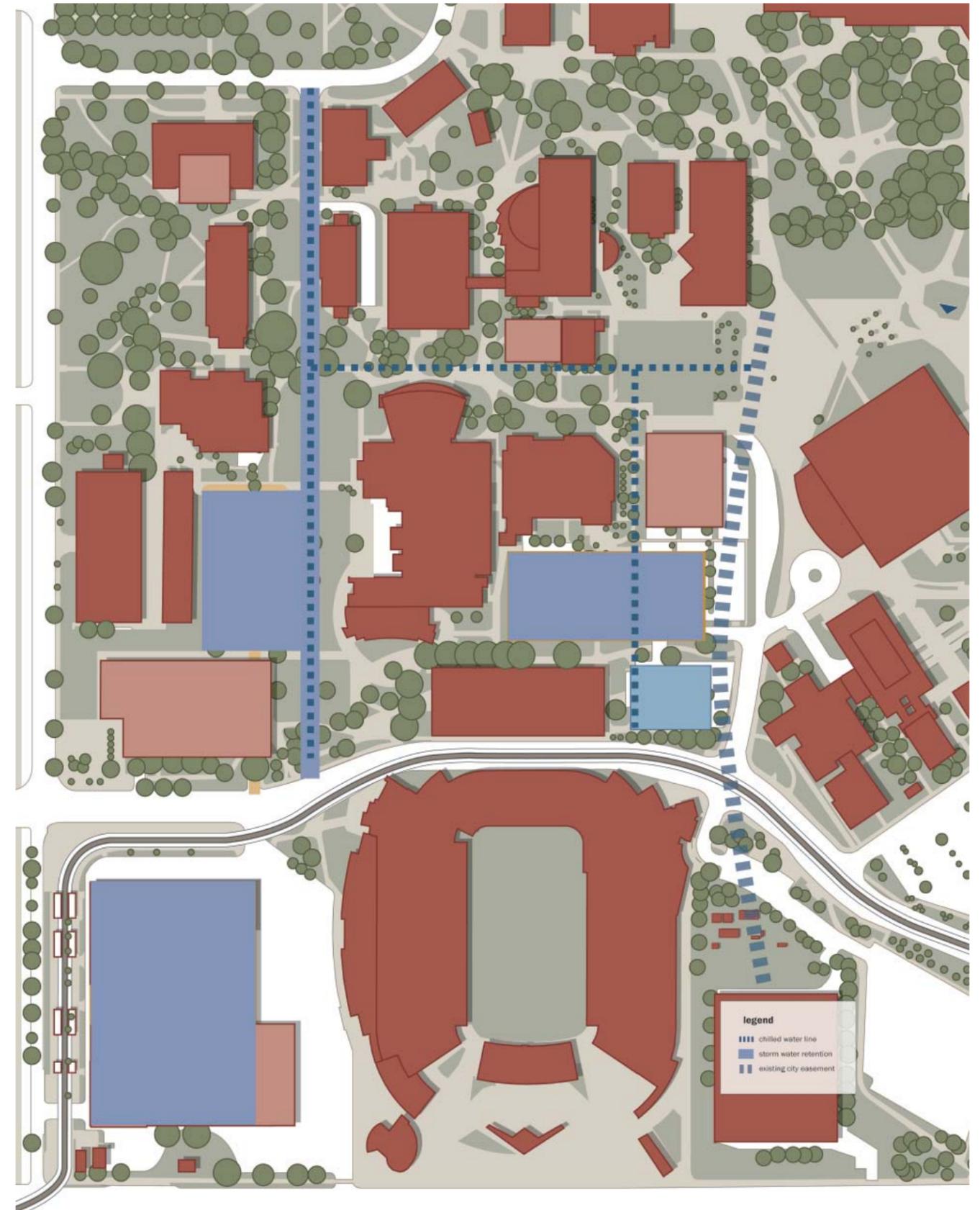
Priority Improvements

The chiller plant is a primary priority improvement for this area. The planning for this facility has already begun, and will continue to progress over the next number of years. The chiller line has been identified to coincide with the pedestrian access improvements to allow for these to occur simultaneously.



UTILITY LOCATIONS

The diagram above illustrates the existing utility locations as known by the University of Utah. This diagram shows the quantity and complexity of the existing utility infrastructure within the precinct.



OPEN SPACE

Existing Conditions

Beautiful mature landscapes and iconic greens exist on the west side of the precinct. The lawn is a historic feature of the campus and houses the original University of Utah Arboretum.

The Science Yard is another open space area within the precinct. This area is a traditional lawn area with informal pedestrian walkways crisscrossing from building to building.

Master Plan Vision

The 2008 Master Plan identified the historic arboretum and the lawn north of the law school to President’s Circle to be preserved.

Precinct Vision

The lawn along University Street, the Arboretum and the hollow are three historic and cherished landscaped areas within the precinct and should be preserved. In addition, the lawn should be extended to the south when the existing law school is demolished.

As the master plan states, the science yard should be enhanced by removing the existing parking lot south of the Bookstore to create a continuous green from University Street to the campus and library plazas.

Other landscape improvements that have been identified as part of this precinct plan include:

- Enhance the pedestrian boulevard from President’s Circle to South Campus Drive with landscape improvements.
- Create a landscaped walk from the TRAX stop to the tunnel.
- Relocate and enlarge the campus garden at the southeast intersection of the science yard and pedestrian boulevard.
- Create comfortable and engaging areas within the landscape to promote interaction, study and lingering within the precinct.
- Integrate landscape into parking areas and plaza spaces to create a more comfortable and inviting hardscape



GREEN SPACE

The Campus Master Plan outlines the enhancement and preservation of similar landscape areas as this precinct, as shown in the image above.

atmosphere.

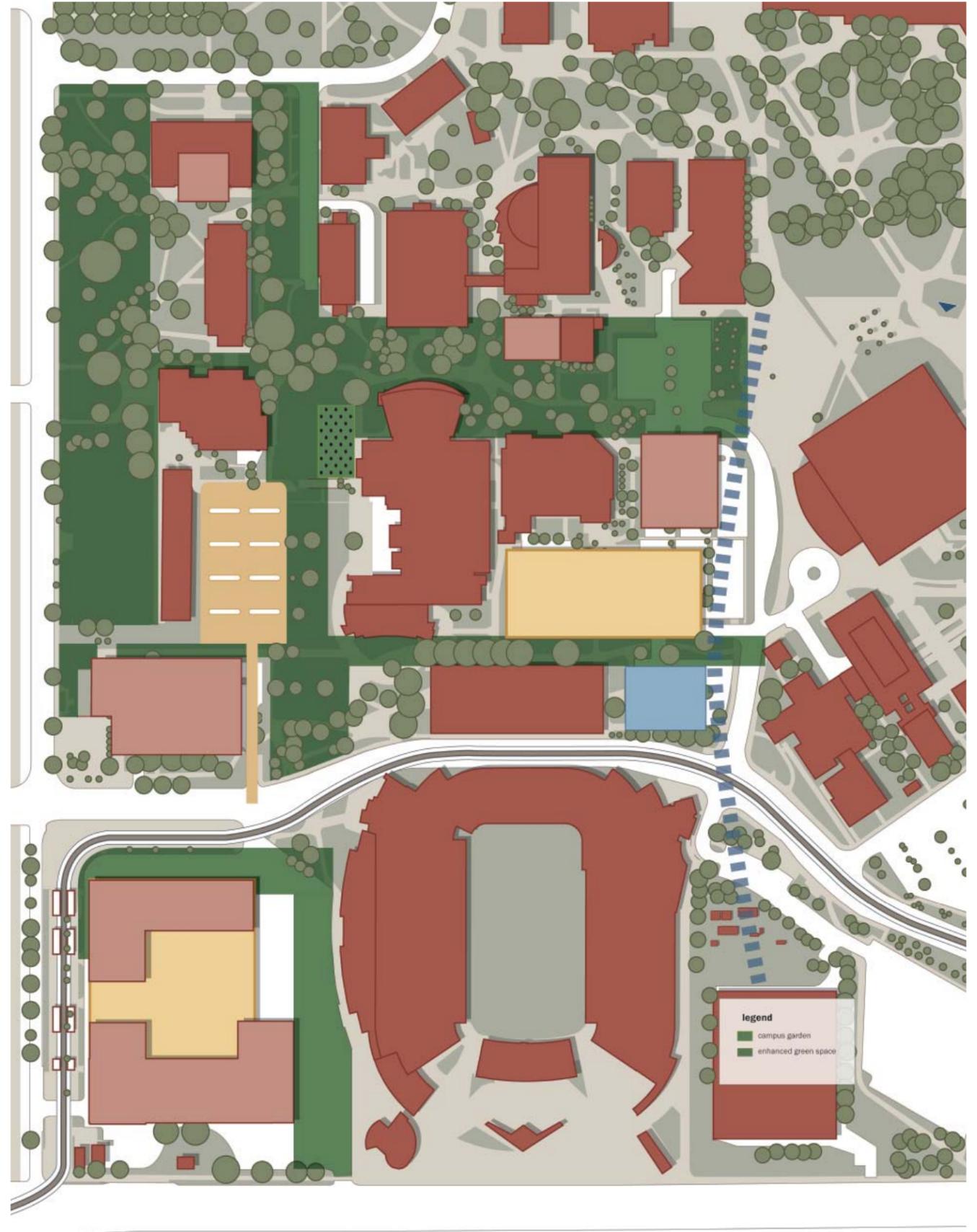
Priority Improvements

Preserving the lawn, arboretum and hollow are key to maintaining the historic and comfortable atmosphere of the precinct.

Creating the pedestrian boulevard with enhanced landscaping from President’s Circle to South Campus Drive is a priority for the precinct.

Creating an enhanced pedestrian and green space from the TRAX line to Marriot Library is a priority improvement.

Moving the campus garden to a more permanent and larger space west of the Eyring Chemistry Building. This will be an engaging and interactive feature along the pedestrian boulevard.



ELEMENTS



SCALE AND SPACE

One of the primary elements one understands when moving within or between spaces is scale. The height of an adjacent building in relation to a walkway width, the width and density of landscape next to a sidewalk and the amount of open space surrounding a building all contribute to this sense of scale.

The key to creating comfortable spaces is understanding the human scale and how building and landscape can affect each person and his or her perception of the elements around them.

Make a Statement

Large buildings or landscape elements are visually appealing from distances. These elements are often used as visual landmarks for wayfinding as well as help create a sense of identity for a place.

It is important, however, that these large elements are broken into smaller pieces through articulation of a facade in the case of a building or layering of plants in a landscape.

This articulation and layering helps reduce the perceived scale of an element as a person approaches it.

Reduce the Scale at the Entry

As a person approaches an element, such as a building, it becomes even more important to reflect the human scale. A common technique is to change the scale of building materials and elements at the front entry. This reduction in scale makes people feel comfortable as they enter a facility by reflecting the scale of the individual or group rather than the building as seen from afar.

This also creates a more comfortable transition from larger outdoor spaces to smaller indoor spaces.

Proportions Help Establish Dimensions

The golden mean if 1:1.6 is often used to create spaces that are generally perceived as comfortable. This ratio can be used in a height to width ratio with the building height being 1 to a 1.618 open space width.

Maintain a Human Scale

People are always most comfortable in spaces that contain elements that they can relate to. A human scale is a scale that can be compared to a single or group of bodily features. Most elements that can be measured by the inch or foot are considered to have a human dimension. Sometimes elements measured by the yard can also apply.

An example of a human scale element is brick. This is an element that cannot be distinguished from afar, but as it is approached breaks down into recognizable and relatable smaller elements.

A door is another architectural element that reflects a human scale. The opening of a door is always viewed in relation to the person who walks through it.

Most landscape material reflects a human scale through the natural break down of scale and natural proportion of elements in all plants.



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LANDSCAPE

Landscape Quality And Character

Several landscape types are existing or proposed in this precinct. These are:

- Campus Lawn
- Water Conserving Landscape Areas
- Plazas
- Pedestrian Boulevards (also provide service access)
- Secondary Walks
- Bike Paths

The Campus Lawn

The campus lawn is a historic campus feature that exists in the center of President's Circle, as well as on the west side of campus from President's Circle south to encompass a portion of the historic State Arboretum established in 1961. This beautiful and historic landscaped area should be maintained and well-preserved. New trees should be added to the area, anticipating the existing mature trees may be approaching the end of their life. University Facilities Management should develop a long-term plan (if not already established) to address the long-term care and replacement of said trees.

The "campus lawn" is a traditional part of campus, and is an integral component of the University of Utah's campus setting. Green lawn and large trees with formal placement define the kit of parts for this landscape type. Shrubs may be used for spatial definition, but are not required. When utilized, shrubs should be focused in mass planting to direct traffic, define edges, or create spaces.

Future precinct lawn areas shall be designed to meet the following needs:

- Create a ceremonial space, formal in nature to reflect the character of the President's Circle and historic arboretum
- Provide open space to offset the building infrastructure
- Accommodate group events, such as graduation galas,
- Provide passive/active recreation space for informal participants (e.g. relaxing on the lawn, frisbee) within this area of campus.

While it is anticipated the campus lawn will not be the most water conserving landscape typology, some controls should be implemented to help the campus achieve a water-neutral landscape. Designers should take care with the grading and drainage plans that water utilized to irrigate the lawn will not be directed to a storm drain, but rather be directed to recharge the aquifer. This may be accomplished through on-site retention, bio-swales, etc.

Water Conserving Landscape

Landscape areas outside the campus lawn will likely be smaller in size and lend themselves to water conservation. Characteristics of a water conserving landscape include the following:

- Using plant material that is native or well-adapted to the local Utah vernacular landscape
- Grouping plants with similar water requirements together, to minimize water consumption
- Considering sun, shade and wind exposure to give plants the best opportunity to thrive in their location
- Using mulch – either bark or rock – to help maintain proper soil moisture.

Historical Salt Lake City landscapes include elements such as formal hedges, foundation plantings, and gardens – consider historic neighborhoods such as the "Avenues" and "Capitol Hill". While these traditional elements have not historically been developed with water conserving species, similar landscape elements can be created with more Utah climate-friendly plant types. Designers should consider implementing ornamental grasses and other drought-tolerant shrubs for hedges and foundation plantings. Specific species, landscape design, and mulch materials should be approved by the Facilities Management Grounds Department group.

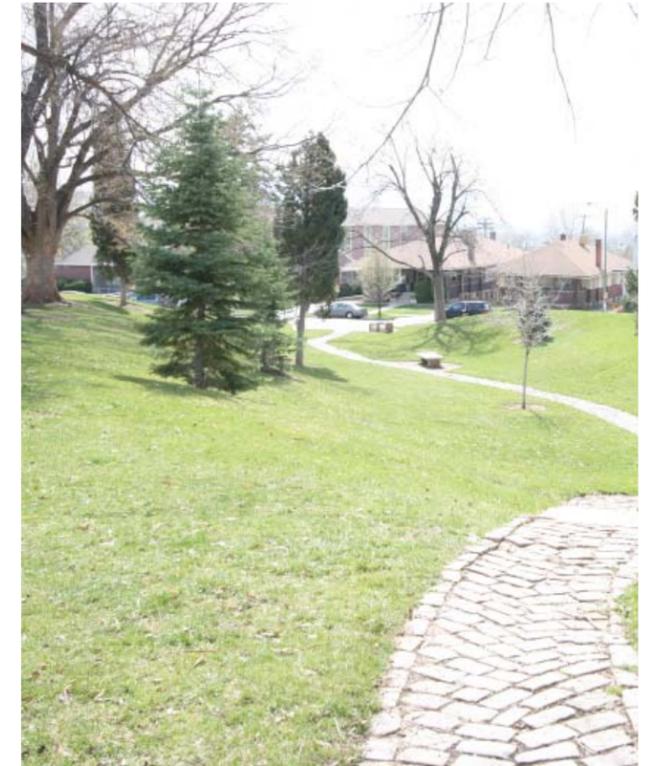
Irrigation

The overall goal of the landscape and irrigation system is to reduce the amount of water necessary to maintain the facilities. The University of Utah is currently working toward a "water-neutral" campus, which means it does not require more water for operation than it receives from precipitation, on average, annually.

In order for the University to be able to achieve this goal, each individual project within the precinct needs to approach its planning and design with sustainability in mind, working toward a standard of 50% water reduction, per the LEED credit requirements.

Irrigation water for this precinct is supplied by well water, which is piped to the area. This is a sustainable water source within the bounds of a "water-neutral" system. As such, all irrigation water should be directed to a system that, in the end, recharges the local aquifer. This may include on-site retention (by project or within the overall precinct) and the incorporation of bio-swales.

Irrigation equipment should be selected according to the campus standards, available from the Facilities Management.



The existing campus lawn areas are a beautiful and historic component of the lower campus and the University of Utah.



This historic post card shows the prominence of the lawn features and the traditional and formal landscape from the early days of the University.

HARDSCAPE

The incorporation of plazas can contribute to a pedestrian-friendly campus by providing space for casual interactions, idea-exchange, sitting, studying, and so on. Not all projects within the precinct will require plaza spaces. However, the designer should consider the incorporation of a plaza at the intersection of key access routes. For example, the convergence of pedestrian boulevards would be a natural location for a plaza space that provides an icon or landmark for the precinct. Areas adjacent to building main entrances also lend themselves to plaza spaces to provide a type of “front porch” interaction.

Key elements of plaza space include seating, a variety of sun exposure (sun vs. shade for various conditions throughout the year), places for interaction between faculty/staff and students, bike parking, etc. Most importantly, a pedestrian scale within the plaza must be maintained in order for the plaza to be comfortable for users.

Landscape materials, planters and softscape areas should be incorporated into the design of plazas to soften the space and make it more welcoming and comfortable.

PATHS

Because pedestrian paths into and around the precinct are experienced by all visitors to the precinct, it is important that the pedestrian paths be both high quality and comfortable.

All pedestrian walkways, or sidewalks defined as primary pedestrian paths in the Analysis section of this document shall be ADA accessible.

For visual continuity and access, all pedestrian paths shall be natural concrete.

Primary pedestrian paths shall be a minimum of eight feet wide and have control joints to create a square pattern in the sidewalk.

Pedestrian Boulevards

Main routes of pedestrian circulation should take their cues from the precedent set by the formal nature of President’s Circle. Formal tree-lined boulevard-style walks will define the main pedestrian boulevards. Typically 14 feet wide, these enhanced walks will accommodate a large volume of pedestrian traffic in addition to bike traffic and service access. These shall all be fully ADA accessible as well.

The landscape elements used in conjunction with the pedestrian boulevard walk should carefully consider the scale of the pedestrian, in order to provide a path wide enough to accommodate a large volume of users while making the

pedestrian feel comfortable when he/she may be the only immediate user. Trees spaced at regular intervals, seating at edges, scoring patterns, and safety lighting are all methods to create this scale.

The pavement should follow the University standard of thickened-edge concrete, scored at regular intervals. The scoring pattern shall break down the overall width of the walk into a more pedestrian friendly scale, such as three 4'-8" squares, across the walk. Scoring patterns shall coordinate with edges of intersecting walks.

Secondary Walks

Secondary walks are not major connector walks, nor do they need to accommodate the same volume of pedestrian traffic as a boulevard. These walks are utilized for frequently-traveled paths of circulation, but not the precinct main through-traffic. For instance, a secondary walk may connect a building entrance to the pedestrian boulevards. Note, all walks shall comply with ingress/egress requirements per local code.

These walks are not necessarily tree-lined, but the adjacent landscape should relate to the use of the specific walk. The designer should carefully consider a friendly, pedestrian scale for all secondary walks, to help ensure a safe campus environment.

Some secondary walks will receive more traffic than others, depending on location. Secondary walks will be between ten and twelve feet wide. The width of a secondary walk should be determined based on the location and projected usage for the specific area. For example, the area at a main building entrance needs to be wide enough to easily accommodate the volume of pedestrians at class break, which would likely be wider than a circulation only walkway.

The pavement should follow the University standard of thickened-edge concrete, scored at regular intervals. The scoring pattern shall break down the overall width of the walk into a more pedestrian friendly scale, such as a four foot grid.

General Sidewalks

These walks provide access to areas that are less traveled, such as secondary building entrances that will obviously not require the same width as main entrances. Minimum width of sidewalks is eight feet, to accommodate campus snow removal equipment. Most sidewalks will follow the University standard of thickened-edge concrete, scored at regular intervals. The scoring pattern shall break down the overall width of the walk into a more pedestrian friendly scale, such as a four foot grid.



A pedestrian plaza at Westminster College has landscaped areas and furnishings to soften the space and make it more comfortable.



A pedestrian boulevard should be wide enough for large quantities of people to move and have soft elements such as landscape and seating areas around the edges.

LIGHTING/SECURITY

The lighting within the Precinct shall be installed and maintained to ensure safety and a sense of wellbeing to all who travel through and within the area at night.

Pedestrian walkways need to be especially well lit at the walking level to ensure a safe and comfortable experience for pedestrians and bicyclists.

Various lighting levels and schemes may exist within the precinct. These include:

- Lower pedestrian oriented walkway lighting
- Taller space lighting at plazas and parking areas
- Building and landscape accent lighting

All lighting should be scaled to the space and purpose it is meant to serve. The lighting systems should be efficiently designed to maximize light where needed and reduce the energy consumption in the area. In addition, all lighting shall meet the dark sky requirements and have integrated photocell sensors.

In addition to lighting for safety, emergency call boxes shall be located at regular intervals and clearly marked along the primary and secondary pedestrian paths.

Both the lighting and security call boxes shall meet the University of Utah campus standards for design, energy consumption and location.

SITE FURNITURE

Site furnishings for this precinct should follow the University standards to add to an overall sense of campus unity. University standards are available via the Facilities Management division of campus, and address benches, tables, waste receptacles, tree grates, urns, bicycle racks, and site furnishing anchors.

Standard campus furnishings shall meet the following finish and performance requirements:

- Be perforated or grate metal to minimize standing water and degradation from weather.
- Be designed to be easily and firmly anchored to the concrete or landscape in which it sits.
- Be durable enough to withstand the Salt Lake City Climate and wear and tear of users.
- Be a stainless steel or natural metal hue.

Generally, furniture should be located at outdoor gathering places such as plazas and building entries. Furnishings should also be located along the edges of pedestrian boulevards to encourage sitting and congregation at key precinct intersections.

In addition to furnishings, tree grates shall be specified for trees located in paved areas. The grates shall be removable for University maintenance and the inner rings shall be removed as the tree grows. They should match the general aesthetic and material of the adjacent furnishings.



Various furniture systems may be used, but a specific color palette and style should be defined for the precinct. Landscape Form furniture systems are shown above and to the right.

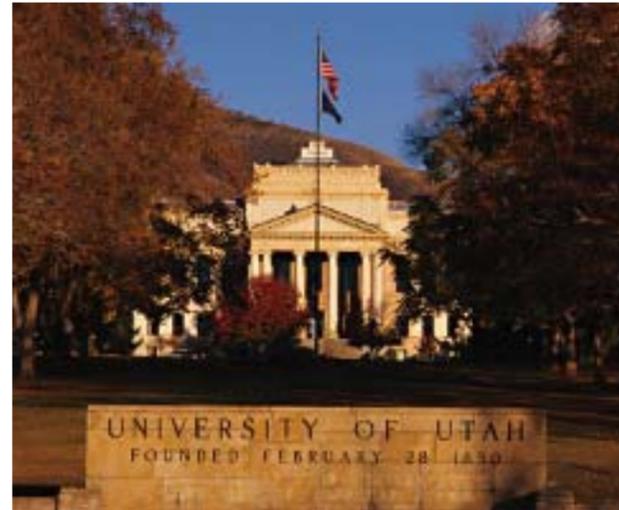


WAYFINDING

It is vital that effective wayfinding be incorporated with the other landscape and walkway improvements that occur within the precinct. An iconic monument sign should be provided at the campus gateway. This sign should be secondary to the monument sign in front of President's Circle, but still reflect the importance of the gateway as a primary campus entry.

Directional wayfinding shall also be located at the campus gateway and primary parking areas. Secondary wayfinding will then need to be located along the primary pedestrian paths. And finally, individual building signage should be located at commonly used building entries.

The University of Utah has a standard for campus signage that shall be used within the Precinct

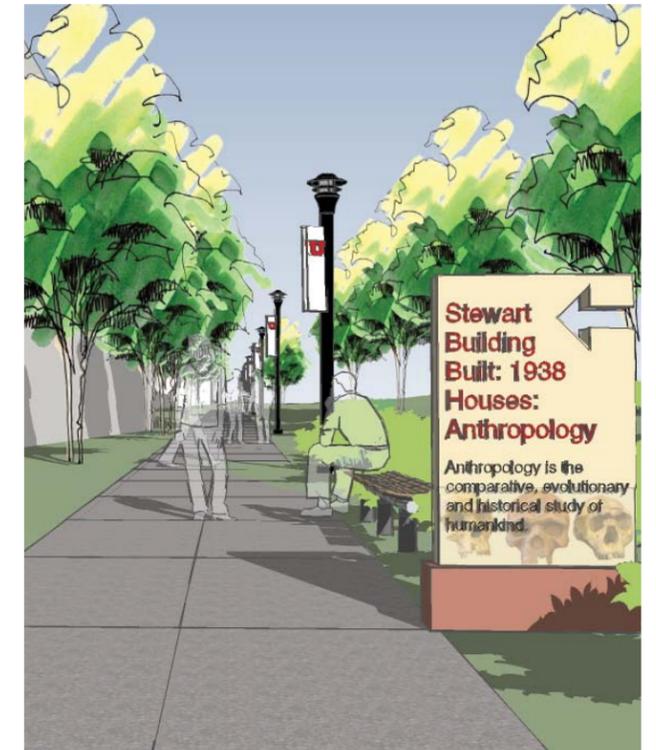


Standard signage, similar to that shown above should be used throughout the precinct.

BRANDING

A physical representation of the quality and character of the University of Utah and the precinct should be incorporated into the signage and pedestrian paths throughout the precinct. A common signage or art installation could be considered to provide this consistent, yet engaging presentation of information about the people, programs and experiences within the Precinct.

The image to the right represents a variation on the typical campus signage that can provide additional information on the various departments and buildings within the precinct to bring the branding efforts forward from within the building to engage with those passing by.

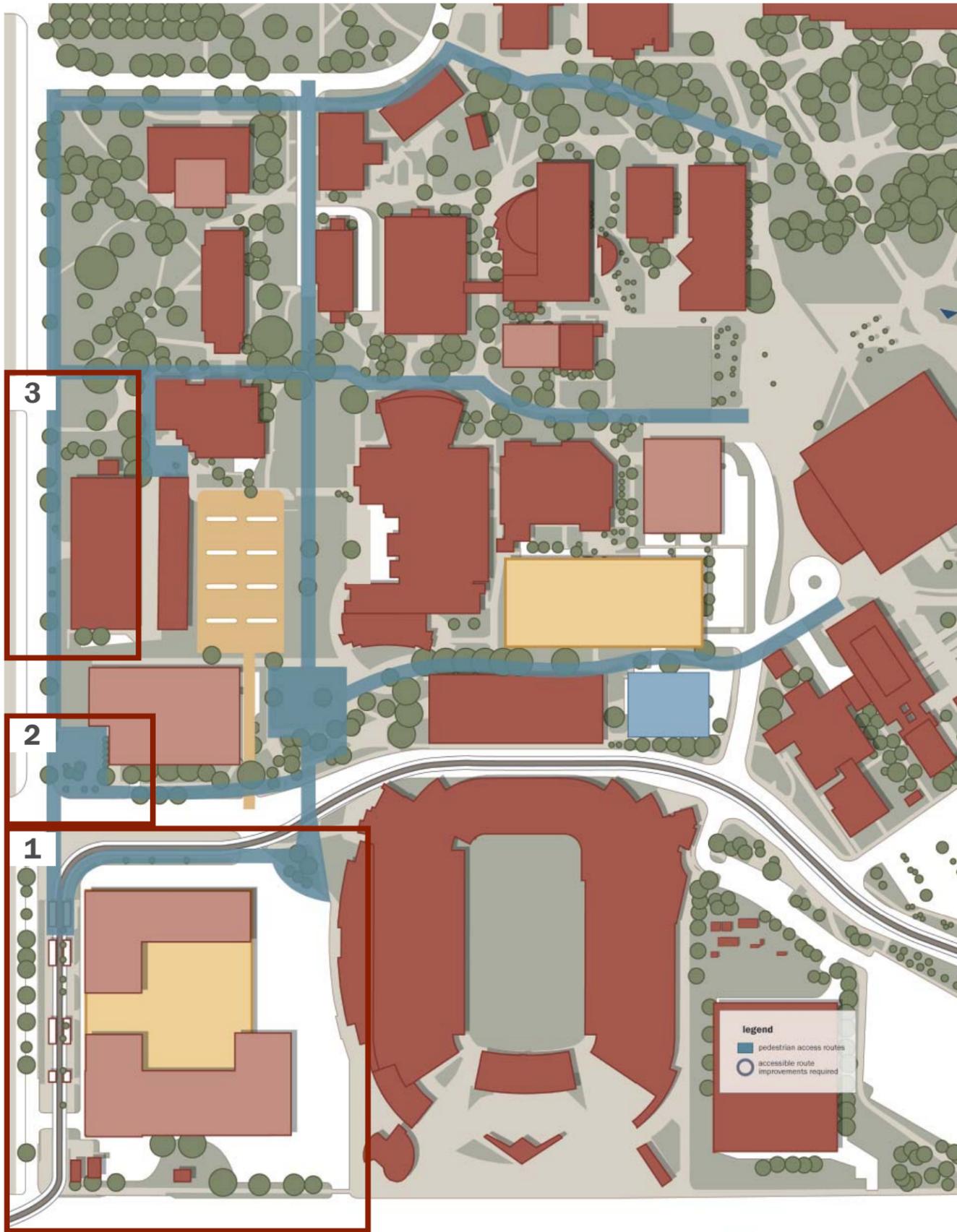


The standard signage may be modified to reflect the use and programs within a nearby facility to engage the passerby.

PROJECTS

Through the course of this study, the following projects have emerged as priority projects within the precinct.

1. Stadium Mixed Use Project
2. University Gateway
3. Campus Lawn
4. Enhanced Pedestrian Paths



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STADIUM MIXED USE PROJECT

The stadium mixed use project is one of the largest development opportunities on the lower campus. The existing parking lot is xx acres and can accommodate a large amount of new development as well as up to 900 additional parking stalls for this area of campus.

The precinct planning team has identified key pedestrian corridors that need to be preserved and ideal development locations for this site.

Campus Arrival and Experience

The Stadium Mixed Use Project will be a visually and physically dominant element on campus and should be treated with the care and attention of a primary campus gateway.

The scale of the development should be primarily oriented toward the pedestrian as most visitors will arrive on TRAX or walk to the area from other campus spaces. The pedestrian experience is vital to the success of the project. Primarily, the pedestrian experience from the TRAX stop to the campus and stadium.

Secondarily, the project should frame the Stadium and surrounding valley and mountain views. A large scale of building is appropriate in this area as it is adjacent to the large stadium structure.

The design of the site and outdoor spaces should accommodate a variety of uses from large game-day events to cafe seating outside a coffee shop. The experience and outdoor space should be comfortable, inviting and diverse.

Parking Structure

Due to the scale and location of the stadium parking lot, it is an ideal location for campus parking. The perimeter location makes it easy to access while the scale allows for all of the parking at the interior of the precinct to be accommodated on a single level of the stadium lot.

A two to three level parking structure at the base of any new development is recommended for this site. This large area of parking could provide all of the necessary stalls for the precinct and development while creating a level base at the entry of the stadium.

TRAX Stop Improvement

The TRAX stop should be enhanced with a covered waiting area, accessible access to South Campus Drive and the Stadium as well as a direct connection to parking and site buildings.

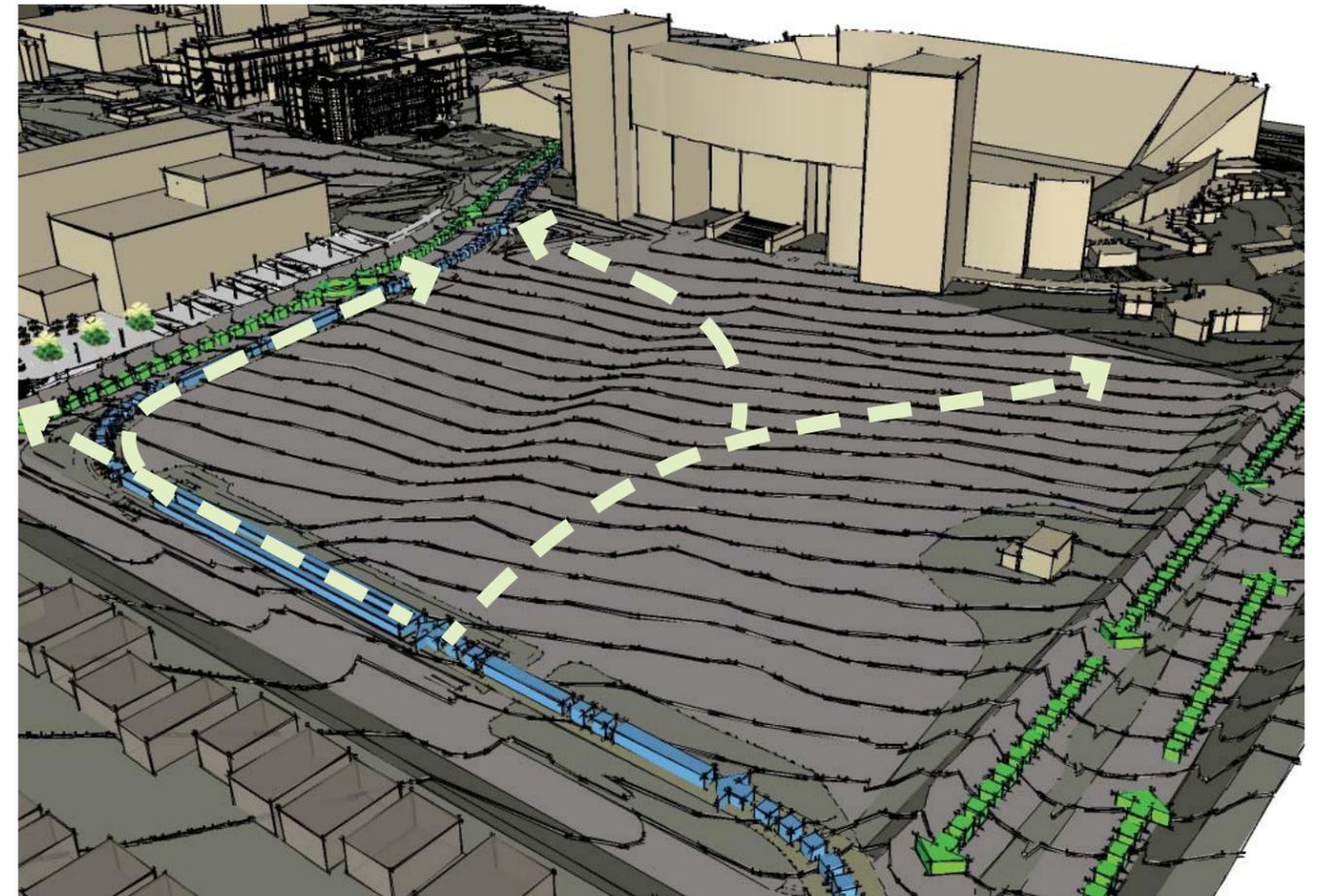
Primary Pedestrian Paths

The TRAX stop, parking and development should be designed around the primary pedestrian circulation in the area. An accessible and comfortable pedestrian path should be created from the TRAX stop to the stadium and from the TRAX stop to the tunnel to connect to the rest of campus.

Development Opportunities

Site development opportunities include, but are not limited to:

- Student housing
- Faculty/Staff housing
- Academic support services and offices
- Campus supported retail
- Hotel and conference facilities



Pedestrian access shall be maintained and enhanced from the TRAX stop to the stadium, tunnel and campus gateway. All pedestrian access shall be ADA accessible on this site.

UNIVERSITY GATEWAY

The University Gateway is located at the corner of University Street and South Campus Drive. This gateway is in a key location, welcoming campus visitors coming by car, transit, bicycle or walking. This site has been under utilized by the campus as a gateway for decades.

Welcoming Feature

The design of the plaza should have a gateway monument sign to announce the entry to campus. In addition, it should be an open, inviting and accessible outdoor space that welcomes pedestrians to the precinct and campus.

Primary Accessible Route

The gateway plaza should become the entry to the primary accessible paths in the precinct. An inviting, convenient and accessible path from the plaza east to the tunnel and fieldhouse should be created. This will then connect pedestrians to the pedestrian boulevard to President's Circle and the pedestrian path to the Marriot Library.

Transit Hub

The gateway plaza will also act as a transit hub for this area of campus. There will be UTA bus and shuttle stops along both South Campus Drive and University Street accesses from this plaza. In addition, enhanced signage and interactive displays showing shuttle locations should be integrated into the plaza for pedestrian convenience.



Transit access should be designed into the gateway will bus pull outs and sheltered waiting areas for transit riders.



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The Gateway Plaza should be designed to draw visitors into the campus, provide ADA accessible routes to other key campus areas and to create a vibrant edge for the lower campus.

EXTENSION OF THE CAMPUS LAWN ALONG UNIVERSITY STREET

In the future, it is anticipated that the existing College of Law building will be removed. At that time, the historic campus lawn should be extended along the west edge of the campus, to the new SJ Quinney College of Law facility, to further define the campus edge with green space. The character of this space should be developed such that it will be consistent with the existing Arboretum and President's Circle landscape.

ENHANCED PEDESTRIAN PATHS

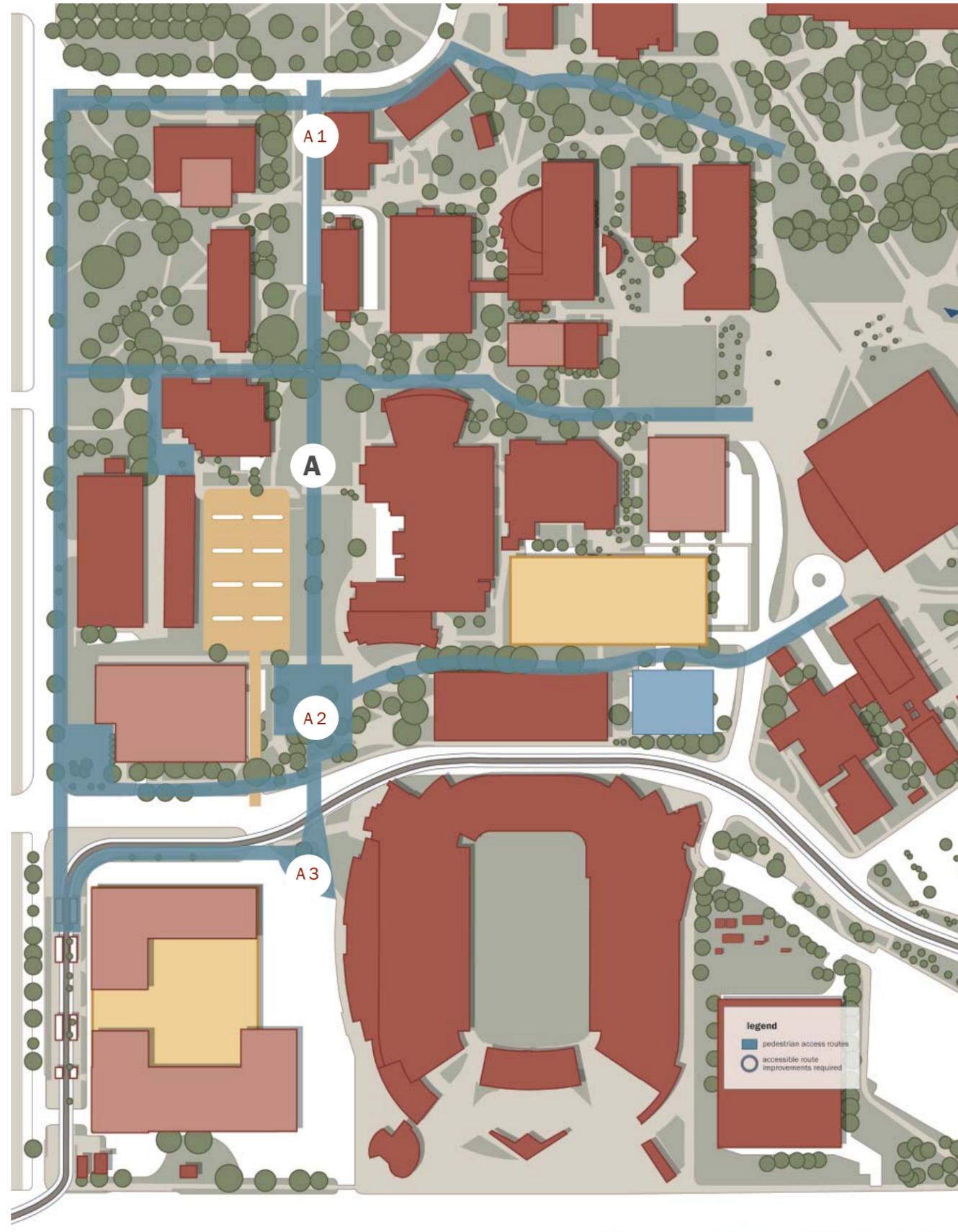
North-South Pedestrian Boulevard - From President's Circle to Stadium

A. This project should be developed as a pedestrian boulevard with the formal landscape of the President's Circle. Designers should pay particular attention to the creating a pedestrian-scale for this walk, including boulevard trees, seating, trash receptacles, lighting, etc.

A.1 The north end of the walk should intersect with President's Circle in a formal nature, possibly with a plaza space that welcomes the pedestrian from President's Circle to this part of the precinct, and vice versa.

A.2 The east-west boulevard will intersect with the north-south pedestrian boulevard, likely in conjunction with the access to the pedestrian tunnel, providing an opportunity for a significant node of interest, such as an iconic plaza space with a focal point (a branding opportunity). Opening up this area of convergence will create a gateway to this area of campus, provide a landing zone for the tunnel, and add a perceived level of safety for the pedestrians in the tunnel. Because grades and accessibility will be an issue to address, a plaza space that steps down with the grades may be created, with a series of walls to provide ADA access.

A.3 The south end of the walk needs to provide an ADA accessible route to the pedestrian tunnel, which will require renovating the existing walkways and ramps.



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Looking north toward Pioneer Theater Company from just north of the Tunnel.



Looking east toward the Fieldhouse, along a ramp and stairs on the north side of the tunnel.



Looking southwest toward the stadium parking lot, up an accessible ramp.

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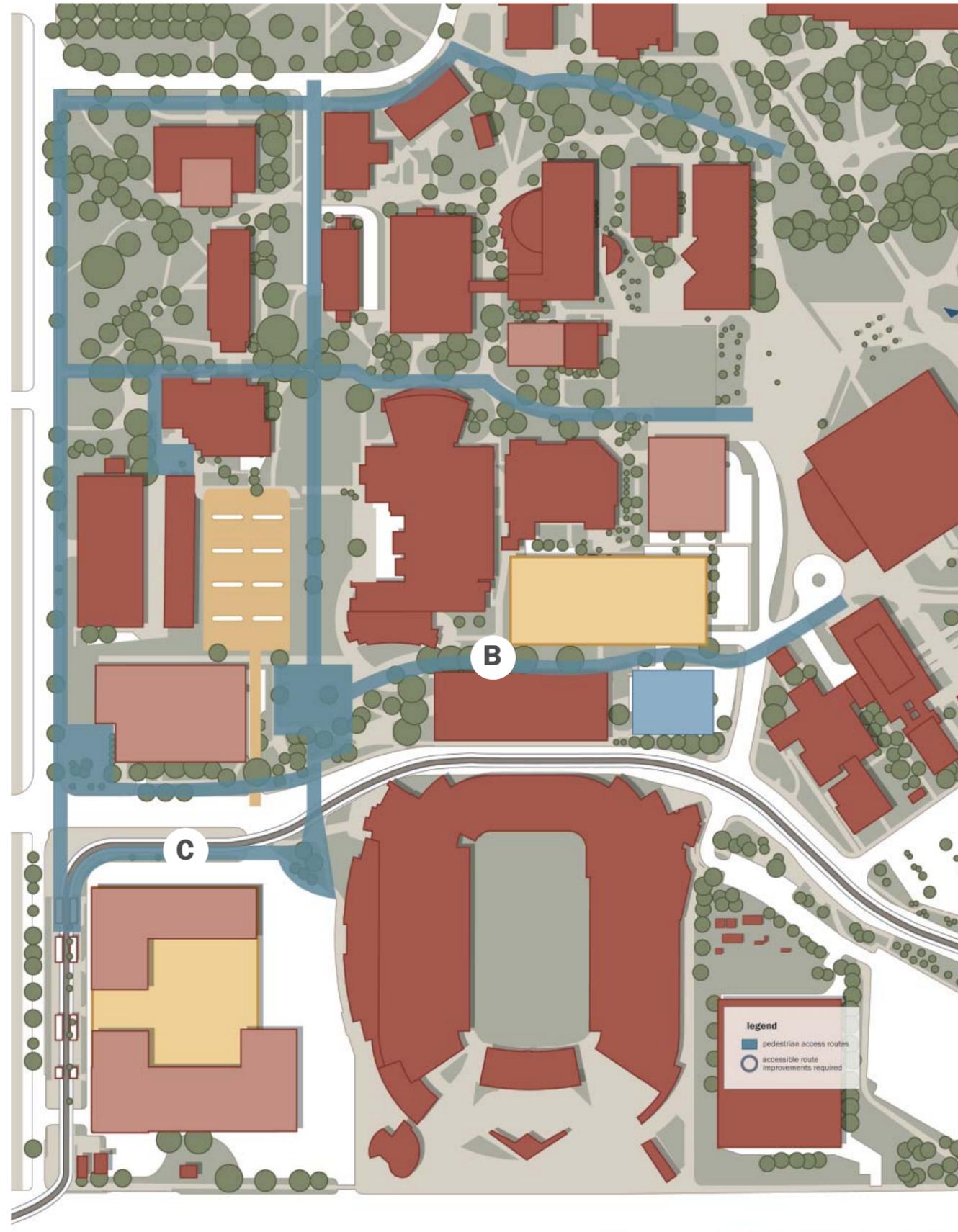
East-West Pedestrian Boulevard - From the Stadium Tunnel to the Marriott Library

B. Also a pedestrian boulevard, this main walk through campus should provide a pedestrian connection from the Stadium tunnel to the Marriott Library area. This will address the missing pedestrian link through the parking lot south of the Marriott Center for Dance. Like the north-south boulevard, this boulevard should address the pedestrian scale, with trees, lights, and appropriate placement of street furnishings. This primary pedestrian walk will add a sense of cohesiveness and legibility to the precinct and campus.

Pedestrian Boulevard from TRAX to Stadium Tunnel

C. While this alignment of this boulevard is not scripted, the University needs to carefully consider the path of the pedestrian arriving via TRAX. The boulevard connection from TRAX needs to be a comfortable, safe experience from the time the pedestrian leaves the TRAX platform until he/she reaches the stadium, the tunnel, or the intersection of University Street and South Campus Drive.

Great opportunities exist to create a ceremonial approach from TRAX to the stadium, for those arriving for games or other stadium events. This same ceremonial approach could extend from the stadium to the tunnel, providing pedestrians with an amazing experience along the way. Adjacent café space, or store frontage from the commercial space could create continuity and infuse this boulevard with energy and interest.



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Looking east toward Marriot Library along the Science Yard.



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SOUTH WEST CHILLER PLANT

The current direction for the southwest chiller plant is to locate the equipment in a proposed parking structure east of the Eyring Chemistry Building and south of the Marriot Center for Dance.

This chiller plant will be a minimum of two stories, and up to three stories in height and should be displayed to the campus as an icon of power and service for the campus.

The images to the right demonstrate a couple of recent visible and beautiful chiller plant facilities that have been constructed on campuses. The transparency and building design promote interaction with the systems and engage the campus community in a fun and unique way.



Rendering of OSU Chiller Plant by Ross Barney Architects.



University of Chicago South Campus Chiller PLant by Murphy Jahn

University of Utah Precinct Plan Transportation Study

TECHNICAL MEMORANDUM

APPENDIX

To: VCBO
Date: April 24, 2012
From: Preston Stinger and Julie Bjornstad, AICP Fehr & Peers
Subject: **University of Utah Precinct Transportation Study – Law School** UT12-927

The University of Utah (U of U) is completing a Precinct Plan for the southwest portion of the Campus. As part of this plan, the College of Law will be expanded and will impact the current parking lot to the east of the existing College of Law, changing the parking configuration and access and reducing parking capacity. Access to the reconfigured parking lot is undetermined and is the subject of this analysis.

The purpose of this technical memorandum is to document the findings and recommendations regarding proposed access locations for the modified College of Law parking lot. The three access locations analyzed are:

- Option A – access onto South Campus Drive, just east of the underground pedestrian tunnel
- Option B – access onto University Street, just south of the existing College of Law building
- Option C – access onto Presidents Circle at 1400 East
- Option D – one-way entrance from Presidents Circle (Option C), with exit access on South Campus Drive (Option A) or University Street, just south of the existing College of Law building (Option B)

The proposed access locations are shown in Figure 1.

Discovery

Traffic Counts

L2 Data Collection recorded AM and PM peak period traffic counts for Fehr & Peers from 6:00 AM to 8:00 AM and 4:00 PM to 6:00 PM on Tuesday, March 20, 2012 at the following intersections:

- South Campus Drive / Existing Parking Access (approximately 1400 East)
- President's Circle / University Street
- President's Circle / Existing Parking Access (approximately 1400 East)

Traffic counts for South Campus Drive / University Street were taken from the U of U Master Plan, prepared in 2007.

Traffic counts were adjusted to represent volumes for an average day of the year. Traffic volume adjustments were based on daily and monthly adjustment factors published by Utah Department of Transportation (UDOT).

Parking

In addition to the College of Law expansion and modified College of Law parking lot, two other parking structures are proposed that may impact intersections near the College of Law: a parking structure at the Rice-Eccles Stadium (1,125 stalls) and a parking structure at the Library pay lot (900 stalls). The modified College of Law parking lot will have 250 parking stalls.

To determine future traffic volumes attributed to these parking structures, a parking trip rate was calculated using current parking capacity and traffic counts collected for this project, as described above. The calculated parking trip rate was then applied to the proposed parking structures and provided a future background scenario.

Pedestrian System

The West Campus Precinct Plan identifies the primary pedestrian path through the Precinct as a connection between the Stadium TRAX line and the Marriott Library. Secondary pedestrian paths are identified at President's Circle and along the Science Walk. These major pedestrian paths are shown in Figure 2.

Transit System

The College of Law is located near several transit options. Three campus shuttles stop along University Street, Presidents Circle, and South Campus Drive. The Stadium TRAX station is just south of the College and is connected to the College by a crosswalk at South Campus Drive / University Street and a tunnel under South Campus Drive near 1400 East. In addition, a number of Utah Transit Authority (UTA) bus lines serve this section of campus. These transit connections are shown in Figure 2.

Bicycle System

The southwest precinct of campus is a major gateway for bicyclists entering campus. A bicycle lane exists on University Street. A primary bicycle route has been identified at President's Circle and along Union Lawn to Library Plaza. Bicyclists also use sidewalks and pedestrian paths through campus. Bicycle connections are shown in Figure 2.

Traffic Analysis

Analysis Methodology

Level of service (LOS) is a term that describes the operating performance of an intersection or roadway. LOS is measured quantitatively and reported on a scale from A to F, with A representing the best performance and F the worst. Table 1 provides a brief description of each LOS letter designation and an accompanying average delay per vehicle for both signalized and unsignalized intersections. The Highway Capacity Manual 2000 (HCM 2000) methodology was used in this study to remain consistent with "state-of-the-practice" professional standards. This methodology has different quantitative evaluations for

signalized and unsignalized intersections. For signalized intersections, the LOS is provided for the overall intersection (weighted average of all approach delays). For unsignalized intersections, LOS is reported based on the approach with the worst movement.

The software package Synchro was used for this study. Synchro is common traffic modeling software based on procedures outlined in the HCM 2000.

TABLE 1
LEVEL OF SERVICE DESCRIPTIONS

LOS	Description of Traffic Conditions	Signalized Intersections	Unsignalized Intersections
		Avg. Delay ¹ (sec/veh)	Delay ² (sec/veh)
A	<i>Free Flow / Insignificant Delay</i> Extremely favorable progression. Individual users are virtually unaffected by others in the traffic stream.	0 to 10	0 to 10
B	<i>Stable Operations / Minimum Delays</i> Good progression. The presence of other users in the traffic stream becomes noticeable.	> 10 to 20	> 10 to 15
C	<i>Stable Operations / Acceptable Delays</i> Fair progression. The operation of individual users is affected by interactions with others in the traffic stream.	> 20 to 35	> 15 to 25
D	<i>Approaching Unstable Flows / Tolerable Delays</i> Marginal progression. Operating conditions are noticeably more constrained.	> 35 to 55	> 25 to 35
E	<i>Unstable Operations / Significant Delays Can Occur</i> Poor progression. Operating conditions are at or near capacity.	> 55 to 80	> 35 to 50
F	<i>Forced, Unpredictable Flows / Excessive Delays</i> Unacceptable progression with forced or breakdown of operating conditions.	> 80	> 50

1. Overall intersection LOS and average delay (seconds/vehicle) for all approaches.

2. Worst approach LOS and delay (seconds/vehicle) only.

3. Volume to capacity (v/c) ratio, average values.

Source: Fehr & Peers Descriptions, based on *Highway Capacity Manual*, 2000 Methodology (Transportation Research Board).

Level of Service Analysis

Using Synchro software the AM and PM peak hour LOS was computed for the study intersections and proposed access locations. This study analyzed the traffic operations for four scenarios: Future Background, Option A – South Campus Dr. Access, Option B – University St. Access, and Option C – President's Circle Access.

The future background analysis included the two planned parking structures: Rice-Eccles Stadium and the Library pay lot. The future traffic volumes were calculated as described above and are shown in Figure 3. This analysis provides a baseline condition, which can be used to determine impacts, if any, of the three proposed College of Law parking lot accesses.

To analyze Option A, Option B, and Option C, future background traffic volumes were routed through the study intersections based on the location of the proposed access. The resulting traffic volumes for Option A, Option B, and Option C are shown in Figures 4 to 6, respectively.

During the AM and PM peak hours, the three proposed access locations all operate adequately based on LOS standards except for the Option A access, which operates at a LOS E during the PM peak hour. This is due to the heavy pedestrian activity (approximately 300 pedestrians during the PM peak hour) on South Campus Drive. The three proposed access locations all add minimal delay, if any, to the South Campus Dr. / University St. and Presidents Circle / University St. intersections. In some cases, the delay is reduced at these two intersections, due to the rerouting of traffic to the new proposed access locations.

TABLE 1 AM PEAK HOUR LEVEL OF SERVICE SUMMARY ⁵					
Intersection		Future Background	Option A – South Campus Access	Option B – University Ave Access	Option C – President's Circle Access
ID	Location	LOS & Sec/Veh ¹	LOS & Sec/Veh ¹	LOS & Sec/Veh ¹	LOS & Sec/Veh ¹
1	Presidents Circle / University St.	A 9.8	A 9.5	A 9.8	B 10.8
2	Presidents Circle / Existing Parking Access (Option C)	B 10.1	B 10.1	B 10.1	B 10.8
3	South Campus Dr. / University St.	A 8.8	A 8.1	A 8.2	A 8.2
4	South Campus Dr. / Existing Parking Access Entrance	A 8.3	N/A ²	N/A ²	N/A ²
5	South Campus Dr. / Existing Parking Access Exit	B 11.3	N/A ²	N/A ²	N/A ²
A	South Campus Dr. / Option A Access	N/A ³	B 10.7	N/A ³	N/A ³
B	Option B Access / University St.	N/A ⁴	N/A ⁴	B 12.0	N/A ⁴

1. Overall intersection LOS and average delay (seconds/vehicle) for the signalized intersections and worst movement LOS and average delay for the unsignalized intersections.
 2. This intersection only exists during the future background scenario.
 3. This intersection does not exist during the Option A analysis.
 4. This intersection does not exist during the Option B analysis.
 5. Option D was not analyzed for traffic operations due to the similar, and likely better, results that would occur compared to the other evaluated options.
 Source: Fehr & Peers, April 2012.

TABLE 2 PM PEAK HOUR LEVEL OF SERVICE SUMMARY ⁵					
Intersection		Future Background	Option A – South Campus Access	Option B – University Ave Access	Option C – President's Circle Access
ID	Location	LOS & Sec/Veh ¹	LOS & Sec/Veh ¹	LOS & Sec/Veh ¹	LOS & Sec/Veh ¹
1	Presidents Circle / University St.	B 10.9	B 10.6	B 10.9	B 10.8
2	Presidents Circle / Existing Parking Access (Option C)	B 10.3	B 10.3	B 10.3	B 12.5
3	South Campus Dr. / University St.	B 12.3	B 11.9	B 11.6	B 11.6
4	South Campus Dr. / Existing Parking Access Entrance	B 10.9	N/A ²	N/A ²	N/A ²
5	South Campus Dr. / Existing Parking Access Exit	D 26.9	N/A ²	N/A ²	N/A ²
A	South Campus Dr. / Option A Access	N/A ³	E 47.0	N/A ³	N/A ³
B	Option B Access / University St.	N/A ⁴	N/A ⁴	C 15.0	N/A ⁴

1. Overall intersection LOS and average delay (seconds/vehicle) for the signalized intersections and worst movement LOS and average delay for the unsignalized intersections.
 2. This intersection only exists during the future background scenario.
 3. This intersection does not exist during the Option A analysis.
 4. This intersection does not exist during the Option B analysis.
 5. Option D was not analyzed for traffic operations due to the similar, and likely better, results that would occur compared to the other evaluated options.
 Source: Fehr & Peers, April 2012.

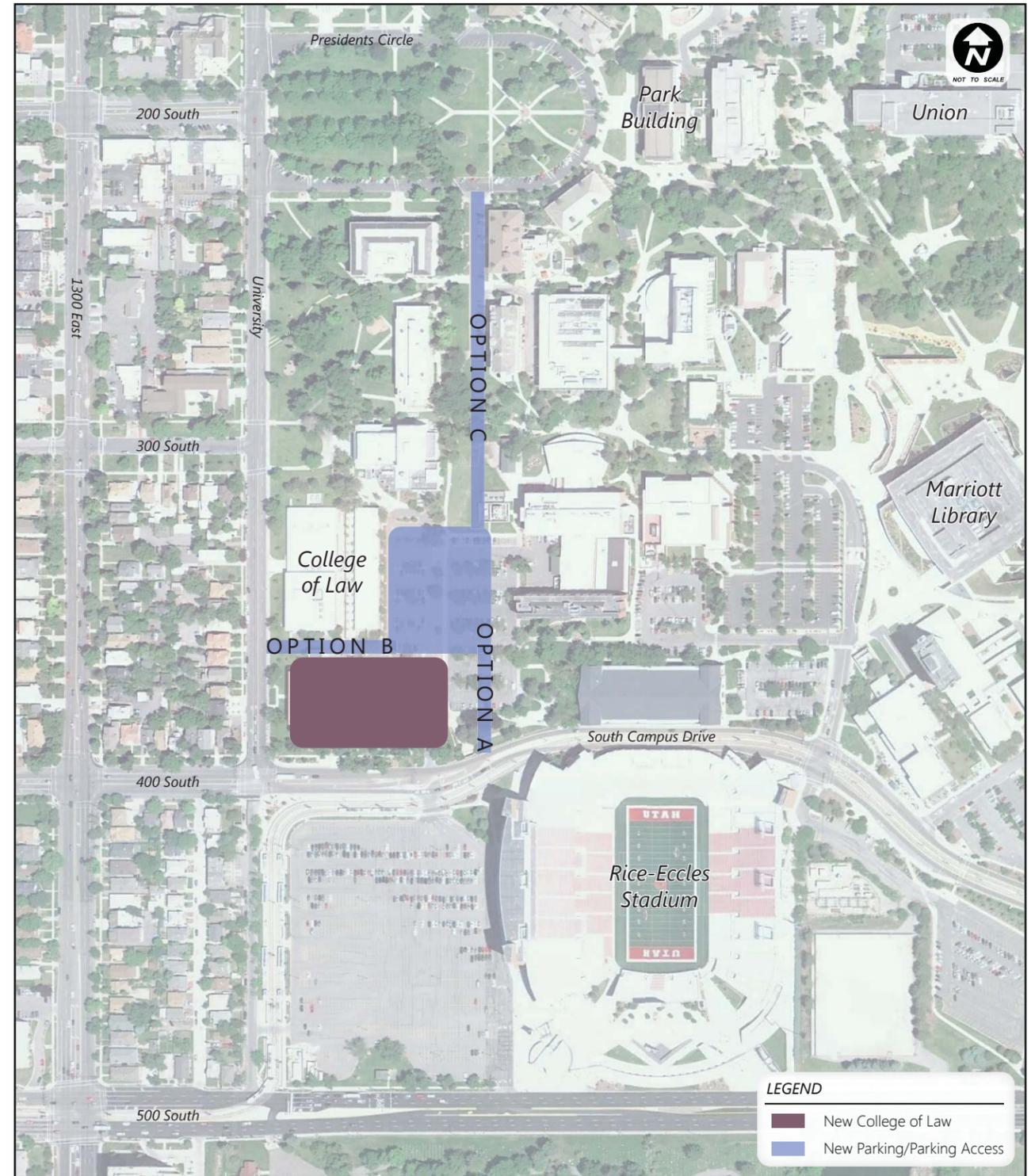
Conclusions and Recommendations

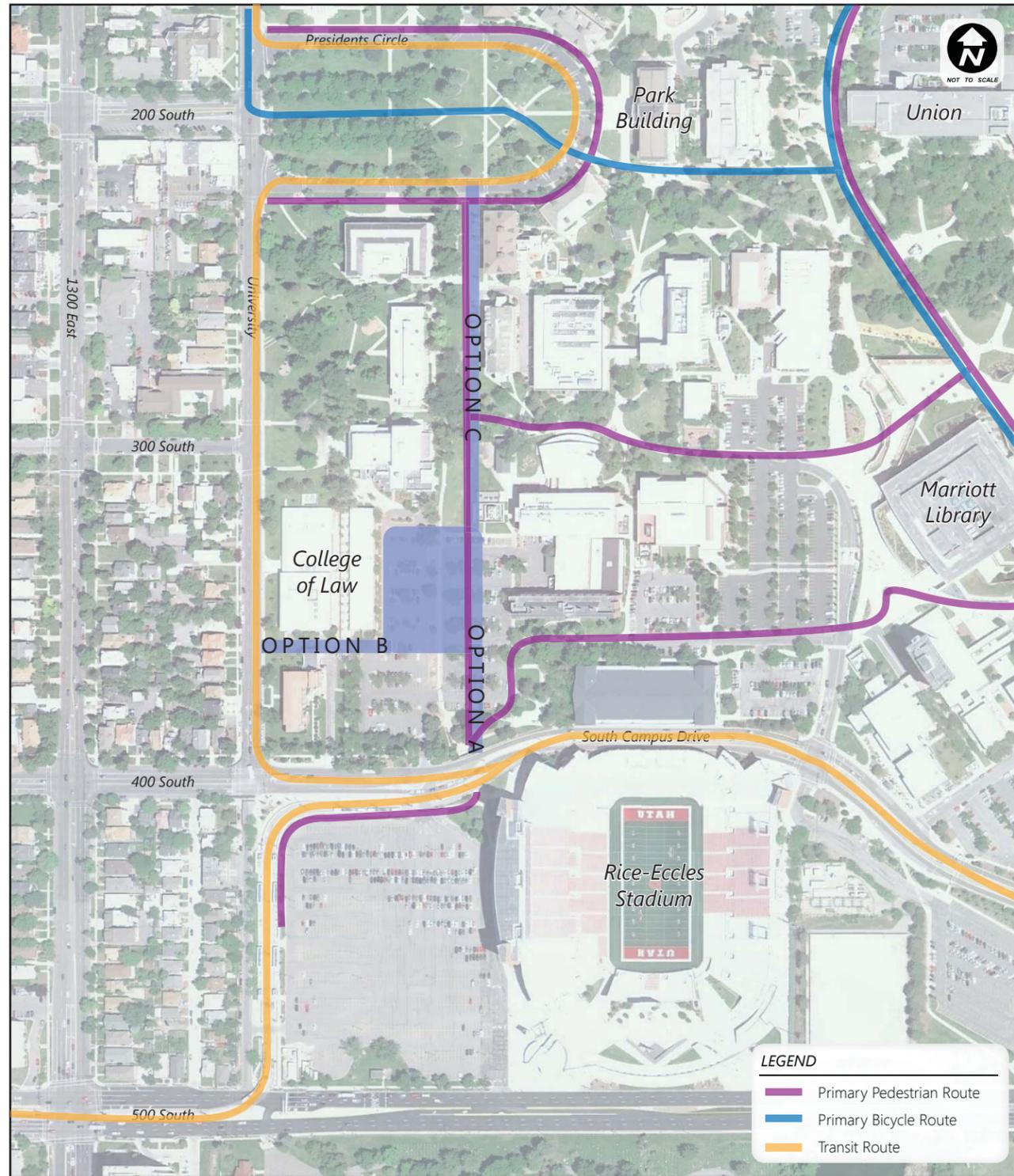
The criteria used to compare the three parking access options included impacts to traffic, pedestrians, bicyclists, and transit. Table 3 illustrates the advantages (identified by a + sign) and disadvantages (identified by – sign) of each site for each analysis criteria.

TABLE 3 ALTERNATIVE COMPARISON				
Impact	Option A South Campus Access	Option B University Street Access	Option C Presidents Circle Access	Option D Hybrid Option
Vehicular	<ul style="list-style-type: none"> + With the geometric configuration on South Campus Dr. this access would operate as a right-in right-out (RIRO) access, reducing the number of conflict points between vehicles - RIRO access may create out-of-direction travel for vehicles - May increase pedestrian/automobile conflict points from pedestrians accessing tunnel to traverse South Campus Dr. - Would need to acquire a new access permit from UDOT 	<ul style="list-style-type: none"> + Would operate as a full access (ingress and egress) - The southbound left-turning movement is a shared through movement, which could potentially increase rear-end crashes - Southbound left-turning vehicles at South Campus Dr. / University Ave. may queue back to Option B access, potentially blocking vehicles from entering or exiting the access 	<ul style="list-style-type: none"> + With President's Circle being a one-way street this access would operate as a RIRO access, reducing conflict points between vehicles - Would require further driving distance from access entrance to parking lot compared to Option A and Option B - Would increase traffic on President's Circle - Will increase pedestrian/automobile conflicts due to multiple crosswalk locations throughout President's Circle 	<ul style="list-style-type: none"> + An exit on South Campus Drive would need to operate as a right-out access, reducing the number of conflict points between vehicles - Entrance from Presidents Circle would require further driving distance to parking lot entrance compared to Option A and Option B - An exit on South Campus Drive would need to acquire a new access permit from UDOT
Pedestrian	<ul style="list-style-type: none"> - Parking access is east of underground pedestrian tunnel, so will increase pedestrian/automobile conflicts at the sidewalk entering the tunnel 	<ul style="list-style-type: none"> + Avoids major pedestrian routes - Possible conflicts with pedestrians along eastern sidewalk on University Street, especially transit users - Would disrupt pedestrian access from South Campus to the existing Law plaza 	<ul style="list-style-type: none"> + Sidewalk next to 1400 East - Possible increase in pedestrian/vehicle conflicts at Presidents Circle, a high pedestrian area. Will increase pedestrian/automobile conflicts due to multiple crosswalk locations throughout President's Circle 	<ul style="list-style-type: none"> + Sidewalk next to 1400 East - An exit on South Campus Drive would be east of underground pedestrian tunnel, increasing pedestrian/automobile conflicts at the sidewalk entering the tunnel - An exit on University would have possible conflicts with pedestrians along eastern sidewalk on University Street,

TABLE 3 ALTERNATIVE COMPARISON				
				especially transit users, as well as disrupting pedestrian access from South Campus to the existing Law plaza
Bicycle	<ul style="list-style-type: none"> - Parking access is east of underground pedestrian tunnel, so may increase bike/automobile conflicts - Parking access is closer to curve in road – may present sight distance issues for bicyclists 	<ul style="list-style-type: none"> - Possible conflicts with bicyclists on northbound University Street 	<ul style="list-style-type: none"> - Primary bicycle route runs along existing access road 	<ul style="list-style-type: none"> - Primary bicycle route runs along 1400 East - An exit on South Campus may increase bike/automobile conflicts as access is east of underground pedestrian tunnel - An exit on South Campus is closer to curve in road and may present sight distance issues for bicyclists - An exit on University Street may have possible conflicts with northbound bicyclists
Transit	<ul style="list-style-type: none"> + With a RIRO access there are no conflicts with transit 	<ul style="list-style-type: none"> - Access is near transit bus stop, possible conflicts with stopping/starting buses and decreased visibility + However, buses at stop may provide necessary gaps for vehicles to turn onto University Street - Bus stop could be potentially be relocated further to the north to reduce the above mentioned conflicts 	<ul style="list-style-type: none"> - Would increase automobile traffic along Presidents Circle, possibly increasing delay for transit vehicles 	<ul style="list-style-type: none"> + With a right-out access on South Campus, there are no conflicts with transit - An exit on University Street is near transit bus stop and may result in possible conflicts with stopping/starting buses and decreased visibility + However, buses at stop may provide necessary gaps for vehicles to turn onto University Street

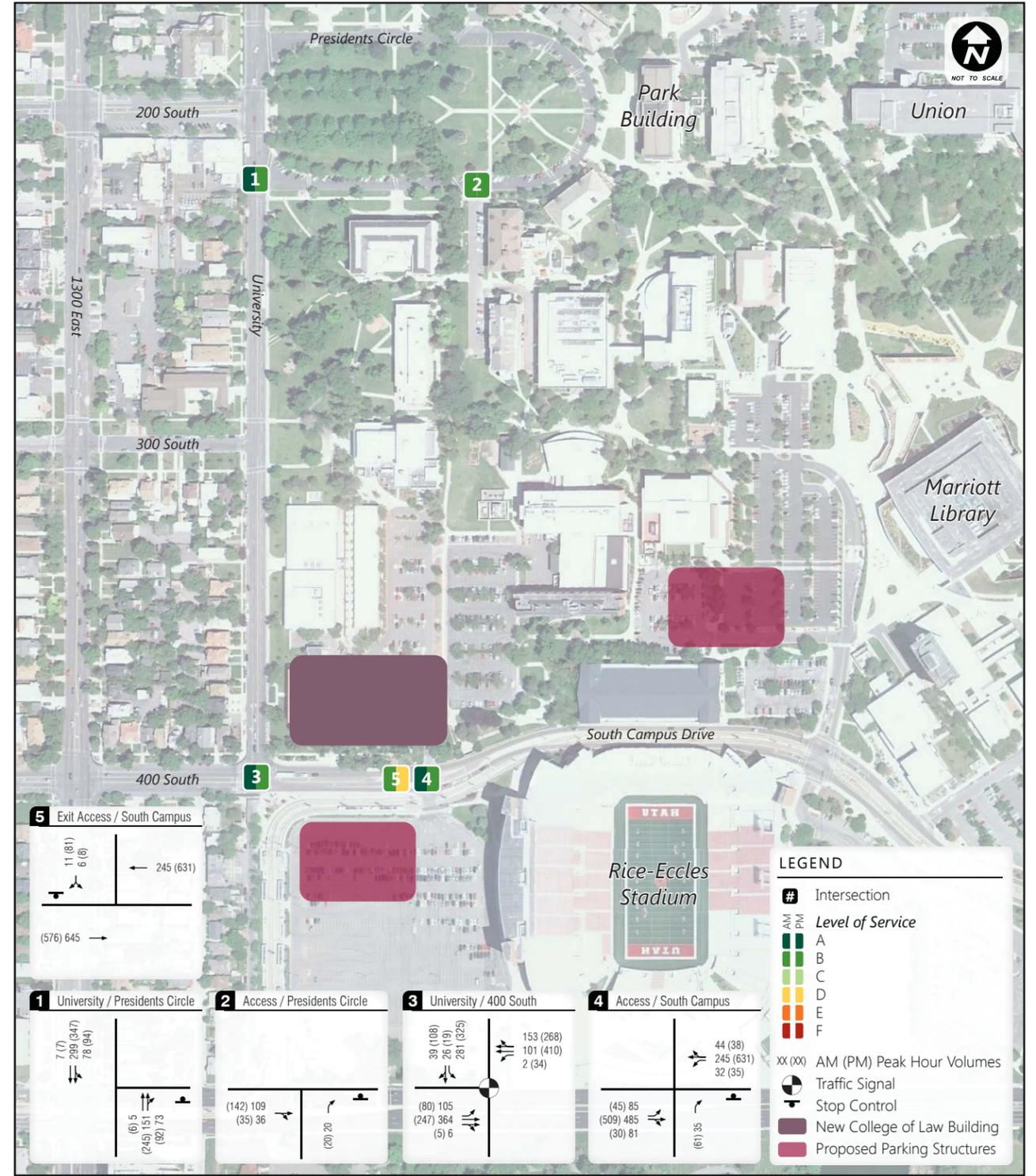
Based on the multi-modal transportation alternatives analysis and comparison, the advantages and disadvantages of each option were weighed. Option C is the least preferred based on the added traffic and pedestrian conflicts on Presidents Circle. Options A, B, and D are similar in the amount of impacts to vehicles; however, Options B and D allow for greater vehicular access and less impacts to pedestrian facilities and movements.





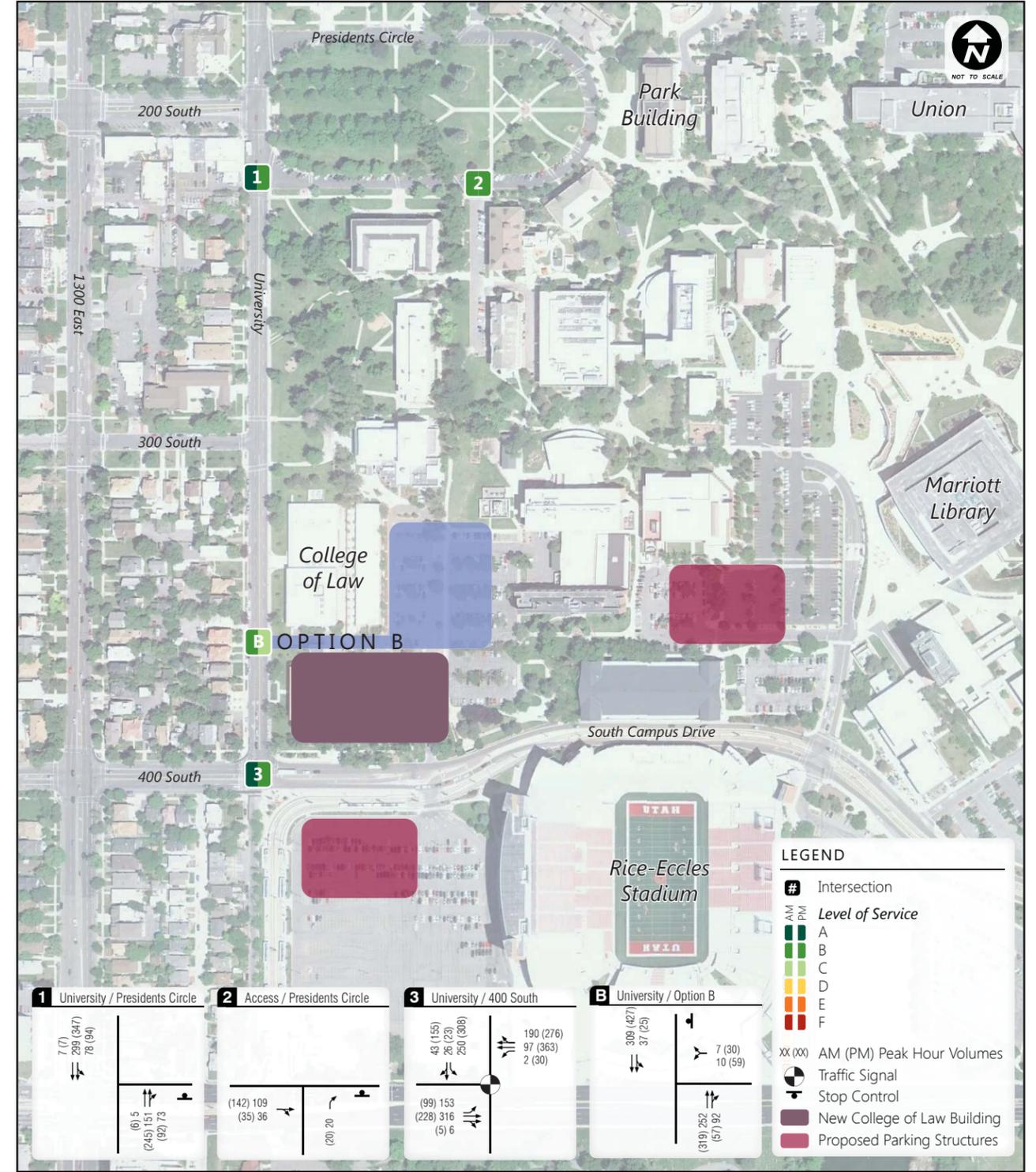
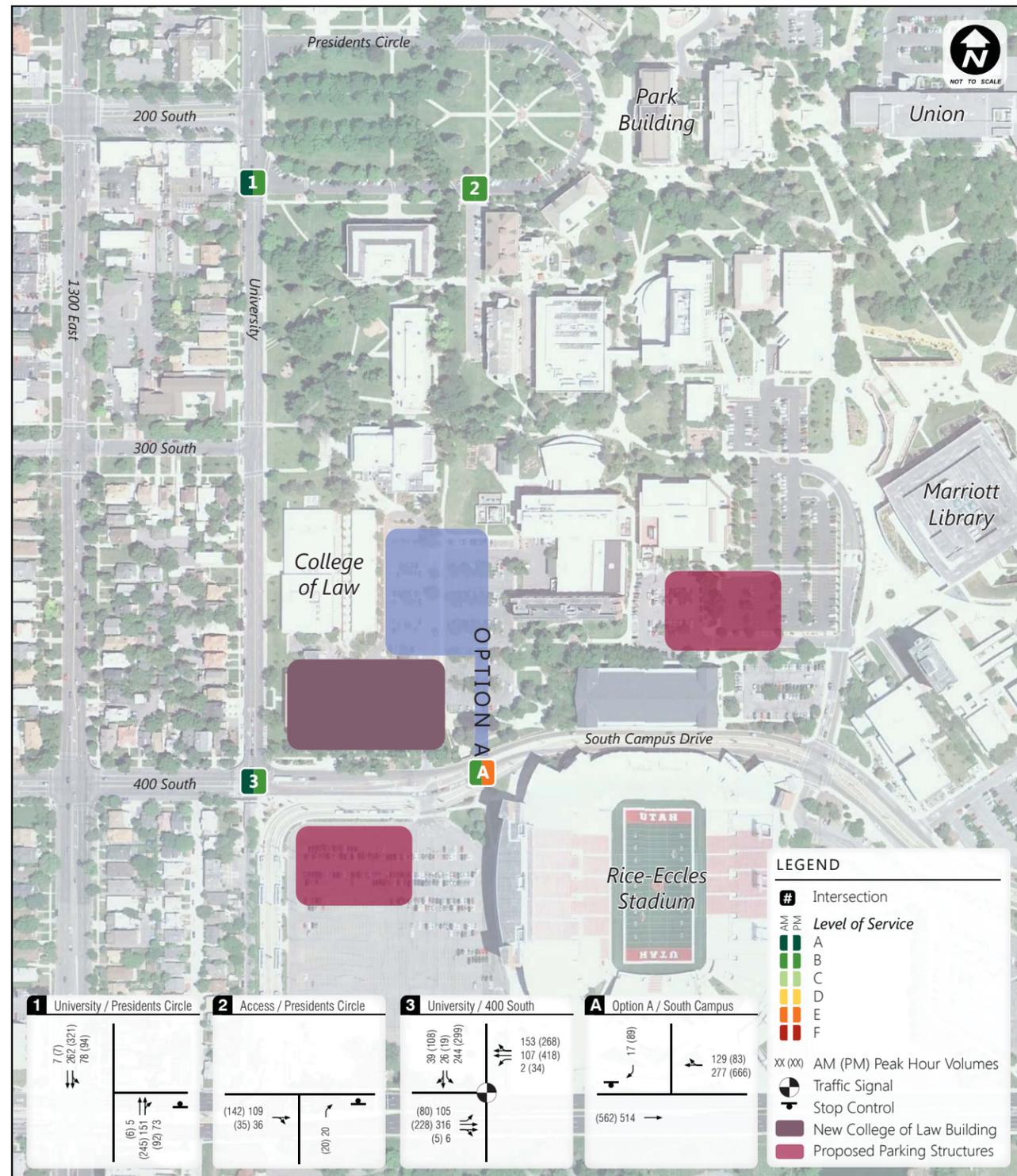
UNIVERSITY OF UTAH PRECINCT STUDY
Connections

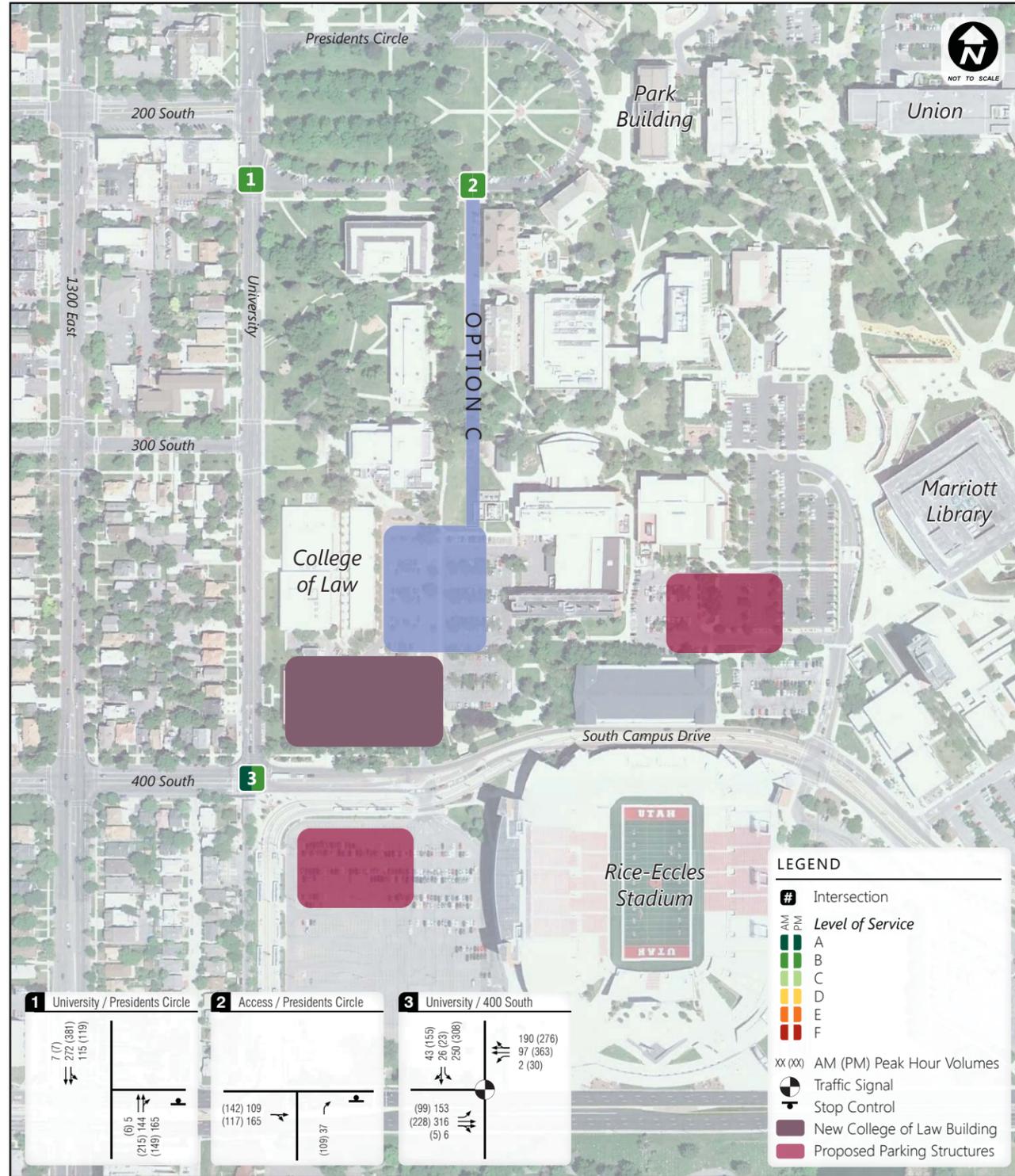
FIGURE 2



UNIVERSITY OF UTAH PRECINCT STUDY
Background Future Weekday AM and PM Peak Hour Conditions

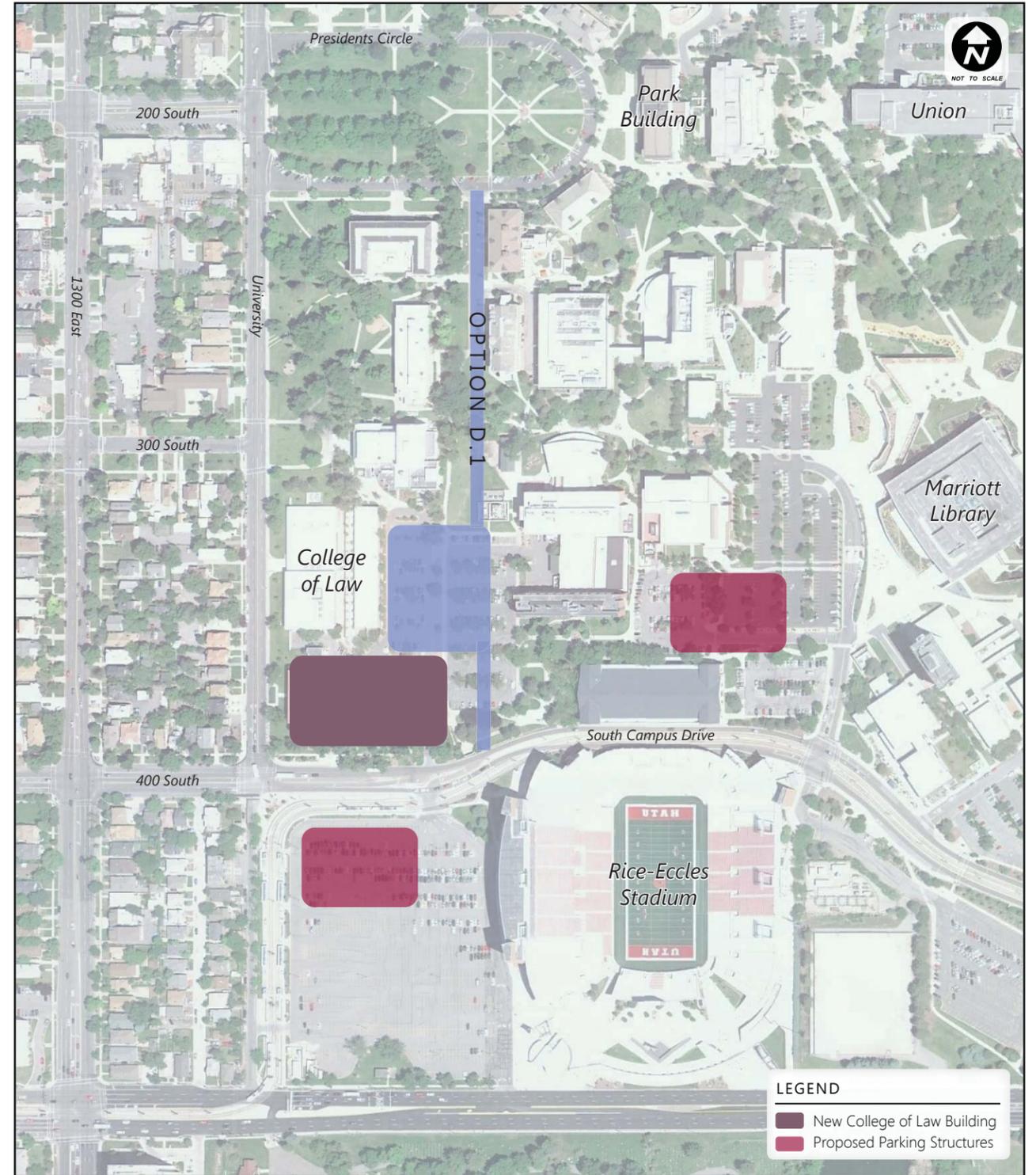
FIGURE 3





UNIVERSITY OF UTAH PRECINCT STUDY
Option C Weekday AM and PM Peak Hour Conditions

FIGURE 6



UNIVERSITY OF UTAH PRECINCT STUDY
Option D.1 Weekday AM and PM Peak Hour Conditions

FIGURE 7

