



The University of Utah
HSC Campus Master Plan Update

DECEMBER 20, 2013



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ARCHITECTS

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REVIEW SIGNATURES

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_____ Joseph R. Harman	Associate Director, Construction Project Delivery	_____ Date
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_____ Tami S. Cleveland	Planner/Architectural Project Manager, Campus Planning	_____ Date

We have reviewed the

University of Utah HSC Campus Master Plan Update

and warrant that it adequately represents our request for a master plan to fulfill our mission and programmatic needs. All appropriate parties representing the University have reviewed it for approval.

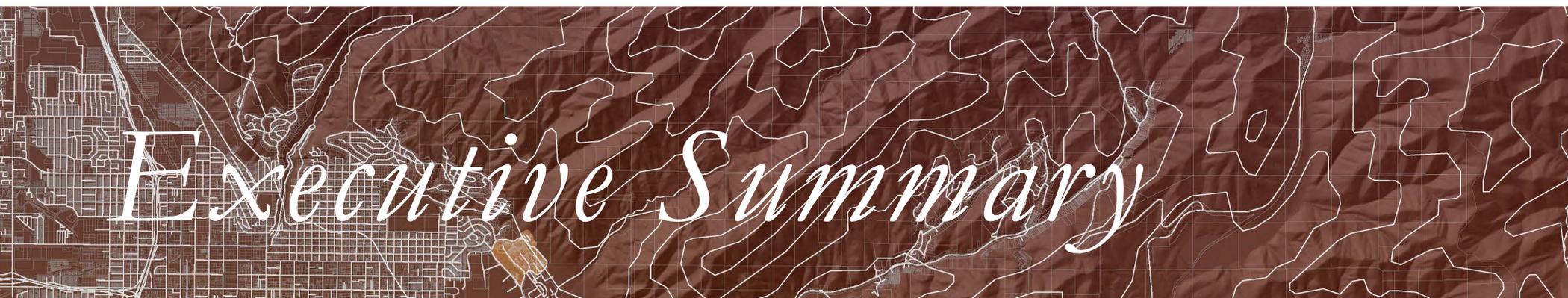
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Table of Contents

	Review Signatures		
	Executive Summary		
	Introduction		
	Purpose		
	Process		
	Master Plan Update Steps		
	Guiding Principles		
	Discovery & Analysis		
	Master Plan Update		
	Transformative Projects		
	Implementation		
1	Introduction		
	Purpose		
	Process		
	Master Plan Update Steps		
2	Vision		
	Guiding Principles		
3	Discovery & Analysis		
	Introduction		
	Findings		
	HSC Campus Setting		
	Previous Planning		
	MED Preferred Site		
	HSC Campus Facility Survey		
4	Growth Projections		
	Introduction		
	Future Space Needs		
	Activity Based Space Model		
5	Plan Elements		
	Master Plan Update		
	HSC Campus Precincts		
	Land Use		
	Open Space		
	Campus & Community		
	Pedestrian Circulation		
	Bicycle Circulation		
	Vehicular Circulation		
	Transit and Parking		
	Architectural Height and Massing		
	Infrastructure		
	Sustainability		
6	Transformative Projects		
	Introduction		
	The MED		
	Knowledge Center		
	Circular Road		
	Bridge/Tunnel		
	Research Corridor		
7	Implementation		
	Implementation		
8	Acknowledgements		
	Acknowledgements		
	Consultants		

- 9 **Appendix (Available as Electronic Files)**
 - A Vision Session Material
 - B Development Concepts
 - C Presentations (Steering Committee,
Department Chair, Board of Trustees &
President's Cabinet)
 - D Space Model Comparison Study
 - E Project Meeting Reports
 - F Existing Building 521 Floor Plan Analysis
 - G Buildings 521 & 531 Space Lists



Executive Summary

Truly memorable college campuses have an innate sense of place, organization and vitality related to the mission and purpose of each campus zone. The HSC research, academic and clinical zones differ in the degree to which they are clearly defined and served by a recognizable core, but all would benefit from a strengthening of these features.

Executive Summary

Introduction

Several recent studies have confirmed that the School of Medicine building (SOM), located in the crowded center of the University of Utah Health Sciences Center campus, has reached the end of its useful life and must be demolished and replaced. Due to the significant and far-reaching impact this will have on the HSC campus, the University has seen it as an opportunity to examine and update the entire HSC campus master plan.

While the HSC campus has many significant features, it lacks a sense of coherent master planning found on the best campuses nationwide. Overall, the HSC demands a “heart” of campus that would be a clear center, a vibrant, lively, social and active core area. The placement and organization of the Medical Education and Discovery building (the MED) which will replace the SOM, offers an opportunity to address these elements, through its location, organization and other master plan enhancements.

Purpose

The University of Utah undertook an extensive master planning process in 2008 which resulted in planning direction for the entire campus. The master plan update was intended to build upon that planning foundation, with a more detailed look at this specific area of the campus. Specific goals of the master plan update included:

- Identify and evaluate potential sites for the MED, and determine which is the preferred site
- Identify issues that exist on the campus as a result of its organic and unplanned growth over time, and propose mitigations or solutions within the master plan framework
- Analyze and take advantage of the opportunities for the campus provided by the MED, especially in light of its role as a campus heart that fosters collaboration and interaction among all community members.



Process

The master plan update took place from January to December of 2013 concurrently with a facility study of the School of Medicine building (Building 521).

A Working Committee had direct involvement throughout, meeting with the consultant team on a bi-weekly basis and shaping the development of the master plan.

A Steering Committee comprised of Health Sciences, School of Medicine and Campus Facilities administrators filled the decision-making role.

School of Medicine department chairs participated in the master plan update process, as did entities such as Campus Commuter Services and Parking and Transportation on an as-needed basis. The study process included presentations to the Board of Trustees and the President's Cabinet.

Meeting reports were generated by the consultant team. Information was shared within Health Sciences through postings on the Health Sciences internal website.



Master Plan Update Steps

Step 1 – Start Up

Background information from the University was used to formulate a project knowledge base.

Step 2 – Discovery

The team formulated guiding principles that would shape master plan development. The consultants examined campus conditions to understand its issues and opportunities, and evaluated potential sites for the MED.

Step 3 – Concepts

Master plan options were developed, evaluated and modified, until a master plan direction was chosen.

Step 4 – Refinement

The team refined the master plan concept and studied its impacts in more depth.

Step 5 – Documentation

As project decisions were finalized, the consultant team documented the master plan update process and outcome.



The vision and guiding principles established for the Health Sciences Center Campus Master Plan Update build upon “The Vision” in the 2008 Campus Master Plan. The Vision guides the development of the University of Utah campus as a whole; its seven planning principles are reproduced below.

The Vision 2008 Campus 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 services.
- Capitalize on the natural landscape setting.
- Leaders in environmental stewardship.

Guiding Principles

A visioning session conducted during the first Steering Committee meeting resulted in guiding principles that were used to guide master planning direction and decisions. The School of Medicine replacement facility is referred to by its new name, the MED – Medical Education and Discovery building.

As a transformative project identified in the 2008 Campus Master Plan, the new MED and future HSC campus will:

Create vitality centered around a true heart of campus.

The MED, with the adjacent Knowledge Center and exterior open space, will establish a vibrant heart for the HSC campus. Its iconic and inspiring presence, similar to Presidents Circle on the University main campus, will be a landmark that eases wayfinding and orientation. Located at the apex of the campus academic, research and clinical zones, it will provide spaces and functions that foster collegiality among all members of the HSC community.

Integrate informal spaces for gathering and learning.

As the “major” heart for the HSC campus, the MED will provide informal gathering space that welcomes the entire HSC community. Gathering areas will be offered in a variety of sizes and atmospheres to meet differing needs, from informal meetings to dining to social activity. Informal gathering and learning space will also be provided in “minor” hearts located within each of the three campus zones: clinical, academic and research.

Promote interdisciplinary learning between all health care programs.

The MED will provide space for educational programs such as a simulation center that encourage a cross-disciplinary team approach. Programs will implement cutting-edge technology that optimizes learning and patient care.

Be energized around an easily accessed transportation node.

The HSC campus will move toward becoming a “campus without cars”. The new circular road will facilitate shuttle use for access to the campus interior. Pedestrian connections between the Medical TRAX Station and the campus interior will be improved. Service traffic and parking will be planned for minimal impact on the campus pedestrian experience.

Have a well-planned sustainable campus utility infrastructure.

The replacement of old, inefficient facilities with those that are highly efficient and sustainable will promote campus sustainability goals and support strategic utility and infrastructure improvements.

Overcome challenging topography and “missing links” by an enhanced network of connections and actively used open space.

The campus pedestrian experience will be transformed by improvements that create an organized and interconnected pathway system, with strategically placed open space and strong visual connections to the natural environment.

Enable a pedestrian and bike friendly culture through a compact academic campus.

Improvements to roadways and pedestrian paths will improve campus bicycle accessibility. New buildings will include amenities that support active lifestyles.

Enable a stress free and personalized patient experience that inspires confidence and trust.

Transportation and access improvements will ease patient wayfinding. Patient care will be optimized by discoveries resulting from campus interdisciplinary collaboration.

Have easily identifiable gateways.

The campus will welcome visitors with easily identifiable campus entry points and clear wayfinding.

Discovery & Analysis

The planning consultants analyzed past studies and campus conditions in order to gain an understanding of existing campus issues and opportunities. Findings included the following:

Issues

Overall Campus Organization. Prior to 2008, development on the campus occurred to a large degree without an overall plan. The campus layout is difficult to understand, with little sense of hierarchy, and few clues for orientation.

Campus Heart or Center. The campus lacks an exterior area that provides a focal point or sense of place. The campus also lacks facilities or amenities to bring the campus community together for casual or social purposes.

Pedestrian Access. Pedestrian pathways on the campus are sporadic and ill-defined. Some paths travel through surface parking and conflict with vehicle paths.

Vehicular Access. The campus roadway system is unorganized and confusing. Some roads are discontinuous or pass through parking areas.

Pedestrian/Transit Connections. Pedestrian to transit connections are circuitous and confusing. Bus and shuttle routes do not extend into the campus core.

Natural Environment. The campus does not take advantage of the outstanding natural environment that surrounds it.

Opportunities

Campus Zones. Physical development of the campus has begun to form functional zones based on the three primary HSC missions: research, academic and clinical. The zones form a good base for campus organization and should be strengthened by future development.

MED Preferred Site

An important element of the master plan update was determining the preferred site for the new MED. The team identified six possible sites, which were evaluated against criteria established for that purpose. Consideration was given to each site's potential to fulfill the vision and guiding principles expressed by project stakeholders. Sites that were considered included:

- School of Medicine existing site
- Dumke Building
- North of College of Nursing
- West of hospital & Building 521
- Public Health Peninsula
- Moran expansion site

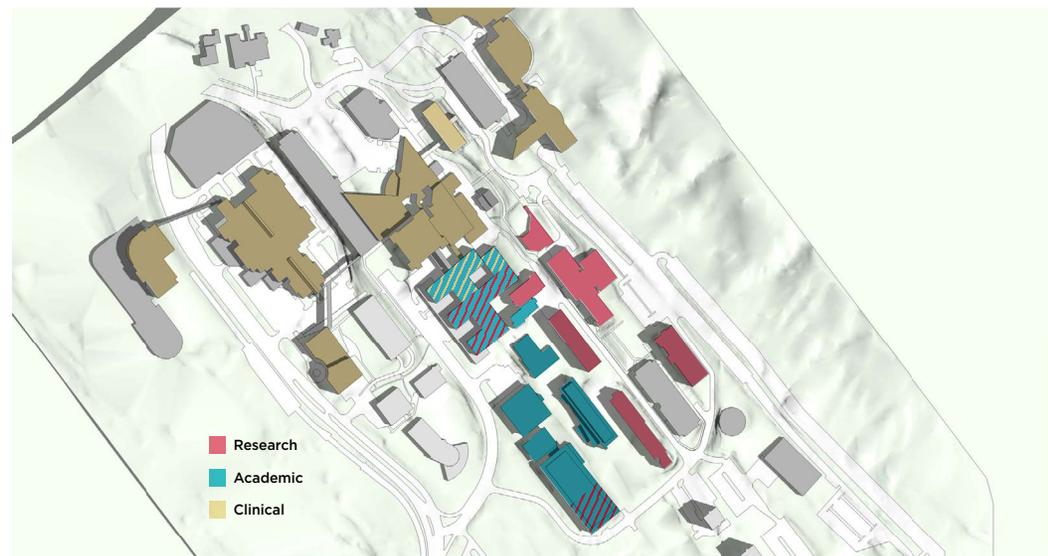
The evaluation process extended over the course of several weeks, with eventual consensus that the site of the existing School of Medicine (Building 521) was the best location for the new MED. The chosen site was seen as the optimal location to fulfill the stakeholder vision of creating a heart of campus that is central to the HSC research, academic and clinical missions.

Short Term Space Needs (2020)

The master plan update included short term space projections that are based on demonstrated facility needs and current facility planning studies. During the study process, planning or pre-planning was underway for these projects:

- Huntsman IV (approx. 220,000 SF)
- AAB/Administrative & Ambulatory Building (up to 100,000 SF)
- A potential new rehabilitation hospital (up to 120,000 SF)
- A central plant expansion (approximately 10,000 SF)
- A new parking structure (800-1,000 stalls)

These projects will impact the overall campus utility infrastructure as well as campus parking availability.



Functional zones, existing HSC campus

**2008 Campus Master Plan
HSC Facility Key**

1. School of Medicine Replacement
2. Moran Eye Center Expansion
3. Ambulatory Care Complex
4. Ambulatory Care Complex
5. Ambulatory Care Complex
6. Ambulatory Care Complex
7. Primary Children's Medical Center
8. University Hospital Expansion
9. Huntsman Cancer Inst., Phase IIB
10. Huntsman Cancer Inst. Phase III
11. Infill - Medical Research Lab
12. Infill - Clinical Facility
13. Infill - Clinical Facility
14. Infill - Medical Research Lab
15. Infill - Medical Research Lab
16. Infill - Medical Research Lab
17. Infill - Medical Research Lab
18. Skaggs Pharmacy Research Bldg.

Master Plan Update

Differences between the 2008 Campus Master Plan and the current master plan update are outlined below.

Circular Road. The master plan update proposes a new circular road that crosses the interior of the HSC campus, connecting with South Medical Drive, East Medical Drive and 1900 East to form a transit-oriented loop.

The MED. The School of Medicine replacement is now identified as the MED. Its proposed location has shifted eastward, directly south of the Hospital, in the location of the large 2008 master planned green space.

Knowledge Center & Plaza. A highly active plaza and below-grade Knowledge Center are part of the new MED complex.

AAB/Administrative & Ambulatory Building (Hospital Expansion). A new building consolidating administrative hospital services, and ambulatory clinical space, is proposed directly west of the Hospital. It is shown with a future connector that will assist and encourage pedestrian travel between the Medical Center TRAX Station and the center of the HSC campus.



2008 CMP Health Sciences Center Master Plan (Source: 2008 CMP)

1900 East Vicinity. The configuration and placement of new buildings in the vicinity of the 1900 East service road, including the Public Health Peninsula, have been modified to accommodate the circular road described above.

Pedestrian Linkages. The master plan update proposes an enhanced pedestrian pathway system, particularly in the east-west direction. This includes:

- Well-defined, landscaped exterior paths
- Enhanced plazas and courtyards
- Pedestrian-accessible atria in new or existing buildings

East Bench. The 2008 CMP proposed several buildings on the east bench, south of the future Huntsman Cancer Center and Institute buildings. These are removed in the master plan update in order to accomplish the following:

- Place new research buildings close to the newly master-planned research heart rather than at the campus periphery
- Restrict construction in the Heritage Preserve east of the campus
- Avoid the high costs associated with constructing in the very rocky subsurface of the east bench

South Medical Drive Vicinity. Modifications shown in the master plan update south of South Medical Drive (east area) include:

- Expansion of the central plant to the west
- A new parking structure is proposed directly west of the central plant expansion

Recent Construction. Several projects have been constructed since 2008, including:

- Pharmacy research building (18)
- Hospital west pavilion (8)
- PCMC Ambulatory Care Complex/parking structure (4 and 6)



Health Sciences Center Campus Master Plan Update: Long Range Plan



Functional zones, HSC Campus Master Plan Update: Long Range Plan (future build-out shown in light tones)

- Existing Buildings
- Long Range Sequence
- Short Range Sequence
- Connective Space

Transformative Projects

1. The MED
2. Knowledge Center
3. Circular Road
4. Bridge/Tunnel
5. Research Corridor

Transformative Projects

Five master-planned projects and elements contribute in a significant way to the transformation of the Health Sciences Center campus.

These transformative projects were developed with the objective of achieving the campus vision as defined by key project stakeholders.

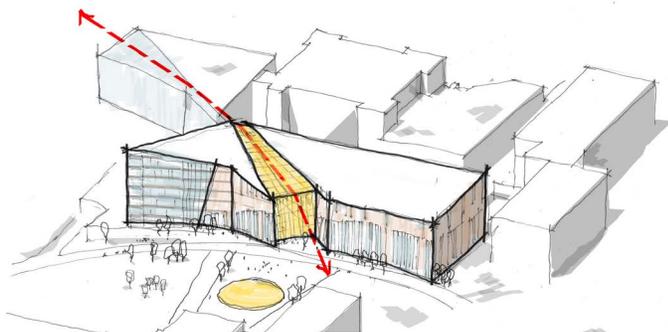


The MED

One of the premises of the Campus Master Plan was to create a magnet for student growth; this is again present in the intention to create a Medical Education and Discovery building that matches and enables the high caliber of education, research and clinical practice that exists at the University of Utah Health Sciences Center.

The MED will strengthen the HSC academic corridor, serving as a formal culmination and visual terminus for the academic promenade. The new building, with its adjacent open plaza and the planned new circular access road, is also a response to the goal expressed by Health Sciences Center leadership to establish a prominent and iconic focal point for the campus.

The new building is planned with its long dimension in the east-west direction, to provide a favorable solar orientation and also to allow good connections with adjacent campus zones: research to the east, clinical to the north and academic to the south. As the building steps up the campus hillside, it will provide internal pedestrian access that eases the walk up and down the steep campus grade.



Several concepts were explored as design approach possibilities. Shown here is one concept based on the notion of the regional mountain landscape.



Exterior approach from the west



University of Chicago, Mansueto Research Library



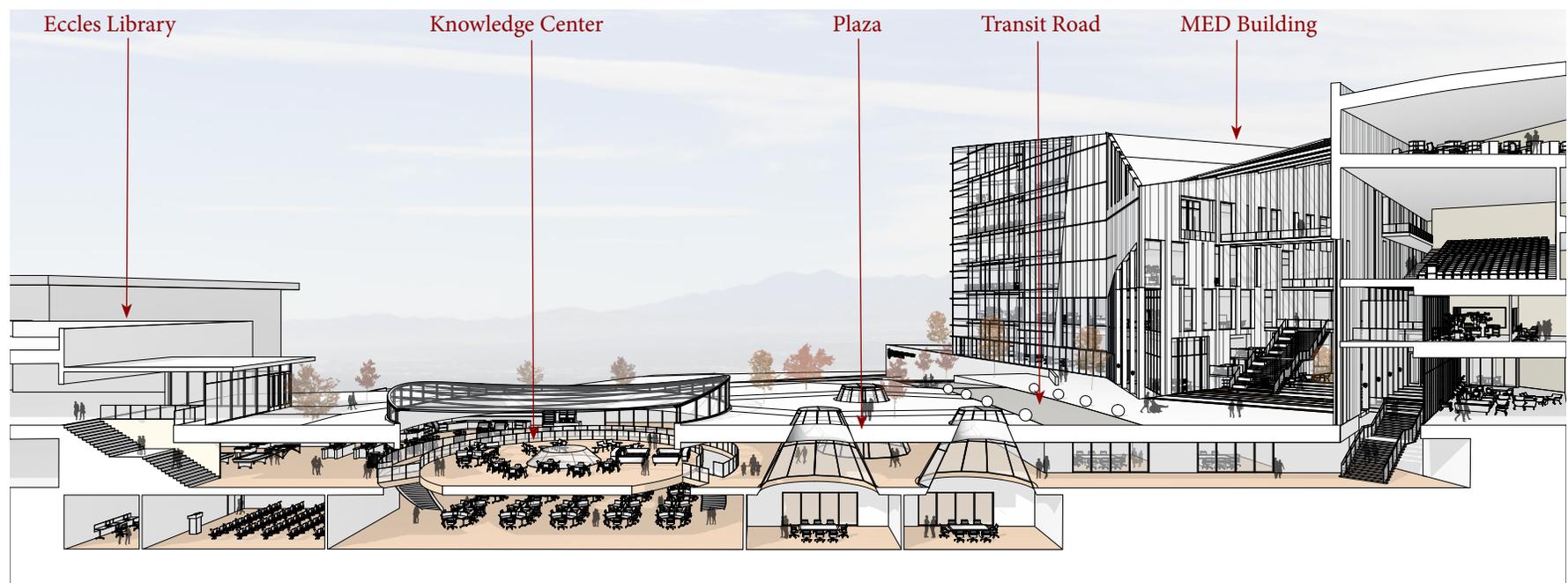
Delft Library

Knowledge Center

The Knowledge Center is an important part of the new MED complex, housing programs that support the access to and use of all forms of information. The building will also contain spaces that welcome and serve all HSC community members for the purpose of formal and informal interaction and collaboration.

The Knowledge Center is ideally situated for these functions and purposes in the plaza south of the MED, a central crossroads which can be easily accessed by all. The center will be constructed below the plaza and, although below grade, will be awash with natural light from skylights and light wells in the plaza.

The Knowledge Center will have a direct below-grade connection northward to the MED and is envisioned to have similar connections with existing or future facilities to the east, south and west. The plaza will contain the primary access point for the center. The entry element could be a transparent form similar to, but smaller in scale than, the glass pyramid which serves as the front door of the Louvre Museum in Paris, leading to the below-grade visitor orientation and ticket space.

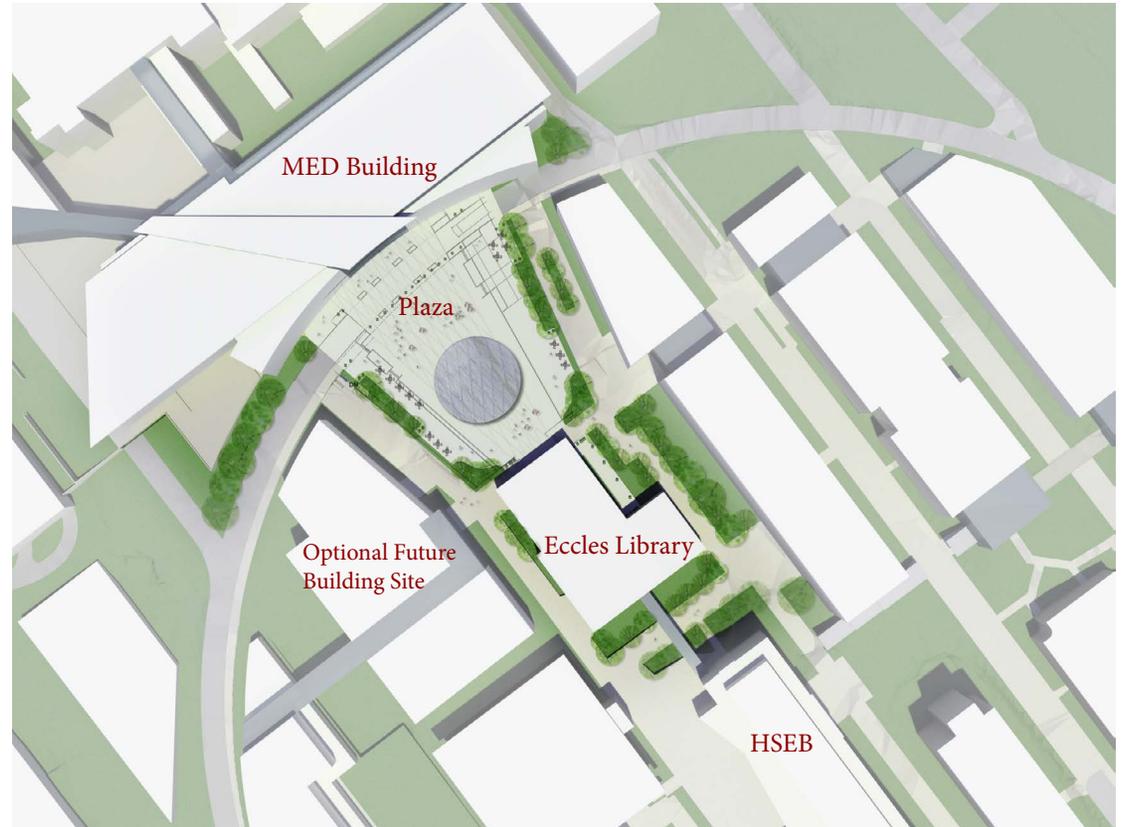


Circular Road

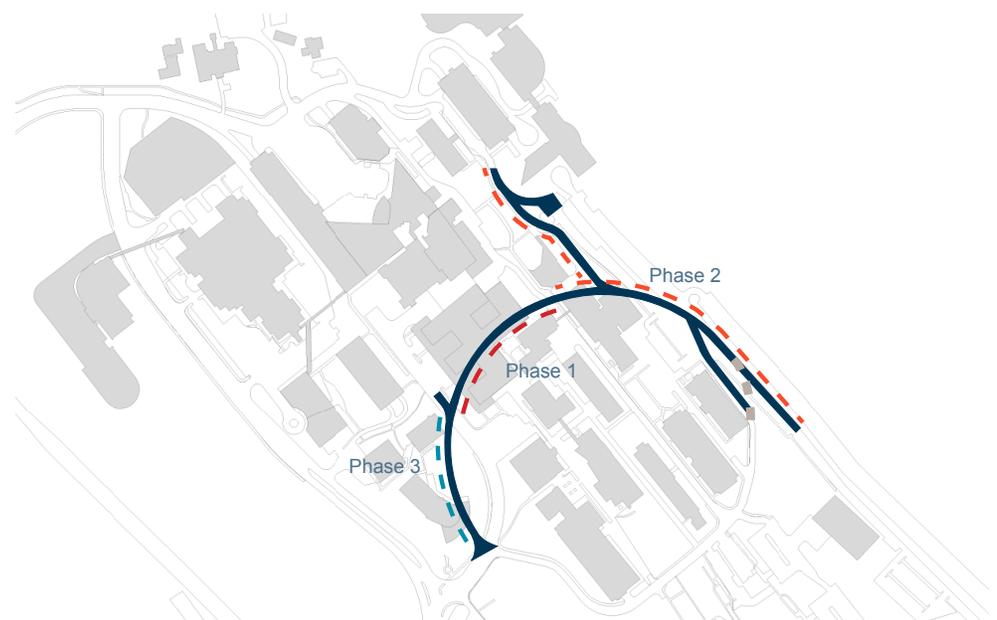
A transformative force for the future direction of the HSC campus, a new circular road has been established that makes a circular route within the HSC campus. It traverses the campus center in front of the new MED, providing access to the hospital to the north and the academic zone to the south.

The purpose of the road is to provide shuttle or bus access to the center of campus, from which pedestrians can easily reach their destinations.

The portion of the road that crosses in front of the MED will be restricted to mass transit vehicles. The design of that roadway section will be integrated with the design of the plaza.



Plan view of Knowledge Center plaza and transit circular road

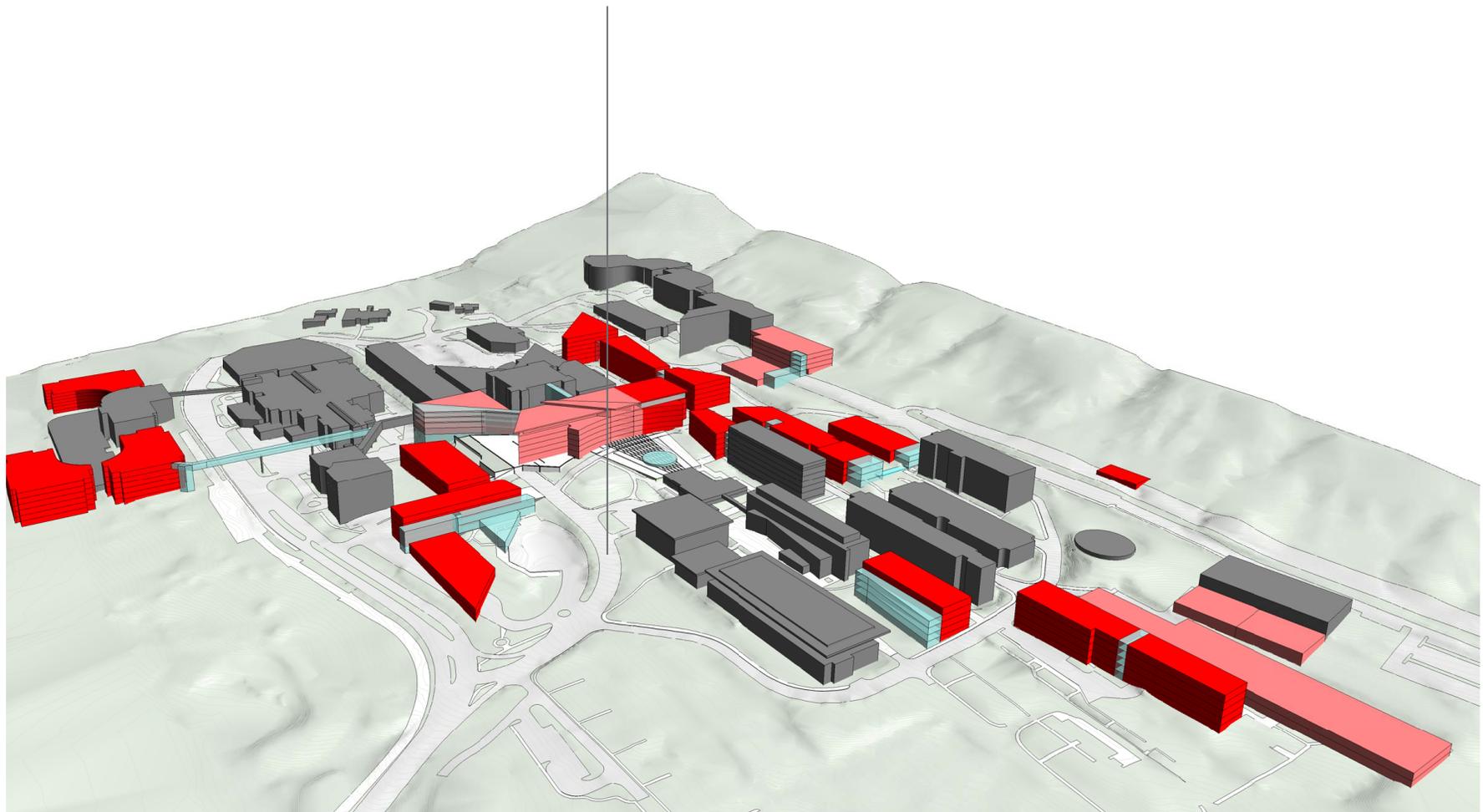


Circular road phasing

Circular Road Options

A longer term option is to complete the westernmost arc of the loop road, below 1900 East. This road segment, and a redesigned intersection at Mario Capecchi Drive, would provide a more gradual slope for a welcoming pedestrian walkway, and a more continuous transit drive. This circular segment alignment would frame the MED more prominently from the western approach as a gateway from the Mario Capecchi entrance to campus.

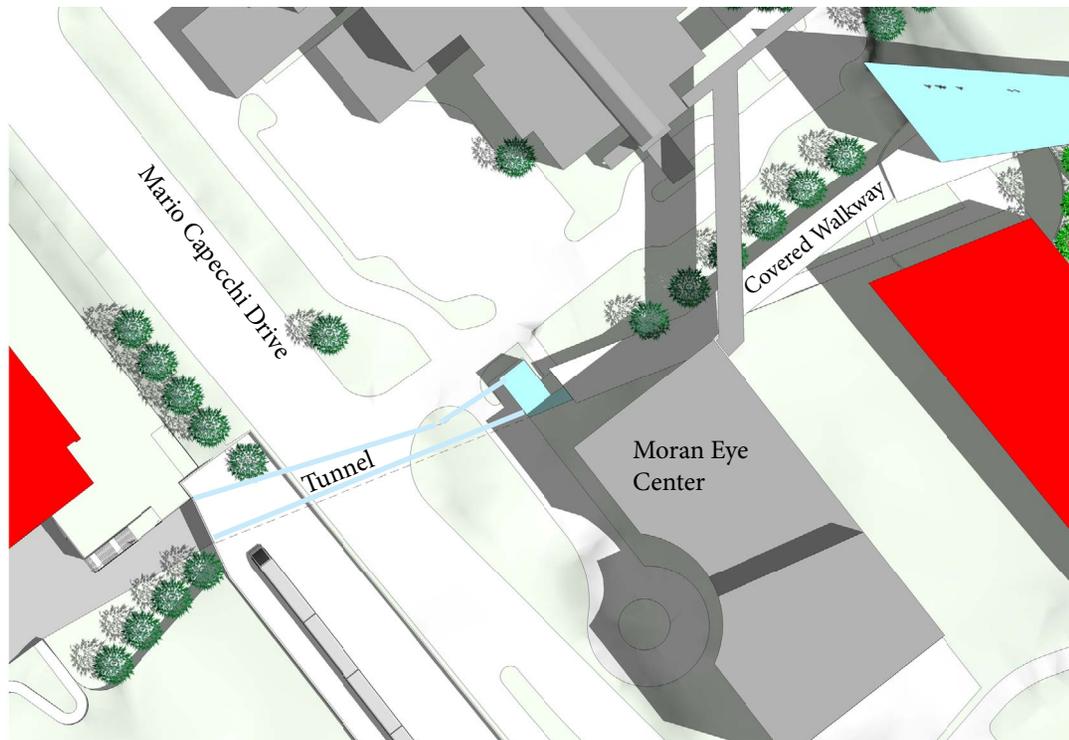
Base Option: Maintains 1900 East in the long term master plan



With this road segment phase, the master plan option considers the opportunity to hide the 1900 East service drive by building over it. This would not only clarify vehicular wayfinding, it would capture additional buildable area that is directly connected at the level of the HSC central campus precinct. Implementation of this road segment, however, is highly dependent on the nearer term future use and as yet undetermined area that will be developed on the State Health Peninsula. The cost to re-grade this road segment would also be significant.



EXECUTIVE SUMMARY



Recommended tunnel alignment



Recommended bridge alignment

Bridge/Tunnel

The master plan update proposes a pedestrian bridge or tunnel (or both) at Mario Capecchi Drive as a connector from the TRAX Medical Center Station to the HSC campus center.

The options of a bridge versus a tunnel were studied as part of this master plan update; both directions were found to have advantages and disadvantages. The planning team thought that future campus planning decisions may make one option more advantageous than another. Therefore both options are represented as future possibilities, and other plan elements are workable with either direction.

Tunnel

A tunnel below Mario Capecchi Drive would surface on the east side into a plaza. From there a covered walkway is recommended to escort pedestrians to the new AAB/ Administrative and Ambulatory Building (Hospital Expansion) and from there to the MED and the heart of the HSC campus.

Bridge

A bridge crossing Mario Capecchi Drive may be anchored on the west side of the drive to the potential future Health Sciences building south of the Primary Children's ACC. Alternatives for the bridge were studied, revealing a preference for a straight alignment. Crossing the drive, the bridge would extend to and connect at the south end of Primary Children's Medical Center, for a direct link to the existing bridge that runs east from there to the University Hospital.

Research Corridor

The HSC research corridor presents a particular opportunity to strengthen exterior courtyards and connectors to create a highly usable open space network within the campus.

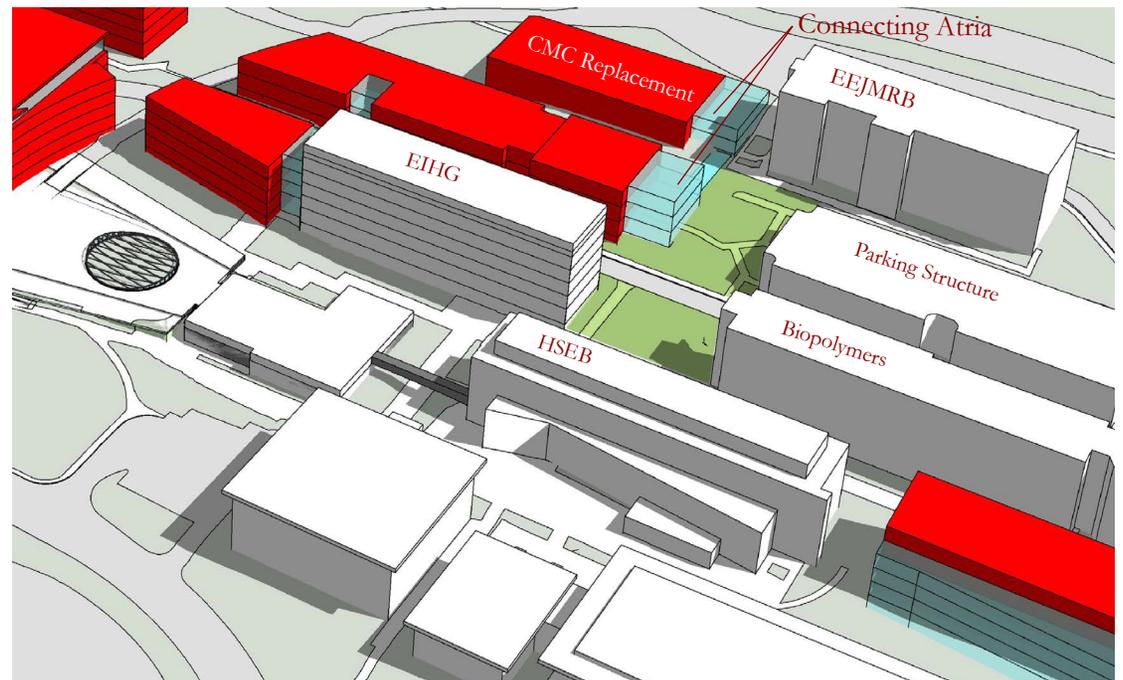
The master plan update visioning process brought forth the need for a coherent research zone with a heart of its own.

The anticipated demolition of the CMC and Radiobiology Labs gives an opportunity to improve the research corridor through one or more replacement buildings designed to function as a research hub. In addition to the new animal facilities, the new hub would contain informal gathering places, a food venue, and social activity space.

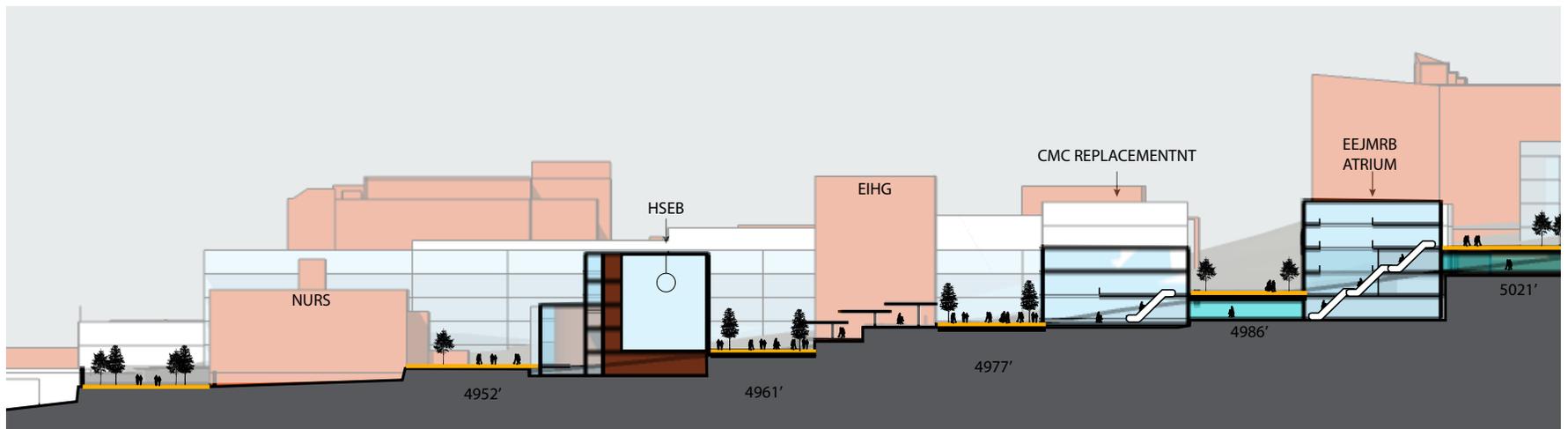
Improved Pedestrian Linkages

Complementing the new proposed research hub is a master planned system of enhanced open space and pedestrian linkages that will extend from the HSEB main lobby eastward through the research zone.

It is anticipated that the CMC replacement project will include below-grade connectors to adjacent buildings. These interior linkages will ease vertical travel between campus benches, and could also provide access to below grade utility infrastructure.



Overhead view of improved existing exterior courtyard as the new research heart of campus: Green zone indicates improved landscape and courtyard people-space



Section through HSEB lobby and future connecting atria

Short Range Master Plan Implementation, MED-Related Projects

Project	SF	Total Project Cost*
Renovations, Moves & Staging		\$35,000,000
AAB (Hospital Expansion)	100,000 *	\$48,735,000
Wintrobe Renovation		\$10,200,000
Rehab Patient Services	up to: 120,000	\$55,000,000
Demolition of SOM & MREB		\$10,900,000
MED, Knowledge Center, Circular Road - Phase1	250,000	\$96,075,000
Subtotal	470,000	\$255,910,000

* Square foot amount reflects 4 stories; an additional 3 floors were being considered at the time of document completion

Short Range Master Plan Implementation, Other Projects

Project	SF	Total Project Cost**
Vertical Walk/Connector	10,000	\$4,300,000
Huntsman IV	220,000	\$110,000,000
Central Plant Expansion	10,000	\$16,700,000
Parking Structure + Research Park Road	up to:	\$34,650,000
Subtotal	240,000	\$165,650,000

Total without Huntsman, Central Plant, Parking	480,000	\$260,210,000
Total of All Projects	710,000	\$421,560,000

** Total Project Cost = Construction cost plus 26% for soft costs

Implementation

The Health Sciences Center campus master plan update provided an opportunity to reexamine and revise campus development projections that were in the 2008 Campus Master Plan (CMP). The table on the facing page shows project phasing projections from the 2008 CMP on the left side, with the updated corresponding phasing on the right.

The table on this page contains a summary of the costs to implement short range master plan projects, defined as those that will be constructed from 2014-2020.

The following pages contain plan images of the short range and long range master plans.

2008 CAMPUS MASTER PLAN					2013 HSC MASTER PLAN UPDATE				
Project	Phase 1	Phase 2	Phase 3	Total GSF	East Campus	Phase 1	Phase 2	Phase 3	Total GSF
	2008-2013	2014-2020	2020-2025			2008-2013	2014-2020	2020-2025	
University Hospital Expansion	305,000				University Hospital Expansion	305,000			
College of Nursing	9,600				College of Nursing	9,600			
PCMC Ambulatory	220,000				PCMC Ambulatory	220,000			
Huntsman Cancer Institute, Phase IIB	117,467				Huntsman Cancer Institute, Phase IIB	117,467			
LS Skaggs Pharmacy Research Bldg.		120,000			LS Skaggs Pharmacy Research Bldg.	120,000			
University Women's Center	100,000								
UUHC ACC, PH 1	210,000								
Huntsman Cancer Institute IV			200,000		Huntsman Cancer Institute IV		220,000		
HSC Academic (521 Replacement)		276,000			¹ HSC Academic (521 Replacement)				
HSC Research (521 Replacement)		317,000			¹ HSC Research (521 Replacement)				
HSC Hospital Support (521 Replacement)		49,000			¹ HSC Hospital Support (521 Replacement)				
					AAB (Hospital Expansion)		up to: 100,000 *		
					Hospital Expansion (East Side)		up to: 120,000		
					MED & Knowledge Center, Phase 1		250,000		
					Central Plant Expansion		10,000		
Parking Structure (257 stalls)					Parking Structure (300-1,000 stalls)				
					CMC			60,000	
					MED Ph2 (Medical Education & Discovery)			150,000	
					UUHC ACC, PH1			210,000	
PCMC Ambulatory II			220,000		PCMC Ambulatory II			220,000	
Moran Eye Center III			200,000		Moran Eye Center III			200,000	
PCMC Hospital			625,000		PCMC Hospital			625,000	
UUHC ACC, PH 2			210,000		UUHC ACC, PH2			210,000	
Infill - Medical Research Lab			480,700		² Infill - Medical Research Lab			400,000	
					² Infill - Academic Facilities			400,000	
Infill - Clinical Facility			469,000		² Infill - Clinical/Hospital			400,000	
	962,067	762,000	2,404,700	4,128,767		772,067	700,000	2,875,000	4,347,067

Notes:

1. The planned square footage from the 2008 CMP has been absorbed into existing campus square footage or new building square footage
2. Square footage amount listed is the maximum capacity for the site. The project's future square footage will depend upon University needs and building site height limits

* Square foot amount reflects 4 stories; an additional 3 floors were being considered at the time of document completion

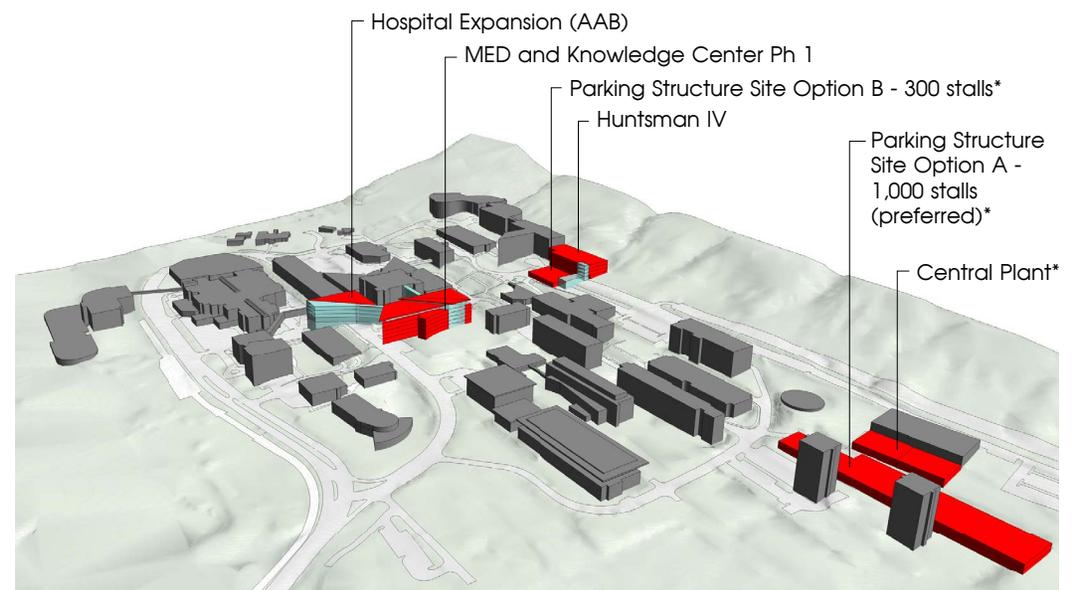
Project sequencing may change from that represented based on need, funding availability and administrative approval.

Need for the central plant expansion will be evaluated as Phase 2 projects are implemented.

**Short Range Master Plan
Implementation
(2014-2020)**

- 1 AAB (Hospital Expansion)
- 2 Rehab Patient Services (site to be determined - not noted on plan)
- 3 SOM and MREB Demolition
- 4 MED and Knowledge Center, Ph 1
- 5 Huntsman IV
- 6 Central Plant Expansion*
- 7 Parking Structure (site options A/B)*

* Anticipated to be constructed in the Short Range sequence; may shift to Long Range based on need, funding availability and administrative approval.



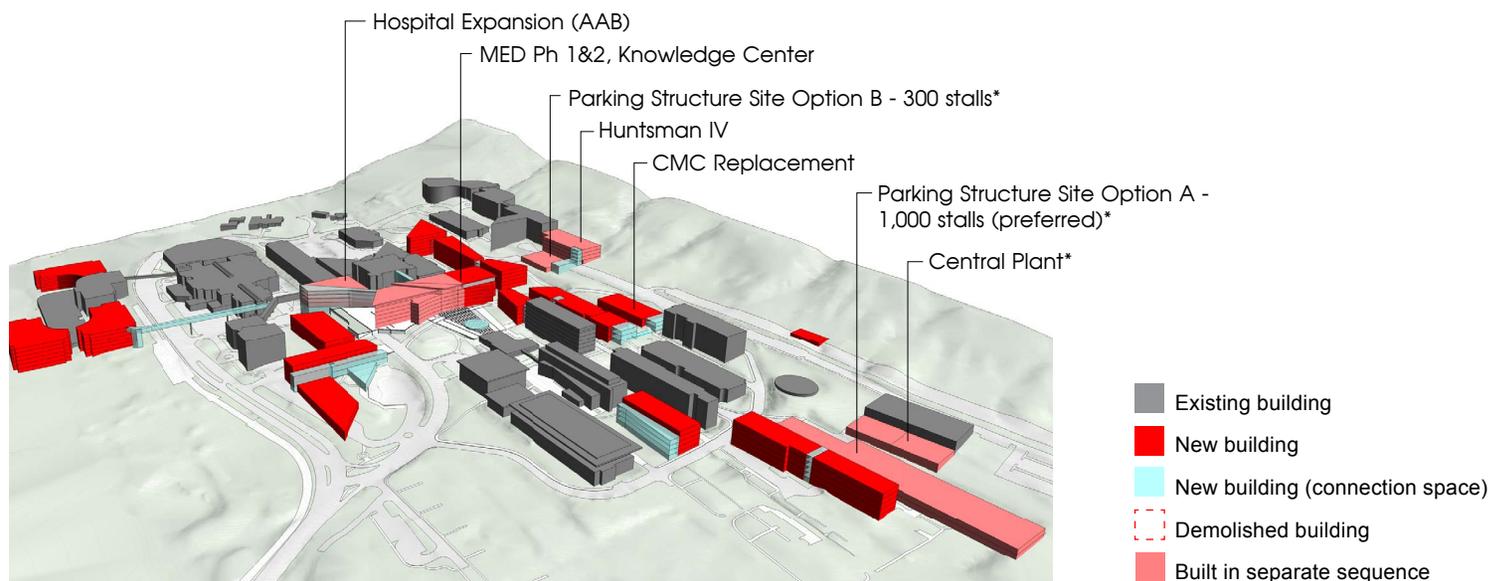
- Existing building
- New building
- New building (connection space)
- Demolished building
- Built in separate sequence

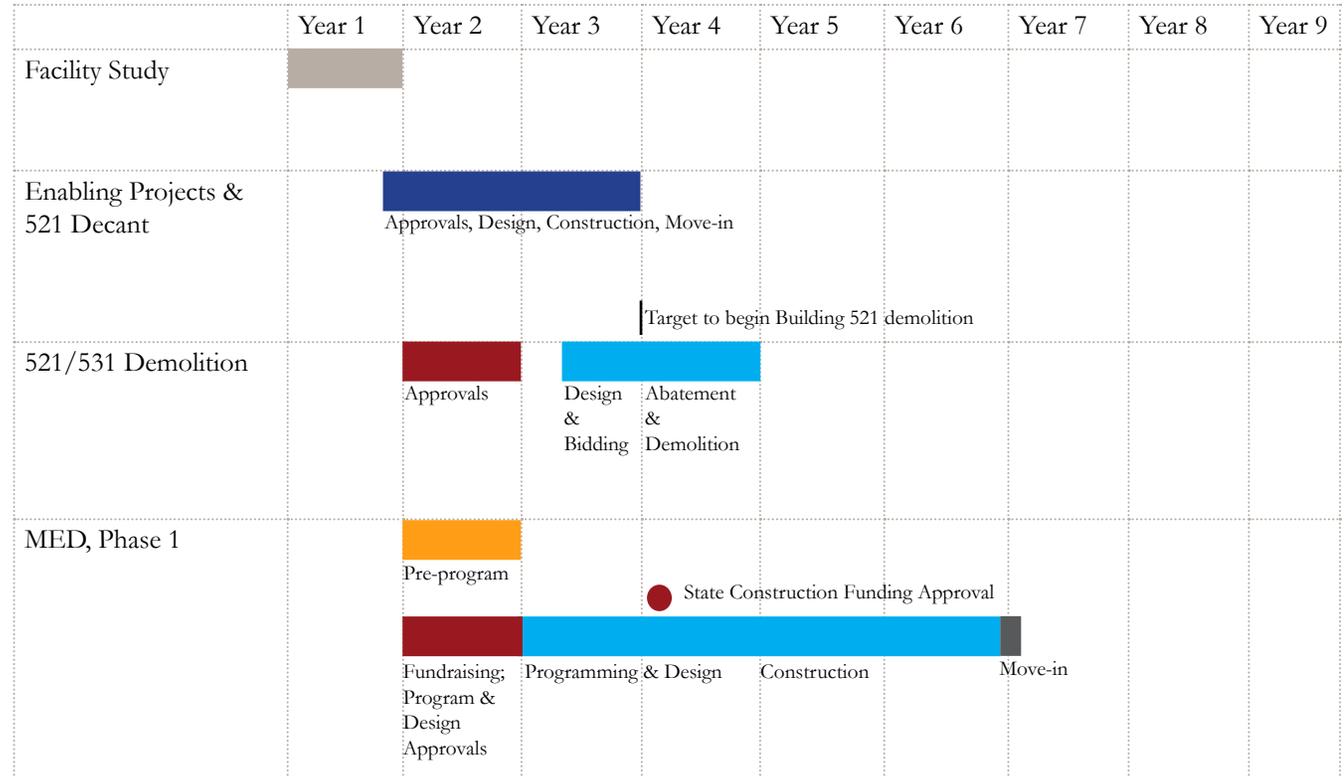


Long Range Master Plan Implementation

- 1 AAB (Hospital Expansion)
- 2 Rehab Patient Services (site to be determined - not noted on plan)
- 3 SOM and MREB Demolition
- 4 MED and Knowledge Center, Ph 1
- 5 Huntsman IV
- 6 Central Plant Expansion*
- 7 Parking Structure (site options A/B)*
- 8 CMC Replacement Facility
- 9 MED Phase 2
- 10 Research/Academic Facilities
- 11 Hospital/Clinical Expansion

* Anticipated to be constructed in the Short Range sequence; may shift to Long Range based on need, funding availability and administrative approval.

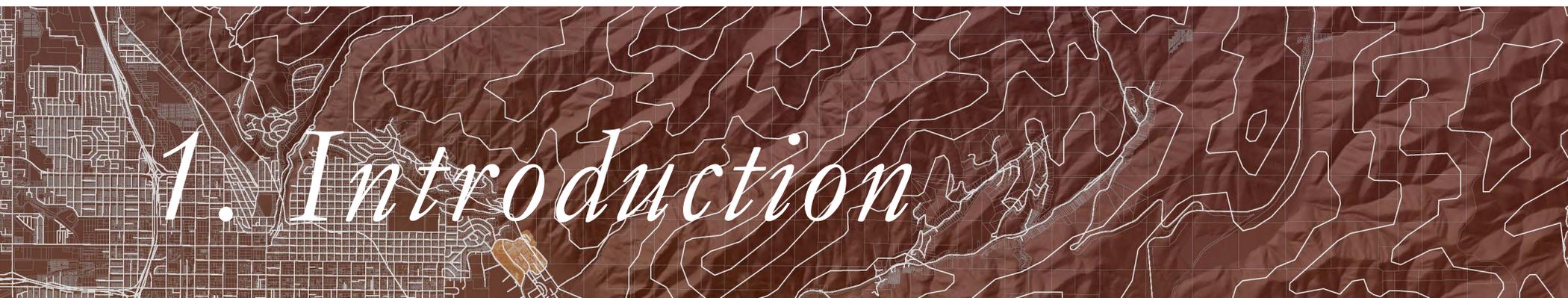




MED Phase 1 Implementation Schedule

This schedule represents the planned timing of the steps necessary to complete the construction of the MED Phase 1, beginning at the point of master plan update document finalization.

At the time of document finalization, the implementation schedule was under evaluation; the final schedule may vary from that shown above.



1. *Introduction*

Purpose

The University of Utah 2008 Campus Master Plan provides a framework for growth over time. A strategic outlook for accomplishing the University's goals, the master plan is also intended to allow for change. As the campus evolves, new situations and issues arise which impact the next stages of development.

The Health Sciences Center campus has seen many changes since 2008 and the inception of the master plan. The hospital expansion is complete and the Primary Children's Ambulatory Care Center is taking form. In concert with the recent Health Sciences Education Building (HSEB), a new pharmacy building and a renovated College of Nursing building have spawned new synergies along the HSC campus academic corridor.

The University is primed to take a significant next step with the potential replacement of the 600,000 square foot School of Medicine (SOM) building, located at the heart of the HSC campus. In a concurrent facility study, the SOM replacement facility has been newly conceived as the MED, or Medical Education and Discovery building. The vision for the MED encompasses more than a home for the School of Medicine - it is seen as a vibrant heart and center for the entire HSC community, welcoming all with interdisciplinary educational programs, as well as informal gathering and social space.

The challenge of replacing the SOM building is daunting, due to the building's size and the complexity of its site. Because of this project's far-reaching impact on the HSC campus, the University decided to plan for it in conjunction with an update of the campus master plan. The goals of the master plan update were to:

- Identify and evaluate potential sites for the MED, and determine which is the preferred site
- Identify issues that exist on the campus as a result of its organic and unplanned growth over time, and propose mitigation or solutions within the master plan framework
- Analyze and take advantage of the opportunities for the campus provided by the MED, especially in its role as a campus heart fostering collaboration and interaction among all community members



Aerial photo of the Health Sciences Center campus

Campus Growth Over Time

The images on these pages show the growth of the Health Sciences Center campus decade by decade. Each site plan shows the buildings previously existing (black) or added (red) during that decade. Adjacent to each plan is a list of the buildings that were added (building number and name, with the building code in parentheses).

From these images, one can see that:

- Growth has occurred on a fairly constant basis
- Growth has been organic, rather than following a plan or organizational scheme
- Especially in recent years, buildings have tended to align with the north-south topographic benches that exist on the site, as the campus steps up the Wasatch Mountain foothills



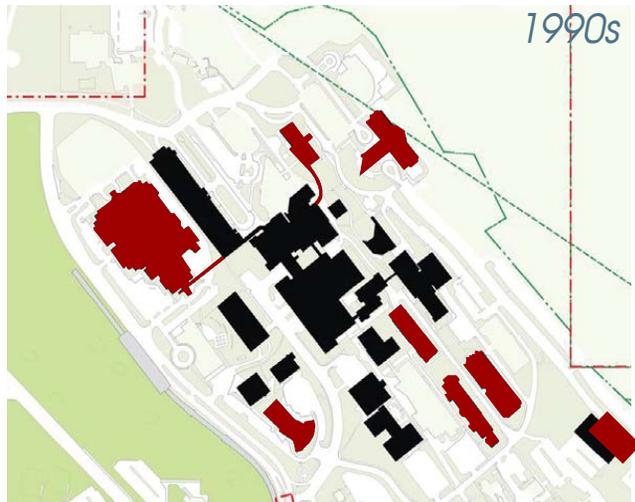
- 521 School of Medicine (SOM)
- 524 Medical Center Parking Terrace (MCPT)
- 531 Medical Research and Education (MREB)
- 582 L.S. Skaggs Hall (SK H)
- 587 ARC Building
- 588 College of Nursing Building (CNB)



- 375 State Department of Health (SDH)
- 377 Medical Examiner's Office (MedEx)
- 586 Radiobiology Admin (RB ADM)
- 589 Eccles Health Sciences Library (Eccles)



- 525 University Hospital (U hosp)
- 526 Hospital Generating Plant (HospPl)
- 527 University Hospital Parking Terrace (UHPT)
- 530 Maxwell Wintrobe Research Building (Wintro)
- 535 Ezekiel R. & Edna Dumke Building (Dumke)
- 585 Radiobiology Lab (RB LAB)



1990s

- 302 East Campus Chiller/HTH Plant (ECP)
- 374 Primary Children's Medical Center (PCMC)
- 379 WIC Bldg/Children's Special Needs Clinic (Bd 379)
- 533 Eccles Institute of Human Genetics (EIHG)
- 540 Health Science Parking Terrace (HSCPT)
- 550 Clinical Neurosciences Center (CNC)
- 555 Huntsman Cancer Institute (HCI)
- 570 Biomedical Polymers Research Building (BPRB)



2000s

- 373 Primary Children's Parking Terrace (PCPT)
- 523 Moran Eye Center (Moran)
- 529 Eccles Critical Care Pavilion (ECCP)
- 556 Huntsman Cancer Hospital (HCH)
- 560 Health Sciences NE Terrace (HSNET)
- 561 HSC North Parking Terrace & Helipad (HNPTH)
- 565 E.E. Jones Medical Research Building (EEJMRB)
- 575 Health Sciences Education Building (HSEB)



2010

- 366 PCMC Ambulatory Care (EPCOS)
- 369 Ambulatory Parking Structure (APS)
- 522 West Pavilion, Hosp (WPAV)
- 581 Skaggs Pharmacy Research Building (SRB)
- 556 Huntsman Cancer Hospital Expansion (HCH)

Process

The master plan update took place from January to December of 2013, concurrently with a facility study of the School of Medicine building (Building 521).

A Working Committee had direct involvement throughout, meeting with the consultant team on a bi-weekly basis and shaping the development of master plan considerations and direction.

A Steering Committee comprised of Health Sciences, School of Medicine and Campus Facilities administrators filled the decision-making role. Steering Committee meetings occurred on a monthly to bi-monthly basis.

School of Medicine department chairs participated in the master plan update process by means of presentations at department chair regularly-scheduled weekly meetings.

The process included coordination with additional related entities, through visitor attendance at project meetings or sideline meetings set up by University or consultant team members. The related entities included Campus Commuter Services, UU Parking and Transportation, and the Huntsman IV design team, among others.

The study process included presentations regarding master plan options and final direction to the Board of Trustees and the President's Cabinet.

The work of the study was documented as the study progressed. Meeting reports for all Working and Steering Committee meetings were generated by the consultant team. Information was shared within Health Sciences through postings on the Intercom, the Health Sciences internal website.



Project direction and guiding principles were defined in a Steering Committee visioning session

Master Plan Update Steps

The master plan update process included these steps:

Step 1 – Start Up

The consultant team collected background information from the University, which was used to formulate a project knowledge base.

Step 2 – Discovery

The Steering Committee provided input and direction in a visioning session, which was used to formulate guiding principles for the development of the Health Sciences Center campus master plan.

The consultant team studied campus facilities that are nearing the end of their expected life, to gain an understanding of their conditions, functions, and expected or potential future uses.

The team examined campus conditions from the standpoint of overall organization, functional and facility relationships, movement and transportation of all kinds, and utility conditions and capacities. Interwoven with the effort to understand existing challenges and opportunities was an evaluation of potential sites for a School of Medicine replacement facility.

Step 3 – Concepts

With an understanding of campus conditions and challenges, the consultant team began to formulate master plan concepts that would resolve existing campus issues while fulfilling expressed stakeholder vision. Over the course of several weeks, initial options were developed, evaluated and modified with stakeholder feedback. An option that combined beneficial elements of multiple schemes, and placed the School of Medicine replacement facility on the existing SOM site, was approved by the Steering Committee.

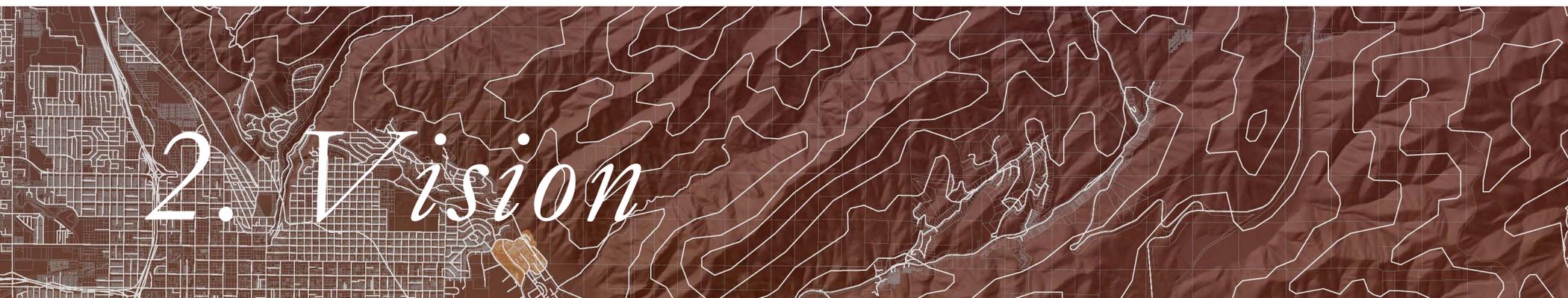
Step 4 – Refinement

The team refined the master plan concept in response to stakeholder input. Elements that would become “transformative projects” – those that significantly impact campus direction and development – received additional focus. The team studied utility impacts, formulated phasing plans, and estimated the costs of implementation.

Step 5 – Documentation

As project decisions were finalized, the consultant team prepared thorough documentation of the master plan update process, guiding principles and outcomes.

	step 1	step 2	step 3	step 4	step 5
TASK ELEMENT	<p>START UP</p> <p>Data collection: Past studies Building plans Occupants & SF Site information</p>	<p>DISCOVERY</p> <p>Project vision Campus existing conditions Issues Challenges Strengths Opportunities</p>	<p>CONCEPTS</p> <p>Concept options that address: Campus heart Organization & zones Circulation Transit & parking Utilities & infrastructure</p>	<p>IMPLEMENTATION</p> <p>Refinement & detail Transformative projects Phasing & timelines Cost opinions</p>	<p>DOCUMENTATION</p> <p>Draft document Stakeholder review Feedback Modifications Final publication</p>
MEETINGS	<p>Project scoping Consultant coordination Working Committee</p>	<p>Working Committee Steering Committee visioning Department chairs Consultant coordination</p>	<p>Working Committee Steering Committee Department chairs Consultant coordination</p>	<p>Working Committee Steering Committee Space subcommittees Board of Trustees President's Cabinet</p>	<p>Working Committee Steering Committee</p>
TIMELINE	<p>January 2013</p>	<p>February - April 2013</p>	<p>May - June 2013</p>	<p>July - September 2013</p>	<p>September - December 2013</p>



2. *Vision*

The vision and guiding principles established for the Health Sciences Center campus master plan update build upon “The Vision” of the 2008 Campus Master Plan. The Vision guides the development of the University of Utah campus as a whole; its seven planning principles are reproduced below.

The Vision

2008 Campus 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 services.

Capitalize on the natural landscape setting.

Leaders in environmental stewardship.

HSC Master Plan Update Guiding Principles

An important early step in the master plan update process was the definition of the vision for the Health Sciences Center (HSC) campus and the potential new School of Medicine (SOM) facility by key project stakeholders. A visioning session conducted during the first Steering Committee meeting resulted in the guiding principles outlined in this chapter. The principles were used by the project team to guide master planning direction and decisions. In this chapter, the SOM replacement facility is referred to by its new name, the MED – Medical Education and Discovery building.

As a transformative project identified in the 2008 Campus Master Plan, the new School of Medicine and future HSC Campus will:



(photo: University of Utah)

Create vitality centered around a true heart of campus.

The MED, with the adjacent Knowledge Center and exterior open space, will establish a vibrant heart for the HSC campus. Its iconic and inspiring presence, similar to Presidents Circle on the University main campus, will be a landmark that eases wayfinding and orientation. Located at the apex of the campus academic, research and clinical zones, it will provide spaces and functions that foster collegiality among all members of the HSC community. The facilities will support campus community members by providing for the range of services needed in daily life.

As a transformative project identified in the 2008 Campus Master Plan, the new School of Medicine and future HSC Campus will:

Integrate informal spaces for gathering and learning.

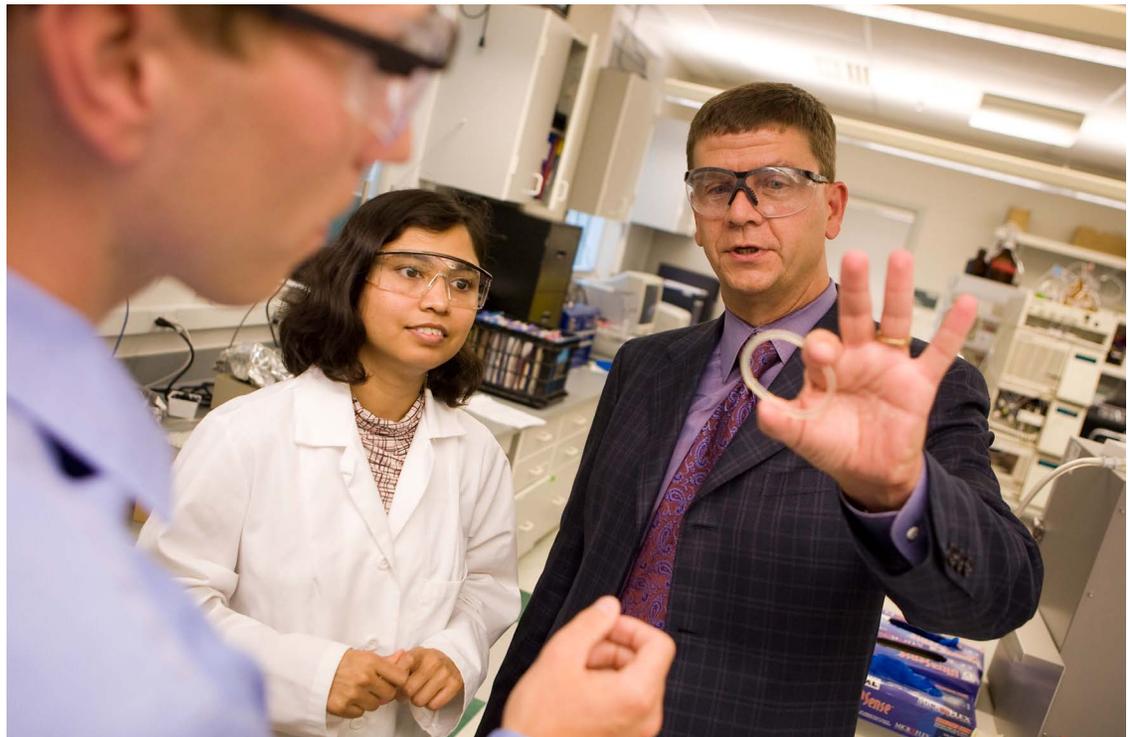
As the “major” heart for the HSC campus, the MED will provide informal gathering space that welcomes the entire HSC community. Gathering areas will be offered in a variety of sizes and atmospheres – small and large, quiet and active – to meet differing needs, from informal meetings to dining to social activity. Informal gathering and learning space will also be provided in “minor” hearts located within each of the three campus zones: the hospital atrium (clinical zone); student social gathering space in the HSEB (academic zone); and a new heart to be created as part of near term facility changes (research zone).



(photo: Stanford University)

Promote interdisciplinary learning between all health care programs.

The MED will provide space for educational programs such as telemedicine that encourage a cross-disciplinary team approach. Programs will implement cutting-edge technology that optimizes learning and patient care.



(photo: University of Utah)

As a transformative project identified in the 2008 Campus Master Plan, the new School of Medicine and future HSC Campus will:

Be energized around an easily accessed transportation node.

Promotion of and improvements to alternative transportation methods will move the HSC campus toward becoming a “campus without cars”. The new circular road will facilitate use of campus shuttles for access to the heart of the HSC campus. Improved pedestrian connections between the TRAX Medical Center Station to the campus interior will make TRAX use more appealing. Service traffic and parking will be low visibility and located on the campus perimeter as much as possible, minimizing their impact on the campus pedestrian experience.



(photo: University of Utah)

Have a well-planned sustainable campus utility infrastructure.

The replacement of old, inefficient facilities with those that are highly efficient and sustainable will promote campus sustainability goals and support strategic utility and infrastructure improvements.



(photo: UC Merced Central Plant)

As a transformative project identified in the 2008 Campus Master Plan, the new School of Medicine and future HSC Campus will:

Overcome challenging topography and “missing links” by an enhanced network of connections and actively used open space.

The campus pedestrian experience will be transformed by improvements that create an organized and interconnected pedestrian pathway system. The pedestrian experience will also be enhanced by strategically placed open spaces that assist with orientation and wayfinding, and offer strong visual connections with the surrounding natural environment.



(photo: University of Utah)

Enable a pedestrian and bike friendly culture through a compact academic campus.

Improvements to roadways and pedestrian pathways will improve accessibility to the campus by bicycle. The design of new buildings will include amenities such as shower/ changing facilities that support bicycling and other forms of physical activity, promoting wellness and healthy lifestyles.



(photo: University of Utah)

As a transformative project identified in the 2008 Campus Master Plan, the new School of Medicine and future HSC Campus will:

Enable a stress free and personalized patient experience that inspires confidence and trust.

Transportation and access improvements will ease patient wayfinding, leading to a relaxed patient experience. Patient care will be optimized by the discoveries that result from increased campus interdisciplinary collaboration.



Have easily identifiable gateways.

The campus will welcome visitors with easily identifiable campus entry points and clear wayfinding, for all modes of transportation.



(photo: Lee, Burkhardt, Liu Architects)



3. *Discovery & Analysis*

Introduction

In order to achieve the desired outcomes of the master plan update, the consultants needed to gain a thorough understanding of HSC campus past planning and current conditions. The process included:

- Becoming familiar with the 2008 Campus Master Plan and other recent planning studies
- Documenting campus changes since 2008
- Analyzing current campus conditions
- Examining potential sites for the future MED

In analyzing the campus, the following elements were studied:

- Topography
- View corridors
- Campus organization and functional zones
- Buildings that are aging and/or in the vicinity of the existing SOM (Building 521)
- Utility locations and capacities
- Vehicular, transit and service routes and roadways
- Parking infrastructure, capacities and future needs
- Pedestrian circulation patterns and pathways

This chapter contains summaries of some of the discovery information:

- Findings (planning issues and opportunities)
- General campus description
- Recent studies
- Potential MED sites
- Aging campus buildings

Campus information which is best understood in relationship to master plan elements and recommendations is presented in Chapter 5, Plan Elements.



Health Sciences Center campus boundary

Health Sciences Center Campus Buildings

No.	Name (Code)	No.	Name (Code)
302	East Campus Chiller/HTH Plant (ECP)	535	Ezekiel R. & Edna Dumke Building (Dumke)
366	PCMC Ambulatory Care (EPCOS)	540	Health Science Parking Terrace (HSCPT)
369	Ambulatory Parking Structure (APS)	550	Clinical Neurosciences Building (CNC)
373	Primary Children's Parking Terrace (PCPT)	555	Huntsman Cancer Institute (HCI)
374	Primary Children's Medical Center (PCMC)	556	Huntsman Cancer Hospital (HCH)
375	State Department of Health (SDH)	560	Health Sciences NE Terrace (HSNET)
377	Medical Examiner's Office (MedEx)	561	HSC North Parking Terrace & Helipad (HNPTH)
379	WIC Building/Children's Special Needs Clinic	565	E.E. Jones Medical Research Building (EEJMRB)
521	School of Medicine (SOM)	570	Biomedical Polymers Research Building (BPRB)
522	West Pavilion (hosp) (WPAV)	575	Health Sciences Education Building (HSEB)
523	Moran Eye Center (Moran)	581	Skaggs Pharmacy Research Building (SRB)
524	Medical Center Parking Terrace (MCPT)	582	L.S. Skaggs Hall (SK H)
525	University Hospital (U hosp)	585	Radiobiology Lab (RB LAB)
526	Hospital Generating Plant (HospPl)	586	Radiobiology Lab (RB ADM)
527	University Hospital Parking Terrace (UHPT)	587	Comparative Medicine Center (CMC)
529	Eccles Critical Care Pavilion (ECCP)	588	College of Nursing Building (CNB)
530	Maxwell Wintrobe Research Building (Wintro)	589	Eccles Health Sciences Library (Eccles)
531	Medical Research and Education (MREB)	701	Medical Plaza North Tower (Bd 701)
533	Eccles Institute of Human Genetics (EIHG)	702	Medical Plaza South Tower (Bd 702)

Findings

Issues

The following is a summary of key planning issues and opportunities that exist on the HSC campus. In addition to fulfilling HSC stakeholder vision, the master plan development was used to mitigate or resolve the issues and build upon the opportunities.

Campus Organization

Prior to 2008, facility development on the campus occurred to a large degree without a plan for overall organization. The campus layout is difficult to understand, with little sense of hierarchy, and few elements or landmarks to provide a sense of orientation.

Campus Heart or Center

The campus lacks an exterior area that provides a central focal point or sense of place. From an interior perspective, the campus lacks a facility where the campus community can come together – a vibrant gathering space to foster interaction among HSC faculty, staff and students.

Pedestrian Access

Pedestrian pathways on the campus tend to be non-existent, or sporadic and ill-defined, particularly in the east-west direction. Some pedestrian paths travel through surface parking areas that are steep and conflict with vehicle paths.

Vehicular Access

From an overall campus perspective, the roadway system is unorganized and confusing. Along the eastern campus edge, the roadway is discontinuous and passes through surface parking lots.

Transit Support

The campus pathway system is not supportive of transit use. The pedestrian path from the TRAX Medical Center Station east to the HSC campus is circuitous and dangerous. Bus and shuttle routes do not extend into the campus core.

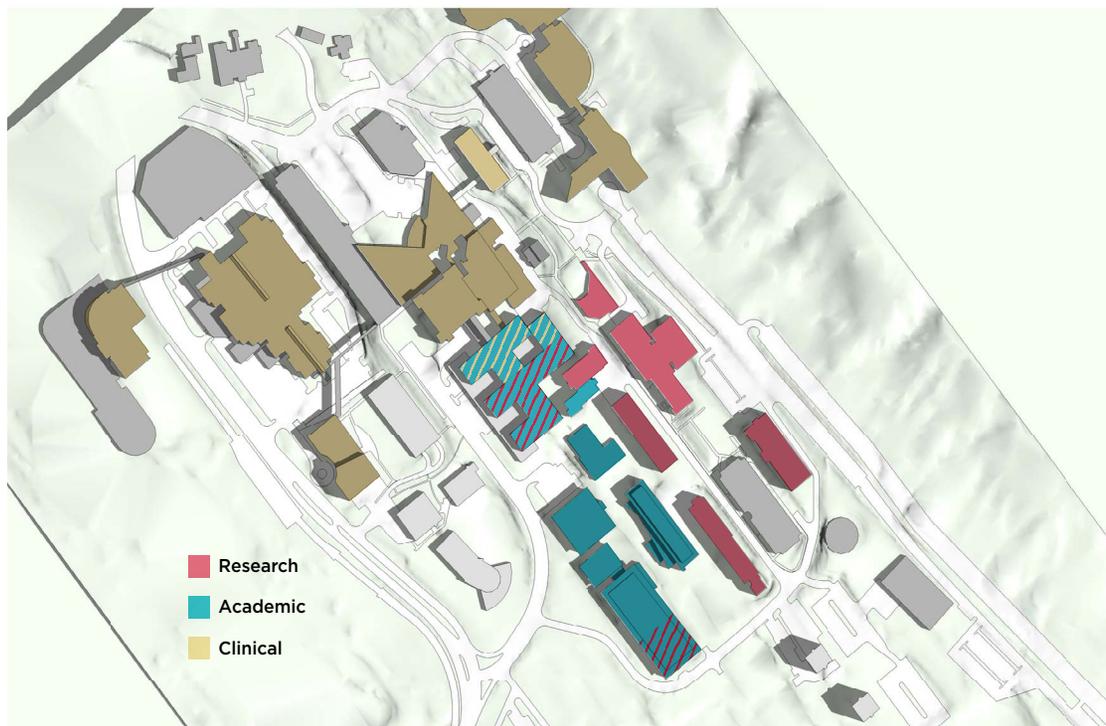
Natural Environment

The campus layout does not acknowledge or take advantage of the outstanding natural environment that surrounds it. There is little open space that fosters a connection to the natural environment and there are no view corridors.

Opportunities

Campus Zones

Physical development of the campus has begun to form functional zones based on the three primary HSC missions: research (eastern area, oriented north-south), academic (central area, oriented north-south) and clinical (north area, with the hospital as its central element). The zones form a good base for campus organization and should be strengthened by future development.



Existing HSC campus functional zones



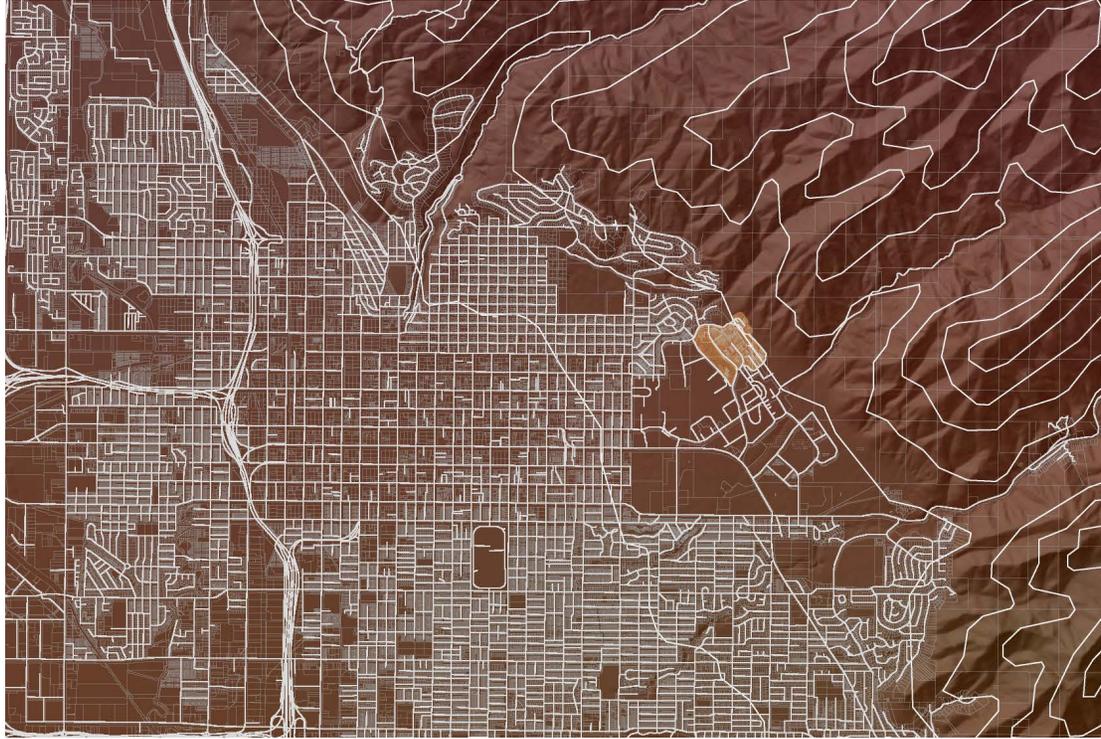


Aerial view of Building 521 from the northwest



Aerial view of the east bench and "Route 66", looking south

HSC Campus Setting



Health Sciences campus at the toe of the Wasatch Mountains and the edge of the city grid

The HSC campus occupies the northeastern corner of the University of Utah campus, on the sloping foothills of the Wasatch Mountains.

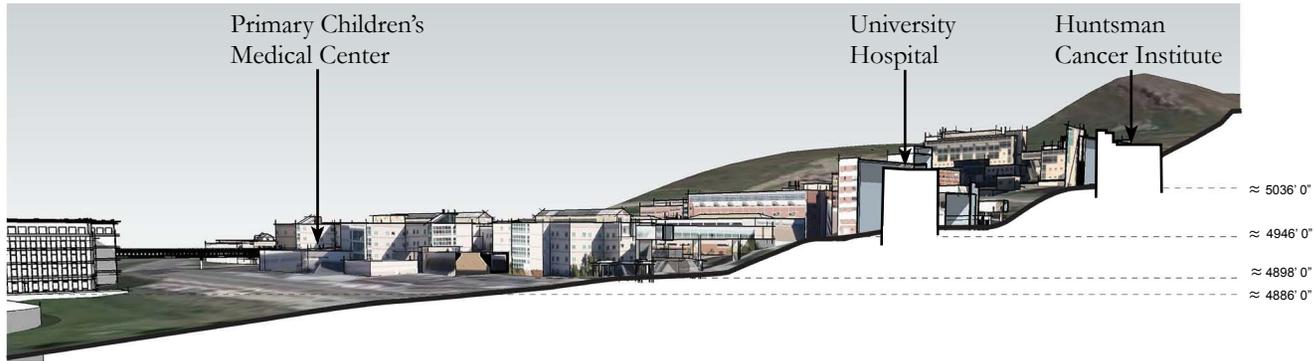
The campus gains 180' in elevation from Mario Capecchi Drive on the west to the Huntsman Cancer Institute on the east. This steep grade poses challenges for all forms of campus circulation, transportation and access.

The campus is built on “benches”, leveled areas that step up the hillside and are oriented in a generally north-south direction. Campus buildings tend to align with the north-south axes of the benches.

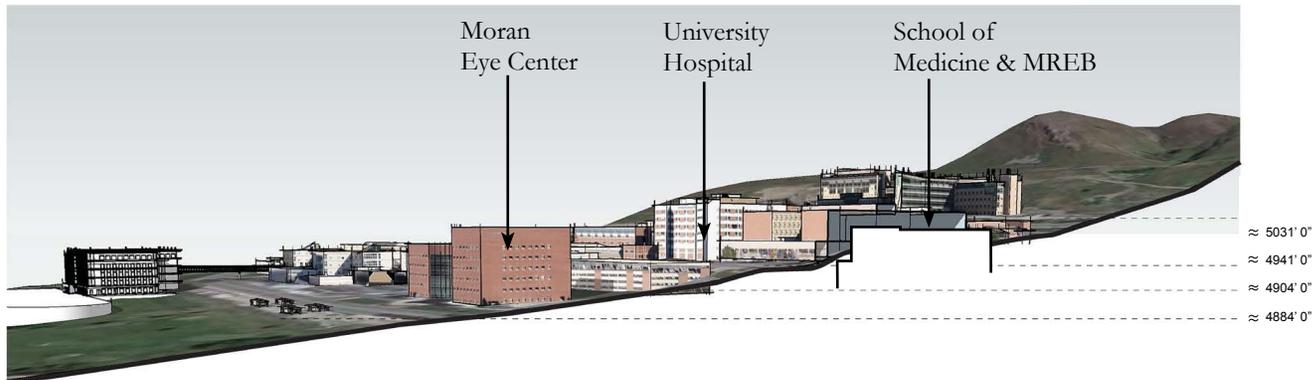
Set on the hillside, the HSC campus is visible from the west and south above the University campus. The campus height provides fine views westward to Salt Lake City and the Salt Lake valley, and southward to the extending Wasatch Mountain range. To the north and east are equally impressive close-up views of the Wasatch Mountains.



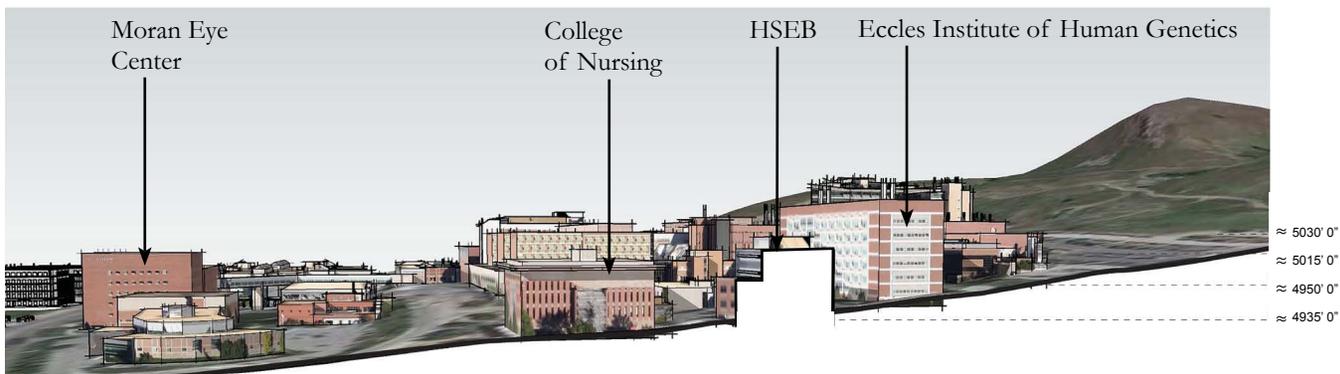
The Health Sciences Center campus sits on the foothills of the Wasatch Mountains east of Salt Lake City



EW - SITE SECTION 01



EW - SITE SECTION 02



EW - SITE SECTION 03

Section cuts through HSC campus showing elevation gain from west to east



Previous Planning

Several University campus planning studies have been conducted over the past 15 years which are relevant to the current evaluation of the HSC campus. They include:

Energy and Environmental Stewardship Initiative: 2010 Climate Action Plan

The Office of Sustainability

The President's Sustainability Advisory Board

The CAP Planning Team

This document outlines guiding principles and strategies for sustainability on the University campus. It sets a minimum goal of a 25% reduction in campus greenhouse gas emissions by the year 2020. The document stresses the importance of supporting alternative and sustainable methods of travel, and also sets goals for the reduction of energy use beyond the code-required minimum for new or renovated campus facilities.

University of Utah Bicycle Master Plan, 2011

This master plan was an in-depth analysis of existing conditions and recommended improvements for bikeways on the University of Utah campus. It proposes several bikeways for the Health Sciences Center campus, one that encircles the campus using the existing perimeter road system, and some that use the north-south pedestrian and service vehicle paths for access into the HSC campus interior.

2008 Campus Master Plan

In its discussion of the HSC campus, the 2008 CMP noted the past steady growth of the built environment, which was expected to continue. The growth had moved in the direction of organizing the campus into three functional zones: research along the easternmost bench, clinical on the north end, and academic along the central bench.

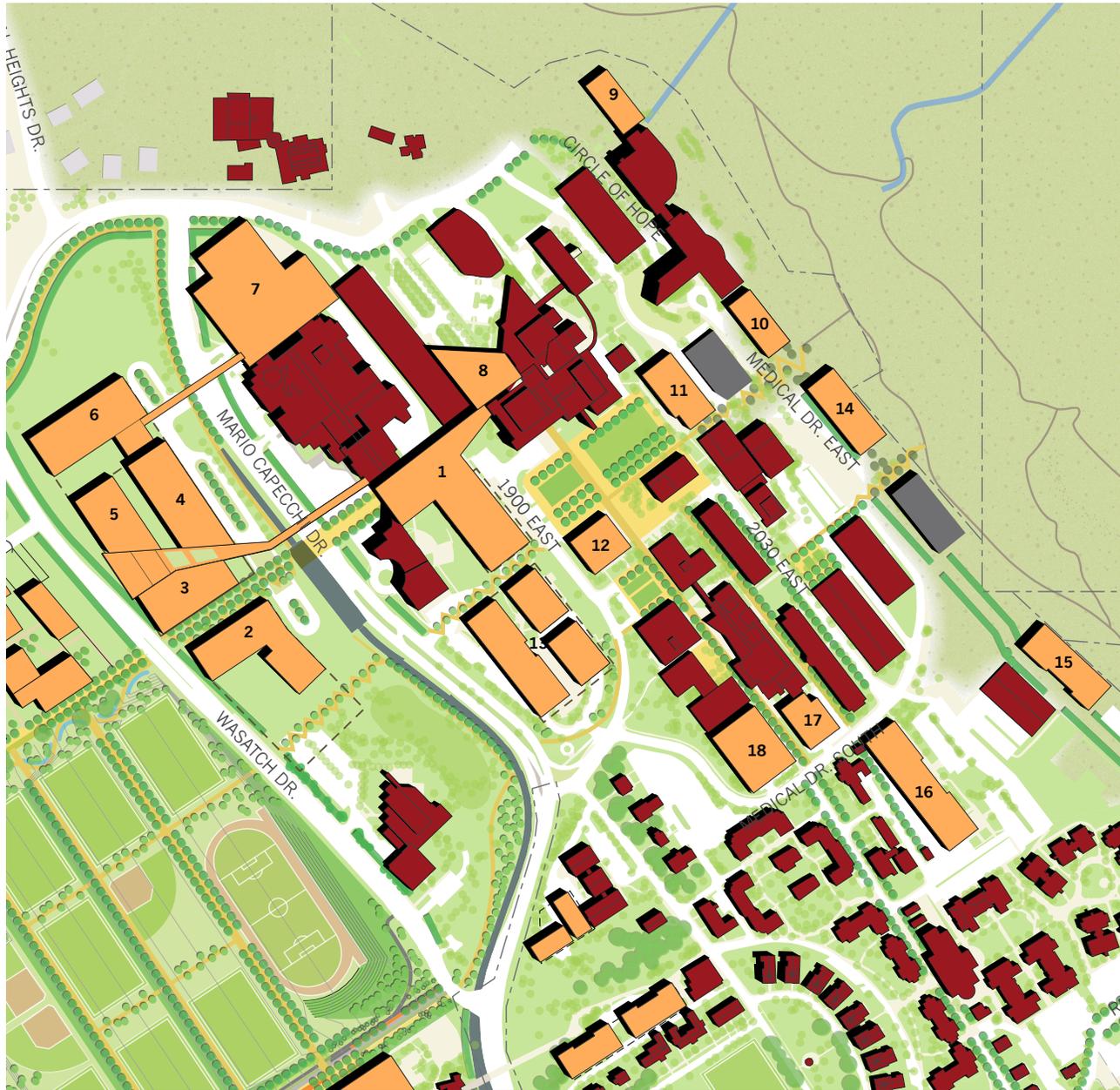
Two significant planning issues were recognized:

- The need to replace the School of Medicine (Building 521) in the near future
- Wayfinding and pedestrian access challenges resulting from the steepness of the site

Recommendations included:

- Creation of a viable pathway from the Medical Center TRAX station on Mario Capecchi Drive to the University Hospital, via an infill building that would act as a pedestrian link as well as provide space for the SOM, clinical and research functions, and parking.
- Construction of a tunnel, bridge, or both, across Mario Capecchi Drive, to provide a direct pedestrian connection to the HSC campus from the Medical Center TRAX station and from main campus via the Interdisciplinary Mall.

Since 2008, several projects outlined in the master plan have been completed or are currently underway: the PCMC portion of the Ambulatory Care Complex (4-6); University Hospital expansion (8); Huntsman Cancer Institute Phase IIB (9); and the LS Skaggs Pharmacy Research Building (18). In addition, the College of Nursing building, north of the new and existing pharmacy buildings, has been fully renovated.



Health Sciences Center campus from 2008 CMP

HSC Facilities Plan

1. School of Medicine Replacement
2. John A. Moran Eye Center Expansion
3. Ambulatory Care Complex
4. Ambulatory Care Complex
5. Ambulatory Care Complex
6. Ambulatory Care Complex
7. Primary Children's Medical Center
8. University Hospital Expansion
9. Huntsman Cancer Institute, Phase IIB
10. Huntsman Cancer Institute, Phase III
11. Infill - Medical Research Lab.
12. Infill - Clinical Facility
13. Infill - Clinical Facility
14. Infill - Medical Research Lab.
15. Infill - Medical Research Lab.
16. Infill - Medical Research Lab.
17. Infill - Medical Research Lab.
18. LS Skaggs Pharmacy Research Bldg.

MED Preferred Site

Initial evaluation criteria for sites being considered for the future MED included the following:

- Size and capacity
- Functional possibilities
- Proximity to clinical, research and academic functions
- HSC master plan compatibility
- Long range growth possibilities
- Flexibility
- Campus connectivity
- Prominence/visibility
- Community impact
- Transportation access
- Campus parking strategy
- Service access
- Utility and infrastructure integration
- Ability to aid decant of Building 521
- Construction phasing
- Construction access
- Overall cost

HSC Campus Buildings in Play

- 1 School of Medicine, Bldg. 521
- 2 MREB, Building 531
- 3 Dumke
- 4 CMC
- 5 Medical Center Parking Terrace
- 6 State Department of Health
- 7 Medical Examiner's Office
- 8 WIC Building

The first step in determining possible sites for the new MED was identifying aging campus buildings that have reached or are near the end of their expected life spans. All were located in the central zone of the campus.

Criteria were then developed to evaluate the sites under consideration, with strong emphasis on the vision expressed by the Steering Committee – to establish a vibrant heart and sense of place on the campus.

With the existing Building 521 site considered a baseline, the team identified five additional areas to be evaluated as the site for the MED:

- A. Dumke Building
- B. North of College of Nursing
- C. West of hospital & Building 521
- D. Public Health Peninsula (Medical Examiner, State Health Dept., WIC building)
- E. Moran expansion site, west of Mario Capecchi Drive

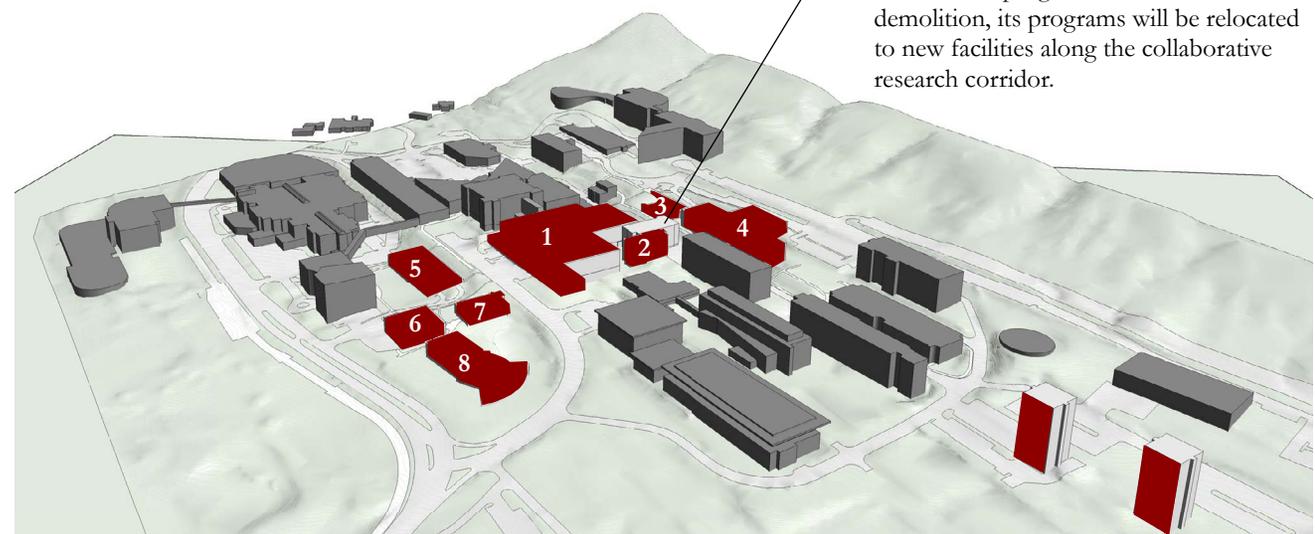
Sites A and B were eliminated due to insufficient size and capacity. Site E was eliminated because of lack of availability and its distance from the center of the HSC campus.

Further consideration by the team led to the conclusion that Site C, west of the hospital, was too congested to accommodate the MED, and also lacked the opportunity for visibility or prominence.

Site D, the Public Health Peninsula, was noted as a highly visible location suitable for a prominent “statement” building; however, placing the MED in this location would shift medical students away from the HSC academic core.

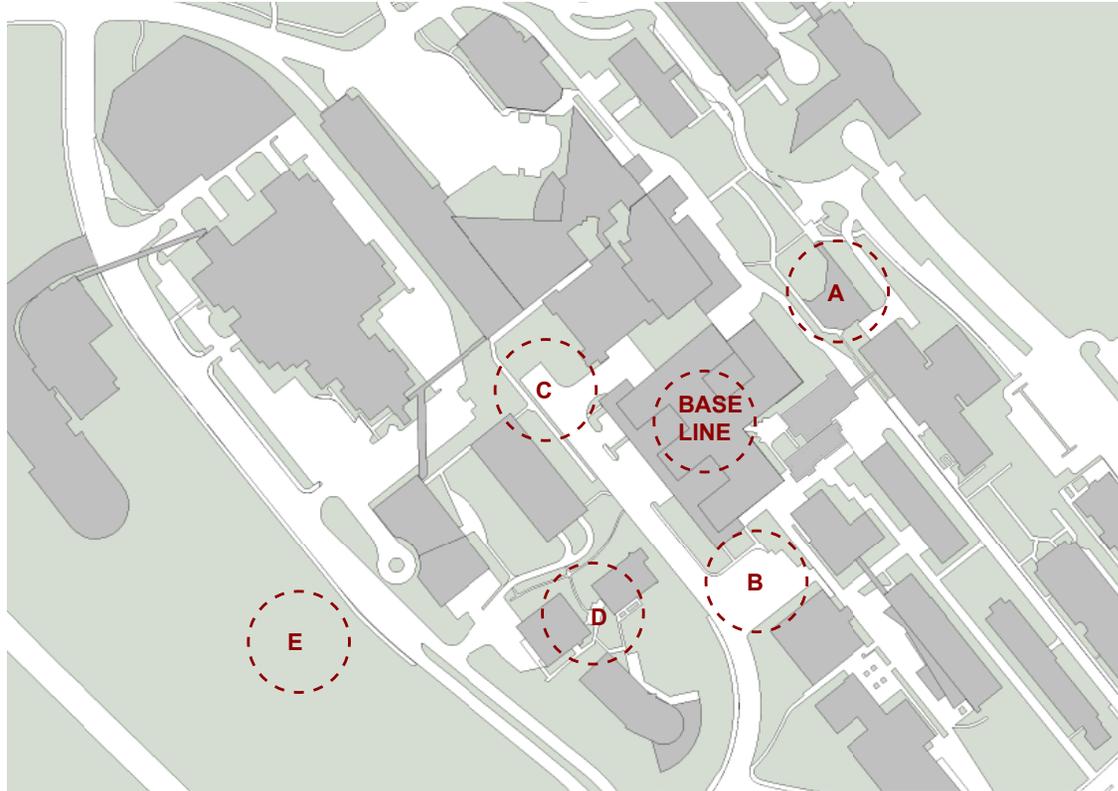
The evaluation process extended over the course of several weeks, with eventual consensus that the site of the existing School of Medicine (Building 521) was the best location for the new MED.

The chosen site was seen as the optimal location to fulfill stakeholder the vision of creating a heart of campus central to the three primary HSC missions – research, clinical and education.



Note: Wintrobe, Building 530, is identified as an enabling project for the decant of Buildings 521/531 and will be renovated for research programs. Prior to its future demolition, its programs will be relocated to new facilities along the collaborative research corridor.

HSC campus buildings in play



Considered Replacement Sites

Baseline: Existing Building 521

A Dumke Building

B North of College of Nursing

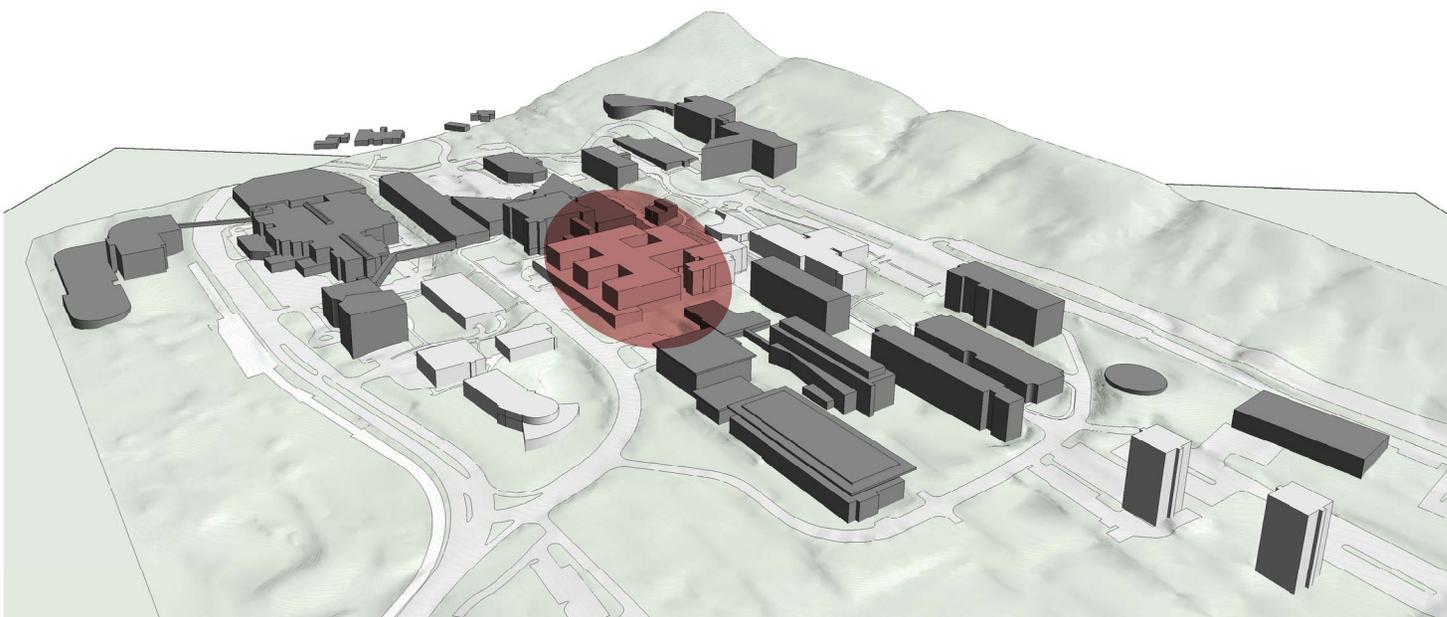
C West of Hospital & Bldg. 521

D Public Health Peninsula

E Moran expansion site



School of Medicine (Building 521) considered replacement sites



MED building preferred site

HSC Campus Facility Survey

An important task of the master plan update was determining the preferred site for a potential School of Medicine (SOM) replacement facility. In order to identify possible sites that should be evaluated for this purpose, the consultant team examined buildings in the vicinity of the existing SOM Building 521, or HSC campus buildings that are nearing the end of their expected life. Buildings that were studied include:

School of Medicine (521)

Medical Center Parking Terrace (524)

University Hospital (525)

Wintrobe Research Building (530)

Medical Research and Education Building, MREB (531)

Dumke Research Building (535)

Eccles Health Sciences Library (589)

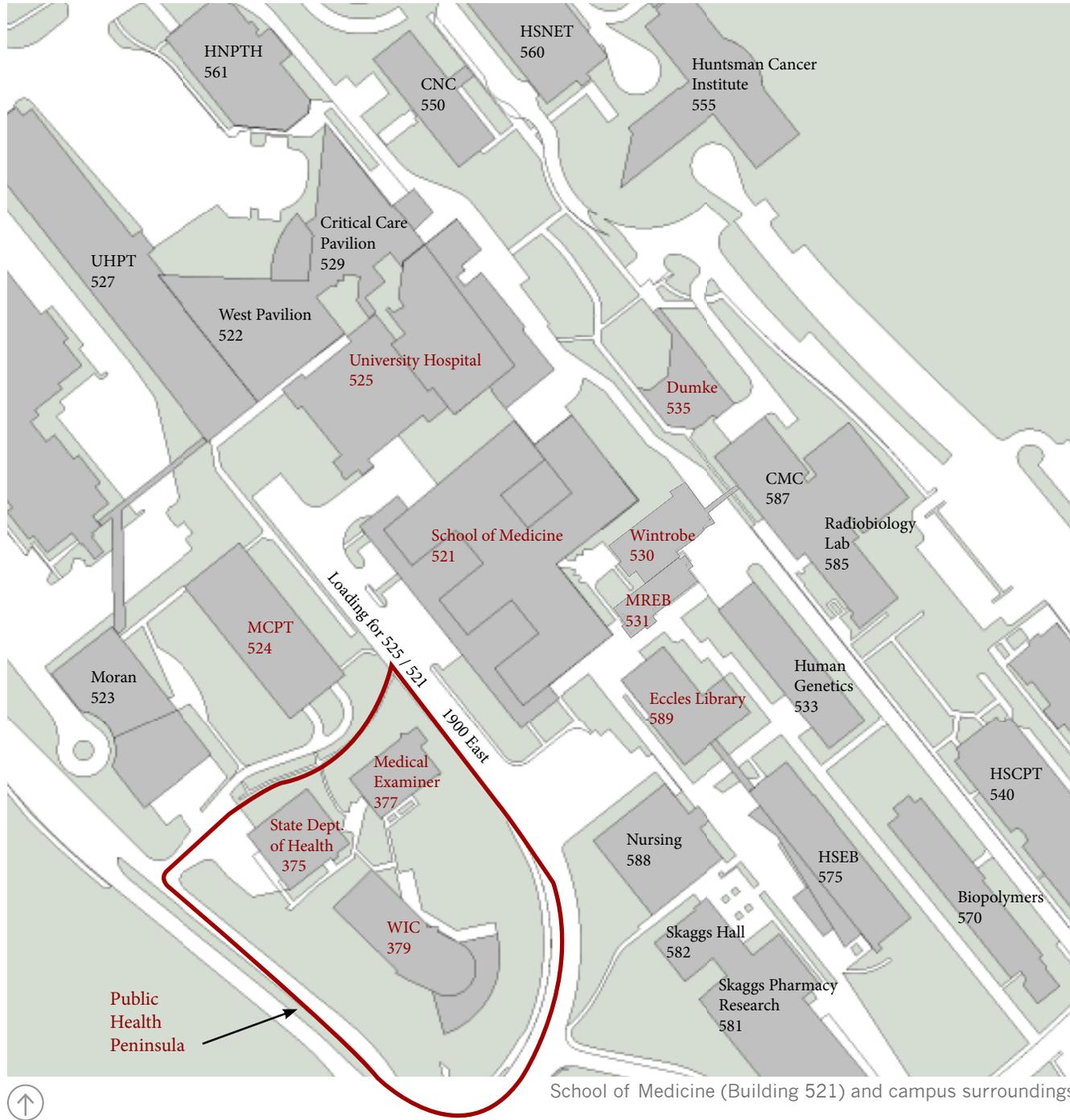
Public Health Peninsula buildings:

- State Department of Health/Fraser Building (375)
- Medical Examiner's Office (377)
- WIC Bldg./Children's Special Needs Clinic (379)

Note: The buildings located within the zone described as the Public Health Peninsula are anticipated to become available to develop at the purview of the University. The existing facilities' site layout and floor plate are not optimal for long term HSC program functionality. Therefore, they are considered as buildings in play.

The following pages contain information about the facilities, including (as available) for each building:

- Location in relationship to the existing School of Medicine building (521)
- Date of construction
- Gross square foot amount
- Current use
- Anticipated near term and long term use





School of Medicine (521)

Located directly south of the University Hospital. Physically connected to the University Hospital and the MREB.

Constructed 1965; 599,000 GSF

Current Use: This facility originally served as a combined school of medicine and teaching hospital for the University. A small amount of inpatient functions still remain in this building, but it contains primarily academic and administrative space, research laboratories and outpatient clinics.

Near Term and Long Term Use: The building has been deemed unsuitable for continued use and is planned for demolition in the near term.



Medical Center Parking Terrace (524)

Located directly west of Building 521 across the 1900 East service road.

Constructed in 1979; 154,000 GSF

Current Use: The garage provides 500 staff parking spaces on five levels. It is a concrete waffle slab structure, with open air on the west side and a retaining wall to the east. It has a footprint of 20,000 square feet and has two separate entrance/exit access routes: the 1900 East hospital service drive to the east; and a service drive between the Moran Eye Center and the State Health facility, accessed from Mario Capecchi Drive. The garage does not meet current seismic standards and was recommended for demolition during the Campus Master Plan assessment in 2008.

Near Term and Long Term Use: Staff Parking Garage





University Hospital (525)

Located north of the SOM, directly connected by two enclosed walkways.

Constructed 1981; 448,000 GSF

Current Use. The construction of the University Hospital provided expansion of the School of Medicine's acute inpatient related functions, inpatient beds, and complete diagnostic and treatment modalities, including surgical and imaging capabilities.

Near-Term and Long-Term Use. The University Hospital meets today's building codes, is in good condition, and will continue to be used for inpatient functions well into the next decades. Additional hospital space was built to the north with Building 529 and its recent west pavilion expansion.



Wintrobe Research Building (530)

Located at the southeast corner of Building 521.

Constructed 1981; 70,000 GSF

Current Use: Wintrobe currently functions as laboratory and teaching space for the School of Medicine. It has good proximity to the existing vivarium and core labs, and provides a direct connection via bridge from the Human Genetics building (533) to the animal facilities in Building 586.

Near Term and Long Term Use: As a near term asset (15 years), Wintrobe, with a limited capital investment, is considered a good candidate for research labs decanted from Building 521. In the long term, its site will be better used for expansion space for laboratory or collaborative research-related functions.





Medical Research and Education Building, MREB (531)

Directly connected to southeast corner of Building 521.

Constructed 1951; 24,000 GSF

Current Use. Preceding Building 521, MREB still functions as teaching lab and classroom space for the School of Medicine.

Near Term and Long Term. Given the MREB's aging infrastructure conditions, it is slated to be razed along with the SOM Building 521.



Dumke Research Building (535)

Located east and uphill from Building 521. Constructed 1980; 16,200 GSF

Current Use: The Dumke Building currently houses the outpatient dialysis program for the School of Medicine.

Near-Term and Long-Term Use: Overall this low-rise structure occupies a valuable site for hospital or laboratory expansion. In the near-term it is being considered as a possible swing space to decant academic functions as the first phase of the SOM replacement is built. In the long term this site offers an optimal staging area for the construction of phase 2 of the SOM replacement. Subsequent to that, the site is available to be utilized for hospital clinical/service space or bridging of the laboratory expansion zone.





Public Health Peninsula Buildings (375, 377, 379)

The site southwest of Building 521 on the west side of the 1900 East service road is occupied by three State of Utah facilities. The site fronts Mario Capecchi Drive.

This “Public Health Peninsula” consists of the State Department of Health/Fraser Building (375), Medical Examiner’s Office (377), and Children’s Special Needs Clinic, also called the WIC Building (379).

Current Use. The Public Health Peninsula buildings have been owned and occupied by the State of Utah, but are undergoing transition to the University. The University now owns the State Department of Health (375), also called the Fraser Building, which is planned for eventual demolition. The University anticipates receiving possession of the State Medical Examiner’s Office building in about four years, after relocation of the M.E. Office. The University is considering possible relocation of the existing WIC Building functions, so the Health Sciences Center can use that facility and/or site for programs or services more suitable to its location.



Eccles Health Sciences Library (589)

Located directly south of Building 521. Constructed 1971; 46,000 GSF

Current Use: The Eccles Health Sciences Library was built prior to the digital age and houses traditional library functions and carrel space for the School of Medicine. It has been transitioning to information and technology based resource systems in recent years.

Near Term and Long Term Uses: Creating a vibrant health sciences library of the future is one of the goals of the HSC Campus Master Plan. In the near term, the existing Eccles Health Sciences Library will undergo a redefinition phase. Its long term role in the HSC campus fabric is still under study.





4. *Growth Projections*

Introduction

This chapter contains:

- A summary of Health Sciences Center (HSC) space needs projections from the 2008 Campus Master Plan (CMP)
- Near term HSC campus space needs based on current planning and pre-planning studies
- Long term square footage potential for the HSC campus based on master planned building locations

2008 Campus Master Plan

The growth projections for the Health Sciences Center presented in the 2008 Campus Master Plan were based upon an overall campus analysis which identified a faculty increase for the HSC ranging from 10%-20% from 2006 to 2016, and 9% from 2016-2025. Space needs were projected to increase in proportion to increases in the number of regular faculty. At the time of the 2008 CMP, there were 1,217 full-time, regular-rank, tenure or tenure track and other faculty in the health sciences. Health sciences academic buildings were measured at a total of 1,225,445 assignable square feet (ASF), for an average of 1,007 ASF per faculty.

The future HSC space needs projections from the 2008 Campus Master Plan are shown in the table below.

HSC Campus Academic Space Projections

	2006*	2016	2025
Assignable Square Feet	1,225,445	1,374,863	1,495,211

* 2006 figure represents a measurement of existing campus space

2008 CMP HSC campus academic space projections

Population Growth

The HSC Campus Population Growth Projections table on the facing page applies the 2008 CMP growth rates to today's population counts. Notes regarding the current population counts include the following:

- Current HSC campus population counts are in alignment with 2008 CMP projections in all categories except medical faculty, which has outpaced the projection.
- Medical student growth includes a projected class size increase from the current 82 students to 102, with a future increase to 122 students.
- Staff growth has been projected to grow in proportion to the medical student class size and faculty growth.
- Healthcare growth includes both ambulatory patients and inpatients. Inpatient growth takes into account the finishing of current shelled space in the Level 5 West Pavilion with the potential of adding 34 beds. The master plan update has shown a possible increase in inpatients, visitors and hospital employees in proportion to the increase in the total bed count. The ambulatory patient count is not projected to grow, as a result of the University's strategic plan to shift some ambulatory patient care from the main campus to community clinic locations.
- Visitors are another large population group on the HSC campus. Growth projections assume an increase in visitors in proportion to overall campus growth.

The HSC Campus Population Growth Projections table shows that by the year 2025, the HSC campus will have a total daily population of approximately 14,697.

Future Space Needs

Short Term Space Needs

The master plan update included short term space projections that are based on demonstrated facility needs and current facility planning studies.

The concurrent University of Utah School of Medicine (SOM) Facility Study has shown that there is a short term need for additional space and other projects on the HSC campus that will increase overall campus square footage.

Planning or pre-planning is currently underway for these projects:

- Huntsman IV (approximately 220,000 SF)
- Administrative & Ambulatory Building (up to 100,000 SF)
- A potential new rehabilitation hospital (up to 120,000 SF)
- A central plant expansion (approximately 10,000 SF)
- A new parking structure (800-1,000 stalls)

These projects will impact the overall campus utility infrastructure as well as campus parking availability.

The anticipated removal of the existing 600,000 gross square foot School of Medicine (Building 521) will require space for decanting the current occupants. The School of Medicine Facility Study indicates the need for decant space for research, ambulatory/inpatient clinical and academic functions.

- Research functions will be absorbed into existing buildings in the campus research zone. The existing buildings will require upgrades to accommodate the relocated functions.

- Ambulatory/inpatient clinical functions will be accommodated through construction of a new Administrative and Ambulatory Building (AAB) and by absorption into existing facilities.
- Academic functions will be relocated on a temporary basis to existing space either on campus or in Research Park. The goals for these relocations are to limit the number of spaces that receive academic functions and to maintain a large block of current academic space together on a temporary basis. The temporary situation will occur during the demolition of the current SOM (Building 521) and construction of the new MED building.

Long Term Space Needs

The HSC campus will continue to grow beyond the short term needs discussed above. A long term plan that establishes potential future building locations has been developed in conjunction with the master planned reorganization of the campus and the creation of a campus heart in the new MED facility. Along with establishing a heart for the campus, the development of the campus functional zones, a new loop road and additional pedestrian pathways are key to the placement of future buildings. The potential growth from the footprints shown in the master plan update will allow the campus to accommodate as much as 4,351,067 additional gross square feet by 2025.

HSC Campus Population Growth Projections

	2013*	2020	2025
Population per Day	13,256	14,436	14,697

* 2013 figure represents a calculation of current campus population quantities

HSC campus population growth projections, based on 2008 CMP growth rates applied to 2013 population counts

Activity Based Space Model



When implementing the development or redevelopment of space that the master plan update recommends, the campus will consider a new space model for the assignment of space. The current model, which assigns type and amount of space based on staff positions or titles, is not projected to be used in the future. A new model which assigns space based on function and need (“activity based space model”) is seen to be a far more effective method of distributing space, a limited resource.

Not only is the activity based model space-efficient, it can enhance collaboration, team building and group learning. The activity based model incorporates private offices, group meeting rooms, breakout spaces, and conference space as well as open office space and touch-down (shared, short-term use) space.



Activity Based Space Models (Source: Steelcase)



5. *Plan Elements*

Master Plan Update

Introduction

This chapter identifies the broad organizing systems which relate to the basic plan elements established in the 2008 Campus Master Plan (CMP). It describes the evolution of these elements as represented in the master plan update for the Health Sciences Center (HSC) campus.

2008 Campus Master Plan HSC Facility Key

1. School of Medicine Replacement
2. John A. Moran Eye Center Expansion
3. Ambulatory Care Complex
4. Ambulatory Care Complex
5. Ambulatory Care Complex
6. Ambulatory Care Complex
7. Primary Children's Medical Center
8. University Hospital Expansion
9. Huntsman Cancer Institute, Phase IIB
10. Huntsman Cancer Institute Phase III
11. Infill - Medical Research Lab
12. Infill - Clinical Facility
13. Infill - Clinical Facility
14. Infill - Medical Research Lab
15. Infill - Medical Research Lab
16. Infill - Medical Research Lab
17. Infill - Medical Research Lab
18. LS Skaggs Pharmacy Research Bldg.

Differences between the 2008 Campus Master Plan for the HSC campus and the current master plan update are outlined below. These elements are described in more detail in this chapter.

Circular Road

The master plan update proposes a new circular road that crosses the interior of the HSC main campus, connecting with South Medical Drive, East Medical Drive and 1900 East to form a transit-oriented loop.

The MED

The School of Medicine replacement is now identified as the MED. Its proposed location has shifted eastward, directly south of the Hospital, in the location of the large 2008 master planned green space.

Knowledge Center & Plaza

A highly active plaza and below-grade Knowledge Center are part of the new MED complex.

AAB/Administrative & Ambulatory Building (Hospital Expansion)

A new building consolidating administrative hospital services and ambulatory clinical space is proposed directly west of the Hospital. It is shown with a future connector that will assist and encourage pedestrian travel between the Medical Center TRAX Station and the center of the HSC campus.

1900 East Vicinity

The configuration and placement of new buildings in the vicinity of the 1900 East service road, including the Public Health Peninsula, have been modified to accommodate the Circular Road described above.

Pedestrian Linkages

The master plan update proposes an enhanced pedestrian pathway system, particularly in the east-west direction. This includes:

- Well-defined, landscaped exterior paths
- Enhanced plazas and courtyards
- Pedestrian-accessible atria in new buildings or added to existing buildings

East Bench

The 2008 CMP proposed several buildings on the east bench, south of the future Huntsman Cancer Center and Institute buildings. These have been removed in the master plan update in order to accomplish the following: place new research buildings close to the newly master-planned research heart rather than at the campus periphery; restrict construction in the Heritage Preserve east of the campus; and avoid the high costs associated with constructing in the very rocky subsurface of the east bench.

South Medical Drive Vicinity

Modifications shown in the master plan update south of South Medical Drive include:

- Expansion of the central plant to the west
- A new parking structure is proposed directly west of the central plant expansion
- A new building is proposed directly south of the HSEB

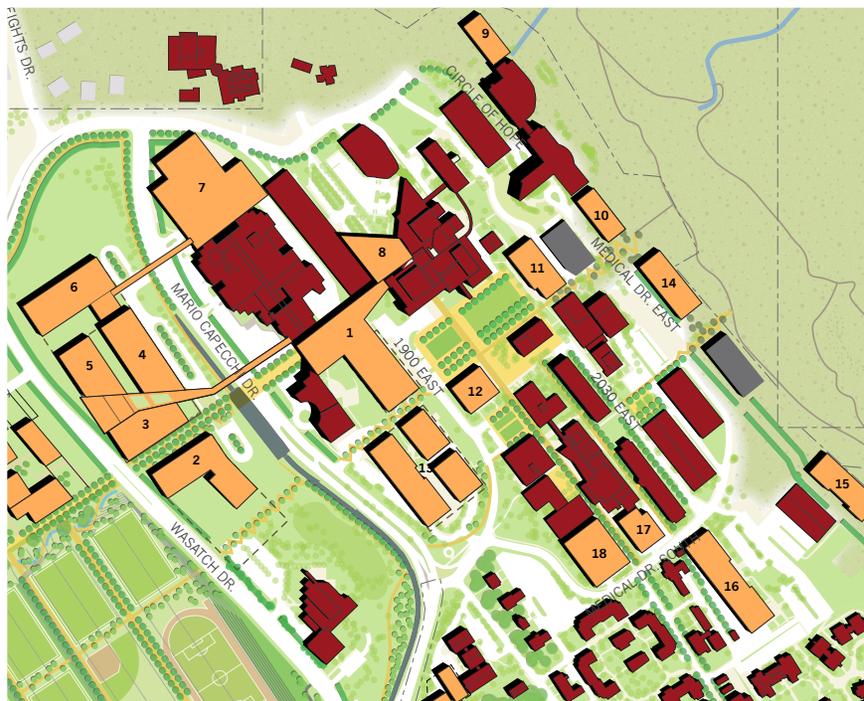
Recent Construction

Several projects have been constructed since 2008, including:

- Pharmacy research building (18)
- Hospital west pavilion (8)
- PCMC Ambulatory Care Complex and related parking structure (4 and 6)



Recommended HSC Master Plan Update



2008 Campus Master Plan, Health Sciences Center campus (Source: 2008 CMP)

- Existing Buildings
- Long Range Sequence
- Short Range Sequence
- Connective Space

HSC Campus Precincts

The 2008 Campus Master Plan divides the overall campus into twelve “Campus Precincts” which help to define geographic areas that have unique identities and character, and in some cases, separate functions. The University of Utah medical arena is made up of two precincts: East Campus, known as the Health Sciences Center, and Research Park.

East Campus Precinct

The East Campus Precinct is organized into three zones or corridors; clinical, research, and academic. Prior to 2008, the western boundary of the Health Sciences Center had been defined as Mario Capecchi Drive. Recognized

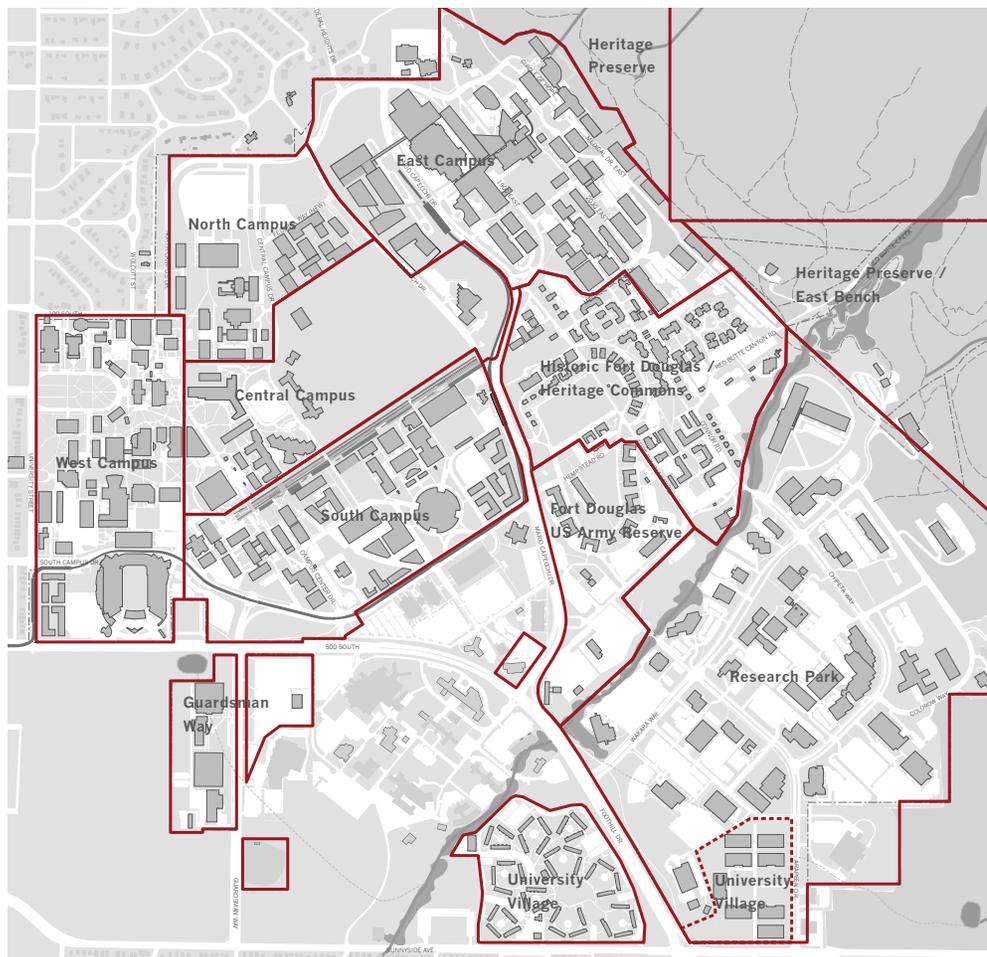
as the “land bank” for campus growth, the golf course property began to receive long range planning attention as early as the 2003 LRDP. The 2008 Campus Master Plan established a new western boundary which included the golf course area between Mario Capecchi Drive and Wasatch Drive. This zone is currently being developed as an Ambulatory Care Complex with outpatient services for Primary Children’s Medical Center (PCMC). The remaining portion of the site will be developed by the University, with possible program candidates including ambulatory clinic space or clinical research institutes.

East Campus Precinct’s southern boundary has also expanded to include the land currently occupied by the University’s Medical Towers which is part of the residential component of campus housing. This area lies south of South Campus Drive and is slated for change of use, in the year 2025+ planning window, to become future HSC research expansion.

The East Campus Precinct is bounded by North Campus Drive to the north, the Wasatch Foothills Heritage Preserve to the east, Wasatch Drive to the west and Heritage Commons Housing to the south. The East Campus Precinct land area is approximately 139.34 acres.

Research Park

Research Park Precinct represents the largest developed land area of the University. It was developed in the 1980’s on land previously owned by the U.S. Army. Approximately 2,930,000 square feet of development is currently located at Research Park, including 615,000 square feet owned by the University. Health Sciences Center clinics, research, faculty offices and departmental administrative spaces are the primary University tenants. The Research Park Precinct land area is approximately 348.44 acres (including land occupied by the East Village and the Madsen Clinic).



2008 CMP Campus Precincts (Source: 2008 CMP)

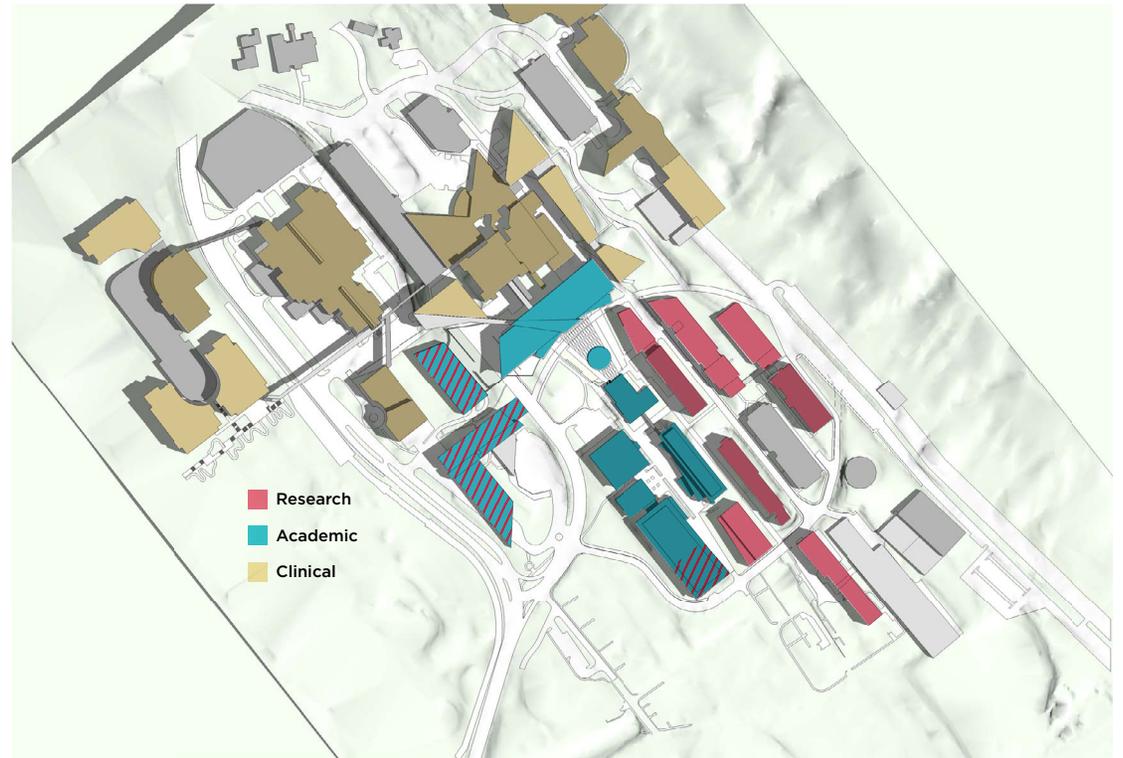


Campus Zones – Creating a Sense of Place around and in between a Needs Based Growth Pattern

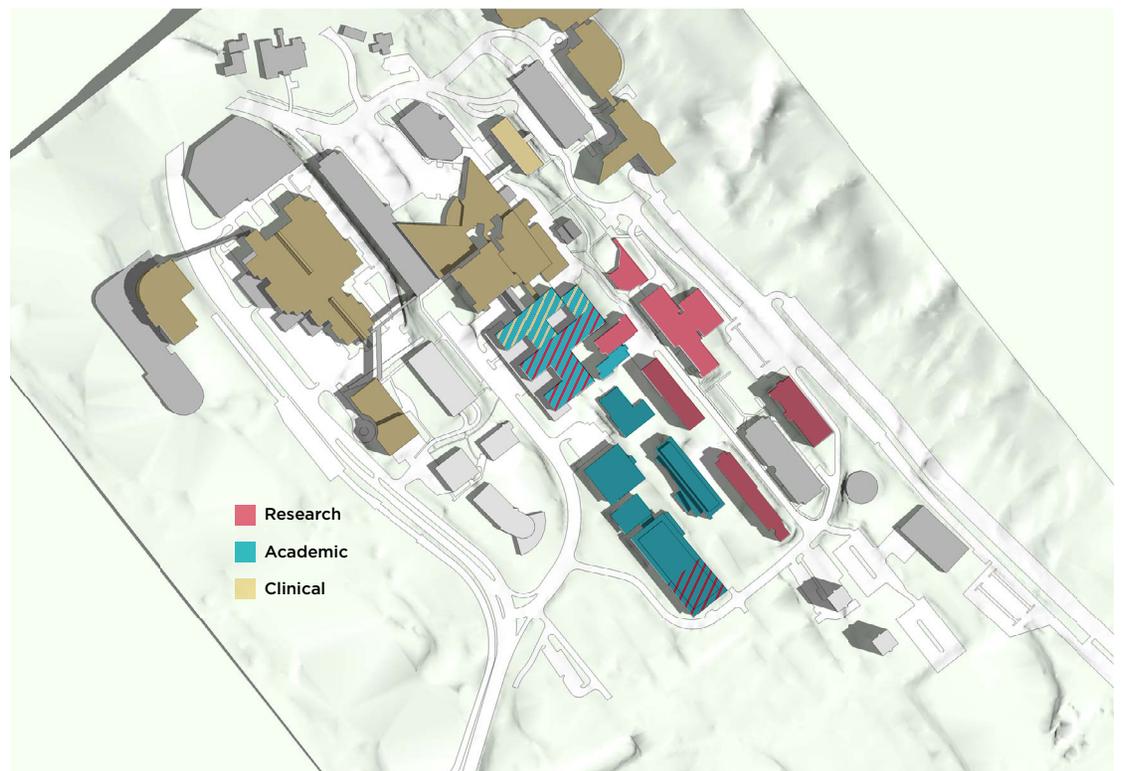
Since the 1950's, the HSC campus growth pattern is the result of a series of singular building developments based on need. Until 2008, the identification of formal campus zones had not been studied holistically from a true comprehensive master planning standpoint. Campus origins at the location of the MREB and original School of Medicine building, however, have spawned a coherent basic order of clinical, academic and research zones.

Truly memorable college campuses have an innate sense of place, organization and vitality related to the mission and purpose of each campus zone. First, the HSC does have a clearly defined clinical zone for which the Hospital and its west pavilion atrium is the recognized core. A second zone, the academic corridor, is created by the Eccles Medical Library, the HSEB Building, and Schools of Nursing and Pharmacy, and is gaining in definition but could profit from deliberate enhancements and clear “gateway” identifiers. The third zone, the research corridor, is defined around the CMC, EEJ Research Building, Biopolymers Building and Eccles Human Genetics Institute. This master plan update addresses its needs by proposing some organizing elements that would create a sense of place and purpose.

The overlap, or meeting point, of all three campus zones physically occurs at the MED and Knowledge Center site. As such, this juncture is ideal to create a true “heart” of HSC campus that would be a clear center, a vibrant, lively, social and active core area.



Functional zones, HSC Campus Master Plan Update: Long Range Plan
(future build-out shown in light tones)



Functional zones, existing HSC campus

Land Use

Existing Conditions

The 2008 Campus Master Plan identifies the general existing and future allocation and distribution of land and facility uses campus wide. As part of the overall land use distribution plan for the University of Utah, the Health Sciences Center, including clinical, research and academic uses, is located between Wasatch Drive and the Wasatch Mountain foothills as well as in Research Park. The recent HSC expansion to Wasatch Drive, utilizing the eastern section of the golf course, allows continuity with the newly developed Interdisciplinary Corridor west of Wasatch Drive and establishes a vital connection to main campus.

The Land Use Plan

The HSC master plan update incorporates the major elements of the Land Use Plan as they apply to the Health Sciences Center environment.

“Academic core uses, including classrooms and teaching labs and other buildings with a high daily student use, should be located within a 10-minute walk of the center of the core campus area”.

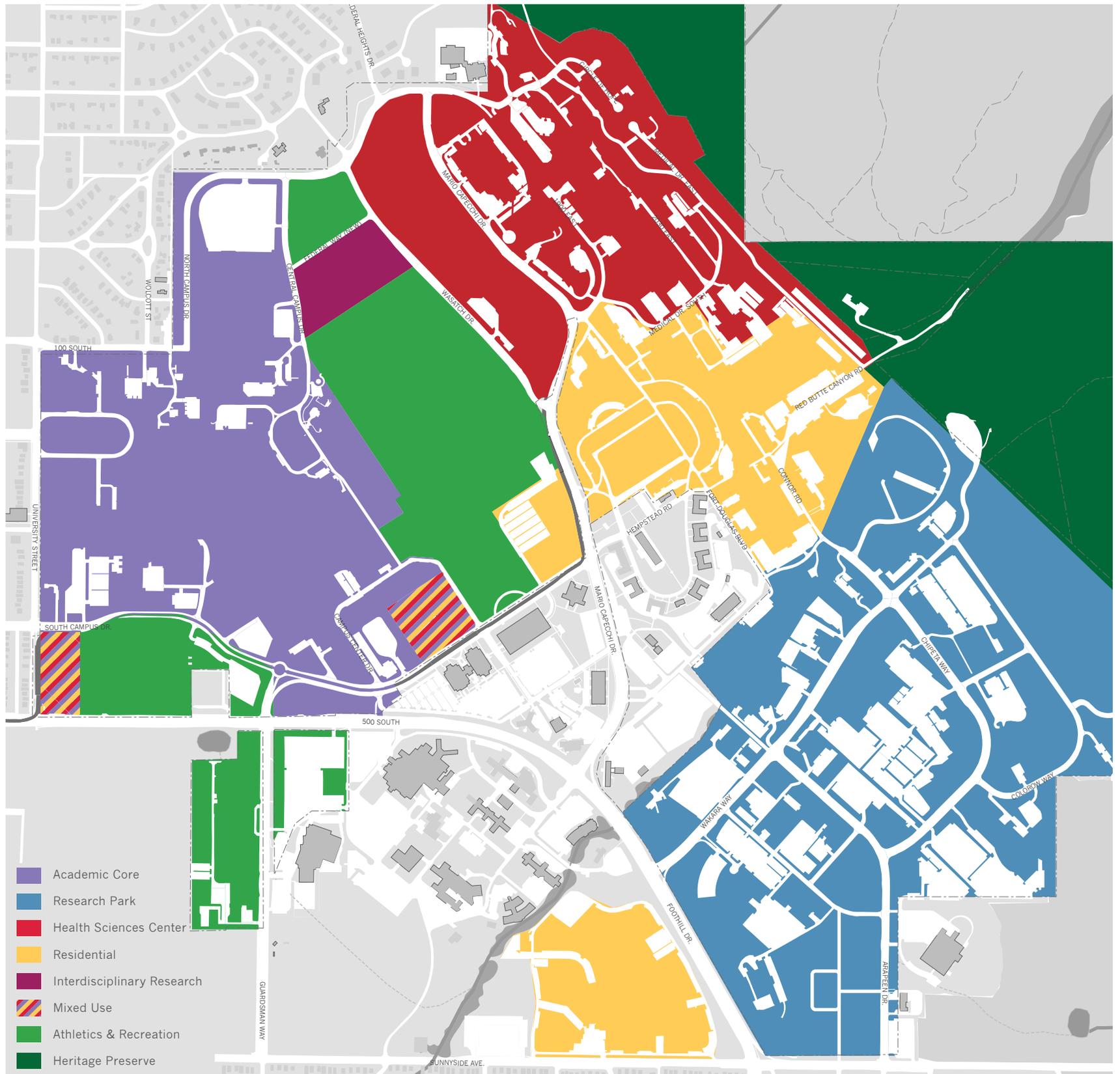
This recommendation can be translated into the effective walking distances experienced on the HSC campus. It is a strong influence in the siting of the new Medical Education & Discovery building at the heart of the Health Sciences Center. This recommendation is especially important in the topographically challenged bench arrangement of academic and research space. In addition, it supports the large number of clinical faculty with shared duties in the hospital/clinics and the classroom, who must traverse the campus.

“Mixed use development will be located adjacent to existing TRAX stations in order to capitalize on the opportunity to create vibrant gateways into campus, and to enhance pedestrian access into the academic core”.

For the Health Sciences Center, emphasis on creating a vibrant gateway at the Medical TRAX Station will include the development of key pedestrian amenities at the station’s bridge and tunnel connections, establishing a west portal for HSC.

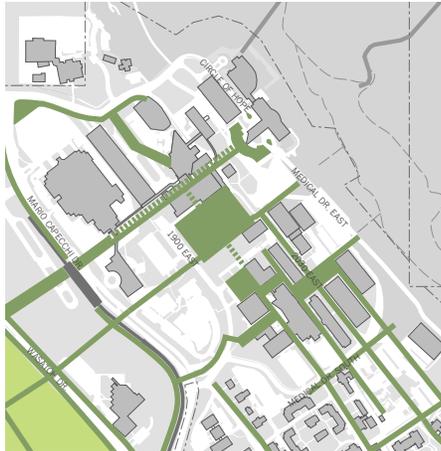
“The Health Sciences Center (HSC) will expand west and south to meet future facility needs. The new HSC boundary will include the golf course lands situated between Wasatch Drive and Mario Capecchi Drive, and between North Campus Drive and the Eccles Broadcast Center. The HSC will also include land currently occupied by the Medical Towers”.

The HSC master plan update still supports these growth zones. Research Park will continue to play an important role in providing temporary and long term solutions for decanting Building 521.



2008 Campus Master Plan Land Use Plan (Source: 2008 CMP)

Open Space



2008 CMP Open Space Framework, HSC Campus (Source: 2008 CMP)

The HSC campus was recognized during the 2008 Campus Master Plan as the highest density precinct of the UU campus in built area. Floor Area Ratio for main campus is 1.5, while it is 3.5 for the existing Health Sciences Center (Floor Area Ratio = total building GSF/total site GSF). The effect of this densely built portion of campus is exacerbated by its steep topography which does not allow for large expanses of flat open space.

2008 CMP Open Space Plan

The 2008 Campus Master Plan proposed two primary open spaces for the HSC. One of these was the Library Plaza, a protected view and open space at the western edge and front entrance to the Eccles Medical Library. This space is currently used for parking and loading access at the ground level of the existing library and has the appearance of a service area. The CMP proposed a grade level plaza with parking below, to create a welcoming outdoor space with views of downtown Salt Lake and the Oquirrh Mountains to the west.

The second proposed open space, located in the footprint of the existing Building 521, was more pronounced in size, extending east to the research corridor. This space was to be left open in the near term, providing a buffer space for the existing Hospital Building 525. It was considered a “land bank” for future expansion of the hospital to the south.

Master Plan Update Open Space

During the master plan update process, a different strategy for open space emerged after the preferred site for the School of Medicine replacement facility was determined to be its existing location. The revised plan creates a new circular road system and open space plan. Conceptual exploration of giving hierarchy to a central landscaped plaza space adjacent to the MED (the School of Medicine replacement facility) was considered an essential element for “place making”, which was paramount in the vision to create a heart for the HSC campus.

In reinforcement of the 2008 CMP guideline to enhance campus open space networks and linkages, a series of smaller supporting courtyards and other types of outdoor spaces are also part of this master plan open space strategy. In addition to landscaped pedestrian ways, this plan specifically recommends integration of supporting outdoor spaces that may be implemented within the scope of adjacent building projects:

1. **East Tunnel Walkway.** A semi-enclosed landscaped walkway link from the future tunnel to the connector lobby of the AAB will carry and cover pedestrian travel originating from TRAX and the Interdisciplinary Corridor. The walkway location would run along the north side of Moran Eye Center.
2. **Hospital-Connector Plaza.** An exterior landscaped plaza between the Hospital and the MED building would be built over a redesigned loading dock, on either side of the AAB-MED lobby connector. Its purpose would be to serve as an exterior respite space for patients and medical staff.
3. **Public Health Peninsula Entry Intersection.** A significant landscaped south setback is recommended at this site, along the north side of a redesigned vehicular intersection. Its features should frame the MED and HSC campus approach, and provide pedestrian friendly pathways with safe vehicle crossings.
4. **Tiered Gardens.** There are two recommended locations for tiered gardens that incorporate innovative ways to move pedestrians up to the academic corridor from a redeveloped Public Health Peninsula. One location is directly west of the Nursing and Pharmacy buildings. The other is directly west of the MED Knowledge Center plaza; in the development of this garden, it will be important to preserve the existing School of Medicine Hippocrates of Kos plane tree located at the southwest corner of the Eccles Health Sciences Library.



Health Sciences Center Master Plan Update open space

5. **Research Center Quad.** It is recommended to enhance the existing open space landscape east of the HSEB lobby, and south of the future CMC replacement to become more usable and active. In conjunction with access from winter garden atria, this outdoor space should provide dynamic and engaging outdoor features that create an interactive hub at this upper zone of campus. It should not only facilitate vertical passageways to eastern benches of campus, it will also play the role of welcoming and receiving pedestrians from the new south perimeter parking structure.
6. **Mini Courtyards.** Running east-west between every building lie otherwise residual spaces that should be designed to provide safe, habitable, exterior places of respite - places to stop, sit, read, or enjoy the vista. These micro courtyards may also be opportunities to screen functional elements such as exterior utility equipment or the like.

Campus & Community

As a key component of the University of Utah, the Health Sciences Center plays an active role in the greater Salt Lake City region, the State of Utah, and beyond. The HSC provides an array of community services in the areas of physical and mental health, health education and clinical research. Several factors which will influence the connection between the HSC and the greater surrounding communities are described on these pages.

Telemedicine

The HSC is working with advances in technology and communications to employ “telemedicine” as a vehicle for reaching the rural areas of Utah with primary and specialty care.

Increasing SOM Class Size

Under the leadership of Dr. Vivian Lee, the University of Utah has requested that the State Legislature fund an increase in the size of the medical school class in an effort to avoid a potential health crisis in the State of Utah. The mounting shortage of primary care physicians in the rural areas of the state, along with the increasing population of elderly patients, has lowered Utah’s ranking of physician to patient ratio to 47th in the nation. As the flagship university for the State of Utah, the HSC leadership is working to help resolve this issue.

Clinical Facilities

The University of Utah HSC provides expert care in these nationally and internationally known facilities:

1. **University of Utah Hospital:** The University Hospital is a tertiary care referral center. It is highly regarded for programs in orthopedics, stroke, ophthalmology, cancer, newborn intensive care, radiology, fertility, cardiology, genetic related diseases and organ transplant. The hospital is also a nationally verified Level I Trauma Center.
2. **Huntsman Cancer Hospital (2A) & Huntsman Cancer Institute (2b):** Huntsman Cancer Institute is a nonprofit research and treatment center and a National Cancer Institute-designated cancer center. The institute includes research, education and patient care programs and facilities, among them the 50-bed Huntsman Cancer Hospital, which is part of the University of Utah Hospitals and Clinics system.
3. **Huntsman IV (2c):** Huntsman IV is a new 220,000 gross square foot cancer research center anticipated to be constructed within the next five years.
4. **Moran Eye Center:** The Moran Eye Center is the largest vision treatment and research center between the west coast and Texas. The new Moran Eye Center building located at Mario Capecchi Drive was officially opened in 2006. The building includes 210,000 square feet of diagnostic and treatment, surgical and research space.
5. **The Clinical Neurosciences Center (CNC):** The existing Clinical Neurosciences Center, located on the HSC campus east of the hospital, is anticipated for long-term replacement and integration with future hospital expansion facilities. The CNC emphasizes communication and collaboration between the Departments of Neurology, Neurosurgery and Radiology in the research and treatment of neurological conditions. This collaboration and interdisciplinary integration results in exceptional patient care and a depth of expertise in the diagnosis and treatment of brain, spine and nervous system diseases and disorders.
6. **Primary Children’s Medical Center (PCMC):** The PCMC, located at the northwest corner of the HSC campus, is owned and operated by Intermountain Healthcare, a charitable, community-owned, nonprofit

health care organization based in Salt Lake City. It also hosts University Hospital affiliated pediatricians. PCMC serves the needs of children in the states of Utah, Idaho, Wyoming, Nevada and Montana. The hospital is equipped to treat children with complex illness and injury and is recognized as one of the top children's hospitals in the United States.

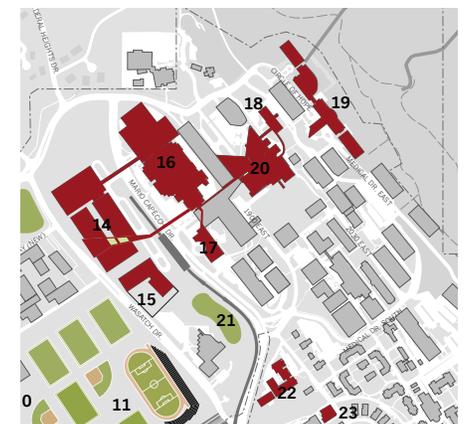
- 7. **PCMC Ambulatory Care Center:** Currently under construction, the PCMC ACC will provide space for ambulatory care clinics currently located in the Primary Children's Medical Center.
- 8. **University Neuropsychiatric Institute (UNI):** The UNI facility is a 150 bed full-service psychiatric hospital providing inpatient, partial hospitalization, intensive outpatient, and outpatient services for children, adolescents and adults. UNI is set on a 10-acre site

in the Wasatch Mountain foothills of Research Park adjacent to the University main campus. As a full teaching hospital and regional center for excellence in mental health care and training, UNI has clinical programs in Psychiatry, Pediatrics, Neurology, Psychology, Social Work, Education, Nursing and Recreational Therapy.

- 9. **Rehab Patient Services:** Rehab Patient Services are currently provided in Building 521 and will be relocated prior to the Building 521 demolition. Relocation possibilities include the University Hospital Level 5 or inclusion in a future hospital expansion building (site to be determined).
- 10. **University ACC Site:** This is a site for a potential future clinical or research facility. It has been master planned at 220,000 gross square feet.



Health Sciences Center clinical facilities, existing and Long-Term Master Plan



2008 CMP Town & Gown Facilities, HSC Campus (Source: 2008 CMP)

Pedestrian Circulation

The steep topography of the Health Sciences Center campus, which translates into a 180-foot grade change between the Medical Center TRAX Station on the west and the Huntsman Cancer Center on the east, creates a challenging pedestrian circulation system. Accessibility based upon the Americans with Disabilities Act (ADA) requires a shuttle system in order to navigate the East Campus Precinct with any speed and perceived safety. Pedestrian sidewalks are sporadically placed and too often usurped for temporary building maintenance equipment and service vehicle parking. Pedestrian movement is more easily accomplished along the north-south benches which are relatively level. The grade change from west to east requires exterior stairs that are not currently organized with any regularity from a campus-wide perspective and do not provide ADA accessible routes in many cases. The sidewalk availability at the academic corridor is intact, while the research corridor roads have sidewalks on one side of the street without continuity. The eastern road system, commonly known as “Route 66”, is most dangerous for pedestrian movement as it is mixed with parking and has little dedicated sidewalk.

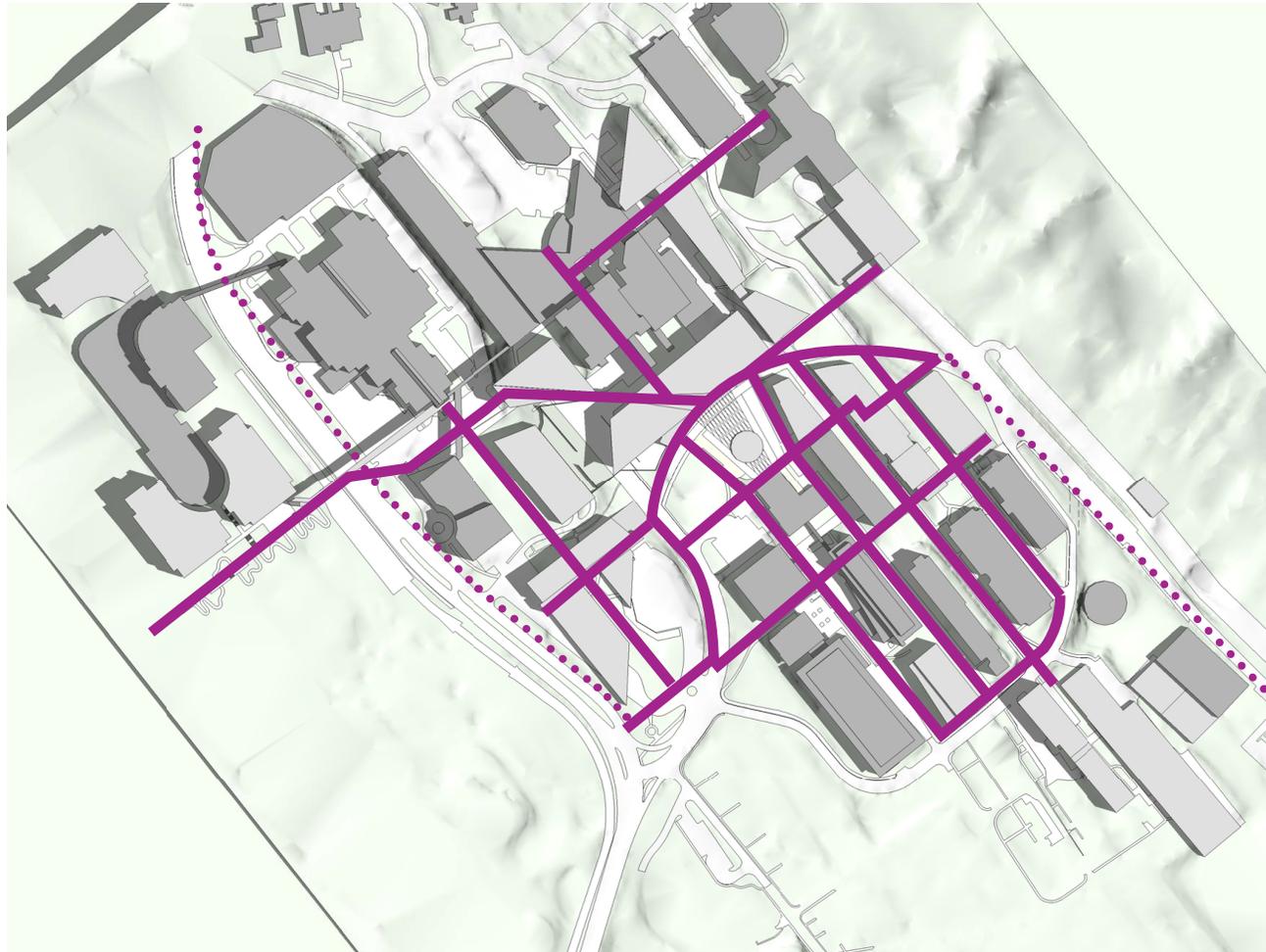
The Plan

In the master plan update, pedestrian movement is encouraged by creating a sidewalk system with continuity, and by including appropriate respite and waiting areas along destination pathways. Sidewalks need to be sited in a manner that creates efficient paths of connection; this will increase their use and prevent them from being ignored.

As part of the MED building, the planned Knowledge Center establishes a new pedestrian circulation route as well as a culmination of the HSC academic corridor. The master plan update also provides east-west pathways that will serve to complete connectivity on the campus, which is implied but at this point sporadically executed.

The development of the new Ambulatory Care Complex west of Mario Capecchi Drive has led to consideration of a pedestrian sidewalk system in this zone of the HSC campus. There are advantages and cautions to be considered. In order for a designated pedestrian pathway to be established along Mario Capecchi Drive, the vehicular travel speed would need to be reduced substantially and traffic signaling would need to be added. The current speed of vehicular movement and the limited visibility on the curved roadway pose a significant potential hazard to pedestrians. Jay-walking across Mario Capecchi Drive is a frequent occurrence, as students and staff cross the road at a diagonal, attempting to shorten their walk to the Medical Center TRAX Station. A sidewalk along the east side of the road would cross the ambulance entrance for PCMC, representing another potential hazard. Pedestrian sidewalk development for Mario Capecchi Drive will need to be reconsidered, along with adjustment of the drive to a lower speed artery for the campus.

One of the goals expressed during the master plan update visioning session was to establish a pedestrian friendly campus with limited vehicular traffic within the center core of campus. As proposed by the master plan update, service vehicles and a shuttle system would be the sole users of the campus north-south corridors, with their frequency limited so as to encourage pedestrian and bicycle movement throughout the academic and research zones of the HSC. The section of the new circular road which passes in front of the MED would be limited to mass transit vehicles and would be designed to have the appearance of a plaza rather than a road.



Health Sciences Center Master Plan Update pedestrian circulation

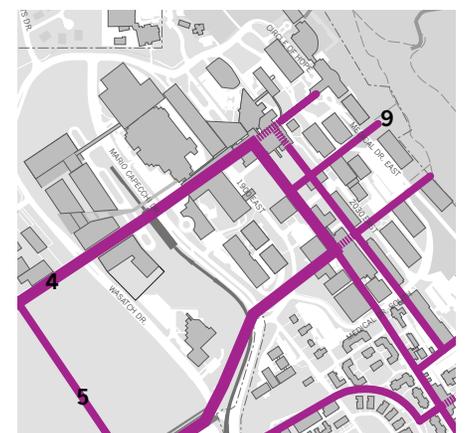


— Main Pedestrian Ways

..... Suggested Pedestrian Ways

The HSC master plan update recommends providing new sidewalks at the following locations:

- East side of Human Genetics Building
- East side of Emma Eccles Jones Medical Research Building
- Both sides of new road construction at Route 66 and new Huntsman IV facility
- East-west sidewalk passage between the College of Nursing and the pharmacy building, extending westward as the Public Health Peninsula site is developed in the future
- Complete sidewalk system included with the new circular road system



2008 CMP Pedestrian Circulation, HSC Campus (Source: 2008 CMP)



Bicycle Circulation

Bicycle Network Definitions

Bicycle Routes: Bicycle routes refer to streets designated as shared roadways for bicycles and motor vehicle traffic. Bicycle routes do not have a defined space for cyclists, but have signage indicating that the roadway is a bicycle route. They do not require pavement widening or right-of-way acquisition.

Bicycle Lanes: Bicycle Lanes are travel lanes painted on pavement to provide space for bicyclists on roadways.

Bicycle Paths: Bicycle Paths should provide travel space for bicycles separate from pedestrians and vehicular traffic, and have sufficient width to accommodate two-way bicycle traffic. Bicycle paths should be at least ten feet wide and indicated for use by bicyclists only, using signage, pavement striping, bollards, or a combination of means.

Bicycle Stations: Bicycle stations create centralized locations where cyclists can access a variety of services. These can include:

- Secured bicycle lockers or a bicycle check with attending staff
- Showers, changing facilities, and clothes lockers
- Minor bicycle repair
- Goods for purchase (for example: lights, energy bars, patch kits, or extra tubes)
- Bicycle rental for on-campus use

Existing Conditions

Although currently there is not adequate provision for a safe and continuous bike circulation system on the Health Sciences Center campus, it is evident that the HSC is an integral part of a larger bike path network. The network connects with downtown Salt Lake to the west, the Avenues and Federal Heights neighborhoods to the north, Sunnyside Avenue to the south, and the Bonneville Shoreline Trail system to the east.

The Plan

The HSC master plan update encourages the development of a bicycle circulation system that can tie into the Salt Lake City regional bike routes and complete the proposed bike path system identified in the 2008 Campus Master Plan. In addition to providing commuter TDM mitigation, the bike path system plays a key role in the Wasatch Mountain foothills corridor outdoor recreation system.

The upgrade to the road system along Medical Drive East (“Route 66”) at the east edge of the HSC campus, should include provisions for segregated pedestrian and bicycle movement. Previously, the 2008 CMP identified a “Proposed Bicycle Lane” along Chipeta Way in Research Park, which would connect to established bicycle lanes south and west of Research Park.

The HSC master plan update proposes additional recommendations. In order to provide continuous bicycle connectivity, the following bicycle routes, lanes or paths should be established to serve the Health Sciences Center campus:

- Extend the “Proposed Bicycle Lane” at Chipeta Way to include a “Proposed Bicycle Route” on the south side of the HSC along South Medical Drive to mitigate the narrowness of the road.
- As South Medical Drive crests the hilltop and becomes East Medical Drive, provide a full “Proposed Bicycle Lane” and pedestrian sidewalk at the eastern edge of the HSC.
- East Medical Drive intersects with the new circular road which defines the HSC academic and research proper. The “Proposed Bicycle Lane” would continue onto this ring road, passing in front of the new MED and descending the hill to connect to the “Proposed Bicycle Path” along Mario Capecchi Drive.
- Medical Drive East would continue north as a “Proposed Bicycle Route”.
- The road system that bounds the campus to the north has three segments and names. All three (North Medical Drive, North Campus Drive and 100 South) should be included in the completion of the bicycle network on campus and become a “Proposed Bicycle Route” connecting at the northwest edge of campus to the 2008 CMP proposed bicycle movement system.

Support Facilities

In addition to establishing a more complete bicycle network, all new building construction should incorporate showers and changing facilities at the ground level. Bicycle stations will be provided on main campus and in the adjacent residential precincts.



2008 CMP Bicycle Circulation, HSC Campus (Source: 2008 CMP)



- Proposed Bicycle Lane
- - - - Proposed Bicycle Route
- Proposed Bicycle Path
- Bicycle Station

Bicycle circulation plan, HSC Master Plan Update

Salt Lake City Transportation Master Plan Road Classifications

Arterial Streets: Arterial streets facilitate through traffic movement over relatively long distances such as from one end of the city to the other and from neighborhood to neighborhood. Arterials are generally Multi-Lane streets carrying high traffic volumes at relatively high speed limits. These are commuter streets and typically offer controlled access to abutting property.

Collector Streets: Collector streets provide the connection between Arterial and Local streets. Collectors can be Multi-Lane, but are meant to carry less traffic at lower speeds and for shorter distances than Arterials. They provide direct access to abutting property and carry a mix of local traffic and commuter traffic headed for nearby destinations.

Local Streets: Local streets provide direct access to and from abutting property. Local streets are usually one lane in each direction meant to carry traffic over short distances and at low speeds.

Vehicular Circulation

The 2008 Campus Master Plan defined the significant roadways on campus as well as those surrounding and leading to the University of Utah campus. This section identifies new or revised roadways that are pertinent to the HSC master plan update.

Mario Capecchi Drive

The road coding system defines Mario Capecchi Drive as an arterial street from Foothill Drive to South Campus Drive. The coding changes it to a collector street at the traffic signal, which initiates a slow-down in speed. In reality, few drivers actually slow down as they move northward and approach the PCMC and University Hospital.

Increase Speed Enforcement Measures

Consideration should be given to additional visual speed monitoring along Mario Capecchi Drive, from the intersection of South Campus Drive to North Campus Drive. This may help to reduce speeding in this 25 mph zone between the Medical Center TRAX Station on the west and the Moran Eye Center and PCMC on the east. With the development of the new PCMC Ambulatory Care Center, Mario Capecchi Drive traffic presents a hazard to the split hospital and ambulatory services, as well as the proposed bicycle path along this route.

Shuttle Routes

The new shuttle along the main campus HPER Mall would be able to pick up Fort Douglas TRAX Station riders at the new Student Life zone of campus. This could provide a southeast route link to the proposed new circular road system and the MED. The shuttle route could travel east along South Medical Drive, then north on East Medical Drive, connecting with the MED on the new proposed circular road. The University Commuter Services Office is best suited to determine the optimum shuttle routes and frequencies. The recommendations in

the HSC master plan update are identifying the potential new transit hubs associated with an improved roadway system on the Health Sciences Center campus.

South Medical Drive Intersection

As the primary vehicular entry for the HSC campus, a redesigned intersection should be taken into the short and long term development considerations for the Public Health Peninsula precinct. It is currently a prohibitive pedestrian environment as well as an unclear vehicular gateway. It has great potential not only to function better but, as importantly, to announce HSC campus identity and arrival from the south and west views.

Service Access Routes

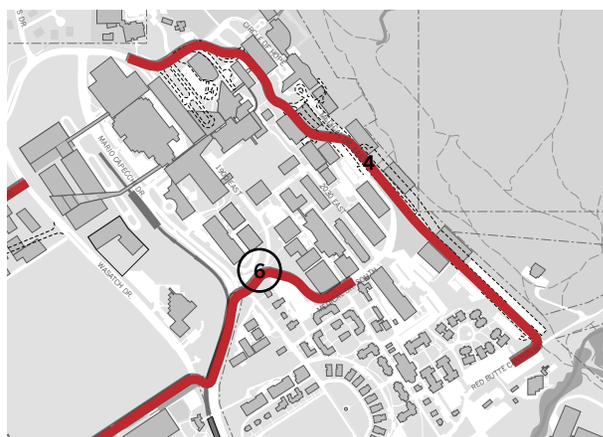
Health Sciences Center service access routes for existing research labs and academic facilities are provided along the campus interior north-south roadway systems. Building 521 has service access from 1900 East street on the west which is used for the hospital incoming and outgoing service docks.

As the master plan update is implemented, strong efforts should be made to separate service vehicle traffic from pedestrian and bicycle movement, in order to avoid vehicular, pedestrian and bicycle conflicts.

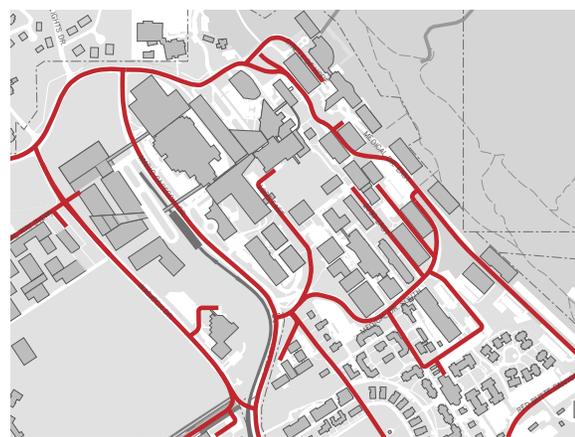
Roadway Improvements

The master plan update strongly supports two roadway improvement recommendations in the 2008 CMP:

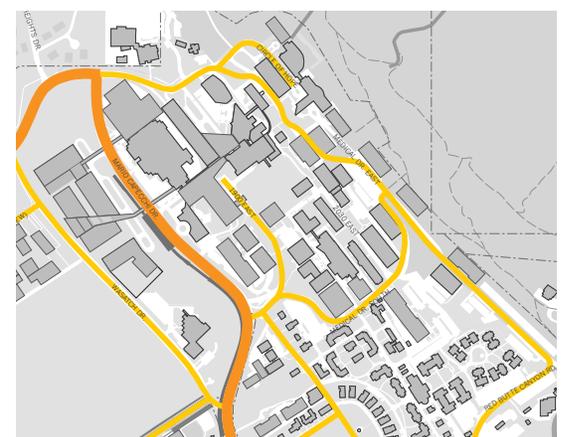
- The creation of a well-defined roadway along “Route 66” on the eastern edge of the HSC campus.
- Continuation of the east roadway southward to Research Park, where it would connect with Wakara Way and the entire Research Park roadway system (illustrated in the 2008 CMP Campus Roadway Improvements plan on the facing page).



2008 CMP Campus Roadway Improvements
(Source: 2008 CMP)



2008 CMP Primary Service Access & Circulation
(Source: 2008 CMP)



2008 CMP Proposed Road Framework
(Source: 2008 CMP)

Transit and Parking

Mass transit and parking planning on the University of Utah HSC campus is a sensitive issue because it not only impacts faculty, staff and students but also patients and visitors. There are currently 150-300 people on a waiting list for parking permits that allow easy, direct access to buildings. The transit culture has been centered on the personal automobile, and the expectation of convenience.

Two factors are now driving the need for a transit culture shift: 1) HSC and general campus projected growth and 2) the vision of a high quality HSC campus experience within a finite land area. A subcommittee made up of Commuter Services, Campus Planning, HSC Administration, traffic engineers and the planning consultant team was formed to develop internal campus parking and transit recommendations. The findings of this HSC Master Plan Parking & Transit Subcommittee are based on data known at this time, and include structured parking approach options, as the University continues to study and define more specific Transit Demand Management (TDM) strategies. Recommendations in this plan are presented as flexible options that can be applied as the University initiates a broader comprehensive transit study with regional partners.

Current Direction

The University has 3,280 parking stalls on the HSC campus, with approval to add a new 800-1,000 stall parking structure. Funding for the new structure is included within the University's Parking Fee/Rate Schedule.

In the past, the University's parking strategy has been to add capacity as parking demand has increased. The 2012 Parking Recommendation Study sited two connected parking structures at the center of the HSC campus adjacent to the CMC and east of the HSEB. The 2012 recommendation is not optimal, and the past parking strategy of creating new spaces with each new building is not sustainable, for three reasons:

1. **Cost.** Adding parking on the HSC campus requires constructing multi-level parking structures, usually on the site of current surface parking. Although in the long run structured parking is less expensive than maintaining surface lots, the initial cost of building structured parking is not financially feasible within the current parking fee structure, when convenience factors are applied.
2. **Traffic Congestion.** The campus location in a corner of the Salt Lake valley creates serious access and congestion issues. Salt Lake City is currently studying ways to mitigate existing overcrowding and traffic challenges on Foothill Drive, the primary HSC campus access roadway. Even if the University had a strategy to pay for and provide additional convenient structured parking on campus, traffic and access issues would make additional parking inadvisable.
3. **Pedestrian Environment.** The Vision for the HSC Campus Master Plan emphasizes achieving a unified series of pedestrian exterior environments, corridors and linkages. This is as much for convenience as it is for enabling more human interaction during the course of the day. As a top ranking medical campus, Utah is often compared to other Health Sciences campus settings that are more dense, pedestrian oriented and urban. Utah's outdoor spaces and vistas are high on the list of differentiating this campus and are valued as a recruiting asset. Continuing to accommodate the personal automobile with a high parking stall ratio on campus, or locating structures in the open spaces found in the heart of campus, prioritizes vehicle space over people space. In both dollars and land use, integrated parking assigned to each building or at the center of campus limits the ability to achieve pleasant and safe connective exterior-to-interior programmable environments.

For these reasons, the University's past parking strategy is no longer sustainable and a new strategy that limits vehicular traffic to campus must be developed.



Proposed AAB and MED Buildings



Existing HSC campus parking locations

Structured Parking

Under Building Parking

Surface Parking

Population

The planning consultants compared today's HSC campus population (including faculty, staff, students, patients and visitors) with the projected growth outlined in the 2008 CMP. Most population growth is on target, although clinical faculty growth has been greater than projected. The analysis led to adjusted growth projections, which show that population counts for 2025 will be higher than those presented to University administration during the 2008 CMP approval process. The numbers presented include all of the HSC population, faculty, staff, students, patients and visitors.

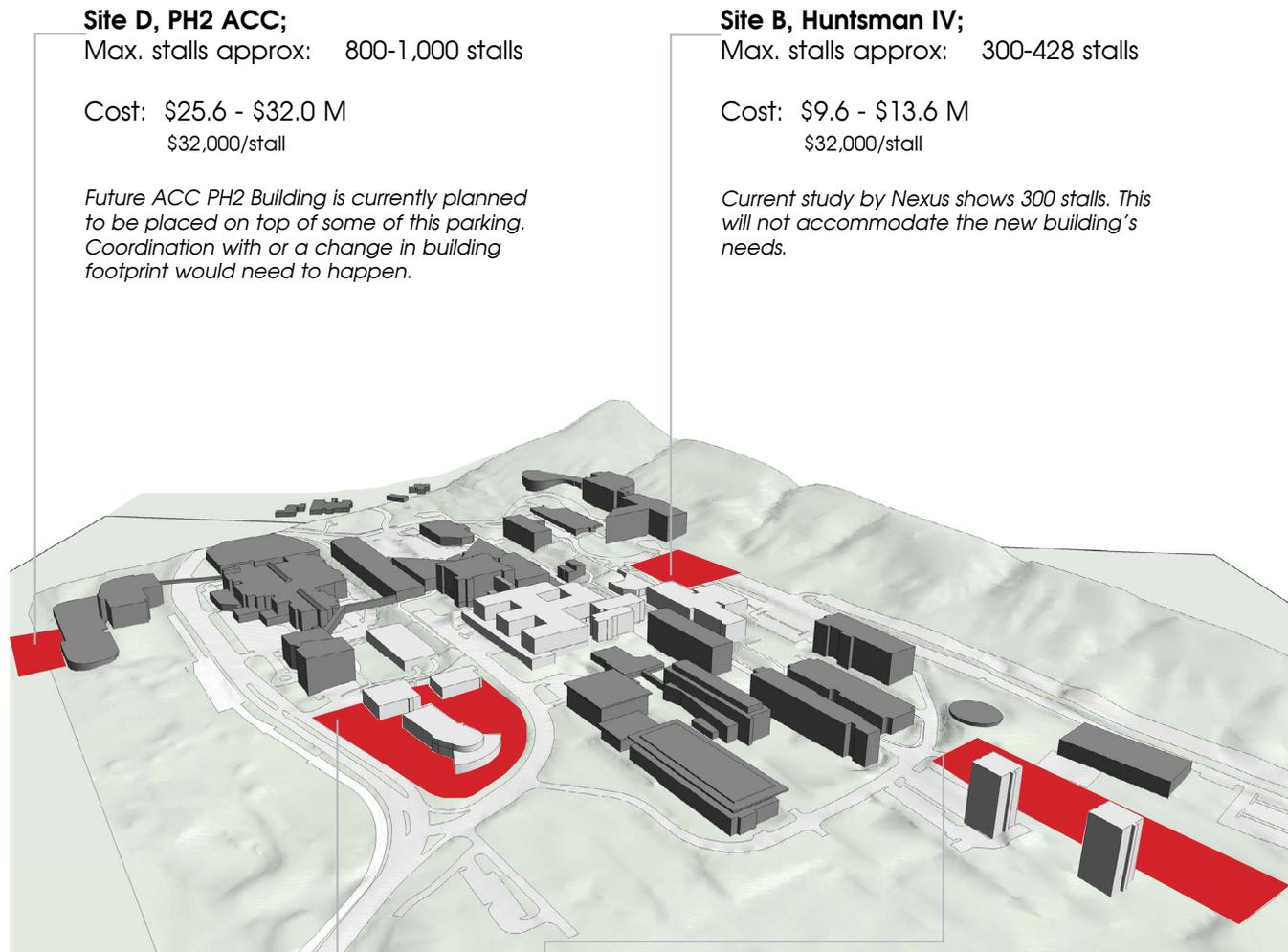
Parking Counts

Existing HSC parking counts and usage have been reviewed and verified through Commuter Services and HSC administration. The quantity of existing stalls per person is lower than on main campus and substantially lower than a national average that would promote convenience and a stressless experience. In order to meet the national average for its current population, the HSC campus would need 361 additional stalls.

Not all current parking on the HSC campus is conveniently located or safely accessed. Much of the upper east bench parking (Route 66) has limited access to campus and is lacking defined pedestrian pathways between parking areas and the campus. If new buildings, not shown in the master plan, are proposed in the future along the upper east bench, their parking requirements should be evaluated autonomously, and reinforce future TDM strategies. It is also noted that walkways from any potential bench buildings will be needed to connect pedestrians safely to the center pedestrian network of the HSC campus. The long term recommendation of the HSC Master Plan is that public vehicle traffic should be reduced to an absolute minimum, reserving circulation along the upper bench of campus for service access, intra-campus and commuter transit vehicles.

As the traffic patterns and congestion areas were reviewed, it became apparent that much of the current campus structured parking is located along the patient corridor off North Campus Drive or along the east bench. Continued increases in parking accessed from North Campus Drive will only increase traffic congestion and is not recommended. Placing new parking on the other perimeters of the HSC campus will shift the campus focus away from parking and place the focus on the pedestrian experience. The notion of not being able to park "next to the front door" will be a culture shift for the University staff and public. In the short term, positioning a parking structure at one of the recommended locations may reduce new structure's initial usage. However, it will provide needed incentive to increase usage of longer term improved campus transit initiatives. This recommendation reinforces the Guiding Principles in this master plan, expressed through stakeholder visioning.

Four potential sites for new parking structures have been identified: Site A, Medical Towers; Site B, Huntsman IV; Site C, State Site; and Site D, Phase 2 ACC. Each site has advantages and disadvantages. See Diagram MTP-1.



Site D, PH2 ACC;

Max. stalls approx: 800-1,000 stalls

Cost: \$25.6 - \$32.0 M
\$32,000/stall

Future ACC PH2 Building is currently planned to be placed on top of some of this parking. Coordination with or a change in building footprint would need to happen.

Site B, Huntsman IV;

Max. stalls approx: 300-428 stalls

Cost: \$9.6 - \$13.6 M
\$32,000/stall

Current study by Nexus shows 300 stalls. This will not accommodate the new building's needs.

Site C, State Site;

Max. stalls approx: 2,720 stalls

Cost: \$145.1 - \$158.2 M
\$53-58,000/stall

The costs above reflect the parking structure and 2 entry/exit tunnels off Mario Capecchi Drive

Project may help with the replacement of the Medical Center Parking Terrace (also called West Terrace)

This structure is recommended as part of a larger project of programmed future buildings, and therefore dependent on that timeline of construction. This site would be an excellent location for a campus transit hub.

Site A, Medical Towers;

Max. stalls approx: 1,000 stalls

Cost: \$24.5 - \$27.5 M
\$24,500-27,500/stall

The costs above reflect the improvement (development) of the connector road to Research Park.

This project could be expanded to the west and incorporated into a mixed use project, adding parking stalls as well as housing and green space.

Diagram MTP-1, parking site options identified over 2013 campus view

The current recommendation is to develop **Site A, Medical Towers** in conjunction with the development of the proposed new loop road and a shuttle system that would connect the new structure with the Hospital and Huntsman Cancer Institute.

The **Site C, State Site** is preferred from a location standpoint, but new parking on Site C must be in conjunction with the construction of new buildings on the site. The current HSC campus master plan doesn't identify current building needs for the State site.

Although **Site B, Huntsman IV** is attractive from a location viewpoint, it could present congestion challenges. A parking structure on that site also has a high cost for a minimal number of stalls. The limited number of stalls gained does not sufficiently address HSC campus parking issues.

Site D, Phase 2 ACC was reviewed and ruled out because of distance and lack of connectivity with the main HSC campus. In addition, the current master plan for this site shows a building constructed above the parking structure, which is a timing issue for current parking needs.

Campus Access

The University, UTA, UDOT and Salt Lake City are beginning a transportation study that will develop a comprehensive plan to address issues of campus access from the surrounding areas, and identify particular Transportation Demand Management (TDM) strategies.

Past traffic studies have reviewed the major intersections along Mario Capecchi Drive, Wasatch Drive and North Campus Drive. This Master Plan Update contains an implementation plan for the improvement of these intersections.

Pedestrian access to the HSC campus has improved with the current completion of sidewalks and bike paths on the west side of Mario Capecchi Drive. However, simply extending this approach along existing circulation routes will not address the challenges of easing and encouraging pedestrian movement up the significant topographic change from Mario Capecchi Drive to the upper east bench. This Master Plan Update addresses these issues with recommendations for:

- a quality pedestrian experience from the TRAX Medical Center Station to the center of the HSC campus
- a new circular roadway (loop road) for shuttles;
- a central multi-functional exterior plaza that collects pedestrian pathways from all directions on the HSC campus;
- strengthening and linking existing walkable pedestrian environments; and
- improving east-west exterior spaces throughout the campus.

Mass Transit

Salt Lake City has one of the strongest mass transit systems in the country. The usage of mass transit for the HSC campus appears to be about 8.5% of the HSC population (including both UTA buses and TRAX) or about approximately 1,119 riders per day. Campus Commuter Services has analyzed UTA routes and estimates that 30-35% of the University's population is under-served by UTA existing bus routes. UTA has cut bus routes to increase TRAX ridership, yet a significant geographic area (the upper east side of the Salt Lake valley) is not well served at this time. The University is working with UTA to reinstate east side bus routes.

Through a number of surveys completed by Commuter Services most riders ask for 'convenience of use' when discussing mass transit. This convenience includes time of travel, ease of access to/from the mass transit system, and schedules.

Several possibilities for TDM implementation are currently being discussed. The University of Utah can work with UTA to reinstate local bus routes as quickly as possible. In addition, they can work with UDOT and Salt Lake City to develop bus lanes on some of the major north-south roadways in the valley (Foothill is one example). These bus lanes would encourage bus ridership and could be a stepping stone to developing a park and ride system for the University. The University could partner with initiatives to develop a network of park and ride lots along the east side of the valley and shuttle the University's population via express buses using the new bus lanes. The University tested this model in the past using express buses from Utah County. Ridership was 350 people per day, a respectable percentage of the population coming to the University from that area.



Master Plan Update recommendations for improved transit and pedestrian access on the HSC campus

After arriving on campus, transit riders would use the proposed new loop road shuttle system for fast and convenient access to the various sectors of the HSC campus. The loop road would connect with an integral network of pedestrian pathways. A key component of the pedestrian pathway network is a proposed tunnel and/or bridge which would cross Mario Capecchi Drive at the Medical Center TRAX station, providing safe access to the center of the HSC campus.

Riders of mass transit want bus and TRAX schedules that meet their needs without adjusting their personal schedules more than 10 to 15 minutes. It is recommended that the University review transit schedules along with shift and class schedules to see if synergies could be gained.

Conclusion

This campus master plan update shows proposed campus development which represents only a part of the solution to access, transit, and parking issues. Implementing the shuttle loop road, tunnel/bridge and network of pedestrian walkways throughout campus is the physical or construction part of the solution. In conjunction with this, the HSC campus should go ahead with the planning and design of the currently approved parking structure at one of the identified locations in this plan, or at another perimeter site location. It is recommended that the HSC campus reserves sites and open space within the circular loop road to create a compact and active pedestrian precinct of academic and research buildings, anchored by the new MED building.

The HSC campus central precinct, within the loop road, is a defined armature of circulation pathways and hierarchy of open spaces. This armature allows service vehicle access and will permit adaptation of a variety of transit modes between buildings. The long-range plan of TDM implementation should consider the central HSC precinct, inside of the loop road, as a primary destination. As the University develops and incentivizes TDM strategies, the goal is to shift the experience of convenience away from single user vehicles to other modes of transportation.

A major portion of the long range plan needs to be in place no later than 2020 or the HSC campus will again be faced with increasing its parking supply. (Refer to graphing comparison.)

Some initial ideas for TDM long-term strategy have been mentioned, including:

- park and ride lots;
- dedicated bus lanes;
- increasing bus service to under-served areas; and
- coordinating transit schedules with hospital and staff shifts.

Other ideas that should be considered include:

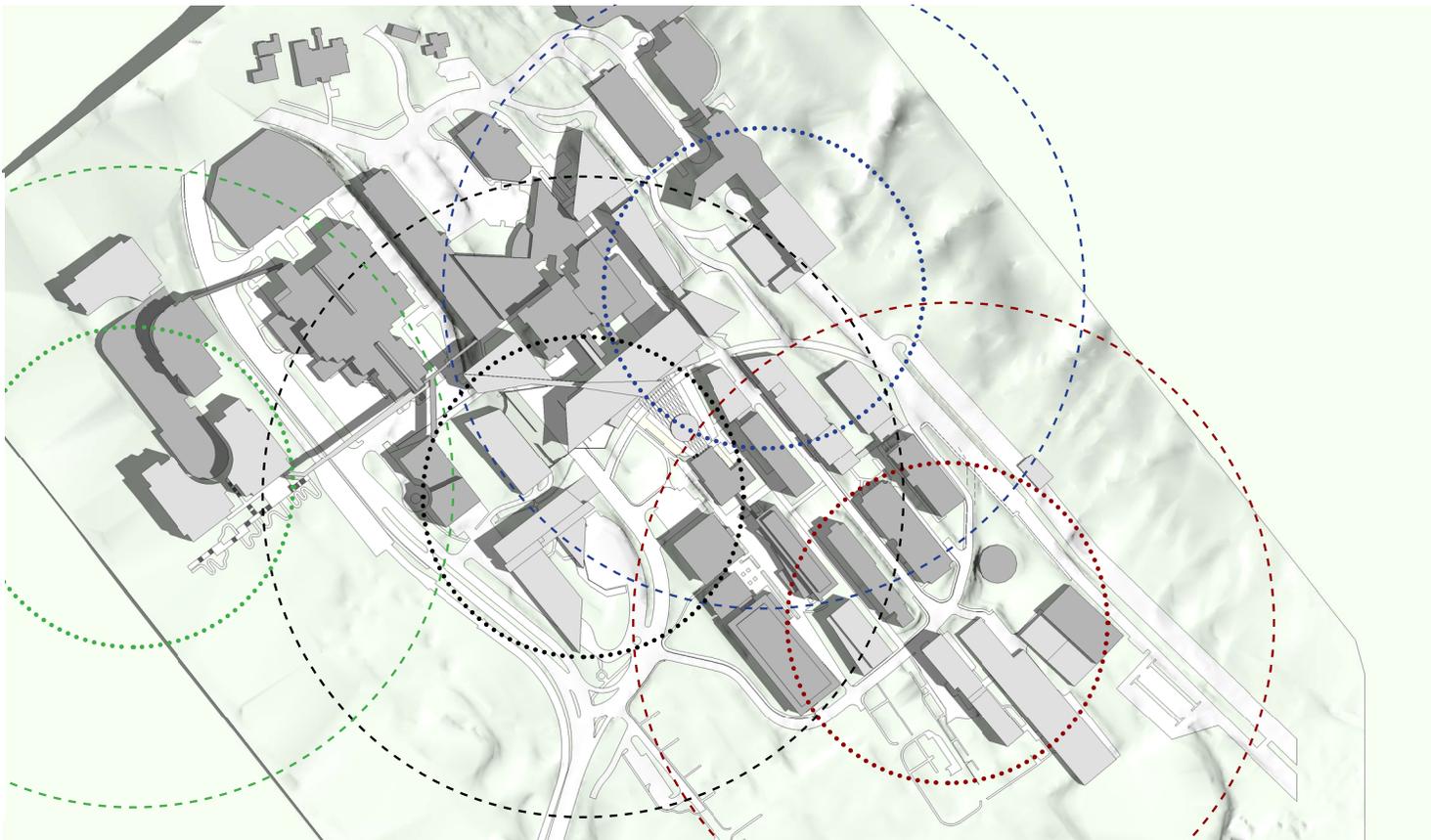
- increasing parking fees;
- limiting parking permits;
- increasing housing on campus or within close proximity; and
- moving all parking other than patient and visitor to remote locations.

While parking is commonly used as a recruitment tool and local community perception tends to refute that Salt Lake City is a large scale urban environment, HSC and University community members will achieve their vision of a sustainable educational environment by championing and committing to a transit oriented culture.

“Locate development close to transit.

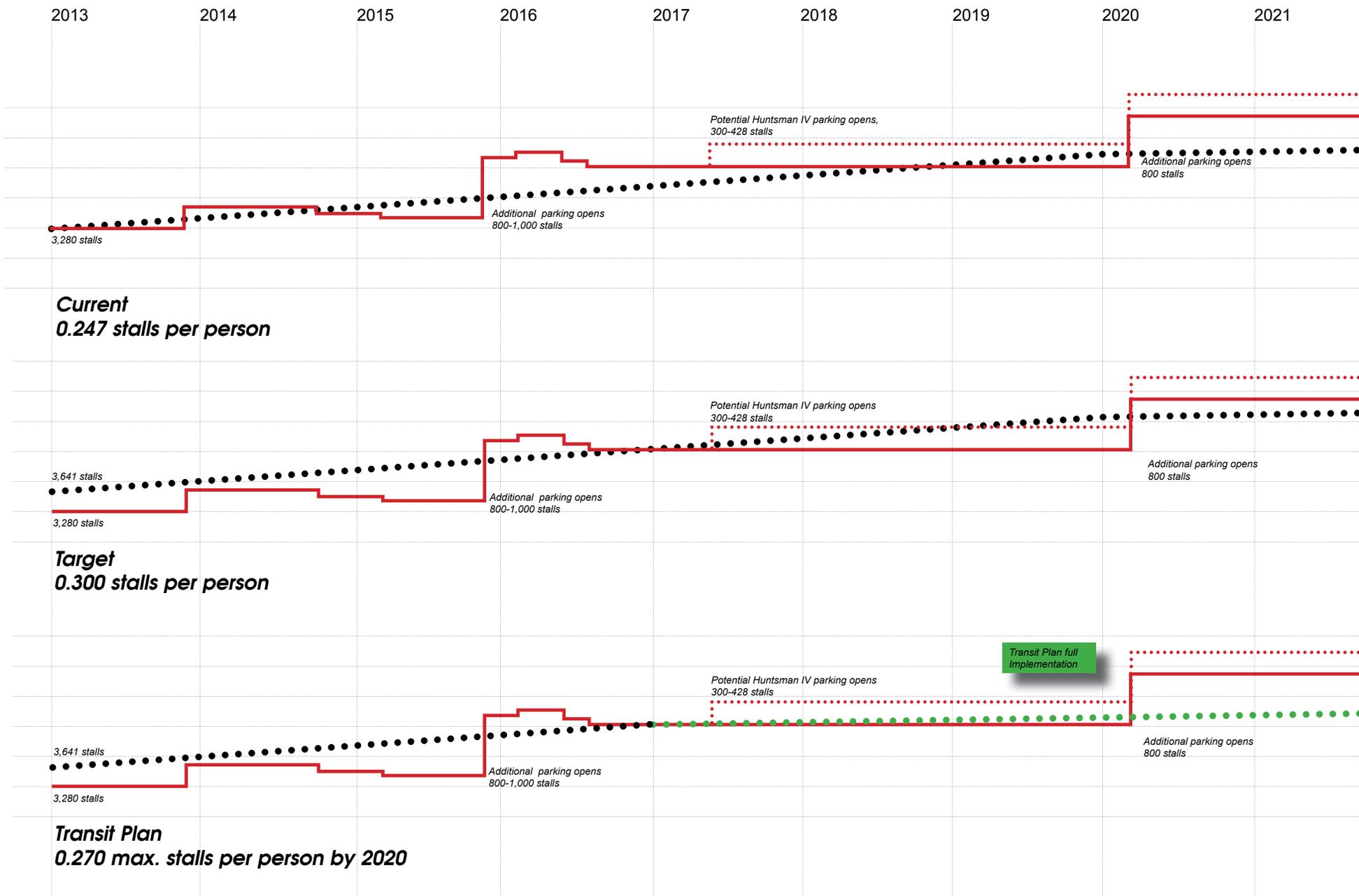
Effective TOD places residential and office space as close to transit as possible. The optimal walking distance between a transit station or stop and a place of employment is 500 to 1,000 feet. Residents are willing to walk slightly longer distances to get to transit, between a quarter- and a half-mile.”

Dittmar, H., and G. Ohland, eds. *The New Transit Town: Best Practices in Transit-Oriented Development*. 2004. Island Press. Washington, D.C. p. 120.

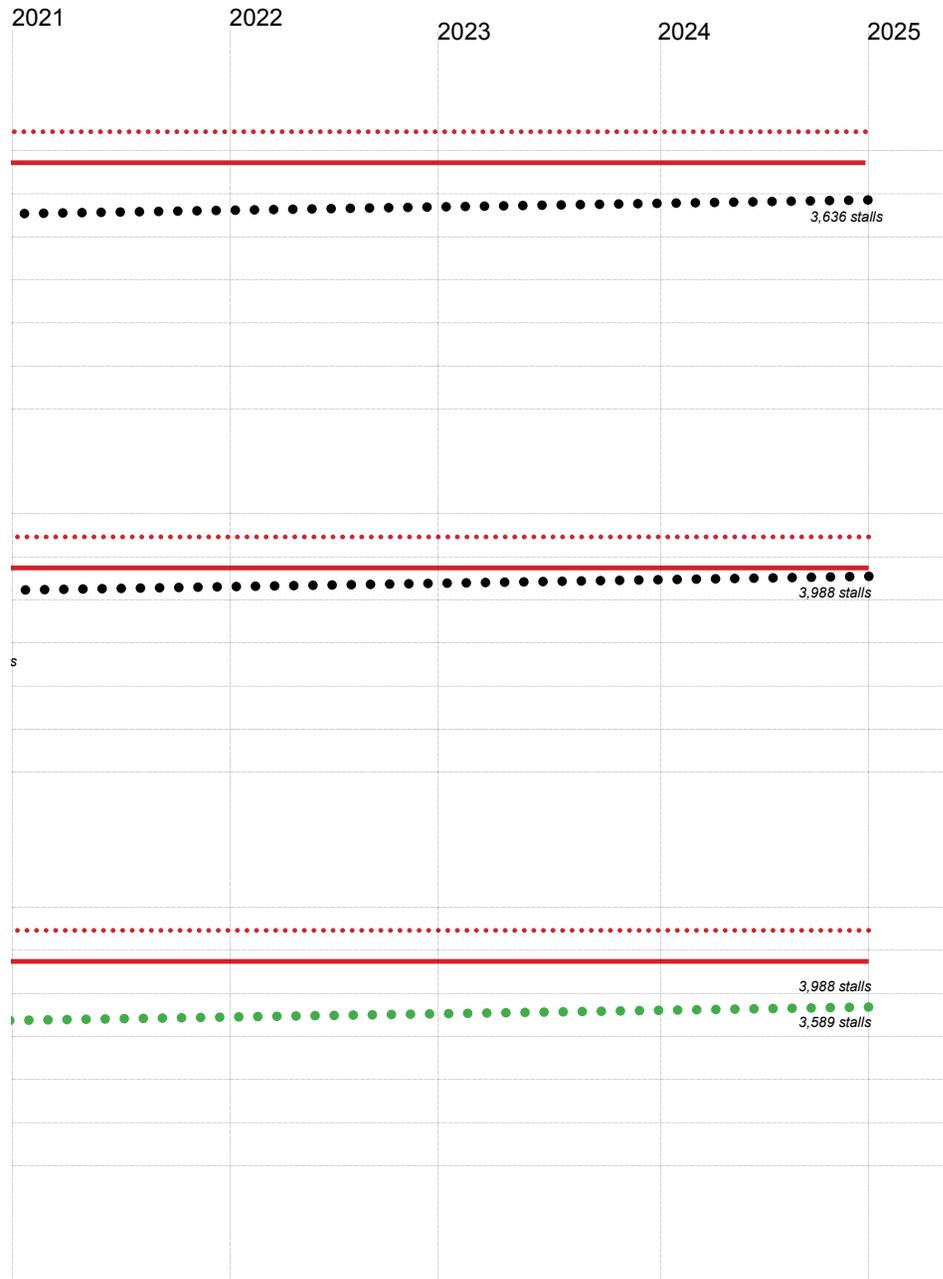


This diagram illustrates the 500 and 1,000 foot distances surrounding each of the potential sites for a new parking structure on the HSC campus.

Convenience/Walking Distance diagram



Comparative graph illustrating parking supply and demand on the HSC campus over time and the factors that influence it



- Parking Stalls
- Potential Stalls (HCI IV)
- Stalls needed
- Transit Plan Implementation, reduction

HSC Campus: Population Growth Projections

	Year		
	2013	2020	2025
Population per Day	13,256	14,436	14,697

HSC Campus: Parking Stalls per Person

	HSC Campus	Main Campus	UU Target
Stalls per Person	0.247	0.285	0.300

HSC Campus: Parking Stall Needs

	Year		
	2013	2020	2025
Existing Stalls	3,280		
Population	13,256	14,436	14,697
UTA Ridership	1,119	1,276	1,403
Total Stalls Needed to Reach 0.300 Stalls/Person	3,641	3,948	3,988
Additional Stalls Required	361	668	708
Total Stalls Needed to Reach 0.270 Stalls/Person	3,277	3,553	3,589
Additional Stalls Required	-3	273	309

Note:

- 0.270 stalls per person is reached in 2020, only after a comprehensive transit plan has been implemented.

- Additional Stalls Required quantity in this chart does not take into account stalls lost during construction of other projects on campus

Architectural Height and Massing

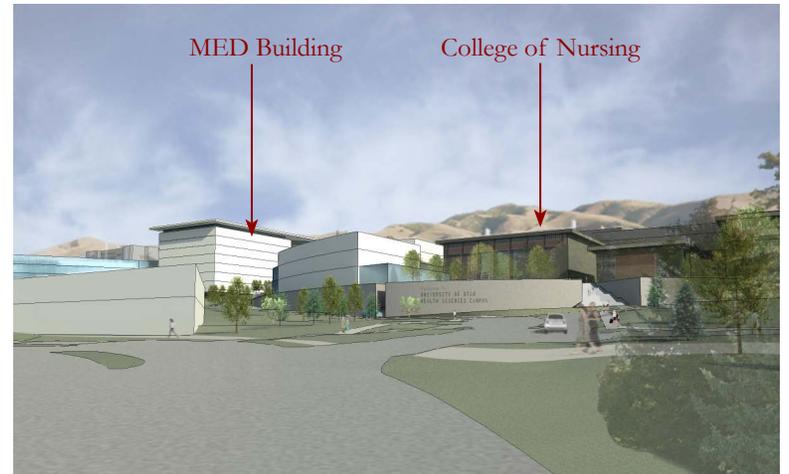
Varying height limits are recommended for the dense and compact HSC campus. The following guidelines have been applied in order to: maximize vistas, from and toward the HSC; optimize density along the research and academic corridors; and achieve formal hierarchy at the center of campus with the MED building. Growth projections and area build out discussed in Chapter 4 correspond with the height restrictions described here:

- **Lower Bench Zone.** Of the buildings along Mario Capecchi Drive, the Moran Eye Center and PCMC are the tallest, and are recommended to remain as such in this master plan. A height limit of four stories is recommended for these sites: the Medical Center/West Parking Terrace, the State Dept. of Health building and the Medical Examiner's Office. A height limit of two stories is recommended to the south of that, on the WIC Building site. This southernmost site on the Public Health Peninsula will also require a landscaped setback of a significant distance. The setback distance should be determined based on its ability to 1) accommodate a future redesigned intersection, 2) incorporate an engaging pedestrian walkway that enables vertical travel from Mario Capecchi Drive to the 1900 East elevation, and 3) frame views to the new MED center at this primary campus vehicular entry.
- **Academic Corridor.** Existing buildings in this zone include the College of Nursing, L.S. Skaggs Pharmacy and the HSEB. Height limits along each bench elevation are restricted to equal neighboring buildings to the north or south. For example, the site south of the HSEB is limited to not exceed the height of the HSEB. Likewise, if the optional site north of the Nursing building were to be developed, its height is limited to not exceed the height of the Nursing building. An exception to this is the Eccles Library. The master plan recommends that any building in the future on the present Eccles Library site be restricted to no more than two stories in height.
- **Research Corridor.** Future buildings in this zone include the CMC Replacement building, a new research building north of the Human Genetics building, a future building south of the Biomedical Polymers building, and a future building north of EEJ Medical Research Building. Similar to the academic corridor, height limits along each research corridor bench elevation are restricted to equal neighboring buildings to the north or south. There are two exceptions. First, the future building north of the Human Genetics building (EIHG) should be limited to not exceed the top floor elevation of the EIHG. Second, the future building north of the EEJ Medical Research Building is limited to a height of three stories.
- **Hospital Clinical Zone.** Future buildings in this zone include the hospital expansion site to the east of the Hospital, limited to not exceed the height of the Hospital, and the Administrative and Ambulatory Building (AAB) site to the west of the Hospital, which is limited to not exceed four stories above the MED plaza level.
- **MED Building.** As the hierarchical symbolic campus center, the MED building is anticipated to comprise five to seven stories above plaza level and reach a height that approximately equals the elevation of the EIHG.
- **Upper Bench Zone.** The Huntsman Cancer Institute buildings currently occupy this zone. The Huntsman IV research building is anticipated to be lower than the easternmost wing of the Huntsman hospital. If the University considers new development sites south of Huntsman IV in the future, low height limits of three stories or less are recommended, along with a study that examines potential impacts and access to the adjacent foothill open space.

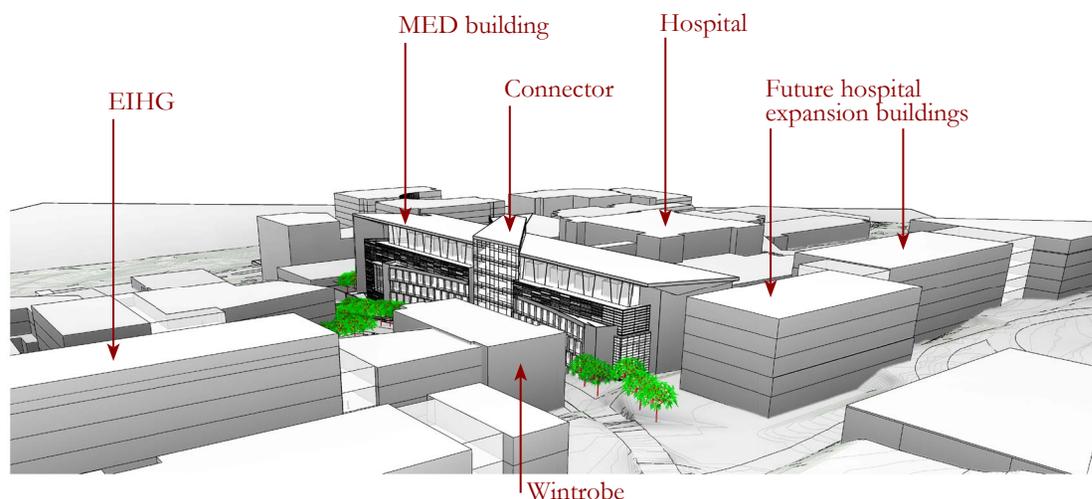
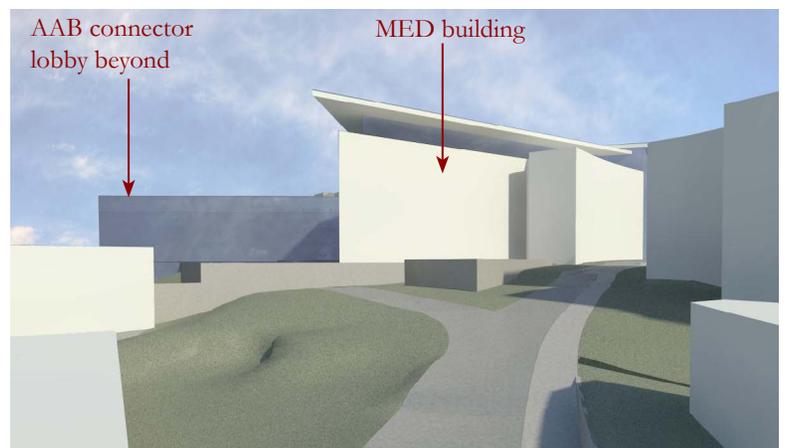
Architectural Character and Materials

A difference in color palette exists between the Huntsman Institute and rest of the University Health Sciences Center. The basic Huntsman material palette consists of ochre toned masonry and green tinted glazing, whereas the remaining University HSC buildings are primarily red toned masonry with mostly blue, gray, or clear glazing. This basic difference is recommended to continue as a master plan guideline for the architectural palette of future HSC buildings. The architectural character for future buildings should reflect the mission and purpose of each program, but should not upstage the desired prominence of the MED building as the identifiable center and anchor of campus.

Heights and massing of lower bench buildings should frame the approach view of the MED center from Mario Capecchi Drive.



Early MED massing studies revealed a preference to leave open space west of the MED center plaza. This view, taken along the lower circular road, demonstrates how the view to the primary MED facade is blocked by the building mass on the right.



An early study view from the upper bench zone reveals several considerations:

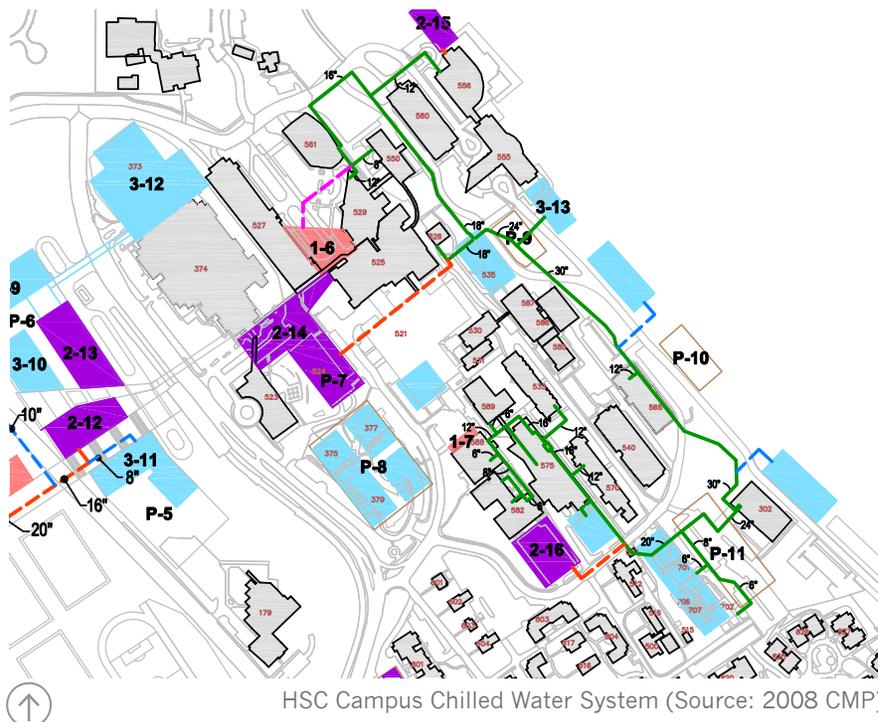
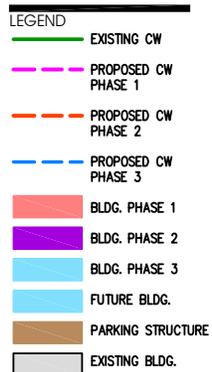
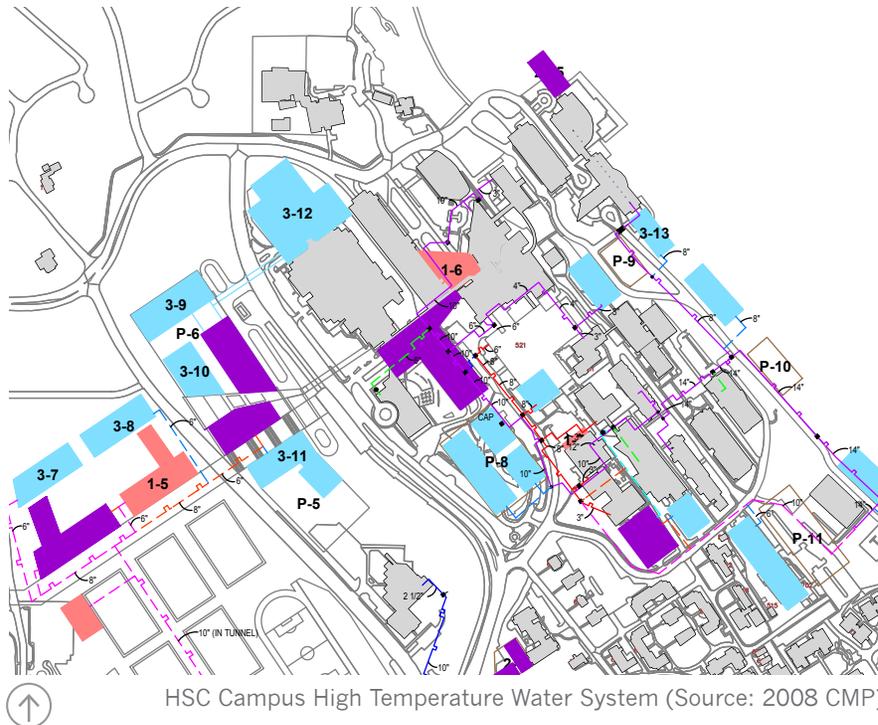
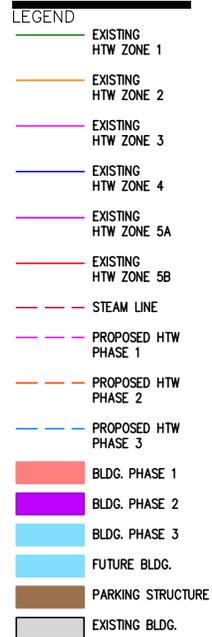
1. The MED should be taller than portrayed in this massing view.
2. The arrival of the connector from the AAB lobby may have a strong architectural emphasis, although that emphasis can take other forms than portrayed in this view.
3. Future hospital expansion buildings can maximize land use in this zone of campus.
4. The eventual removal of the Wintrobe building will allow the MED facade to formally address the plaza.

Infrastructure

Background & 2008 CMP

Infrastructure planning for the 2008 Campus Master Plan was based upon a 2003 Campus Utility Study which was a comprehensive evaluation of campus wide systems. Prior to this 2003 Utility Plan no formal document existed which provided direction for the organization and consolidation of the various elements of the campus infrastructure. The High Temperature Water (HTW) systems were well organized but most other utilities came about in response to new buildings coming into existence.

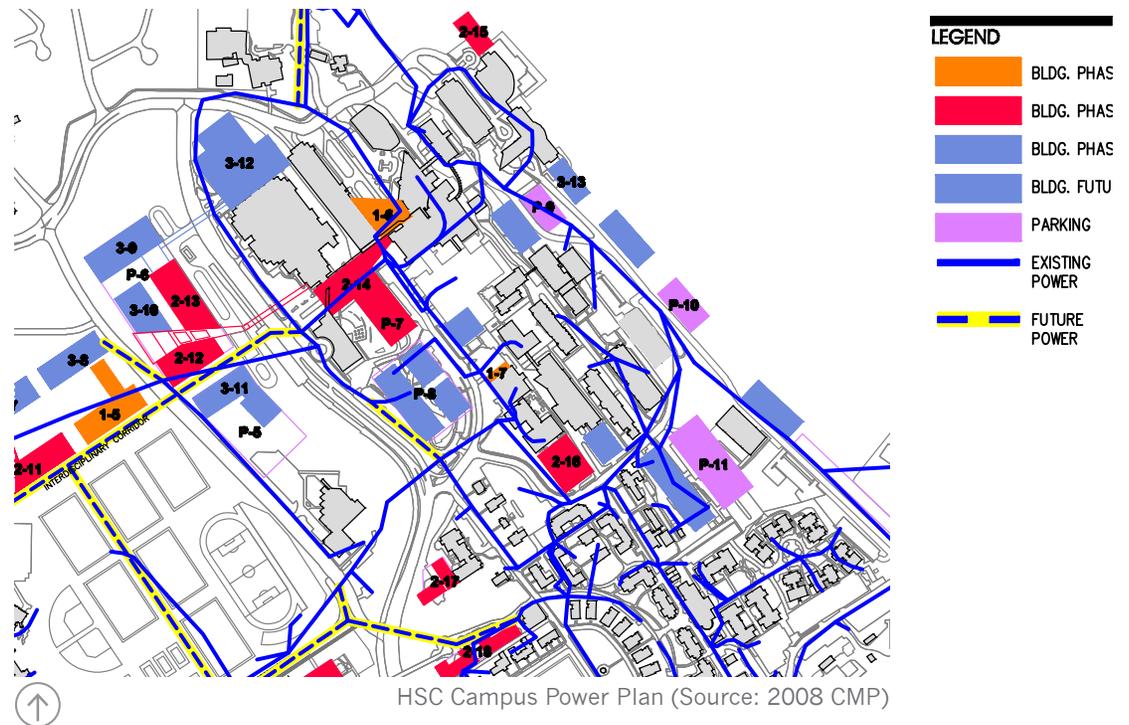
The 2003 Campus Utility Study and its revisions included in the 2008 Campus Master Plan provided a master plan for the University for all the major utilities on campus: high temperature water, chilled water, natural gas, electric power, telecommunications, water, sanitary sewer and storm systems. The study included a mathematical model of each utility and represented its size and capacity. The model is used to determine existing capacities and to model the effect that new buildings will have as they are added. The University purchased the software programs for each of the models. An addendum to the 2003 Campus Utilities Study was made that reflected the projected campus growth through the year 2025, and was included as the basis for infrastructure planning in the 2008 Campus Master Plan.



The 2003 Utility Plan provided utility organization recommendations for all future projects and the University is committed to those recommendations. The document provided recommendations for utility routing, sizing and phasing for each utility dictated by the need for that utility in connection with the 2008 Campus Master Plan. At that time, primary focus was on the HPER Mall and the Interdisciplinary Corridor as two locations where organization and consolidation of utilities could be accomplished in dedicated buried concrete tunnels. In the time since the 2008 Campus Master Plan, the infrastructure upgrade for the central zone on the main campus was undertaken and the HPER Mall utility project provided replacement of existing utilities and the development of new utilities for the Interdisciplinary Corridor.

Current HSC Campus Utility Needs

The following narrative outlines utility needs and recommendations relative to the proposed near term development on the Health Sciences Center campus. The information was generated by the engineering review that was included in the master plan update scope.



High Temperature Water

The high temperature water (HTW) system that originates in the East Campus Utility Plant and serves the majority of the HSC campus buildings is near capacity. It is uncertain how much additional square footage can be constructed on the campus before a HTW system expansion will be required.

The anticipated near term demolition of the 600,000 gross square foot School of Medicine (Building 521) will add capacity to the HTW system equal to that amount of area. The sequencing of upcoming projects, both new construction and demolition, will need to be carefully planned to ensure that sufficient capacity is available during each phase of development.

The estimated total project cost to expand the HTW system capacity, which would also provide boiler redundancy, is \$6.5 million.

In addition to capacity issues, the HTW distribution system needs to be augmented. As noted in the 2008 CMP, there is one 14" HTW supply and return main from the East Campus Utility Plant. With a single feed, the system is vulnerable to interruption if a break occurs in the main lines. The 2008 CMP recommended that an additional feed line be installed and that the two HSC campus zones that are served by the lines be separated. This would provide redundancy to the distribution system, allowing continued service even in the event of main line breakage.

This study recommends that the new feed line be constructed on the campus in stages, in conjunction with upcoming facility projects. The feed line will be easier to fund if it is divided into multiple pieces.

Chilled Water

Chilled water capacity on the HSC campus will need to be expanded in the near term future.

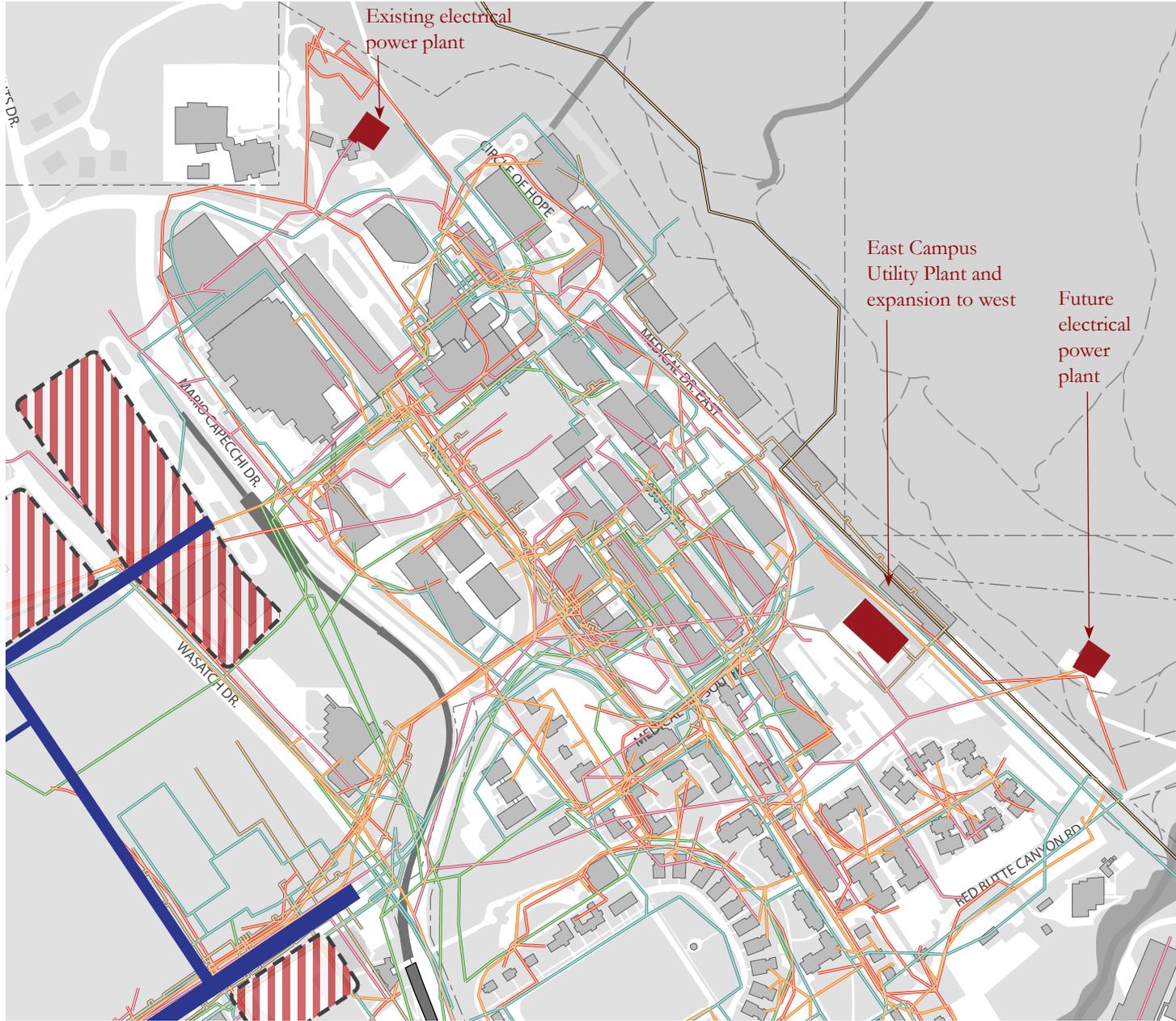
When the new Huntsman IV building is constructed, likely within the next five years, it will be added to the HSC chilled water loop system which originates in the East Campus Utility Plant. As part of the Huntsman IV construction, the existing Huntsman I building will be converted from a standalone cooling system to a connection with the HSC chilled water loop system.

Adding both of these buildings to the chilled water system will cause the system to be near or at capacity. The East Campus Utility Plant chilled water capacity will need to be expanded at that time. The expansion is estimated to have a total project cost of approximately \$10 million.

Other Utilities

Other utilities on the HSC campus are sufficient for upcoming anticipated development.

The project team engineers noted that when electrical capacity on the HSC campus needs to be upgraded, the University is anticipating construction of a new power plant on the east bench. This will replace the existing plant near the Jewish Community Center north of campus. The location of the future power plant is shown on the site plan on the facing page.



Utility Master Plan

Sustainability

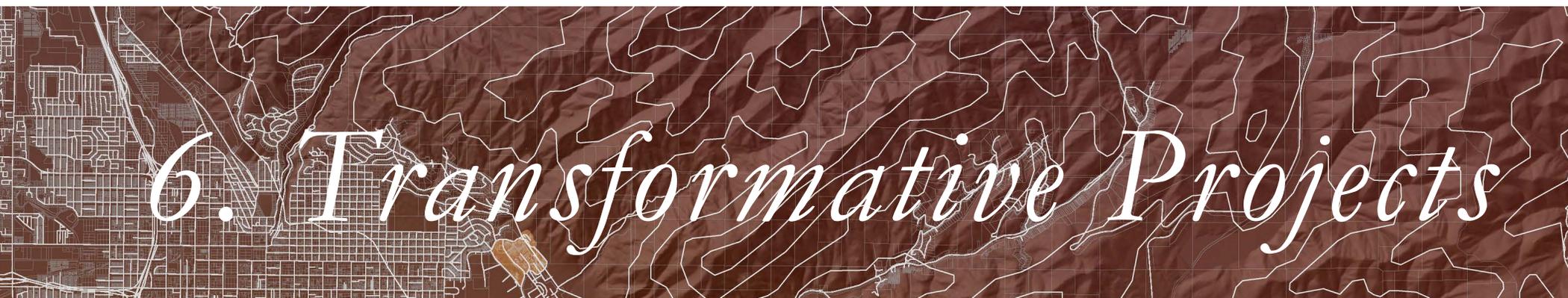
The Health Sciences Center is committed to a healthy environment and innovative research. In late 2012, HSC leaders played a key role in launching a campus wide initiative, The Program for Air Quality, Health and Society, where U of U researchers from disciplines as varied as pulmonary medicine, chemical engineering and atmospheric sciences are working together to understand and improve Utah's air. This, and the Campus Climate Initiative, obligates all new construction to meet and strive to exceed performance requirements. Therefore, innovations coming out of the campus Air Quality Program should be considered during implementation of the HSC master plan build out.

One of the primary strategies for attaining the commitments outlined in the Energy and Environmental Stewardship Initiative: 2010 Climate Action Plan is to replace buildings that are carbon intensive with those that are sustainably designed and low in carbon use. The Master Plan Update includes projects that will move the campus toward the fulfillment of Climate Initiative goals in a significant way:

- The School of Medicine Building (521) and MREB (531), over 600,000 square feet of aged and inefficient structures, will be replaced with smaller, highly efficient buildings.
 - The existing Radiobiology Lab (585 & 586) and CMC (587), dating from the 1960's through 1980's, equal approximately 82,000 square feet and will be replaced by much more efficient buildings totaling 60,000 square feet.
 - Part of the upcoming Huntsman IV project includes converting the Huntsman I building from a standalone cooling system, to a system that connects with the campus loop, a more energy-efficient option.
- Although medical and wet lab buildings are given special consideration because of their energy-intensive functions, the Campus Climate Initiative requires all new campus buildings to exceed code-required energy efficiency to a significant degree. A building's exterior envelope has a large impact on its energy performance, and the design of high-performing exteriors is an area where technologies are continually evolving and improving. Excellent views that distinguish this campus often drive high glass-to-wall ratios. Particularly, highly valued views to the west, looking over the Salt Lake Valley, are where solar gain impacts are worst. Exacerbating west facade exposure is the tendency to align buildings with the north-south foothill bench topography, so that buildings' long sides face west. With the exception of the MED, future buildings will include significant west exposure. Therefore, innovative screening and exterior skin designs are encouraged. One current example of successful implementation of such measures is the 2012 L.S. Skaggs Pharmacy building.
- Other HSC master plan elements will support sustainability by strengthening alternatives to personal vehicle use, as noted below:
- Well-defined, easily traveled pedestrian pathways will support the use of TRAX and bus as a means of campus access, and will also encourage walking as a method of travel for HSC community members while on campus.
 - The new circular road will support bus and campus shuttle usage by bringing riders to the center of the HSC campus, from which point they can walk to the most heavily used HSC buildings.
 - All master planned road and pathway improvements will ease bicycle access and travel on the campus.



L.S. Skaggs Pharmacy Building



6. *Transformative Projects*

Introduction

Chapter 6 describes the master-planned projects and elements that contribute in a significant way to the transformation of the Health Sciences Center campus.

These elements were developed with the objective of achieving the campus vision as defined by key project stakeholders, with particular focus on:

- Creating a campus heart and sense of place;
- Strengthening the research, clinical and academic functional zones, and developing a heart within each;
- Enhancing pedestrian pathways, especially the east-west direction, and providing a viable pedestrian pathway from the campus west entry to its eastern edge; and
- Improving campus vehicular pathways and wayfinding.



Transformative Projects

1. The MED
2. Knowledge Center
3. Circular Road
4. Bridge/Tunnel
5. Research Corridor

The MED

Recent studies analyzed the School of Medicine facility (Building 521) for a possible seismic upgrade and reuse for non-research and clinical purposes. A facility study, concurrent with this master plan update, led to the conclusion that a Building 521 renovation would cost nearly as much as constructing a new replacement building, and the renovation would not be able to correct the existing building's fundamental design flaws (low floor-to-floor height, small column spacing and large column sizes).

The current study also determined that the site that Building 521 occupies is the optimum location for a School of Medicine replacement building.

Careful examination showed that a phased removal of the existing building would be significantly more costly than removal at one time, as well as highly disruptive to surrounding buildings and campus circulation. As a result, the University has decided that Building 521 will be demolished in a single phase and replaced in up to two construction phases by a new Medical Education and Discovery building (the MED) on the existing site.

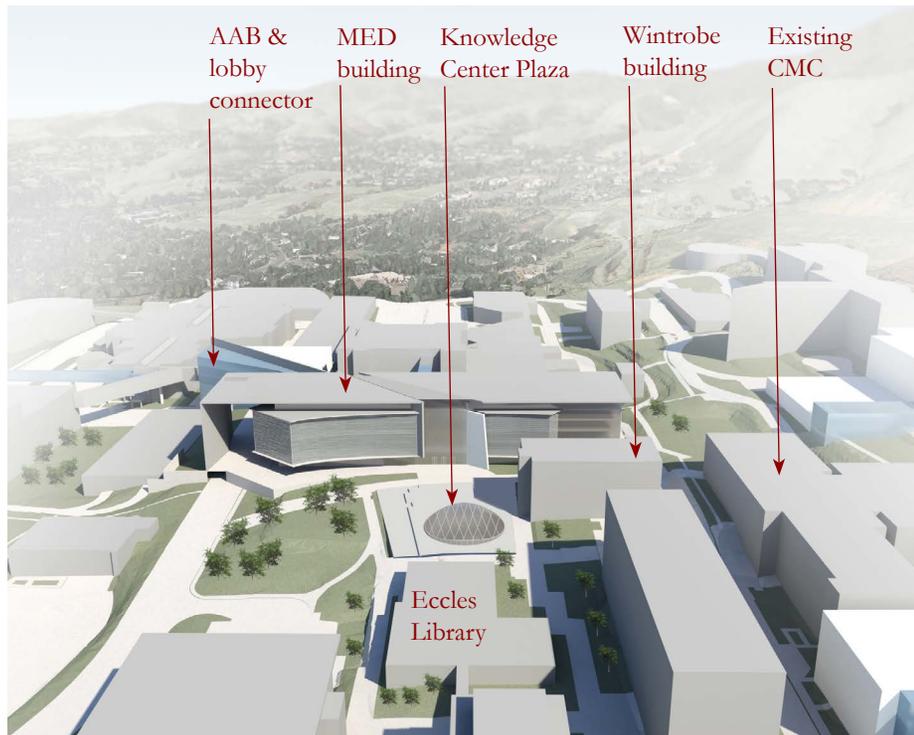
The MED has been planned to a maximum size of 400,000 square feet available on the present site, with an initial phase designated as a placeholder size of 250,000 square feet. The actual program scope is to be determined in a study performed in the first two quarters of 2014.

HSC administrators have determined that wet lab research and clinical functions will not be located in the new MED. Potential occupants include School of Medicine administrators and academic department space; student support space; interdisciplinary educational elements such as simulation labs and telemedicine/telehealth centers; and academic programs not located in the existing building due to lack of space (for example, Gross Anatomy and Biomedical Informatics).

The new building is planned with its long dimension in the east-west direction to provide a favorable solar orientation and also to allow good connections with adjacent campus zones: research to the east, clinical to the north and academic to the south. As the building steps up the campus hillside, it will provide internal pedestrian access that eases the walk up and down the steep campus grade.

One of the premises of the Campus Master Plan was to create a magnet for student growth; this is again present in the intention to create a Medical Education and Discovery building that matches and enables the high caliber of education, research and clinical practice that exists at the University of Utah Health Sciences Center.

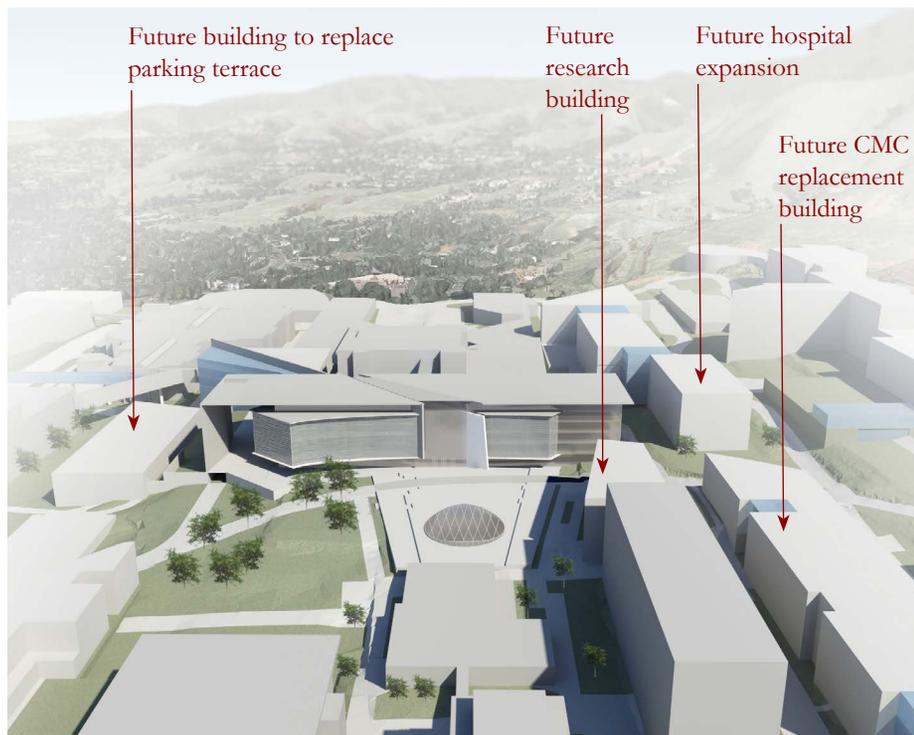
The HSC academic corridor has been strengthened by the recent renovation of the School of Nursing and the new Pharmacy Building. The corridor will be further strengthened by locating the MED at its north end where it will serve as a formal culmination and visual terminus for the academic promenade. The planned new building, with its adjacent open plaza, Knowledge Center and the planned new circular access road, is also a response to the goal expressed by Health Sciences Center leadership to establish a prominent and iconic focal point for the campus.



Campus Heart: Near term with existing Wintrobe building

The two views to the left show the MED and Knowledge Center Plaza in conceptual massing studies. The studies highlight differences as the clinical and research zones complete new expansion and replacement buildings in the master plan build out.

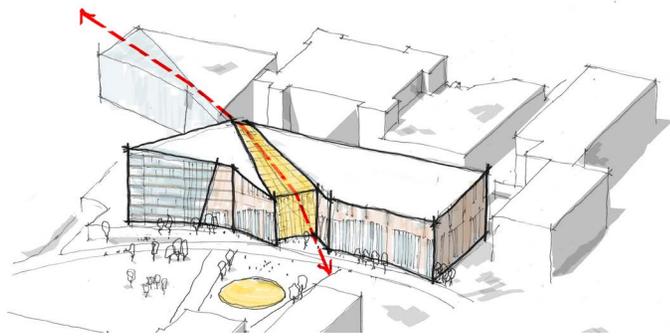
The circular road is envisioned as a transit only segment as it passes the MED and plaza, creating a primarily pedestrian experience at the heart of campus.



Campus Heart: Long term with future building massings

Prominent and Iconic Presence

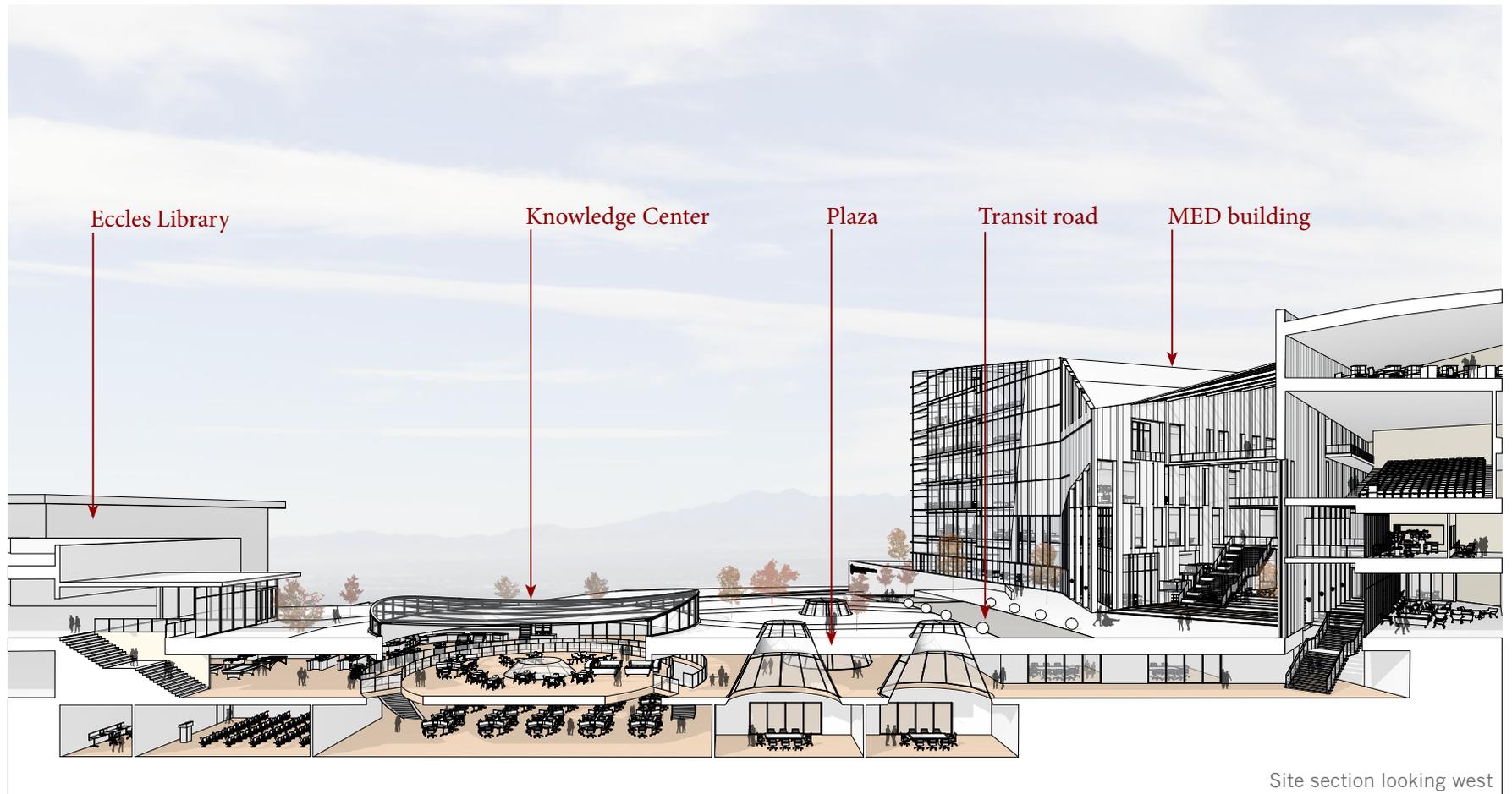
The presence of the MED as a prominent, iconic architectural statement, constitutes a significant enhancement and an opportunity to reshape the campus and create the vibrant, active social core for the HSC. At a height of five to six levels above the plaza, its massing and exterior should reflect its role as the hierarchical and unifying center of campus. The master plan vision includes the creation of a two-level, above/below grade plaza and open gathering area embodied in the Knowledge Center. Ideally, the below grade space would link to the basement level of a remodeled existing Eccles Library. Together, these spaces are intended to achieve interior to exterior connective space where collaborative and social activity will generate energy and focus.



Several concepts were explored as design approach possibilities. Shown here is one concept based on the notion of the regional mountain landscape.



Exterior approach from the west



Interior lobby connector view



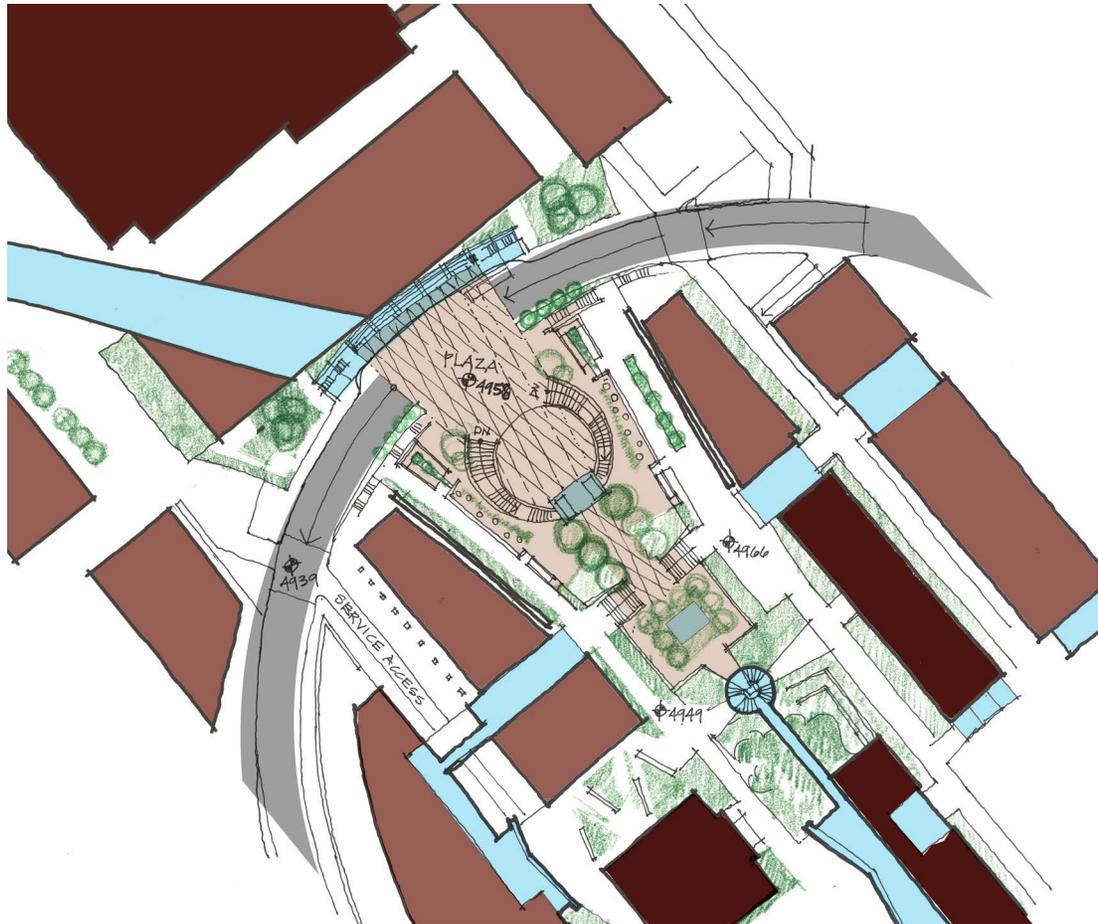
Interior lobby connector view

Knowledge Center

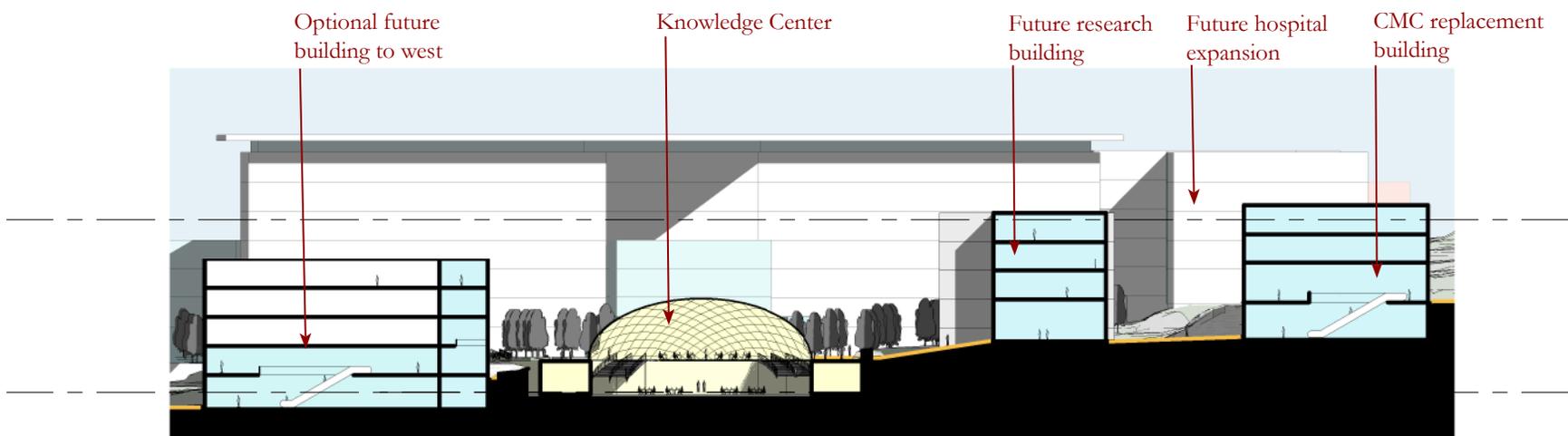
The Knowledge Center is an important part of the new MED complex. It will house programs that support the access to and use of all forms of information. The building will also contain spaces that welcome and serve all HSC community members for the purpose of formal and informal interaction and collaboration.

The Knowledge Center is ideally situated for these functions and purposes in the plaza south of the MED, a central crossroads which can be easily accessed by all. The center will be constructed below the plaza and although below grade, will be washed with natural light from skylights and light wells in the plaza.

The Knowledge Center will have a direct below-grade connection northward to the MED and is envisioned to have similar connections with existing or future facilities to the east, south and west. The plaza will contain the primary access point for the center. The entry element could be a transparent form similar to, but smaller in scale than, the glass pyramid which serves as the front door of the Louvre Museum in Paris leading to the below-grade visitor orientation and ticket space.



Early plan of the plaza scape and level changes at the campus heart



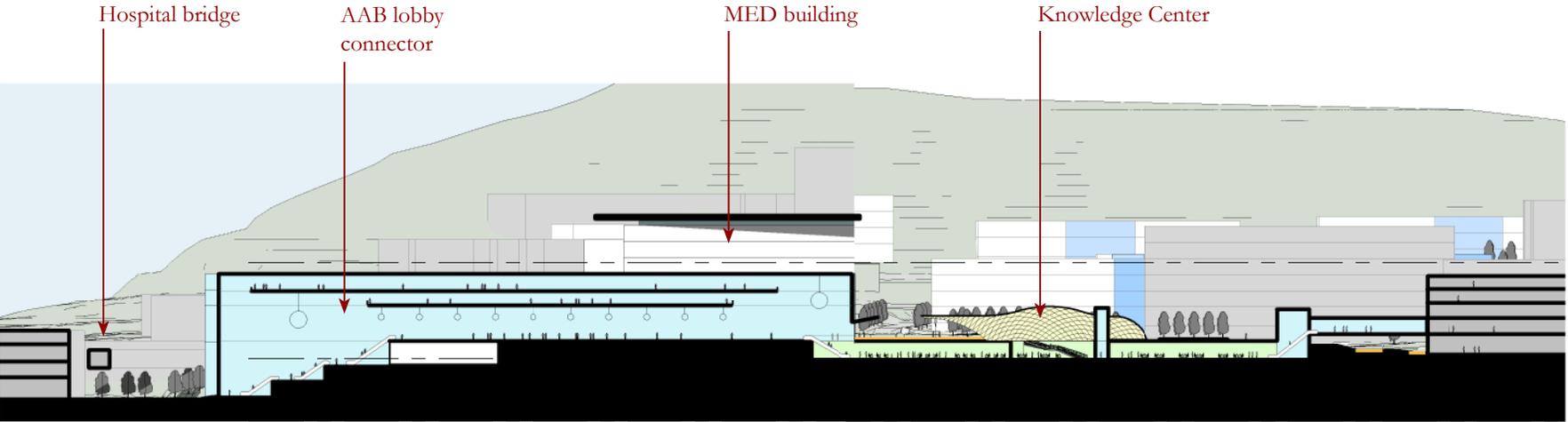
Early east-west section study through the Knowledge Center and future buildings flank that the campus heart



University of Chicago,
Mansueto Library



Delft Library



Section through AAB lobby connector, which is envisioned to ease vertical movement from the tunnel and TRAX transit node at Mario Capecchi Drive to the new MED center and plaza

Circular Road

The HSC master plan update provided an opportunity to examine and address the circulation and transportation challenges existing in this portion of the University of Utah campus.

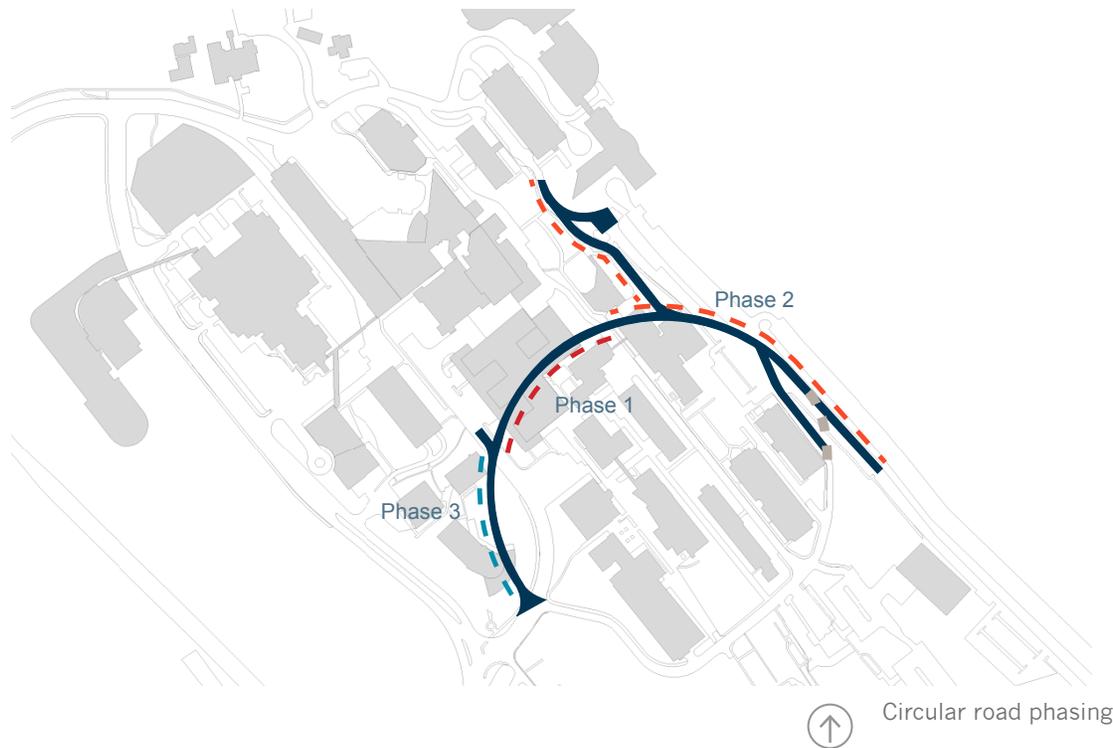
A transformative force for the future direction of the HSC campus, a new circular road has been established that ties the easternmost Route 66 parking drive to the 1900 East service road at the western edge of the HSC campus. The proposed road makes a circular route within the HSC campus. It begins on the existing South Medical Drive, continues adjacent to the research buildings on the campus east edge, traverses the campus center in front of the new MED, providing access to the hospital to the north and the academic zone to the south, and finishes on the western pathway of the 1900 East service road.

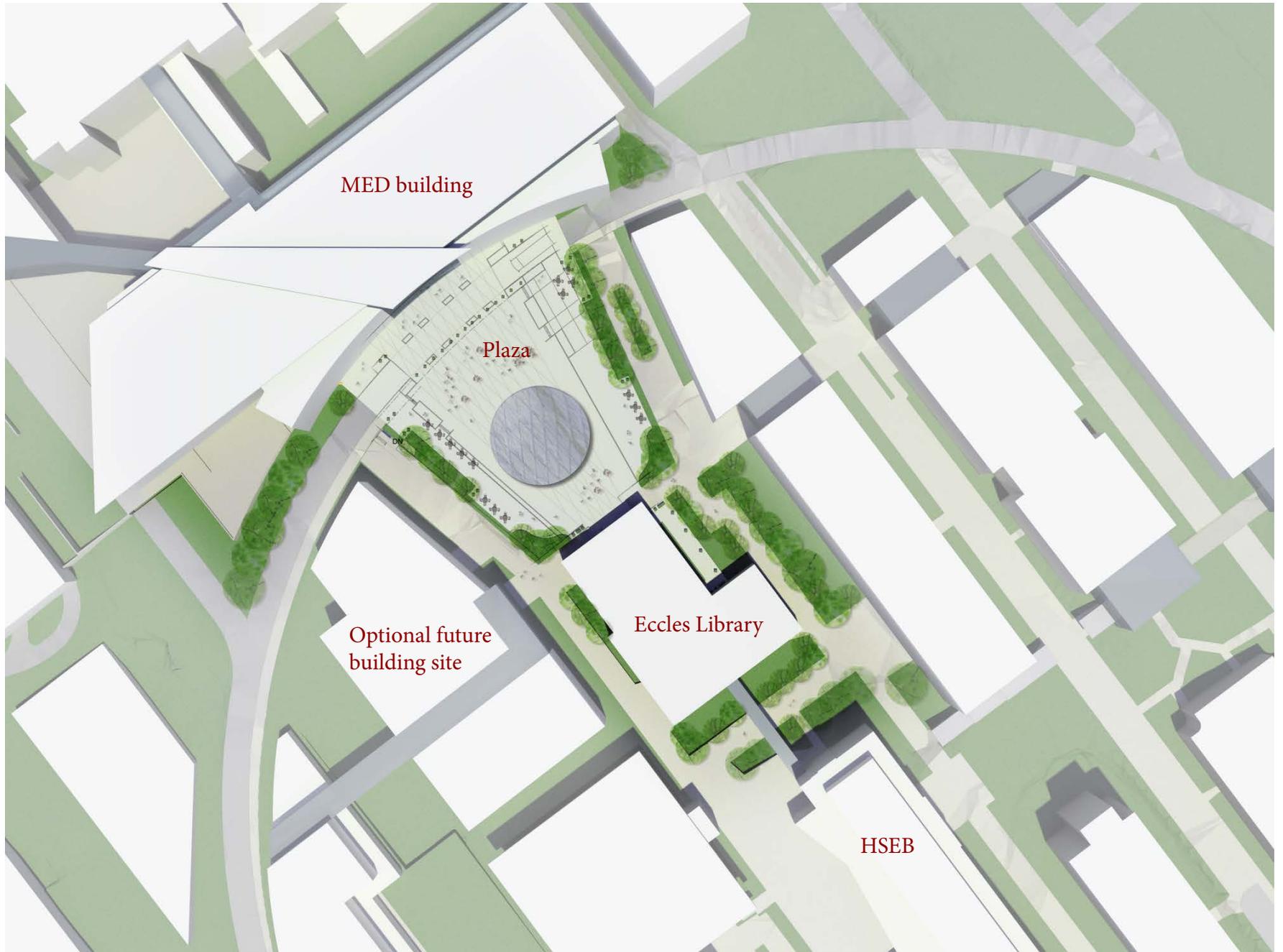
The purpose of the road is to provide access via shuttle or bus to the center of campus, from which pedestrians can easily reach their destinations. This will be one of two methods proposed by the master plan update to link the Medical TRAX Station and Mario Capecchi Drive with the campus center.

The portion of the road that crosses in front of the MED will be restricted to mass transit vehicles. The design of that roadway section will be integrated with the design of the plaza; it will not have the appearance of a road.

Other sections of the roadway will be used by service or passenger vehicles as needed.

- Public Access
- Service Truck Access
- Service Access
- Main Road Framework





Plan view of Knowledge Center plaza and transit circular road

Circular Road Options

A longer term option is to complete the western most arc of the loop road, below 1900 east. This road segment, and a redesigned intersection at Mario Capecchi Boulevard, would provide a more gradual slope for a welcoming pedestrian walkway, and a more continuous transit drive. This circular segment alignment would frame the MED more prominently from the western approach as a gateway from the Mario Capecchi entrance to campus.

Base Option: Maintains 1900 East in the long term master plan



With this road segment phase, the master plan option considers the opportunity to hide the 1900 east service drive by building over it. This would not only clarify vehicular wayfinding, it would capture additional buildable area that is directly connected at the level of the HSC central campus precinct. Implementation of this road segment, however, is highly dependent on the nearer term future use and as yet undetermined area that will be developed on the State Health Peninsula. The cost to re-grade this road segment would also be significant.

Complete Circular Road Option: Continues transit loop in the long term master plan

Additional buildable area and plazascape over service functions below



Bridge/Tunnel

The University has identified the Medical TRAX transit node as a primary campus gateway to be further developed. Improvements are required in order for it to play its intended vital role in linking the Health Sciences Center to the main campus via the Interdisciplinary Corridor.

The proposed method to link physicians, faculty, staff, and students from the Medical TRAX Station, ACC Complex, and Interdisciplinary mall to the HSC campus center is a pedestrian bridge or tunnel (or both) at Mario Capecchi Drive.

The number of pedestrians needing to cross Mario Capecchi Drive near the Moran Eye Center is currently high due to riders disembarking TRAX at the Medical Station. Pedestrian crossings are expected to increase with the completion of the ACC Complex which includes a 520-stall university parking structure. Primary Children's Ambulatory Care Center is west of the drive and potential construction of a Health Sciences building is planned south of that. A bridge and/or tunnel at that location would provide a safe and easy means of connecting faculty, staff, students, patients and visitors with their destinations on both sides of the drive.

The options of a bridge versus a tunnel were studied as part of this master plan update; both directions were found to have advantages and disadvantages. The planning team thought that future campus planning decisions may make one option more advantageous than another. Therefore both options are represented as future possibilities in the master plan update, and other plan elements are workable with either direction.

The pedestrian route that is enhanced by the bridge or tunnel will extend west from Mario Capecchi Drive to the main campus "Interdisciplinary Corridor" which crosses the Interdisciplinary Science Quad and Wasatch Drive, ending at the Warnock Engineering building.

A tunnel below Mario Capecchi Drive would surface on the east side into a plaza. From there an open, covered or fully enclosed walkway is recommended as a necessary element that would escort pedestrians to a vertical connector spine fronting the new hospital AAB/ Administrative and Ambulatory Building (Hospital Expansion) and from there to the MED and the heart of the HSC campus.

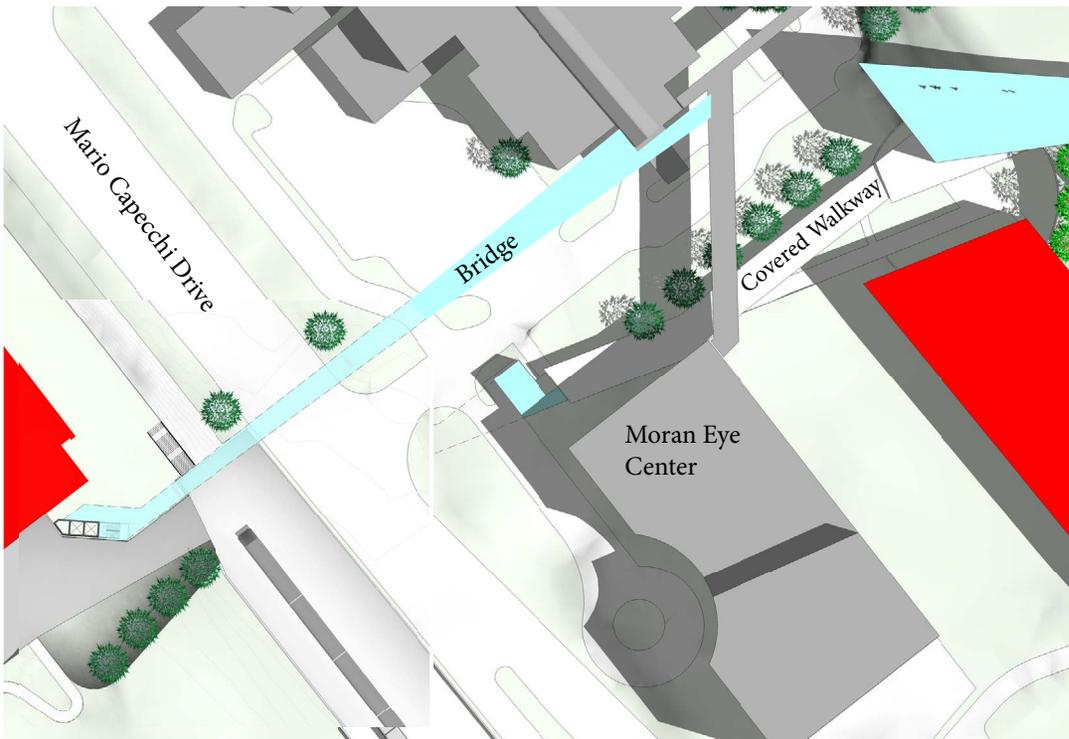
Aspects of the future tunnel as a safe and welcoming pedestrian link would include:

- Significant width and openness
- Maximization of visible daylight – the ability to see outdoor space at both entries, from any place in the tunnel
- Ease of accessibility
- A west entry that extends the character and exterior amenities of the future Interdisciplinary Corridor

A bridge crossing Mario Capecchi Drive may be anchored on the west side of the drive to the potential future Health Sciences building south of the Primary Children's ACC. Alignment alternatives for the bridge were studied, revealing a preference for a straight alignment. Crossing the drive, the preferred bridge alignment would extend to and connect at the south end of Primary Children's Hospital, for a direct link to the existing bridge that runs east from there to the University Hospital.



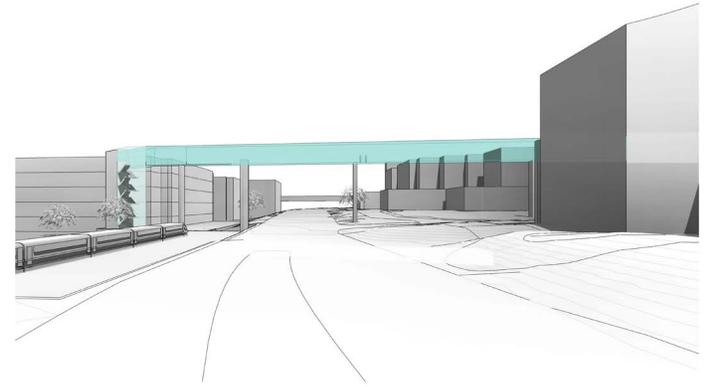
Recommended tunnel alignment



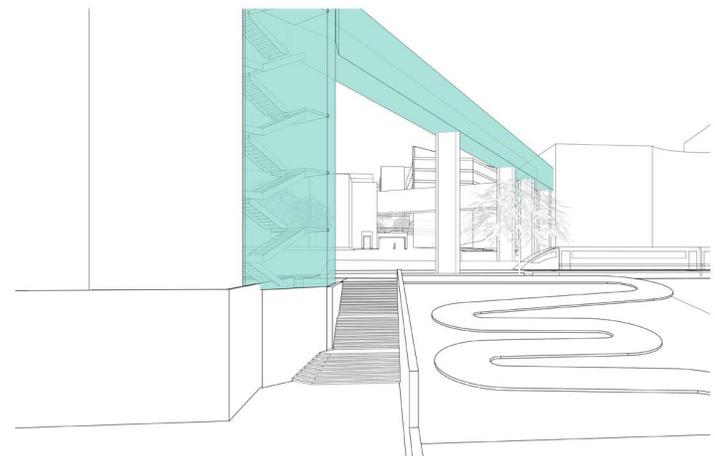
Recommended bridge alignment



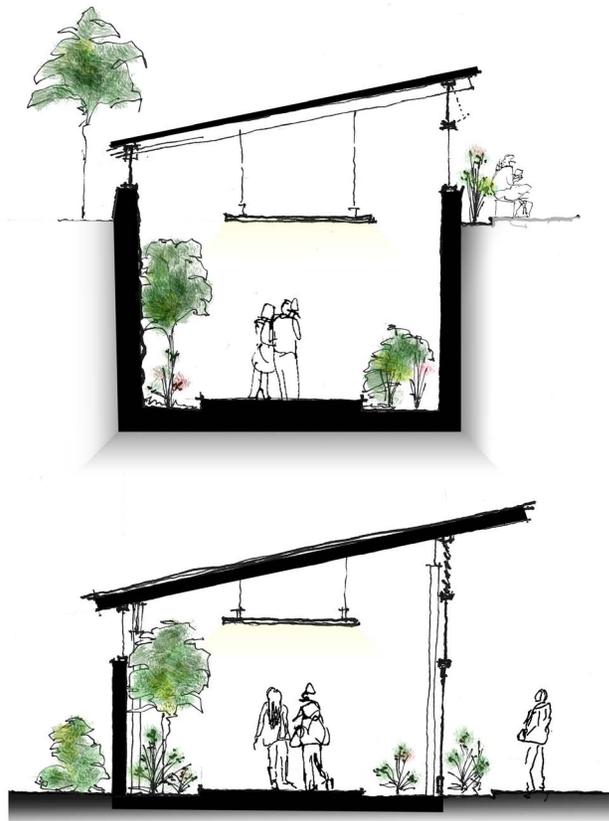
Interior view of on-grade covered walkway from tunnel to AAB



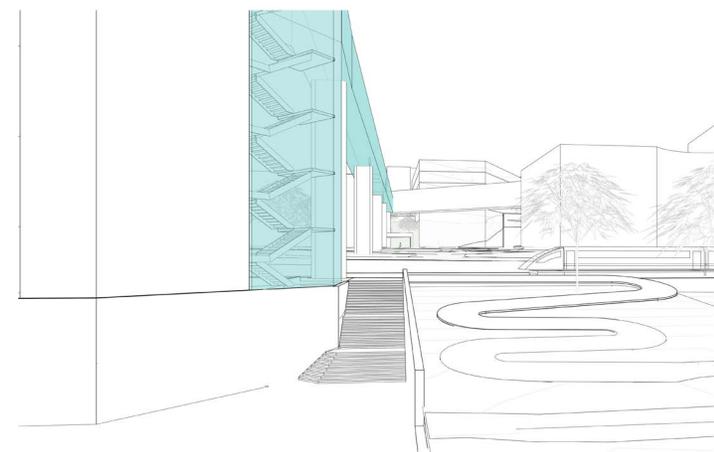
View of bridge from Mario Capecchi Drive



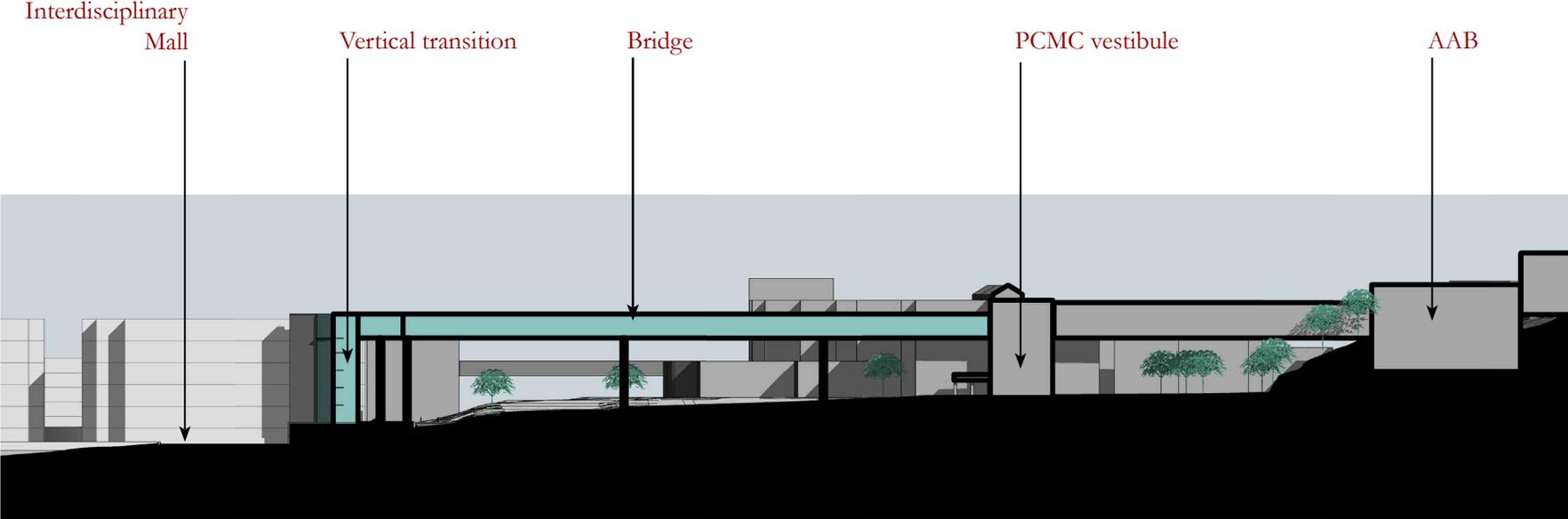
View of bridge from Interdisciplinary Mall: Diagonal alignment **not** preferred



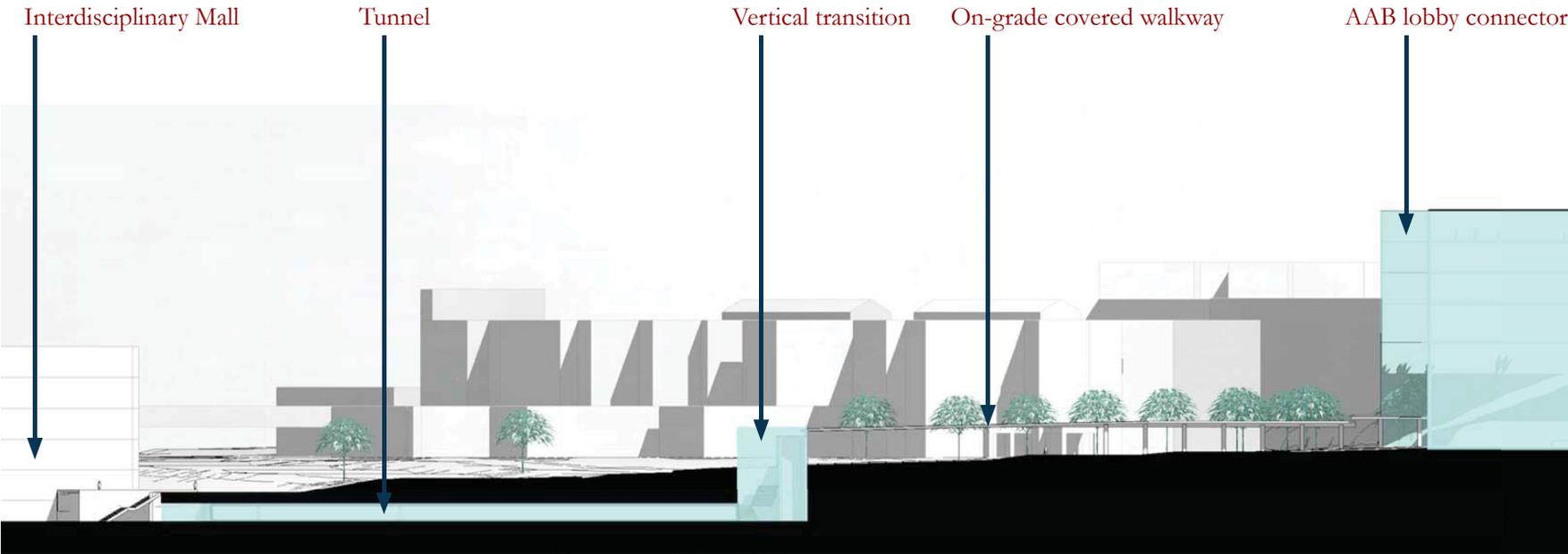
Section sketches of on-grade covered walkway



View of bridge from Interdisciplinary Mall: Straight alignment **is** preferred



Conceptual bridge section



Conceptual tunnel section

Research Corridor

The primary goal expressed by key stakeholders was to create a campus heart and sense of place, which will be realized in the new MED. The HSC research corridor presents a particular opportunity to strengthen supporting courtyards and connectors which will create a highly usable open space network within the compact campus.

Research Heart

In addition to looking more closely at improving east-west connections, the master plan update visioning process brought forth the need for a more coherent research zone with a heart of its own.

The research arm of the campus is substantially built-out, with a series of biomedical research buildings in the central and southeastern portions of the campus. However, a central gathering place or “heart” of the research corridor is lacking.

During the master plan process, a concurrent vivarium study determined that Buildings 585, 586 and 587 (the CMC and Radiobiology Labs) need to be replaced. Demolishing these buildings gives an opportunity to improve the research corridor through one or more replacement buildings designed to function as a research hub. In addition to the new animal facilities, the new hub would contain informal gathering places, a food venue, and social activity space.

Improved Pedestrian Linkages

Complementing the new proposed research hub is a master planned system of enhanced open space and pedestrian linkages that will extend from the HSEB main lobby eastward through the research zone.

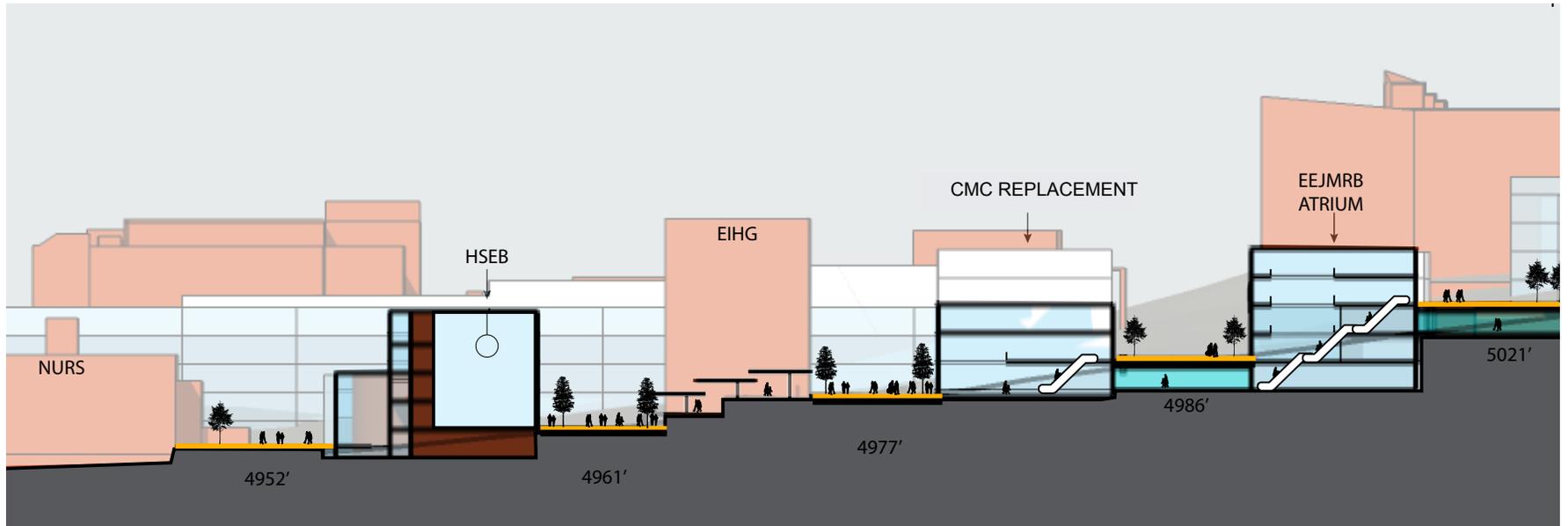
Directly east of the HSEB, the open space between the Human Genetics building and the Biomedical Polymers Research Building (Biopolymers) will be improved to create a well-defined, landscaped pedestrian pathway that steps up the hillside.

Continuing eastward, the pedestrian path will travel through enclosed, transparent atria planned for the south ends of the new CMC replacement buildings. These spaces would complement the HSEB lobby as informal gathering spaces. Like the successful cafe atrium space within the west wing of the hospital, these new atria are imagined as cafe lounge environments that will become social nodes where researchers are able to recharge and interact with others.

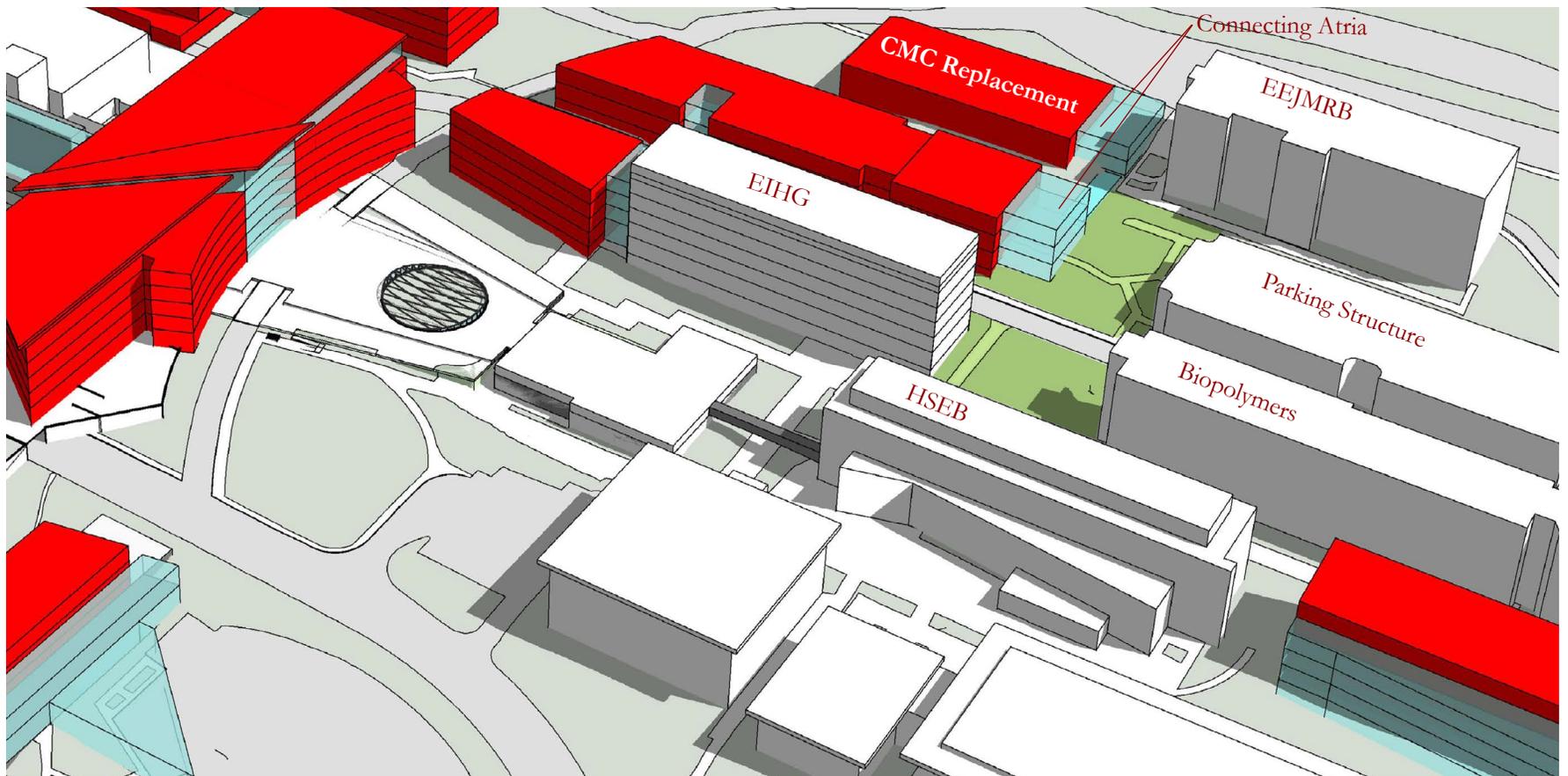
It is anticipated that the CMC replacement project will include below-grade connectors to adjacent buildings. These interior linkages are encouraged to ease vertical travel between campus benches, and could also provide access to below-grade utility infrastructure.

Research Cores

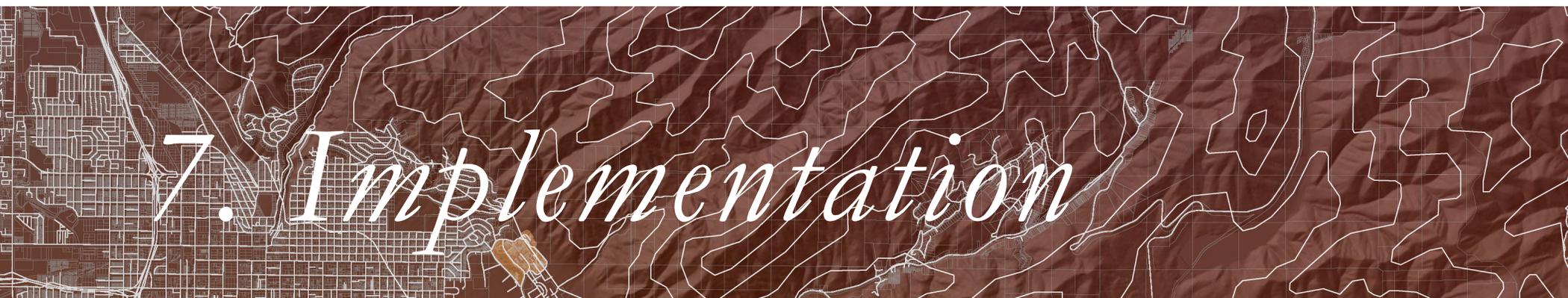
The research “cores” are shared, high-cost equipment and resources used primarily by campus researchers. They currently exist in several locations throughout the HSC campus, including the School of Medicine (Building 521) which is planned for near term demolition. During the master plan update process, consideration was given to consolidating and placing the cores in one of the CMC/ Radiobiology Lab replacement buildings. After further consideration, the research space subcommittee decided that it would be preferable to consolidate and locate the cores within the existing Biomedical Polymers Research Building, as part of the enabling projects that will empty Building 521 prior to its demolition.



Section through HSEB lobby and future connecting atria



Overhead view of improved existing exterior courtyard as the new research heart of campus: Green zone indicates improved landscape and courtyard people-space



7. *Implementation*

Short Range Master Plan Implementation, MED-Related Projects

Project	SF	Total Project Cost*
Renovations, Moves & Staging		\$35,000,000
AAB (Hospital Expansion)	100,000 *	\$48,735,000
Wintrobe Renovation		\$10,200,000
Rehab Patient Services	up to: 120,000	\$55,000,000
Demolition of SOM & MREB		\$10,900,000
MED, Knowledge Center, Circular Road - Phase 1	250,000	\$96,075,000
Subtotal	470,000	\$255,910,000

* Square foot amount reflects 4 stories; an additional 3 floors were being considered at the time of document completion

Short Range Master Plan Implementation, Other Projects

Project	SF	Total Project Cost**
Vertical Walk/Connector	10,000	\$4,300,000
Huntsman IV	220,000	\$110,000,000
Central Plant Expansion	10,000	\$16,700,000
Parking Structure + Research Park Road	up to:	\$34,650,000
Subtotal	240,000	\$165,650,000

Total without Huntsman, Central Plant, Parking	480,000	\$260,210,000
Total of All Projects	710,000	\$421,560,000

** Total Project Cost = Construction cost plus 26% for soft costs

Implementation

The Health Sciences Center campus master plan update provided an opportunity to reexamine and revise campus development projections from the 2008 Campus Master Plan (CMP). The table on the facing page shows project phasing projections from the 2008 CMP on the left side, with the updated corresponding phasing on the right. The projects are assigned to one of three time frames. The Phase 1 time frame (2008-2013) is just ending. Phase 2 is the short range future (2014-2020) and Phase 3 is from 2020 through 2025.

As shown, several Phase 1 master planned projects are currently under construction or have been completed, including:

- University Hospital expansion (West Pavilion)
- College of Nursing renovation
- PCMC Ambulatory Care Center
- Huntsman Cancer Institute, Phase IIB (or III)
- L.S. Skaggs Pharmacy Research Building

Two Phase 1 projects that were anticipated in 2008, the University Women's Center and the UUHC ACC Ph 1, are no longer under consideration.

The Huntsman IV building has shifted to a nearer time frame, from Phase 3 to Phase 2.

Several projects originally projected for Phase 3 development remain in that time projection, including:

- PCMC Ambulatory II
- Moran Eye Center III
- PCMC Hospital
- UUHC ACC, Phase 2

A new parking structure and a central plant expansion are included in the project phasing table. The HSC campus is in need of additional parking; funding for a new structure has been approved, so the parking structure will likely be built in the Phase 2 time frame.

2008 CAMPUS MASTER PLAN					2013 HSC MASTER PLAN UPDATE				
	Phase 1 2008-2013	Phase 2 2014-2020	Phase 3 2020-2025	Total GSF		Phase 1 2008-2013	Phase 2 2014-2020	Phase 3 2020-2025	Total GSF
Project	GSF	GSF	GSF	Total GSF	East Campus	GSF	GSF	GSF	Total GSF
University Hospital Expansion	305,000				University Hospital Expansion	305,000			
College of Nursing	9,600				College of Nursing	9,600			
PCMC Ambulatory	220,000				PCMC Ambulatory	220,000			
Huntsman Cancer Institute, Phase IIB	117,467				Huntsman Cancer Institute, Phase IIB	117,467			
LS Skaggs Pharmacy Research Bldg.		120,000			LS Skaggs Pharmacy Research Bldg.	120,000			
University Women's Center	100,000								
UUHC ACC, PH 1	210,000								
Huntsman Cancer Institute IV			200,000		Huntsman Cancer Institute IV		220,000		
HSC Academic (521 Replacement)		276,000			¹ HSC Academic (521 Replacement)				
HSC Research (521 Replacement)		317,000			¹ HSC Research (521 Replacement)				
HSC Hospital Support (521 Replacement)		49,000			¹ HSC Hospital Support (521 Replacement)				
					AAB (Hospital Expansion)		up to: 100,000 *		
					Hospital Expansion (East Side)		up to: 120,000		
					MED & Knowledge Center, Phase 1		250,000		
					Central Plant Expansion		10,000		
Parking Structure (257 stalls)					Parking Structure (300-1,000 stalls)				
					CMC			60,000	
					MED Ph2 (Medical Education & Discovery)			150,000	
					UUHC ACC, PH1			210,000	
PCMC Ambulatory II			220,000		PCMC Ambulatory II			220,000	
Moran Eye Center III			200,000		Moran Eye Center III			200,000	
PCMC Hospital			625,000		PCMC Hospital			625,000	
UUHC ACC, PH 2			210,000		UUHC ACC, PH2			210,000	
Infill - Medical Research Lab			480,700		² Infill - Medical Research Lab			400,000	
					² Infill - Academic Facilities			400,000	
					² Infill - Clinical/Hospital			400,000	
Infill - Clinical Facility			469,000						
	962,067	762,000	2,404,700	4,128,767		772,067	700,000	2,875,000	4,347,067

Notes:

1. The planned square footage from the 2008 CMP has been absorbed into existing campus square footage or new building square footage
2. Square footage amount listed is the maximum capacity for the site. The project's future square footage will depend upon University needs and building site height limits

* Square foot amount reflects 4 stories; an additional 3 floors were being considered at the time of document completion

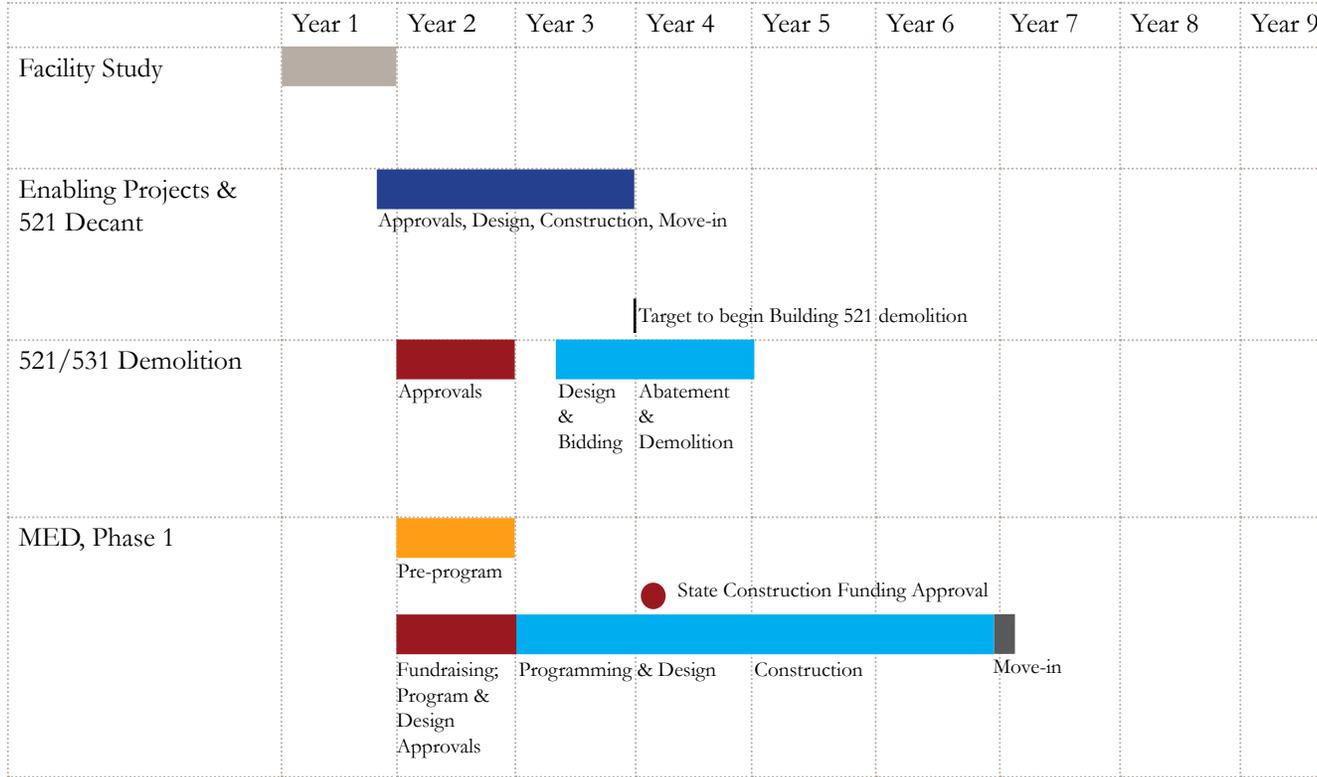
Need for the central plant expansion, currently shown in Phase 2, will be evaluated as other Phase 2 projects are implemented.

Projects related to the replacement of the existing School of Medicine (Building 521) have been modified as a result of the more detailed planning that occurred as part of the master plan update, although they are all still assigned to the Phase 2 time frame. The changes are represented in the project phasing table above.

The following pages contain a schedule for construction of the MED Phase 1, followed by a graphic representation of master plan implementation phasing.

Note: Project sequencing may change from that represented in the Project Phasing Table above based on need, funding availability and administrative approval. Need for the central plant expansion will be evaluated as Phase 2 projects are implemented.

MED Phase 1 Implementation Schedule



This schedule represents the planned timing of the steps necessary to complete the construction of the MED Phase 1, beginning at the point of master plan update document finalization.

At the time of document finalization, the implementation schedule was under evaluation; the final schedule may vary from that shown above.

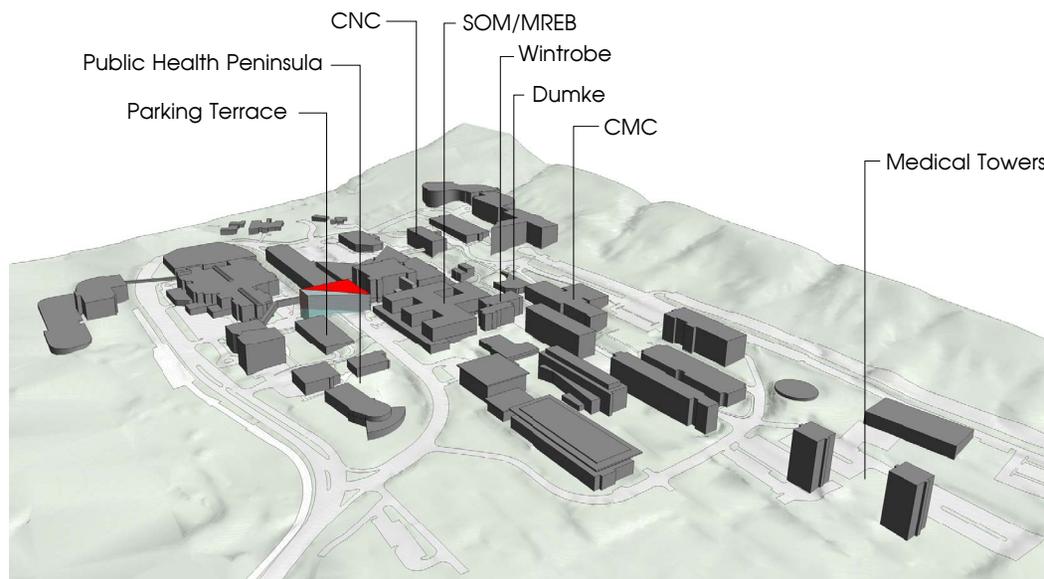
Current Campus Conditions/Buildings in Play



The “buildings in play” (listed below and noted on plan) are identified as aging or underutilized facilities and/or sites that may be demolished for implementation of the Short or Long Range Master Plans.

- A. SOM/MREB (Buildings 521/531)
- B. Dumke
- C. Parking Terrace
- D. Public Health Peninsula
- E. CMC
- F. Wintrobe*
- G. CNC
- H. Medical Towers

* Wintrobe is identified as an enabling project for the decant of Buildings 521/531, and will be renovated for research programs. Prior to its future demolition, its programs will be relocated to new facilities along the collaborative research corridor.

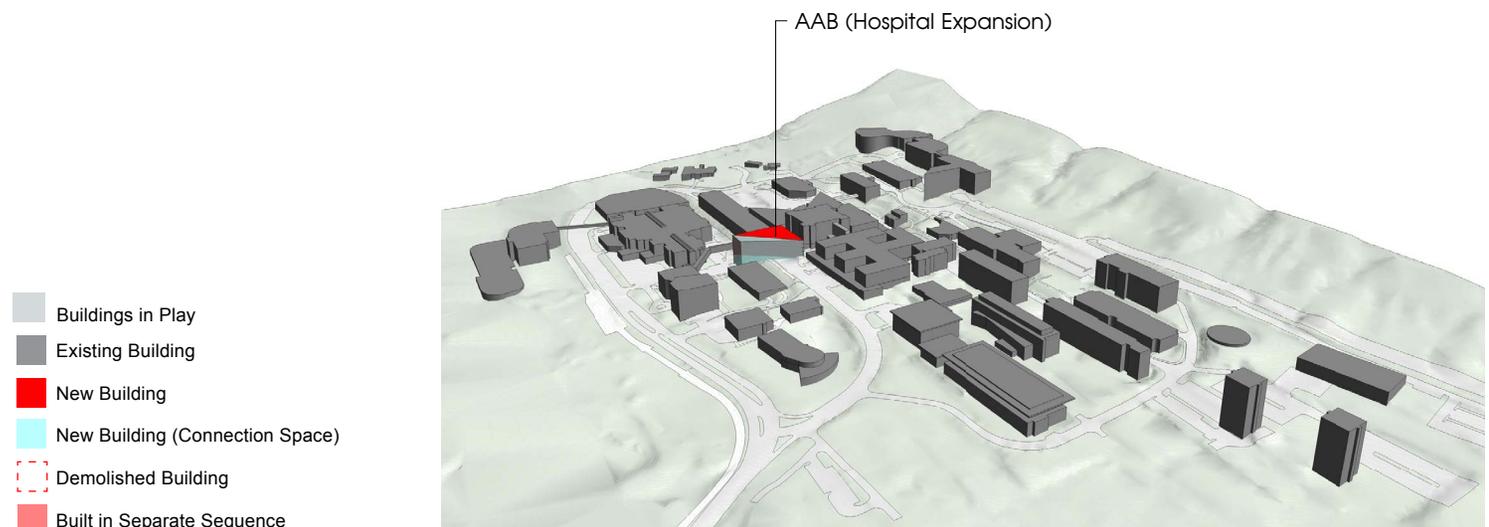


Short Range Implementation (2014-2020)

1 AAB/Administrative & Ambulatory Building (Hospital Expansion)

The AAB (Hospital Expansion) is anticipated to contain incoming and outgoing docks for the University Hospital (currently located in the lower level of Building 521), ambulatory clinical functions, and School of Medicine administrative space; up to:

100,000 GSF \$41,300,000



Short Range Implementation (2014-2020)



1 AAB (Hospital Expansion)

2 Rehab Patient Services

Must be accommodated prior to demolition of Buildings 521/531; up to: 120,000 GSF \$55,000,000

Potential Sites:

2A. Hospital Level 5

2B. Hospital Expansion Building, site to be determined (not marked on plan)

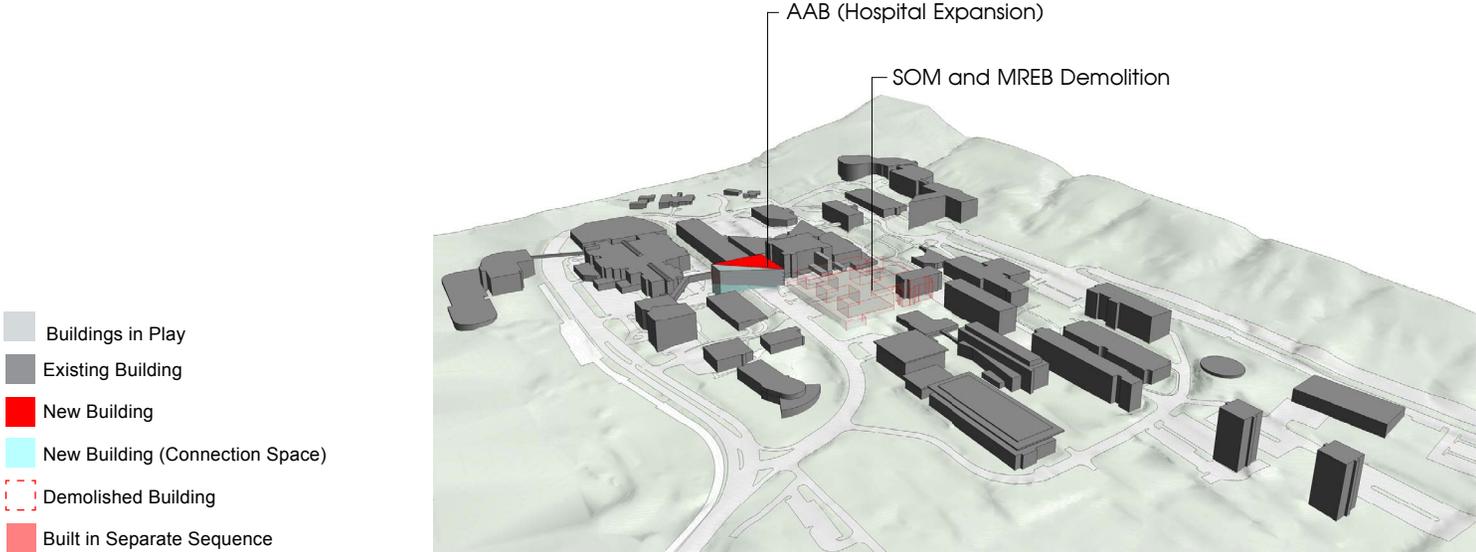


- Buildings in Play
- Existing Building
- New Building
- New Building (Connection Space)
- Demolished Building
- Built in Separate Sequence

Short Range Implementation (2014-2020)

- 1 AAB (Hospital Expansion)
- 2 Rehab Patient Services (site to be determined - not noted on plan)

3 SOM/MREB Demolition
The School of Medicine Building (521) and Medical Research & Education Building (531)
600,000 GSF \$10,900,000

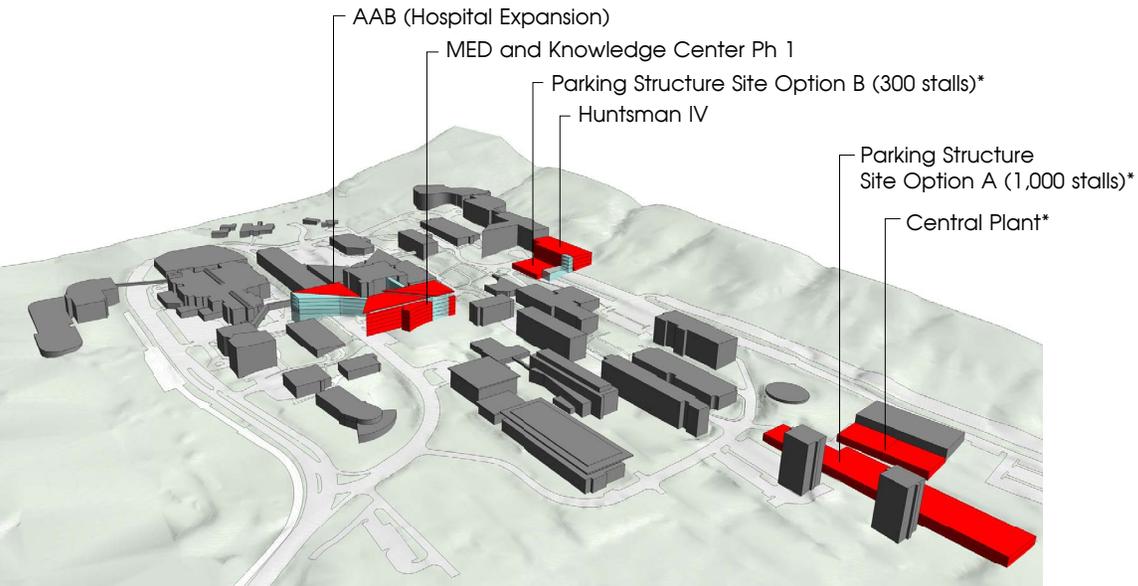


Short Range Master Plan (2014-2020)



- 1 AAB (Hospital Expansion)
- 2 Rehab Patient Services (site to be determined - not noted on plan)
- 3 SOM/MREB Demolition
- 4 MED & Knowledge Center, Ph 1**
North portion of new circular road will be constructed as part of this project
250,000 GSF \$96,075,000
- 5 Huntsman IV**
220,000 GSF \$110,000,000
- 6 Central Plant Expansion***
10,000 GSF \$25,000,000
- 7 Parking Structure***
300 - 1,000 stalls
Potential Sites:
7A. Preferred: Medical Towers (1,000 stalls)
7B. Alternate: Huntsman IV (300 stalls)

* Anticipated to be constructed in the Short Range sequence; may shift to Long Range based on need, funding availability and administrative approval.

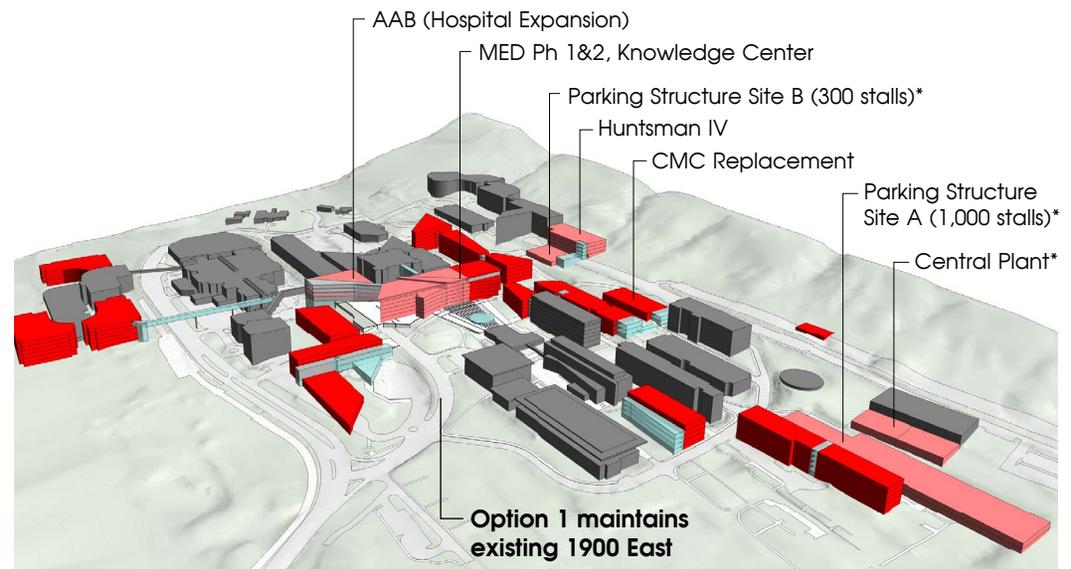
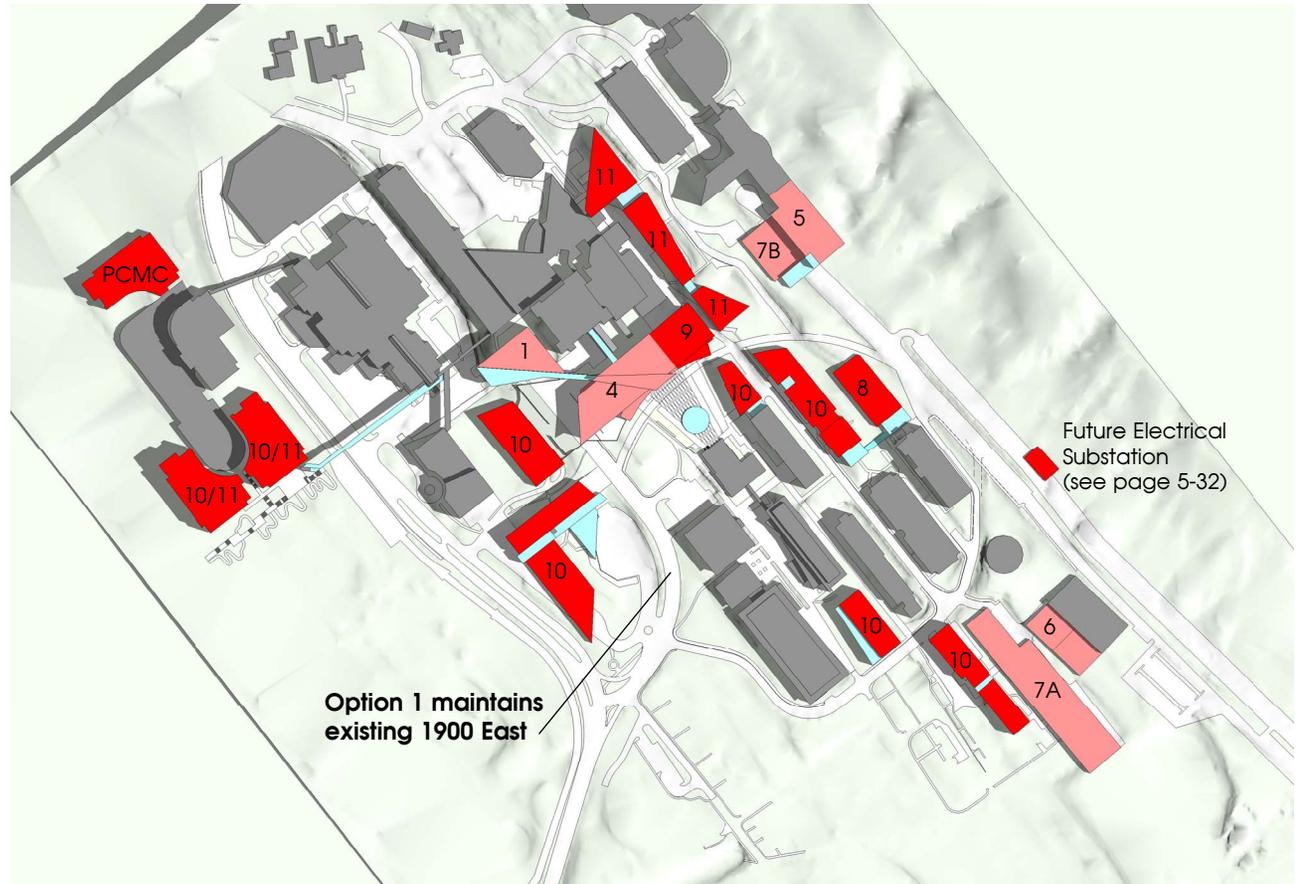


- Buildings in Play
- Existing Building
- New Building
- New Building (Connection Space)
- Demolished Building
- Built in Separate Sequence

Long Range Master Plan Option 1 (maintain 1900 East)

- 1 AAB (Hospital Expansion)
- 2 Patient Rehab Services (site to be determined - not noted on plan)
- 3 SOM/MREB Demolition
- 4 MED & Knowledge Center, Ph 1
- 5 Huntsman IV
- 6 Central Plant Expansion*
- 7 Parking Structure (site options A/B)*
- 8 CMC Replacement Facility
60,000 GSF \$45,000,000
- 9 MED Phase 2
150,000 GSF \$57,200,000
- 10 Research-Academic Facilities
- 11 Hospital and Clinical Expansion

* Anticipated to be constructed in the Short Range sequence; may shift to Long Range based on need, funding availability and administrative approval.

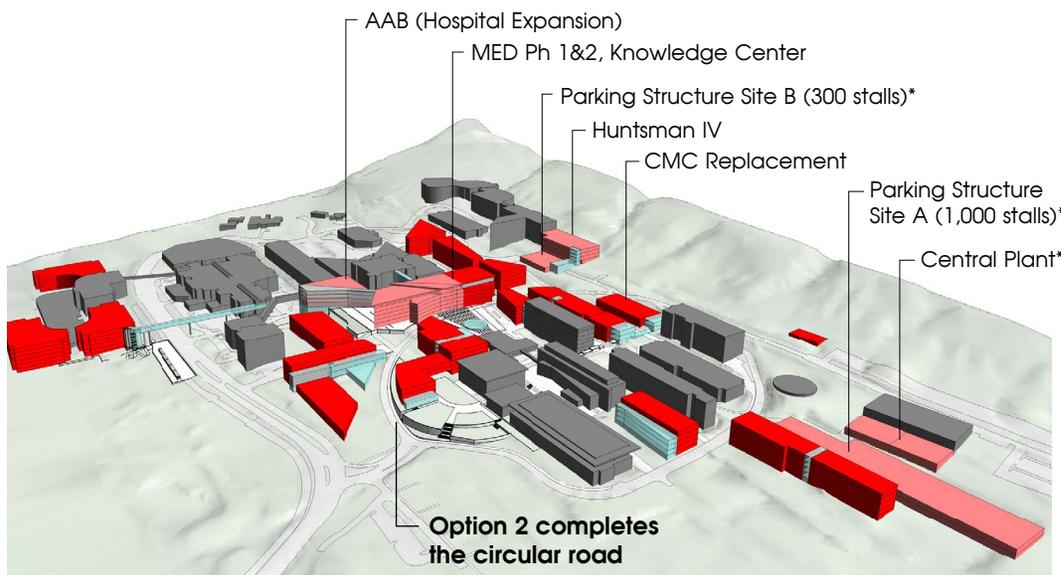


Long Range Master Plan Option 2 (complete Circular Road)

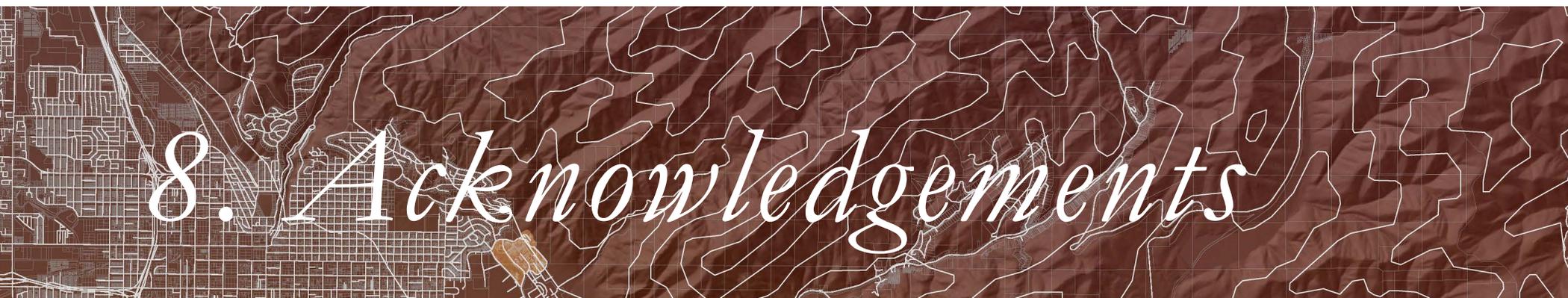


- 1 AAB (Hospital Expansion)
- 2 Patient Rehab Services (site to be determined - not noted on plan)
- 3 SOM/MREB Demolition
- 4 MED & Knowledge Center, Ph 1
- 5 Huntsman IV
- 6 Central Plant Expansion*
- 7 Parking Structure (site options A/B)*
- 8 CMC Replacement Facility**
60,000 GSF \$45,000,000
- 9 MED Phase 2**
150,000 GSF \$57,200,000
- 10 Research-Academic Facilities**
- 11 Hospital and Clinical Expansion**
- 12 Circular Road Option**
- 13 Additional Research/Academic Facilities** at area of Circular Road

* Anticipated to be constructed in the Short Range sequence; may shift to Long Range based on need, funding availability and administrative approval.



- Buildings in Play
- Existing Building
- New Building
- New Building (Connection Space)
- Demolished Building
- Built in Separate Sequence



8. *Acknowledgements*

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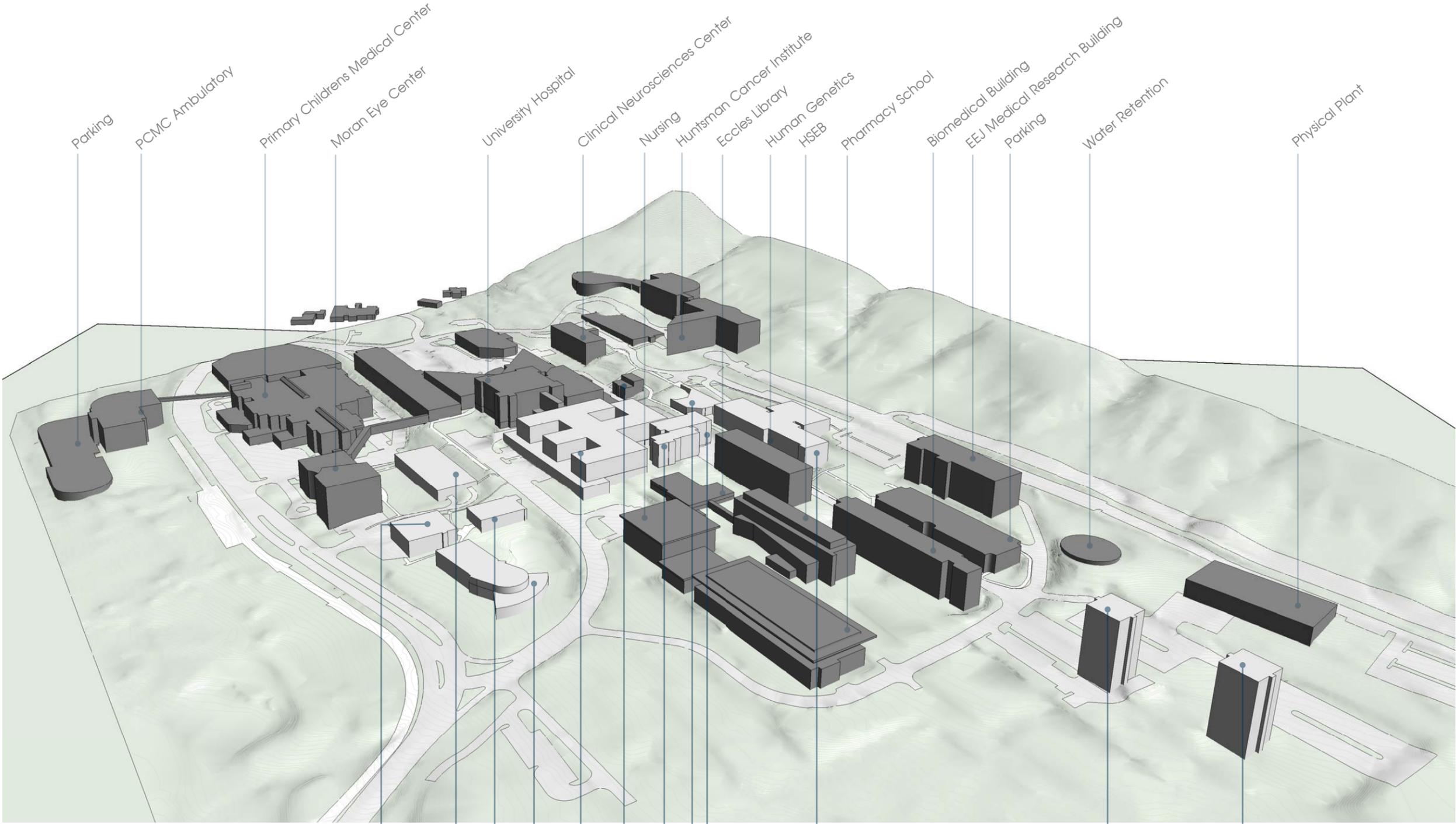
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Preston Stinger

Senior Transportation Engineer

Julie Bjornstad

Planner



Existing Health Sciences Campus

-  Potential buildings to be replaced or removed
-  Potential buildings to remain

- Parking
- PCMC Ambulatory
- Primary Childrens Medical Center
- Moran Eye Center
- University Hospital
- Clinical Neurosciences Center
- Nursing
- Huntsman Cancer Institute
- Eccles Library
- Human Genetics
- HSEB
- Pharmacy School
- Biomedical Building
- EEJ Medical Research Building
- Parking
- Water Retention
- Physical Plant
- State Department of Health/Fraser
- Parking Terrace
- Medical Examiner's Office
- Children's Special Needs Clinic (WIC)
- School of Medicine
- Hospital Power Plant
- MREB (531)
- Dumke
- Wintrobe
- Comparative Medicine Center/Radiology Lab
- Medical Plaza Tower North
- Medical Plaza Tower South