

April 12, 2017

Clemson University

FRAMEWORK PLAN

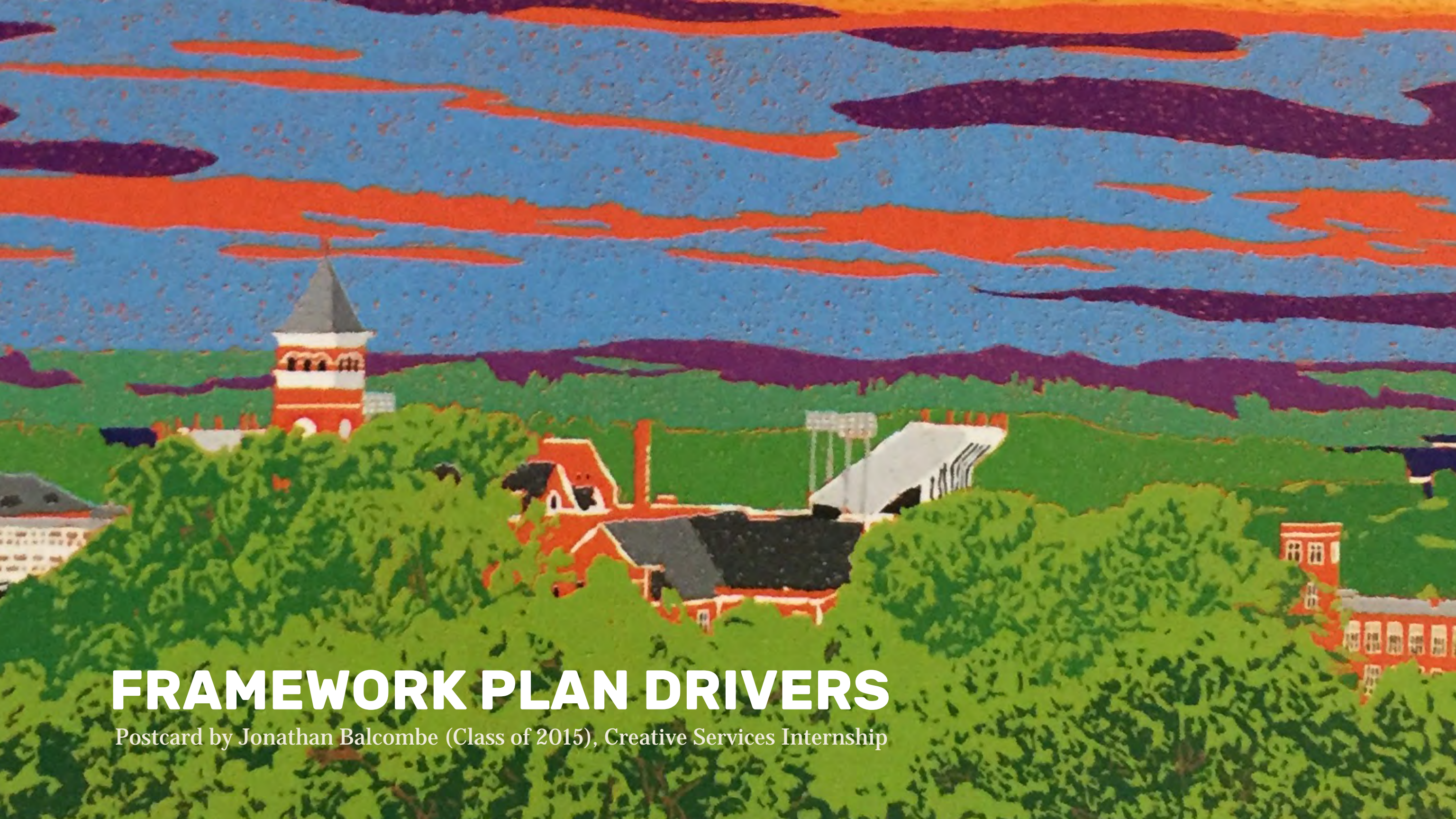
Project Schedule

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Agenda

WORKSHOP 4

1. Framework Plan Drivers
2. Draft Framework
3. Example Buildouts
4. Mobility



FRAMEWORK PLAN DRIVERS

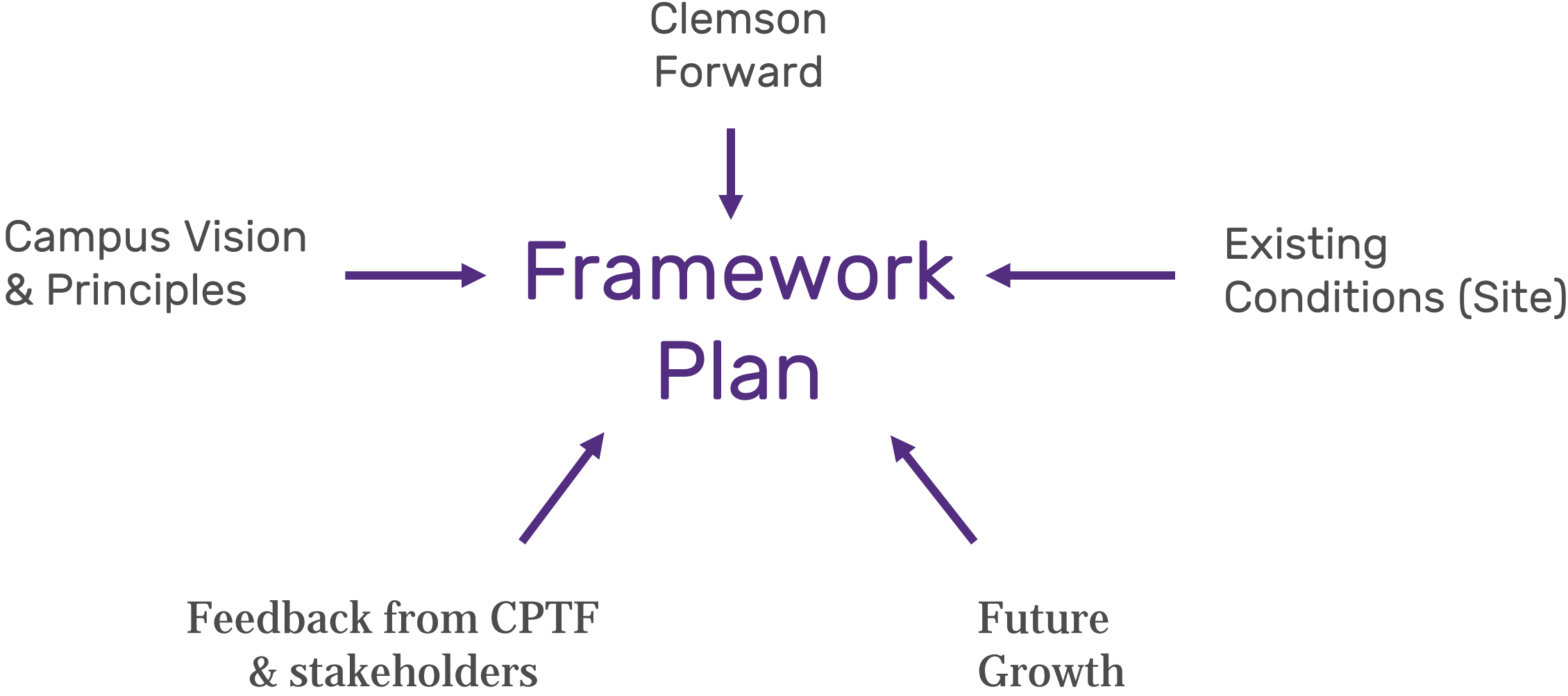
Postcard by Jonathan Balcombe (Class of 2015), Creative Services Internship

Introducing a Framework Plan

- ♦ Systems-based approach to planning
- ♦ Decision-making tool
- ♦ Defines an overarching structure for development
- ♦ Allows for flexibility in future development
- ♦ Envelope versus architectural detail
- ♦ Each development site responds to the various systems



Framework Plan Inputs



Campus Vision & Principles

DRAFT VISION

Plan the Clemson Campus to

- **MISSION:** Promote engaged learning and research—a “high seminary of learning”
- **PEOPLE:** Cultivate a special sense of community and encourage interaction
- **PLACE:** Inspire great memories, delight, healthy living, innovation and ideas



Campus Vision & Principles

DRAFT GUIDING PRINCIPLES

SUSTAINABILITY

Promote integrated planning in order to achieve Clemson's social, environmental and economic objectives for the campus

MOBILITY

Plan for a greater variety of ways to get around the campus and the community

STUDENT LIFE

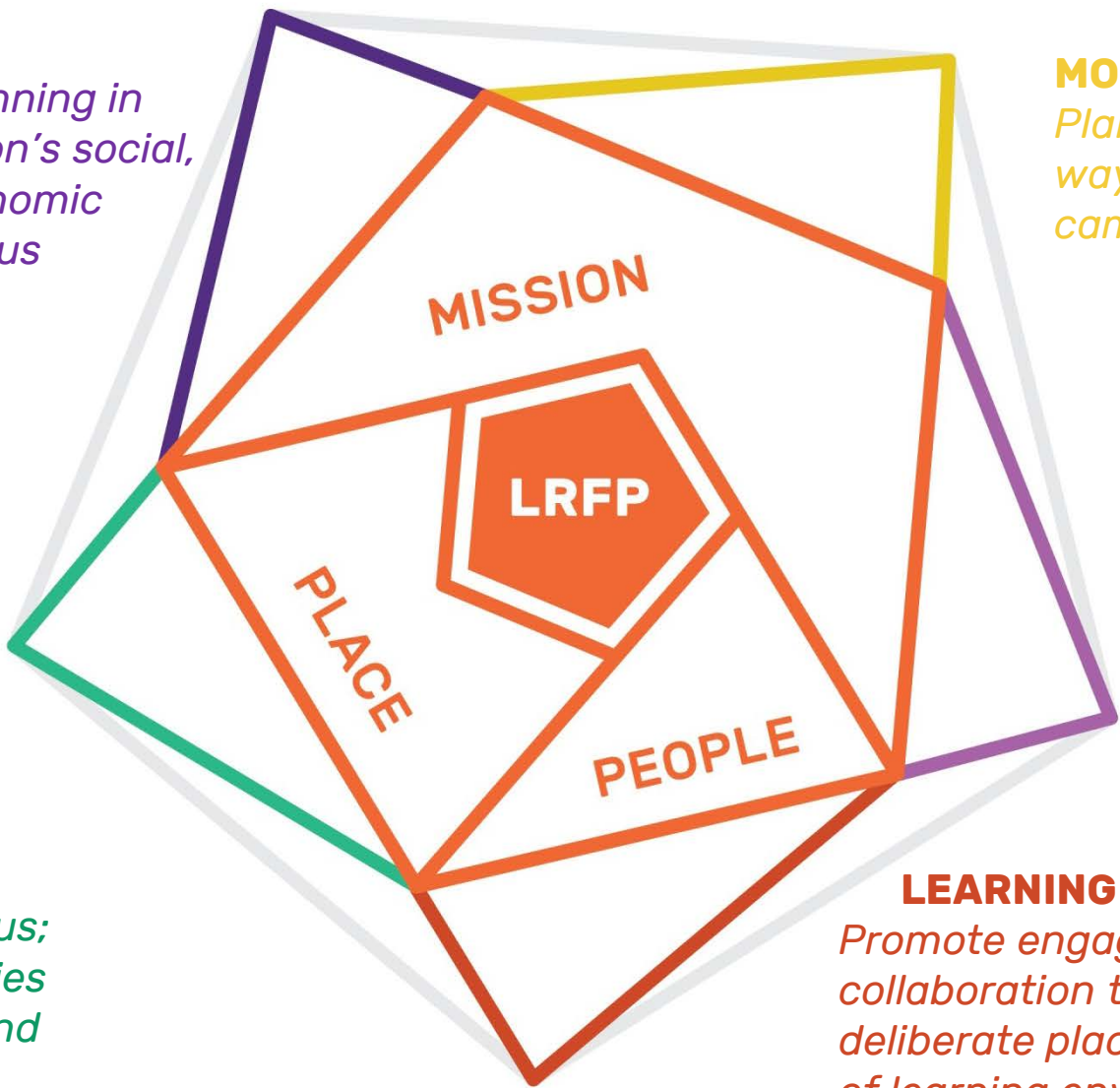
Plan for a rich Clemson experience by integrating study and social spaces across the campus

OPEN SPACE

Respect and extend the established open space framework of the campus; identify new opportunities for campus traditions and special spaces

LEARNING ENVIRONMENTS

Promote engagement and collaboration through the deliberate placement and design of learning environments at the heart of the campus



Future Growth Possibilities

POSSIBLE ENROLLMENT TRAJECTORIES
FOR ON-CAMPUS POPULATIONS

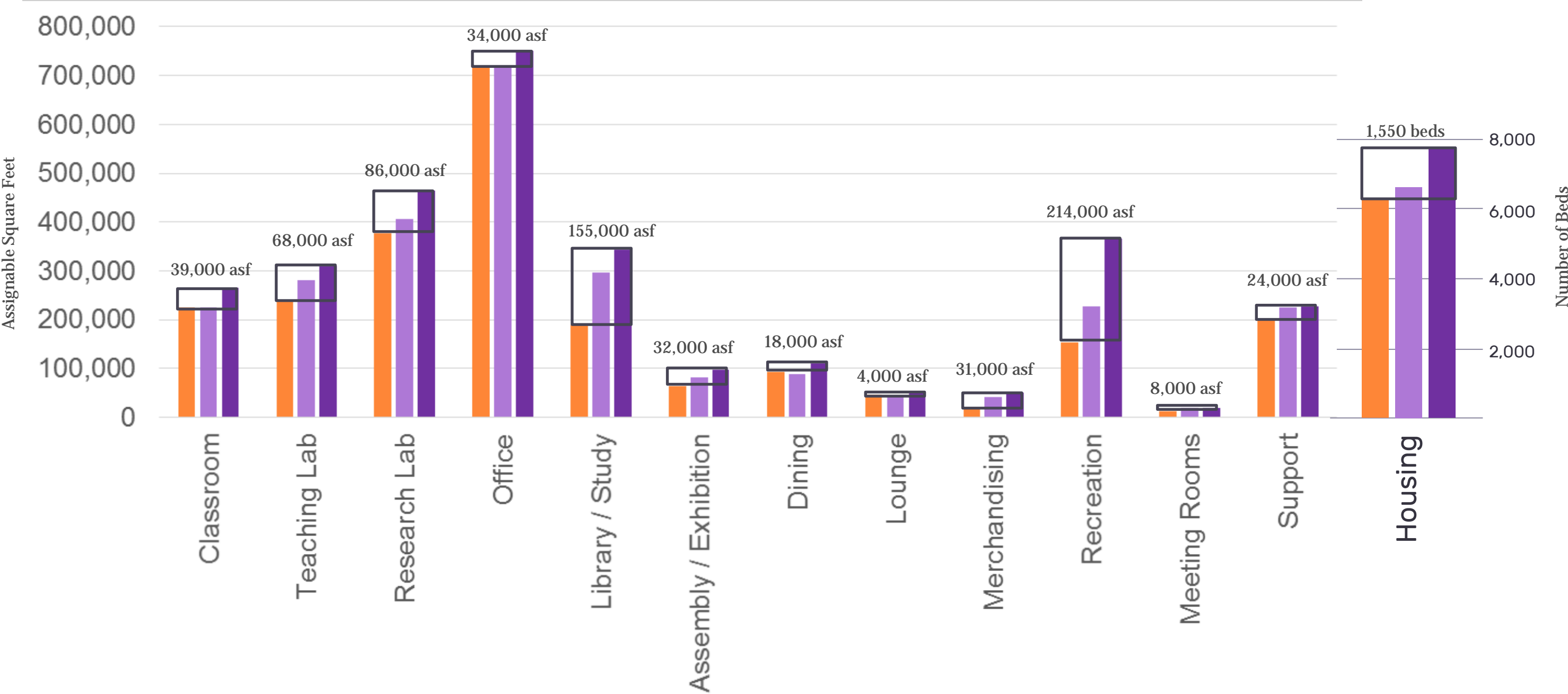
CURRENT POPULATION (2015/2016*)	POTENTIAL FUTURE POPULATION (2026)
18,600 Undergraduate students	22,300 (21,658 FTE) Undergraduate students
2,546 Graduate students	4,000 (4,000 FTE) Graduate students
1,546 Faculty	1,853 (1,780 FTE) Faculty
4,110 Staff	4,929 (4,443 FTE) Staff

*2016 data for students; 2015 data for faculty and staff

Future Growth

SPACE NEEDS SUMMARY

- Existing Space
- Current Need
- Future Need



Addressing Future Growth

RECENT & PLANNED PROJECTS

- Core Campus Housing and Dining (*CPIP*)
- College of Business – 162,000 gsf (*CPIP*)
- Snow Family Complex – Outdoor Wellness & Fitness Center (*CPIP*)
- Douthit Hills Residences & HUB (*CPIP*)
- Barnes Center (*CPIP*)
- Daniel Hall Replacement – 75,000 gsf (*CPIP*)
- Advanced Materials Innovation Complex – 200,000 gsf (*CPIP*)
- Mauldin Hall Renovation (*CPIP*)
- Fike Renovation

Note: a 10 year Facilities Plan is under development and will be coordinated with the Framework Plan



DRAFT FRAMEWORK

Postcard by Jonathan Balcombe (Class of 2015), Creative Services Internship

Existing Campus



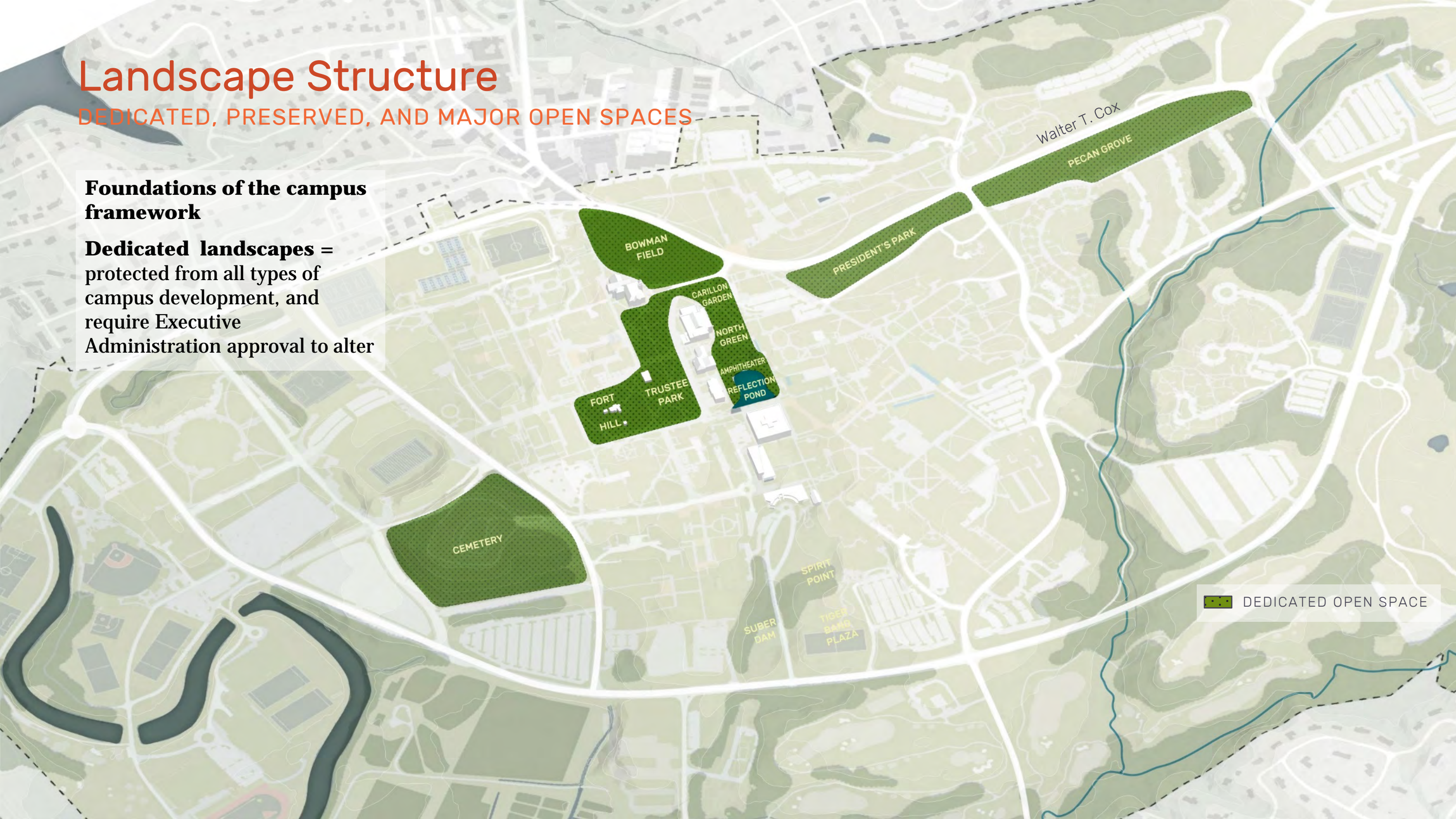
Main Campus

Landscape Structure

DEDICATED, PRESERVED, AND MAJOR OPEN SPACES

Foundations of the campus framework

Dedicated landscapes = protected from all types of campus development, and require Executive Administration approval to alter



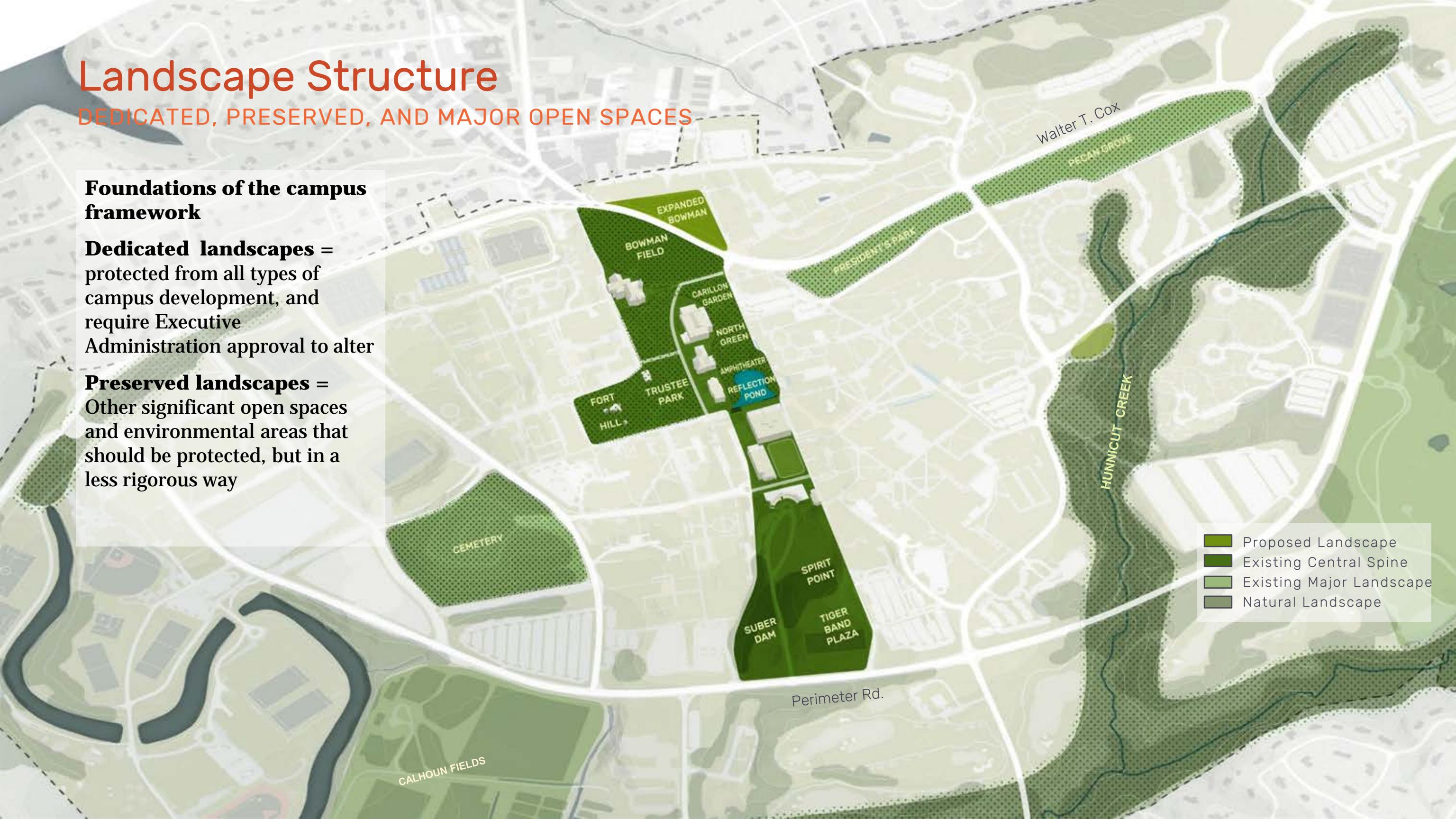
Landscape Structure

DEDICATED, PRESERVED, AND MAJOR OPEN SPACES

Foundations of the campus framework

Dedicated landscapes = protected from all types of campus development, and require Executive Administration approval to alter

Preserved landscapes = Other significant open spaces and environmental areas that should be protected, but in a less rigorous way



- Proposed Landscape
- Existing Central Spine
- Existing Major Landscape
- Natural Landscape

Key Connections

PEDESTRIAN CONNECTIONS / ORGANIZING AXES

Major pedestrian connections that act as organizing spines for the campus

Preserve view corridors

Future development should respect these connections

Prioritize pedestrian movement in central campus

Establish pedestrian zone in heart of campus to increase safety and campus character



- Pedestrian Connection
- Major Vehicular Road
- Pedestrian Zone
- Proposed Landscape
- Existing Central Spine
- Existing Major Landscape
- Natural Landscape

Vehicular Mobility

VEHICULAR CIRCULATION

Establish Perimeter Road as the primary vehicular connection through campus

Consider Walter T. Cox as the ceremonial gateway

Enhance north-south connectivity of campus and pedestrian safety

Limit vehicular travel in the core of campus (while maintaining service, emergency, ADA, and transit circulation)



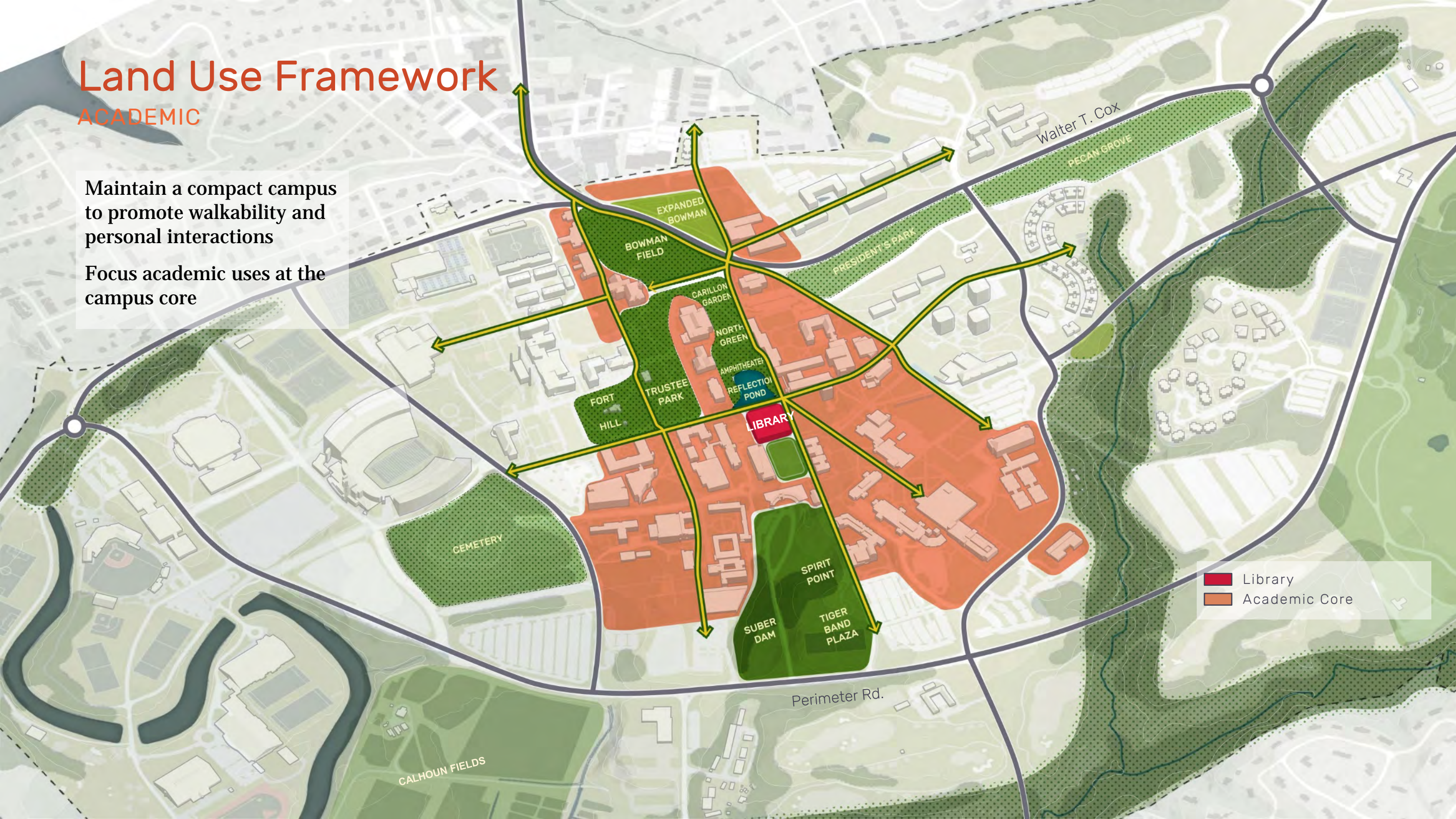
- Secondary Vehicular Road
- Major Vehicular Road
- Pedestrian Connection
- Pedestrian Zone
- Proposed Landscape
- Existing Major Landscape
- Existing Major Landscape
- Natural Landscape

Land Use Framework

ACADEMIC

Maintain a compact campus
to promote walkability and
personal interactions

Focus academic uses at the
campus core



Library
Academic Core

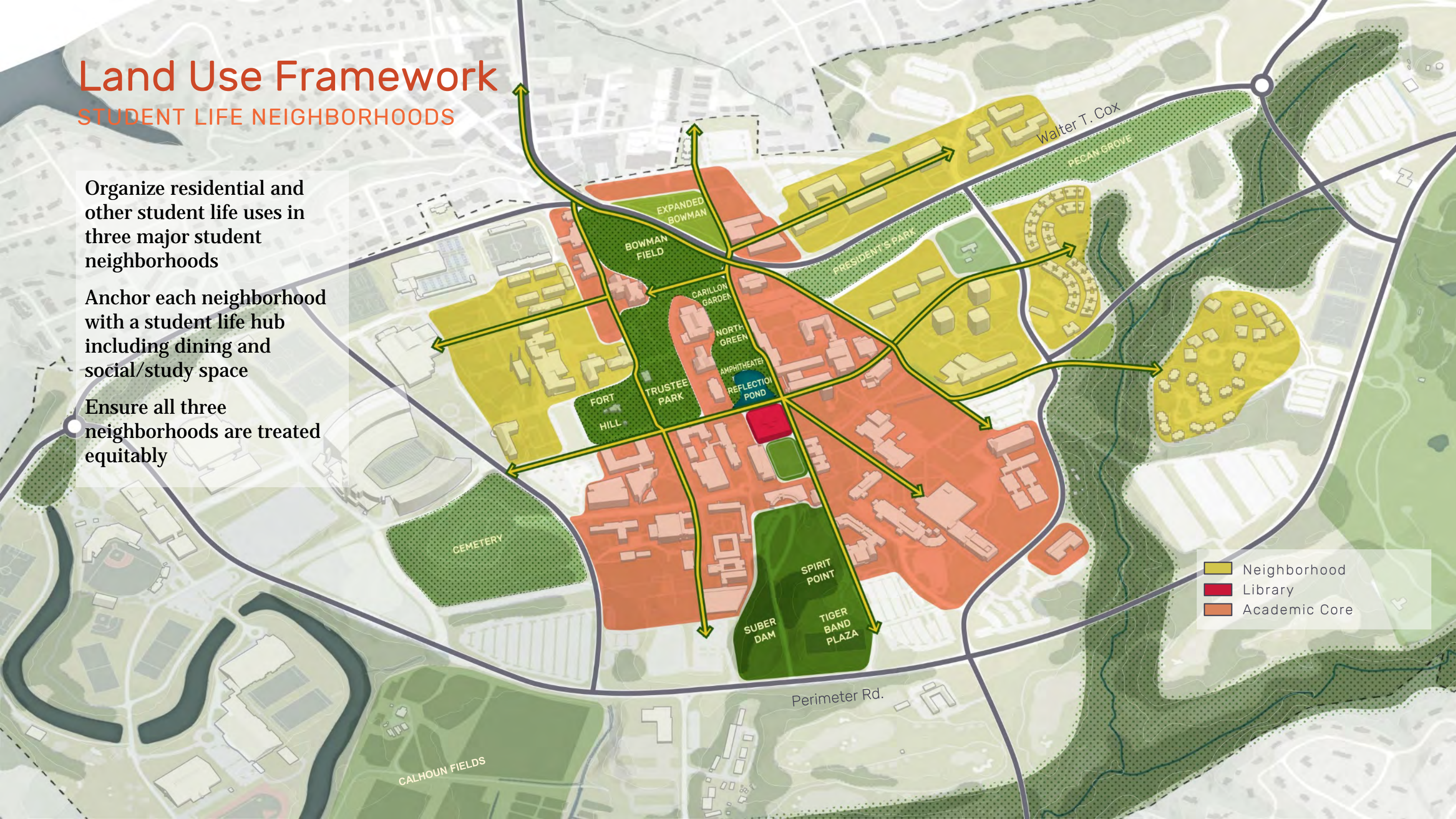
Land Use Framework

STUDENT LIFE NEIGHBORHOODS

Organize residential and other student life uses in three major student neighborhoods

Anchor each neighborhood with a student life hub including dining and social/study space

Ensure all three neighborhoods are treated equitably

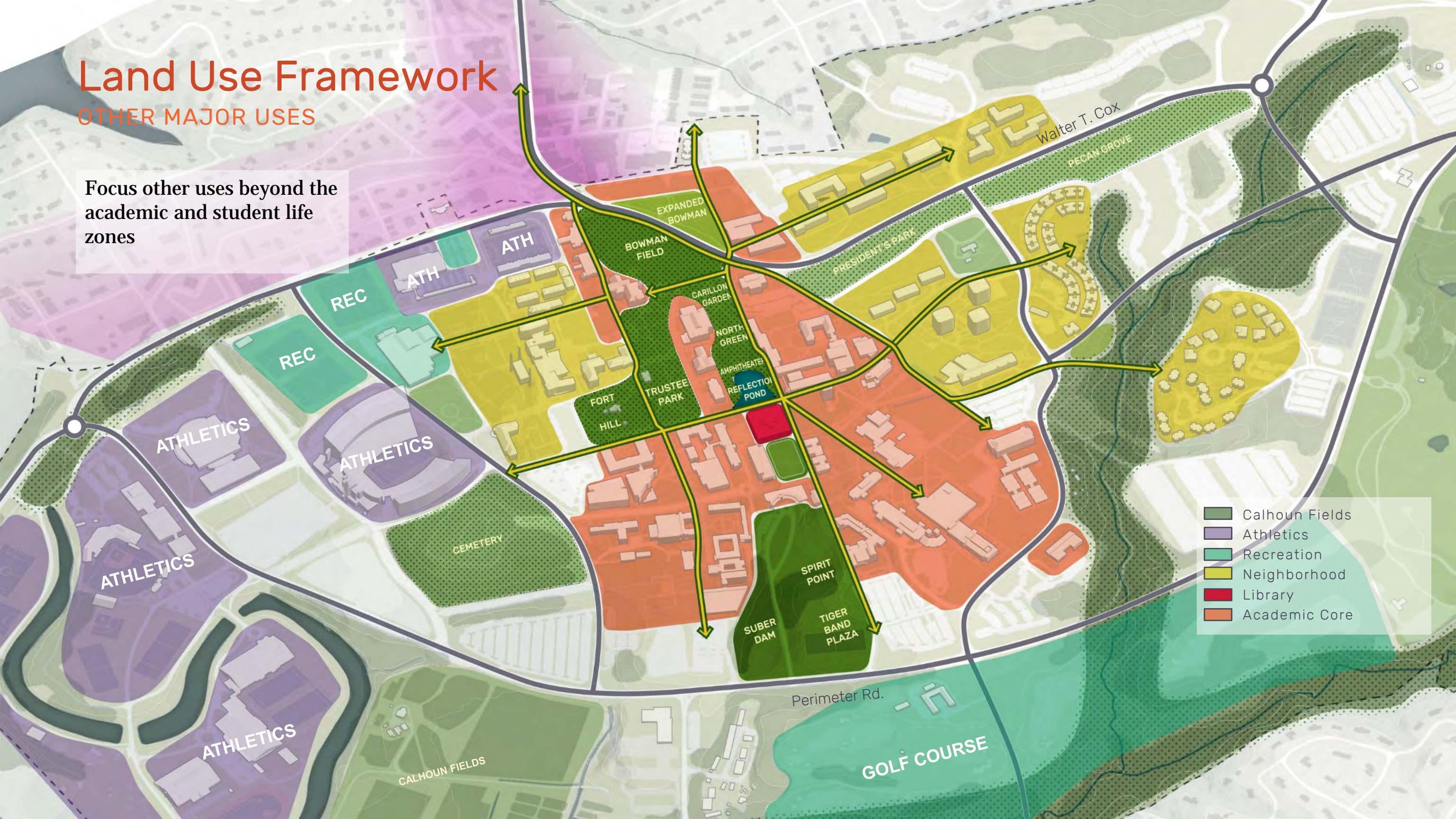


- Neighborhood
- Library
- Academic Core

Land Use Framework

OTHER MAJOR USES

Focus other uses beyond the academic and student life zones

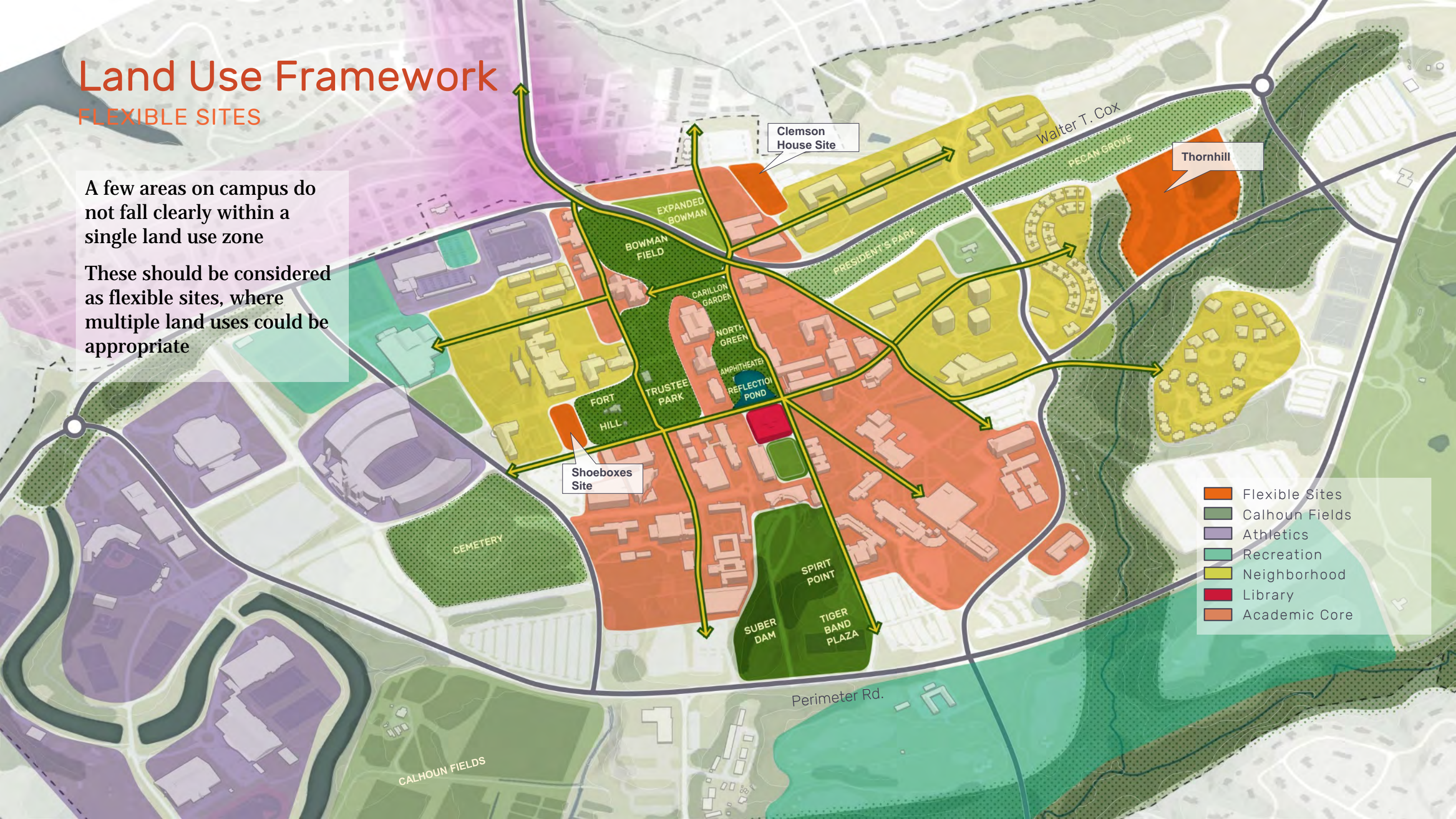


Land Use Framework

FLEXIBLE SITES

A few areas on campus do not fall clearly within a single land use zone

These should be considered as flexible sites, where multiple land uses could be appropriate

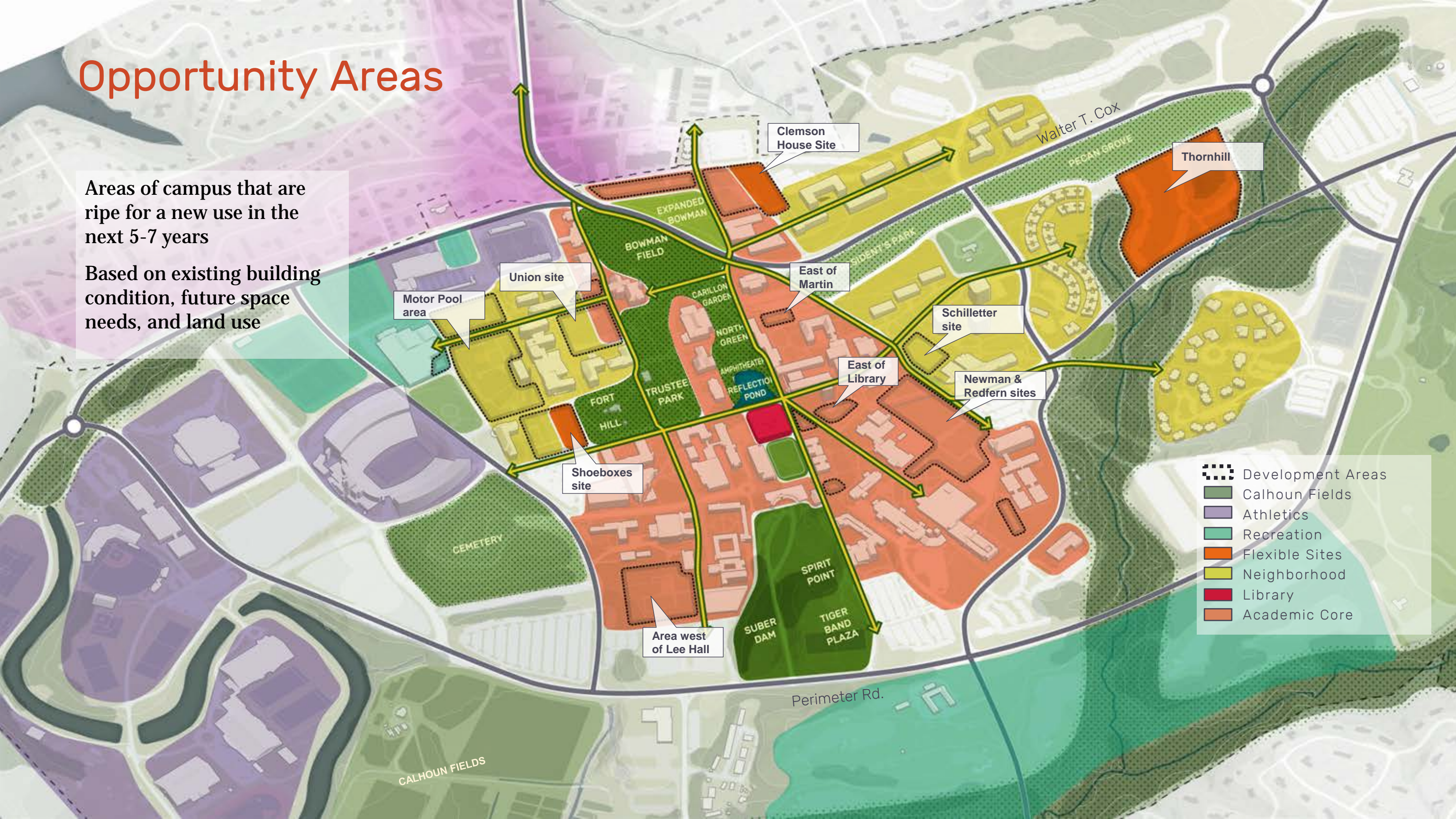


- Flexible Sites
- Calhoun Fields
- Athletics
- Recreation
- Neighborhood
- Library
- Academic Core

Opportunity Areas

Areas of campus that are ripe for a new use in the next 5-7 years

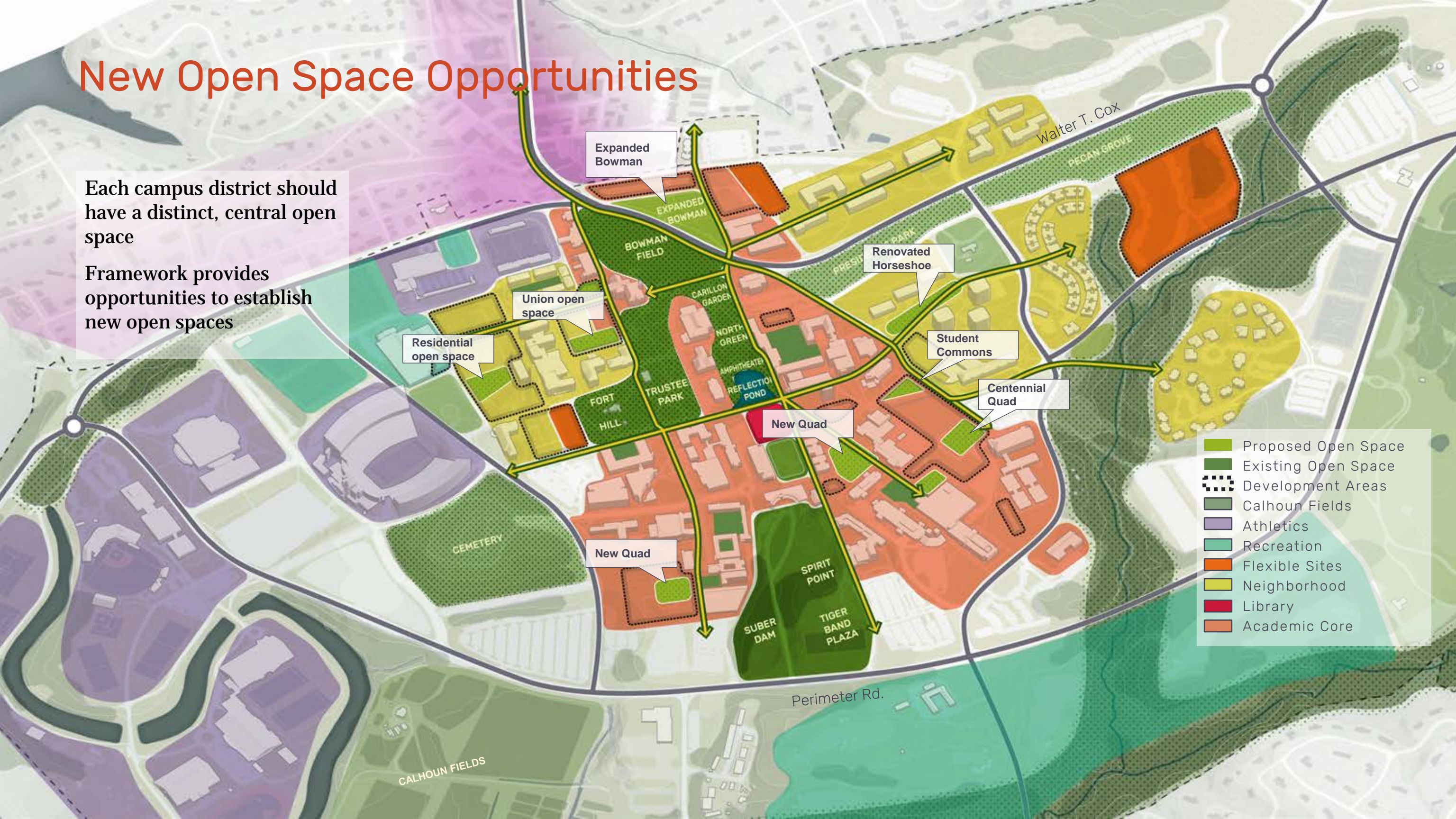
Based on existing building condition, future space needs, and land use



New Open Space Opportunities

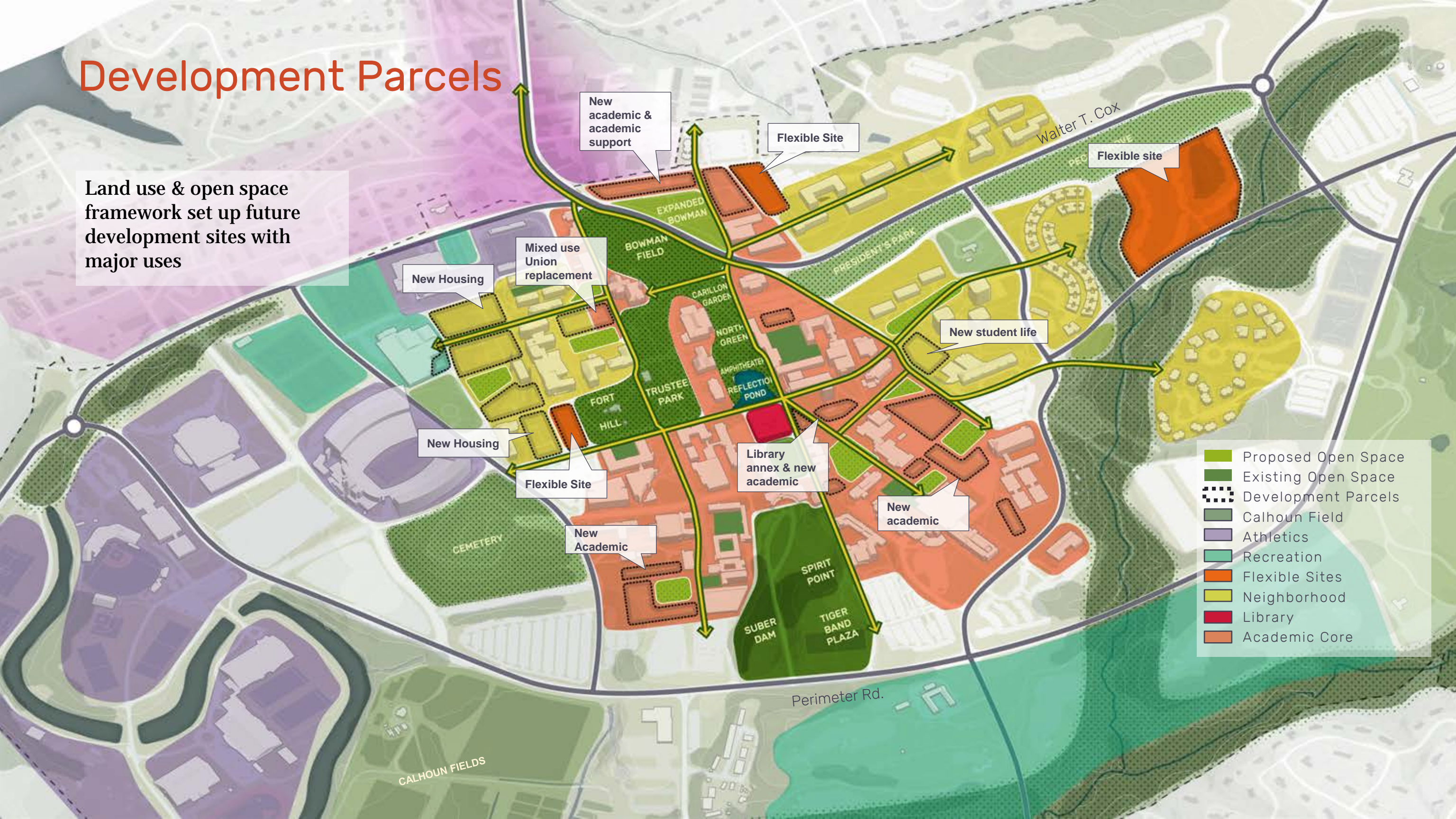
Each campus district should have a distinct, central open space

Framework provides opportunities to establish new open spaces

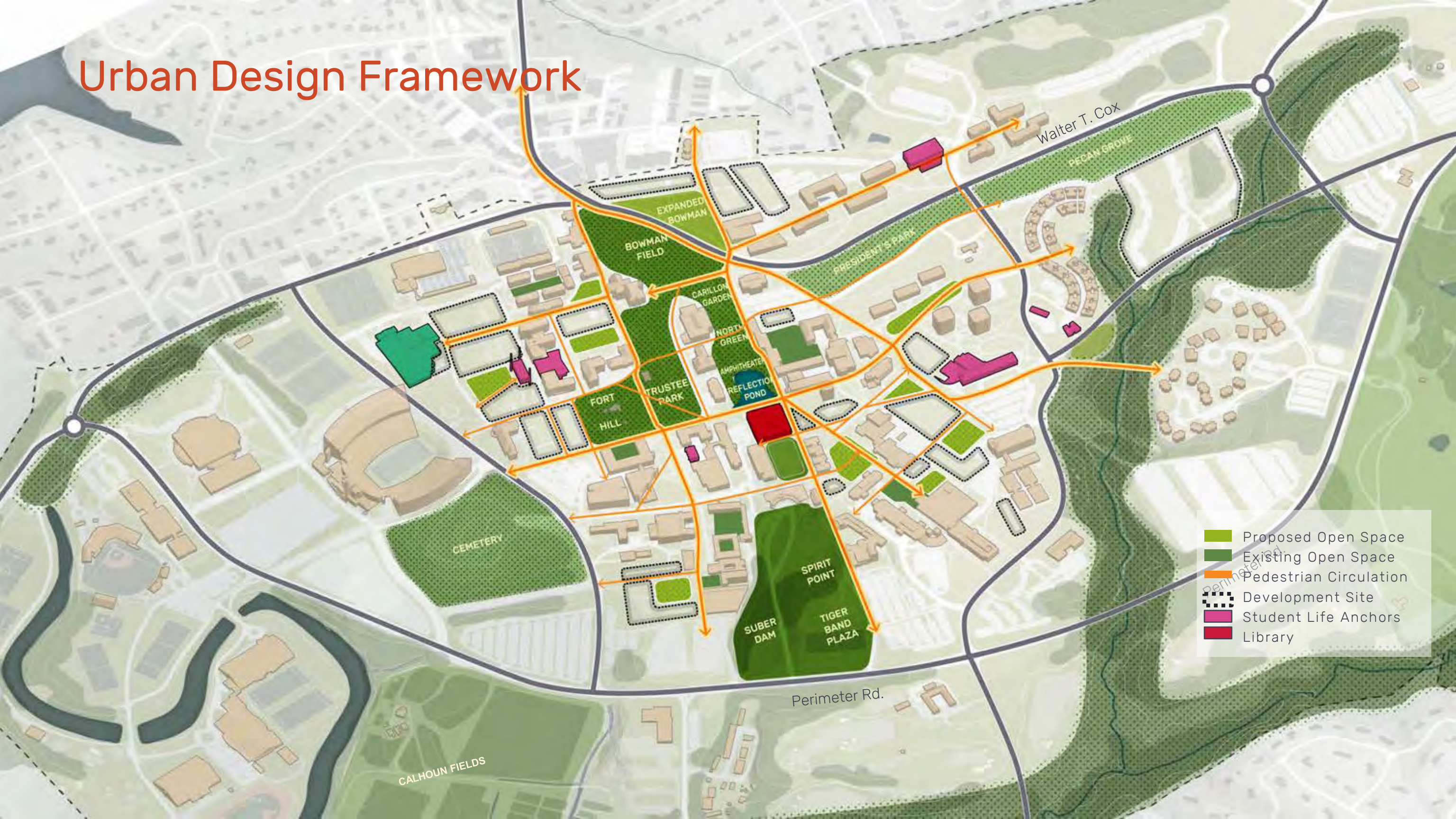


Development Parcels

Land use & open space framework set up future development sites with major uses

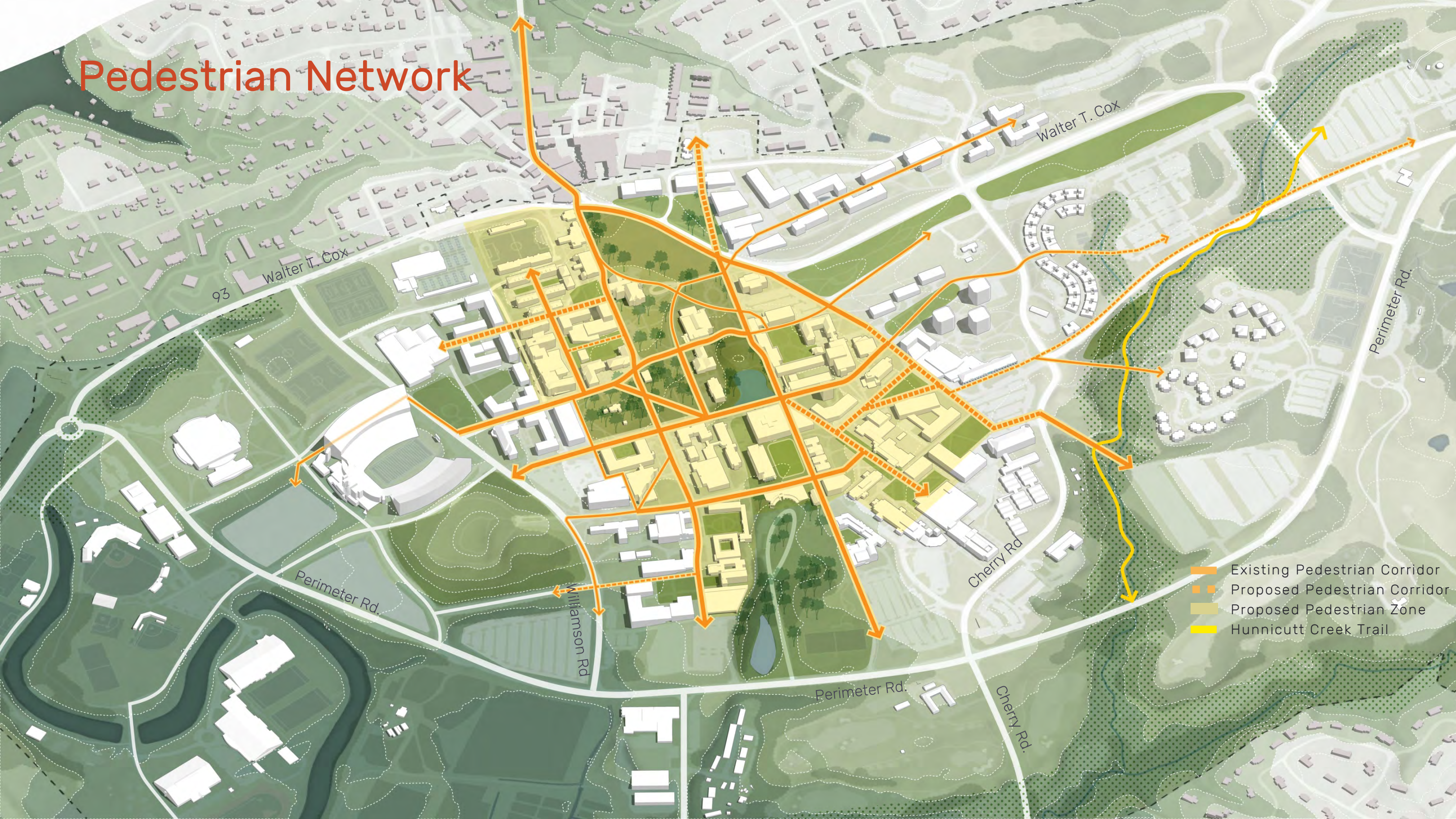


Urban Design Framework



Mobility Concepts

Pedestrian Network



- Existing Pedestrian Corridor
- Proposed Pedestrian Corridor
- Proposed Pedestrian Zone
- Hunnicutt Creek Trail

Pedestrian Network

EXISTING CALHOUN STREET SECTION AT BRACKETT HALL



Pedestrian Network

PROPOSED CALHOUN PEDESTRIAN STREET SECTION AT BRACKETT HALL



Pedestrianized Streets



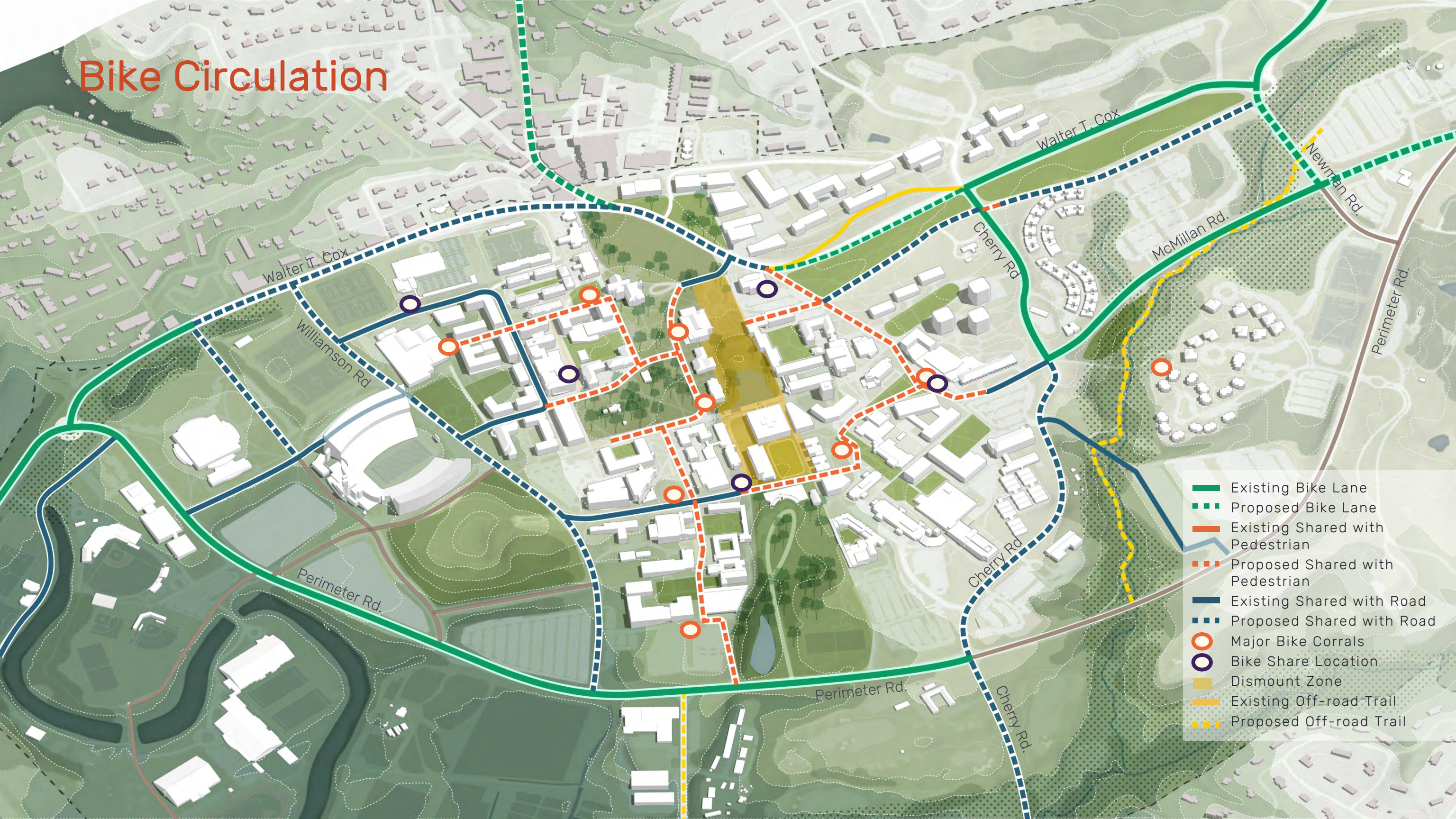
Pedestrianized Streets



Pedestrian / Bike Paths



Bike Circulation



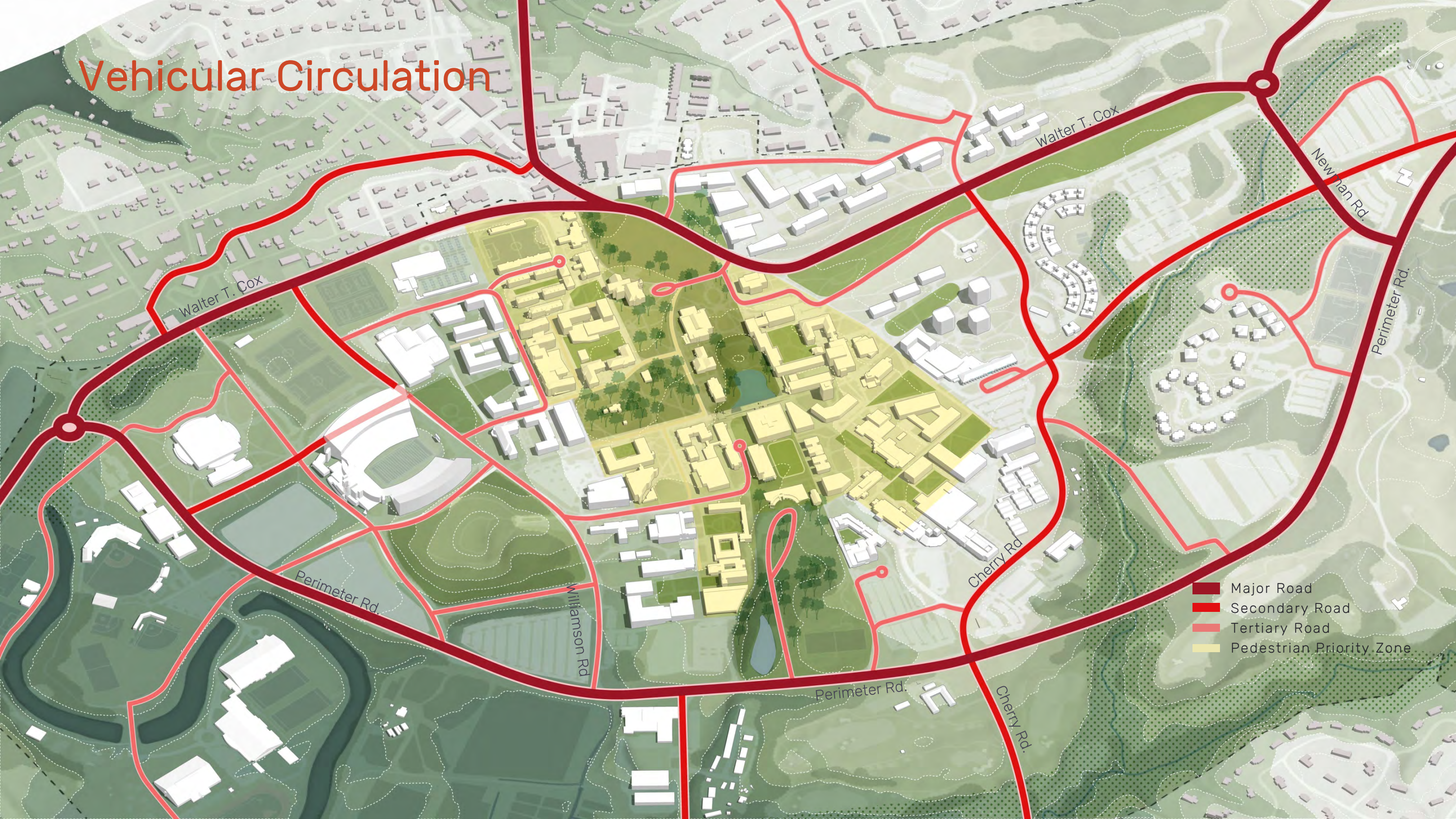
Bike Corrals



Pedestrian / Bike Paths

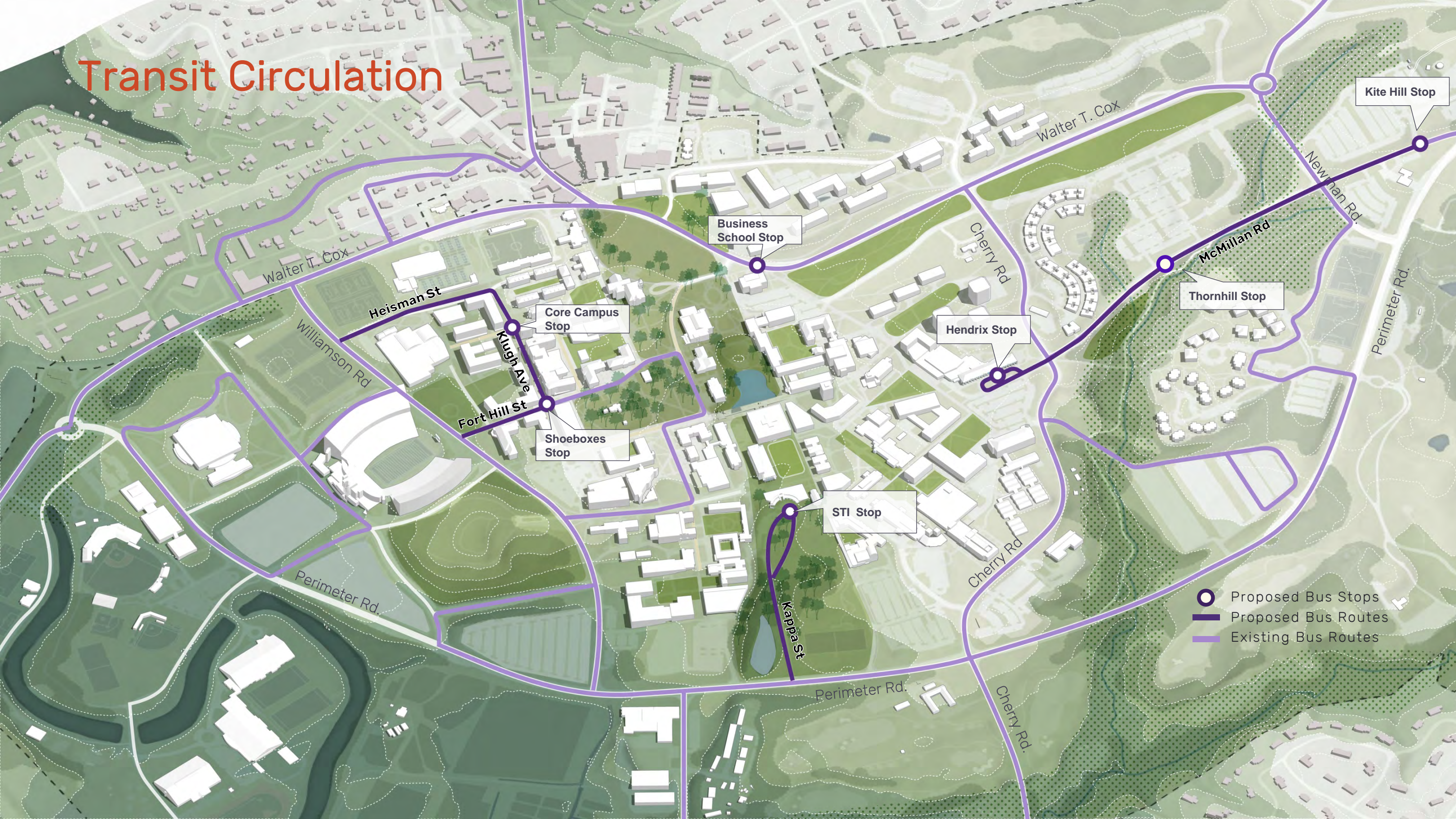


Vehicular Circulation



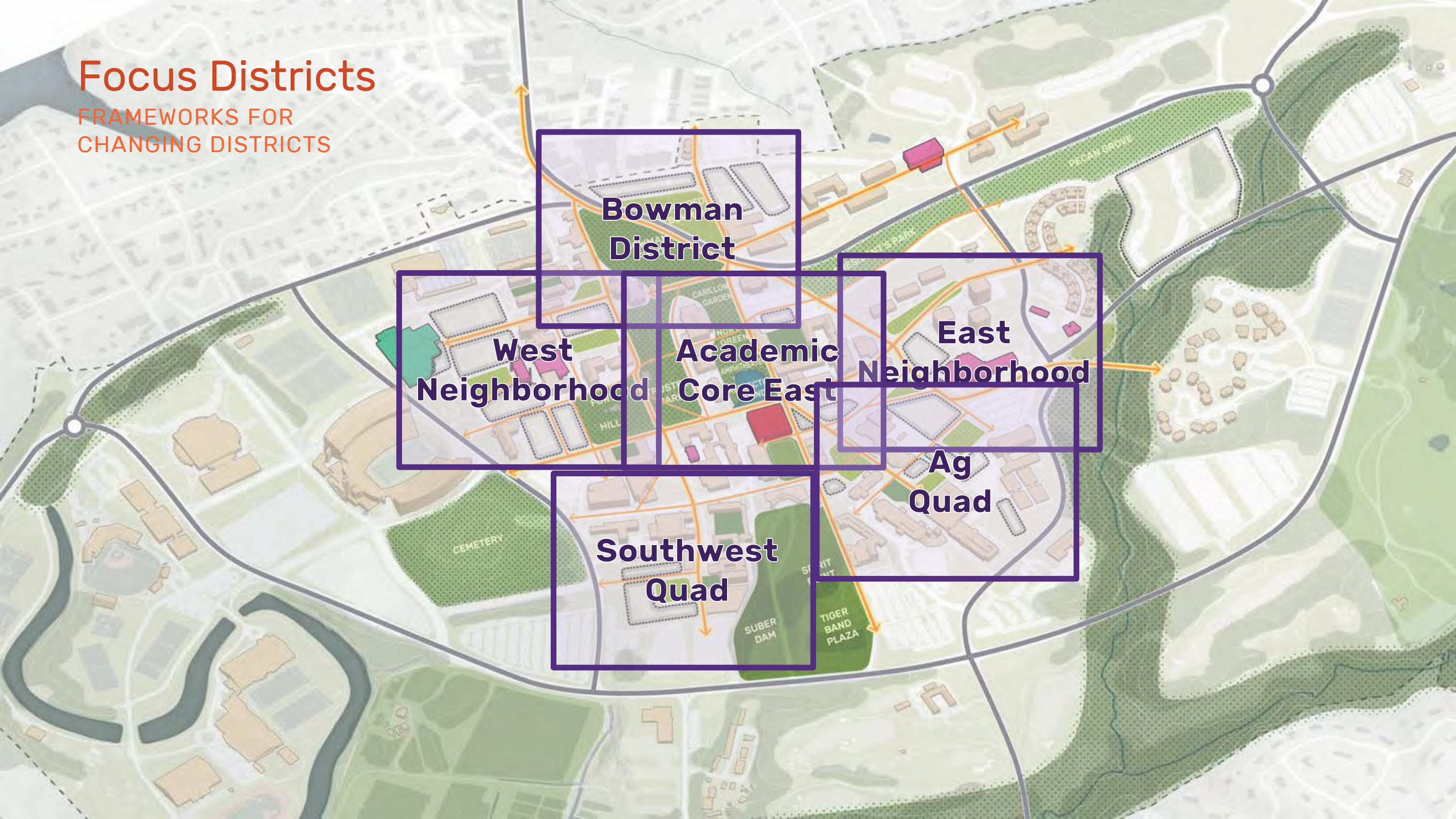
- Major Road
- Secondary Road
- Tertiary Road
- Pedestrian Priority Zone

Transit Circulation



Focus Districts

FRAMEWORKS FOR
CHANGING DISTRICTS



**Bowman
District**

**West
Neighborhood**

**Academic
Core East**

**East
Neighborhood**

**Ag
Quad**

**Southwest
Quad**

Urban Design Principles



Enhance the campus open space network by preserving iconic landscapes and creating more special outdoor spaces that accommodate a variety of uses



Reinforce the public realm by providing active ground floor uses, indoor and outdoor connections, and environments that support human comfort



Prioritize pedestrian movement and create a mobility strategy that balances bikes, transit, and vehicular circulation and parking



Accommodate growth with strategic infill, expansion, and land use synergies



Improve connectivity to downtown, Lake Hartwell, and the Experimental Forest

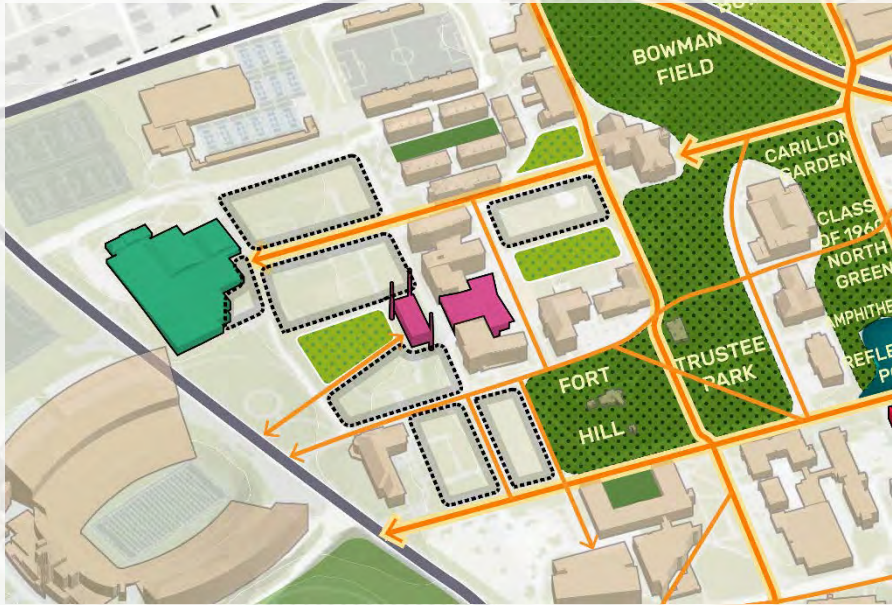


Create mixed use “neighborhoods” to build a sense of community, reinforced with student life amenities



Foster sustainable development that is responsive to the climate, stormwater, energy, and context

WEST NEIGHBORHOOD



WEST NEIGHBORHOOD

EXISTING CONDITIONS



WEST NEIGHBORHOOD

URBAN DESIGN GUIDELINES



- Active Edge
- Major Open Space
- Major Public Space
- Pedestrian Connection
- Service Access
- View Corridors
- Existing Building
- Student Life Building
- Proposed Building

WEST NEIGHBORHOOD

EXAMPLE BUILDOUT #1



WEST NEIGHBORHOOD

EXAMPLE BUILDOUT #2



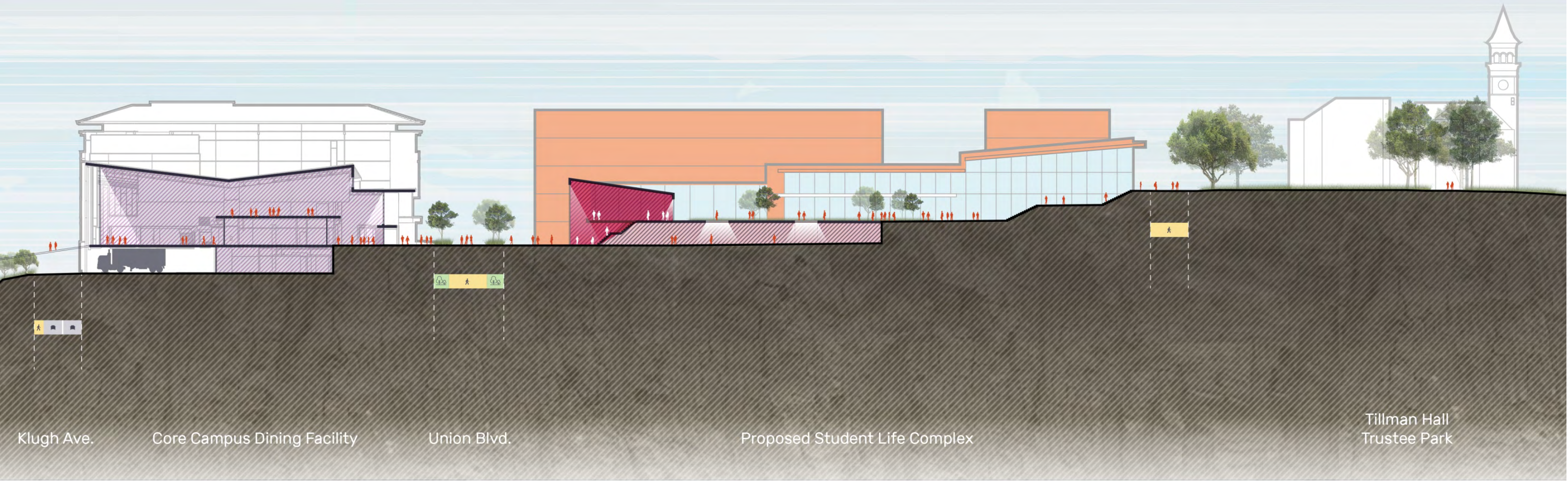
Student Life

PROPOSED NEW STUDENT COMMONS



Student Life

PROPOSED NEW STUDENT COMMONS



EAST NEIGHBORHOOD



EAST NEIGHBORHOOD

EXISTING CONDITIONS



EAST NEIGHBORHOOD

URBAN DESIGN GUIDELINES



EAST NEIGHBORHOOD

EXAMPLE BUILDOUT #1



PRESIDENT'S
PARK

SMITH

BARNETT

MAULDIN

BYRNES

LEVER

MANNING

Housing

Dining &
Student Life

BARNES
CENTER

LONG

VICKERY

JORDAN

EDWARDS

HENDRIX

- Active Edge
- Major Open Space
- Major Public Space
- Pedestrian Connection
- Service Access
- View Corridors
- Existing Building
- Student Life Building
- Proposed Building

EAST NEIGHBORHOOD

EXAMPLE BUILDOUT #2



PRESIDENT'S
PARK

LONG

VICKERY

JORDAN

EDWARDS

SMITH

BARNETT

MAULDIN

MANNING

BYRNES

LEVER

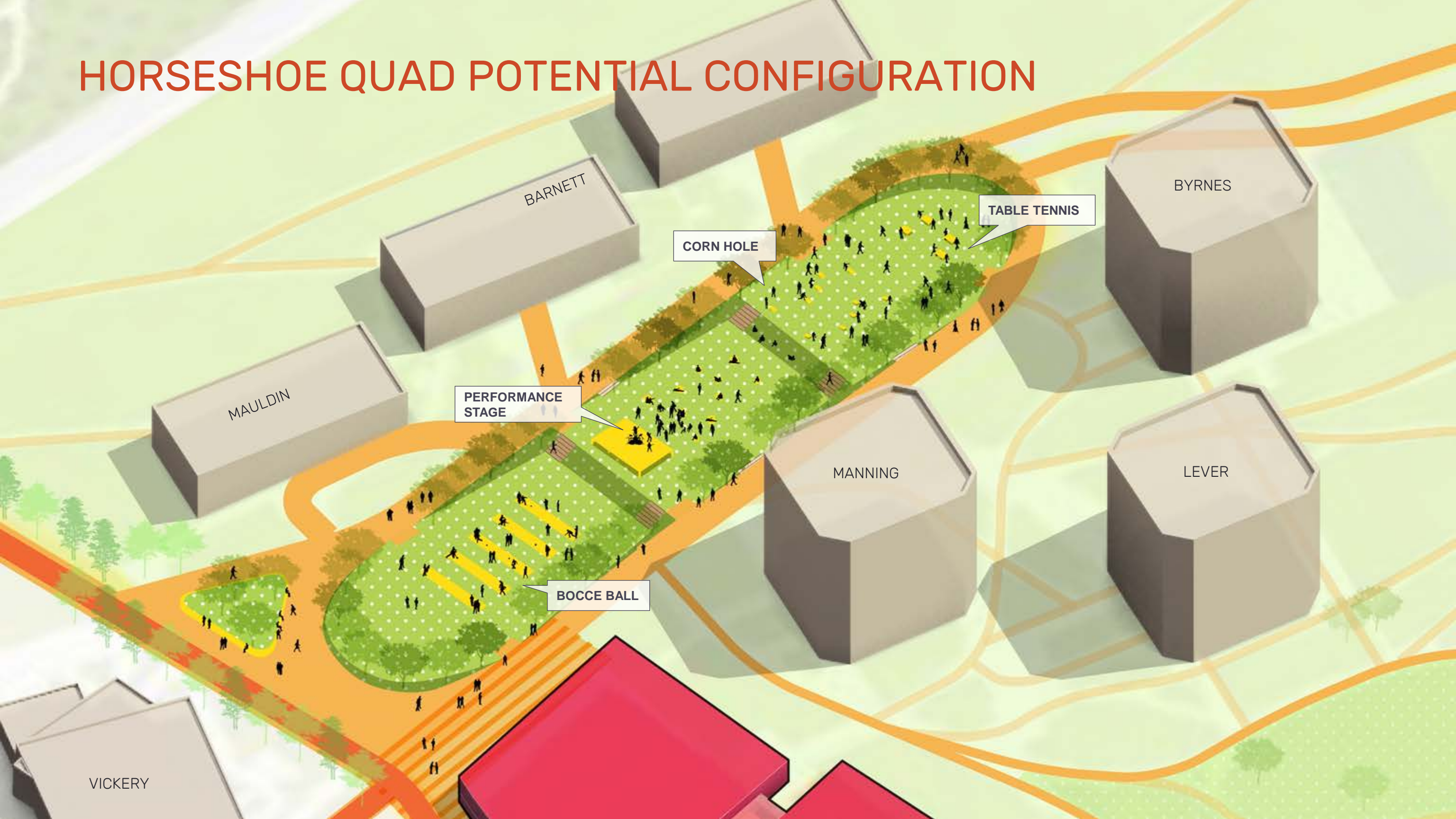
BARNES
CENTER

Dining &
Student Life

HENDRIX

- Active Edge
- Major Open Space
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- Pedestrian Connection
- Service Access
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- Existing Building
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- Proposed Building

HORSESHOE QUAD POTENTIAL CONFIGURATION





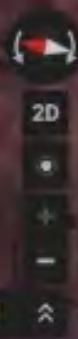
Calhoun Courts
Apartments

Hunnicutt Creek

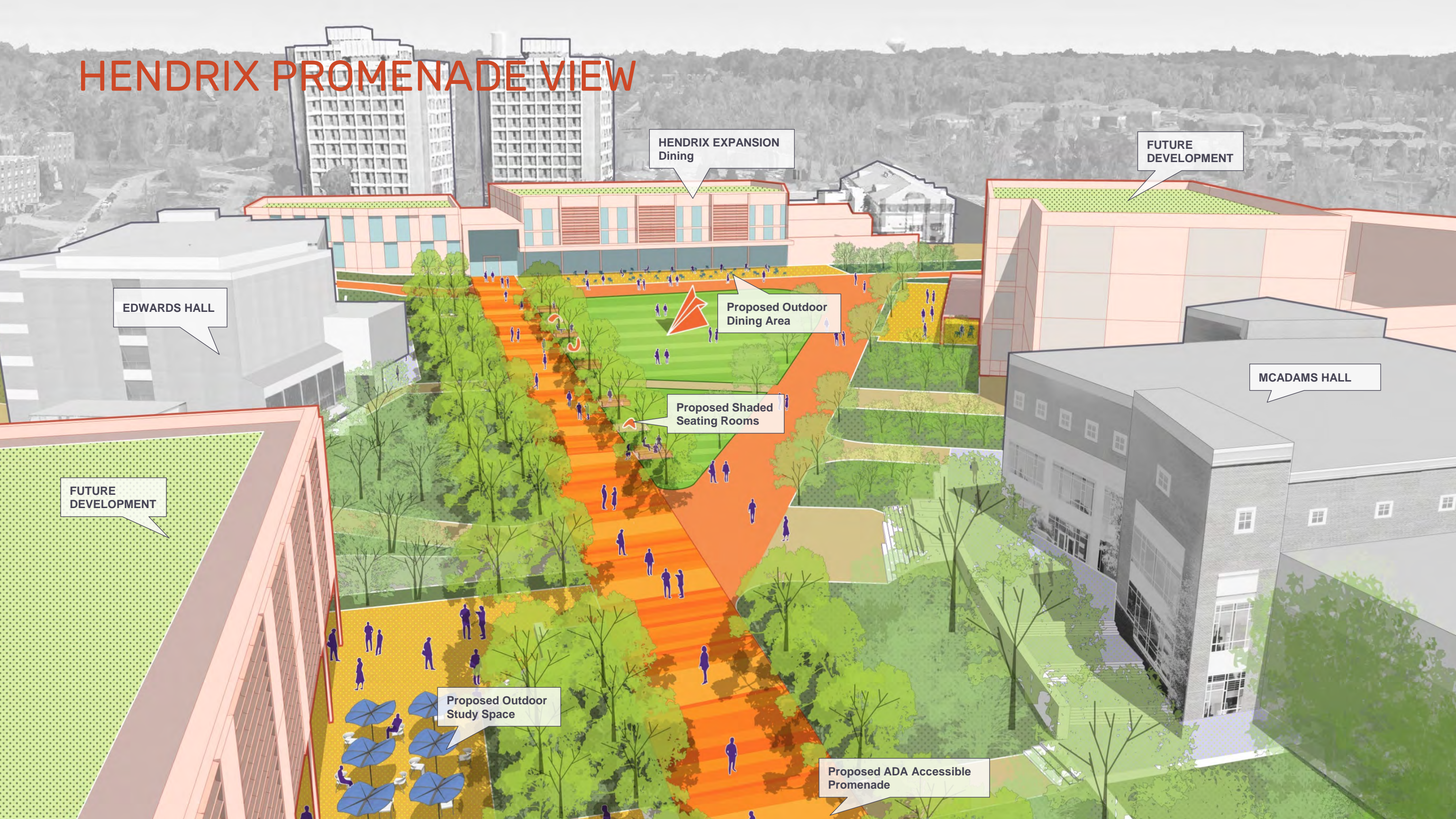
Hunnicutt Creek

School of Computing

Google



HENDRIX PROMENADE VIEW



HENDRIX EXPANSION
Dining

FUTURE
DEVELOPMENT

EDWARDS HALL

Proposed Outdoor
Dining Area

Proposed Shaded
Seating Rooms

MCADAMS HALL

FUTURE
DEVELOPMENT

Proposed Outdoor
Study Space

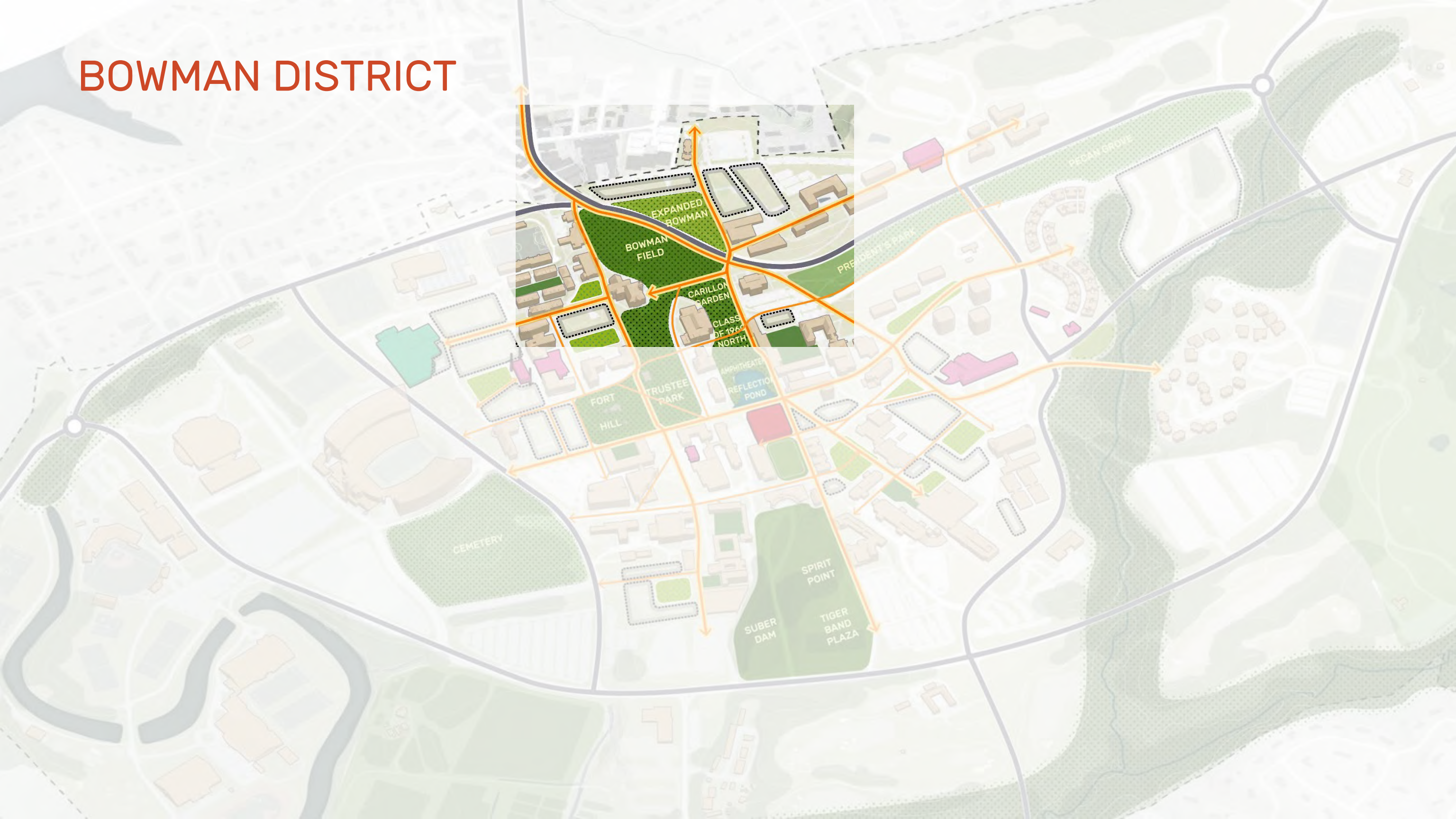
Proposed ADA Accessible
Promenade

HENDRIX PROMENADE

UC SAN DIEGO LIBRARY WALK



BOWMAN DISTRICT



BOWMAN DISTRICT

EXISTING CONDITIONS

DOWNTOWN

MELL

HOLTZENDORF

GODFREY

TILLMAN

BOWMAN
FIELD

CARILLON
GARDEN

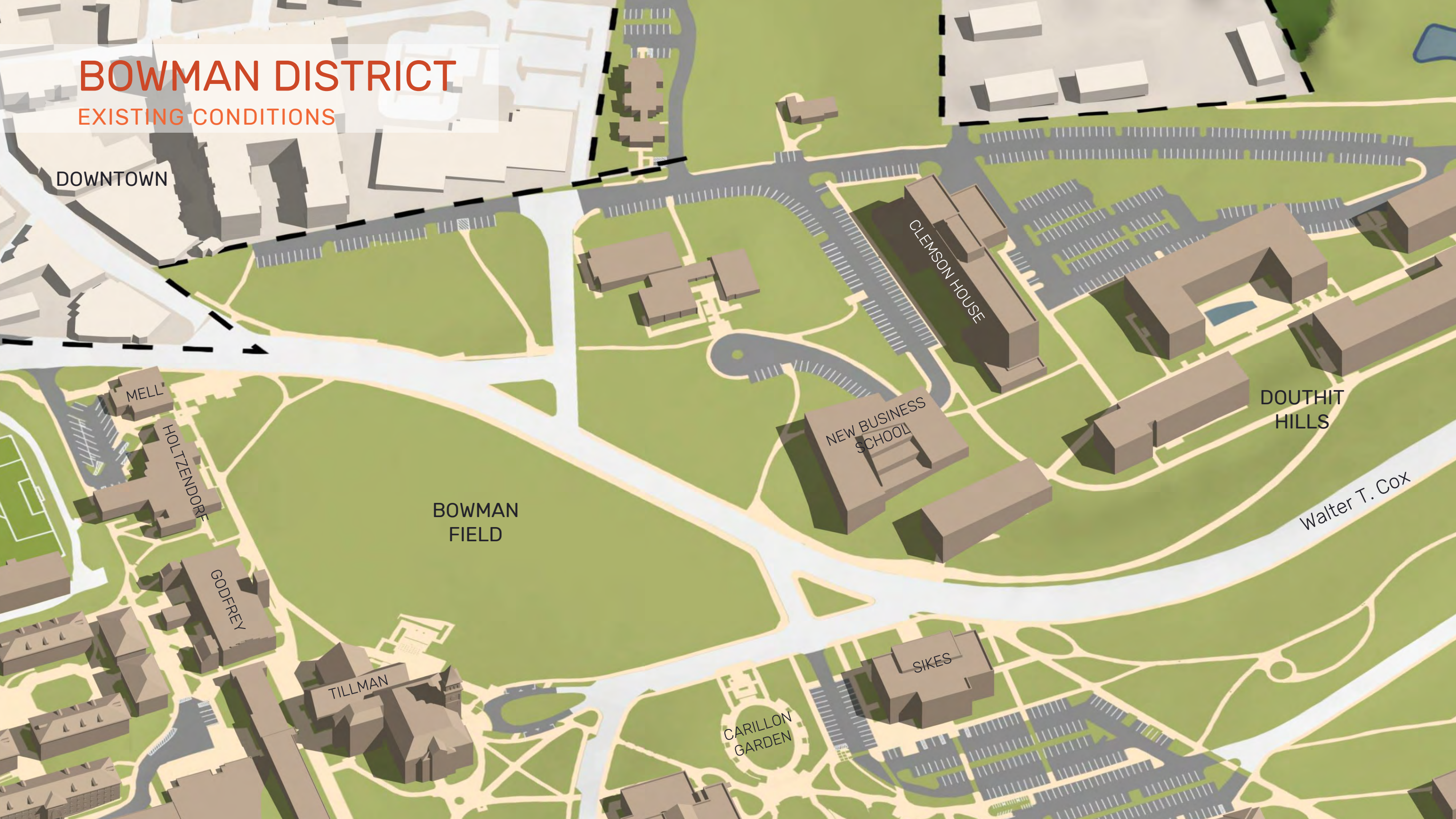
NEW BUSINESS
SCHOOL

SIKES

CLEMSON HOUSE

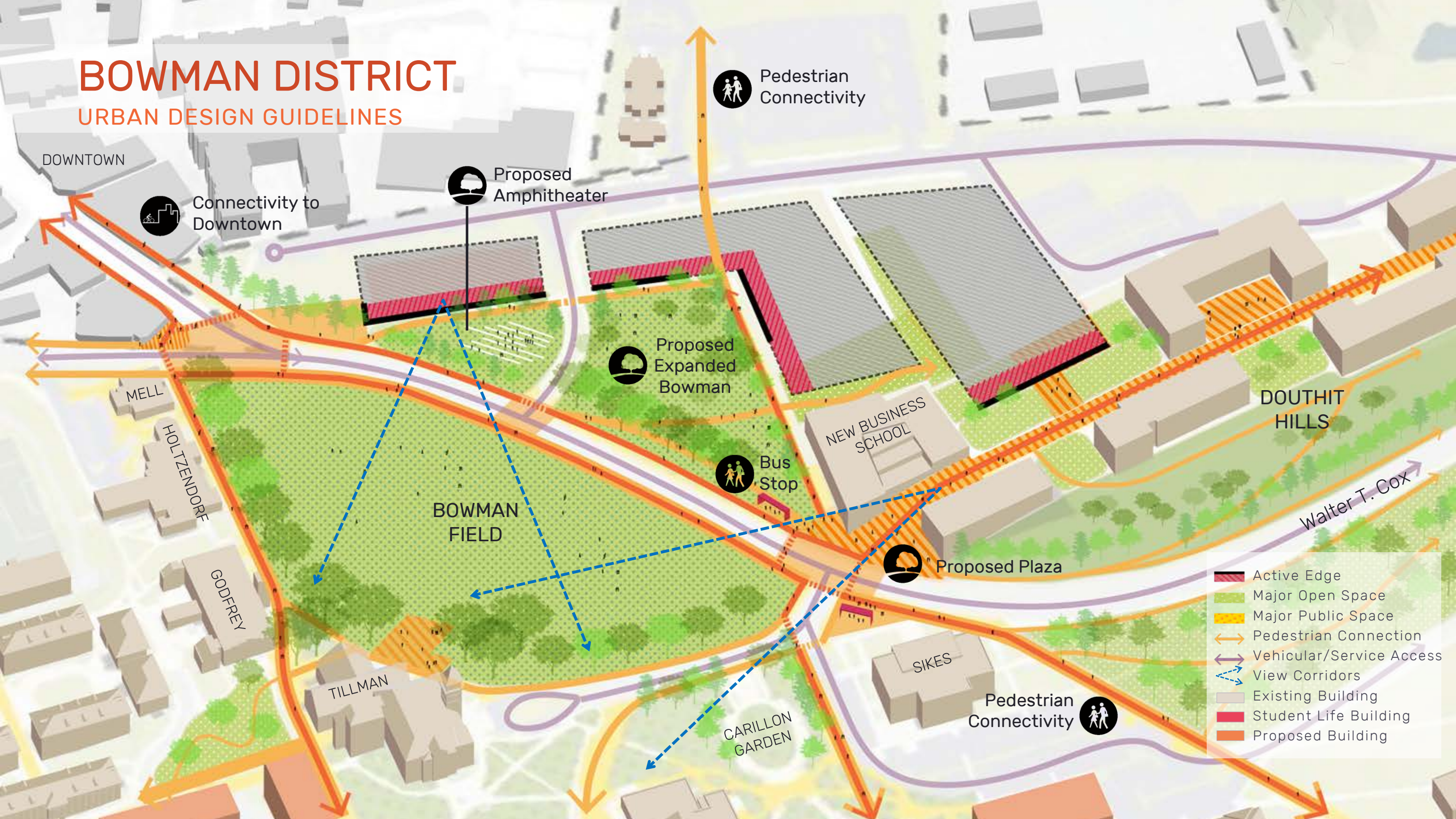
DOUTHIT
HILLS

Walter T. Cox



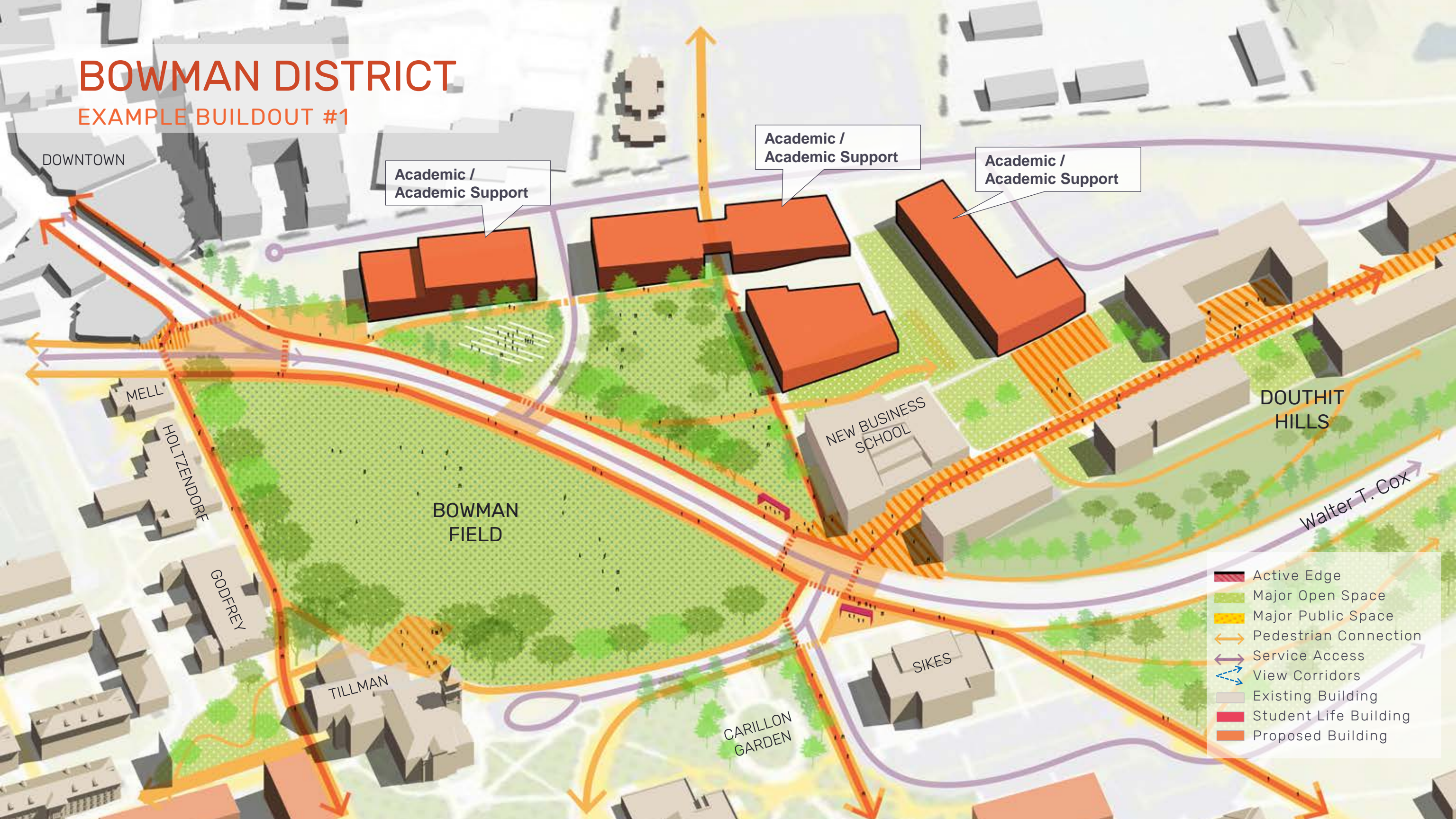
BOWMAN DISTRICT

URBAN DESIGN GUIDELINES



BOWMAN DISTRICT

EXAMPLE BUILDOUT #1



Academic /
Academic Support

Academic /
Academic Support

Academic /
Academic Support

NEW BUSINESS
SCHOOL

BOWMAN
FIELD

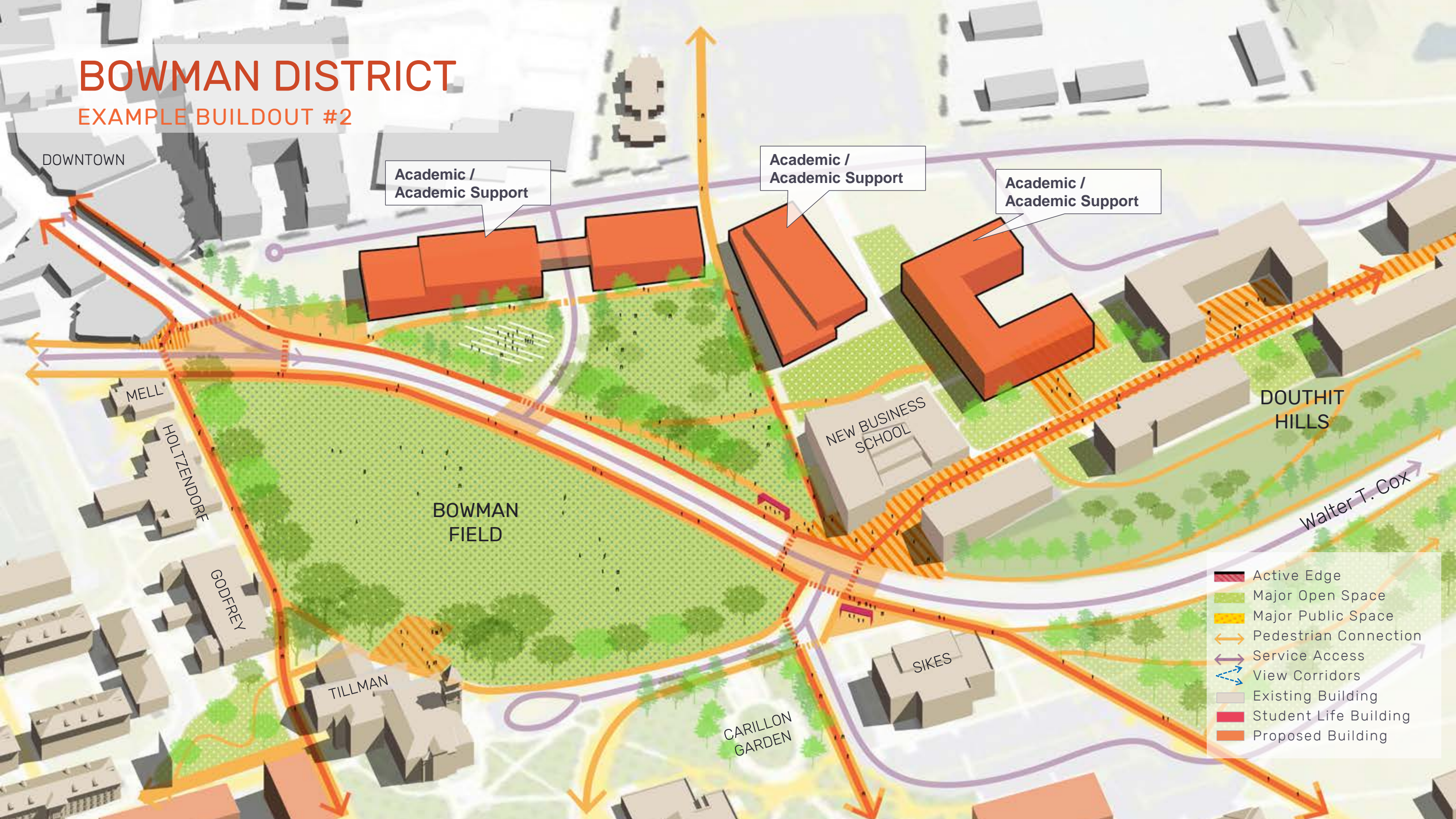
DOUTHIT
HILLS

Walter T. Cox

- Active Edge
- Major Open Space
- Major Public Space
- Pedestrian Connection
- Service Access
- View Corridors
- Existing Building
- Student Life Building
- Proposed Building

BOWMAN DISTRICT

EXAMPLE BUILDOUT #2



Academic /
Academic Support

Academic /
Academic Support

Academic /
Academic Support

NEW BUSINESS
SCHOOL

DOUTHIT
HILLS

BOWMAN
FIELD

Walter T. Cox

SIKES

CARILLON
GARDEN

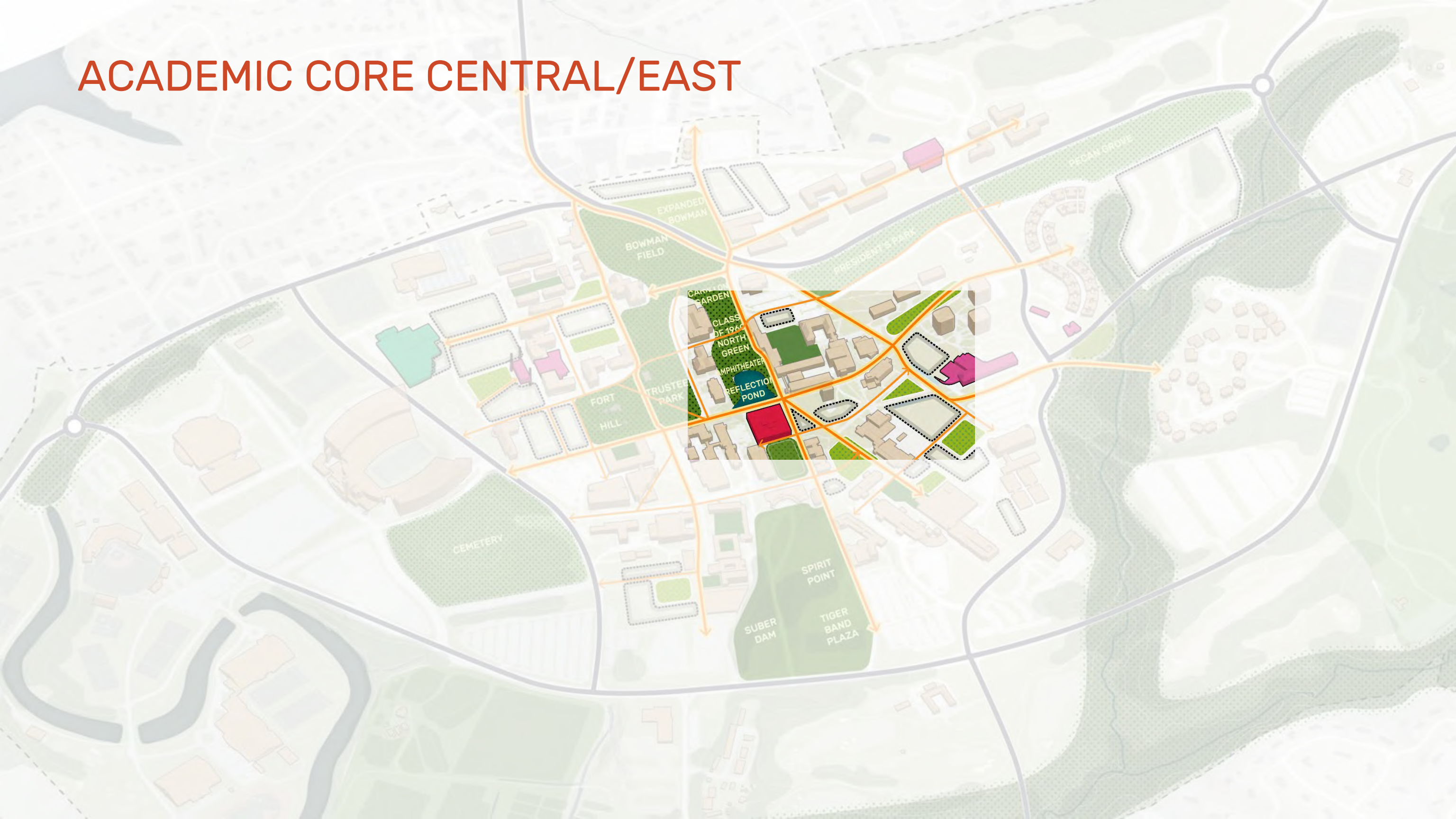
- Active Edge
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- Proposed Building

Public Realm Framework

WALTER T. COX / BOWMAN FIELD

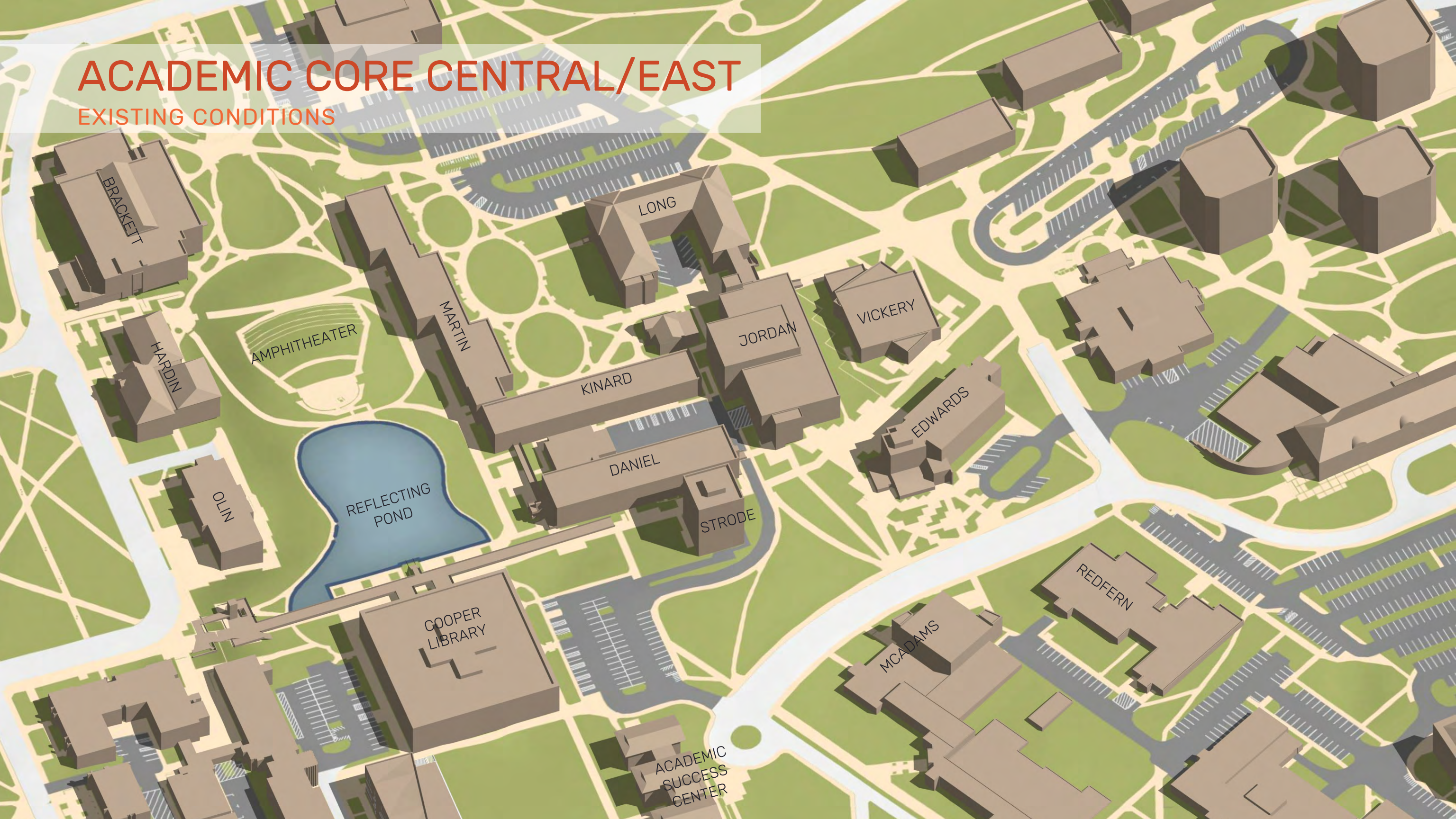


ACADEMIC CORE CENTRAL/EAST



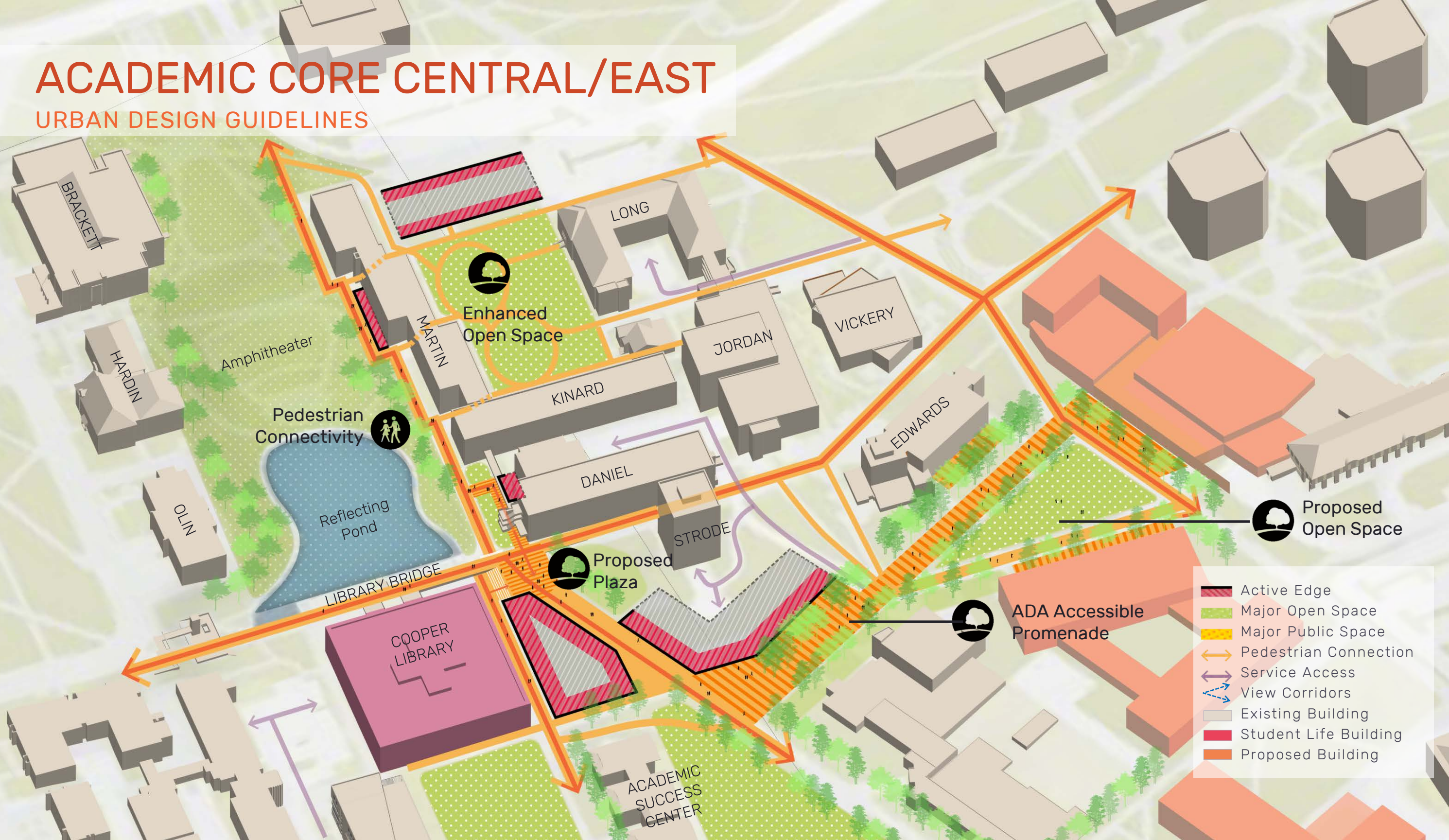
ACADEMIC CORE CENTRAL/EAST

EXISTING CONDITIONS



ACADEMIC CORE CENTRAL/EAST

URBAN DESIGN GUIDELINES



Pedestrian
Connectivity

Enhanced
Open Space

Proposed
Open Space

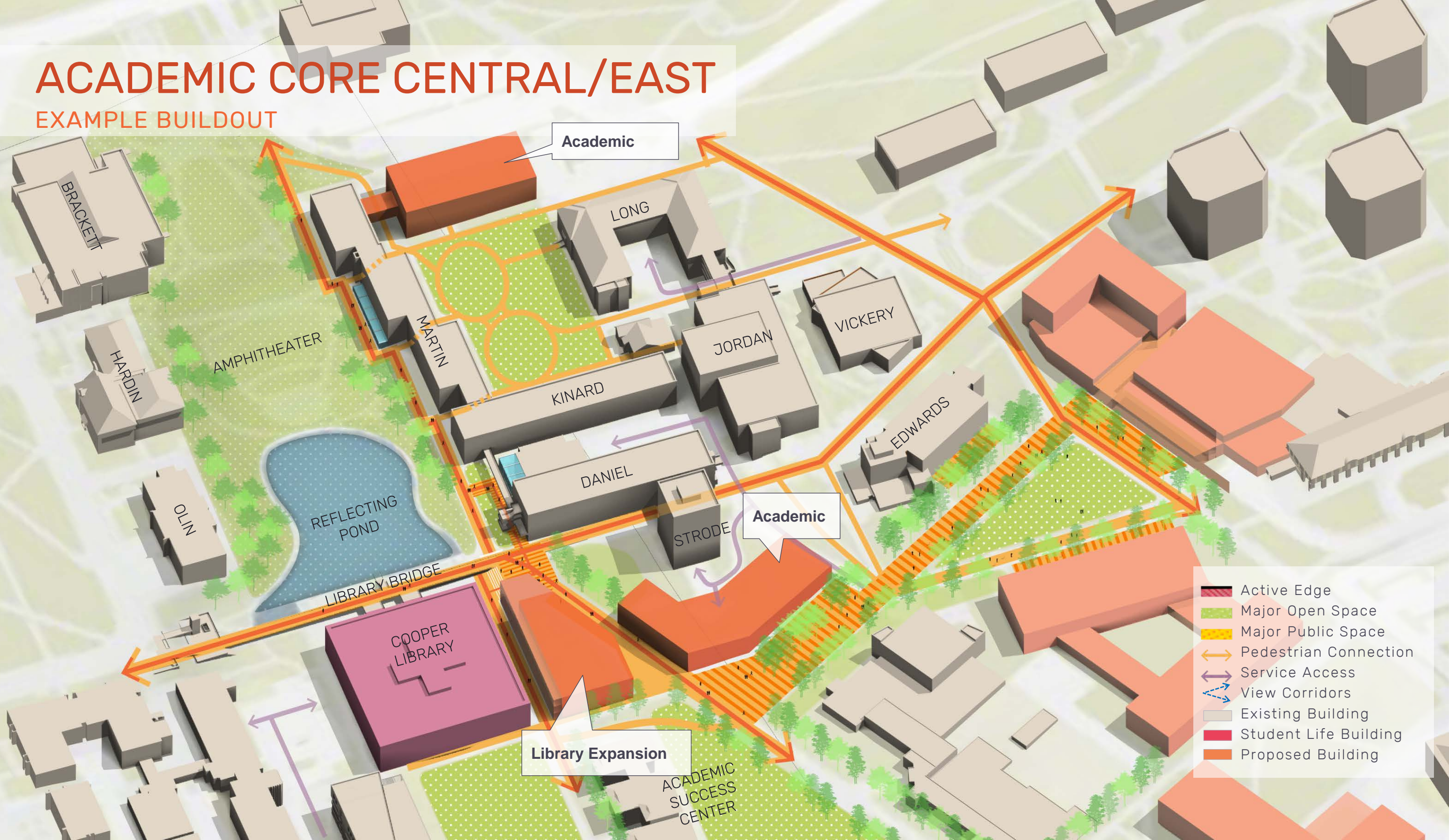
Proposed
Plaza

ADA Accessible
Promenade

- Active Edge
- Major Open Space
- Major Public Space
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- Service Access
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- Student Life Building
- Proposed Building

ACADEMIC CORE CENTRAL/EAST

EXAMPLE BUILDOUT



Academic Buildings

LIBRARY ADDITION



Service

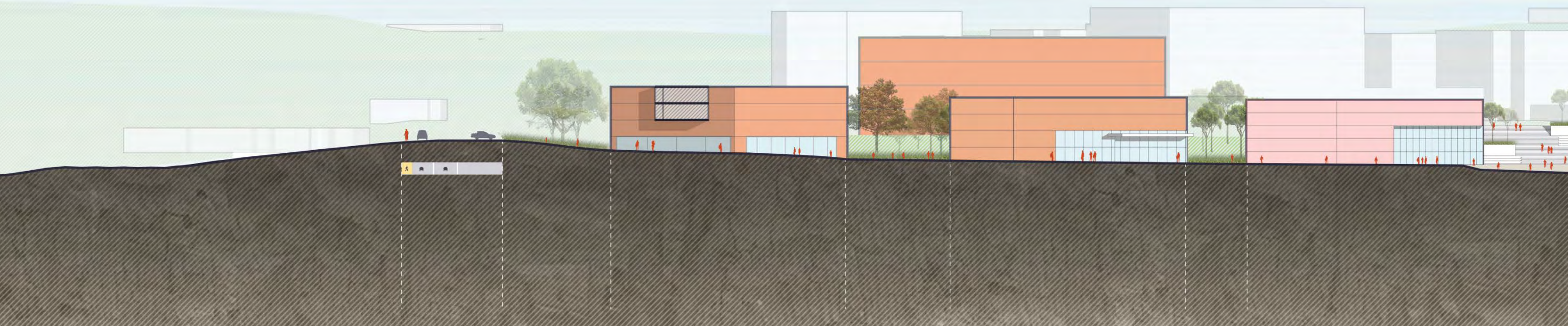
Cooper Library

Proposed Library Expansion

Proposed Academic Building

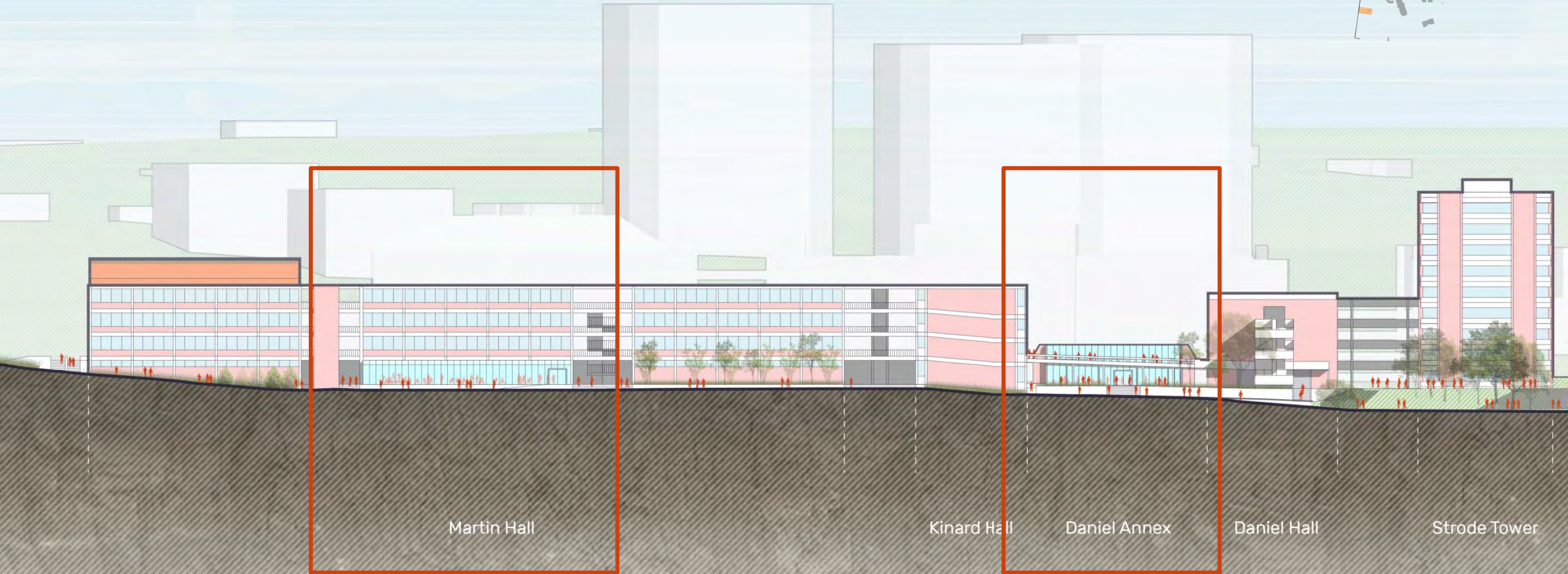
Academic Corridor

NORTH SOUTH SPINE



Academic Buildings

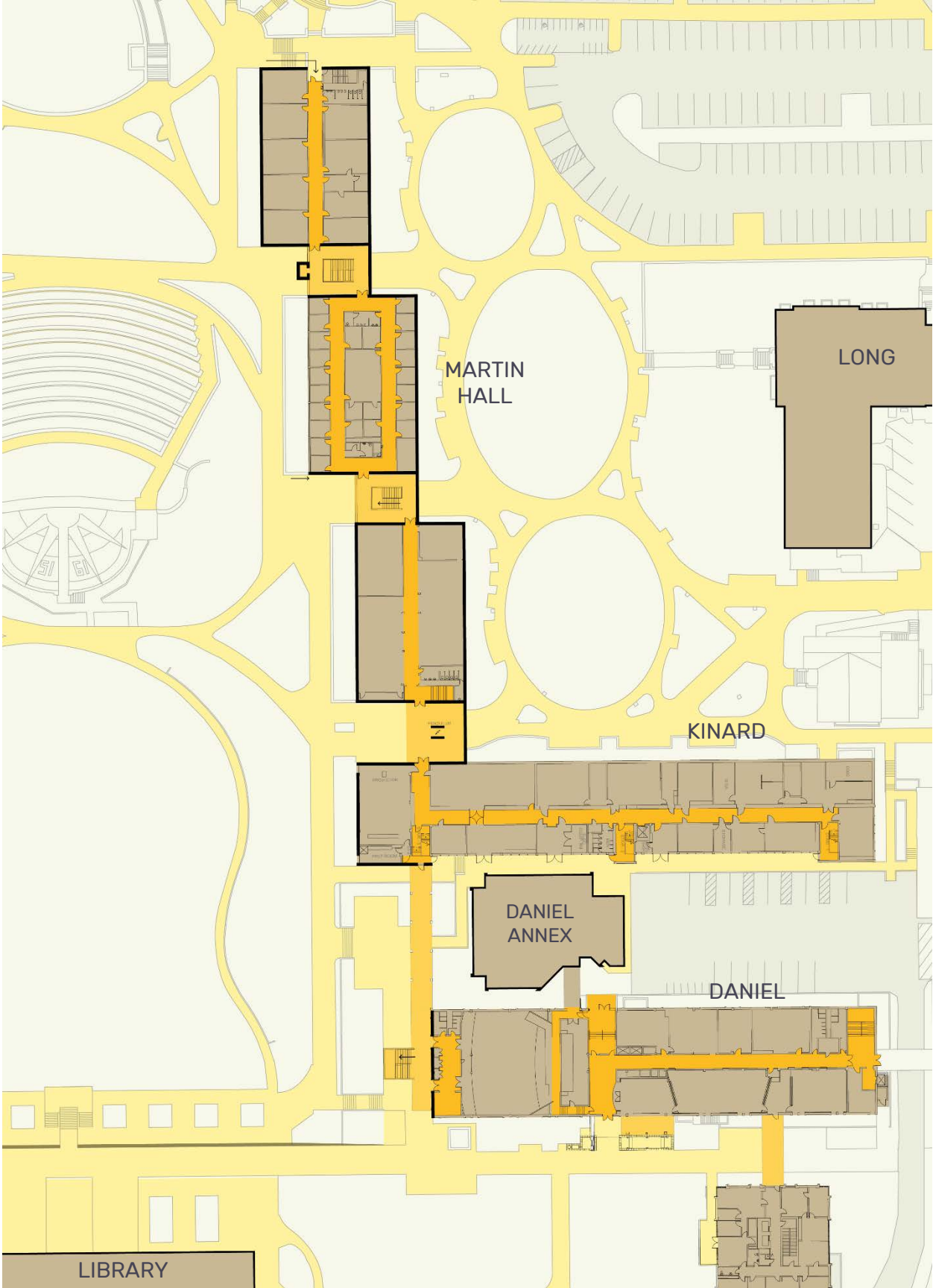
NORTH SOUTH SPINE



Proposed Martin Hall Addition



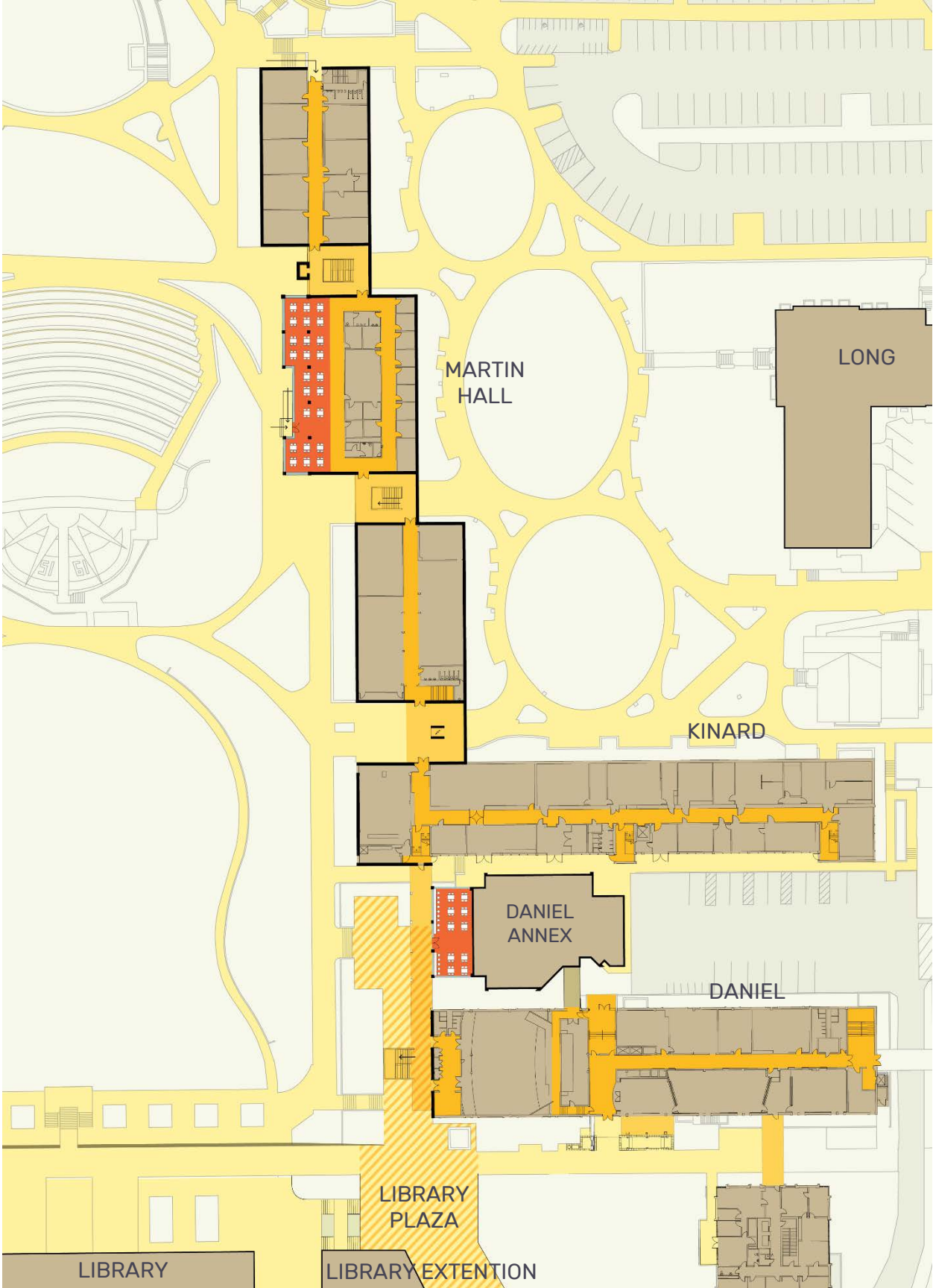
Existing Condition



Proposed Martin Hall Addition



Proposed Classroom/Collaboration Hub



AG QUAD



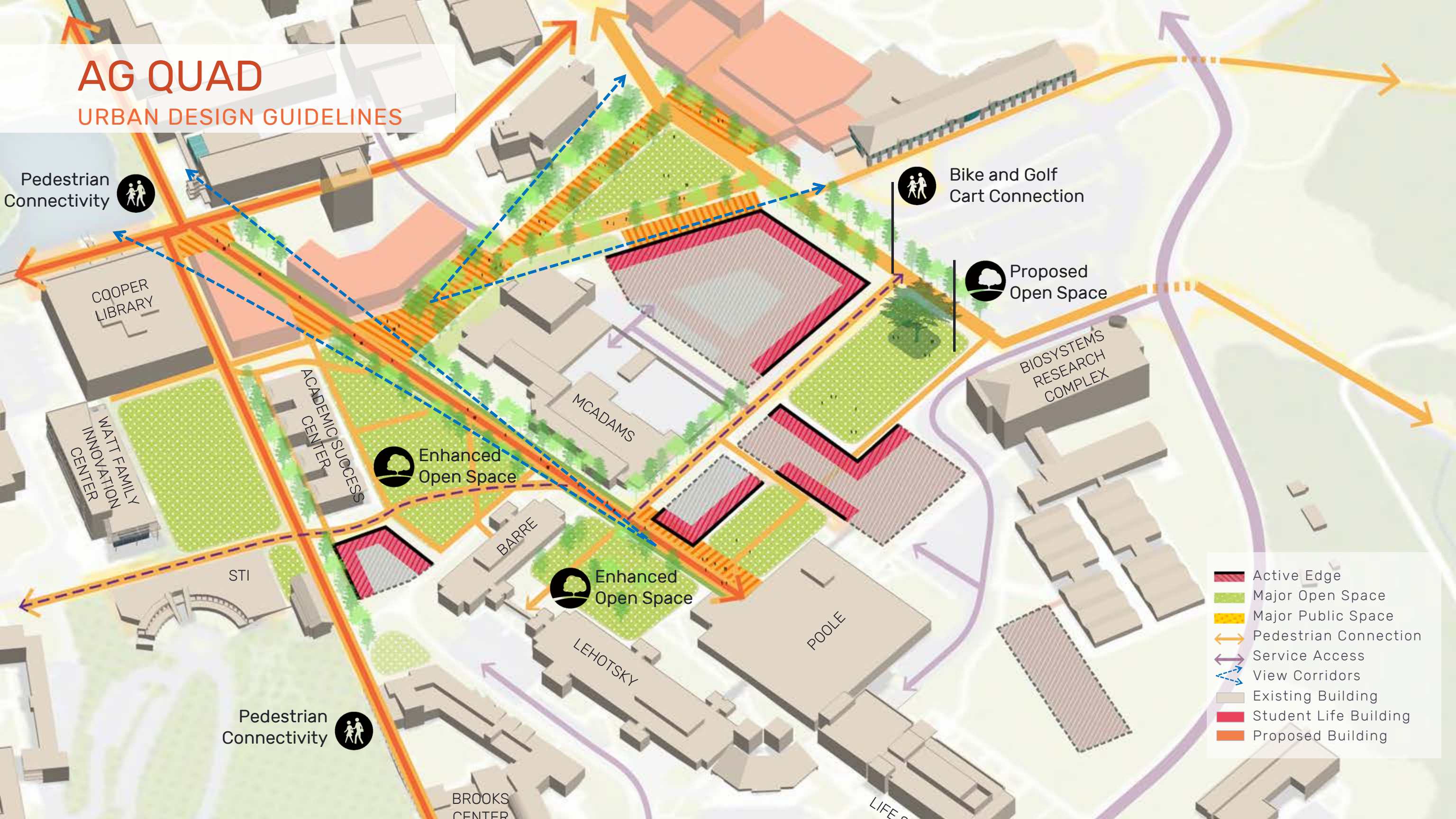
AG QUAD

EXISTING CONDITIONS



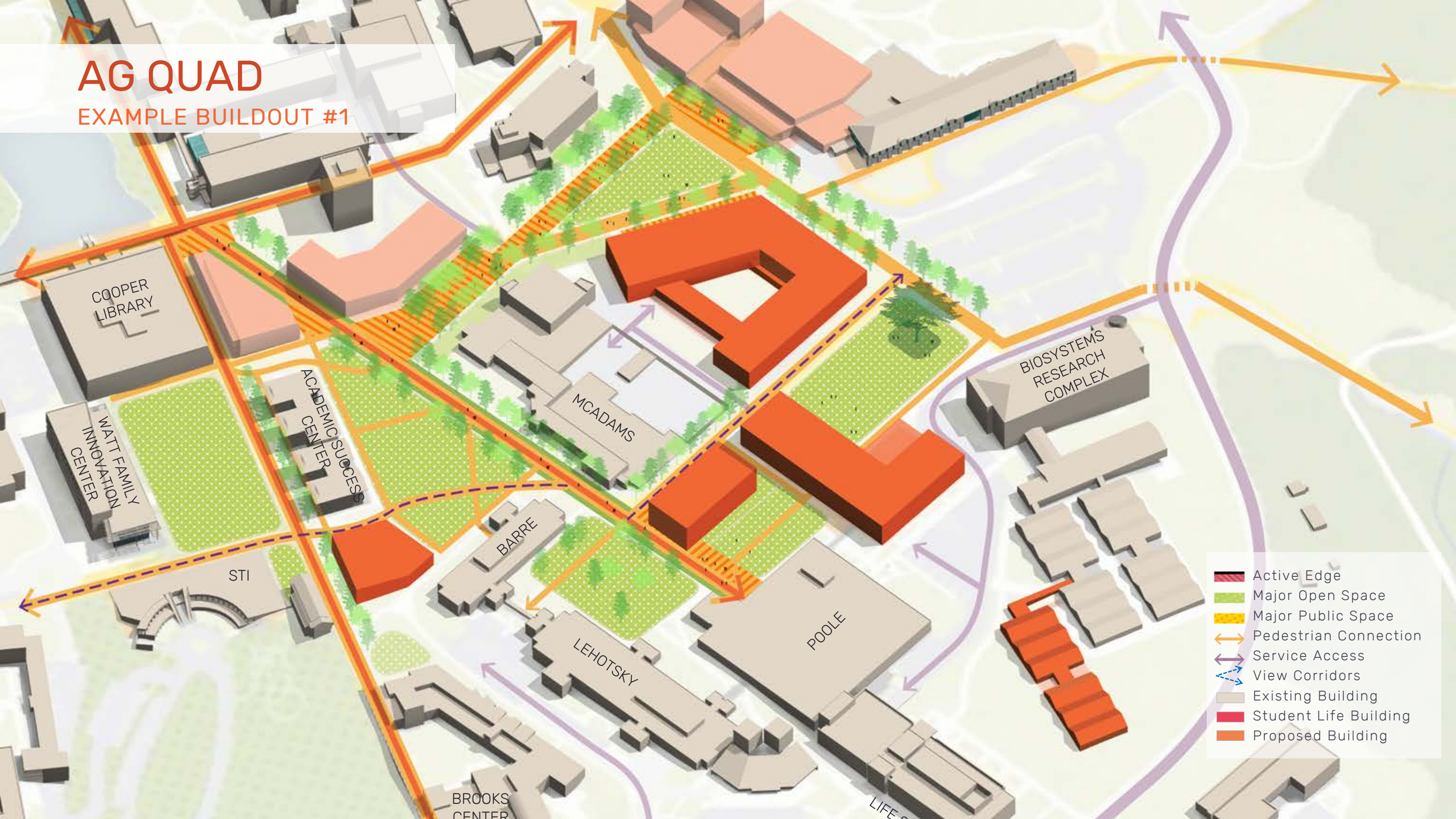
AG QUAD

URBAN DESIGN GUIDELINES



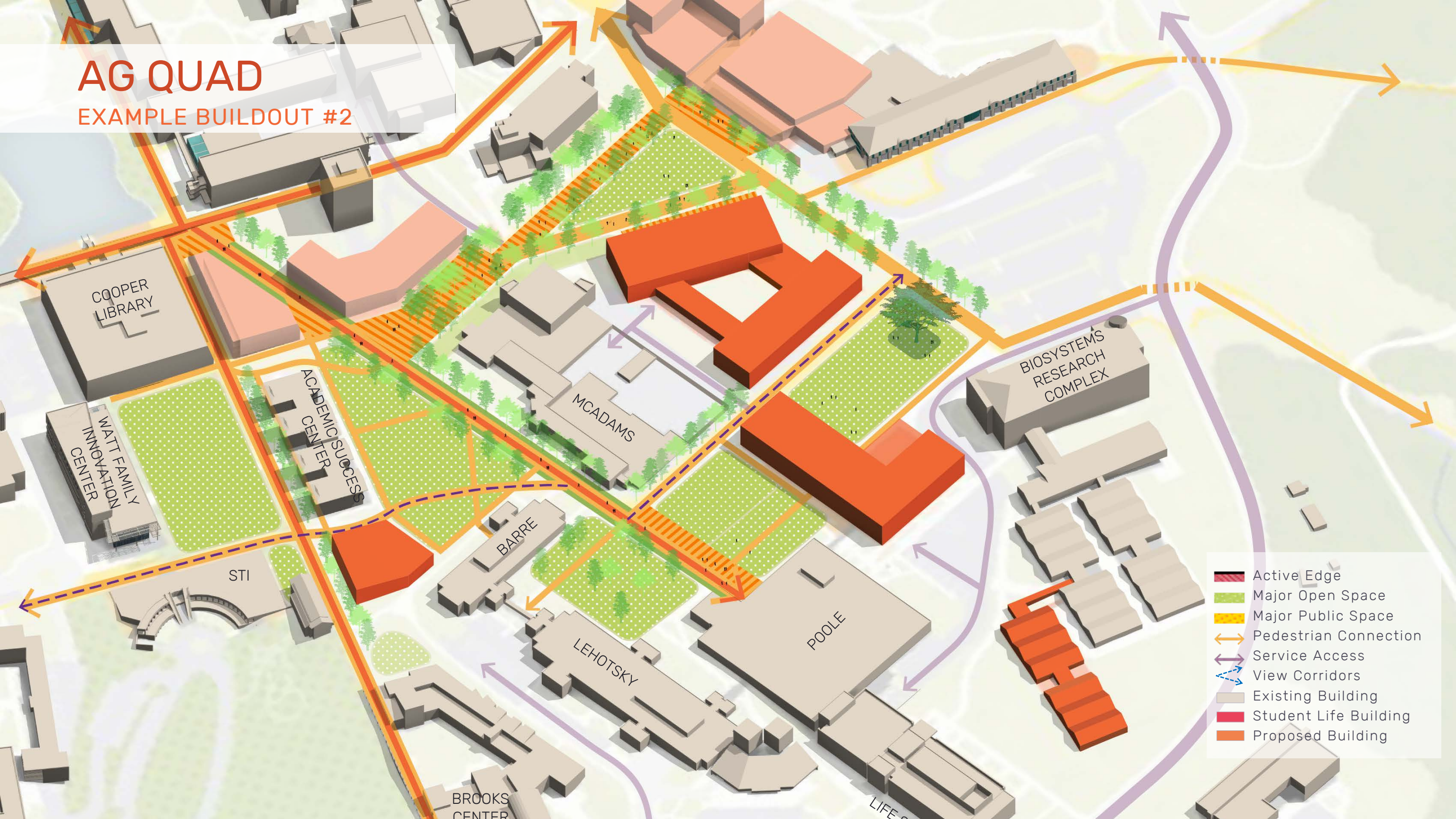
AG QUAD

EXAMPLE BUILDOUT #1



AG QUAD

EXAMPLE BUILDOUT #2



SOUTHWEST QUAD



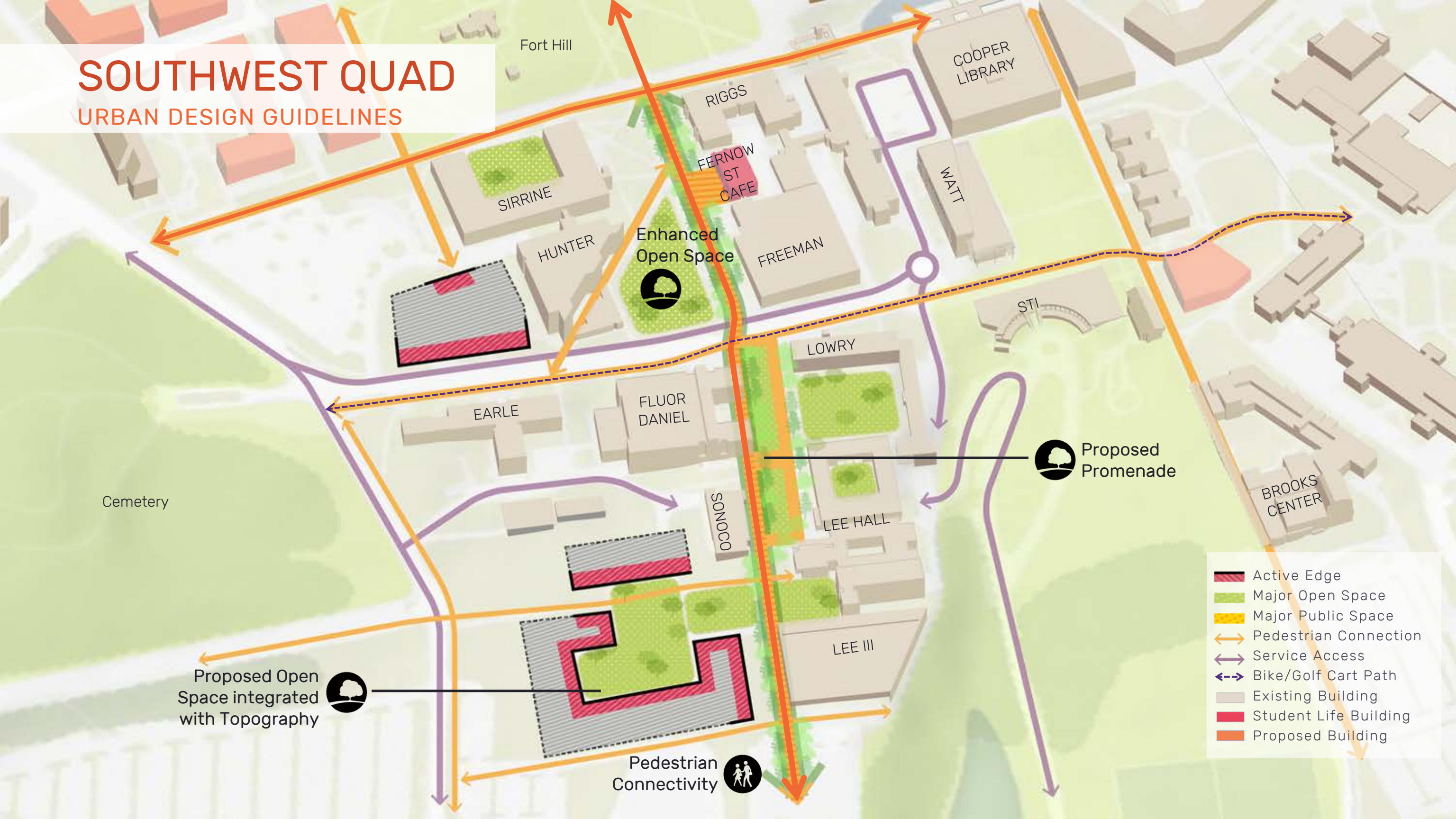
SOUTHWEST QUAD

EXISTING CONDITIONS



SOUTHWEST QUAD

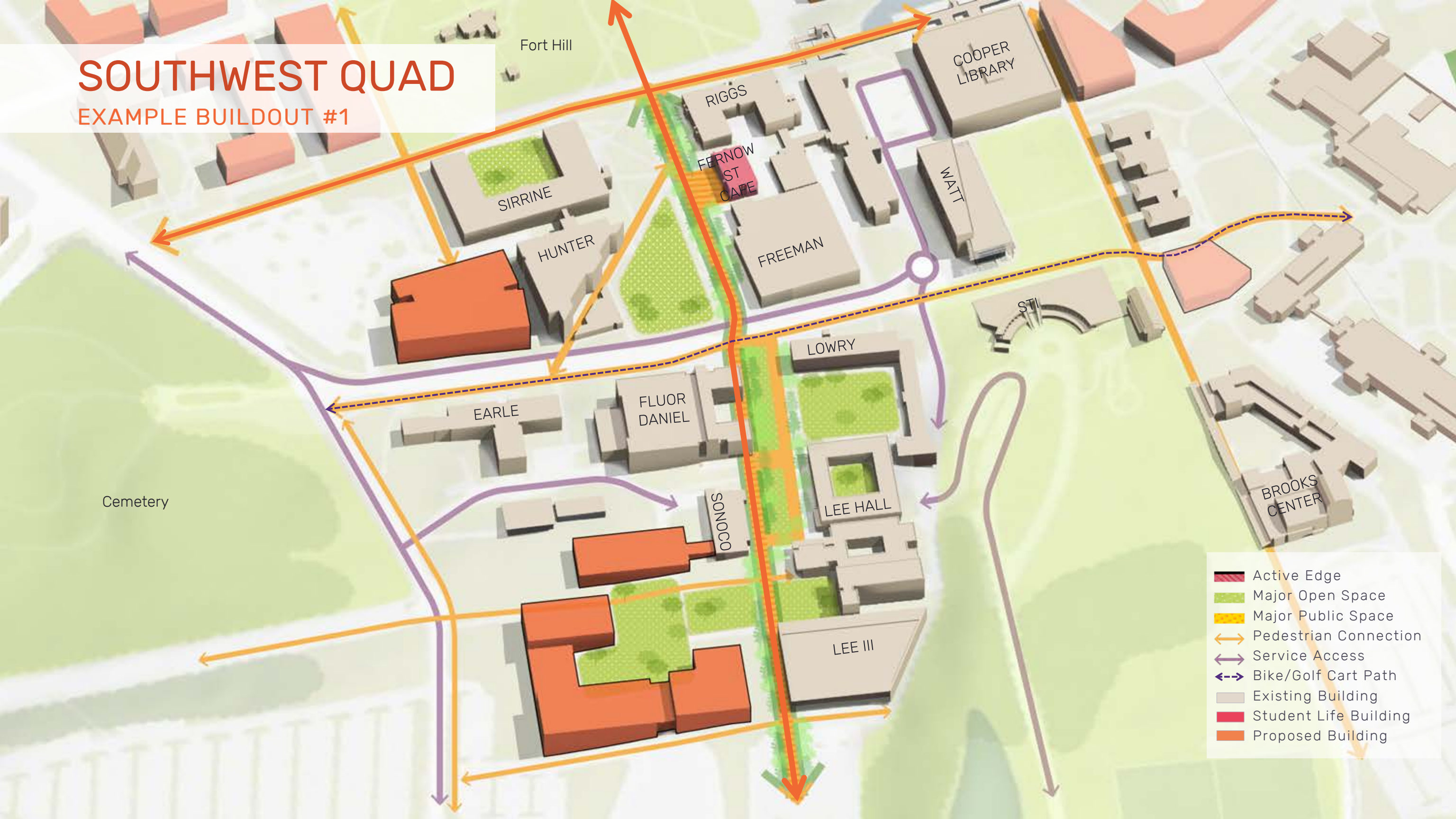
URBAN DESIGN GUIDELINES



- Active Edge
- Major Open Space
- Major Public Space
- Pedestrian Connection
- Service Access
- Bike/Golf Cart Path
- Existing Building
- Student Life Building
- Proposed Building

SOUTHWEST QUAD

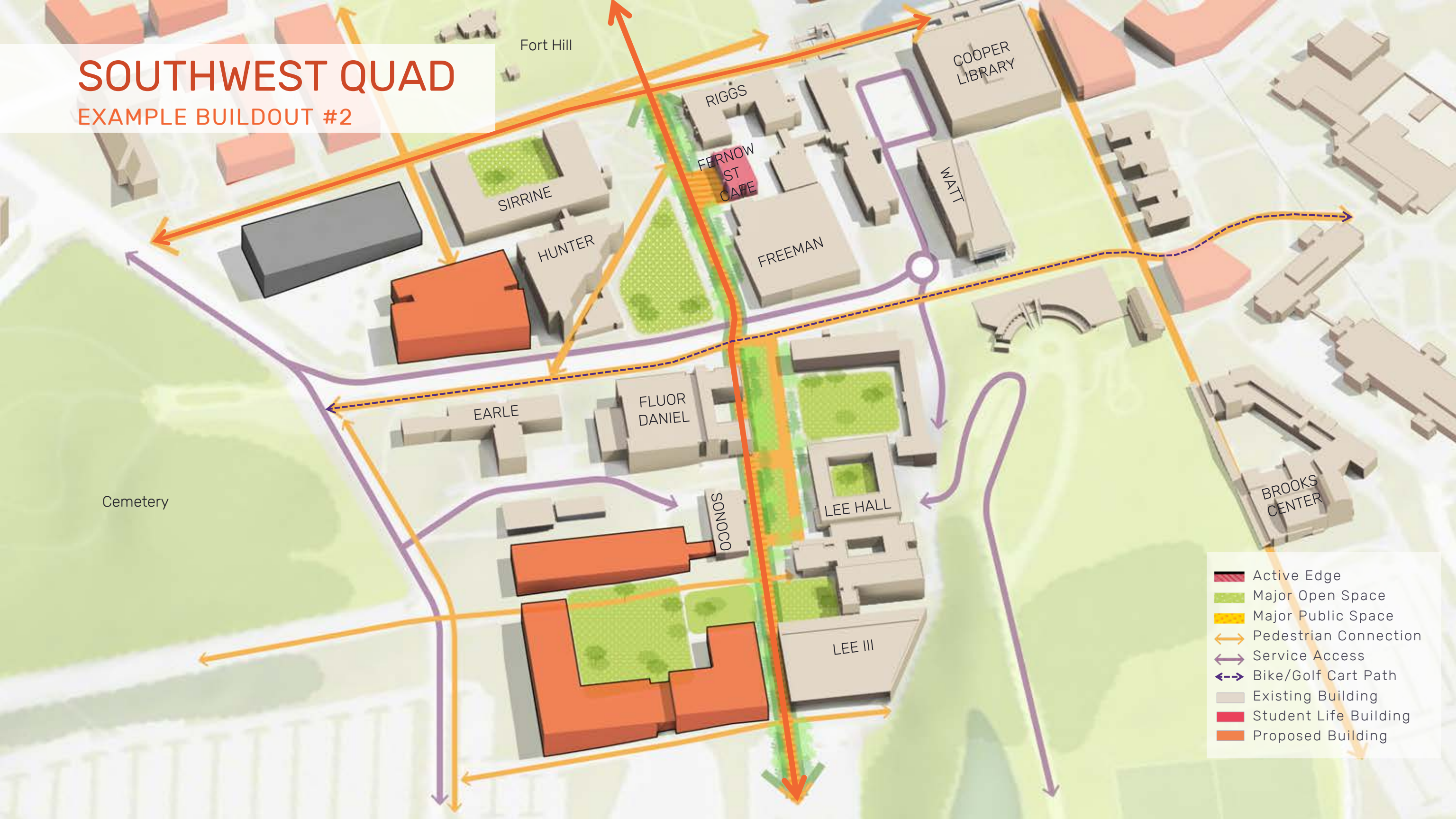
EXAMPLE BUILDOUT #1



- Active Edge
- Major Open Space
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SOUTHWEST QUAD

EXAMPLE BUILDOUT #2



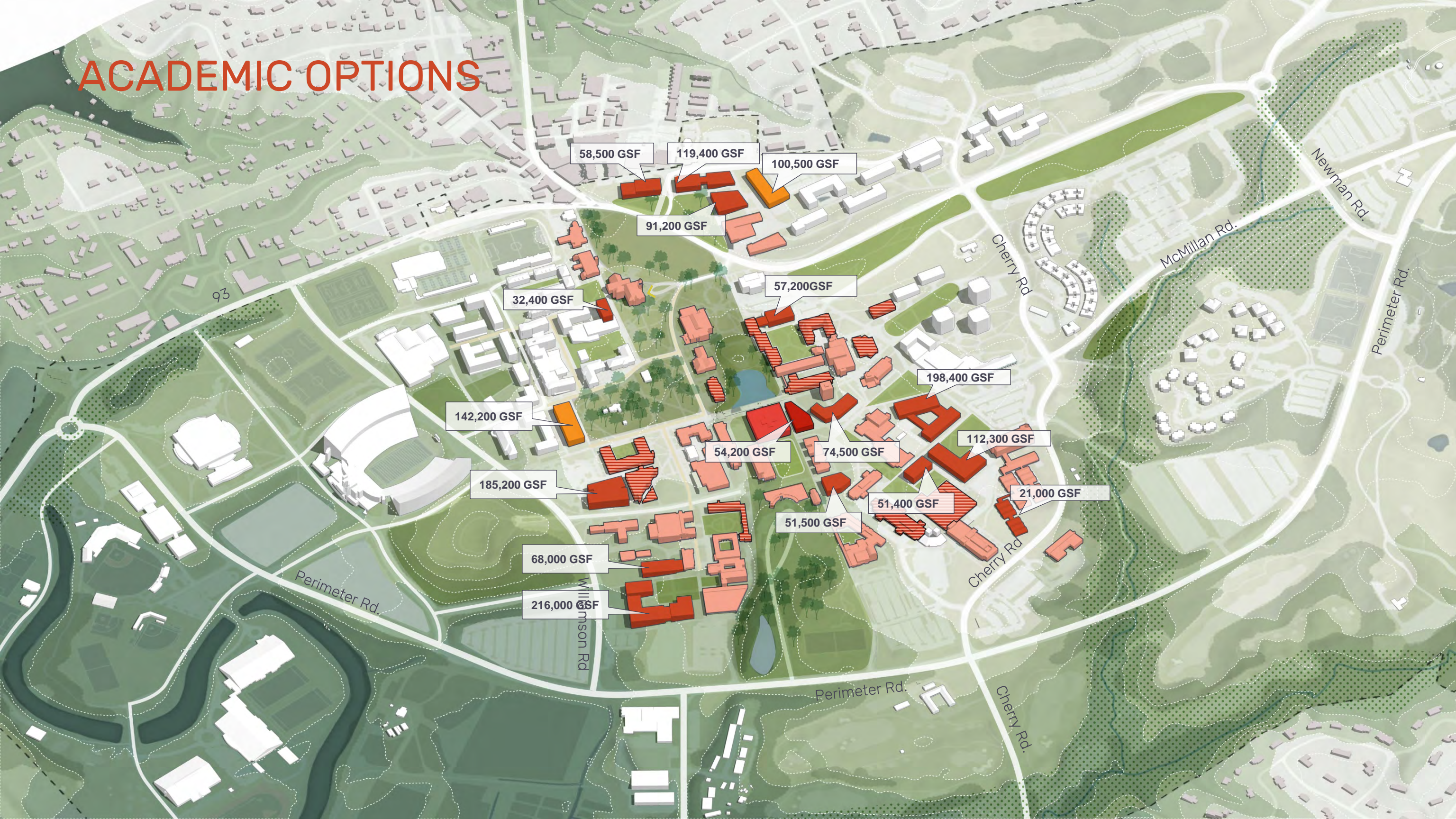
- Active Edge
- Major Open Space
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OPPORTUNITY SITE SUMMARY

RENOVATION



ACADEMIC OPTIONS



Example Buildouts

Framework as a flexible guide for future development

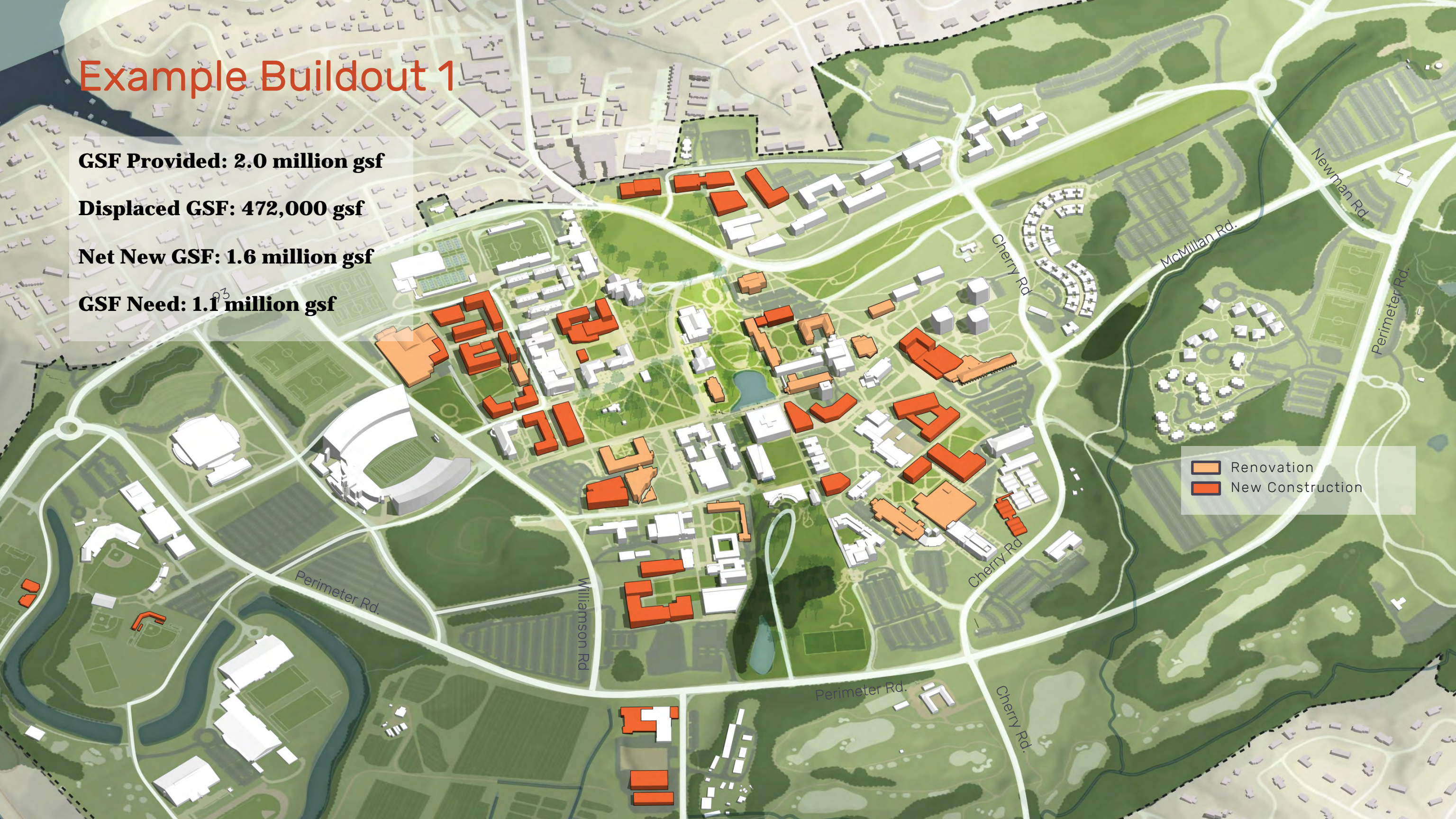
Example Buildout 1

GSF Provided: 2.0 million gsf

Displaced GSF: 472,000 gsf

Net New GSF: 1.6 million gsf

GSF Need: 1.1 million gsf⁹³



Renovation
New Construction

Example Buildout 2

GSF Provided: 1.9 million gsf

Displaced GSF: 472,000 gsf

Net New GSF: 1.5 million gsf

GSF Need: 1.1 million gsf



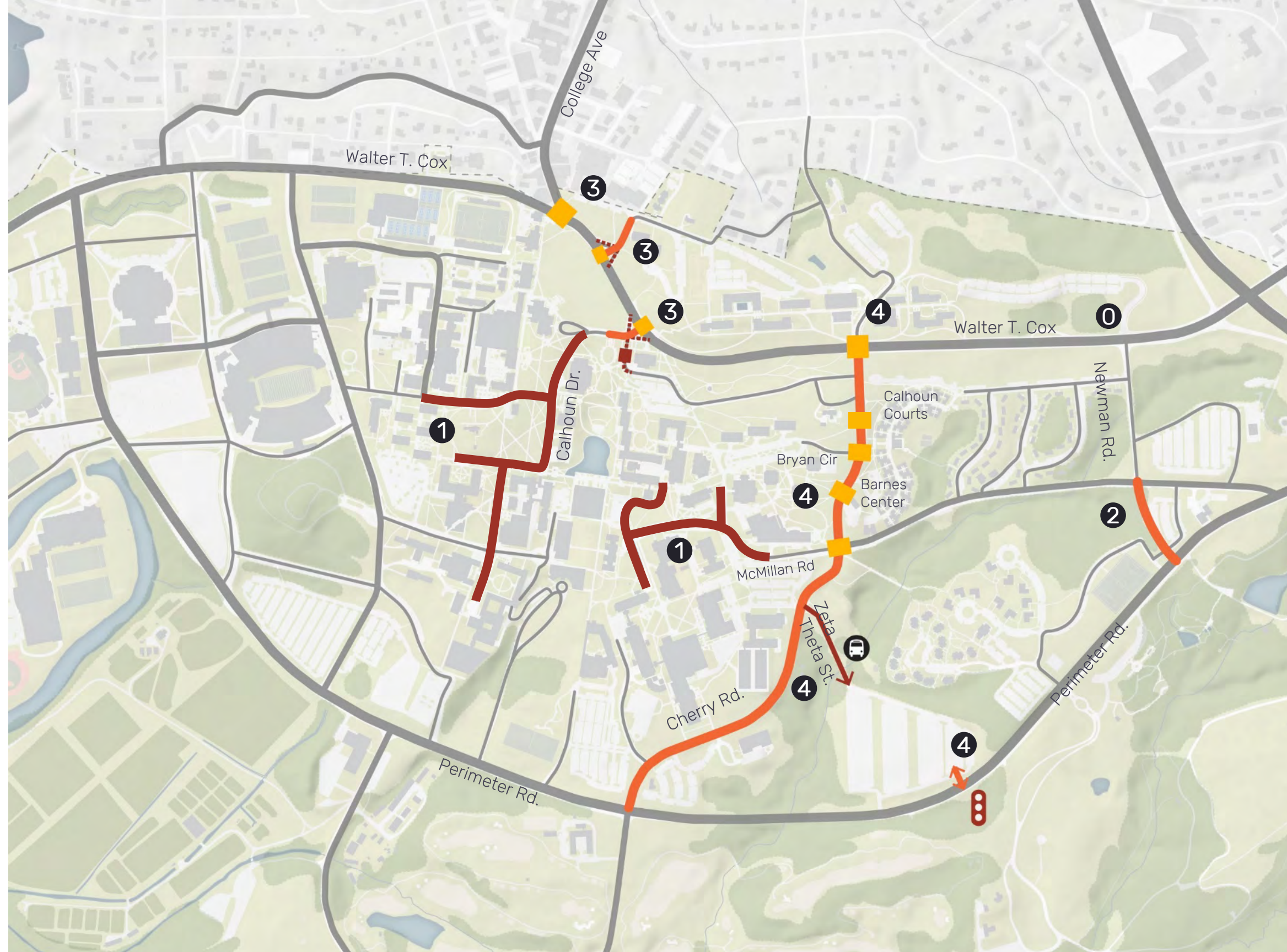
Renovation
New Construction

Potential Circulation Sequence

Step 1

OVERALL

0. Signal at 93 and Newman (underway)
1. Pedestrianize Campus Core
2. Create Newman extension
3. Introduce raised crossings and realign streets:
 - W. T. Cox & College Ave.
 - W. T. Cox & Sherman St.
 - W. T. Cox & Calhoun St.
4. Cherry Road improvements
 - Raised intersections at McMillan, Barnes Center, Bryan Circle, & Calhoun Courts
 - Pedestrianize intersection of W. T. Cox and Cherry Rd
 - Add second egress point to C-1 parking lot, and limit Zeta Theta Street to buses only

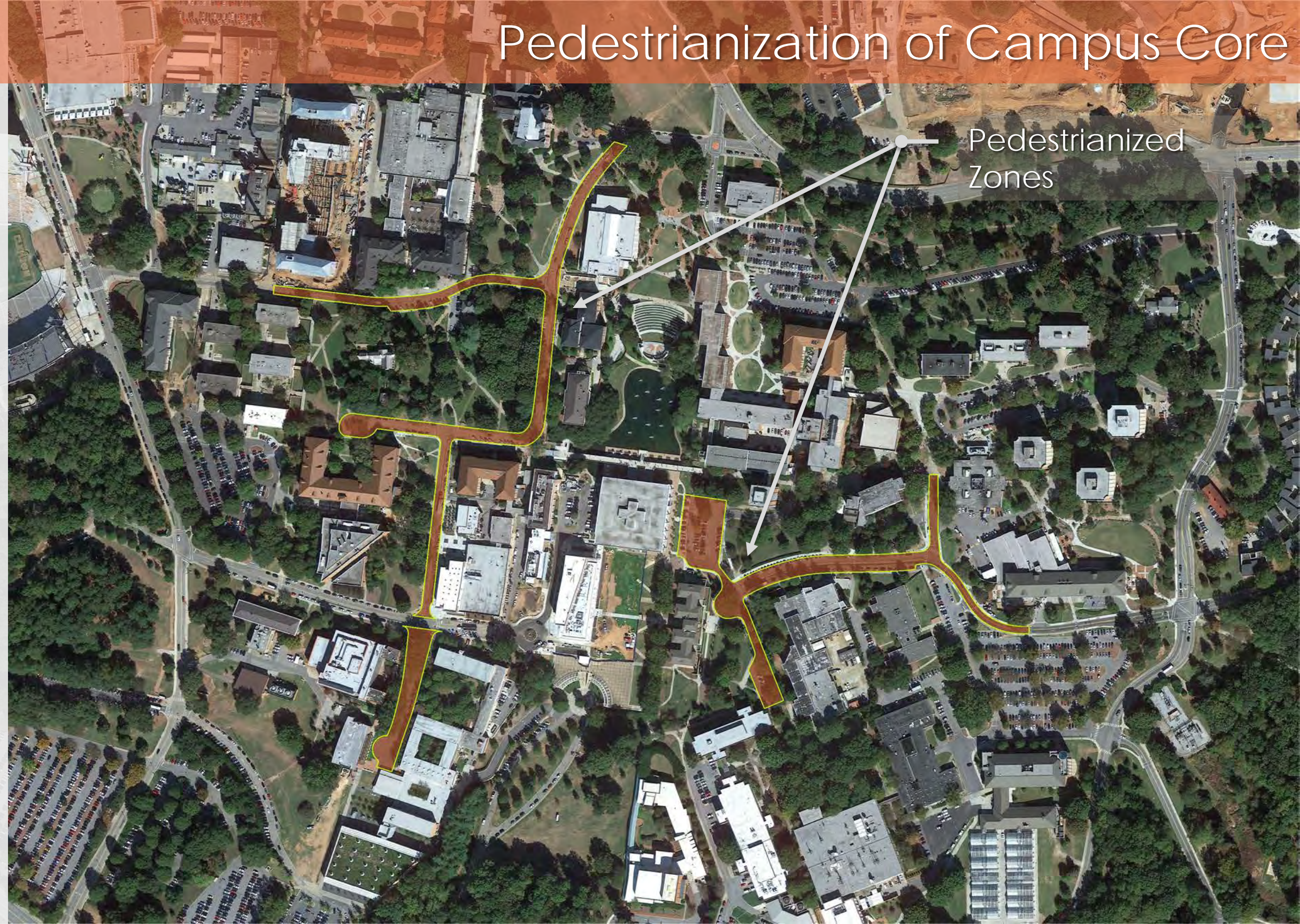


Pedestrianization of Campus Core

Step 1

DETAILS

1. Restrict vehicle access to pedestrianized zones (allowing only service, emergency, and/or ADA)



Raised Crossings & Intersection Realignment

Step 1

DETAILS

- 3. Realigned, Raised Intersection: Calhoun Dr./W.T. Cox
- 3. Raised Intersection: College Ave/ W.T. Cox
- 3. Raised Intersection: Sherman/ W.T. Cox



Raised Intersection Precedents



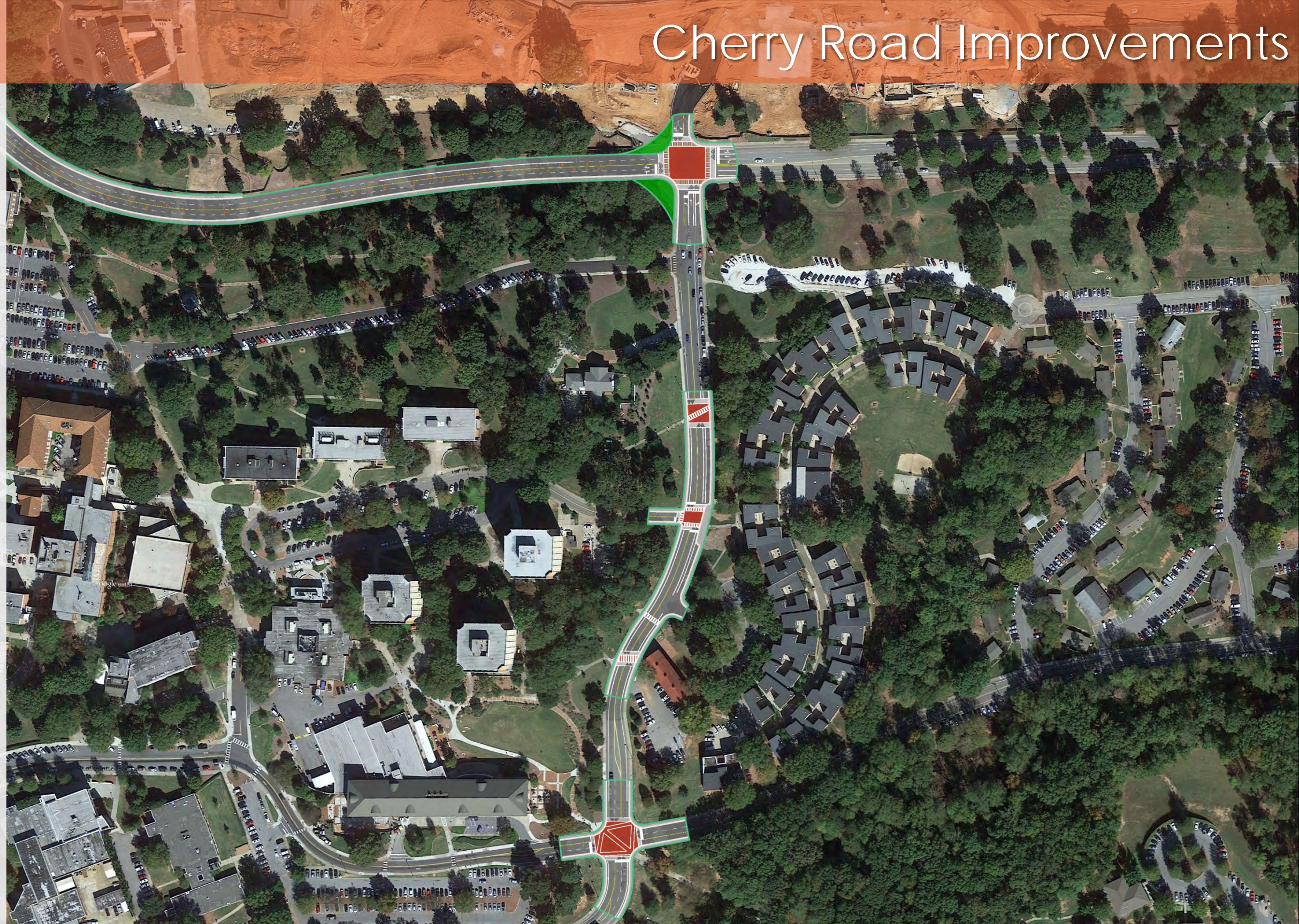
Columbia, SC

Cherry Road Improvements

Step 1

DETAILS

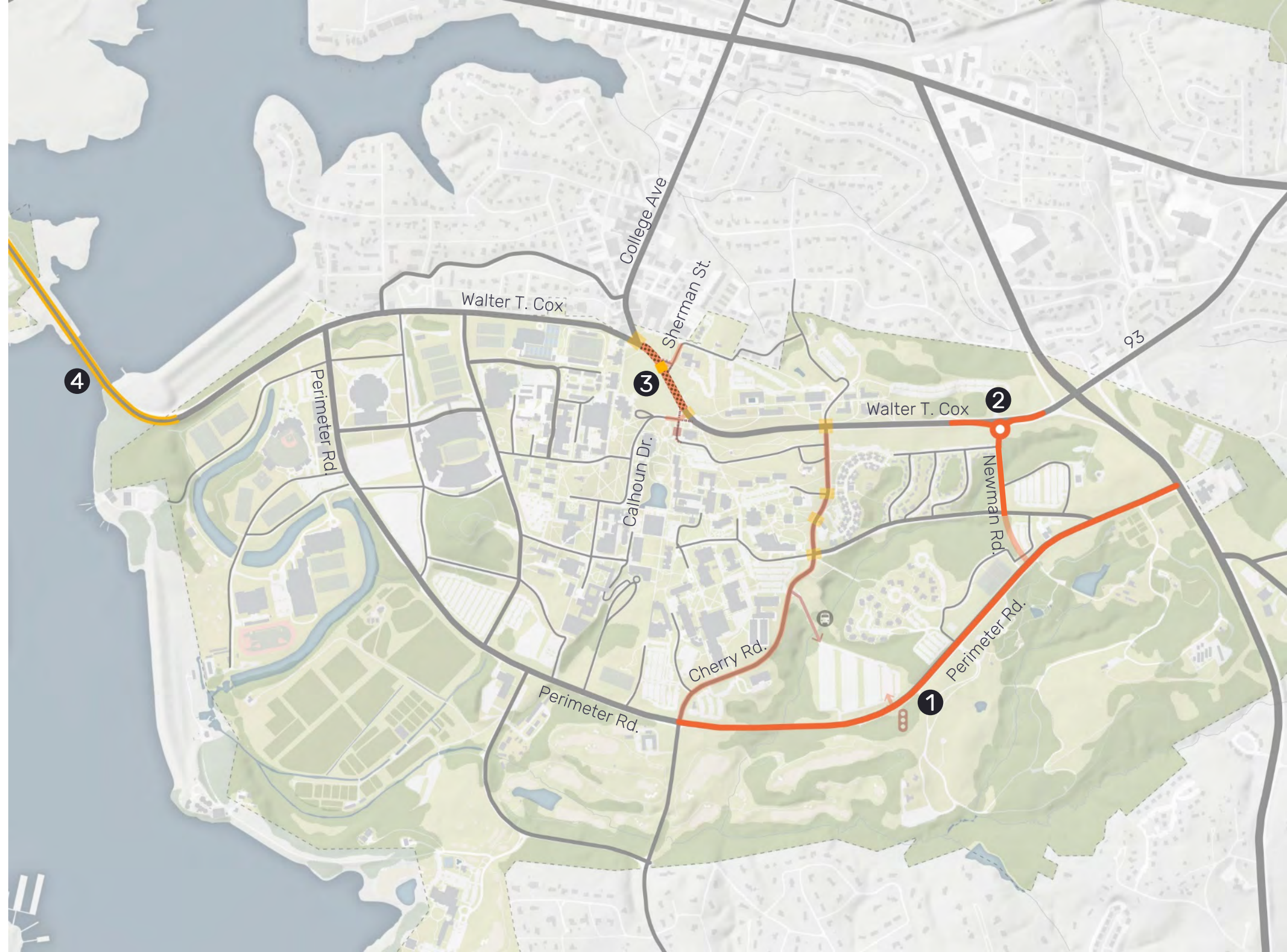
- 4. Raised Intersection:
W.T. Cox & Cherry Road
- 4. Raised Intersection:
Cherry Road & Bryan Circle
- 4. Raised Intersection:
Cherry Rd. & McMillan Rd.
- 4. Raised Crosswalk:
Cherry Rd. & Barnes Center
- 4. Raised Crosswalk:
Cherry Rd. & Calhoun Ct.



Step 2

OVERALL

1. Widen Perimeter Road east of Cherry Road
2. Introduce roundabout at 93 and Newman Road
3. Redesignate Right-of-Way to include a Bus/Bike only lane in each direction
4. Widen sidewalks on bridge to Ravenel (reduce existing lane widths from 13' to 12' or 11')



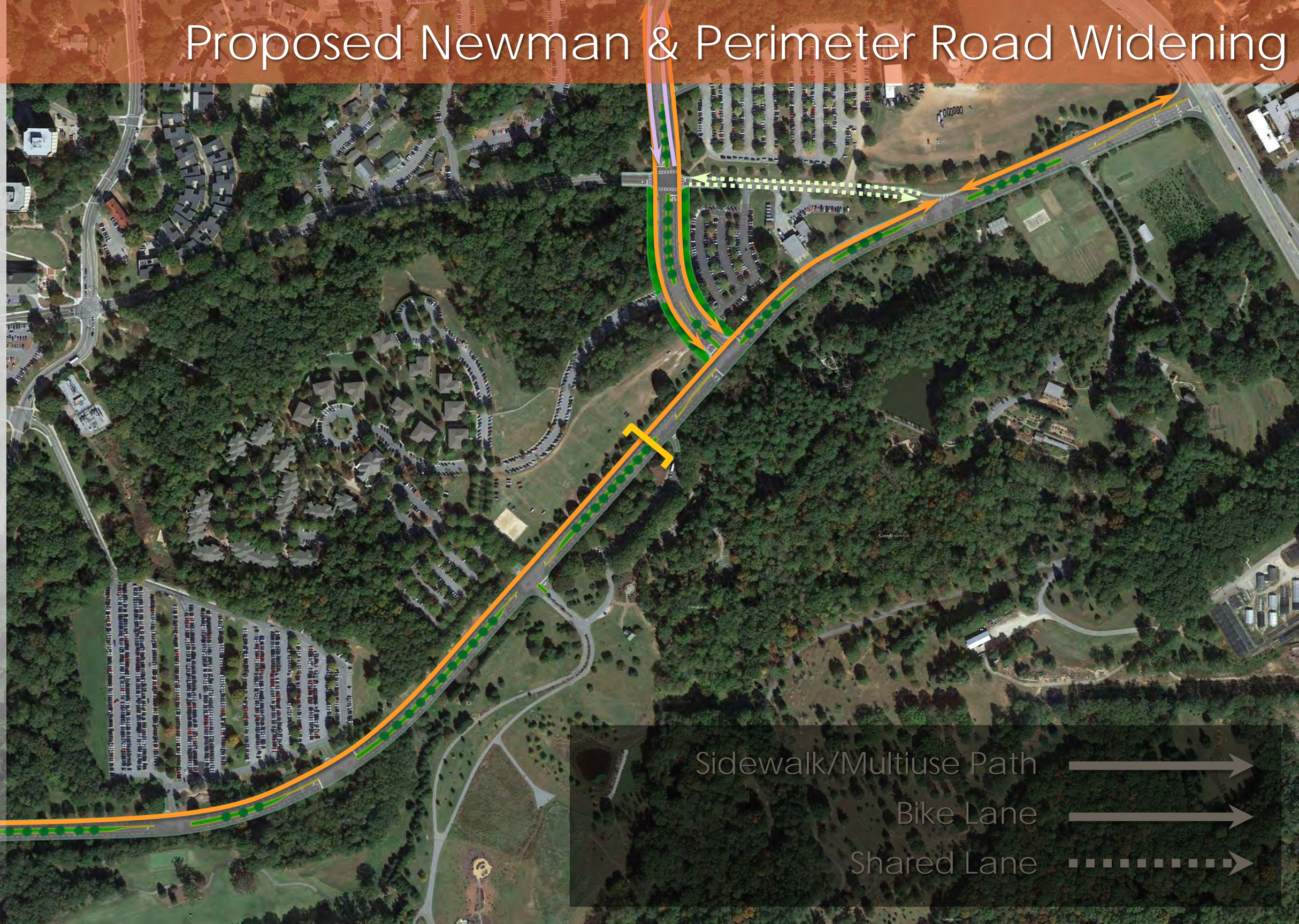
Proposed Newman & Perimeter Road Widening

Step 2

DETAILS

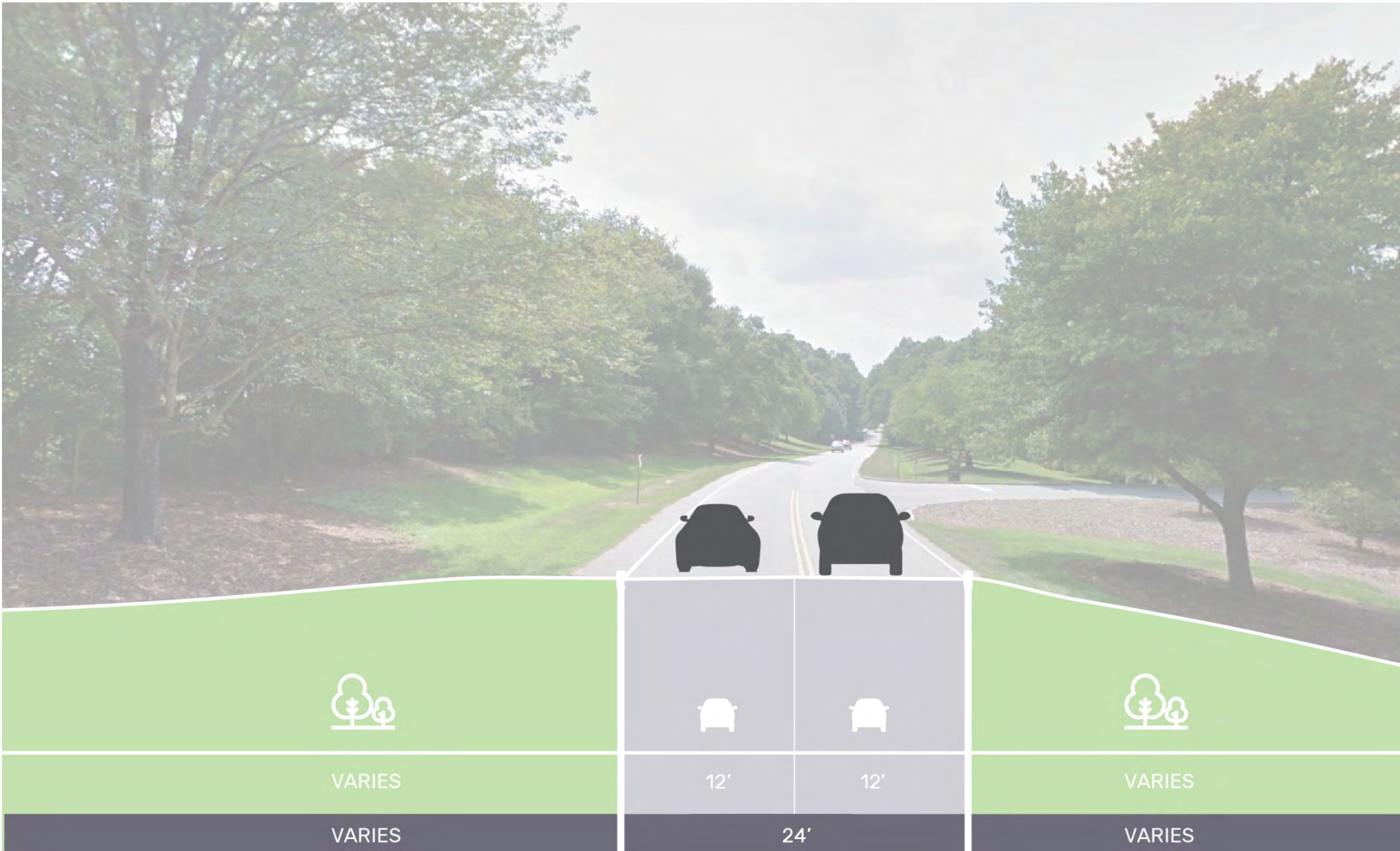
1. Widen Perimeter Road to 4-lanes, east of Cherry Road

- Match cross-section from existing 4-lane section of Perimeter west of Cherry Road, with 12' vehicle lanes, 4' bike lanes, and one 6' sidewalk on the side adjacent to campus



Existing Perimeter Road

EAST OF CHERRY



Proposed Perimeter Road

EAST OF CHERRY

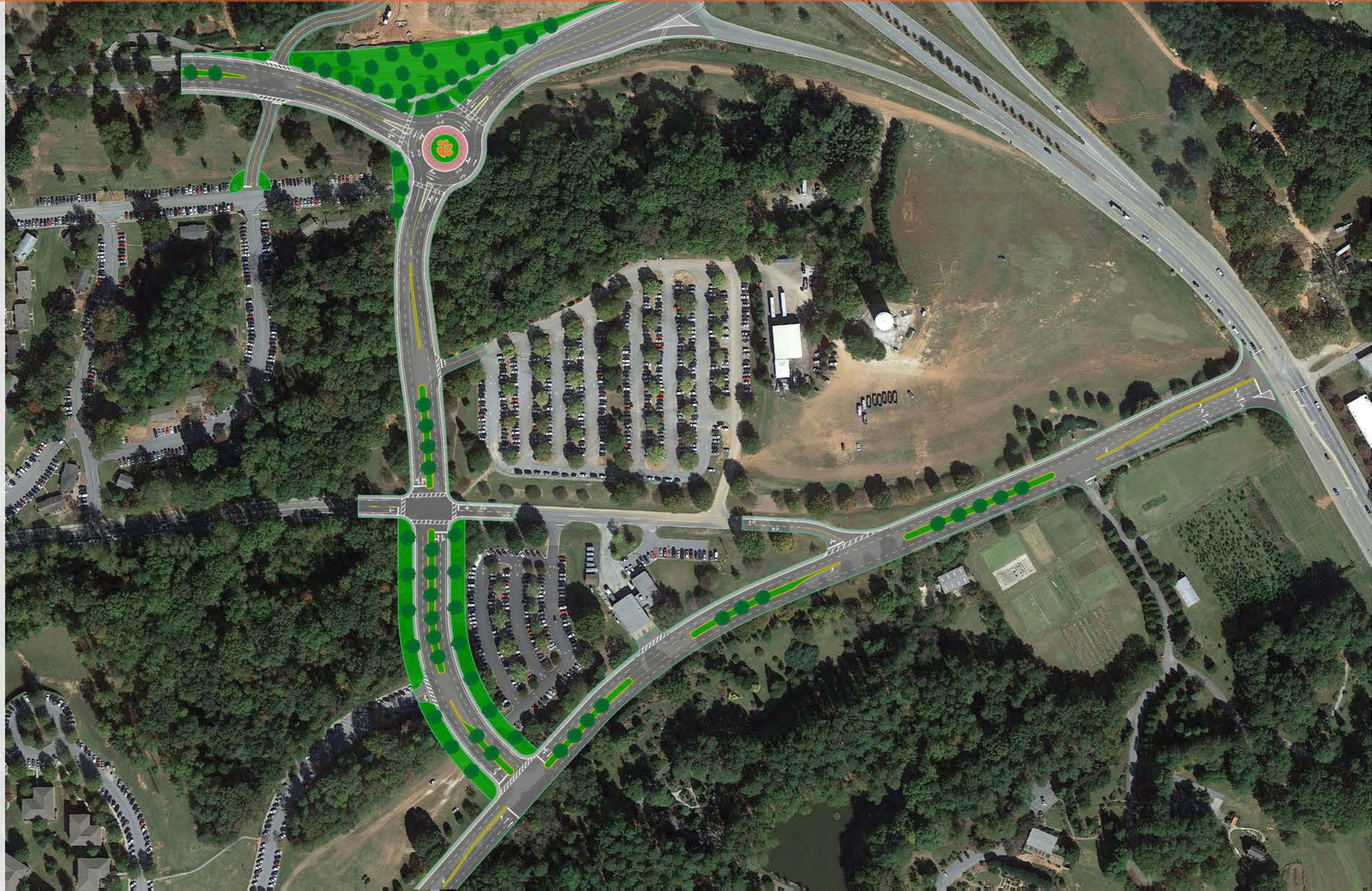


Proposed Walter T. Cox, Newman, & Perimeter Rd. Improvements

Step 2

DETAILS

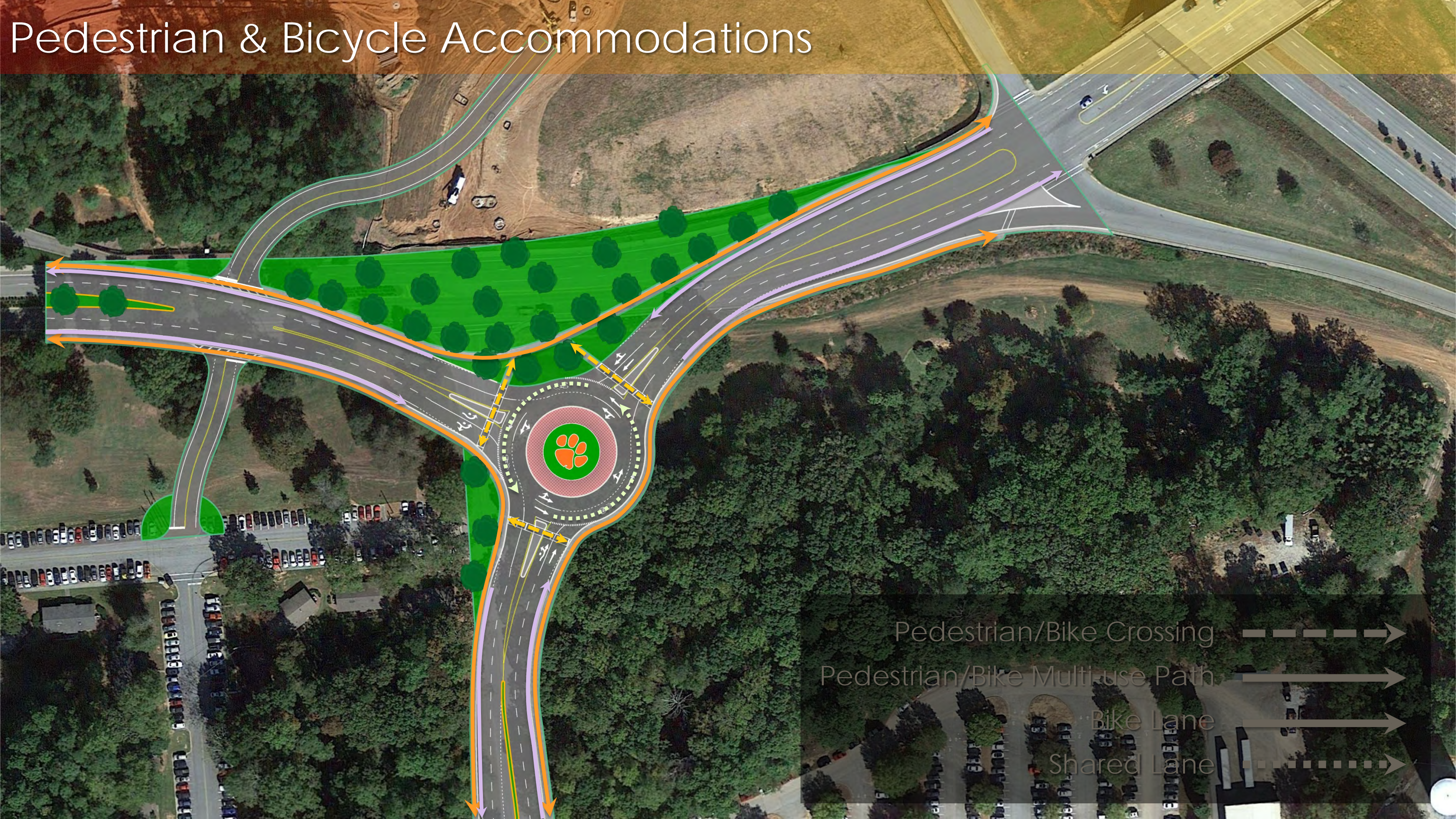
- 2. Realign intersection & convert from signal to roundabout:
Newman Road & Hwy 93
- 2. Widen Newman Road to 4-lanes with tree-lined median



Proposed W.T. Cox & Newman Roundabout



Pedestrian & Bicycle Accommodations



- Pedestrian/Bike Crossing 
- Pedestrian/Bike Multi-use Path 
- Bike Lane 
- Shared Lane 

Proposed Walter T. Cox Blvd. Improvements

Step 2

DETAILS

3. Redesignate Right-of-Way to include a Bus/Bike only lane in each direction, from W.T. Cox & Perimeter Road to W.T. Cox & Cherry Road



Dedicated
Bus/Bike Lanes

Walter T. Cox Existing Street Section

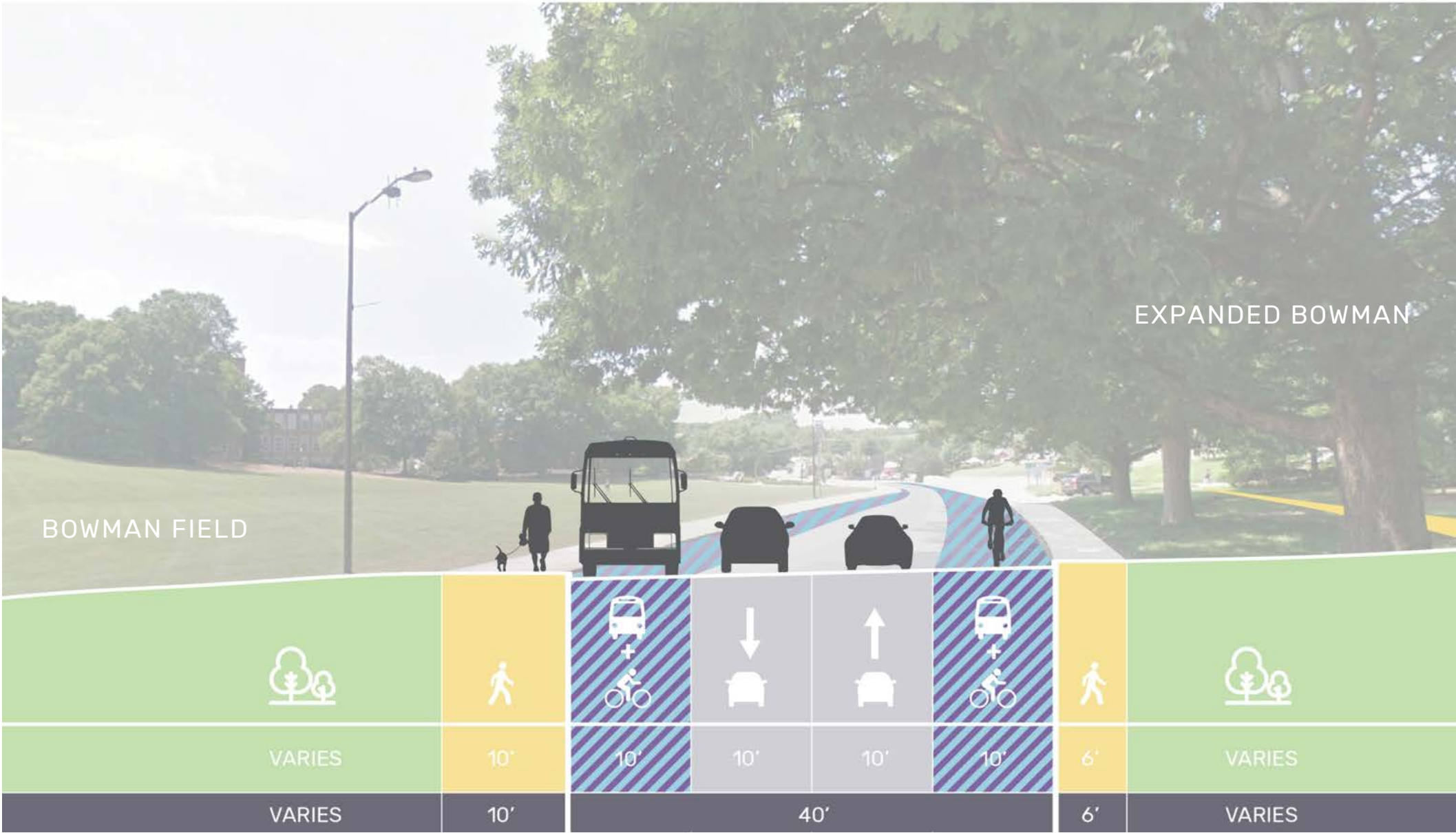
NEAR BOWMAN FIELD

- Major conflict between pedestrian crossing and car traffic
- No bike lane



Walter T. Cox Current Proposed Street Section

NEAR BOWMAN FIELD



Bus-Bike Only Lane Precedents



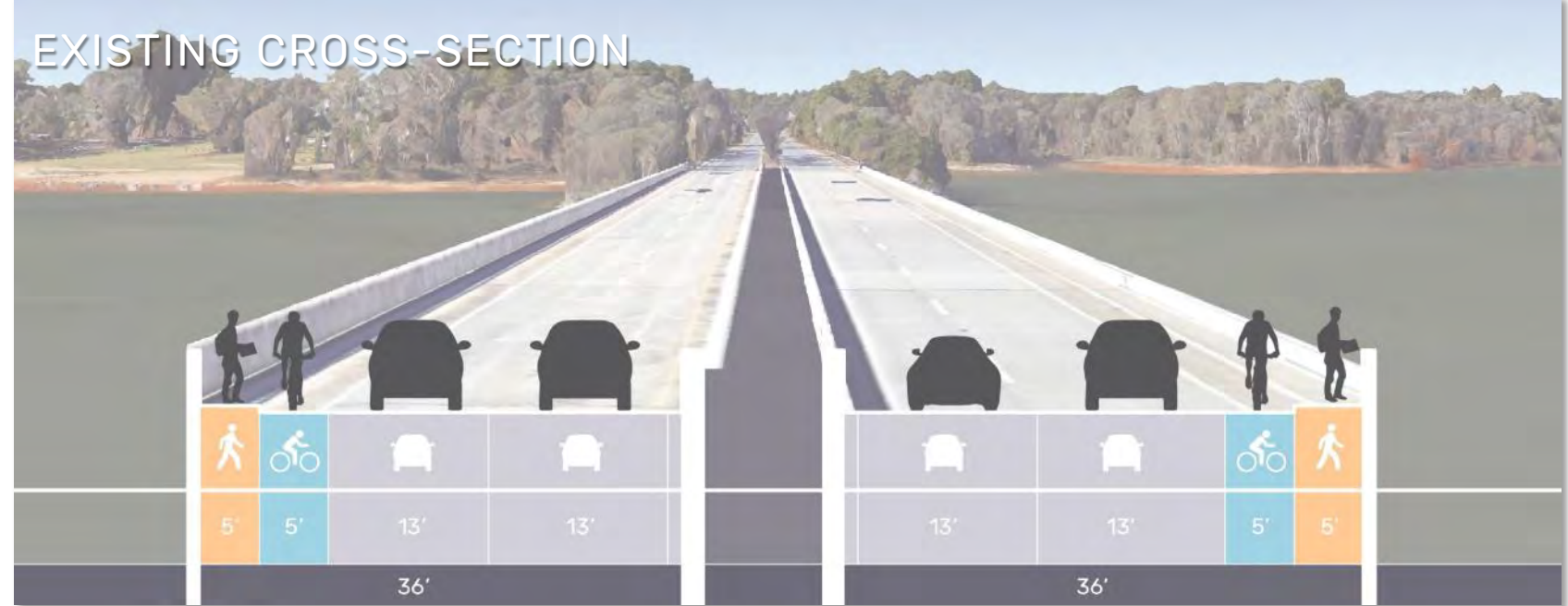
Step 2

DETAILS

4. Alter cross section to improve pedestrian facilities
 - Decrease lane widths from 13' to 11.5' and increase sidewalks from 5' to 8' in both directions



EXISTING CROSS-SECTION



PROPOSED CROSS-SECTION



Step 3

OVERALL

1. Introduce roundabout at Hwy 93 and Perimeter Road



Proposed Walter T. Cox, Newman, & Perimeter Road Configuration

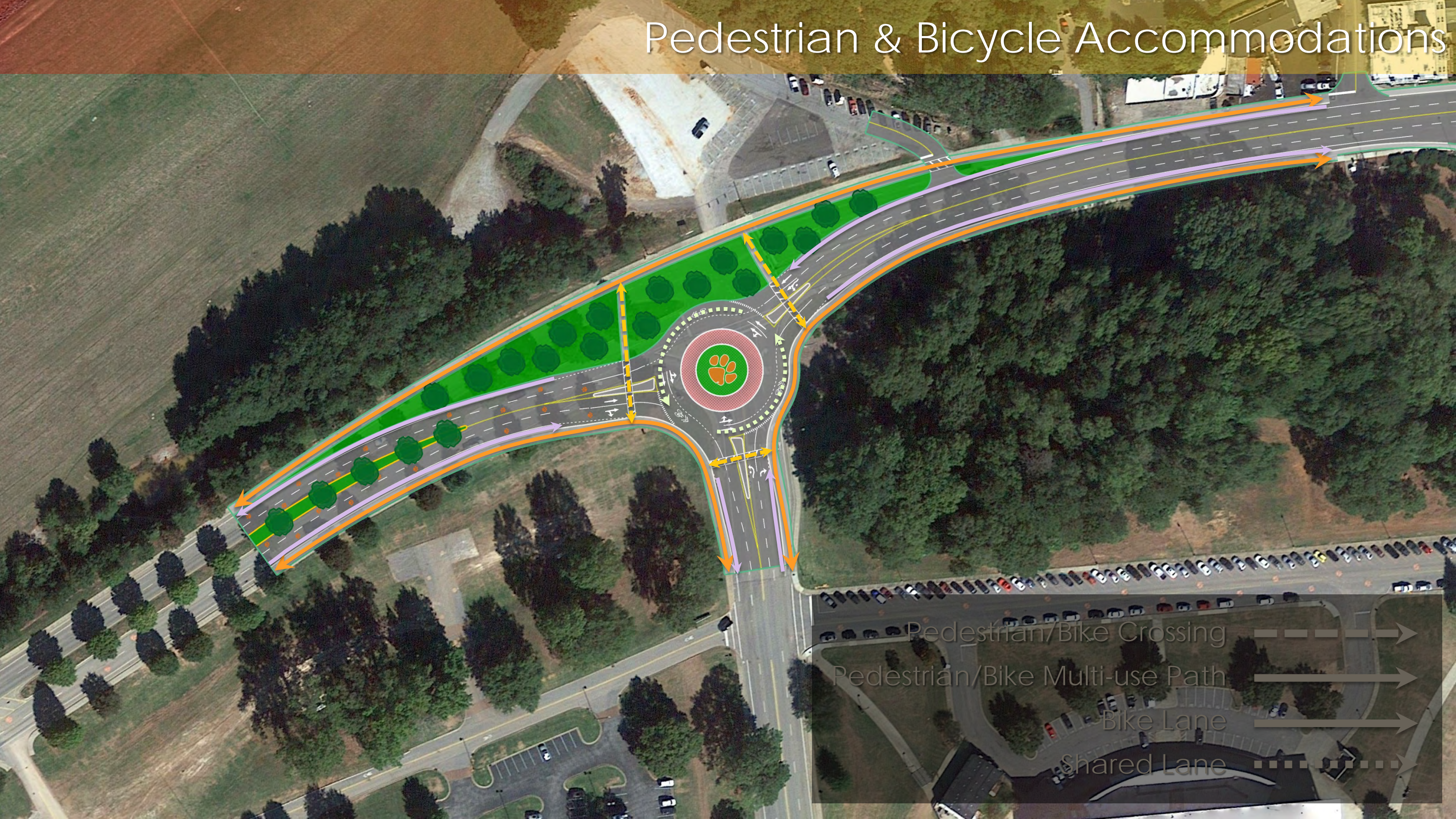
Step 3

DETAILS

1. Realign intersection & convert from signal to roundabout:
W. T. Cox Blvd. & Perimeter Rd



Pedestrian & Bicycle Accommodations

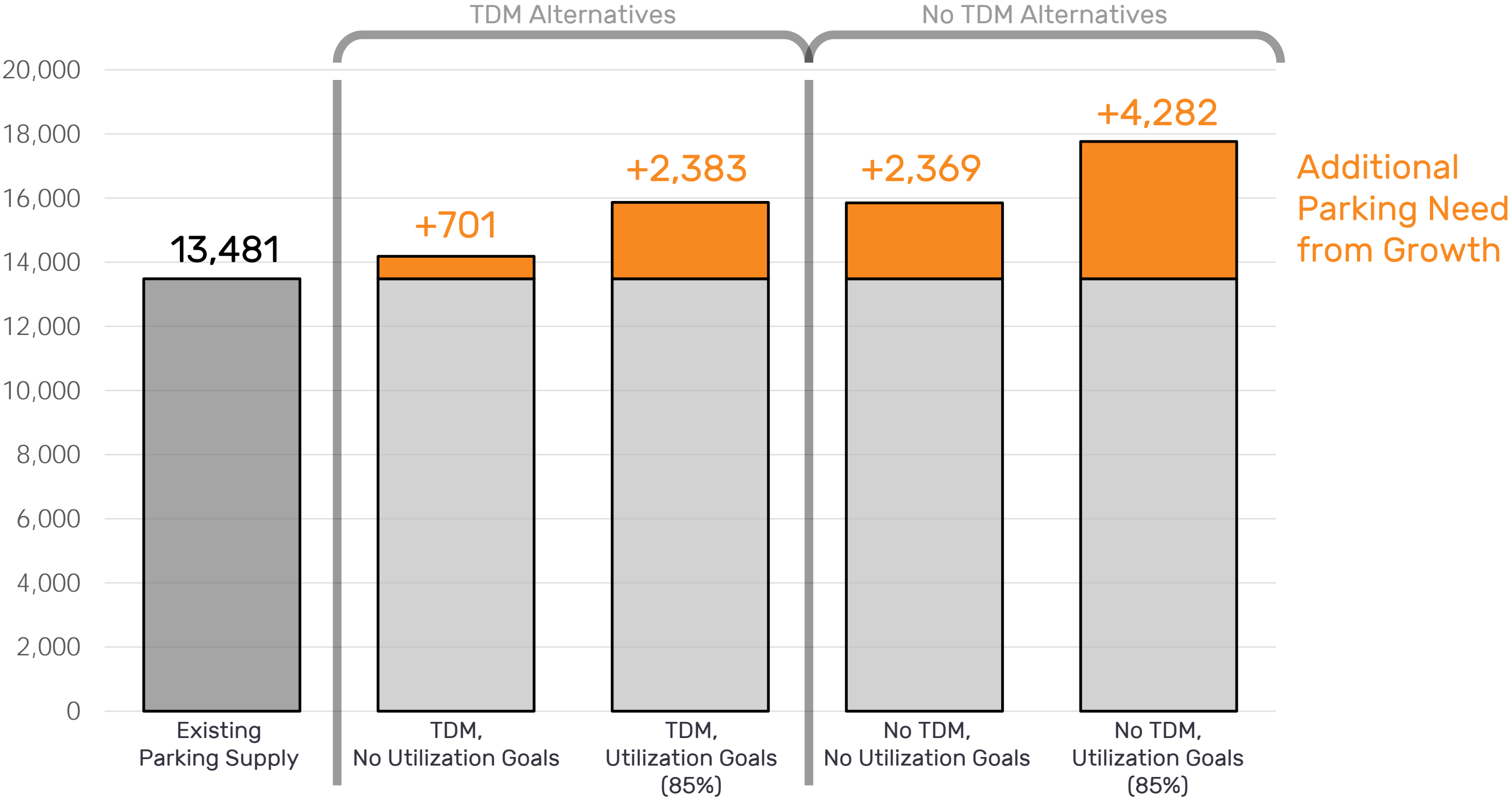


- Pedestrian/Bike Crossing 
- Pedestrian/Bike Multi-use Path 
- Bike Lane 
- Shared Lane 

Parking Demand vs Accommodation

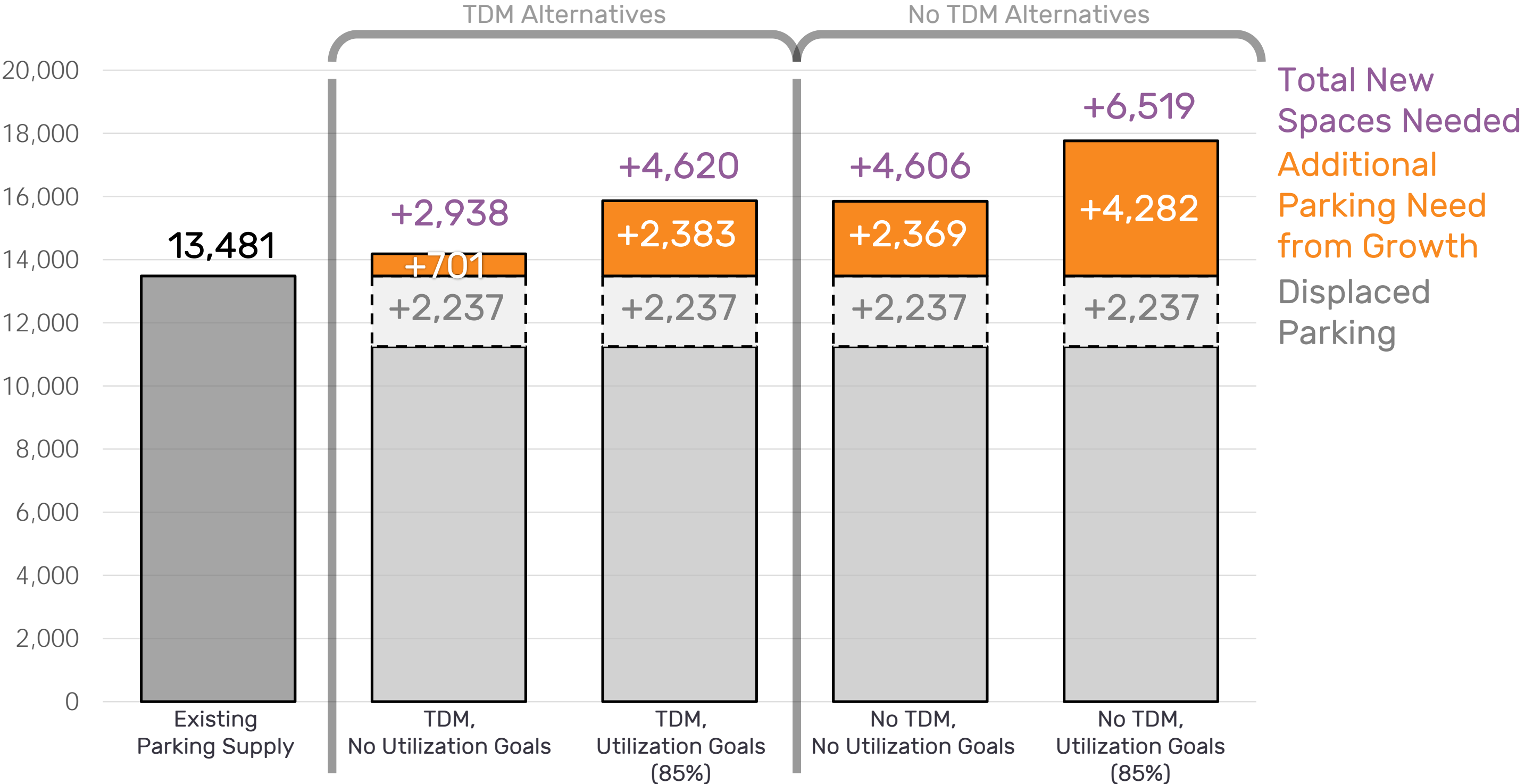
Parking Need

10-YEAR SPECTRUM OF NEED



Parking Need

10-YEAR SPECTRUM OF NEED



Surface Parking
EXISTING PARKING SUPPLY

13,481 SPACES



Surface Parking

10-YEAR SPECTRUM OF NEED
POTENTIAL PROPOSED PARKING
(TDM, 85% UTILIZATION GOALS)

15,864 SPACES

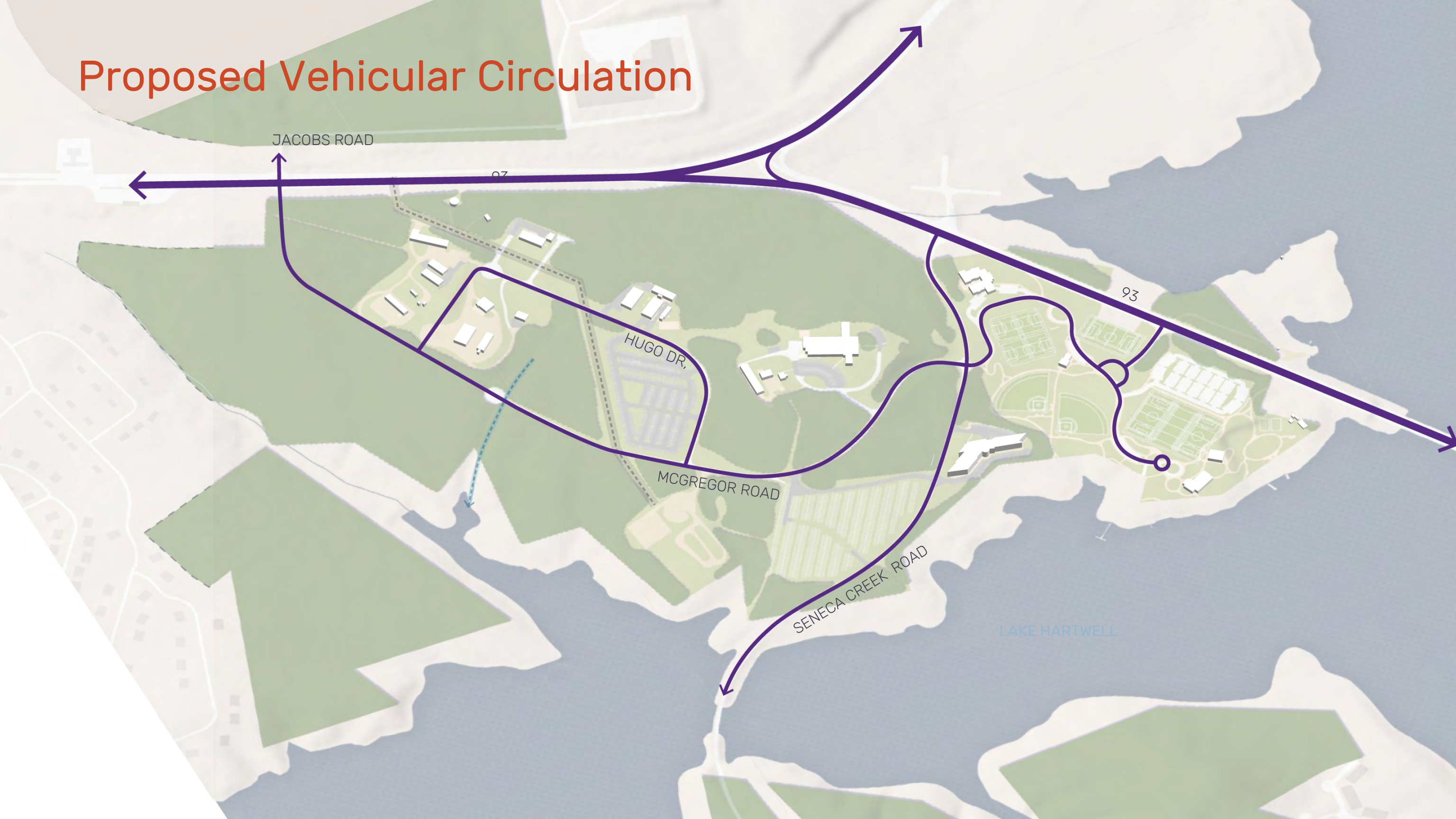


Ravenel

Existing Condition



Proposed Vehicular Circulation



Proposed Development Sites



JACOBS ROAD

93

Landscape Buffer along McGregor Rd

Office buildings should facing Seneca Creek Rd. to Maximize the View

Provide Pedestrian Connection to the Recreation Fields and Bus Station

Waterfront Views

MCGREGOR ROAD

SENECA CREEK ROAD

LAKE HARTWELL

Example Buildout



CCIT Addition
30,000 GSF

Office Buildings
240,000 GSF

Surface Parking
600 space

Thank You