

# AHEC Master Plan Update

Work Session #2- Goal Setting and Analysis  
2 November 2006



U3 Ventures



S A S A K I

## Recurring Themes

- Critical Space Needs
  - Larger classrooms, more classrooms
  - Modernize labs, more labs
  - Faculty offices, places for student-faculty meetings
  - Need for more group and individual study space across the campus
  - Improve & integrated information technology systems, particularly in classrooms and library
  - Increased space in library for group study
- Student Life
  - Increased demand for sports and recreation programs, flexible group-based learning spaces, and informal social spaces
  - Attention to safety on campus and more secure building access
  - Improved circulation for bicycles

## Recurring Themes

### •Campus as Part of the City

- Create more programmatic and visual connections to the City
- Public transit is changing the site. The campus design should better accommodate existing and anticipate future increased levels of light rail use.
- Enhance bicycle access
- Improve the safety for pedestrians as they access the campus, including drop-off at edge of campus

### •Collaboration and Institutional Identity

- Auraria identity is subservient to the institutions. Create a plan which features both the campus and the institutions.
- Increase academic collaboration across the institutions.

## Design Principles

- Expand and intensify the campus to meet the current and future space needs of CCD, MSCD, and UCDHSC in a way that is consistent with the physical quality and character of the Auraria campus
- Enhance the identity of the individual institutions without undermining the shared identity of the Auraria Campus
- Support the educational objectives of the three institutions by creating new opportunities for learning both in buildings and outdoors
- Create strong physical and programmatic connections off-campus; to transit and the park systems and to Downtown Denver
- Develop a plan that features components of sustainable design, consistent with the City of Denver's Greenprint Denver Plan



## Analysis Themes

- Capacity for growth
- Institutional Identity
- Learning Environment
- Campus in the City
- Sustainability

## Capacity for Growth



- What are the growth opportunities for Auraria?
- What are the constraints to that growth?
- What is the right scale, density and character for the Auraria of the future?
- Where are the opportunities for core academic expansion and where are the opportunities for public/private initiatives?

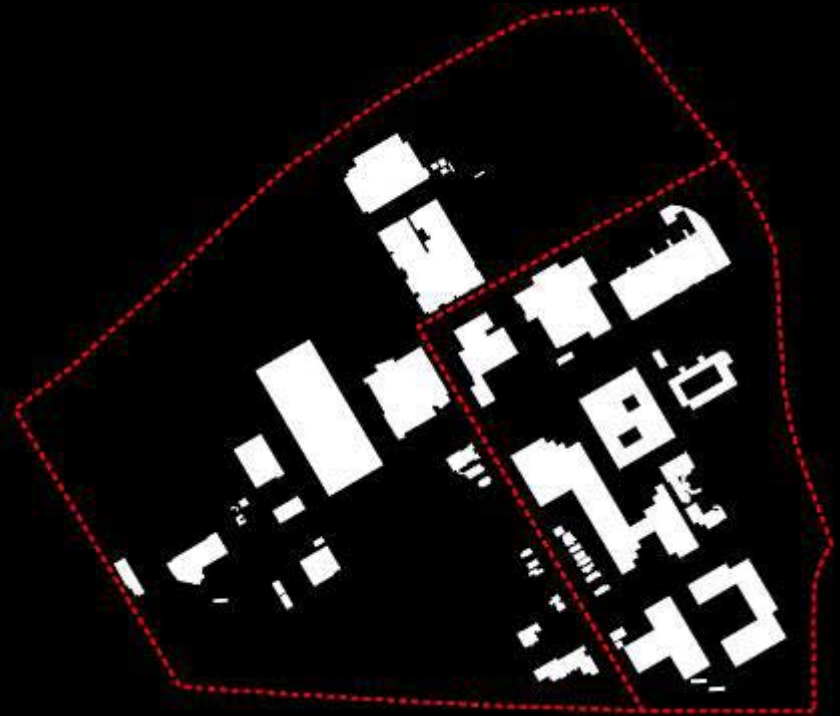
# FAR's in Denver



Denver Lower Downtown  
**FAR 1.1**



Denver Downtown Core  
**FAR 3.7**



Auraria Campus  
Including parking areas  
**FAR 0.4**

Auraria Campus  
Campus Core  
**FAR 0.7**

# Comparative Campus FAR's



Virginia Tech  
FAR .63



Rice University  
FAR .79



Harvard Yard  
FAR .84



University of Florida, Tampa  
FAR .44



Carnegie Mellon  
FAR .92



Harvard Business School  
FAR .96



University of Texas, Austin  
FAR 2.0

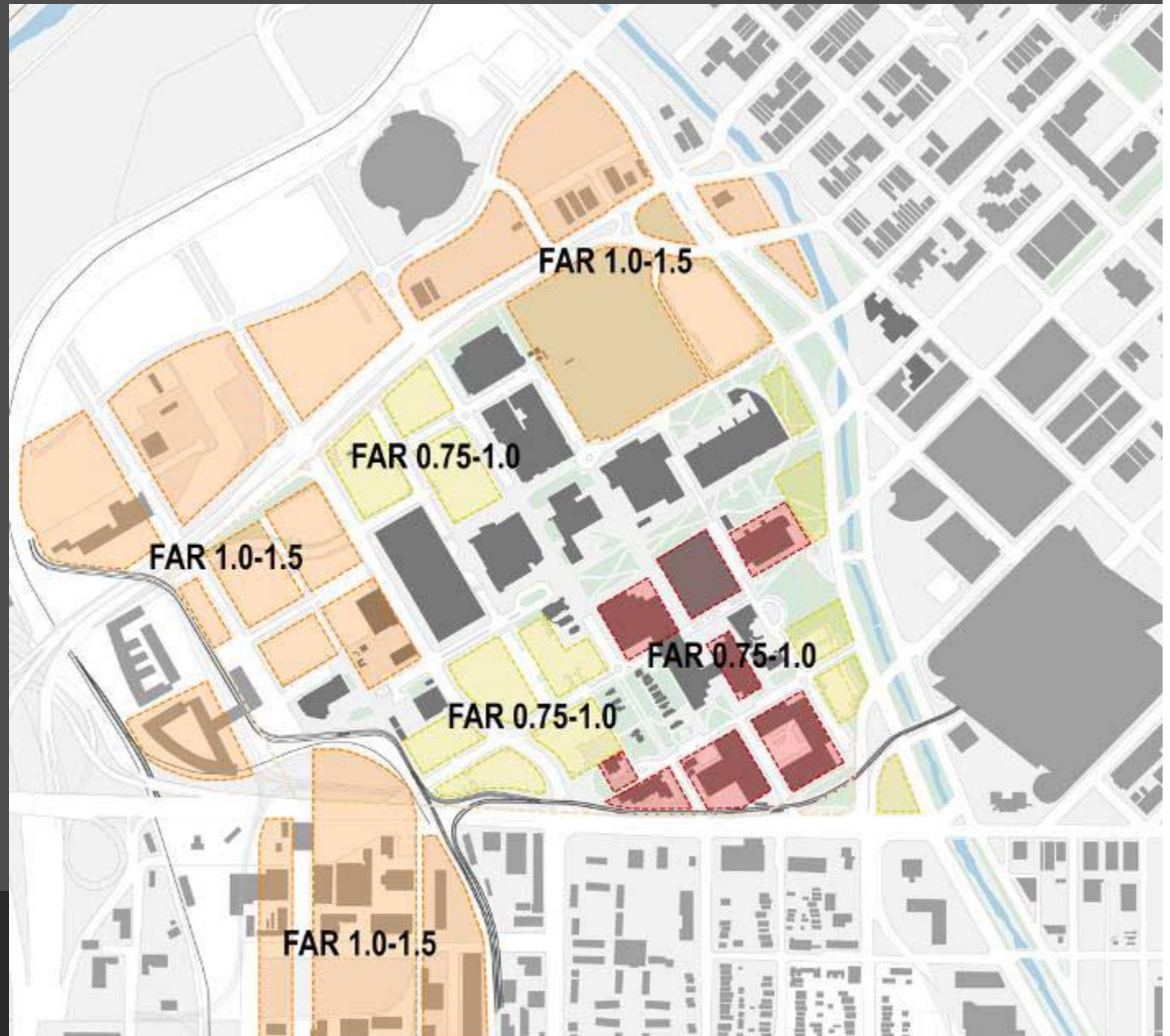


University of Virginia  
FAR .59



# Floor Area Ratio Recommendations

- 0.75 - 1.0 FAR in the core campus
- 1.0 - 1.5 FAR at the periphery



# Site Conditions

- Setbacks, view sheds with height restrictions



# Site Conditions

- Setbacks, view sheds with height restrictions
- Landmarks and historic features



# Development Opportunities

- Buildings w/  
significant  
renovation needs  
– further  
assessment  
required



# Development opportunities on Campus

- Auraria-owned sites

Auraria-Owned Sites  
Redevelopment  
**43.5 AC**

Development Potential  
.75-1.0 FAR  
**1,684,000 GSF**

Development Potential  
1.0-1.5 FAR  
**2,420,000 GSF**



# Development opportunities off Campus

- City-owned and private sites

Sites for Private Development  
**67.4 AC**

Development Potential  
.75-1.0 FAR  
**2,937,000 GSF**

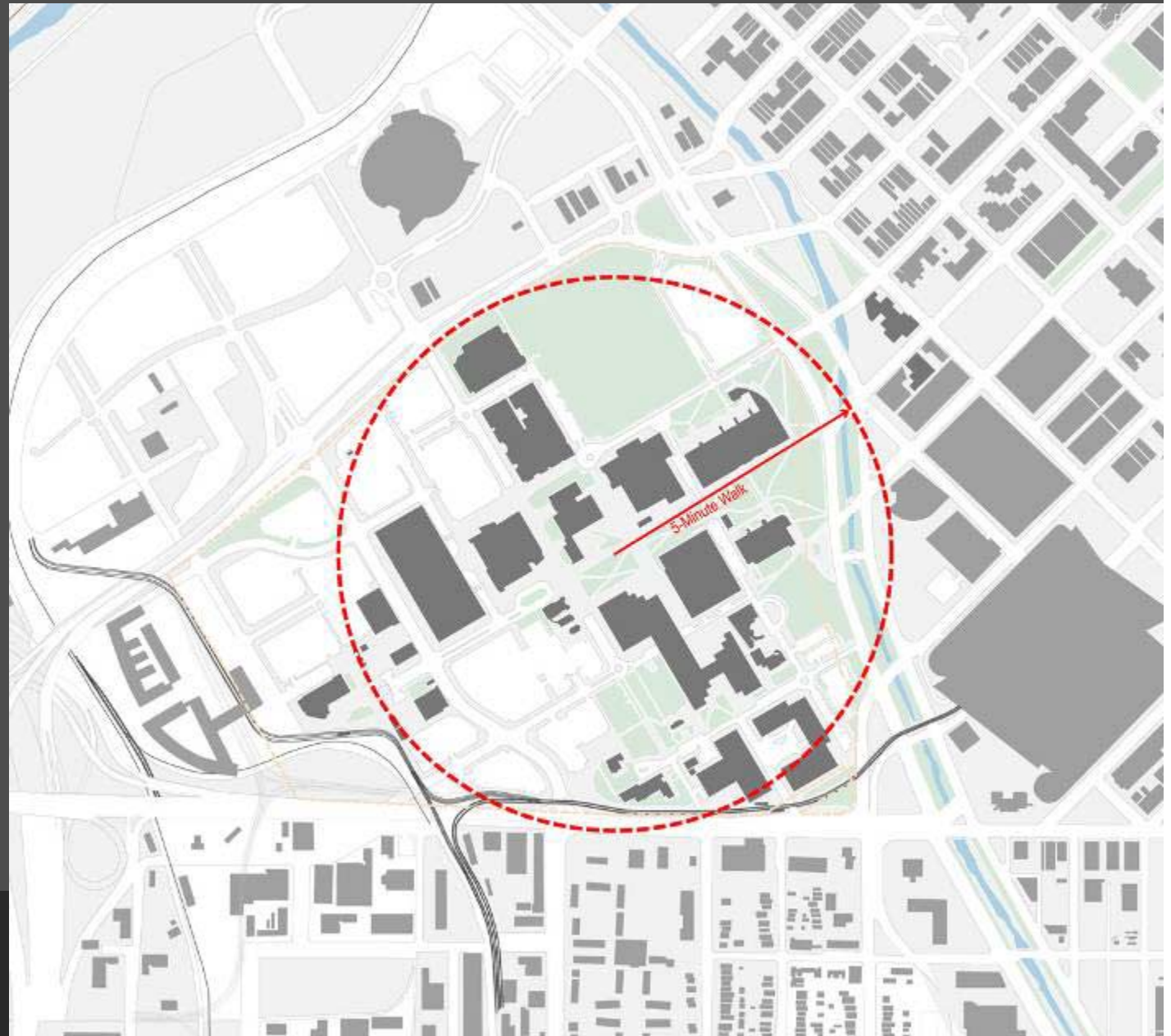
Development Potential  
1.0-1.5 FAR  
**4,405,000 GSF**



# Capacity in the Academic Core

Existing GSF  
**2,200,000 GSF**

\*Figures based on 2001  
MasterPlan



## Capacity in the Academic Core

- .75-1.0 FAR
- Minimal redevelopment

Additional Capacity  
**1,591,000 GSF**





## Capacity in the Academic Core

- 1.0-1.5 FAR
- Maximum redevelopment

Additional Capacity  
**2,644,000 GSF**

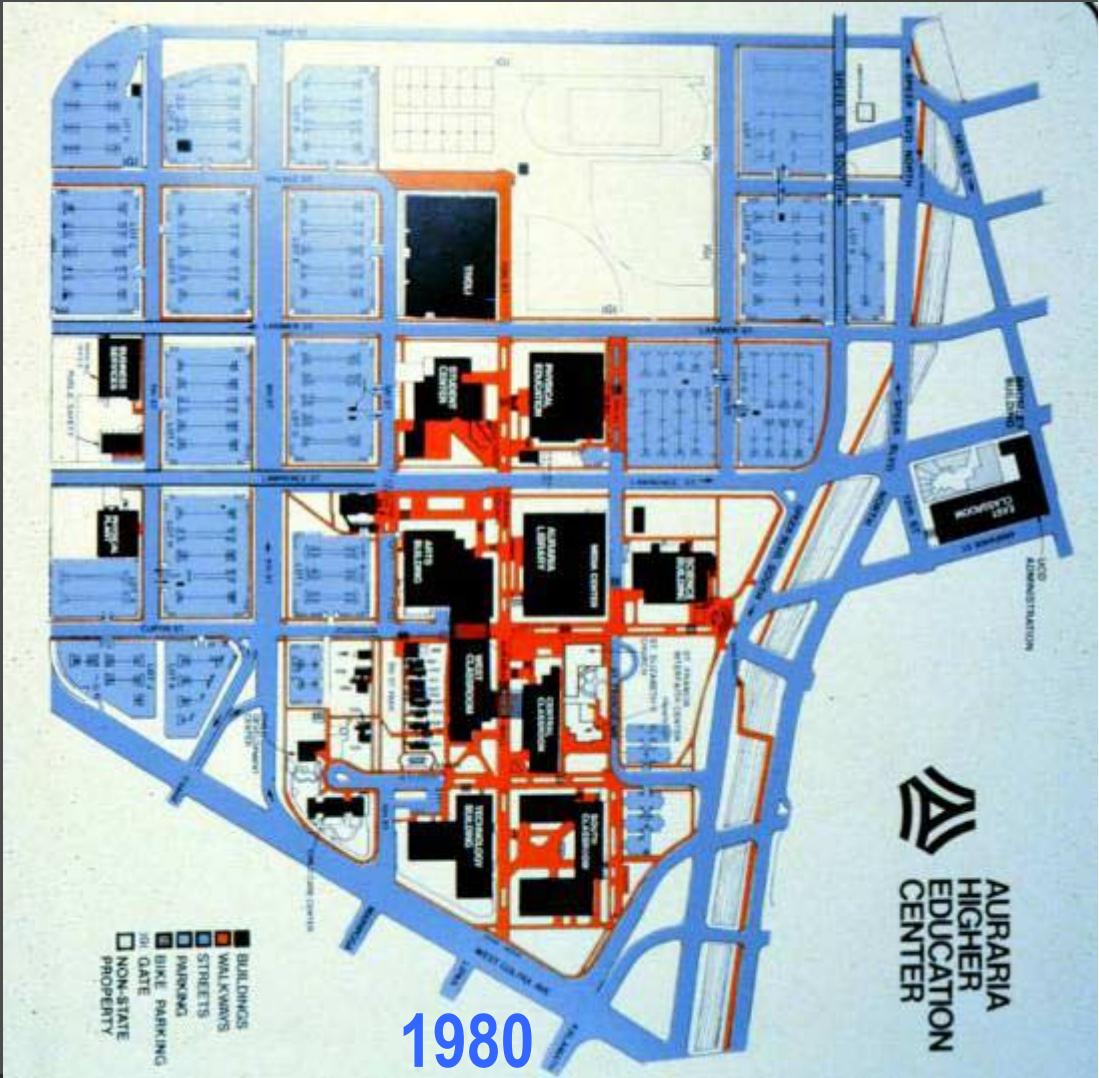
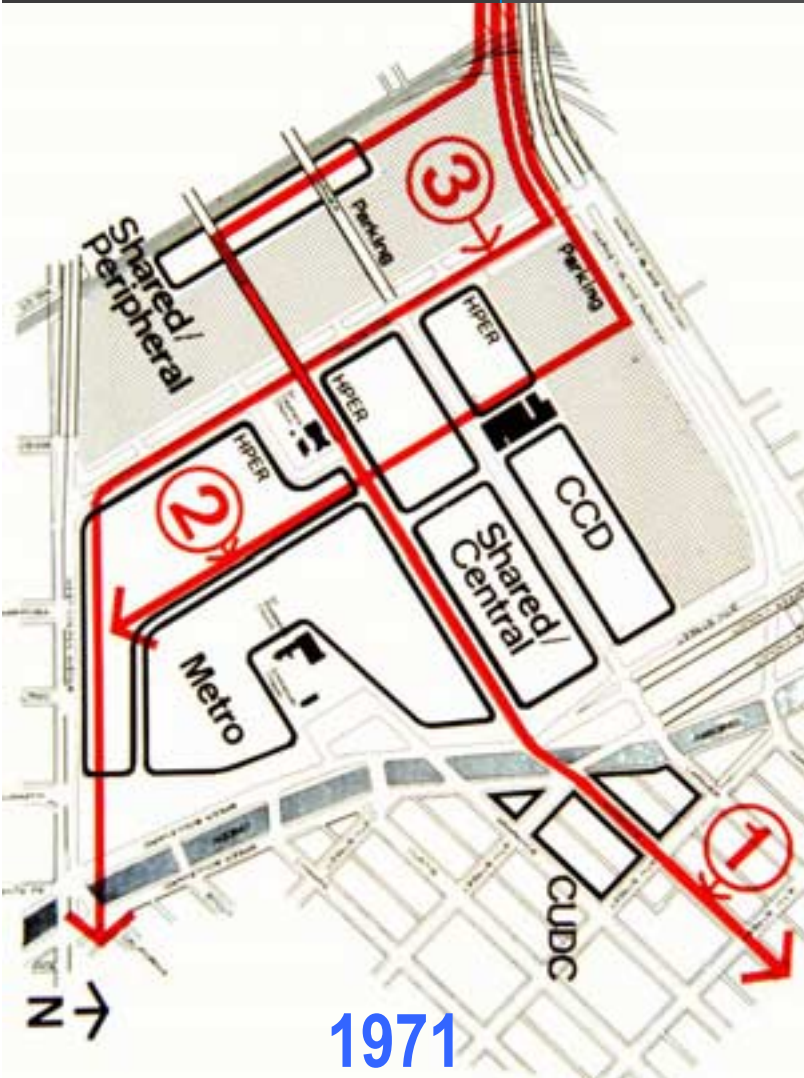


# Institutional Identity

- How can the campus buildings and landscape express the individual identity of each institution (CCD, MSCD, and UCDHSC) and the common identity of the Auraria campus?
- Does each institution need a "headquarters" or a "territory" on Campus?



# Use by Institution - Historic



# Primary Use by Institution

- SHARED
- CCD
- MSCD
- UCD / HSC



# Operational Responsibility

## OPERATIONAL RESPONSABILITY

- AHEC
- SHARED
- CCD
- MSCD
- UCD / HSC



# Institutional Identity - CCD



# Institutional Identity - MSCD



# Institutional Identity - UCDHSC





# Campus Identity



## Learning Environment

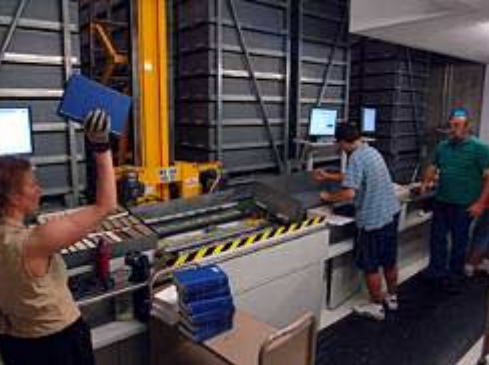
- How can the Auraria campus nurture a vibrant learning environment for its' diverse community of scholars and students?
- How does the Library need to change to reflect the future needs of the Auraria community?



# Classrooms and study space

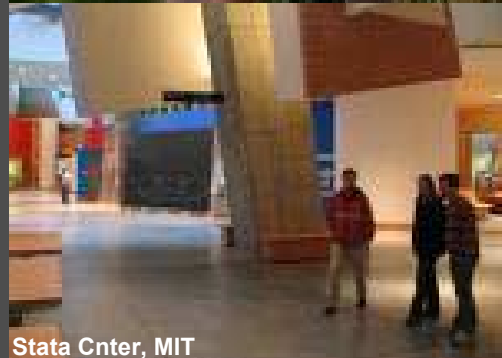


# Library/Learning Center



Herman Hertzberger

# Interdisciplinary Buildings



Stata Cntr, MIT

California Institute of Telecommunications and Information Technology

# Hybrid and Distance Learning



# Informal Learning



# Learning on the Auraria Campus





# Learning on the Auraria Campus



# Learning on the Auraria Campus

- Classroom and Lab Buildings



# Learning on the Auraria Campus

- Classroom and Lab Buildings
- Library



# Learning on the Auraria Campus

- Classroom and Lab Buildings
- Library
- Dining venues



# Learning on the Auraria Campus

- Classroom and Lab Buildings
- Library
- Dining venues
- Informal spaces



# Learning on the Auraria Campus

- Classroom and Lab Buildings
- Library
- Dining venues
- Informal spaces
- Outdoor gathering spaces



## Campus in the City

- How can the Auraria campus capitalize on its Downtown Denver location and the symbiotic relationships this proximity allows?
- Should the campus extend physically to its' campus borders, or should it maintain a park-like character at its' edges?
- Should Auraria promote the development of vibrant urban districts at its edges?

## Urban/Campus Life

Diversity and  
Messy Vitality

A diverse mixture  
of uses: shops,  
restaurants,  
cafés, hotels,  
movie houses,  
etc. create 24/7  
activity close to  
Campus



Harvard Square



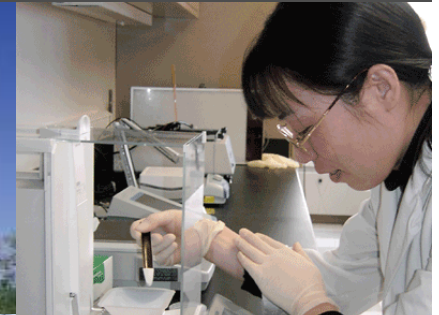
# Urban/ Campus Life

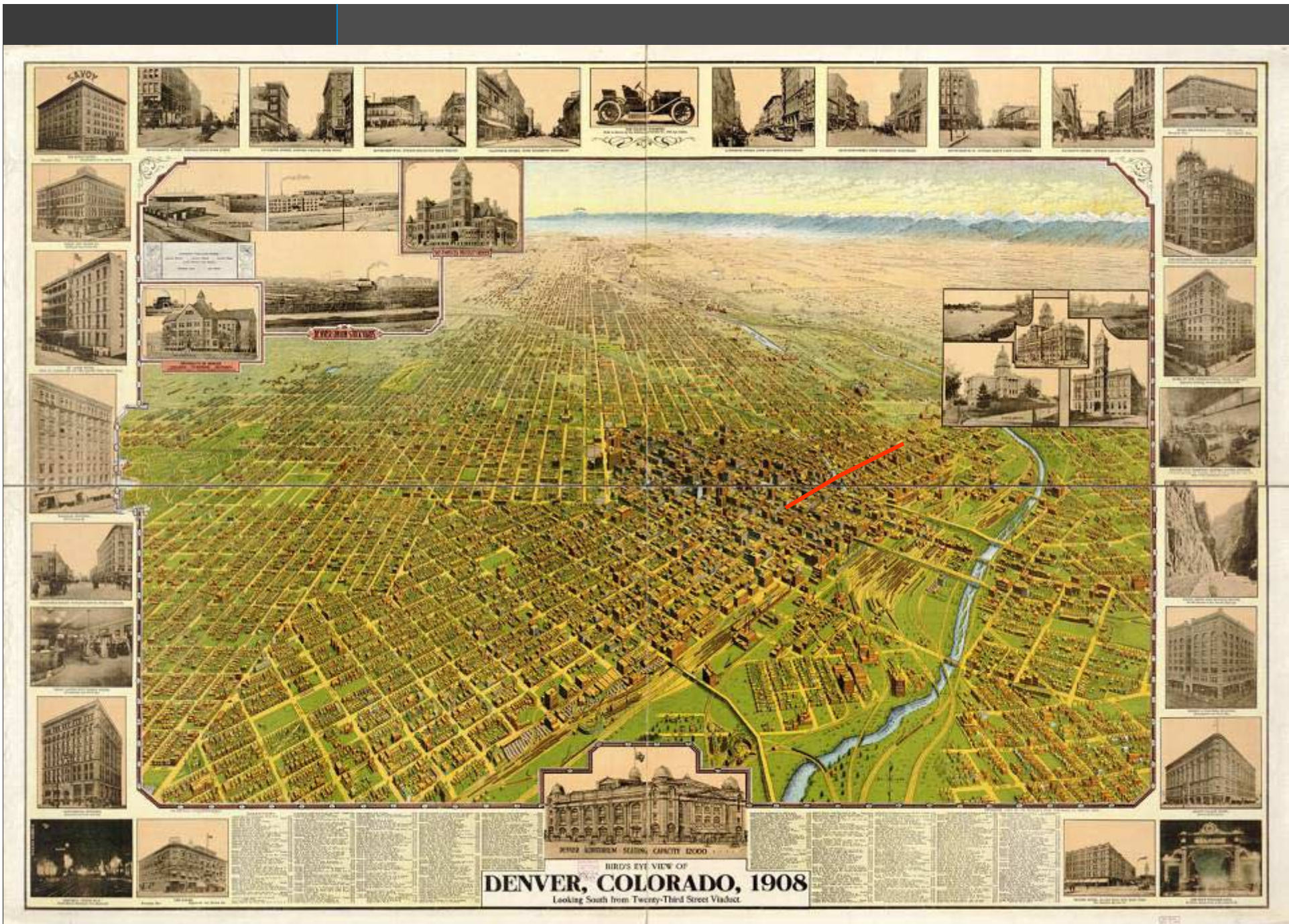
Shops,  
bookstores,  
café's



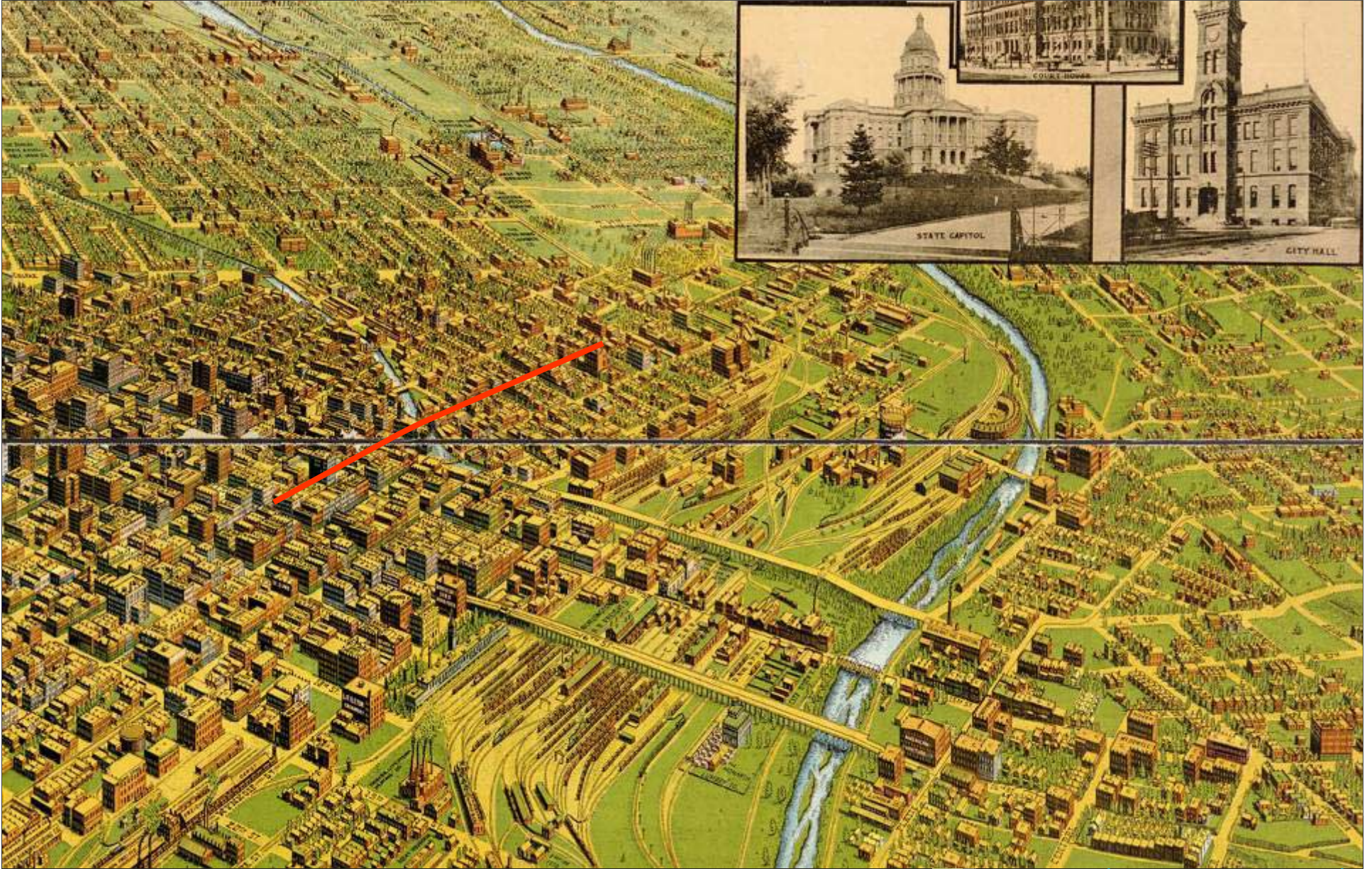
# Urban/ Campus Life

Student and faculty housing, research and development, civic & open space





BIRD'S EYE VIEW OF  
**DENVER, COLORADO, 1908**  
Looking South from Twenty-Third Street Viaduct



# Campus in the City



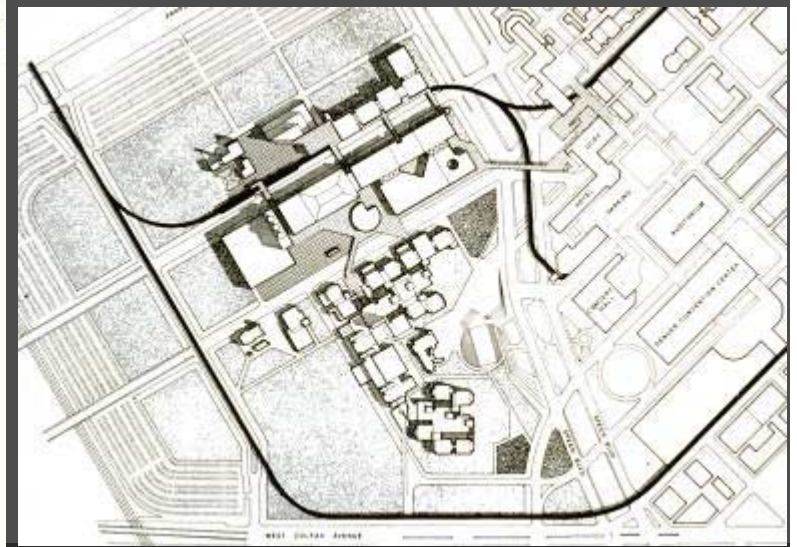
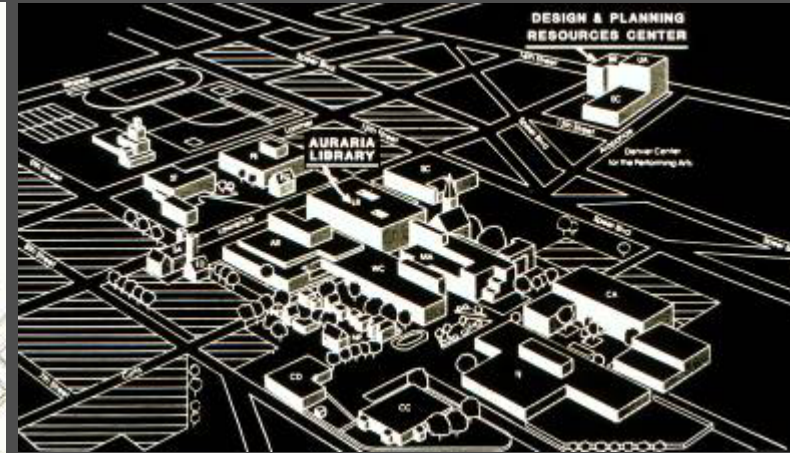
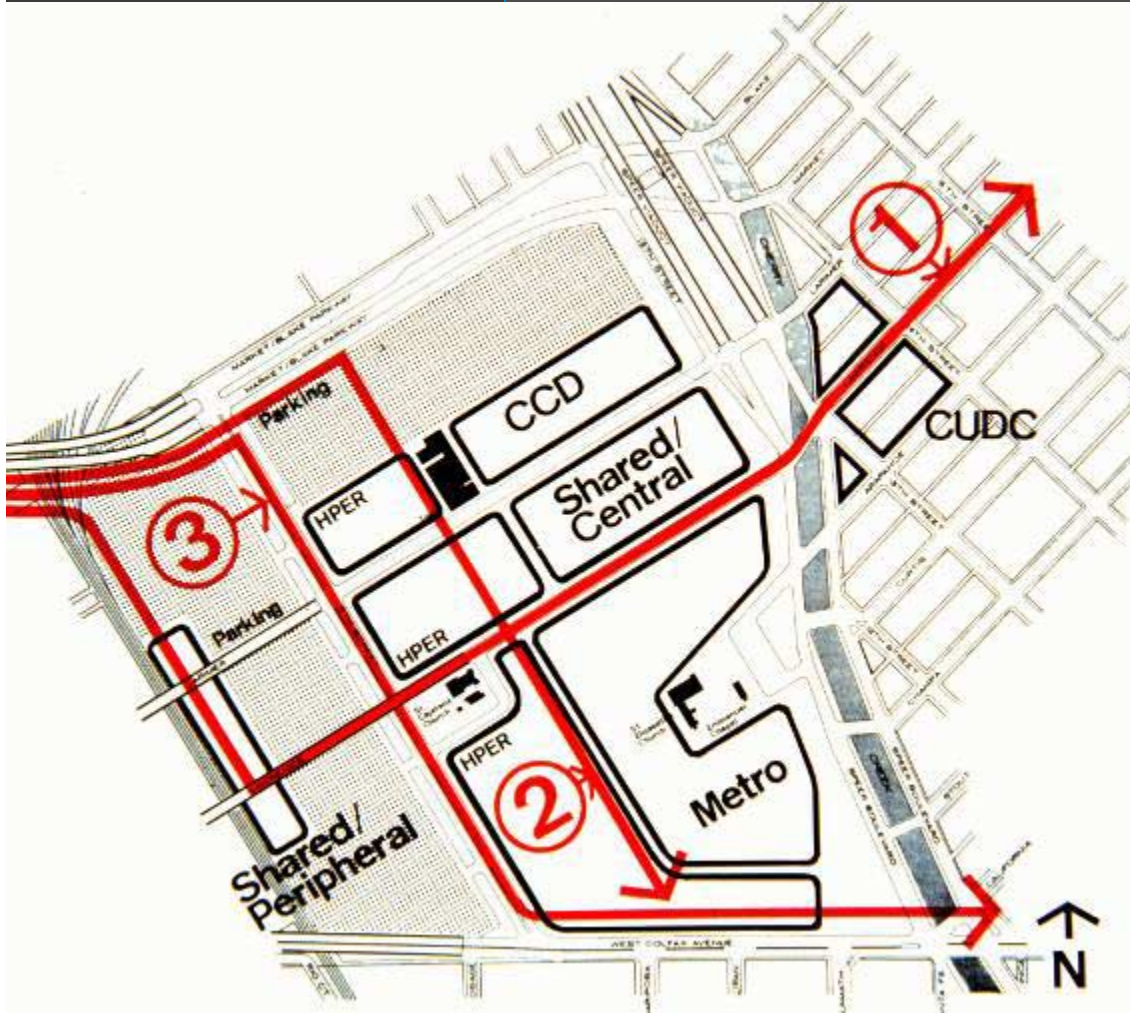
# Auraria - Before 1970



# Auraria - 1975



# AHEC - 1971

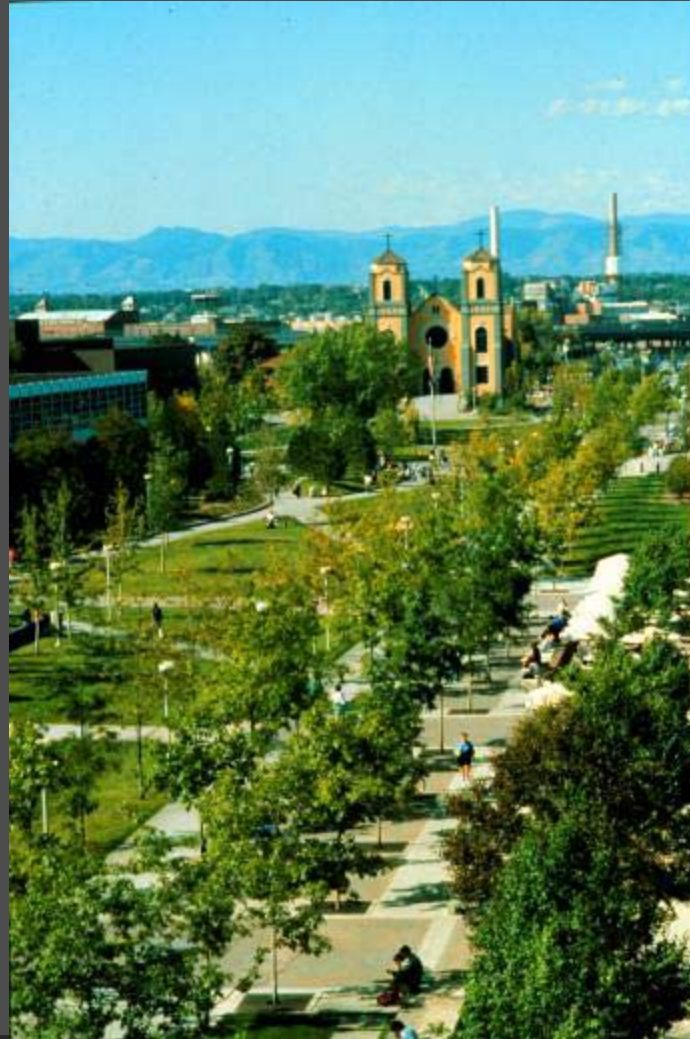




# Campus in the City



# Campus in the City

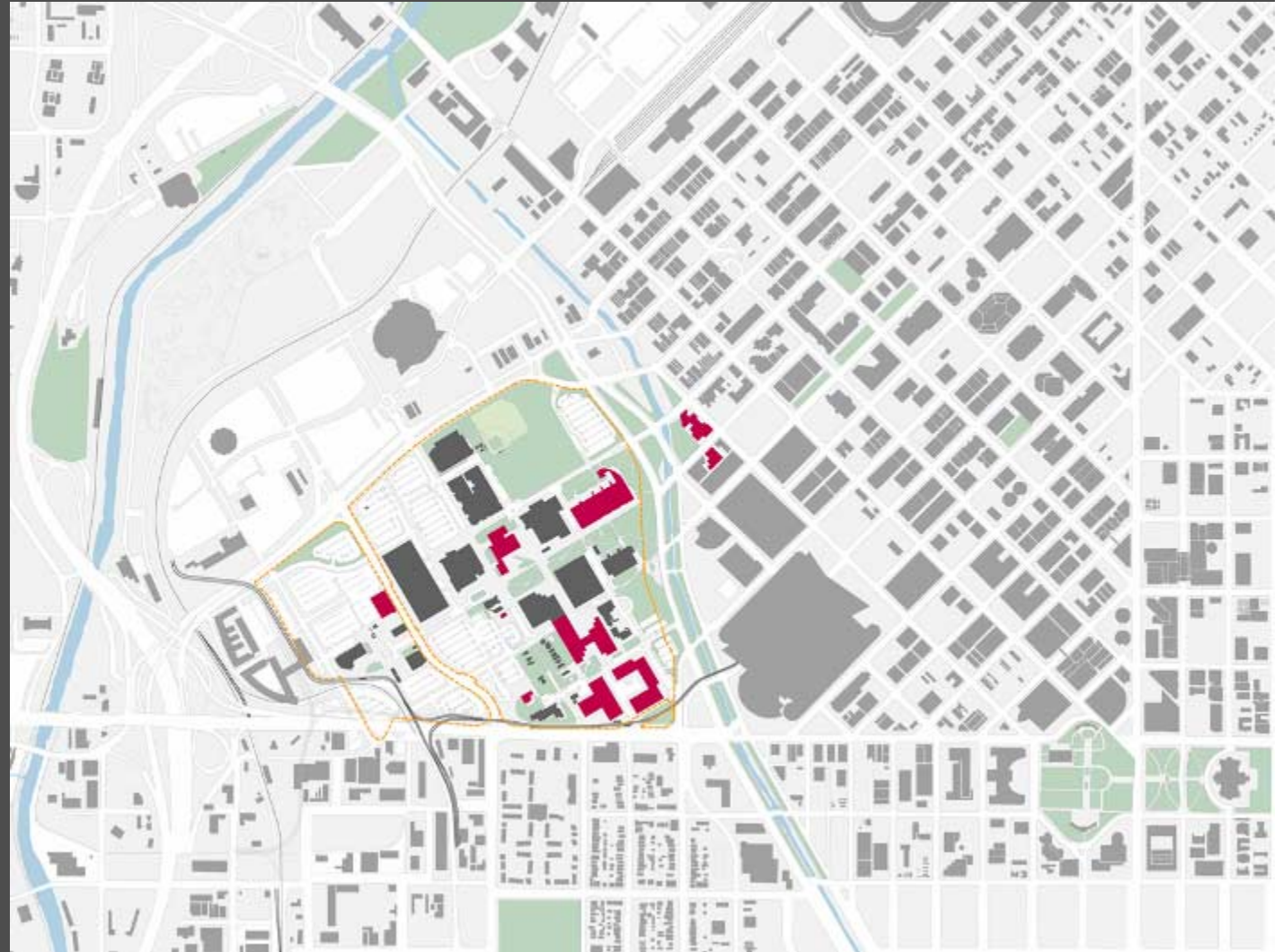


# Diversity of Use



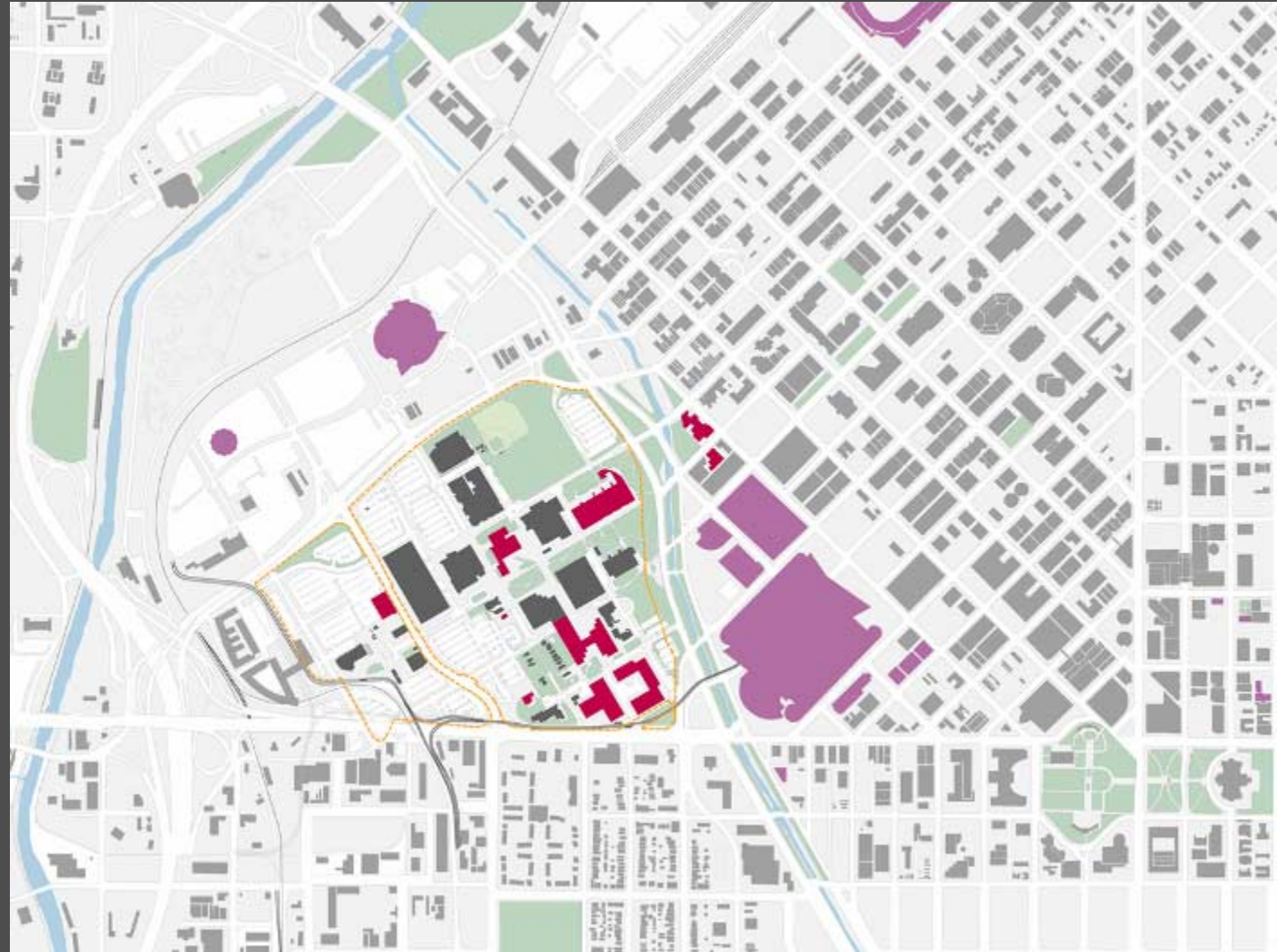
# Diversity of Use

- Academic



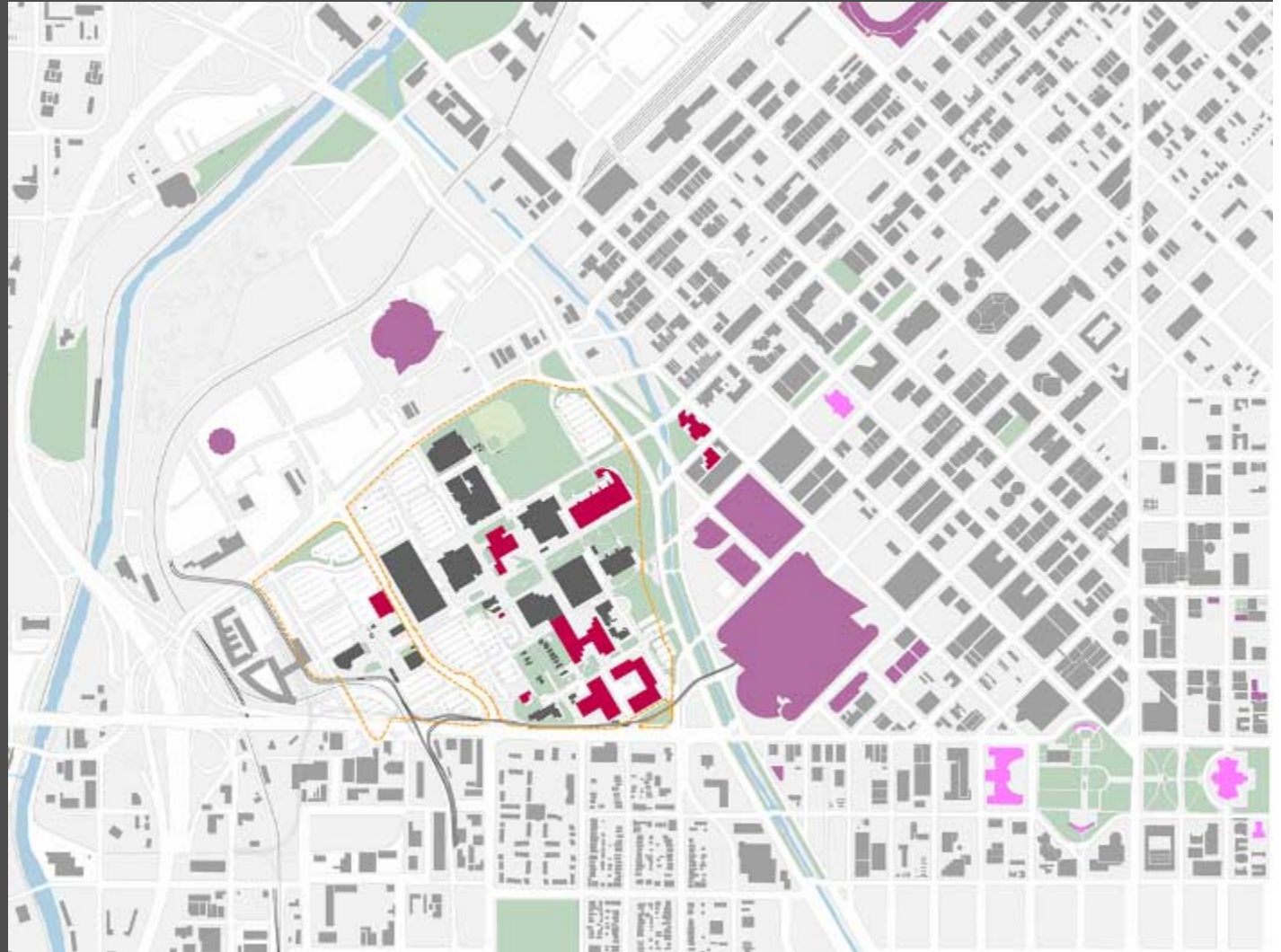
# Diversity of Use

- Academic
- Cultural



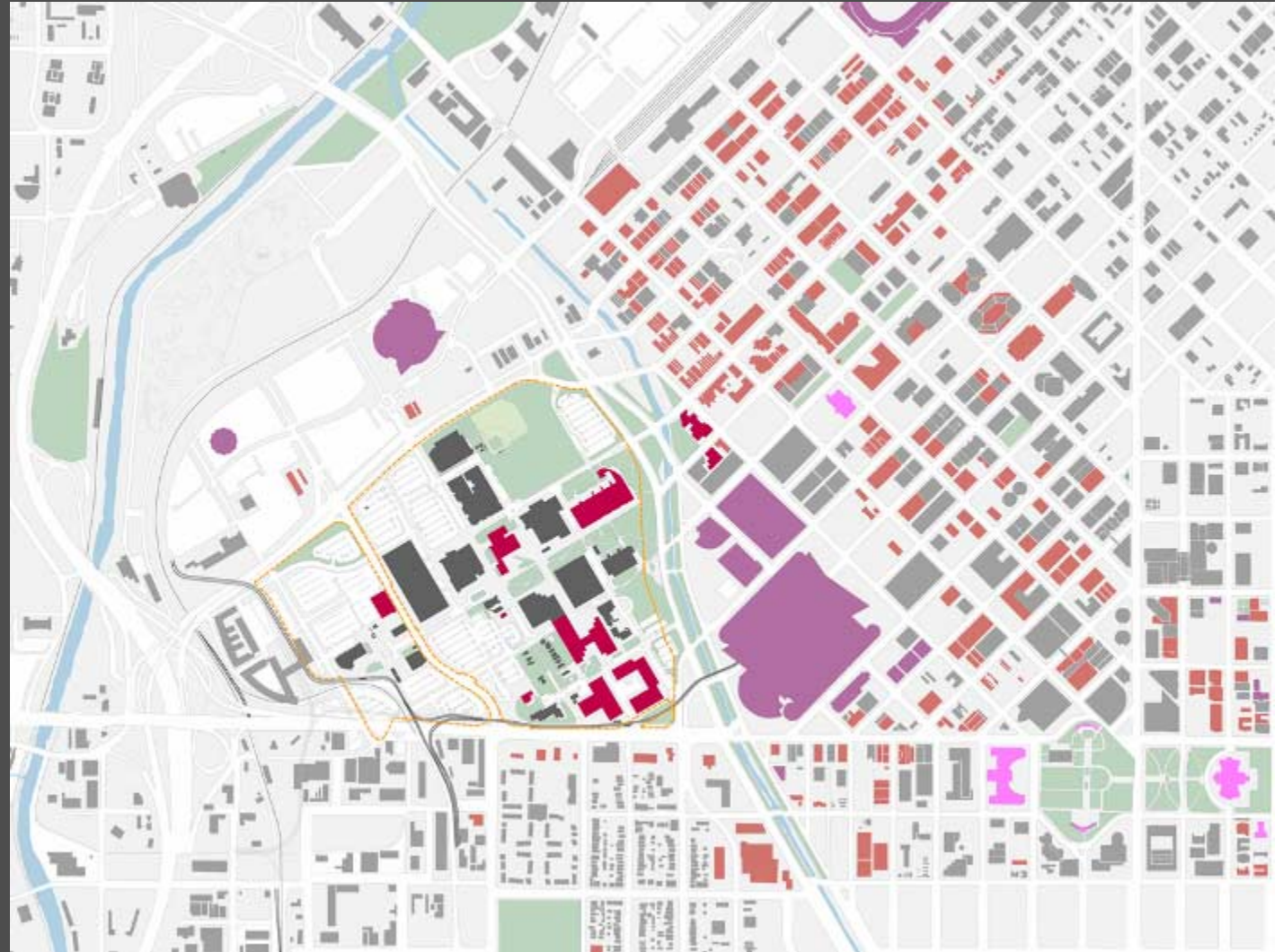
# Diversity of Use

- Academic
- Cultural
- Government



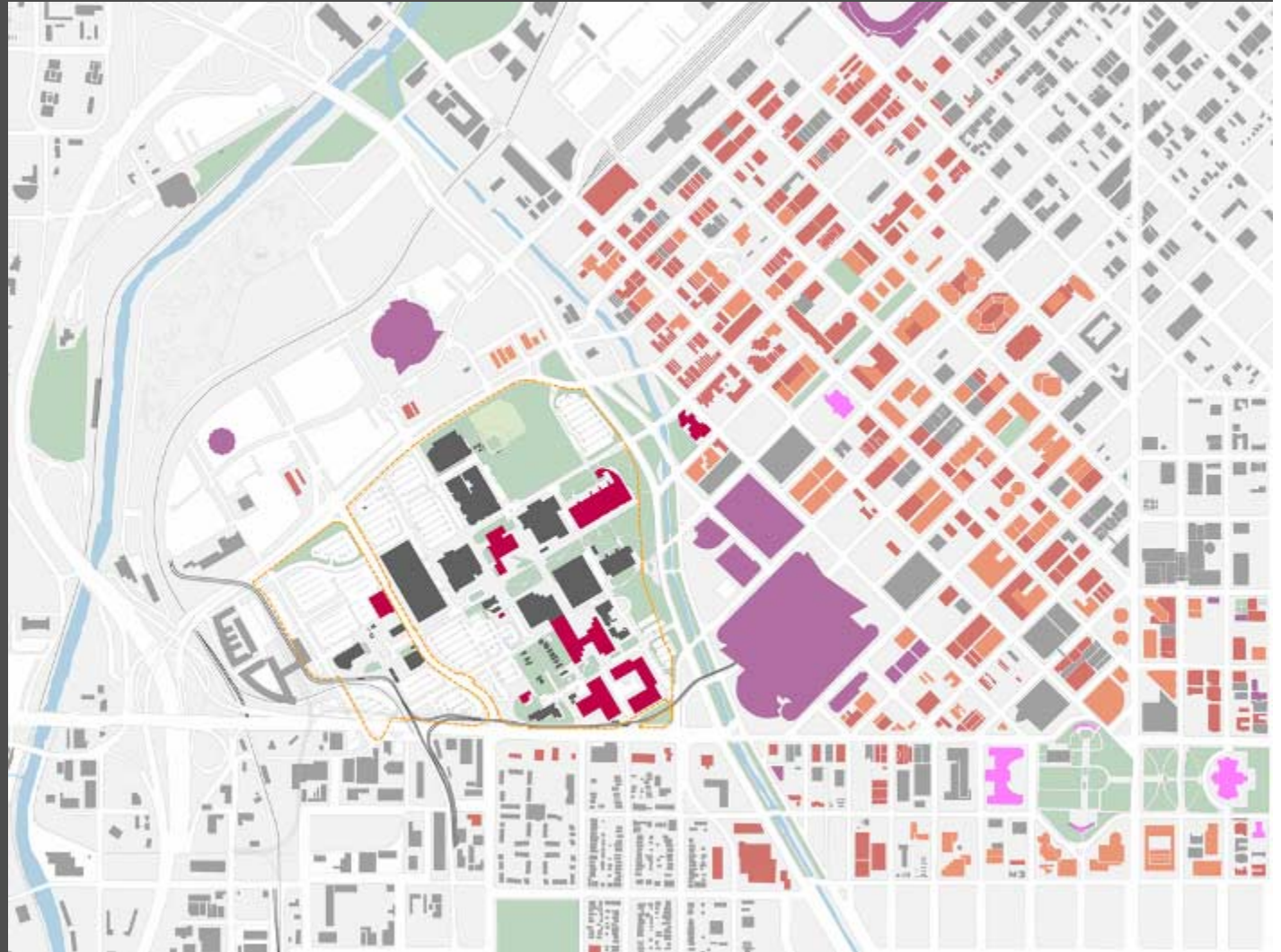
# Diversity of Use

- Academic
- Cultural
- Government
- Retail



# Diversity of Use

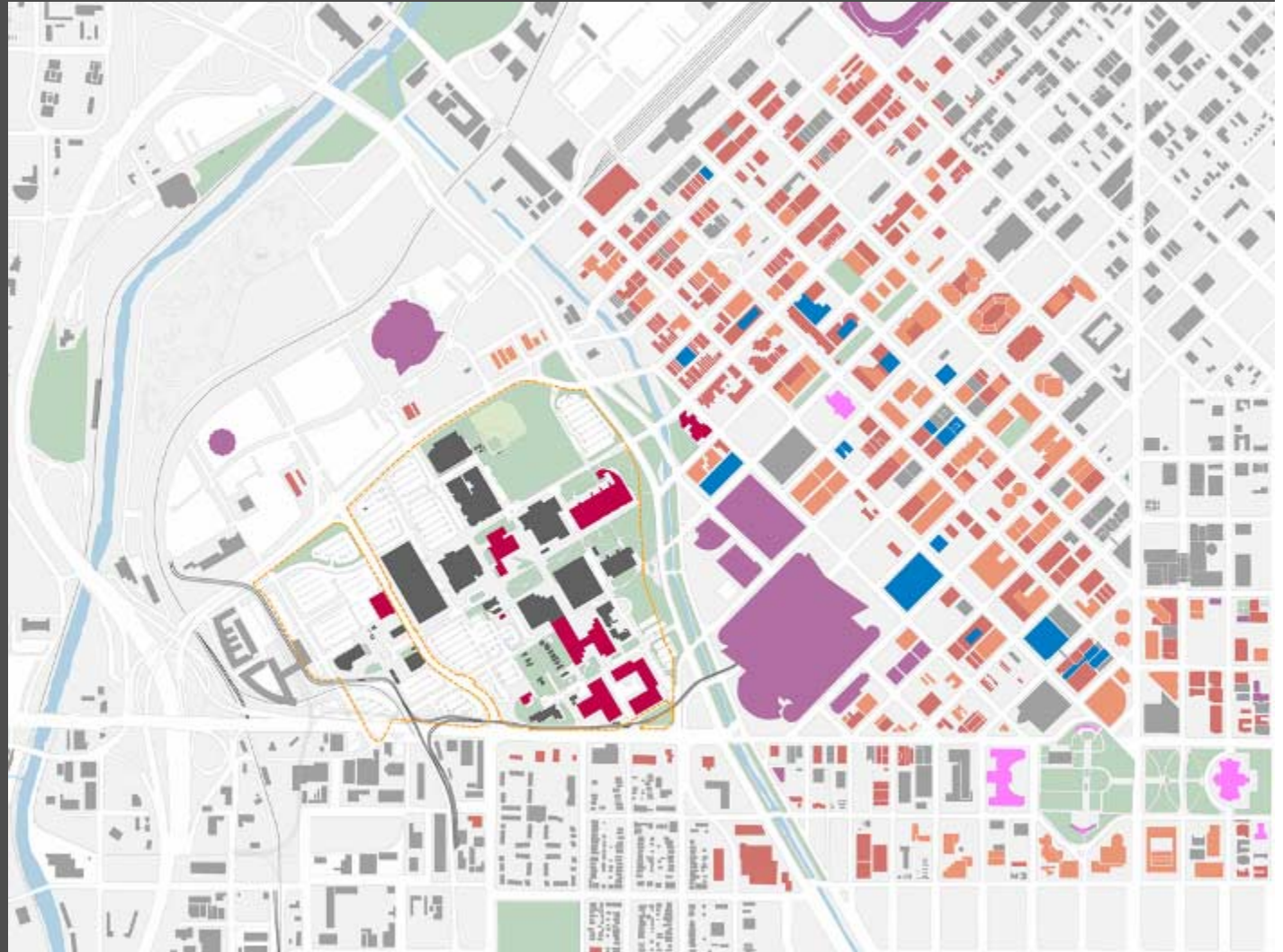
- Academic
- Cultural
- Government
- Retail
- Commercial





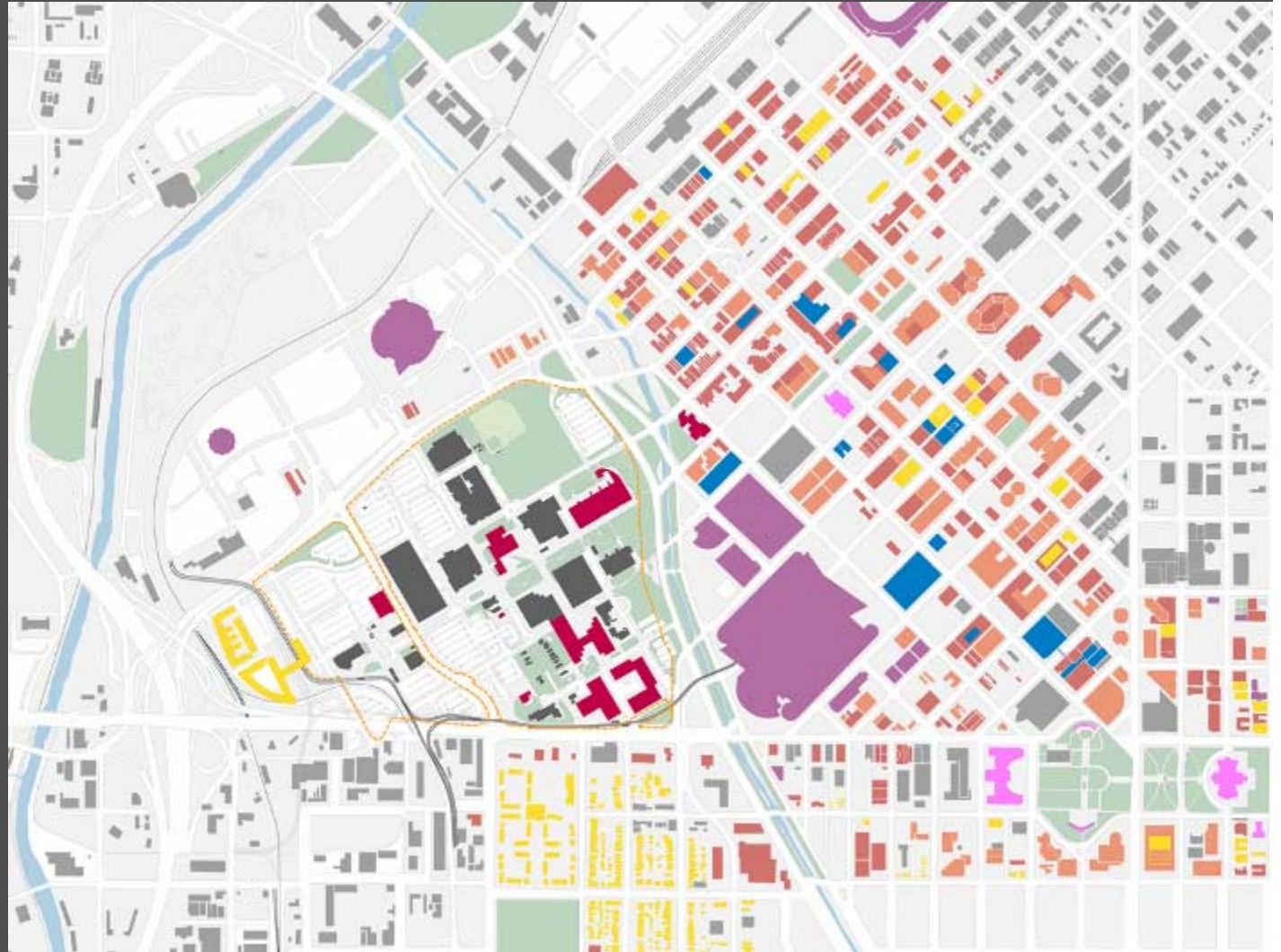
# Diversity of Use

- Academic
- Cultural
- Government
- Retail
- Commercial
- Hotels



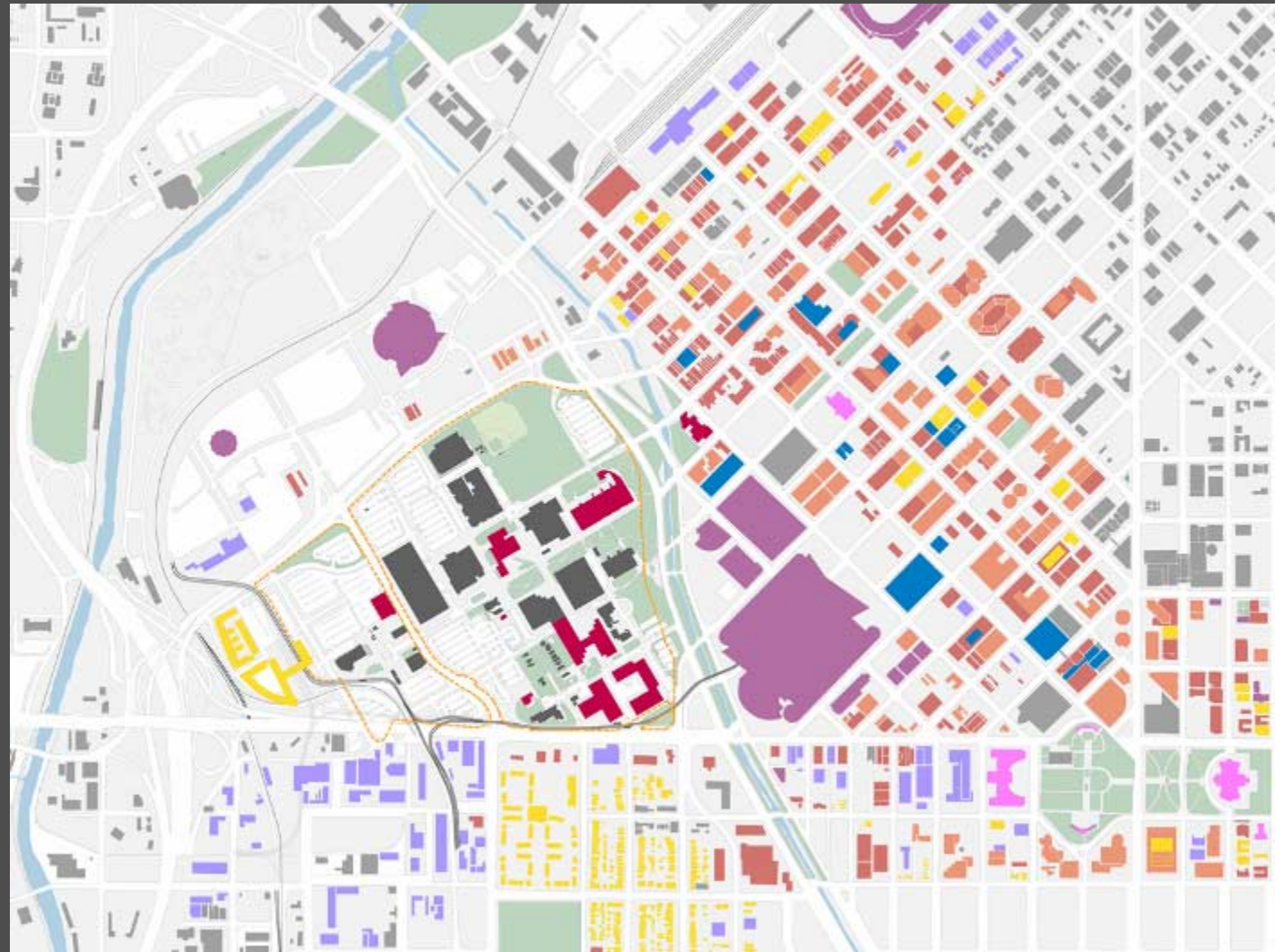
# Diversity of Use

- Academic
- Cultural
- Government
- Retail
- Commercial
- Hotels
- Residential



# Diversity of Use

- Academic
- Cultural
- Government
- Retail
- Commercial
- Hotels
- Residential
- Industrial



# Access and Connections

- Transit



# Access and Connections

- Transit
- Bikes



# Access and Connections

- Transit
- Bikes
- Vehicular



# Access and Connections

- Transit
- Bikes
- Vehicular
- Parking



# Access and Connections

- Transit
- Bikes
- Vehicular
- Parking
- Open space systems





## Sustainability

- How can AHEC become a model of sustainability?
- What strategies can AHEC employ to embrace the recently approved "Denver Greenprint" 2006?

# Greenprint Denver Action Agenda

Greenprint Denver can be applied to the planning process for AHEC to guide sustainability efforts.



①

energy and emissions

②

natural resource stewardship

③

materials and waste mgmt

④

land use and transportation

⑤

community and economic development

⑥

communications

## goal ①

## energy and emissions

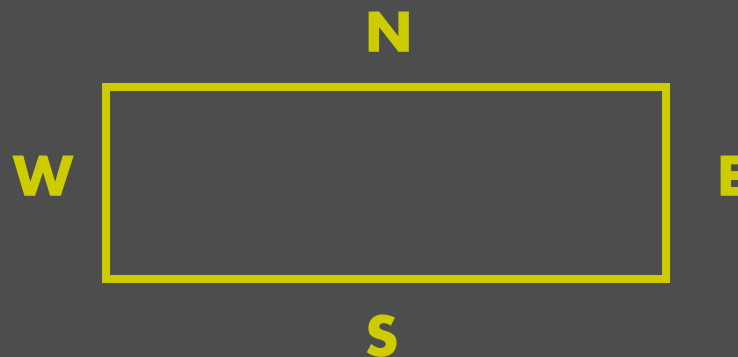
City goal : reduce greenhouse gas emissions by 10%

**AHEC:**  
Orient buildings and open spaces to climate

Pursue opportunities: photovoltaics and solar hot water heating

- eastern sides receive morning sun
- western sides receive afternoon sun
- north facing slopes receive minimal sun
- south facing slopes receive maximum sun

**The most favorable outdoor microclimate is on the middle-to-upper part of a slope with landscaped protection from northern polar winds.**



*BP Gas Station Canopy, Denver*

PV is cost-effective at today's prices of about \$6 to \$7 per watt.



*Building Integrated Photovoltaics*

Daily Solar Radiation for  
02 November  
Denver Work Session

8.0 kWh/m<sup>2</sup>/day

U3 Ventures



S A S A K I

## goal ②

### natural resource stewardship

City goal: reduce irrigation inefficiency by 50%

**AHEC:**  
Plan xeric and native vegetation

Improve water conservation

Innovate with stormwater management

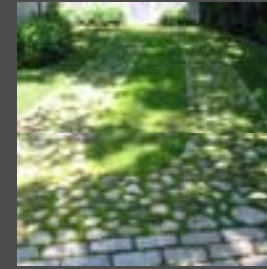
groundwater

surface water

reservoir

stormwater

reduce runoff containing pesticides & auto waste to protect water quality in cherry creek.



research shows approximately 10% impervious area typically yields demonstrable degradation to water quality.

- **Turf grass**
- **On-site stormwater mgmt**
  - Biofiltration, swales, porous pavement
- **Green roofs**
- **Drought-tolerant planting**

## goal ③

# materials and waste management

City goal:  
increase  
recycling by 50%

AHEC:  
Use regionally  
available building  
materials

Enhance  
procurement and  
recycling

consider existing composition of solid waste and identify sources of reduction through a waste stream audit.

consider a sustainable purchasing program which utilizes **rapidly renewable** materials, **salvaged** materials, or **post-consumer recycled** materials.



## goal 4

### land use and transportation

City goal: people  
oriented  
development

Reduce auto  
dependence

Design for  
pedestrians and  
bicyclists

Enhance density  
near transit

- Design **walking and biking paths** that traverse the campus, link the built environment with the natural environment, link with the Cherry Creek Trail, and link AHEC with downtown Denver.



- Improve **pedestrian safety** along Speer Avenue
- Improve **linkages** with the South Platte Trail
- Improve cross campus linkages and **bike circulation** at the periphery of the campus core
- Reduce parking** in campus core

## goal 5

### community and economic development

City goal: job creation and workforce development

**AHEC:**  
Improve physical connections to downtown and across Colfax

Develop workforce - oriented learning opportunities



- Identify economic connections with the downtown.
- Refer to existing City street design guidelines for Colfax Avenue
- Maintain natural beauty.
- Create visually appealing architecture and landscape
- Extend historical land use patterns
- Maximize the use of the civic arena

## goal 6

### communications

City goal: train and build capacity

**AHEC:**  
Develop on-campus education: AHEC as a laboratory

Form corporate partnerships, be visible as a player in the City initiatives



- Oberlin
  - Student Environmental Studies building contains photovoltaics and wastewater
  - Treats 2,500 gallons of wastewater per day for non-potable reuse
  - Students participate in design and maintenance of Living Machine
- University of South Carolina
  - West Quad Housing contains 500 beds
  - LEED certified
  - Students participate in landscaping and native planting
  - Classrooms mixed with residence halls & Center for Sustainable Learning

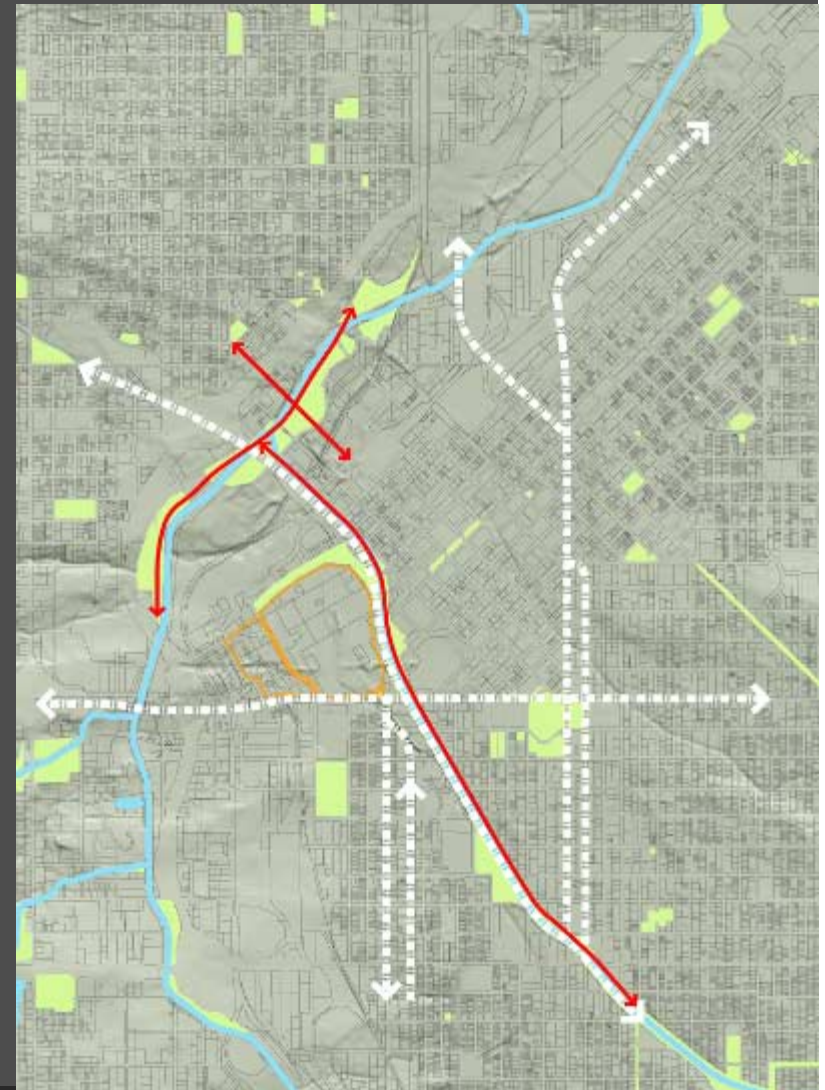


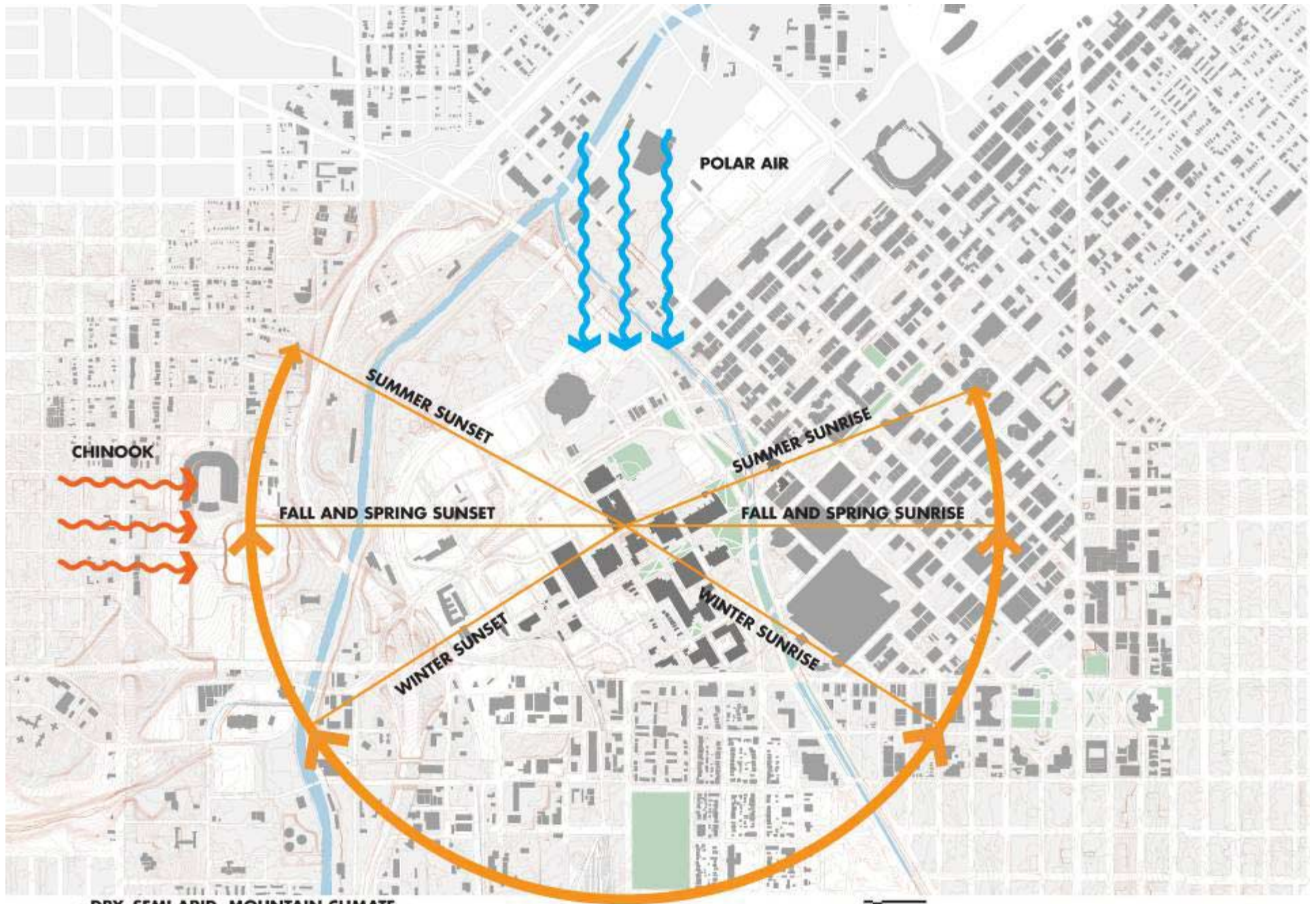


# Sustainability

- Topography and Urban Fabric
- Streams
- Open Space System
- Connectivity

- Bike and Pedestrian
- ..... Major arteries





- DRY, SEMI ARID, MOUNTAIN CLIMATE
- ~300 DAYS OF SUNSHINE
- LARGE DIURNAL TEMPERATURE SWINGS



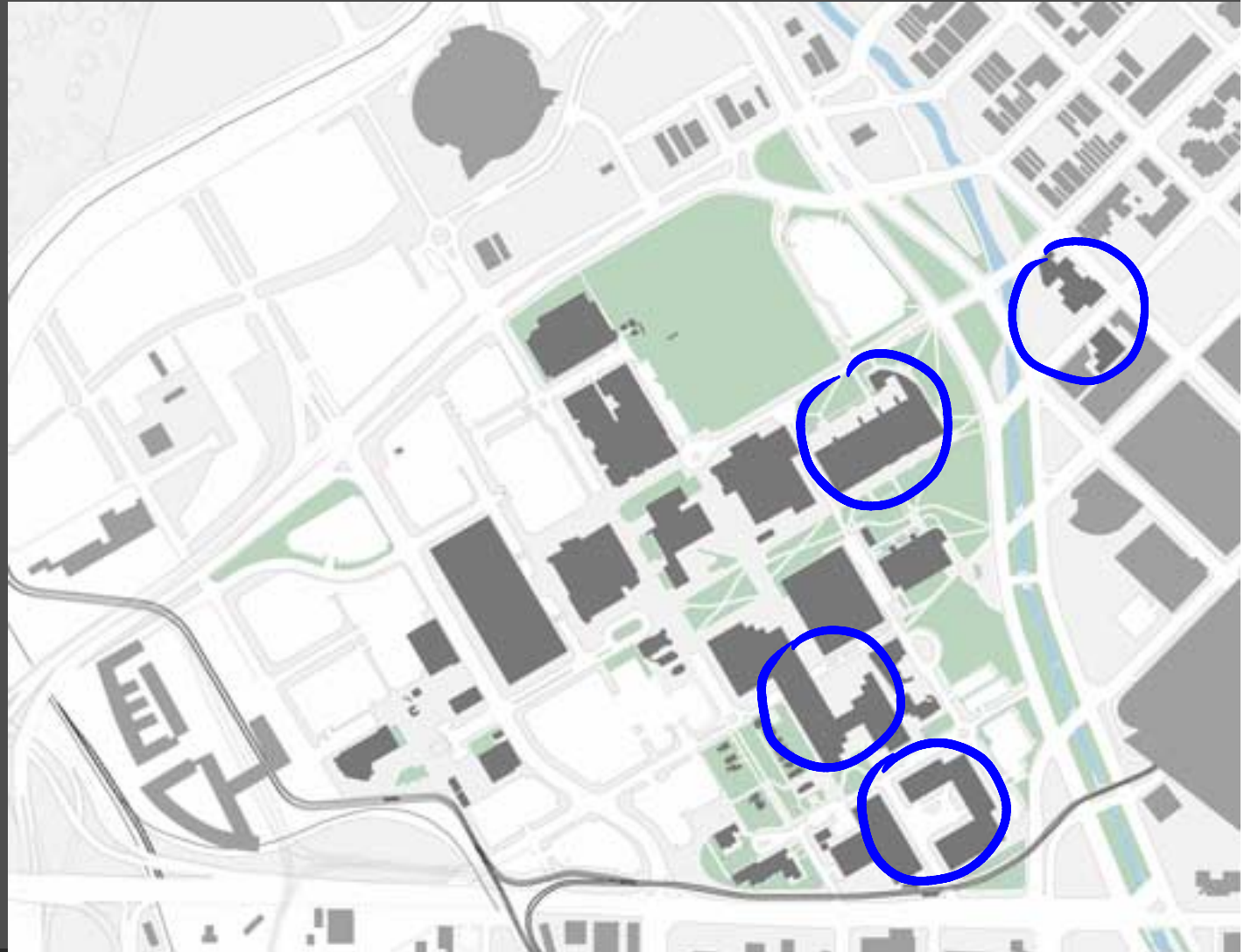
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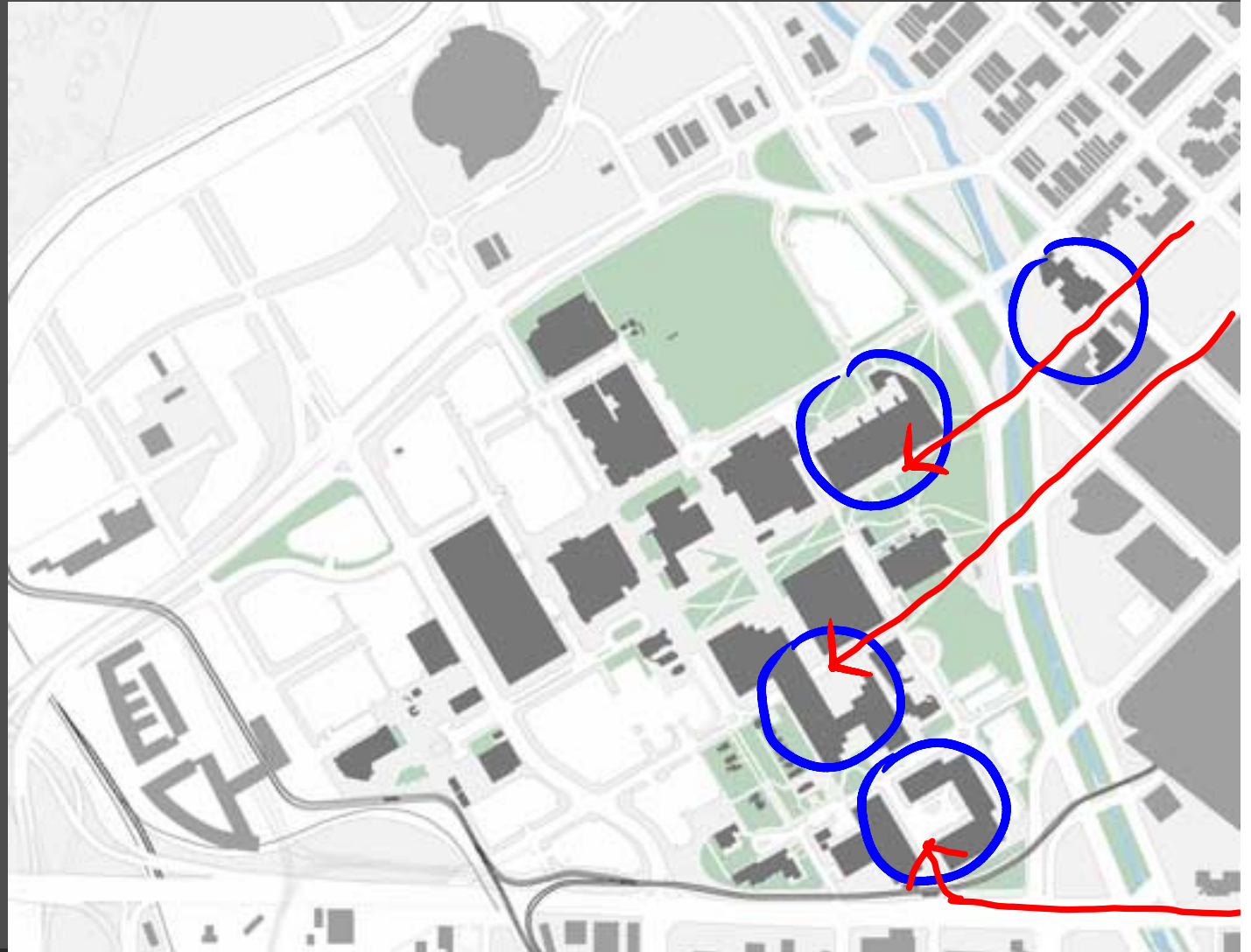
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# Preliminary Concepts

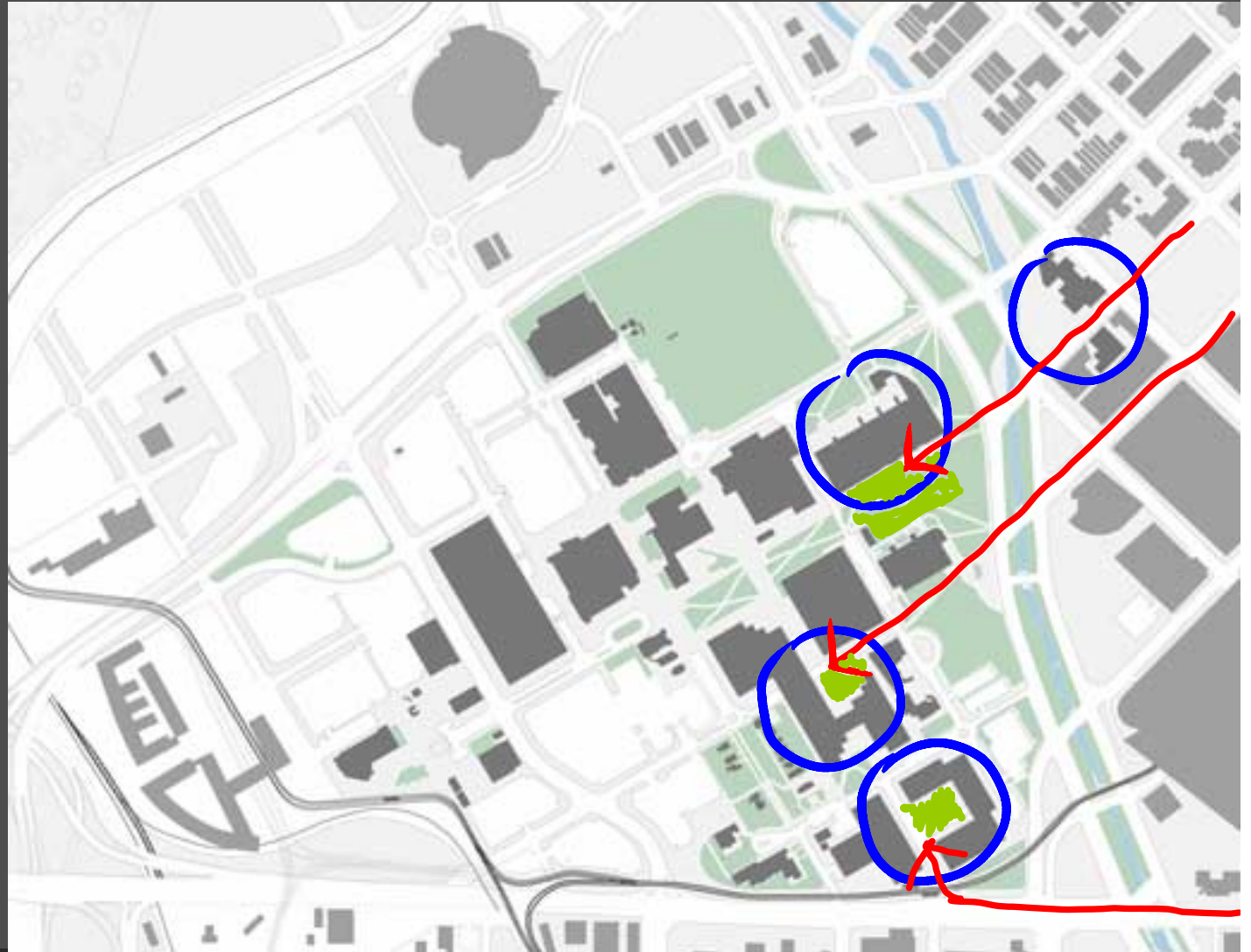
# The Campus Today



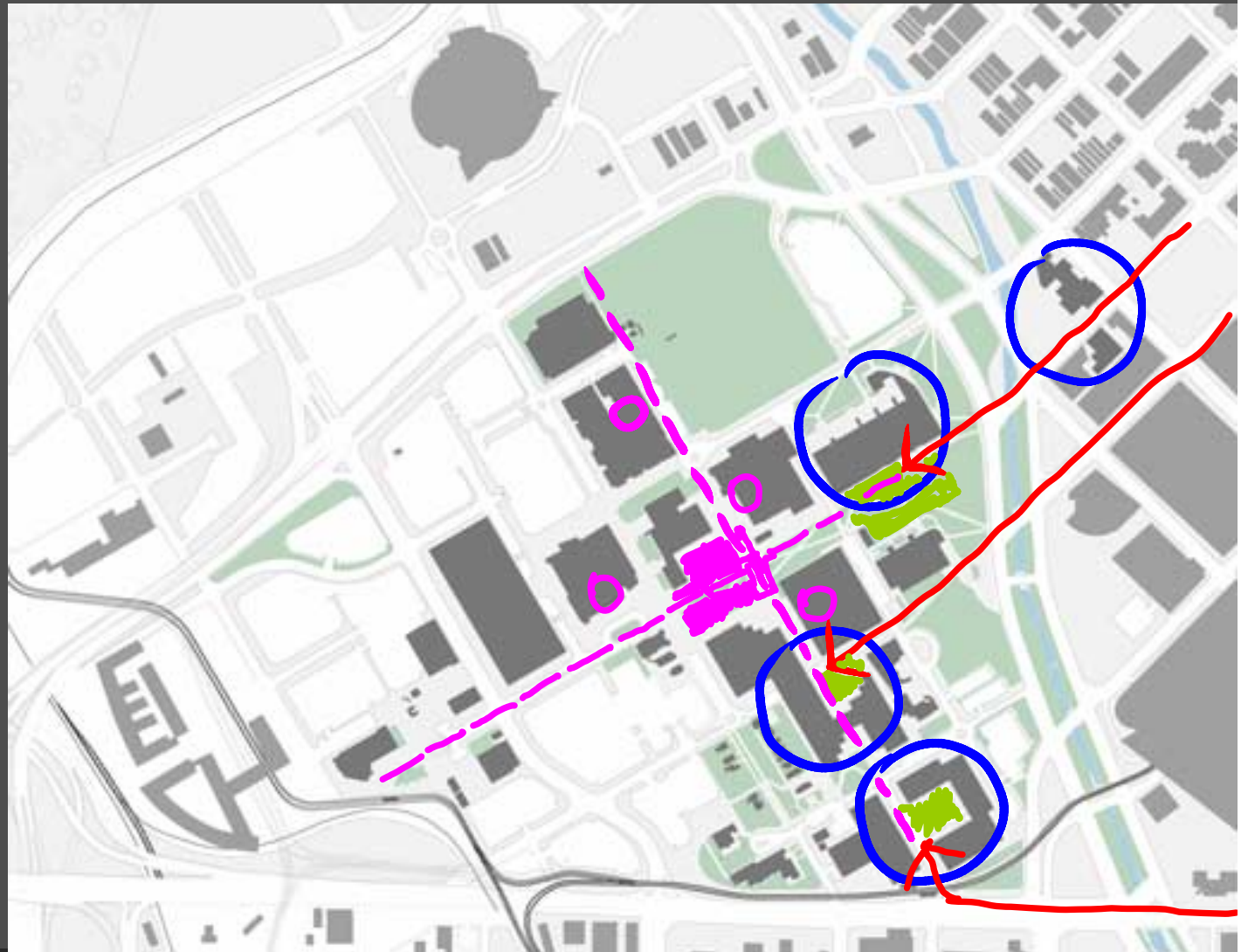
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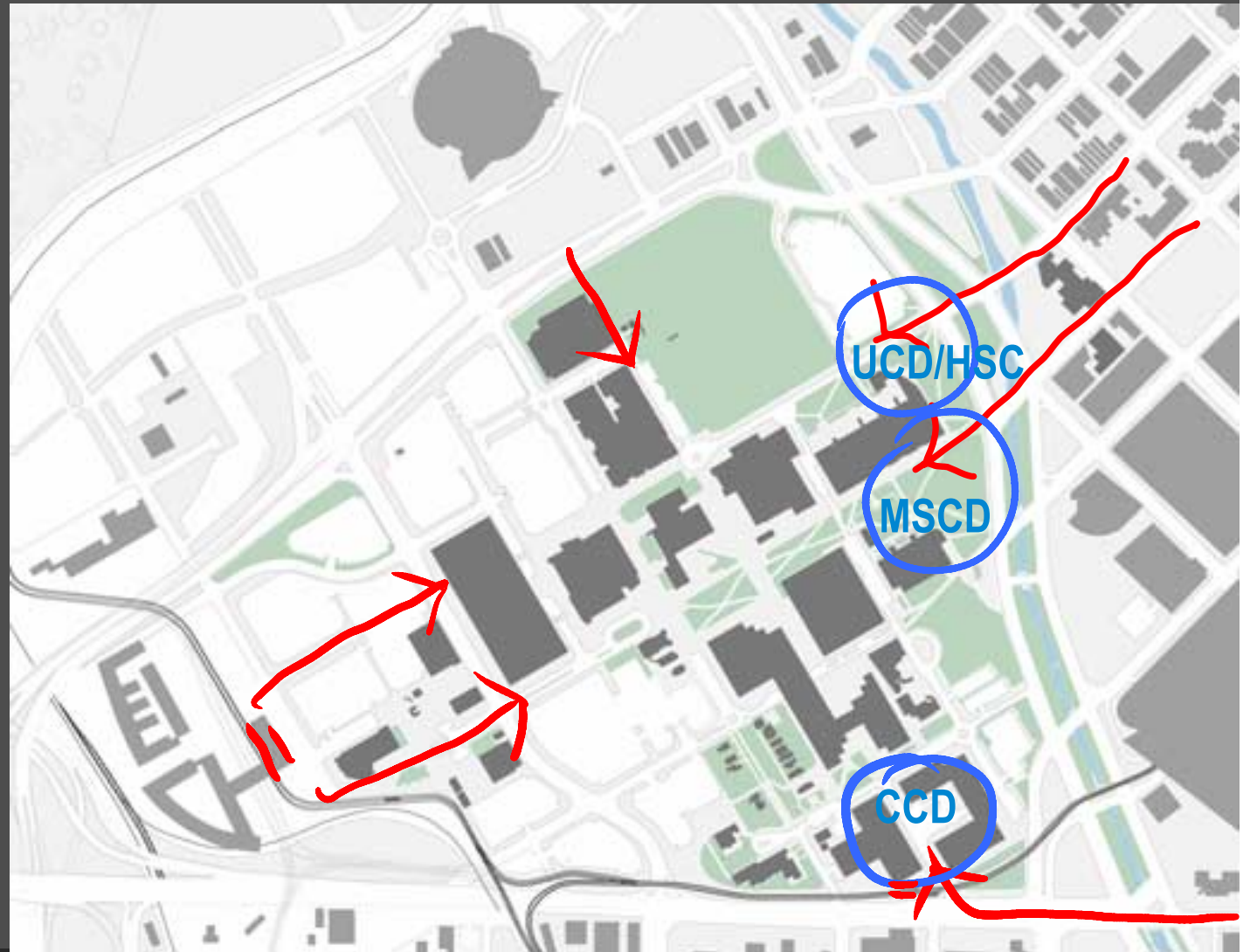




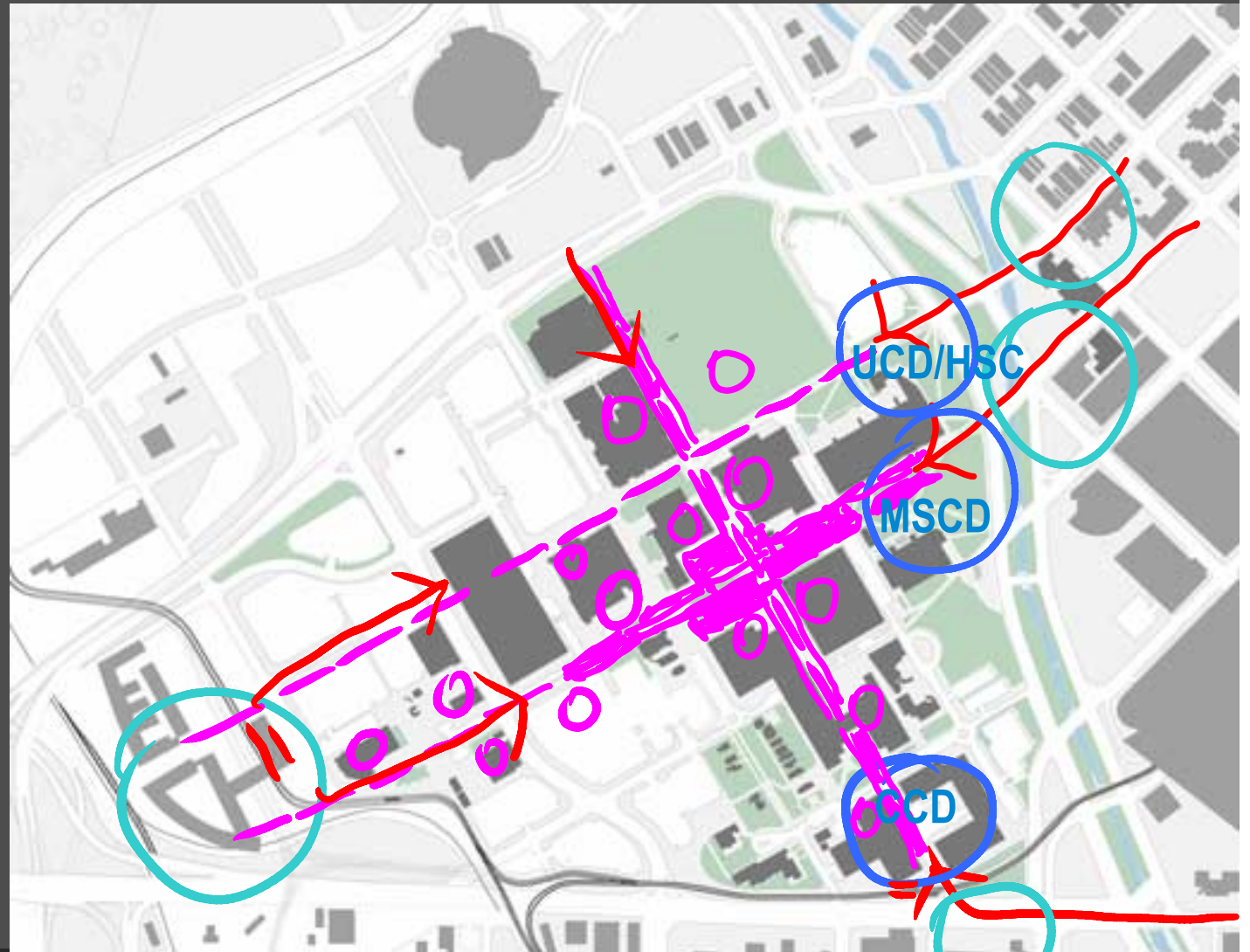
# Concept #1: Bridges to the City



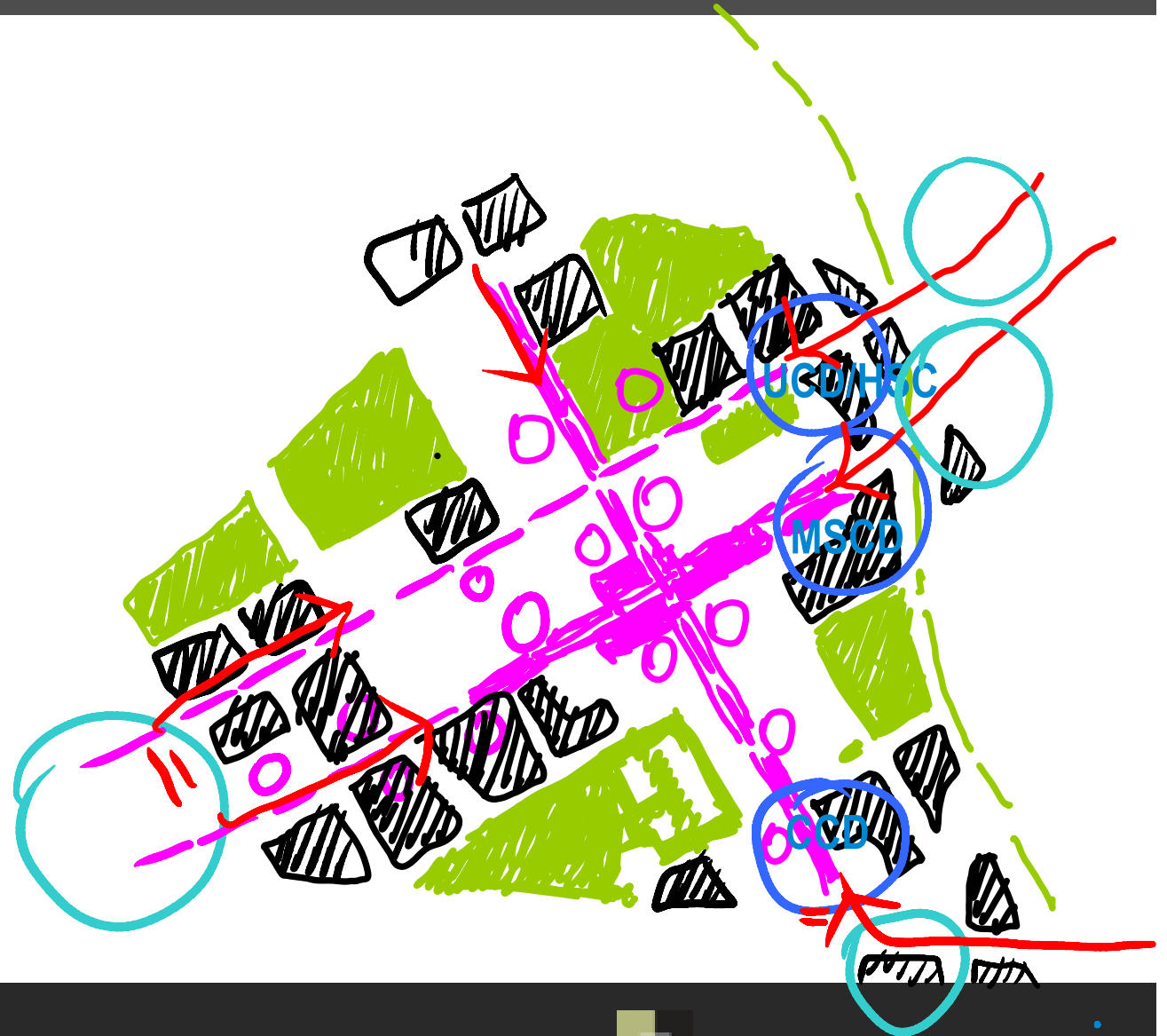
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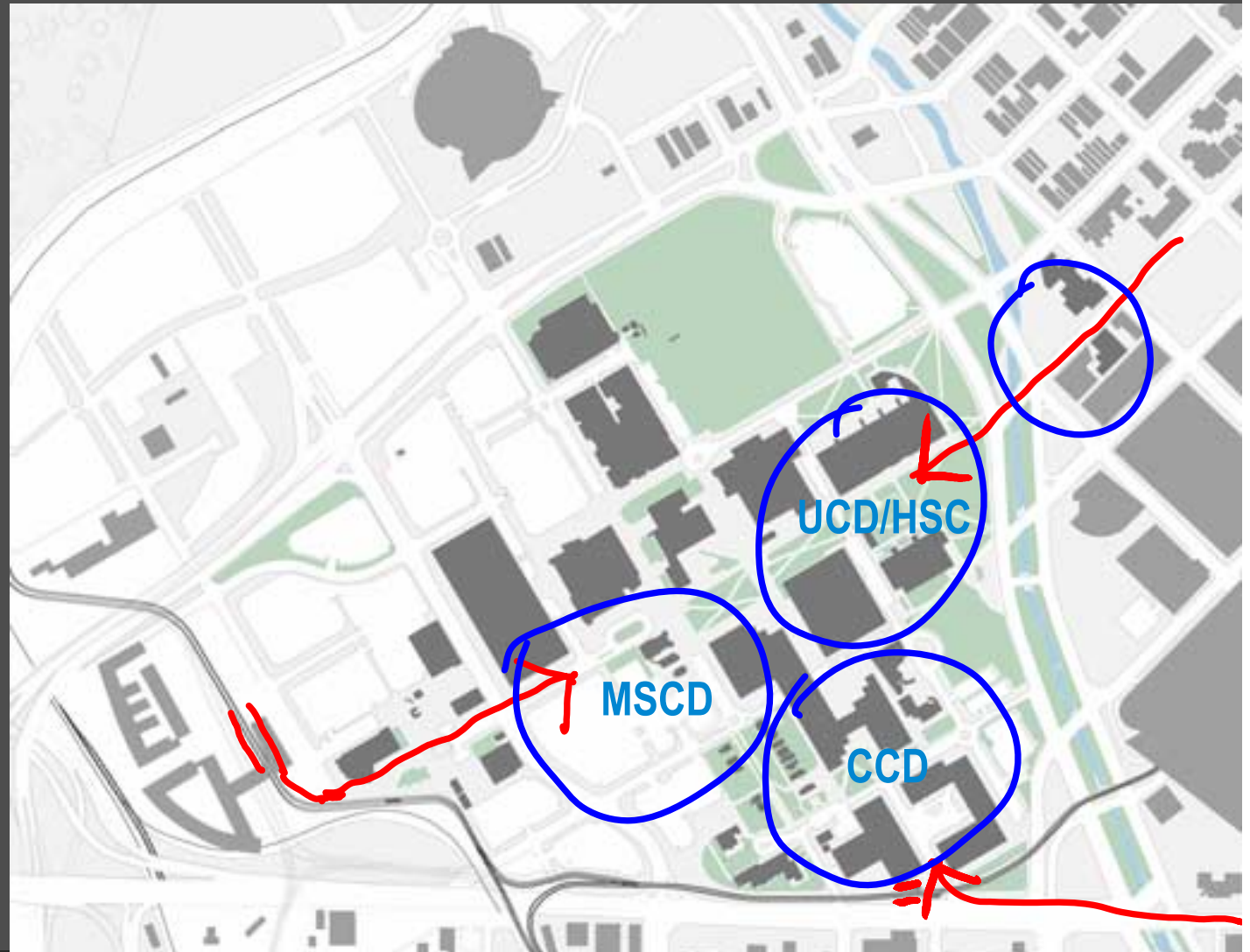
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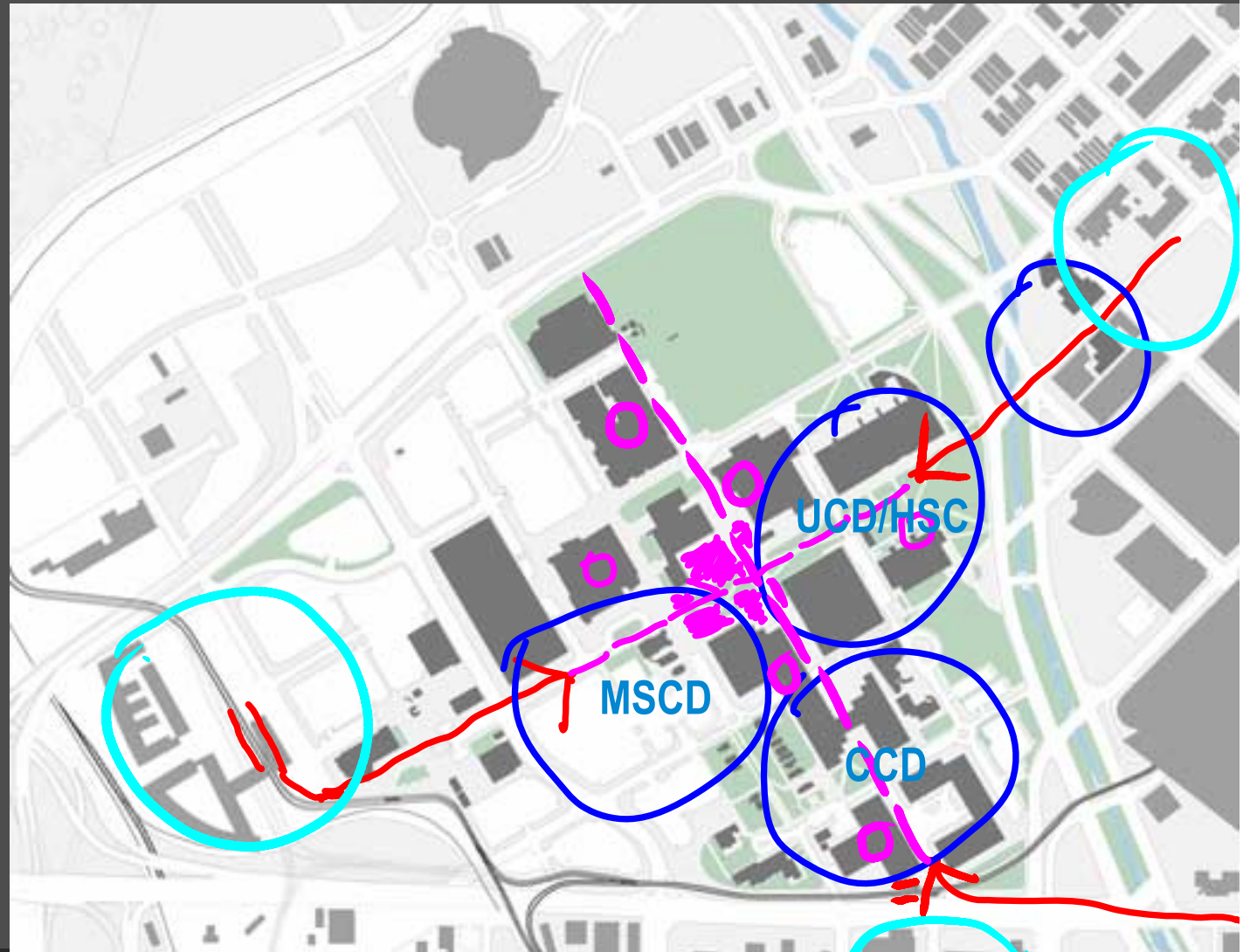
## Concept #2: Campus in a Park



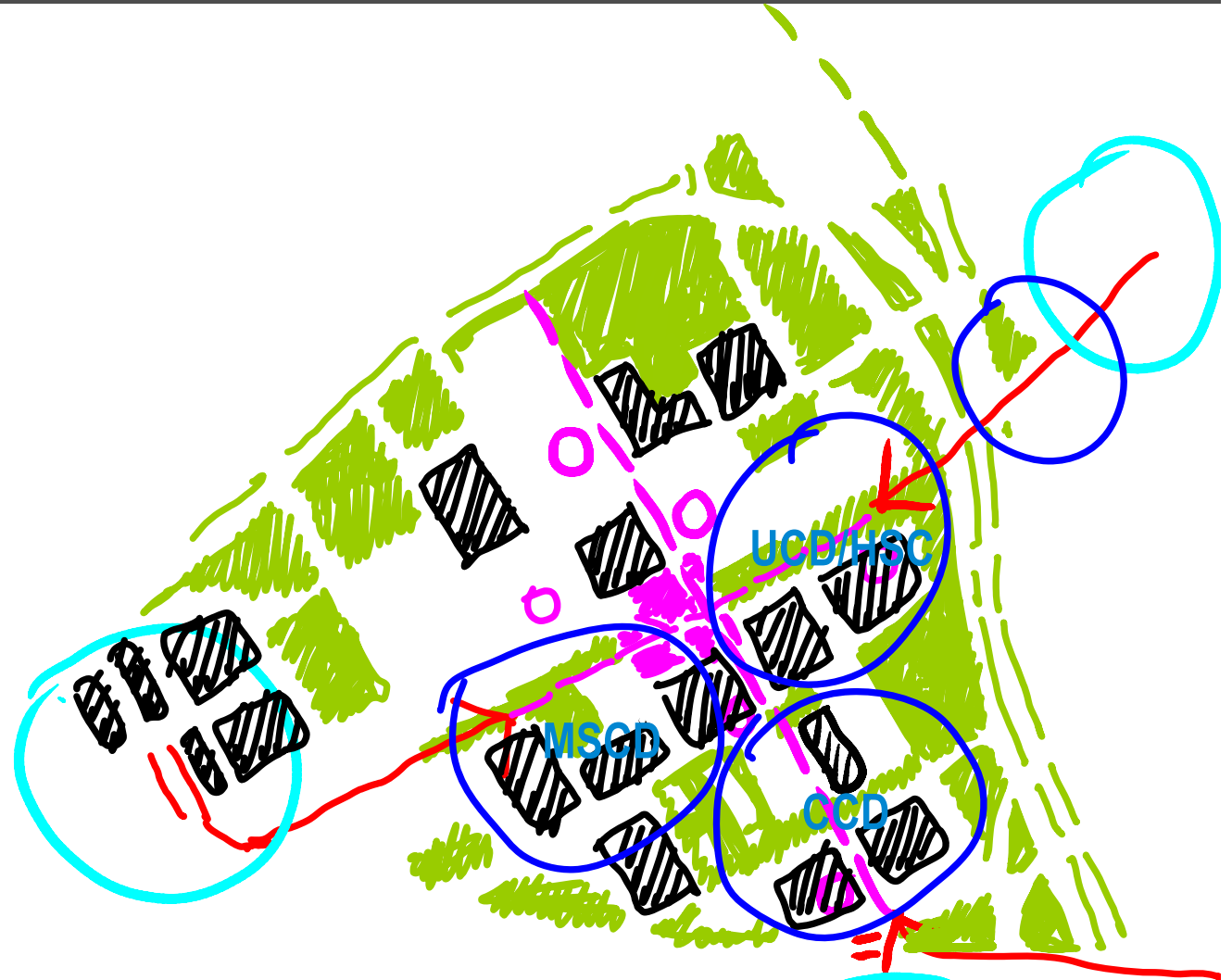
## Concept #2: Campus in a Park



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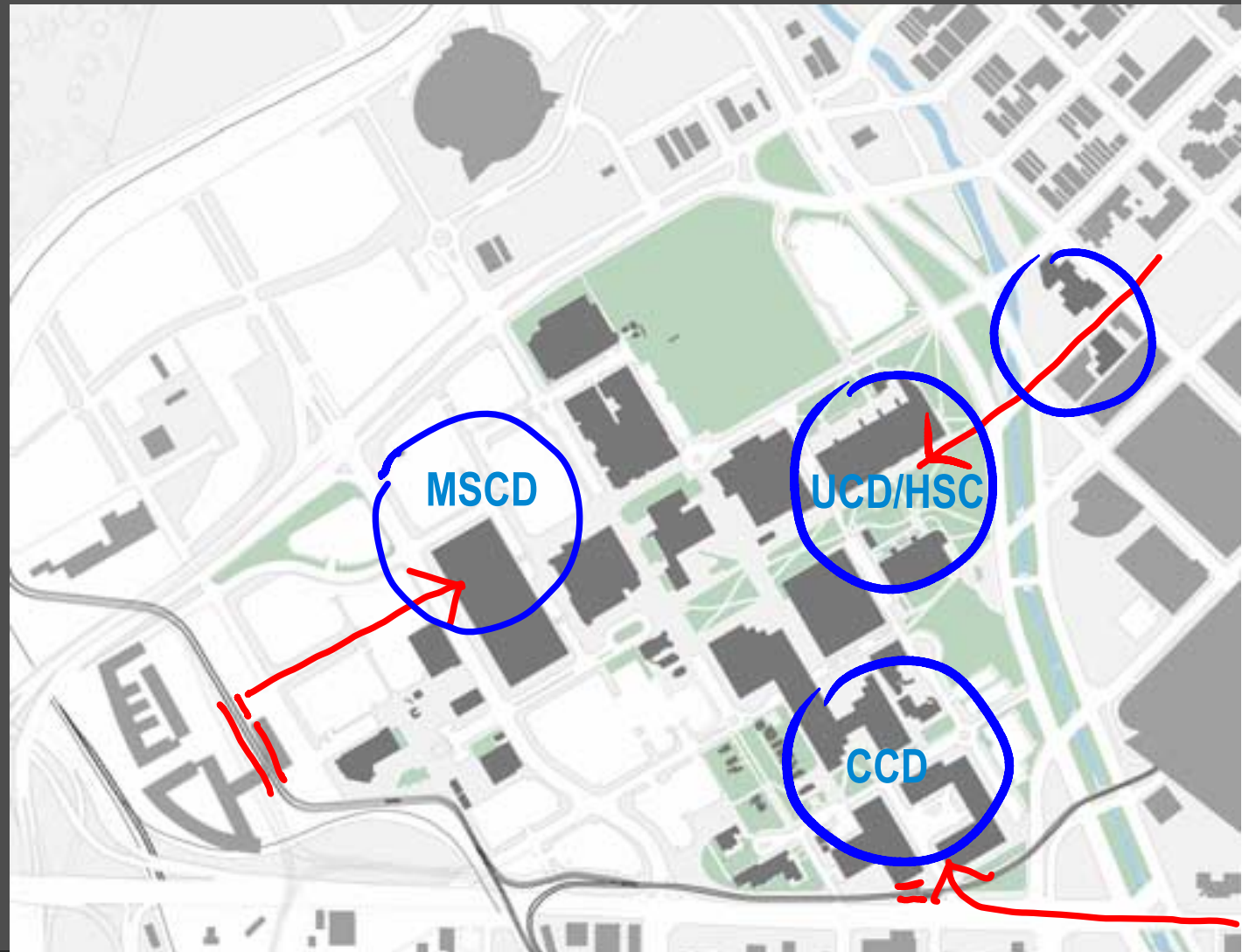




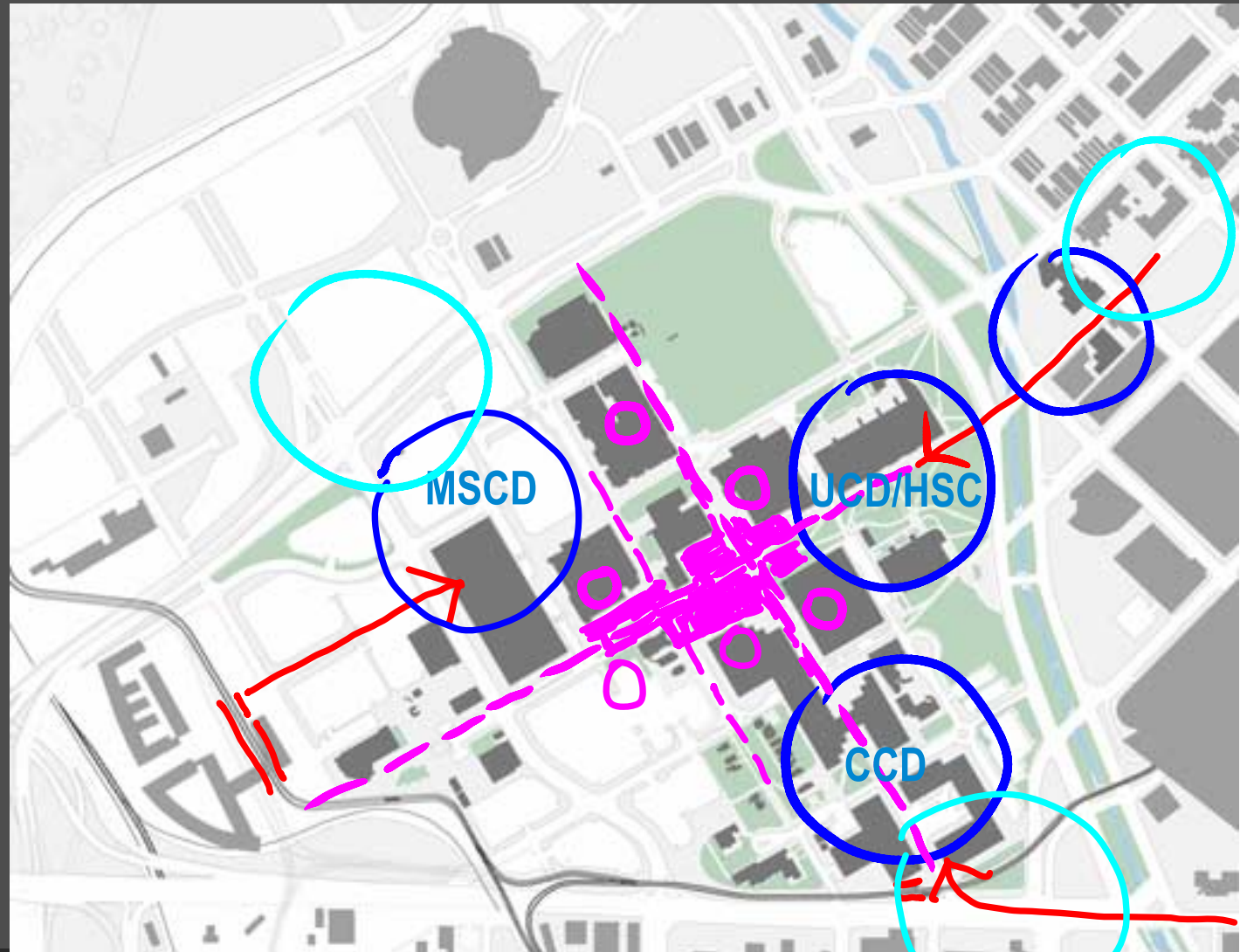
## Concept #3: Campus meets the City



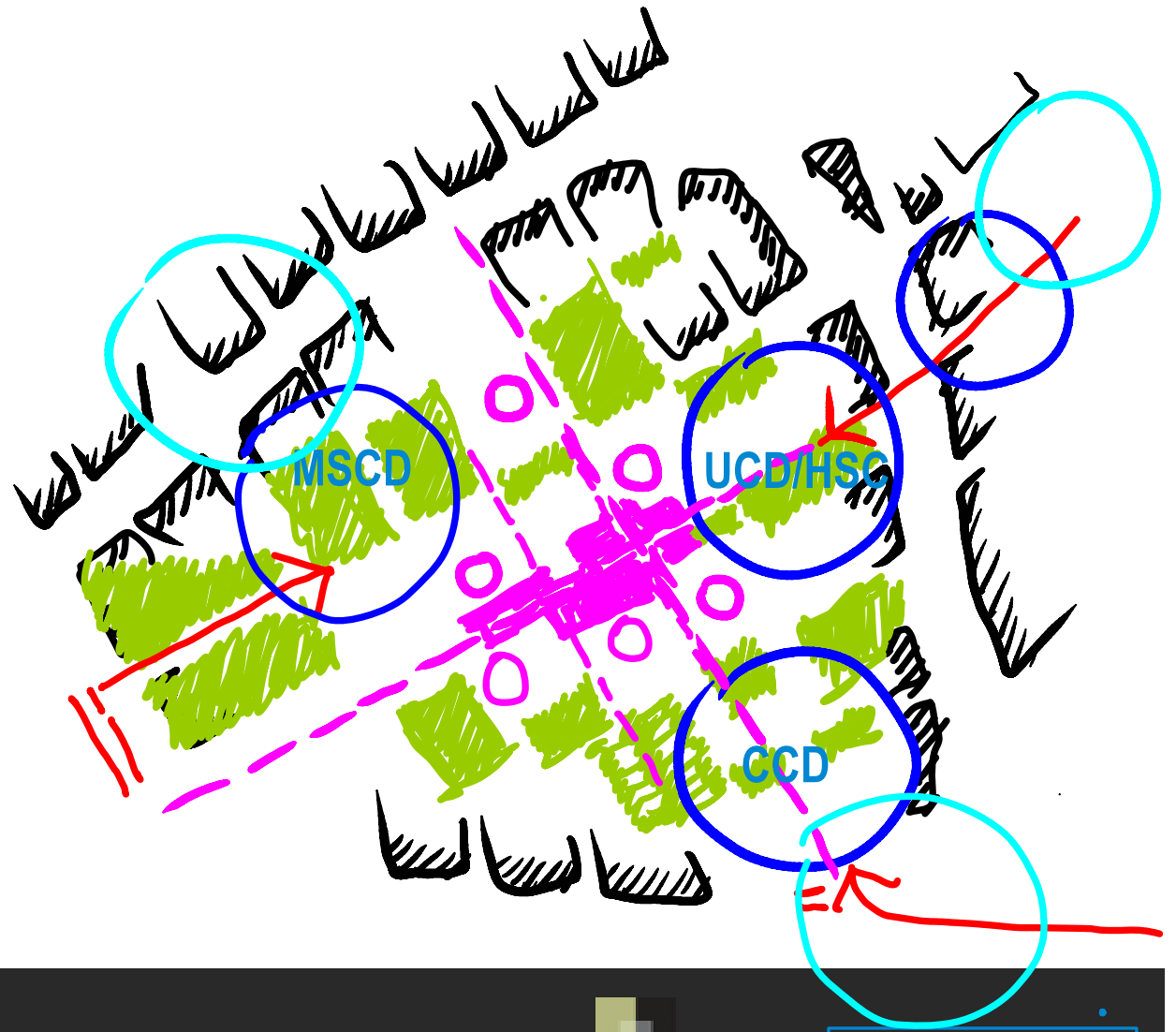
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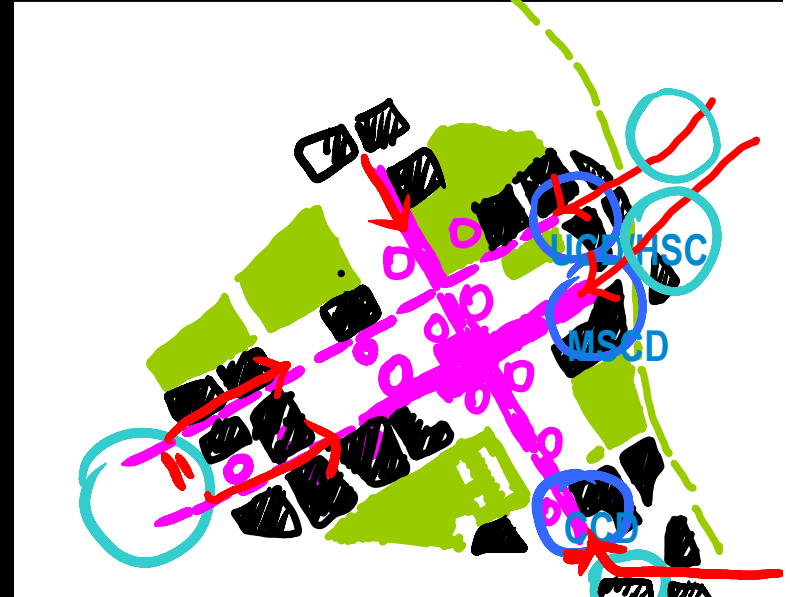
# Concept #3: Campus meets the City



The Campus Today



Concept #1: Bridges to the City



Concept #2: Campus in a Park



Concept #3: Campus meets the City

