



Mixed-Use Intergenerational Community in Mueller, Austin, TX

Final Professional Project Presentation

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Committee Members: Drs. Zhipeng Lu, Dongying Li
Client: We Are All One (WAAO)

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DESIGN ANALYSIS





<https://www.designspiration.com/save/17853509760513/>



INTRODUCTION

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Location Mueller, Austin, Texas
Area 7.5-acre
Client We Are All One (WAAO)

Teaching Retirement System (TRS)
Committee Members: Dr. Chanam Lee
Dr. Zhipeng Lu
Dr. Dongying Li

Landscape Architecture Team Member: Shu Sun

Architecture Team Members: Danielle Wilder
Ruomeng Li

This MLA Final Project is to propose a comprehensive master plan and site designs for **an intergenerational community** that promotes healthy living for people of **all ages**.

Major program elements include a centrally-located intergenerational activity **green space** surrounded by four buildings - a **greenhouse** for seniors, two **intergenerational apartments**, a mixed-used **office building** of Teachers Retirement System (TRS), and a **community center**.

The project is carried out as an **interdisciplinary** team effort collaborating with two Master of **Architecture** students (Danielle Wilder and Ruomeng Li) who provided the architectural designs of the greenhouse and the community center buildings. The master plan incorporates those two fully-designed buildings and the three remaining buildings that only show its approximate location, size, and shape.

MISSION

This mixed-use **intergenerational** living community design project is to provide an **affordable, long-lasting**, and **aging-friendly** environment for people of **all ages**. The overall environment will be designed to protect, develop, and restore **health**. The immediate and potential long-term effects of **COVID-19** will also be considered during the design development process.

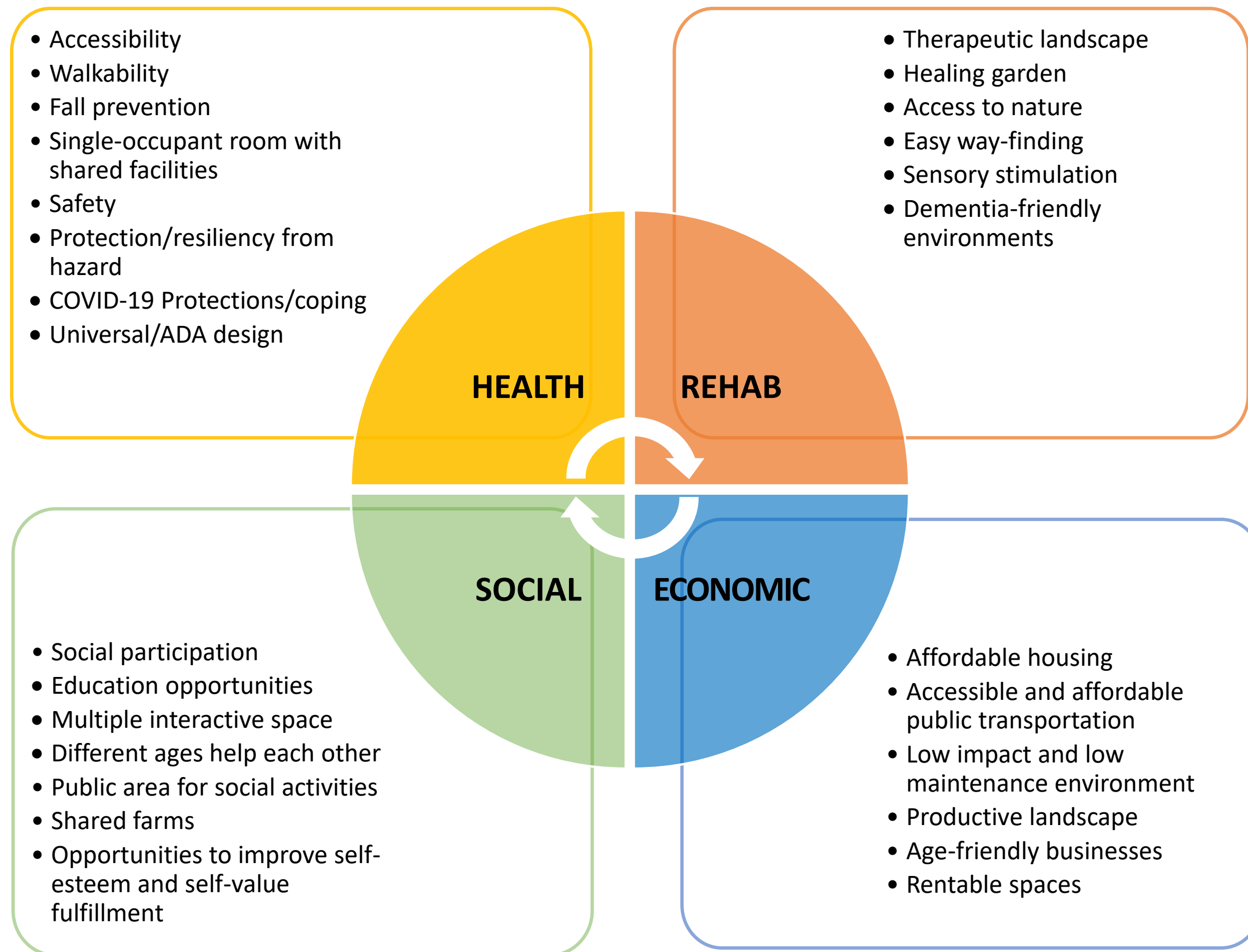
As an intergenerational community, it will be designed to promote **interaction, exchange, and cooperation** among different generations, and provide opportunities for all ages to **share** their talents and **support** each other. The public green spaces will serve as a convenient and attractive location for older residents to meet the need to be **socially engaged**.

Defining Characteristics of Intergenerational Community

- ✓ Provides **basic necessities of life for people of all ages**;
- ✓ Promotes programs, policies, and practices that increase **cooperation, interaction, and exchange** between people of different generations;
- ✓ Enables all ages to share their talents and resources and support each other in relationships **that benefit both individuals and their community**.



GOALS



USER & PROGRAMMING

Residents, Homeless People, and Visitors in Community Center



AGE

Residents – all ages
Homeless

- 73.7% ≥ 24 ,
- 7.5% 18-24,
- 18.8% <18

NEEDS

- Commercial and retail spaces
- Community engagement spaces
- Public green spaces
- Shelters for homeless people
- Job training and opportunities
- Therapy for mental disorders

INTERGENERATIONAL INTERACTION

- Take care of kids
- Learn experience from senior adults
- Organize events for memorial day
- Organize a yard sale or flea market

Senior Residents and Those with Disabilities in Greenhouse



- Senior residents ≥ 65
- The disabled- all ages

- Independent living
- Assistant living
- On-site health care services
- Safety
- Participate into social activities

- Help kids with their homework
- Give free music/art/handcraft classes to kids and the homeless
- Plant trees, flowers, fruits in community farm
- Learn new(internet) skills

Families in Intergenerational Apartments



- Children and teenager 0-18
- Young people 19-34
- Middle age 35-64
- Seniors ≥ 65

- Affordable housing
- Playground
- Educational area & amenities
- Health and fitness facilities

- Plant trees, flowers, fruits in community farm
- Give internet class/online guidance to senior adults and homeless people

Employees and Retired Teachers

in Teaching Retirement System Office Building



- Employees ≥ 18
- Retired teachers ≥ 65

- Green space for break time
- Enough space for a large number of people flow during rush hours

- Plant trees, flowers, fruits in community farm
- Job training for the homeless



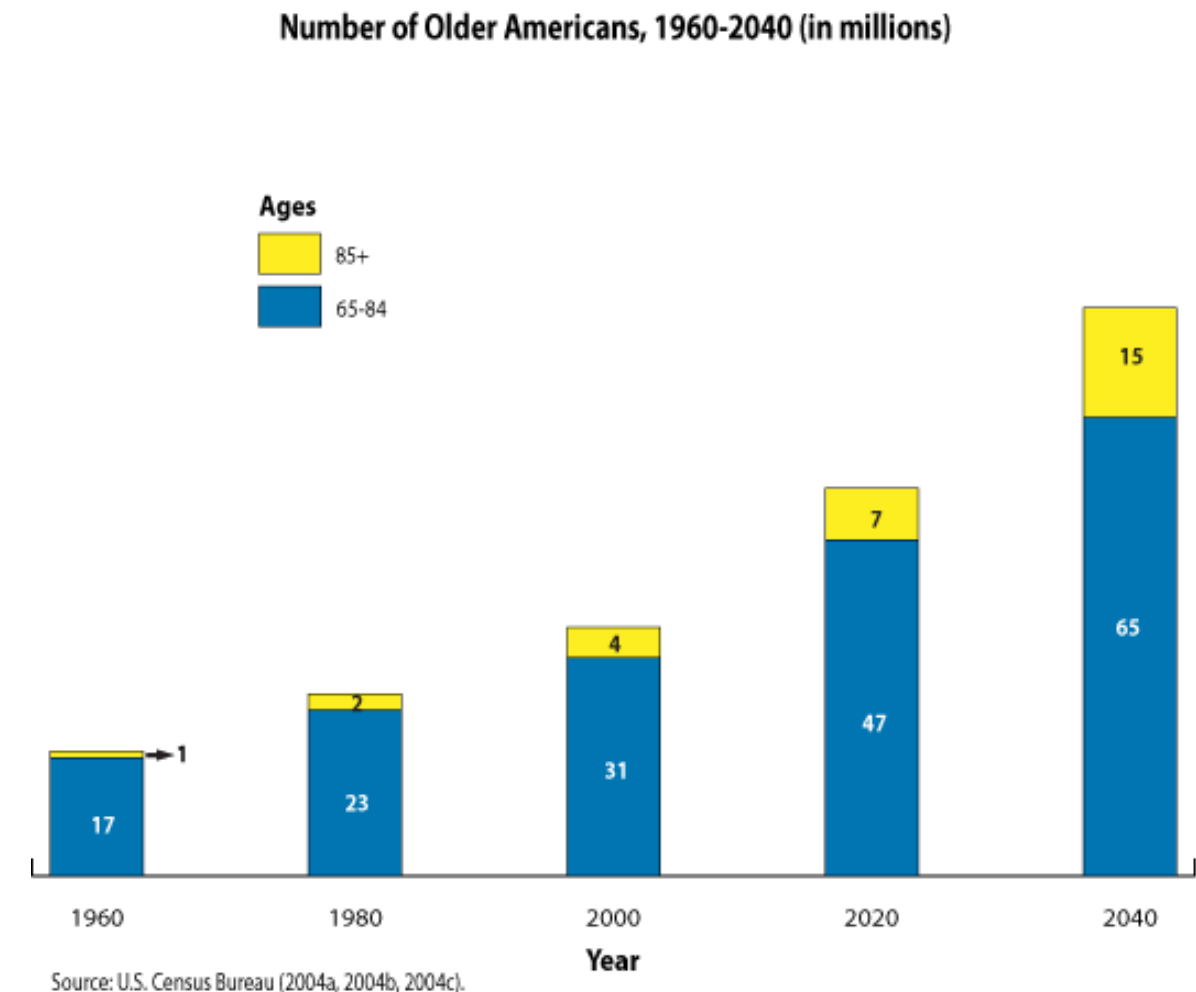
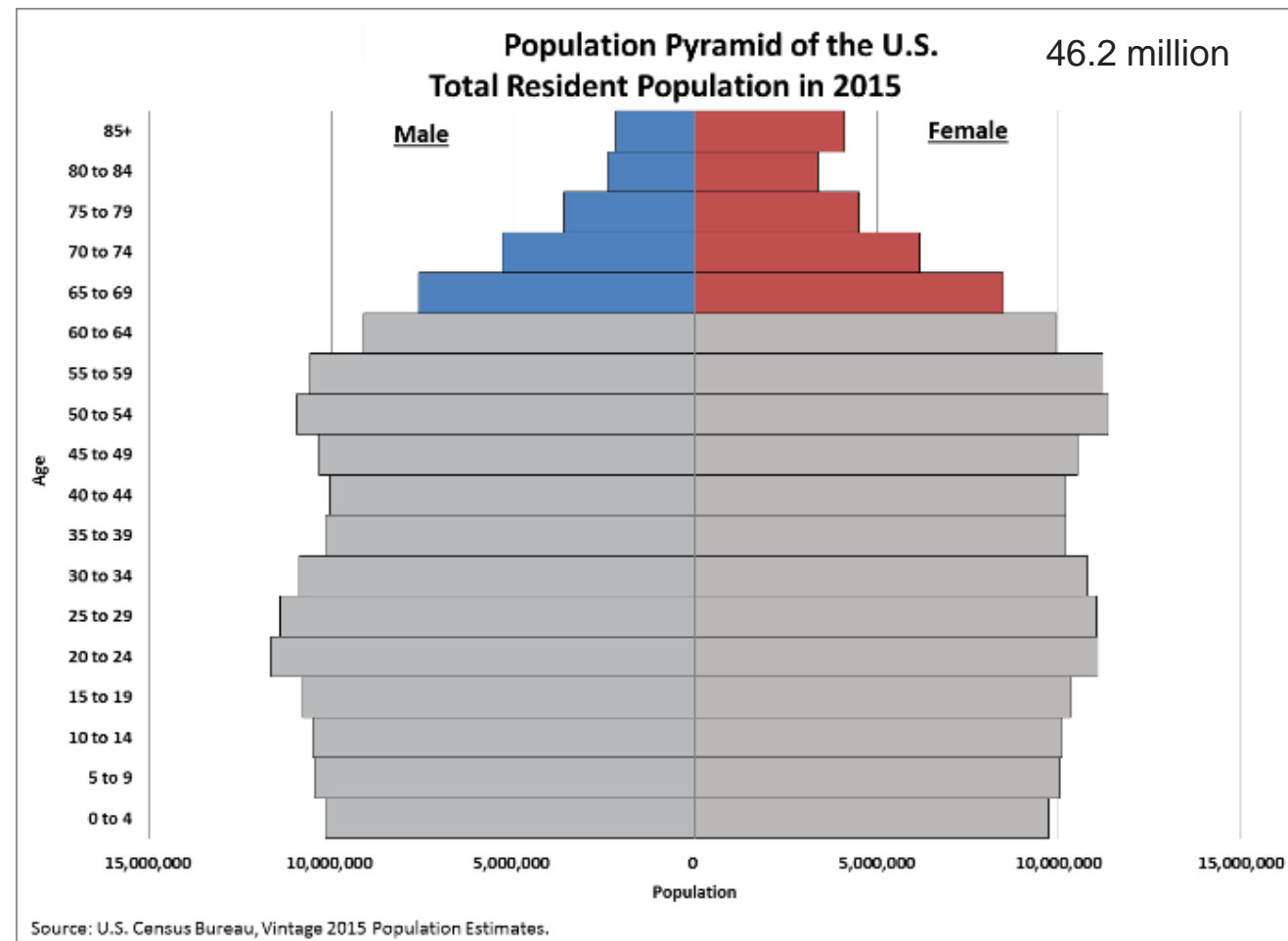
RESEARCH & CASE STUDY

Summary_04

BACKGROUND	RESEARCH	CASE STUDY
Aging population in U.S.	Age-related diseases	Hogeweyk. Weesp, Netherlands
	Old adults’ preference for parks	Denver Park City Loop. Denver, Colorado
	Strategies to promote aging in place	Kampung Admiralty. Woodlands, Singapore
	Concept of intergenerational community	A Patchwork in The Park. Prague, Czech Republic
		Vanke Cloud City. Guangzhou, China

Aging population in U.S. and Beyond

- The world's population is aging rapidly, , and fertility and death rates are declining. Compared with other age groups, these trends have led to an increase in the number and proportion of older adults. The American population is also experiencing this dilemma. In the next 40 years, the number of Americans over 65 will double, reaching **80 million by 2040**.



Age-Related Diseases

NORMAL AGING



Sensory change

Hearing Loss – special in multiple talkers
Visual Acuity -problems with glare, making night driving riskier
Dizziness –lead to falls



Muscle mass and strength decline



Decline in the immune system

SOMATIC DISEASE AND MULTIPLE CHRONIC CONDITIONS

- Cardiovascular Disease
- Cancer
- Respiratory
- Osteoarthritis
- Osteoporosis
- Diabetes Mellitus
- Hypertension
- Multiple Chronic Conditions – 62% of Americans over 65 have more than one chronic condition



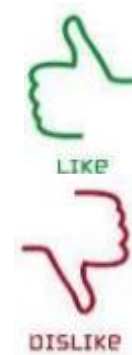
PHYSICAL FUNCTION

- **Declined walking speed** –the average walking speed for the age group of 85–89 is 1.1 m/s for men and 0.8 m/s for women. Physical activity interventions can improve walking speed.
- **Disability in Activities of Daily Living** - disability in dressing, bathing and instrumental activities of daily living such as cooking, chronic pain, depression, and complex medication regimens .
- **Falls** - the primary cause of morbidity and disability among older adults. Physical activity, vitamin D supplementation, balance exercise, and home safety assessment .
- **Frailty** – easily lead to disability, falls, hospitalizations, and poor surgical outcomes.
- **Mobility Disability** – lead to social isolation, falls, and depression.

PSYCHOLOGICAL AND COGNITIVE

- **Cognitive Aging**
short-term memory loss, word-finding difficulty, slower processing speed
- **Dementia**
need cognitive stimulation, caregiver support, and assistive technologies to improve safety and independence
- **Depression**
because of the loss of families/friends, loss of income, and loss of physical, social, or cognitive function from illness.

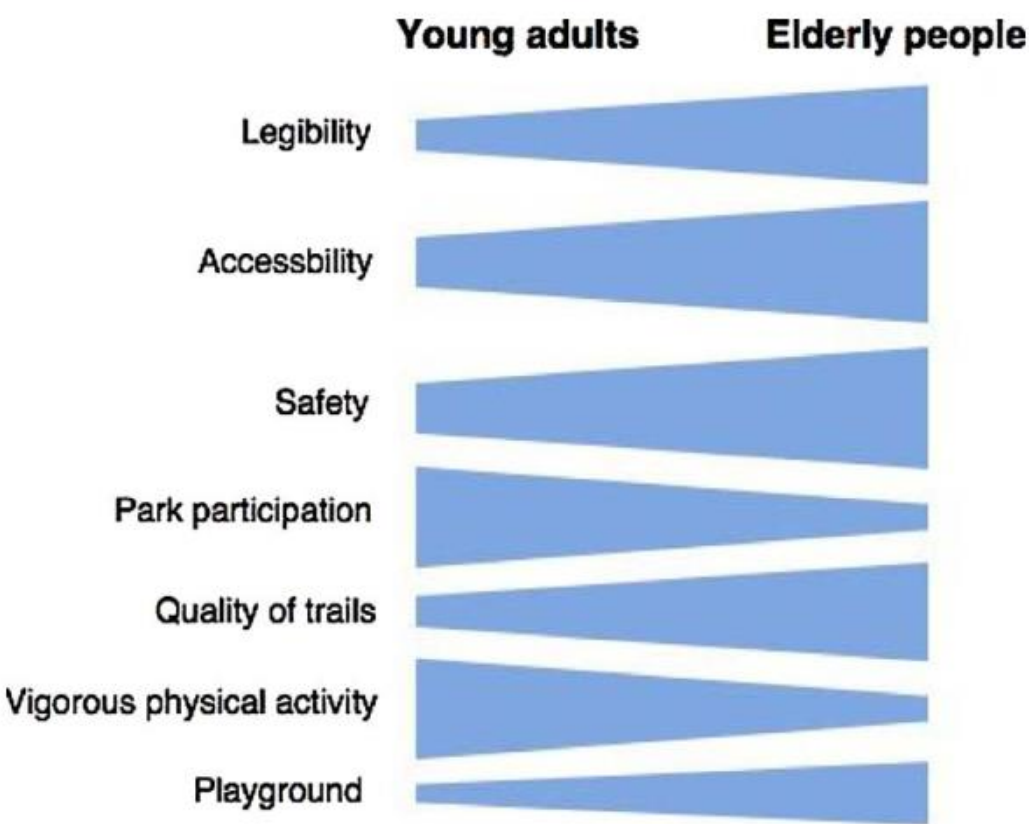
Elderly people Preference for Parks



Legibility, accessibility, safety, quality of trails

Park participation, vigorous physical activity.

In the park design, some characters like wayfinding, accessible design, trails and safety should be considered first.



Summary for Potential Design Elements

Category	Subcategory	Core Findings of Preference
Landscape Features	Aesthetics	Maintain naturalness , including wild animals, water features, open view with the visual center, and easily recognizable structures as needed
Infrastructures and Facilities	Trails	Pavement with anti-slip and water-resistant materials, well-designed paths connecting different attractions/destinations
Maintenance	Recreational facilities	Accessibility to recreational facilities and playgrounds for children
Accessibility	The proximity of green space	Amenities within walking distance from home to public green spaces, well-organized street network

Age-Friendly Communities

A place with policies, services, settings, and structures that encourage all residents to actively **age in place** and maintain their functional capacity over their entire lifetime, including early life, adult life, and older age.

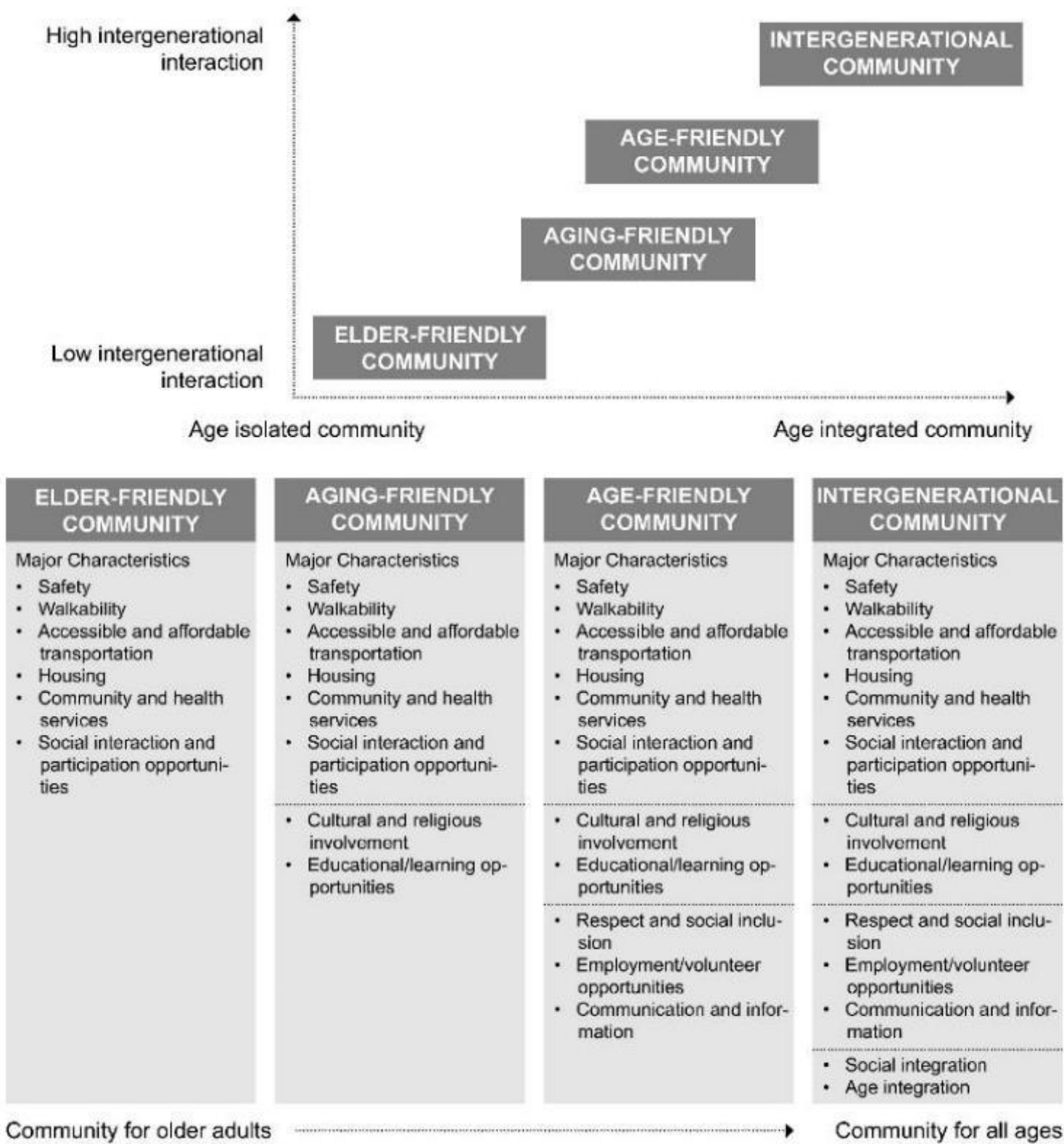
Design principles

Category	Subcategory
Landscape Features	Aesthetics, Legibility, Soundscape and Air Quality, Sunshine and shade, Cultural heritages
Infrastructures and Facilities	Trails, Intersections, Seating
Maintenance	Recreational facilities, Business settings and toilets, Cleanliness, Security
Accessibility	The proximity of green space, Travel modes other than walking, Interactions with others

Intergenerational Communities

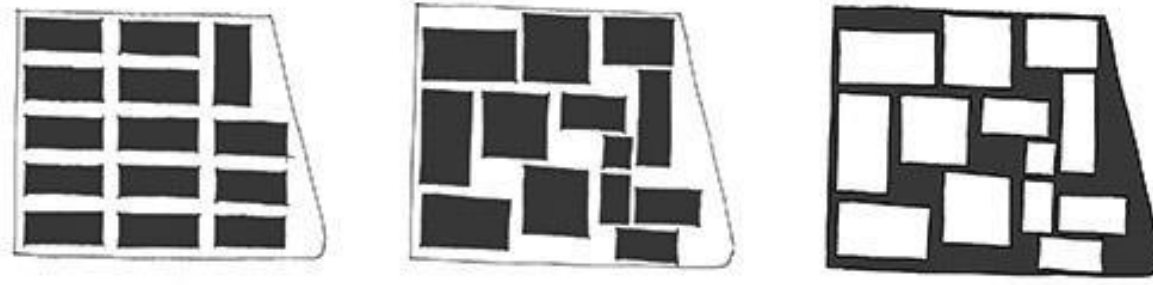
- Provides adequately for the safety, health, education and basic necessities of life for people of **all ages**;
- Promotes programs, policies, and practices that increase **cooperation, interaction, and exchange** between people of different generations;
- Enables all ages to share their talents and resources and support each other in **relationships** that benefit both individuals and their community.

Type of Communities



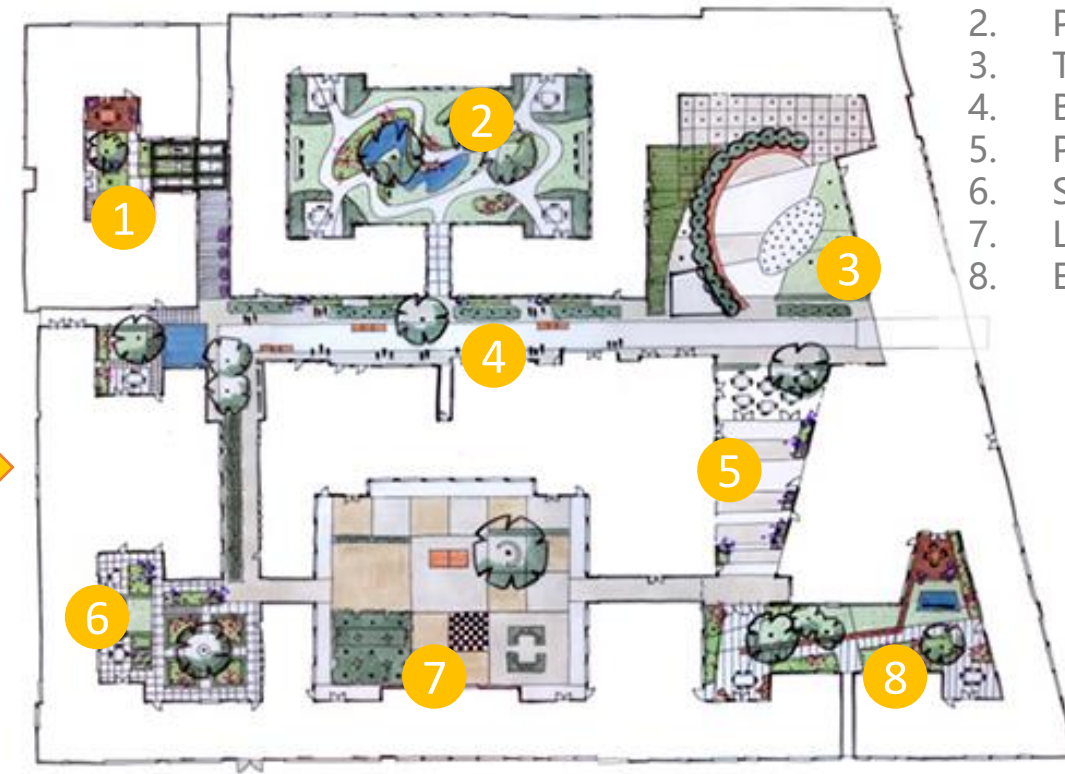
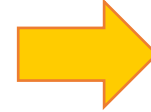
Hogeweyk

- Part of Hogeweyk **care center for dementia**
- Area: 2.79-acre
- Location: Weesp, Netherlands



House grew Creating diversity homes Design of various spaces

Landscape spaces created through architectural **deformation and dislocation**.



1. Extended boulevard
2. Pond park
3. Theatre square
4. Boulevard
5. Passage
6. Square with green area
7. Large square
8. Eastern corner



Building skywalks connect all the buildings.

Public Space

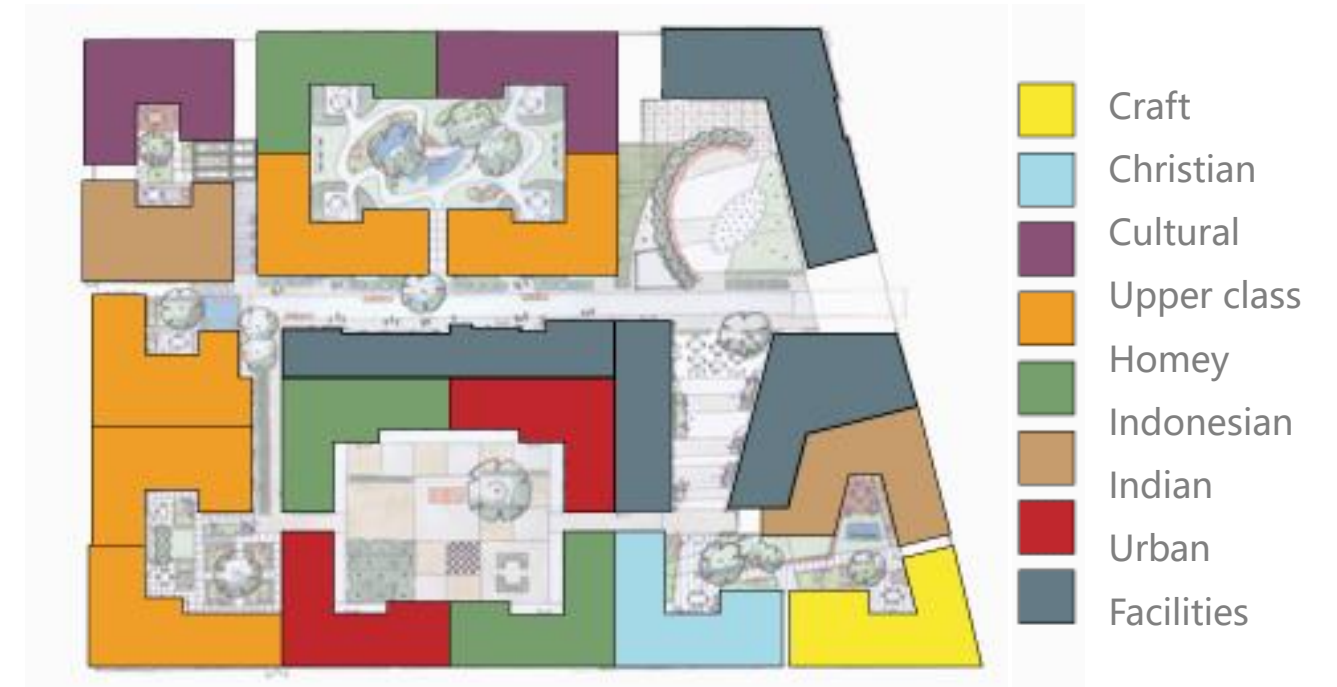
- Residents with **dementia** to maneuver freely through the complex while still staying within the protected environment.
- All outdoor environments designed to be clearly **recognizable/legible**.
- Outdoor spaces that are **diverse** with a wide range of options.

<https://hogeweyk.dementiavillage.com/design-for-aging-boek/>

Hogeweyk

Implications:

- Building blocks defining the introverted public space.
- Different gardens with unique characters and functions that are **easy to remember and find** for **seniors**.
- **Retails** located along the boulevard.
- The overpass connecting adjacent buildings and providing views of nature.
- **Different styles** of houses to fit the personalities or preferences of residents.



Provide **different styles** of houses to fit the diverse personalities or **preferences** of residents. Grouping elderly people who **share the same** social values and lifestyles



Square-Centrally oriented (introverted), intimate, living together, walls with functions.



Street-linear (extroverted), dynamic, street as extended living room, temporary.

Kampung Admiralty

- Mixed-used Architecture for all ages
- Location: Woodlands, Singapore
- Area: 0.22 acres
- Height: 150 ft (45 m, 11-storey)
- Designer: WOHA
- Opening: 2017

Design Features:

Building layered as **club sandwich** approach with a **vertical** kampung (an integrated building with public facilities of different functions on the vertical level) and **three tier** co-location of amenities.

- **Upper stratum** - a Community Park and Community Farm with studio apartments for seniors
- **Mid stratum** - a Medical Centre (Eldercare and Children Care Center)
- **Lower stratum** - Community Plaza and Shops, Supermarket, Hawker Center (Second floor)
- **Basement** - Carpark and Bicycle Parking



Kampung Admiralty

Design Features:

- **The Community Plaza** - community living room for organized events, seasonal festivities, shopping, etc.
- **The Community Park** - elevated village green for exercise, socializing, and engage in activities with community farms.
- **Childcare and an Active Aging Hub** - located side by side, bringing together young and old to live, eat and play.
- **Aging apartments** - with “Buddy benches” at entrances encouraging seniors to come out of their homes and interact with their neighbors.
- Natural cross ventilation and optimum daylight.



Denver Park City Loop

Intergenerational play landscape and recreation circuit

- Area: 14 acre
- Location: Macon, Denver, Colorado

Implications:

- Multi-purpose use of the site
- The intentionally abstract form of the play features, inviting engagement by people of all ages and abilities.

- City loop creating a distributed, fully accessible recreation circuit.
- This loop going around a **big open lawn** that allows for the activities of the Loop to **extend to the interior** areas of the site.
- Each space creating a distinct **micro-environment** for play and social interaction.

<https://www.porturbanism.com/work/denver-city-park-city-loop/>



Denver Park City Loop



A Patchwork in The Park

Courtyard for office workers

- Location: Prague, Czech Republic
- Designer: Cigler Marani Architects

The park includes a **courtyard** for office workers to enjoy their break time in a **patchwork of grassy hills, chess boards**, water features, and a **mixture of seating**.

Implications:

- Use **grids** to divide the area into small sections
- Provide different amenities and space to relax and fun



Vanke Cloud City

- **Grid system and modular furniture**
- Designer: Lab D+H
- Location: Guangzhou, China
- An affordable lifestyle for young generation.

Modular grid system

- The overall landscape **framework** on a **modular grid system**. From **softscape**, to **paving**, to outdoor **furniture** and installation, landscape elements are arranged on this modular system so that they are easy to construct, assemble, and replace.



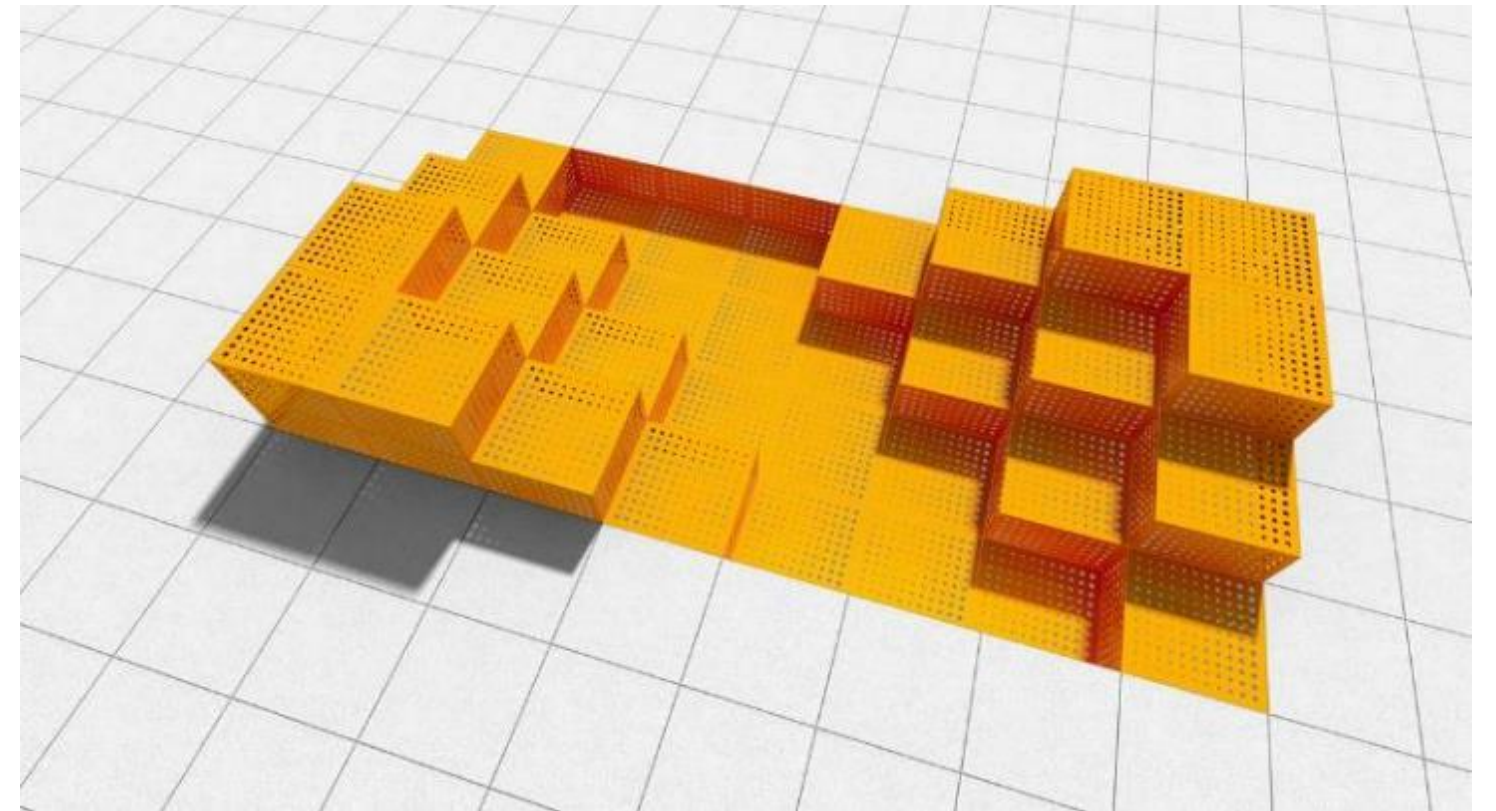
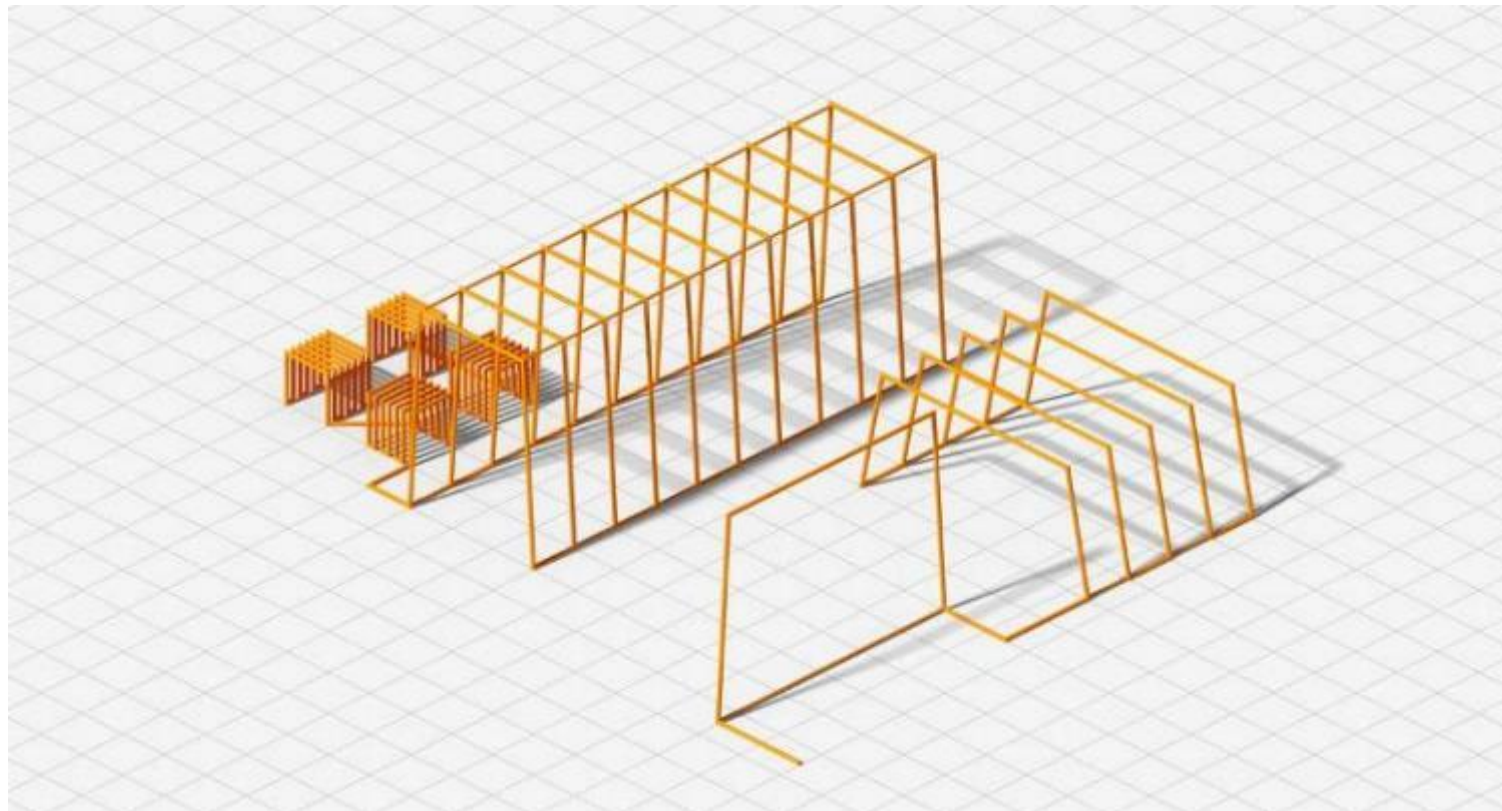
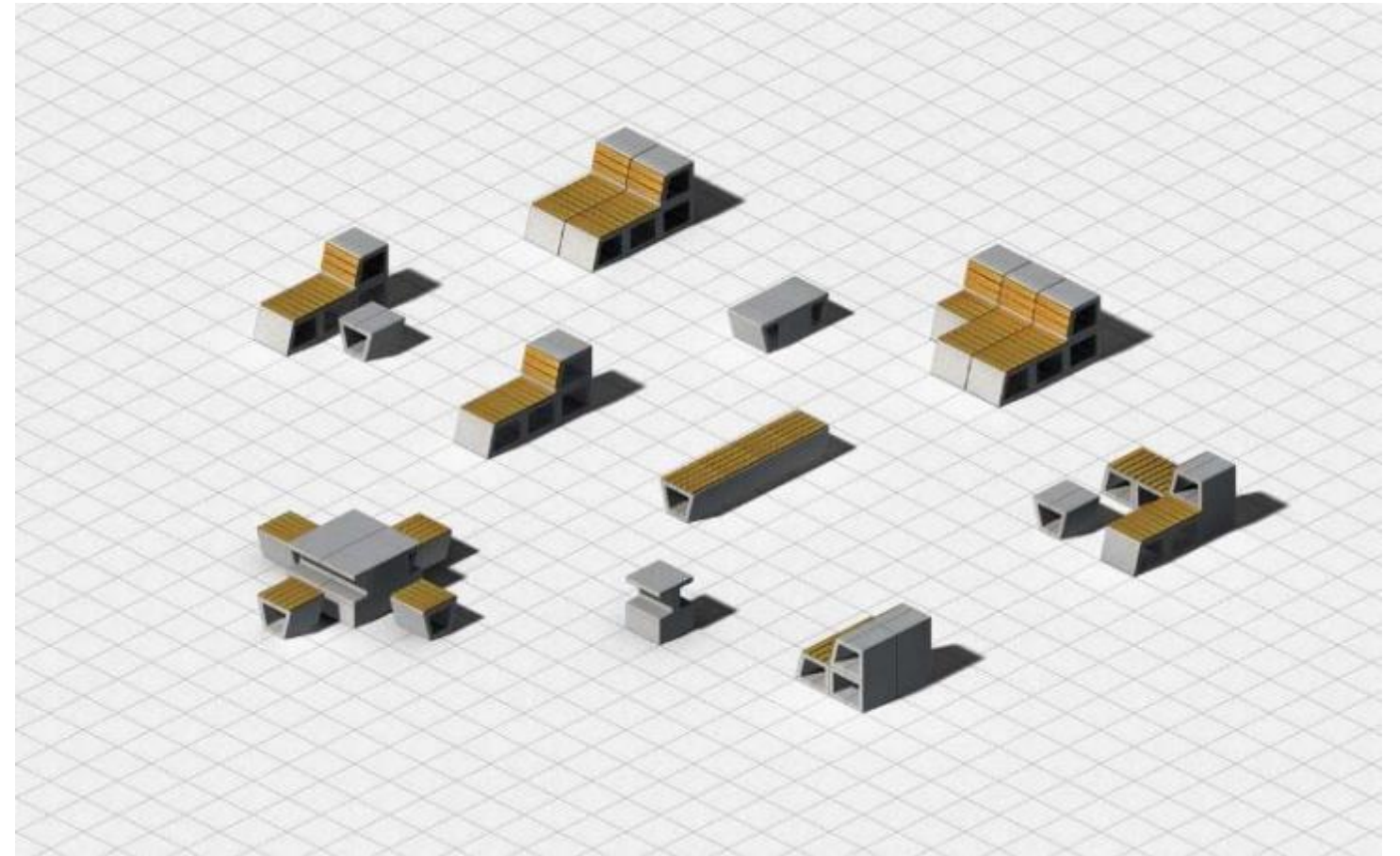
Vanke Cloud City

Modular furniture system

- Assembled precast concrete modular outdoor furniture could meet customers 'need with more than 20 different combinations.

Interactive landscape

- The Cloud Line is a **continuous tubular steel** structure, bent into a bar, parallel bars, monkey bars, benches, and other fitness facilities.
- Cloud Seat is a modular set of interactive spaces made of pre-perforated **steel plate**.
- Cloud Seat is lit up at night and produces stunning **lighting effects** through the perforated plate.



Hogeweyk — **Square-Centrally** oriented (introverted) vs. **Street-linear** (extroverted)

Denver Park City Loop — City Loop going around a **big open lawn**, with small and intimate spaces for play and social interaction along the loop

A Patchwork in The Park — **Patchwork** of grassy hills, chess boards, and a mixture of seating

Kampung Admiralty — Public areas for **intergenerational interaction** like the Community Plaza, community farms. Childcare and an Active Aging Hub are located side by side.

Vanke Cloud City — **Efficient modular furniture system** for outdoor furniture

SUMMARY

Age-Related Diseases	Strategies	Details
NORMAL AGING DISEASE <ul style="list-style-type: none">• Sensory change• Strength decline• Decline in immune system• Difficulty in temperature adaptation	Safety and Security 	<ul style="list-style-type: none">• Non-slip paving• Enough seats with handrail and back• Sufficient lights• Good visibility and supervision in outdoor space
	Comfort 	<ul style="list-style-type: none">• Temperature moderation/ control• Shadowing in hot area• Comfortable seat with backrest, handrail
CHRONIC DISEASE <ul style="list-style-type: none">• Cardiovascular Disease• Hypertension• Cancer• Diabetes Mellitus• Osteoporosis• Osteoarthritis	Good Walkability 	<ul style="list-style-type: none">• Trails without crowds and collisions• No trip hazards• Eye-line to facilities• Low-glare paving• Street network with good connectivity
	Good Accessibility 	<ul style="list-style-type: none">• Easy access to nature• Easy wayfinding• Appropriate walking distance
PHYSICAL FUNCTION RECESSION <ul style="list-style-type: none">• Declined walking Speed• Mobility Disability• Disability in Daily Living• Falls, Frailty, Continence	Therapy 	<ul style="list-style-type: none">• Sensory Stimulation• Exercise and active living programs• Therapeutic landscape for seniors and disables• Amenities to promote outdoor activities• Engagement activities related to art, music, food, and nature
PSYCHOLOGICAL AND COGNITIVE <ul style="list-style-type: none">• Cognitive Aging• Dementia• Depression	Biophilia 	<ul style="list-style-type: none">• Path in nature• Community farm for gardening• Butterfly sails• Local microclimate environment
	Social Engagement 	<ul style="list-style-type: none">• Public area for social participation• Urban agriculture for intergenerational interaction• Social integration events for residents of all ages and abilities• Intergenerational interaction that are mutually beneficial



<https://www.designspiration.com/save/17853509760513/>

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SITE ANALYSIS

- Context_01
- Zoning Regulation_02
- Census Data_03
- Service Analysis_04
- Green Space_05
- Circulation_06
- Topology_07
- Weather_08
- SWOT_09

CONTEXT

Location

Mueller in Austin, TX

Area

Totally 7.5 acres

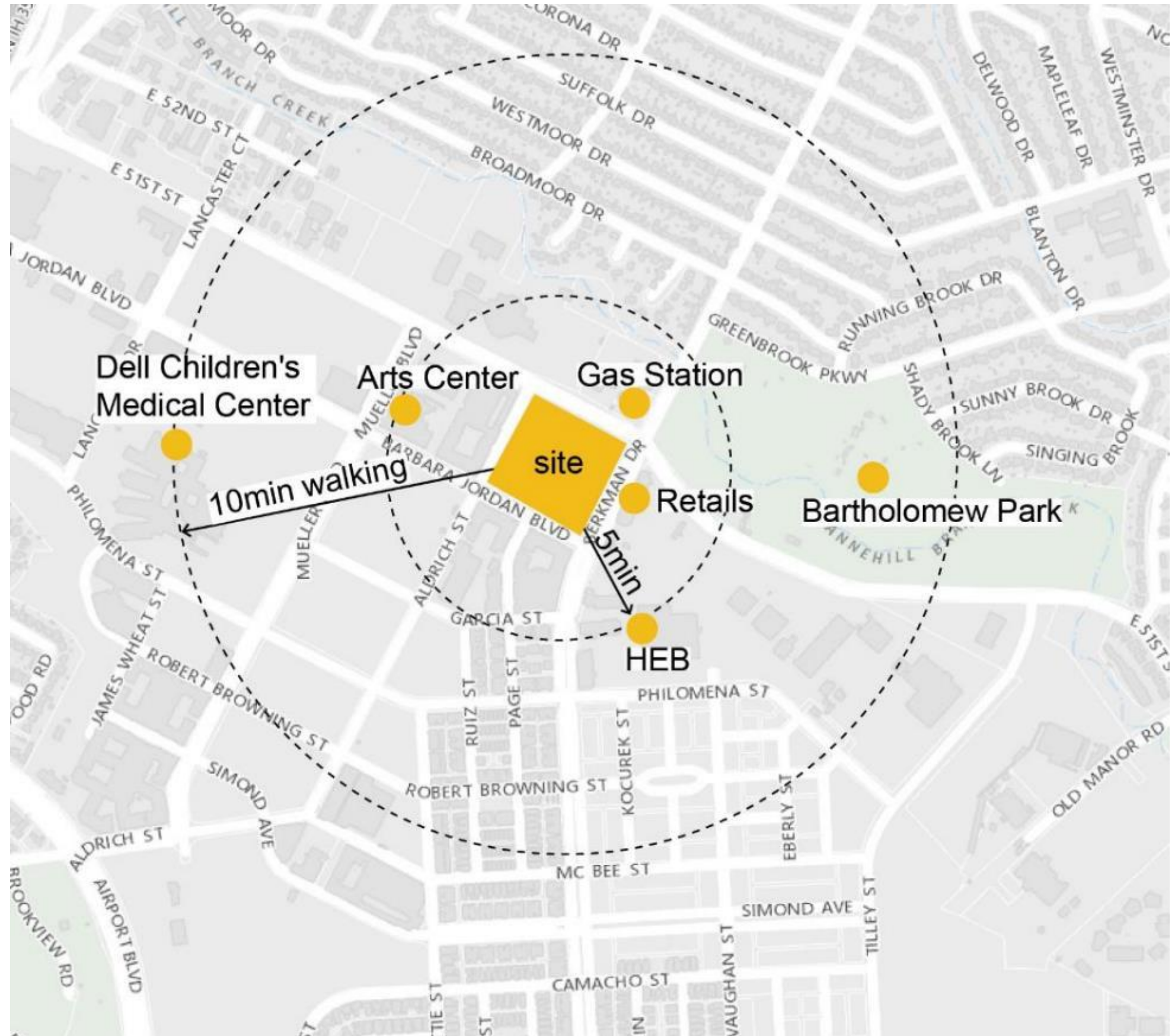
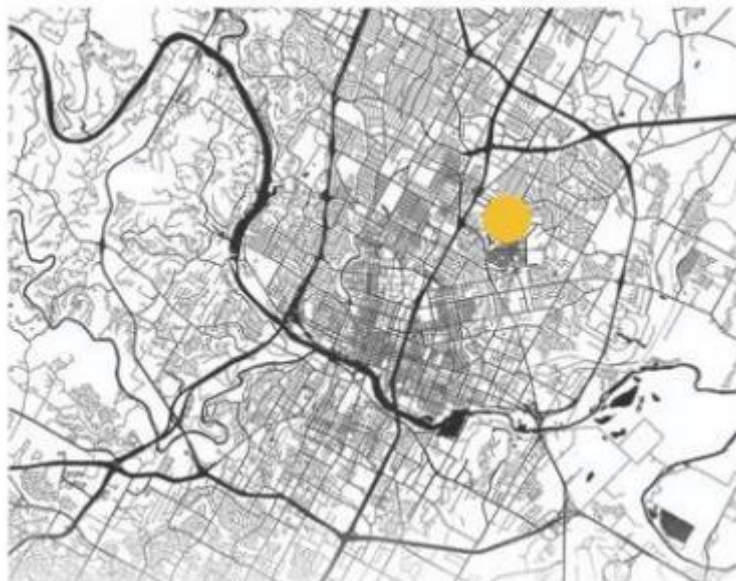
Surroundings

5min walking distance to HEB and Art Center, 10min walking distance to Dell Medical Center and Bartholomew Park.

TEXAS



AUSTIN



1. Mixed Use Commercial

The site is Mixed Use Commercial area including two mixed-use buildings, an office building, retails and green space.

2. Mixed-Use Residential

These apartment houses or neighborhood-scaled office buildings offer the opportunity to create activity centers with local serving retail and restaurant uses, as well as neighborhood-serving amenities and services at the street level.

3. Yard Houses

These yard housed are greenhouses mainly for single-family detached.

Legend

- Civic/Institutional
- Austin Film Society, Fire Station
- Yard Houses
- Row Houses/Shop Houses
- Mixed Use Commercial
- Mixed Use Residential
- Open Space

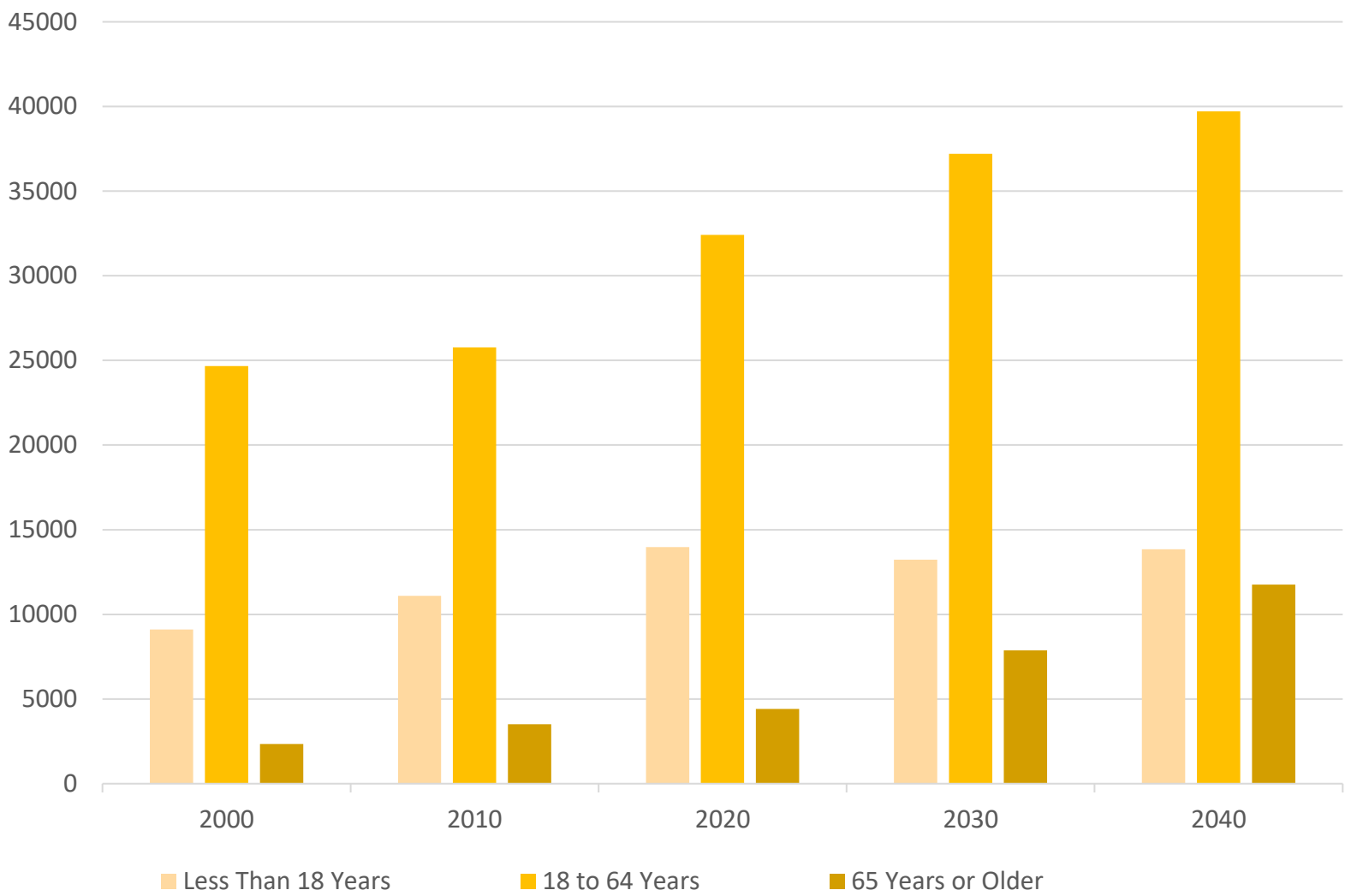


Mueller Design Book, Austin, Texas. By Catellus Development Corporation. September 2017. p20.

Population Prediction

- By 2040, there will be **11,754** people over 65 years in Mueller.
- About **764** older people living in nursing homes and assisted living facilities.
- Children's share of the total population is declining while the senior **population** and their portion is **increasing** dramatically.

Mueller Census Population Prediction*



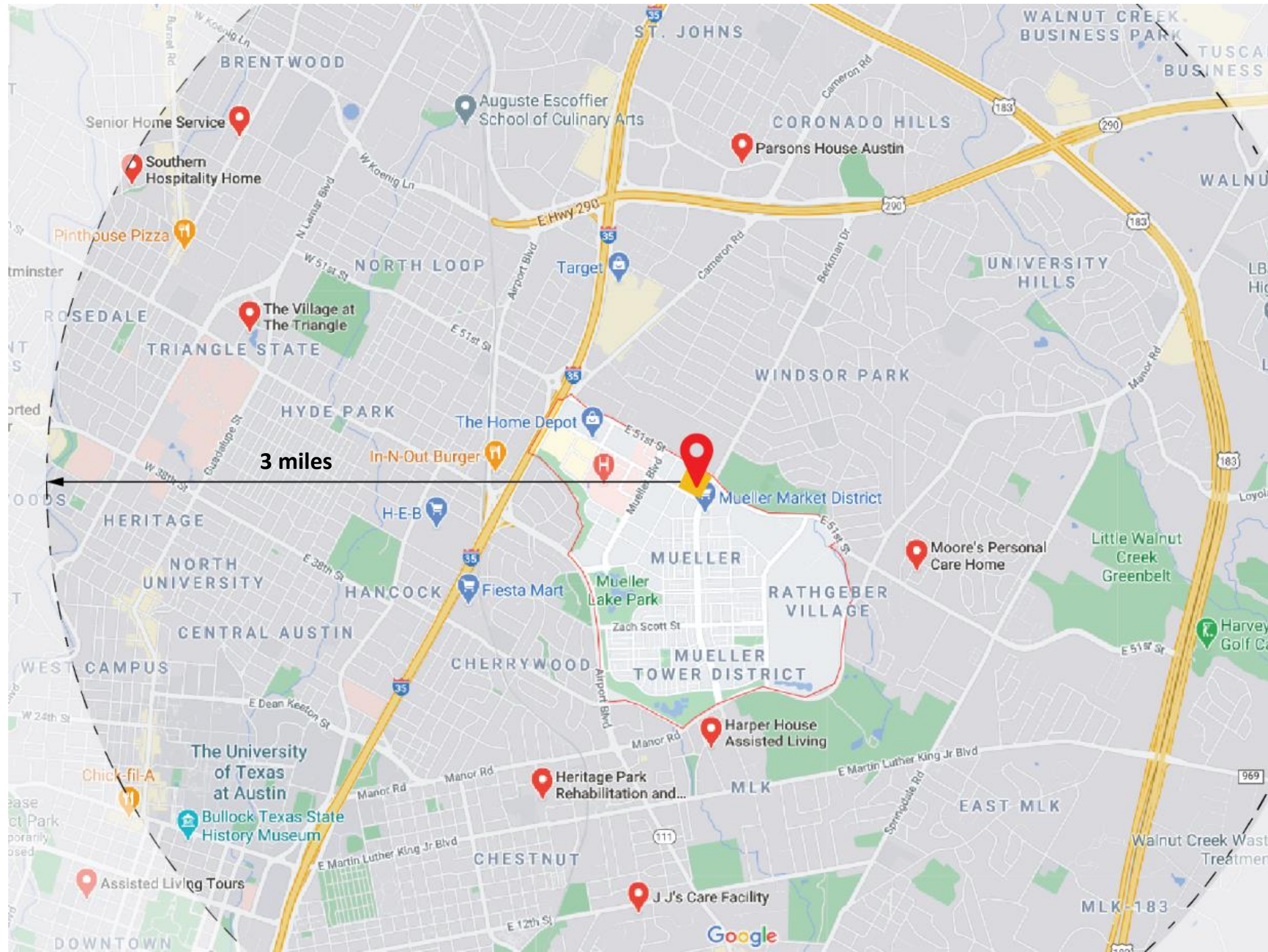
Mueller Census Population Prediction*

Age Group	Percent Change 2000 ~ 2400	2000	2010	2020	2030	2040
<18	7.26%	9,106	11,102	13,970	13,238	13,844
18 to 64	23.04%	24,656	25,757	32,410	37,206	39,702
≥65	14.40%	2,349	3,512	4,420	7,873	11,754
Live in nursing homes assisted living facilities		153	228	287	512	764

*Based on 2017 Austin Census Data from United States Census Bureau, Aging Service Council of Central Texas for age groups increased rate, and population of Mueller Community from austintexas.gov

<https://www.agingservicescouncil.org>
<https://www.census.gov/data/tables/time-series/demo/popest/pre-1980-county.html>
https://www.austintexas.gov/search-pages?search_api_fulltext=census+data&department=&sort_order=DESC&sort_by=search_api_relevance
[https://www.ncbi.nlm.nih.gov/books/NBK51841/#:~:text=Only%204.5%20percent%20\(about%201.5,million\)%20live%20in%20the%20community.](https://www.ncbi.nlm.nih.gov/books/NBK51841/#:~:text=Only%204.5%20percent%20(about%201.5,million)%20live%20in%20the%20community.)
Institute of Medicine (US) Food Forum. Providing Healthy and Safe Foods As We Age: Workshop Summary. Washington (DC): National Academies Press (US); 2010. 2, Size and Demographics of Aging Populations. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK51841/>

Nursing Home And Assisted Living Facilities Nearby



The map shows **nursing home** and **assisted living facilities** within 3 miles of Mueller. There is **no** nursing home or assisted living facilities in the **Mueller** Community. The nearest assisted living (Moore's Personal Care Home) is **1 mile** away.

Implications:

By 2040, more than **764 older adults** live in nursing homes or assisted living in Mueller. Proper arrangement is needed to accommodate older adults within Mueller.

GREEN SPACE

Community Park



Bartholomew Park
10-20min walk
52.6 ac



Bartholomew Municipal
Pool
Children playground
Delwood Sports Complex



Mueller Lake Park
15min walk
30ac



Browning Hangar
Mueller Lake
Amphitheater
Shade corridor



Southwest Greenway
25min walk
36.0 ac



Butterfly Garden
Pond
Woody



Classification	Acres	Service Radius (mile)
Mini Park	< 1	0.25
Neighborhood park	1 – 15	0.25 - 0.75
Community Park	16 – 99	1 - 2
Metropolitan Park	100 - 499	> 2

GREEN SPACE

Neighborhood Park



Northwest Greenway
13min walk
11.7 ac
(Liner park)



Trails
Playground
Shade corridor



Ella Wooten Park
18min walk
2.98 ac



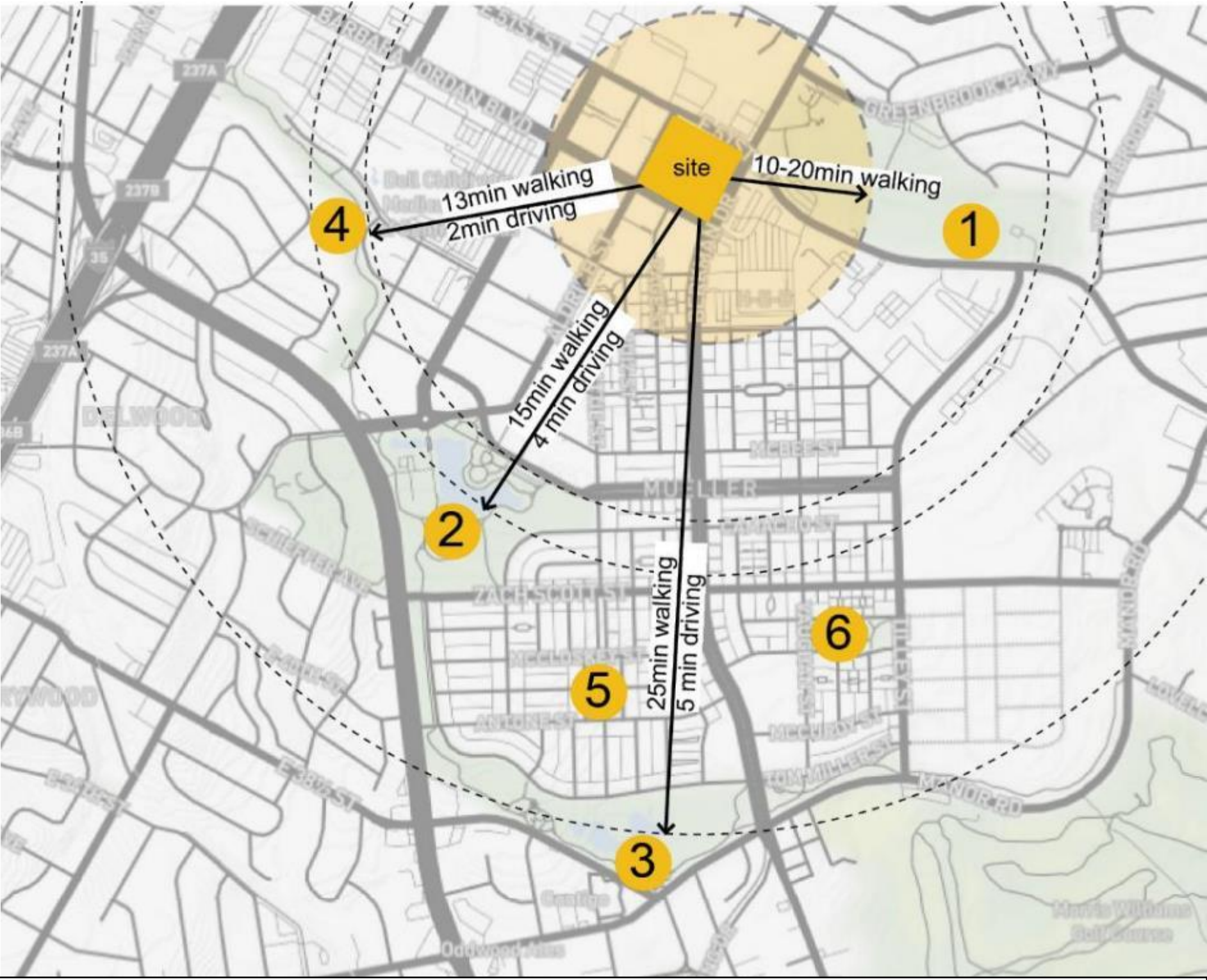
Swimming pool
children playground
a basketball court
open lawn
lack shadowing



John Gaines Park
20min walk
3.65 ac



Swimming pool
outdoor seats
Container gardens



Implications:
Our site is neighborhood park. Shortcut from the intergenerational apartments to Bartholomew Park for kids.
Service radius: 10min walk. Mainly for nearby neighborhood.
Feature: Aging-friendly park, intergenerational interaction

CIRCULATION

The site is surrounded by four roads, two **main roads** with **high traffic volume** and bike lanes (E 51 ST, Berkman Dr). The other two roads are **pedestrian-friendly** roads with **lower traffic volume** and street trees (Aldrich St, Barbara Jordan Blvd).

Legend

- 51st Street
- Community Boulevard
- Aldrich Street
- Neighborhood Community Street
- Park Boulevard
- Greenway Extension Street
- Neighborhood Local Street
- Off-Street Shared Path
- In-Street Bike Lanes
- Cycle Tracks



CIRCULATION



1
E 51ST
65ft width
High traffic density
4 driving lanes +
1 cycling lane



2
Bus station
at E 51ST
Metro 335



3
Barbara Jordan Blvd
63.5ft width
Less vehicles
four driving lanes +
green planting



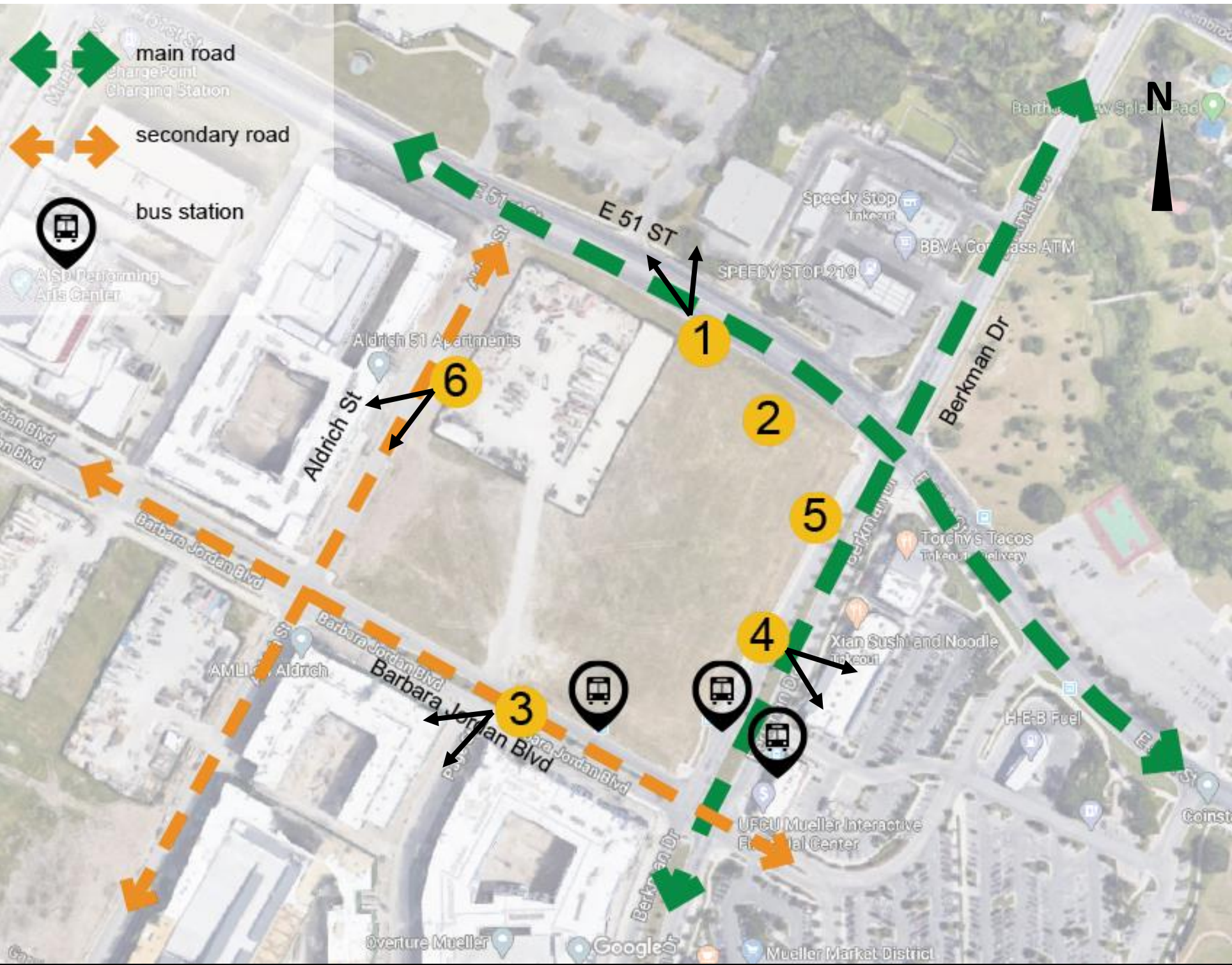
4
Berkman Dr
81ft width
High traffic density
4 driving lanes +
1 cycling lane +
green belt



5
Bus station
at Berkman Dr
Metro 10, 335



6
Aldrich St
40.5ft width
Less vehicles
3 driving lanes.
Parking on both
sides of the road.



Implications:
Buffer zones are needed near E 51 ST and Berkman Dr. Optimal locations for the **main entrances** to the buildings are on the Aldrich St, Barbara Jordan Blvd with less traffic.

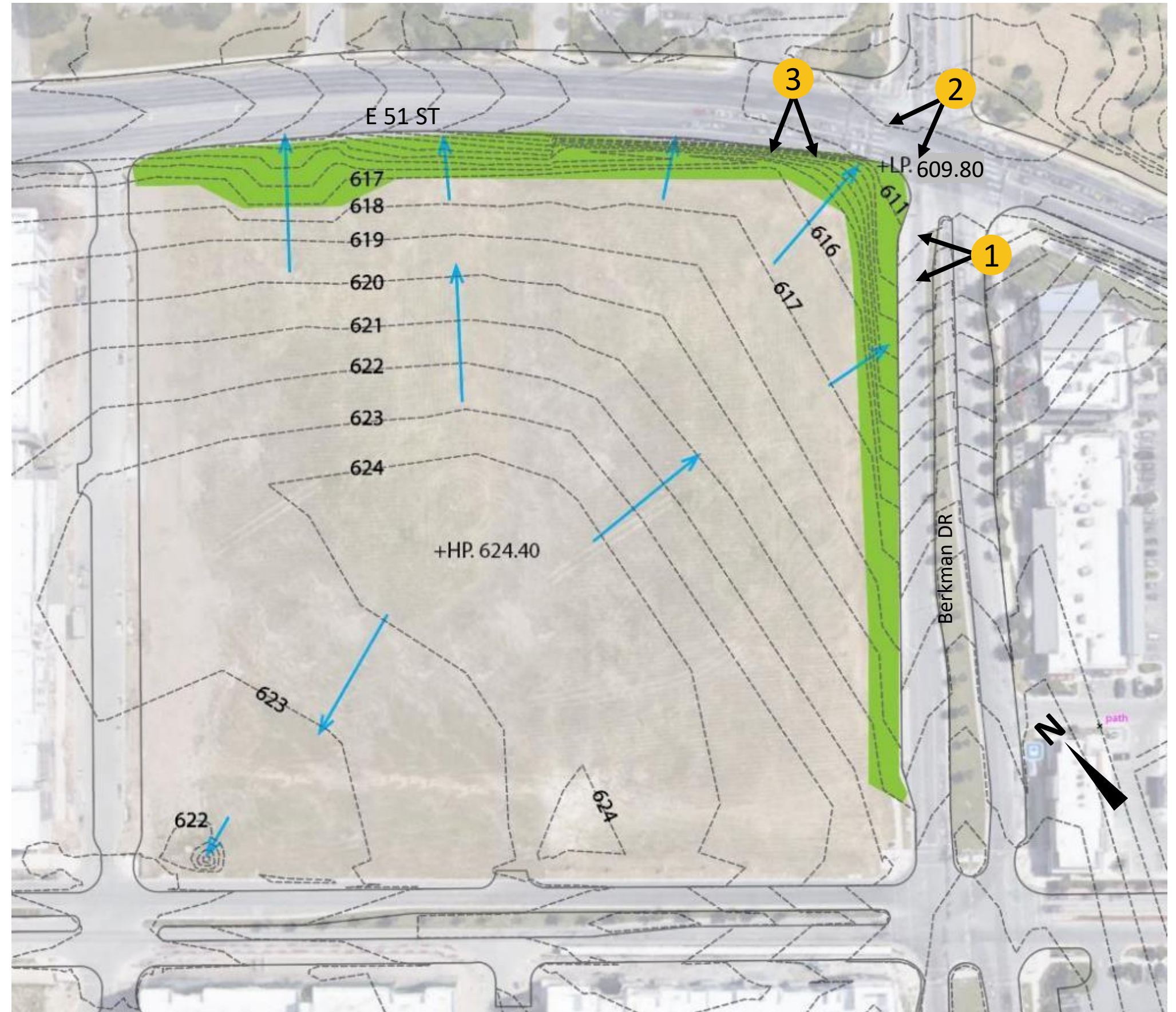
TOPOLOGY



- Low Point=609.8 ft; High Point=624.4 ft; **Difference=15.6 ft**
- The steeper slope is located at the northeast corner along the Berkman Drive and E 51 ST; the major water runoff direction is from the center to southwest and northeast.

Implications:

The steep areas **along the north and east sides** highlighted in green are not suitable for construction or heavy activity use. These areas can serve as **buffers** with vegetation to protect/stabilize the slope and screen the pollutant and noise from high traffic.



WEATHER

Average Annual Low/High **Temperature: 41°- 97°**

- November - February (Coolest Months)
- March - October (Hottest Months)

Average Annual Low/High **Rainfall: 1.9" – 4.4"**

- April - June and October - May with the highest rainfall

Average Annual Low/High **Humidity: 5% - 80%**

- November - April (Least Humid)
- May - September (Muggiest)

Average Annual Low/High **Wind Speed- 7.9mph/10.9mph**

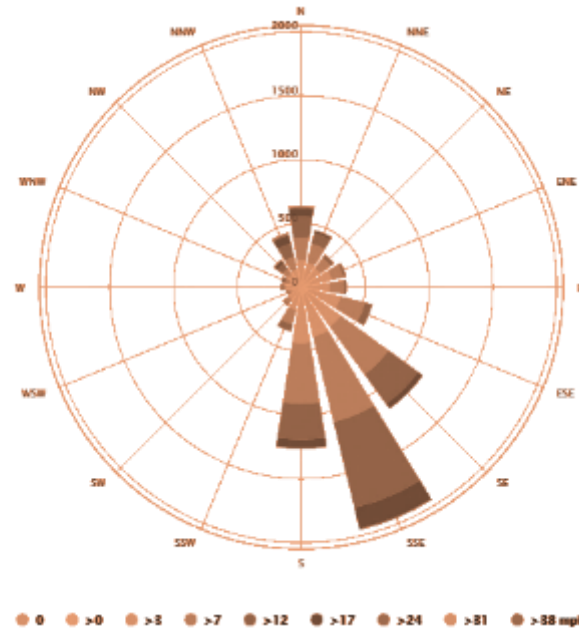
- November - June (Highest Wind Speeds)
- July – October (Lowest Wind Speeds)

Prevailing wind: From **southeast** to northwest

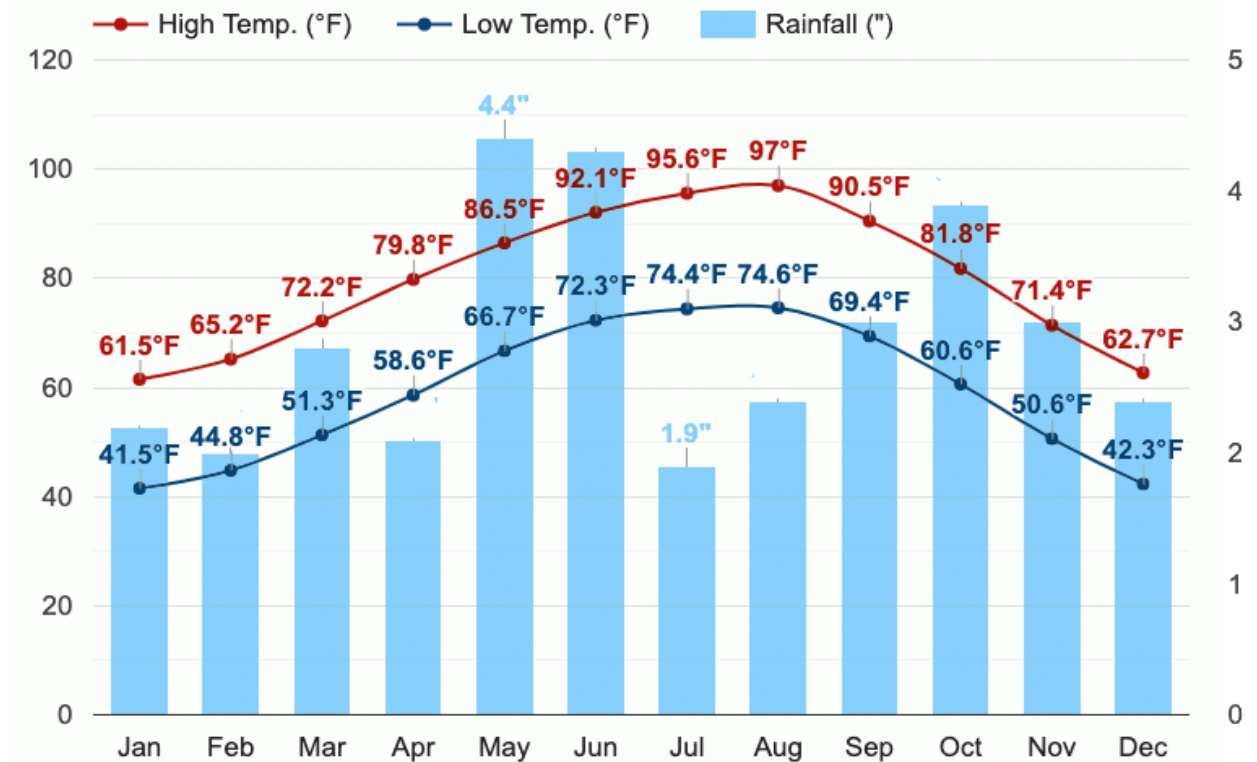
Implications:

- The arrangement of buildings and other site elements should respect the summer **prevailing wind** to ensure proper air circulation and cooling.
- Austin has heavy **rainfall** in summer and fall, requiring to consider non-slip **paving and permeable paving** in outdoors, and stormwater collection and management strategies.

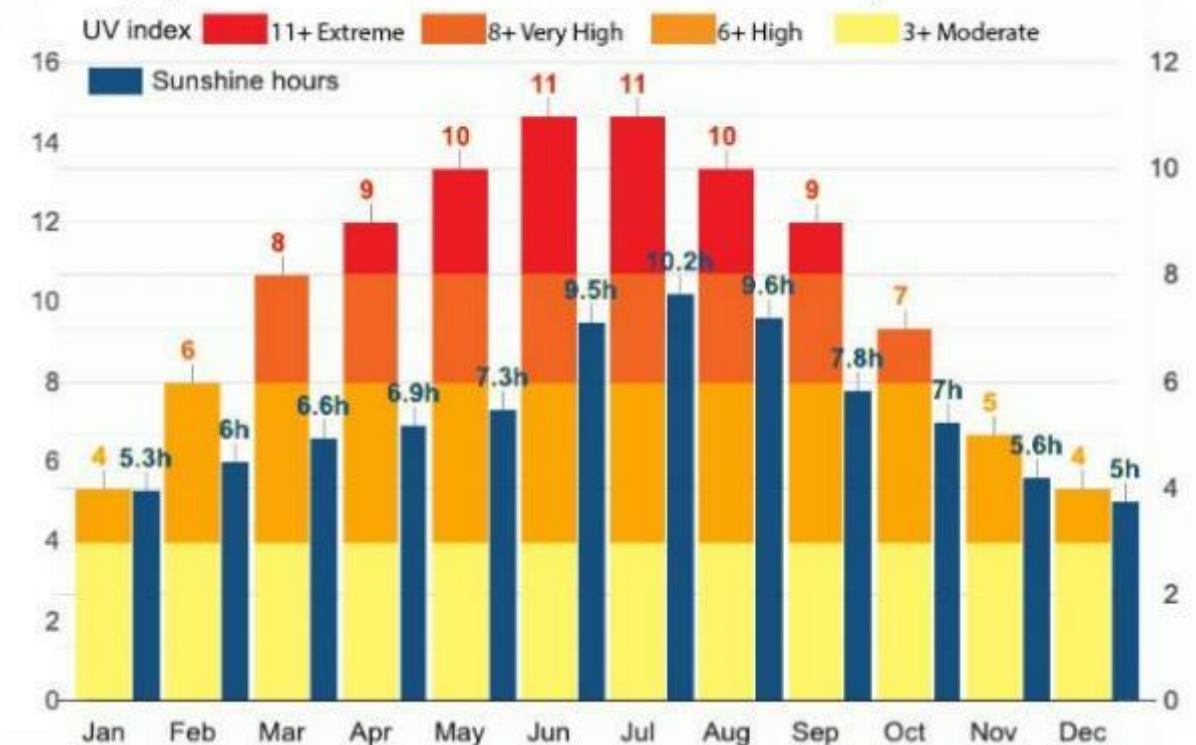
Wind Rose



Temperature - Rainfall - Austin, TX



Daylight hours / Sunshine hours - UV index - Austin, TX



https://www.meteoblue.com/en/weather/historyclimate/climatemodelled/austin_united-states-of-america_4671654

<https://uv.willyweather.com/tx/travis-county/austin.html>

Sunrise and Sunset Times in Austin, TX

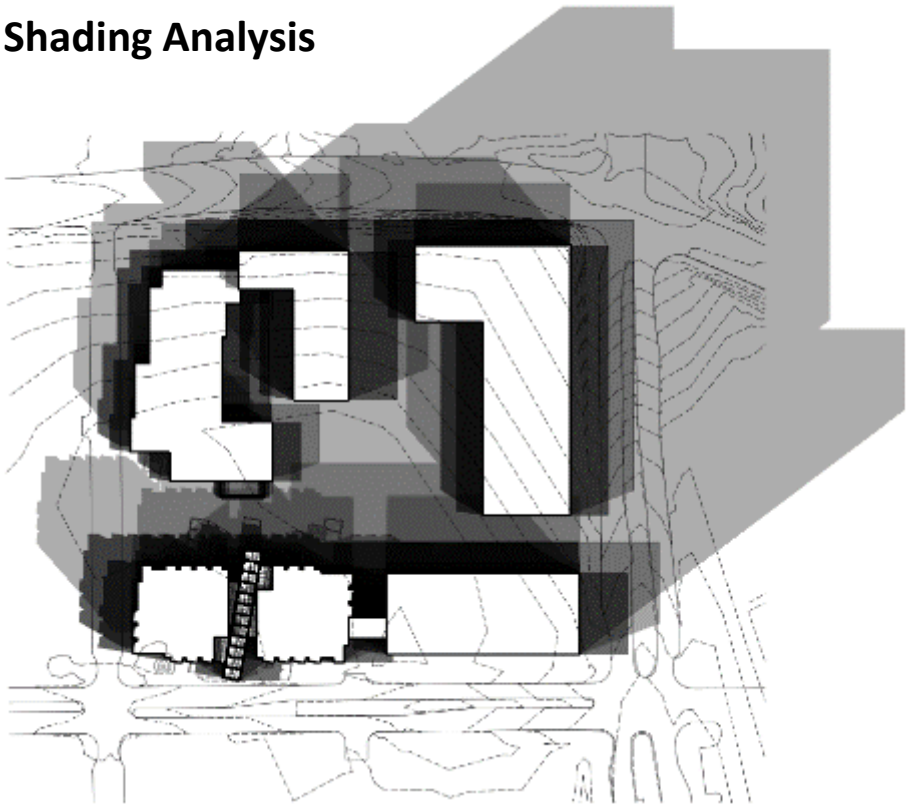
Best month to enjoy outdoor sunshine

Best month to enjoy summer night

	January	February	March	April	May	June	July	August	September	October	November	December
Sunrise	7:30am	7:30am	7am	7am	6:30am	6:30am	6:30am	7am	7am	7:30am	7am	7am
Sunset	5:30pm	6pm	6:30pm	7pm	8pm	8:30pm	8:30pm	8:30pm	8pm	7pm	6pm	5:30pm

<https://www.timeanddate.com/sun/usa/austin?month=12&year=2020>

Shading Analysis



- Implications:
- The **hot** and long summer weather requires the site plan to provide abundant **shade and pleasant microclimatic conditions** with **architecture, pavilions and trees**.
 - In **summer**, Building **shade** could provide **comfortable** space for vulnerable populations.
 - Vacant** places without shade in **winter** should be considered as places for enjoy **sunshine**.



Strength

- The majority of the site is **flat** easily accommodating most land uses and construction activities.
- The site is cleared and has no existing vegetation except grass.

Weakness

- **Significant elevation differences** from the adjacent sidewalk to the site along the northern property border creating challenges to ensuring **connectivity** for pedestrians and road infrastructure.
- The site is owned by two different entities **different demands** and **consumer demographics**.

Opportunity

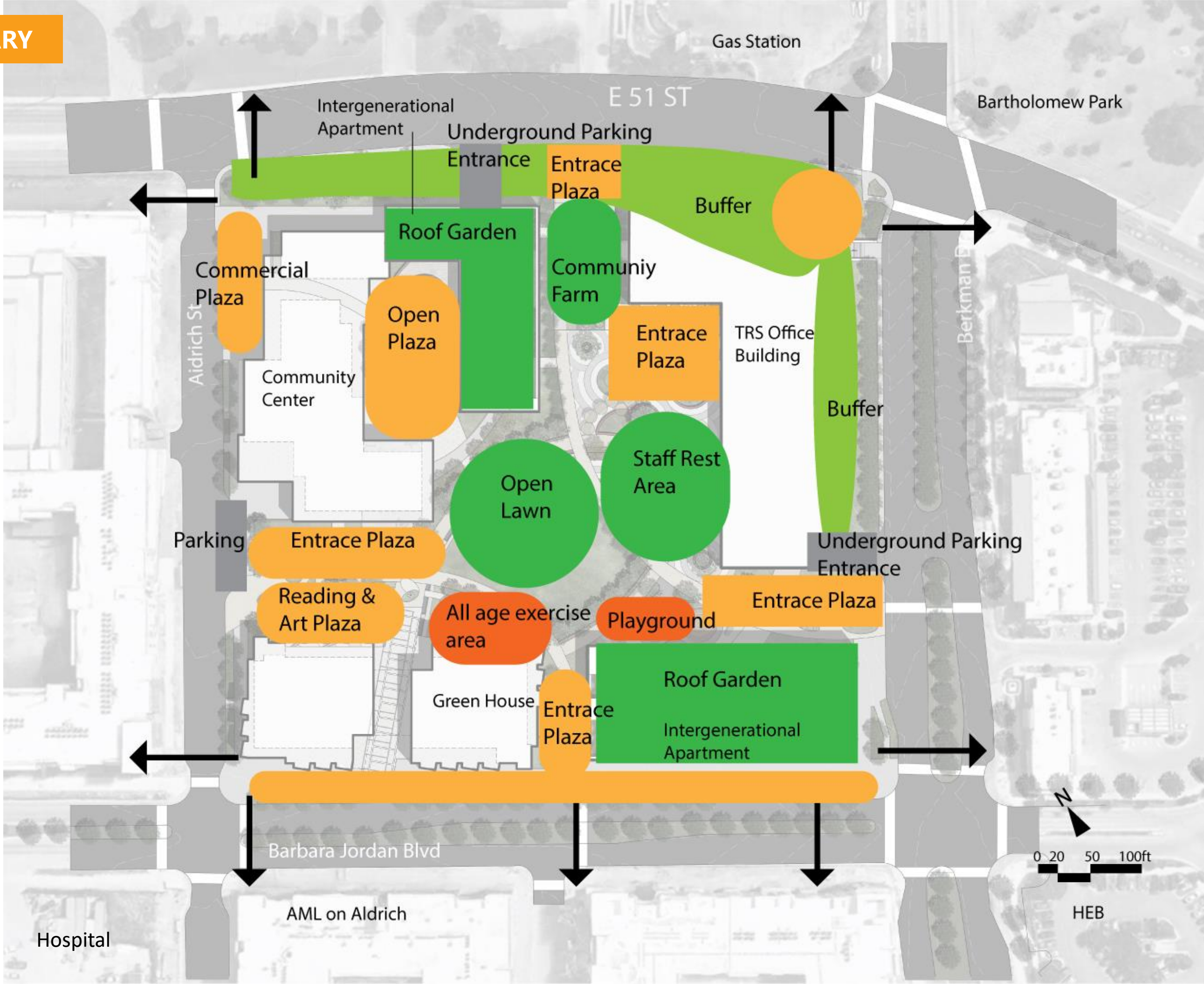
- The site is conveniently located adjacent to a major grocery store (**HEB**) and a **commercial center** of the Mueller with many daily destinations.
- It has easy access to abundant **green space including** three community parks within an easy walking distance.
- The site is adjacent to two existing multifamily housing developments, creating a nice residential atmosphere.

Threat

- The site is adjacent to major arterial roads with heavy **traffic** volume (E 51 Street and Berkman Drive).
- It needs to accommodate the diverse needs and requirements of diverse users and stakeholders.

SITE ANALYSIS SUMMARY

- **Buffers** on the north and east sides due to the **steep slope** and **high traffic**
- The **buildings along the road** to create a **centrally located** green space for intergenerational interaction and to provide summer **shade**
- The main **entrances** in the **south** for easy **access** to HEB and the hospital.





<https://www.designspiration.com/save/17853509760513/>

M

MASTER PLAN & SITE DESIGN

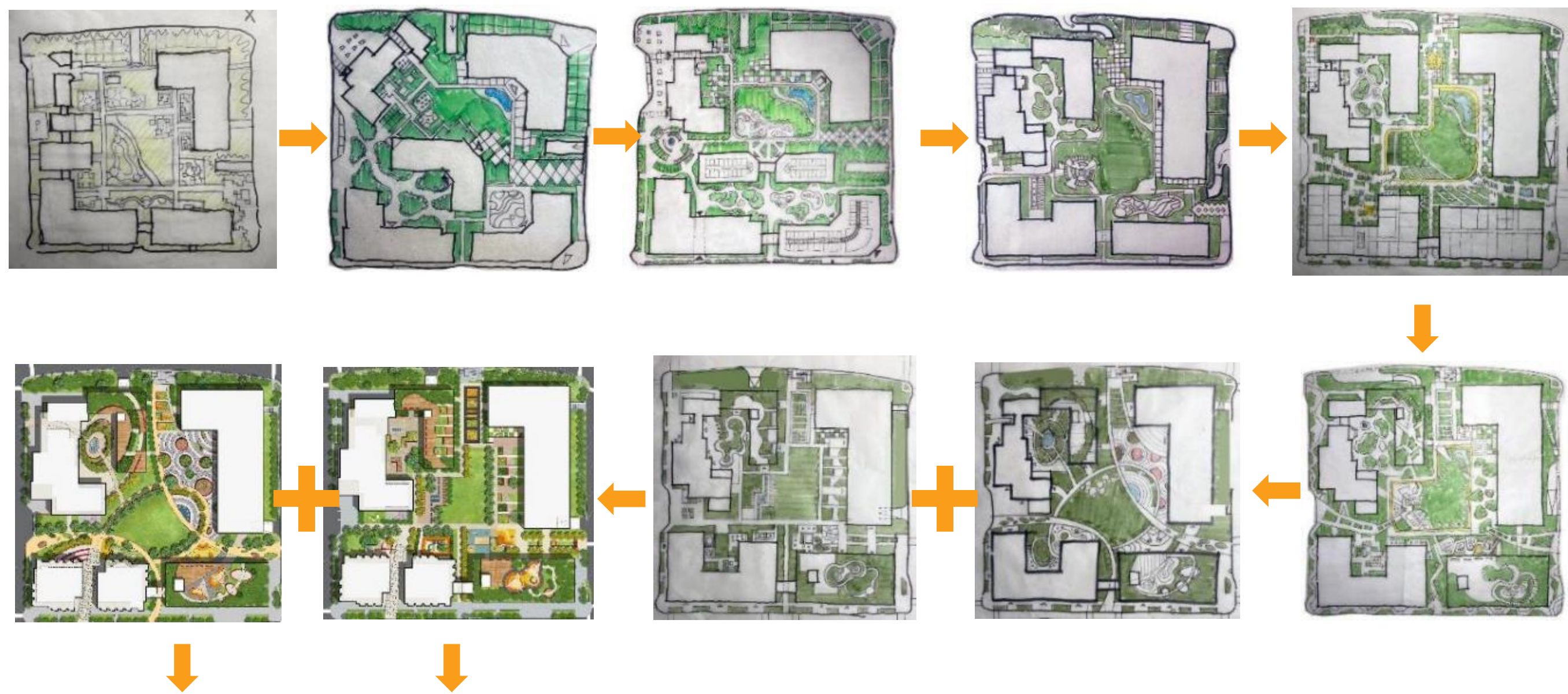
Plan generation_01
Masterplan_02
Two Version Comparation_03
Building Analysis_04
Circulation Analysis_05
Concept Plan_06
Site Design_07

PLAN ALTERNATIVES

Layout of Buildings



Development of The Masterplan



The Final TWO Options Selected

TWO MASTERPLAN SOLUTIONS

ONE Vision: Same functional programs and materials throughout the site

TWO Solutions: Different design languages in terms of the form – circular versus rectilinear



Solution 1. Curve & Circle

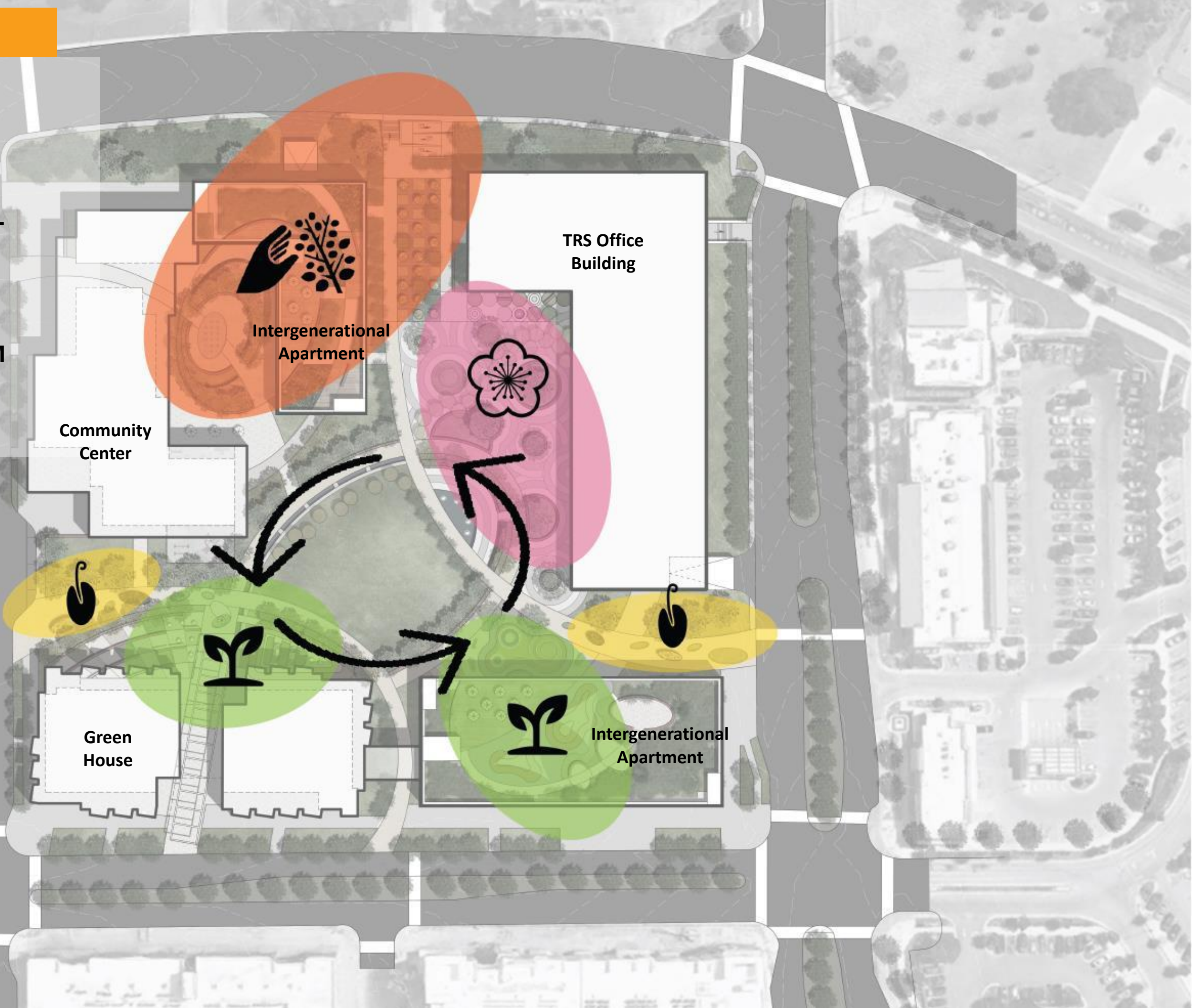
Interplay of **circular forms** representing a cycle of human life and a life cycle of trees



Solution 2. Straight & Rectangle

Interplay of **rectilinear** forms representing the interplay of different age groups

Cycle of Life
Cycle of Tree



MASTER PLAN 1



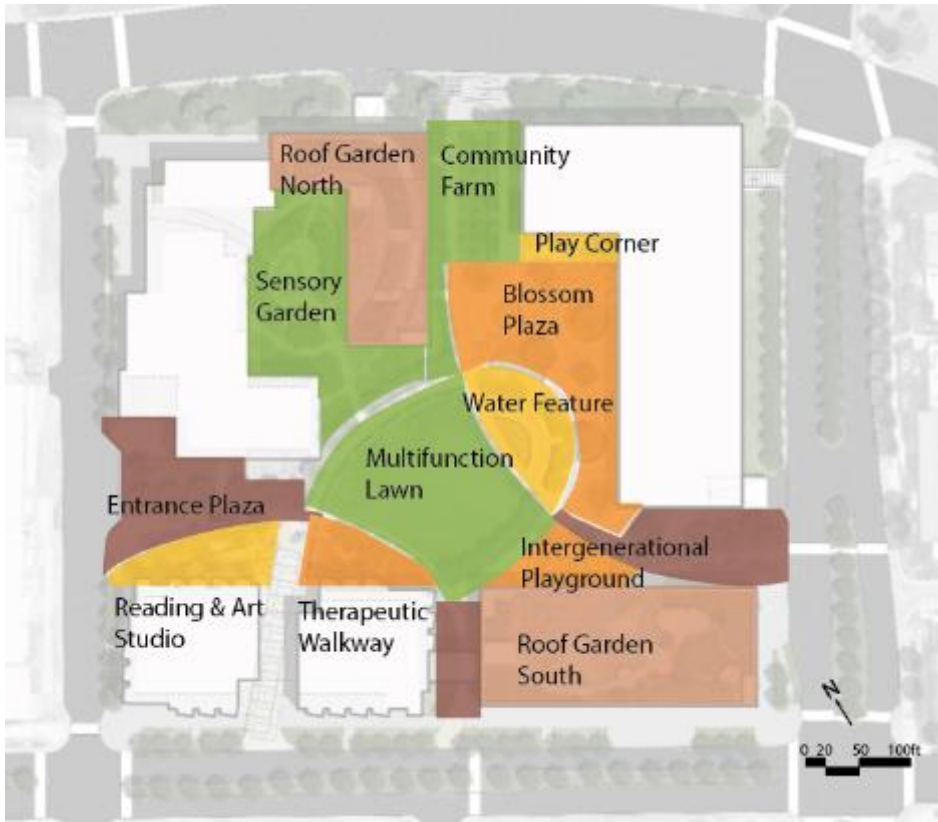
MASTER PLAN 2



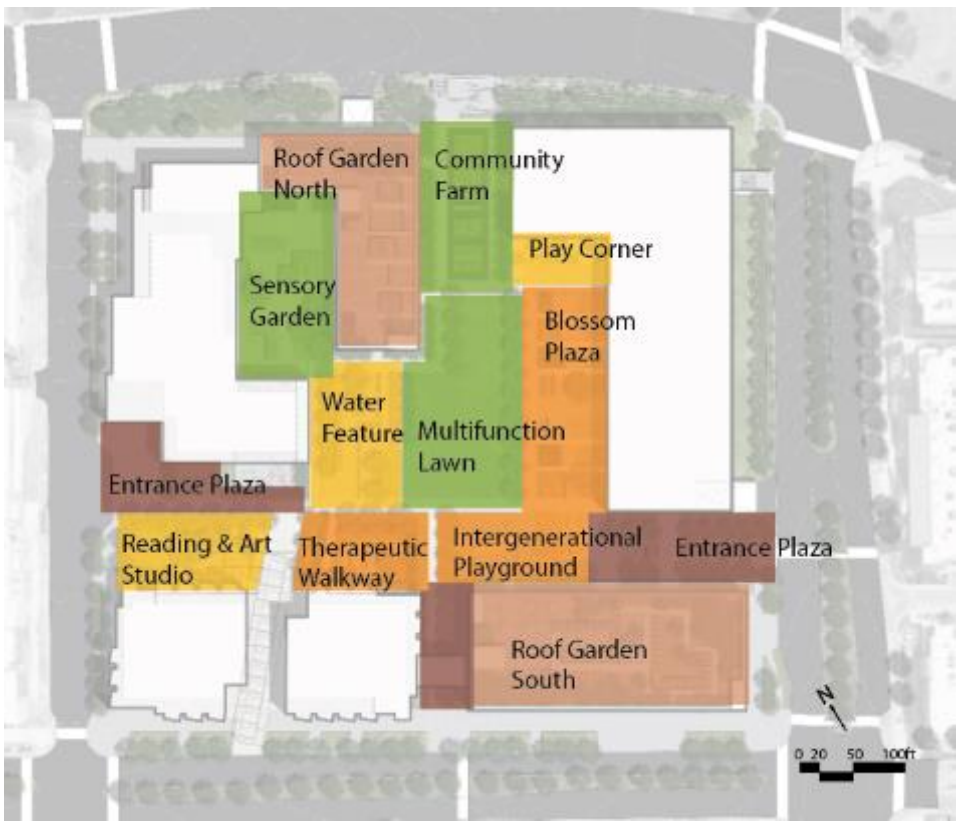
TWO MASTERPLAN COMPARISON

- The two masterplan solutions share a **similar concept, layout, and function** throughout the site.
- The tables show the percentage of paving and green space in each subarea.

SOLUTION 1. CURVE & CIRCLE



SOLUTION 2. STRAIGHT & RECTANGLE



COMPARISON CHART

Land Use Classification		Perviousness	Unite (Area-sq.ft. Length-ft.)	1. Curve & Circle	2. Straight & Rectangle
SEED/ Entrance Plaza	paving	impervious	area	12747	11047
	parking	impervious	area	510	510
	over structure	impervious	area		168
	green	pervious	area	11982	10749
	tree		number	23	32
SPROUT Reading & Art Studio	paving	impervious	area	4262	3094
	soft paving	pervious	area	3192	4254
	structure	impervious	area	560.285	334
	Exhibition board		length	40	73.5
	green	pervious	area	6071	11354
	table&seats		number	5	4
	tree		number	14	12
SPROUT Therapeutic Walkway	soft paving	impervious	area	2363	4767
	seating spaces		length	40	35
	green	pervious	area	2944	4754
	tree		number	6	8
SPROUT Intergenerational Playground	soft paving	impervious	area	3108	5432
	seating spaces		length	147.2	187.4
	green	pervious	area	2780	4892
	tree		number	10	13

Land Use Classification		Perviousness	Unite (Area-sq.ft. Length-ft.)	1. Curve & Circle	2. Straight & Rectangle
BLOSSOM TRS Office Plaza	paving	impervious	area	15414	10816
	seating spaces	impervious	length	545	137
	water feature	impervious	area		382
	shade structure		area	1582	
	green	pervious	area	7974	5615
	tree		number	10	12
BLOSSOM Play Corner	paving	impervious	area	1734.5	1566
	green	pervious	area	984	780
	water feature		area	123	156
BLOSSOM Water Feature	paving	impervious	area	5715	4554
	seating spaces	impervious	length	195	232
	water feature	impervious	area	858	572
	v		area		2438
	green	pervious	area	1465	1972
	tree		number	9	5
BLOSSOM Multifunction Lawn	paving	impervious	area	10296	7088
	seating spaces	impervious	length	241	259.5
	water feature	impervious	area	552	
	shade structure		area	1017	
	green	pervious	area	20518	20519
	tree		number	10	18

Land Use Classification		Perviousness	Unite (Area-sq.ft. Length-ft.)	1. Curve & Circle	2. Straight & Rectangle
HARVEST Community Farm	paving	impervious	area	2985	3627
	paving	pervious	area	3101	3196
	seating spaces	impervious	length	75	126
	planting area	pervious	area	1908	2068
	green	pervious	area	2251	3622
	tree		number	17	13
HARVEST Sensory Garden	paving	impervious	area	10929	8420
	seating spaces	impervious	length	397.9	240
	spray plaza	impervious	area	742	754
	green	pervious	area	5287	5800
	umbrella &seat		number	3	0
	tree		number	14	15
Roof Garden South	paving	impervious	area	8742	7996
	soft paving	pervious	area	2406	2263
	walking path	impervious	length	322.5	519
	seating spaces	impervious	length	293	222
	green	pervious	area	12992	13881
	umbrella &seat		number	5	6
Roof Garden North	paving	impervious	area	1476	750
	wooden paving	impervious	area	5860	6441
	seating spaces	impervious	length	159	179
	green	pervious	area	8177	8934
	umbrella &seat		number	5	7

TWO MASTER PLAN SOLUTIONS



Solution 1. Curve & Circle

Cycle of life & a life cycle of a tree

Strengths: Artistic, Soft, Contrast

- Strong curvilinear and coherent forms lined with the meaning of life
- Curved paths facilitating easy and smooth walking without sharp turns
- More memorable and sculptural forms with strong visual appeal for the visitors/users and the residents viewing from their windows
- Each area with strong themes



Solution 2. Straight & Rectangle

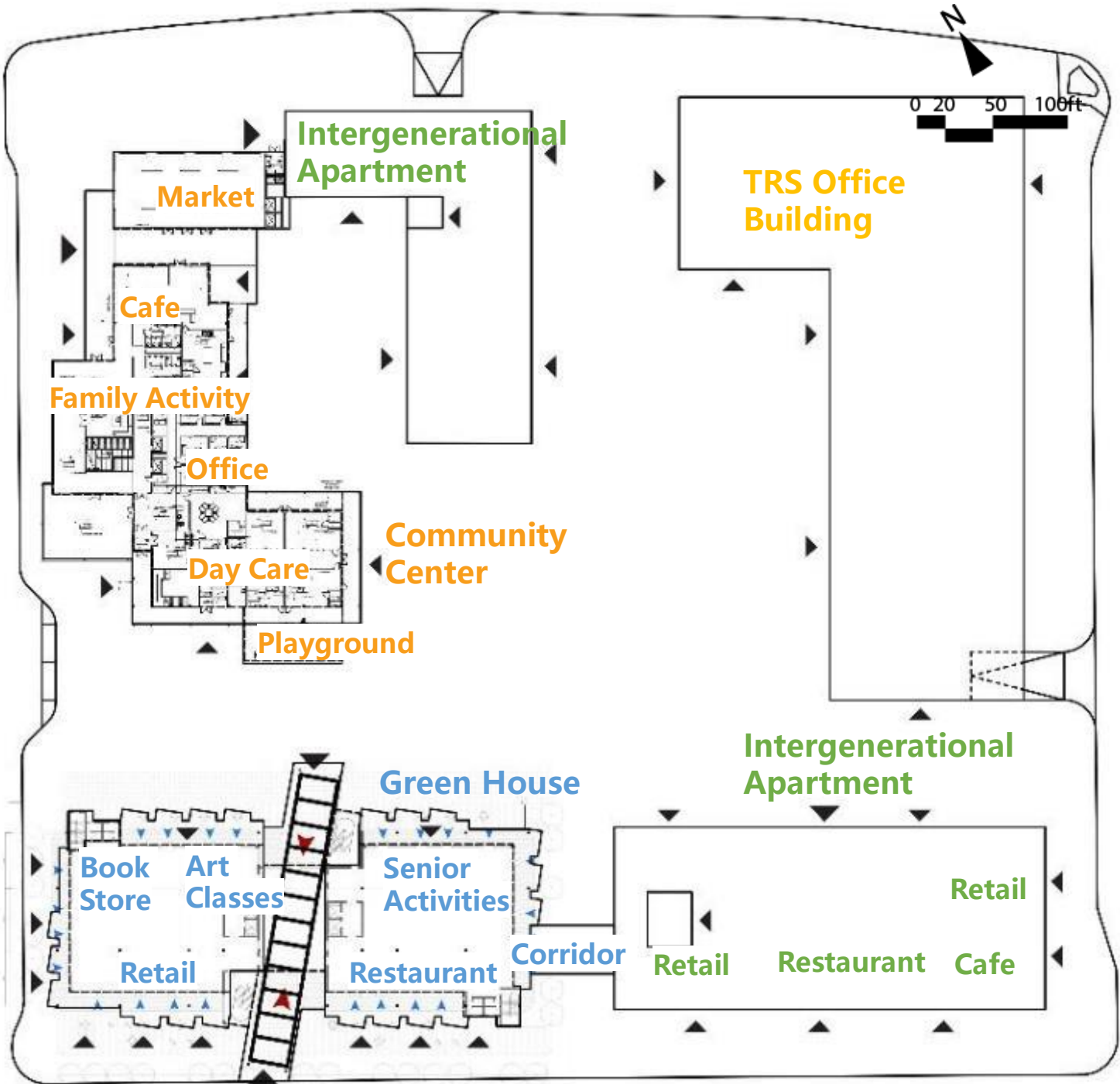
Interplay of rectilinear forms and interplay of different age groups

Strengths: Logical, Clear, Formal

- Easy to implement, especially if needed to implement the site design for the left half
- Consistent with the architectural forms/arrangements
- Clear boundaries and hierarchies between different areas
- Flexible and efficient use of spaces and circulation
- Clarify in forms and orientation
- Easier implementation with the phased construction

BUILDING ANALYSIS

BUILDING	USER	FUNCTION	DGSF (SF)	GROUND FLOOR (SF)	FLOOR	FIRST FLOOR FUNCTION
Intergenerational Apartment	Families with Different Ages	Long-term Living	320,760	80,190	5	Family Room
						Office
						Recreation Center
						Gym
						Café & Restaurant
						Retails
Green House (Ruomeng Li)	Senior Adults	Independent Living and Assistant Living	132,000	24,000	5	Book Store 1200 sf
	The Disabled					Art Classes 1200 sf
						Senior Activities 1200sf
						Groceries 2000 sf
						Pharmacy 2000 sf
						Shops 2*400 sf
						Restaurants 2*2000 sf
Community Center (Danielle Smith)	Residents	Community Activity Area, Retails	49,662	18,370	3	Family Activity Area
						Market & Retails
						Day care
						Children Playground
						Office
						Café
	Homeless People	Short-term Living, Training and Services				Commercial Kitchen
						Market
TRS Office Building	Employees	Office Room	192,500	48,125	4	Office
	Retired Teachers	Rest and Activity Area				Retails

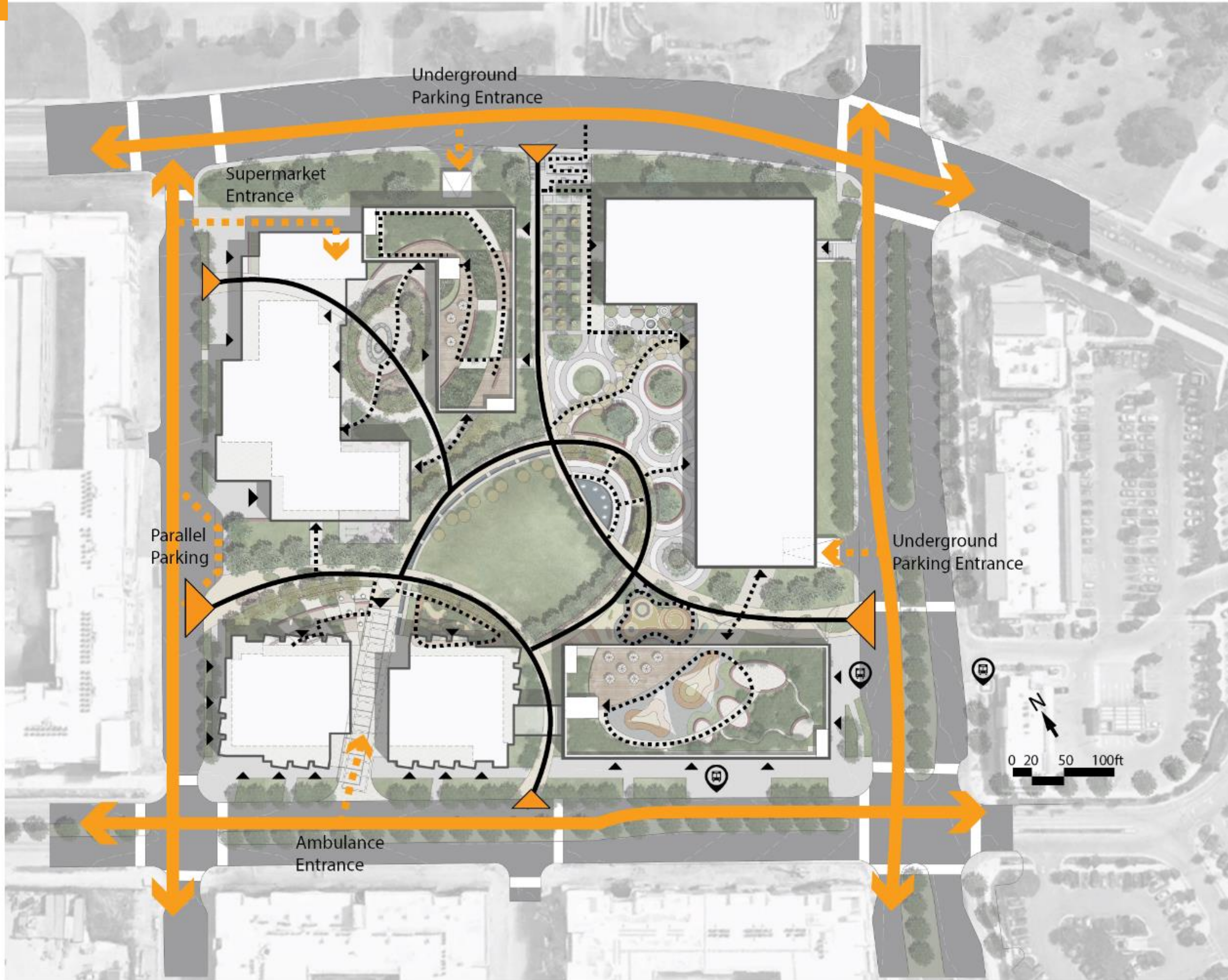


- Implications:**
- Interaction between indoor and outdoor spaces.
 - **Community Center:** Hall, family activity area – open plaza
Market – open plaza for a flea market on weekends
 - **Green house:** Bookstore – outdoor reading plaza
Art classroom – Outdoor handcraft studio, art exhibition board
 - **Intergenerational Apartment:** Recreation Center – Playground
Gym – Adult exercise area, multifunction exercise area
 - **TRS Office Building:** Office - rest area for staff

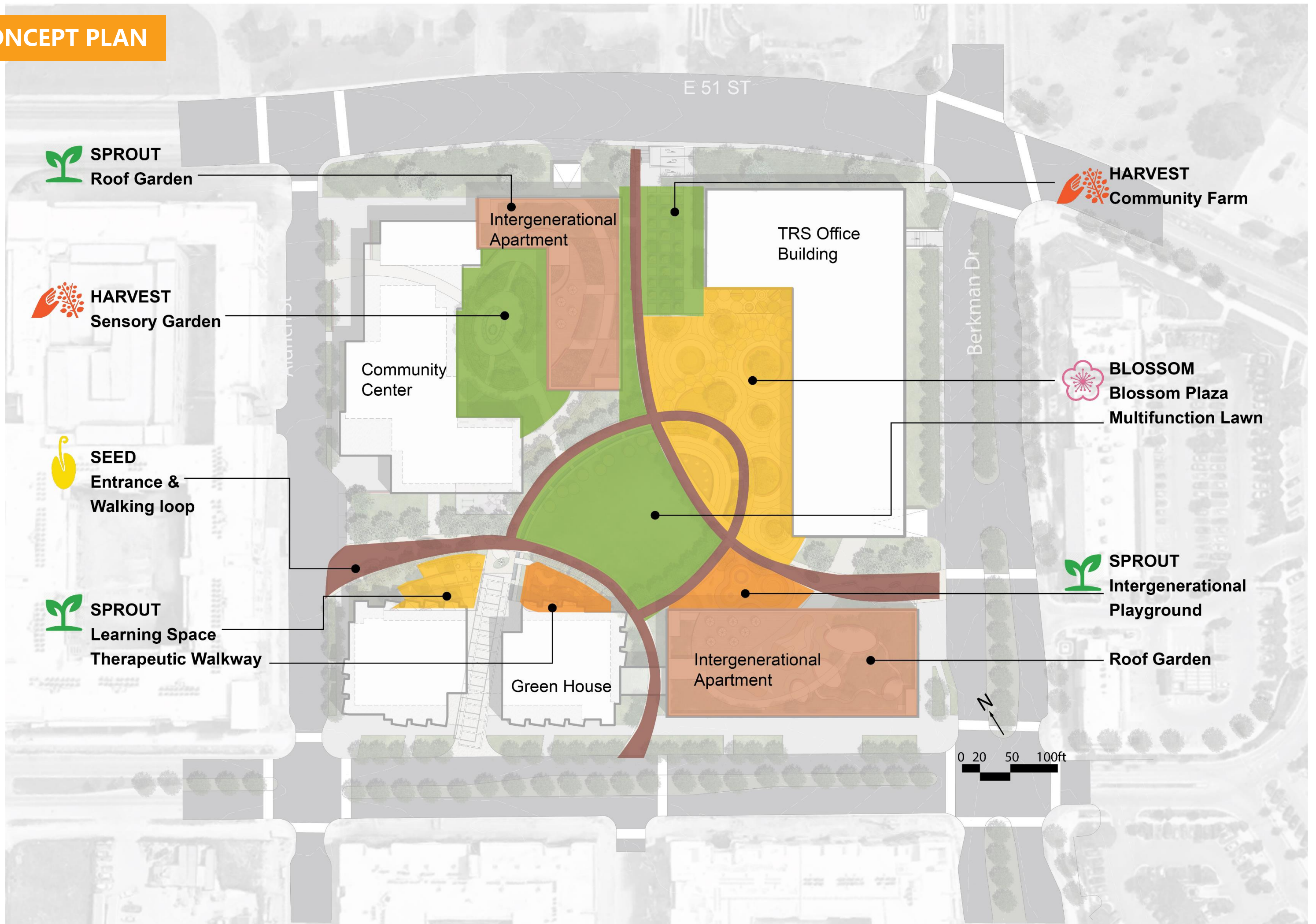
CIRCULATION ANALYSIS

SAFETY STRATEGIES FOR CIRCULATION

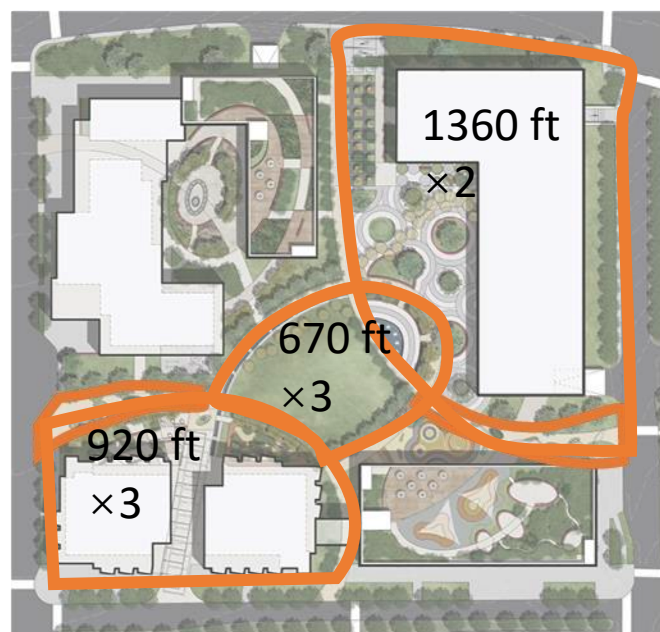
- The driveway of the **ambulance** entrance locates at south of the road for the greenhouse
- Most roads of the site mainly serve **pedestrians**, wide enough for two **wheelchairs** to pass at the same time
- **Fire engines** could work along the roads outside



CONCEPT PLAN



ENTRANCE AND WALKING LOOP

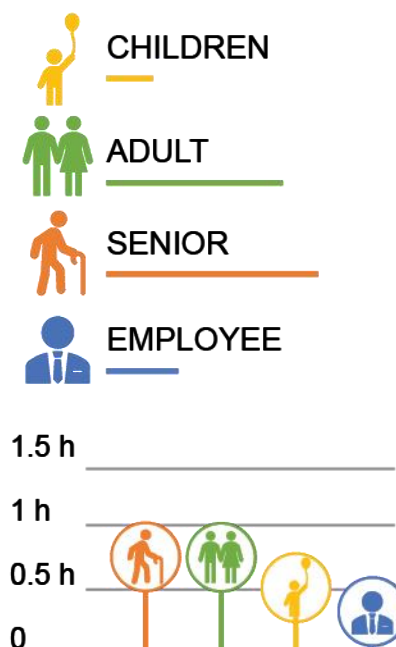


ACTIVITIES:

Wandering
Walking, Jogging
Walking the dog

PARTICULAR STRATEGIES:

Walkability
Accessibility
Safety and security



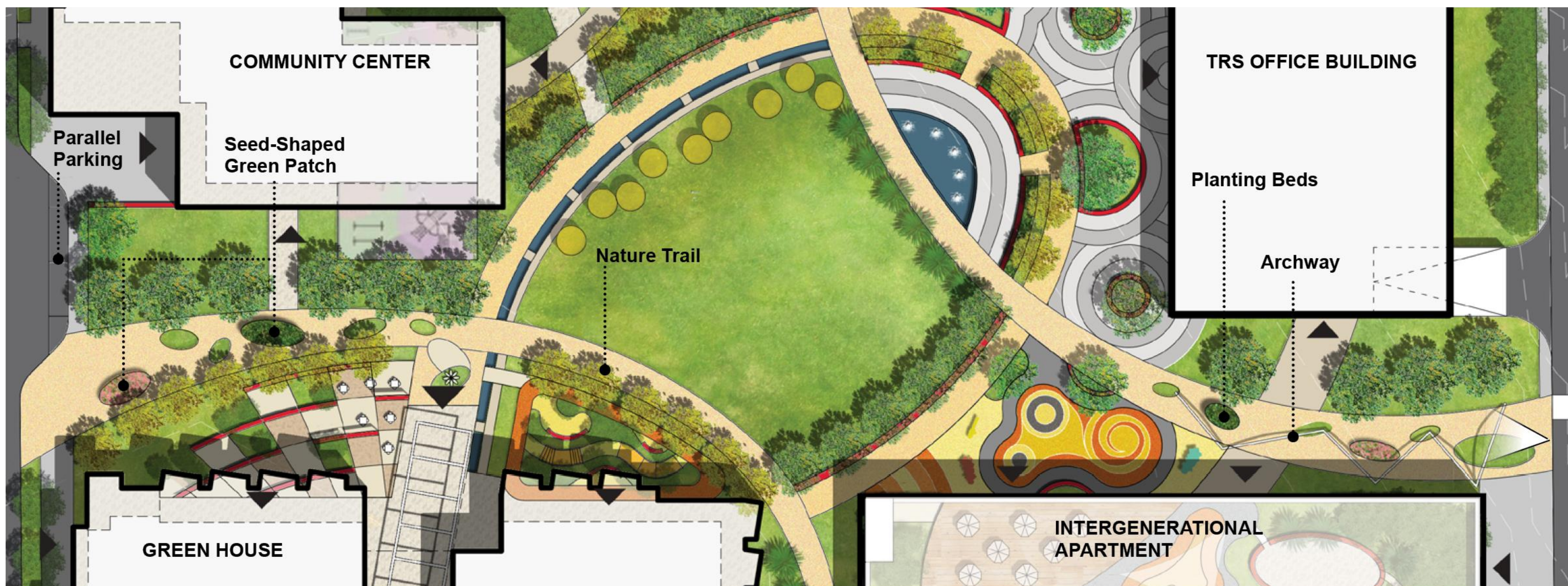
PHYSICAL ACTIVITY FOR OLDER ADULT

(Centers for Disease Control and Prevention):

- Brisk walking **30 minutes a day**, five days a week.
- The average walking speed for a senior (65-80 years old) is **2.8 miles per hour**.
- Walking **7400 feet per day** is required for older adults.
- The sum of the three circles is approximately 3000 feet.
- To meet their daily exercise needs, older people should walk the circle **two to three times**, while adults should walk four times.

https://www.cdc.gov/physicalactivity/basics/older_adults/index.htm

<https://www.healthline.com/health/exercise-fitness/average-walking-speed#takeaway>





ARCHWAY

The archway is used as an entrance feature to the community. The arch reflects the theme of CYCLE OF LIFE with lighting at night.



VEGETATION

The majority of plants are native plants that are easy to care for, require little maintenance, and provide a beautiful view for a long time.



ACCESSIBILITY

All of the roads are accessible with a level, non-slip paving. This provides a safe and accessible environment for people with disabilities and people in wheelchairs.



ACTIVITIES:

Making handcraft
Attending performances
Viewing Art exhibition
Adults reading books with children
Homework Help
Eating outside
Meeting friends

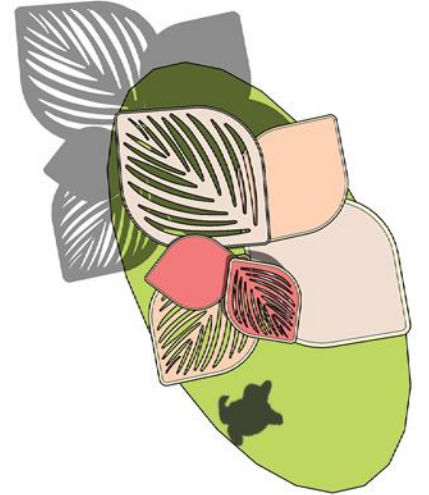
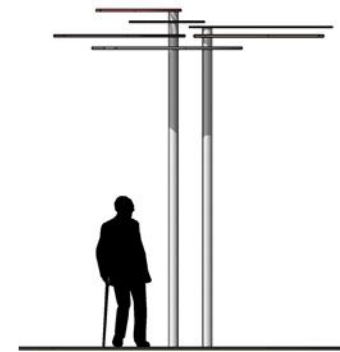
PARTICULAR STRATEGIES:

Social Engagement
Comfort
Accessibility
Walkability



SPROUT THEME SCULPTURE

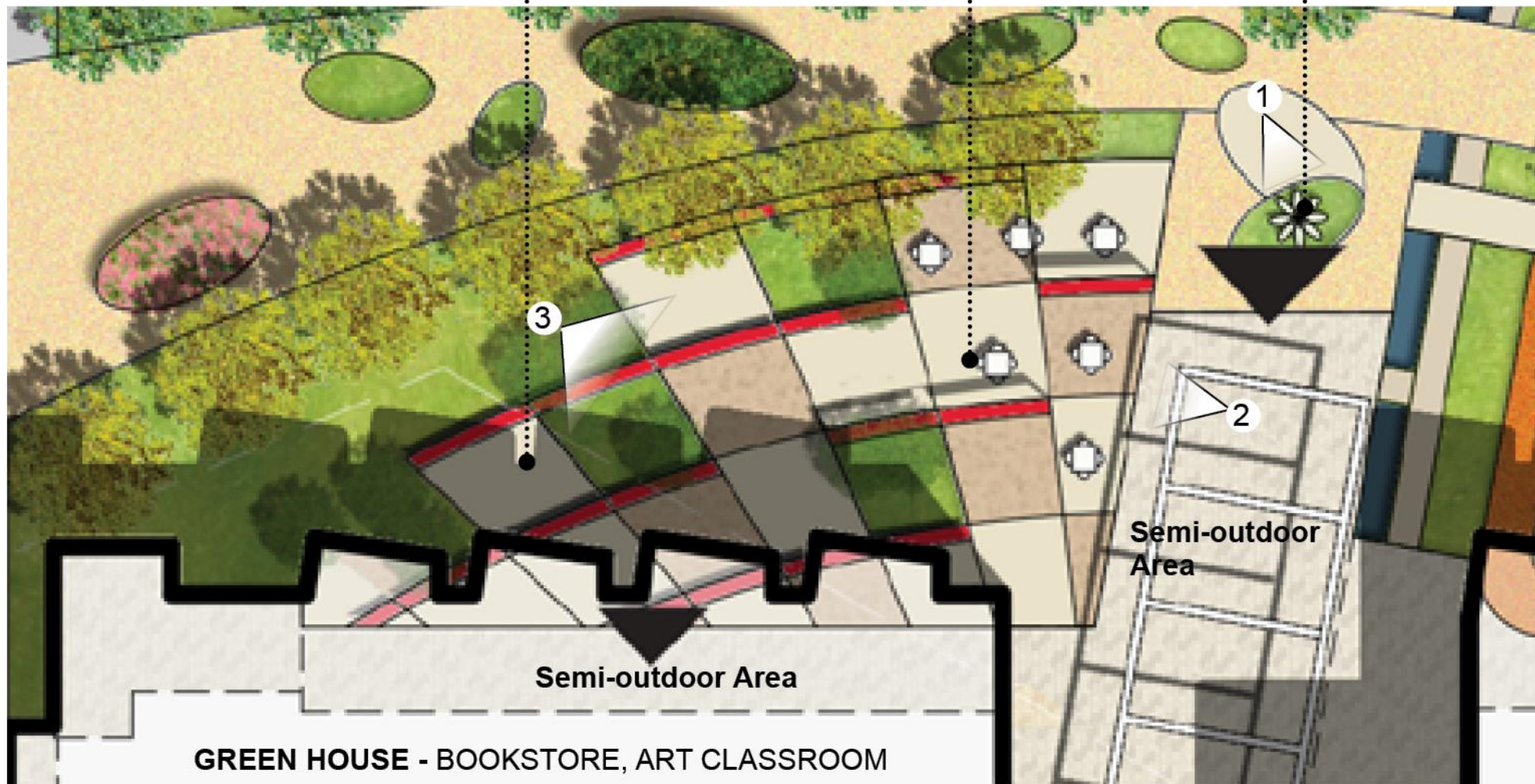
The leaf light sculpture represents the SPROUT theme at the greenhouse's entrance.



Reading Corner

Art Plaza & Handcraft Studio

Sprout Theme Sculpture

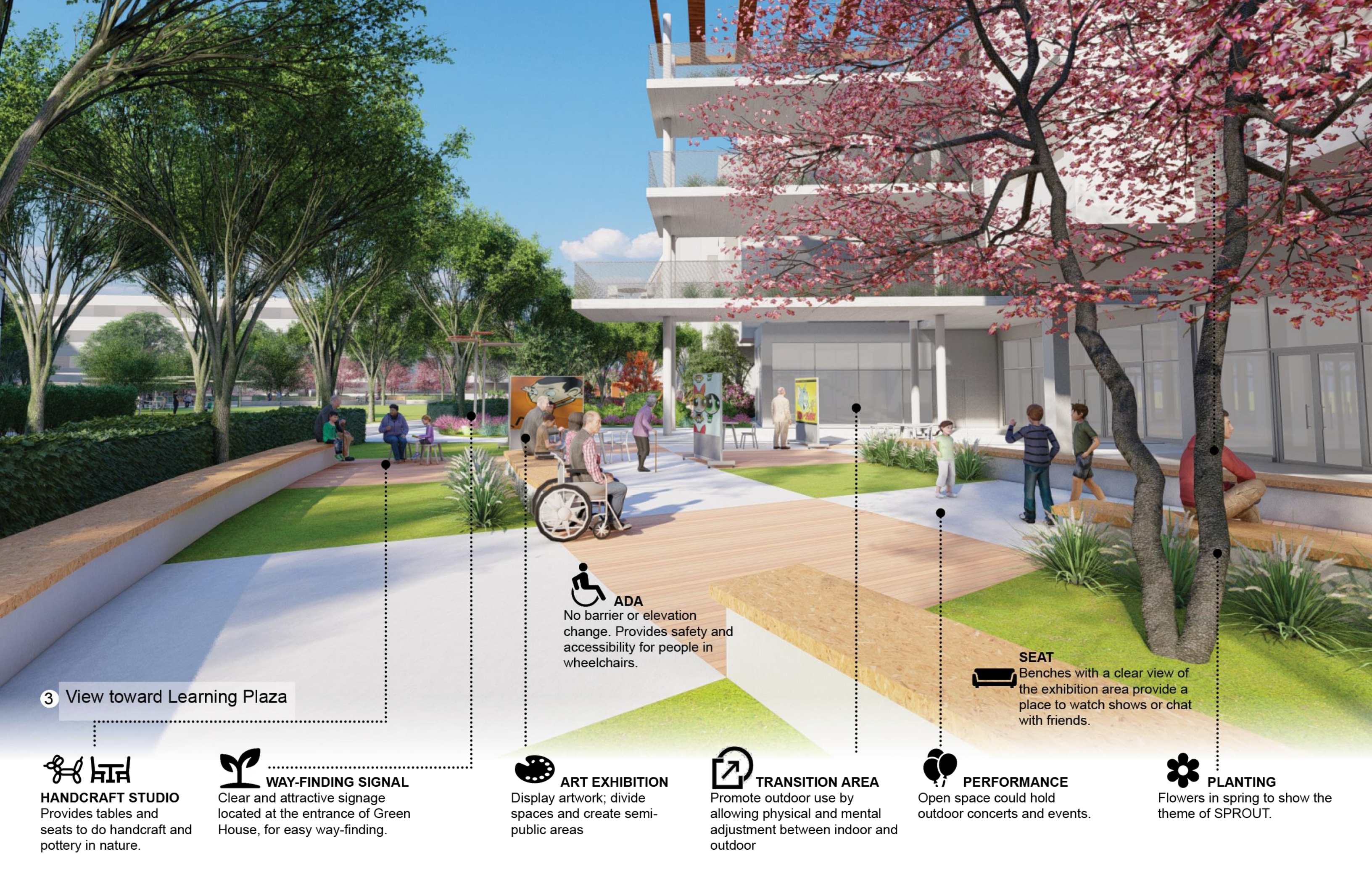


① SPROUT THEME SCULPTURE at night

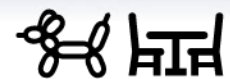


② Transition Area

The model of greenhouse is made by Ruomeng Li.



3 View toward Learning Plaza



HANDCRAFT STUDIO
Provides tables and seats to do handcraft and pottery in nature.



WAY-FINDING SIGNAL
Clear and attractive signage located at the entrance of Green House, for easy way-finding.



ADA
No barrier or elevation change. Provides safety and accessibility for people in wheelchairs.



ART EXHIBITION
Display artwork; divide spaces and create semi-public areas



TRANSITION AREA
Promote outdoor use by allowing physical and mental adjustment between indoor and outdoor



PERFORMANCE
Open space could hold outdoor concerts and events.



PLANTING
Flowers in spring to show the theme of SPROUT.



SEAT
Benches with a clear view of the exhibition area provide a place to watch shows or chat with friends.

THERAPEUTIC WALKWAY

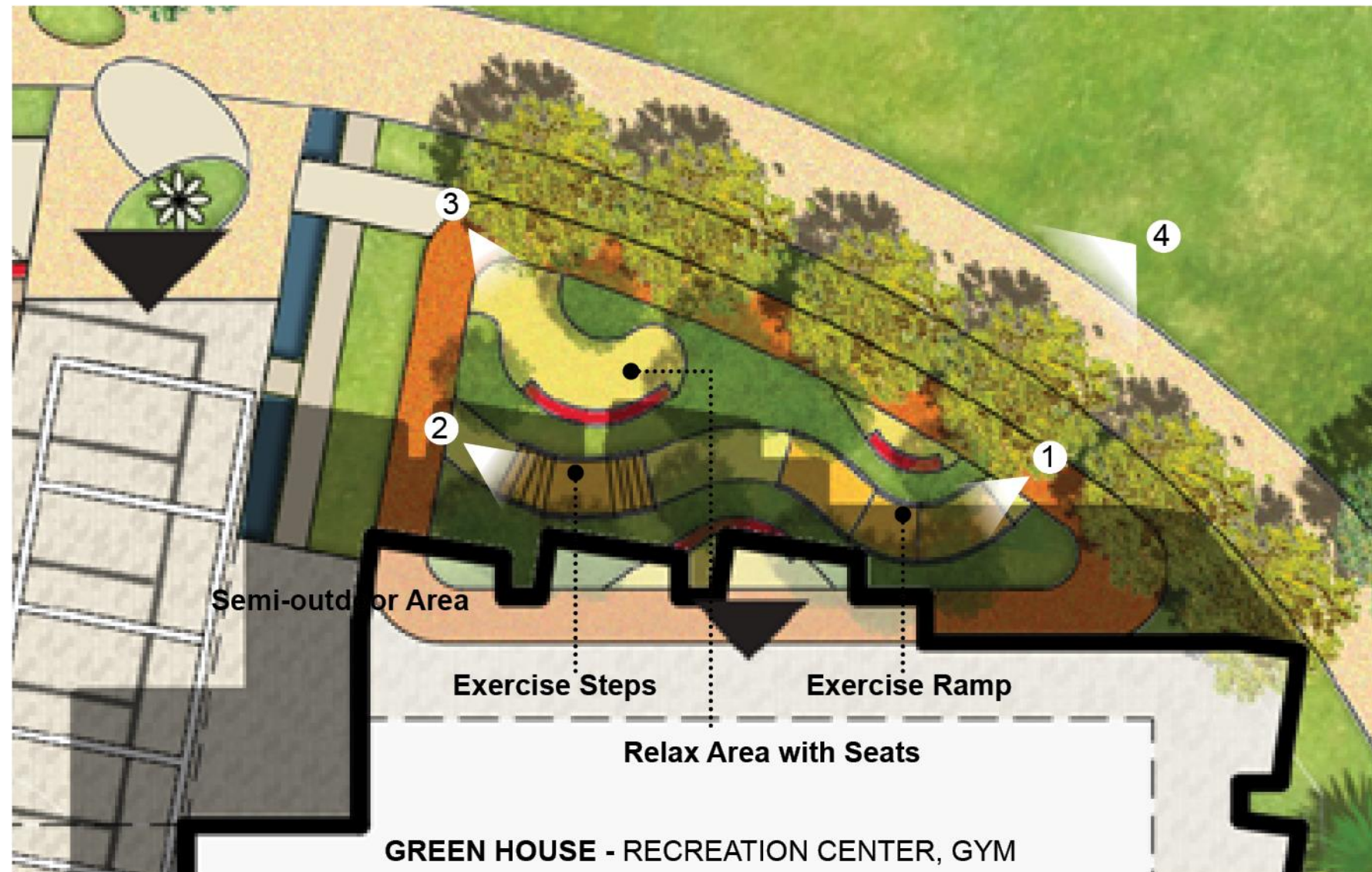


ACTIVITIES:

Therapeutic walking
Enjoying nature
Chatting

PARTICULAR STRATEGIES:

Therapy
Accessibility
Walkability
Biophilia
Comfort





SELECTED PLANTS

Selected plants that flower and change color in different seasons. Avoid plants that are poisonous, have thorns, fall down big fruits, or attract unwanted insects, pest or animals.



THERAPEUTIC WALKWAY

Gently curved paths wind encouraging walking. Alternate paths with ramps, stairs and a variety of surfaces provide opportunities for therapy.



WINDOW VIEW

Provides an attractive window view from seniors' living room.



PHYSICAL THERAPY STEPS

Patients exercise their upper body strength with steps and handrails.



SEAT

Comfy seats connect with a good view of the vegetation to provide a resting place for seniors.



INTERGENERATIONAL PLAYGROUND

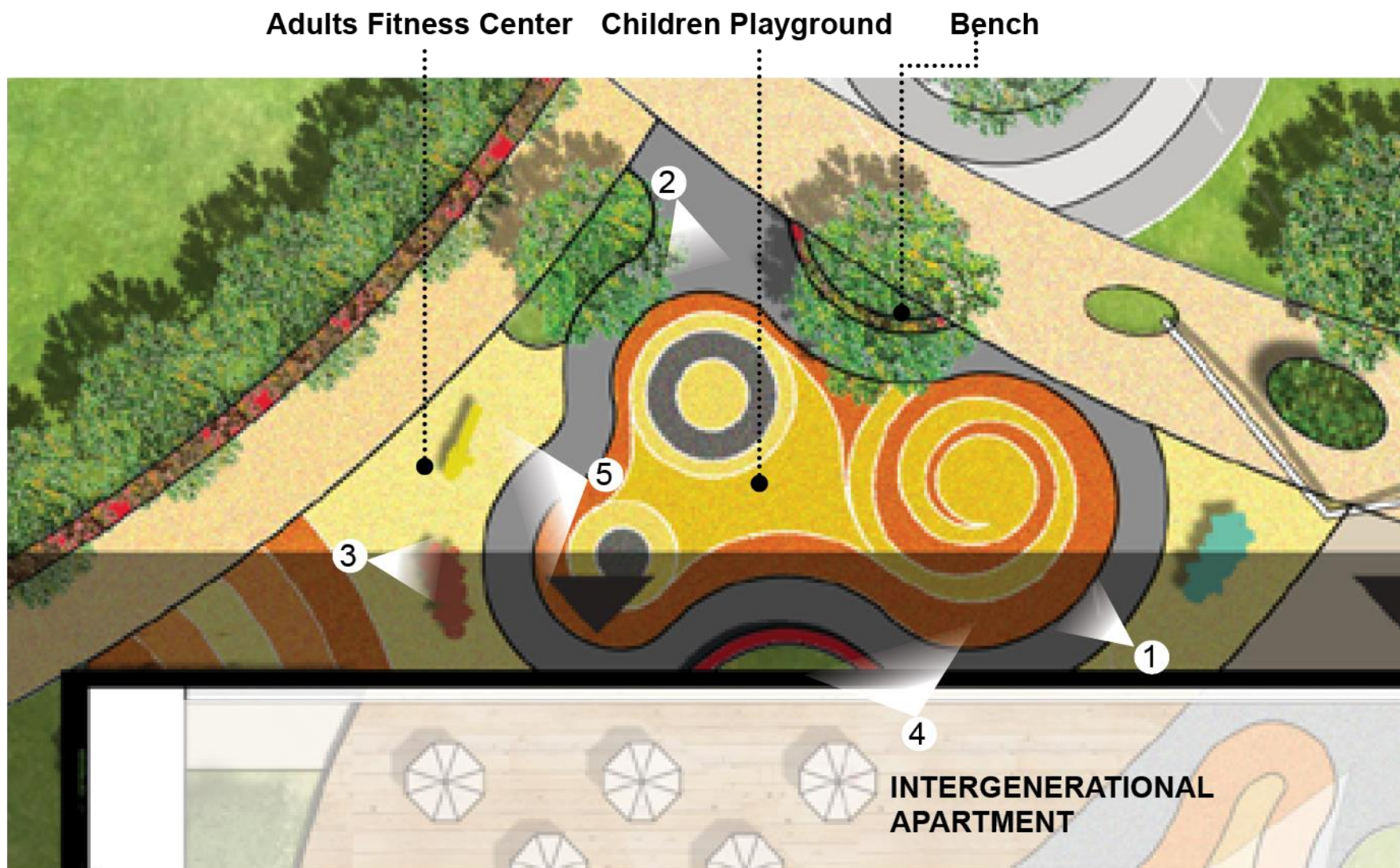


ACTIVITIES:

Children playing
Exercising

PARTICULAR STRATEGIES:

Social Engagement
Accessibility
Comfort
Safety and Security





ADULT FITNESS CENTER

Various adult exercise facilities were organized outside of the children's playground so that adults could keep an eye on the children while also exercising.
Low-impact exercise equipment to improving core muscle strength, flexibility, balance, and overall well-being of its users.



CHILDREN PLAYGROUND

A variety of amenities are arranged in three circles for children to play and climb.



SEAT

The curved seats surround the children's playground, providing a place for parents to rest and care for their children while also acting as a protective wall.



SHADE

Residents are shielded from the hot summer sun by the shadows cast by architecture and trees.



DIFFERENT FORMS OF SEATS

There are various types of seats available to meet the needs of people of various ages.



SEATS FOR THE SENIORS

The benches face the adult exercise area and have backs and handrails.



SEATS FOR CHILDREN WATCHER

The benches face the children playground.



LINER FLEXIBLE FURNITURE

It could be used as a bench and loungescape for residents to sit and lie on, as well as a climbing structure for kids to climb up and down.



AREAS FOR WHEELCHAIR

Make room for people in wheelchairs next to the seats

BLOSSOM PLAZA



ACTIVITIES:

Watching Blossom
Meeting Friends
Eating Out
Playing Chess
Reading
Watching Water Features

PARTICULAR STRATEGIES:

Social Engagement
Walkability
Comfort
Accessibility
Biophilia
Safety and Security





FUN CORNER

The fun corner features a fountain, an outdoor bookshelf, ground chess, play amenities, and seating for TRS employees to relax in nature.



WATER FEATURE

The double-layer fountain provides the residents with a lively sound of water and incredible scenery, which lowers the temperature in the summer.



BLOSSOM FLOWER TREE

The flowering trees located at the entrance of the TRS office building highlight the entrance. They bloom for three seasons, highlighting the theme of BLOSSOM PLAZA.



OUTDOOR DINING AREA

Outdoor table and seat sets for TRS employees to eat outside for lunch, get access to nature and reduce stress levels.



TRS OFFICE BUILDING

Provides good window views for employees



4 Bird View for Blossom Plaza

MULTIFUNCTION LAWN



ACTIVITIES:

Social conversation
Sunshine Bathing
Playing Balls,
Picnic

PARTICULAR STRATEGIES:

Social Engagement
Accessibility
Walkability
Biophilia
Comfort
Safety and Security



Liner Flexible Furniture





1



2



3



LINER FLEXIBLE FURNITURE

It could be used as a bench and loungescape for residents to sit and lie on, as well as a climbing structure for kids to climb up and down.



MULTIFUNCTION LAWN

Make available open spaces for various activities such as ball games, sunbathing, and picnics.



SHADED SEATING AREA

Protect residents (especially the older adults and children) from sunshine during the hot summer.



BLOSSOM PLAZA

4

Bird View for Multifunction Lawn

THERAPEUTIC WALKWAY

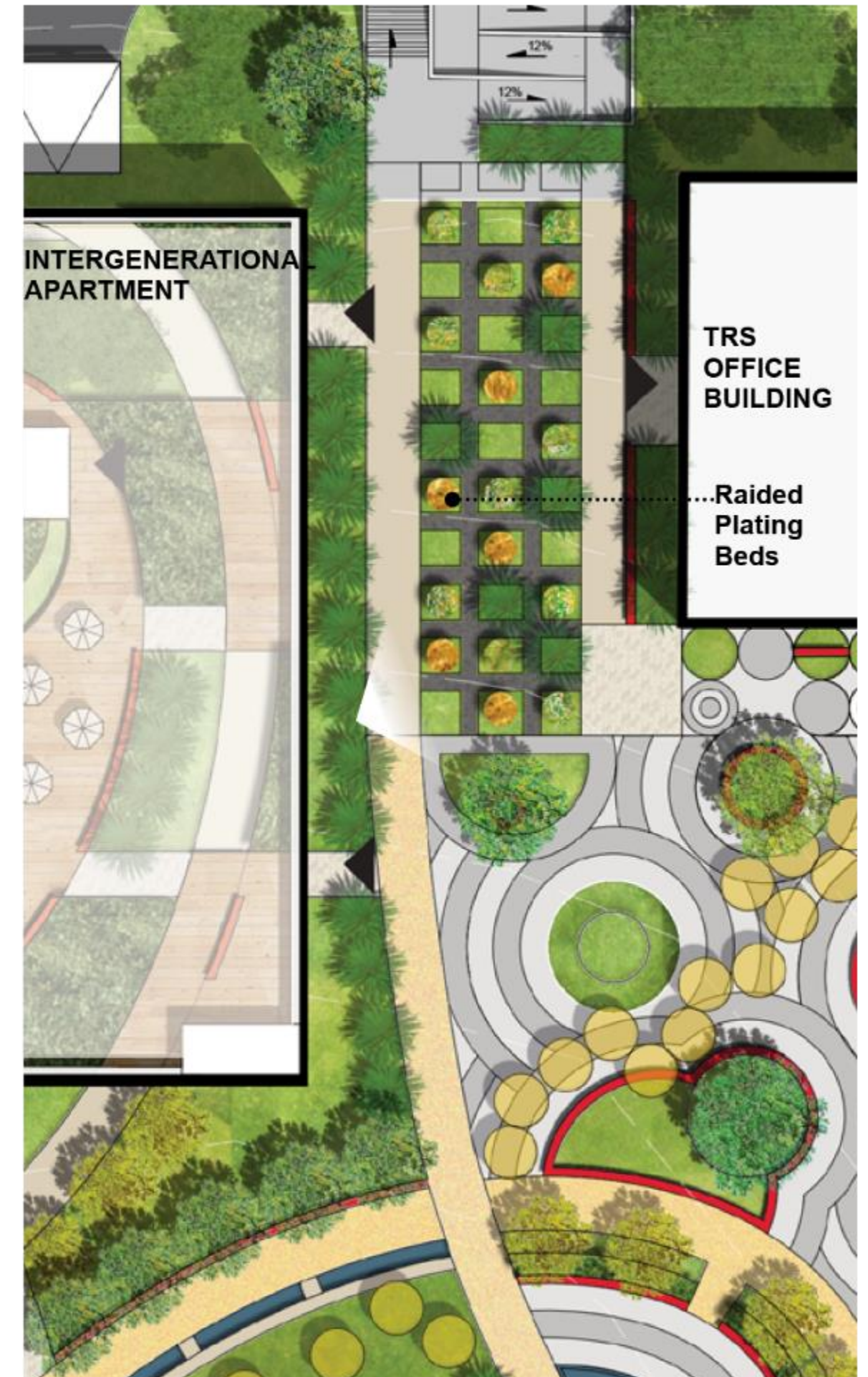


ACTIVITIES:

Picking fruits
Planting
Gardening
Social activity
Enjoying sunshine

PARTICULAR STRATEGIES:

Social Engagement
Accessibility
Biophilia
Therapy
Separation
- The community farm acts as a barrier between the **intergenerational apartment** and the **TRS office building**, allowing **work and home life** to be separated.





ORCHARD

The orchard along the roads allows residents to pick mature fruits and eat at the nearby picnic tables.



SHARED GARDENS

Encourage interactive interaction including planting, watering, gathering through gardening and provide community market or flea fair for food exchange.



RAISED PLANTING BED

Makes gardening more accessible to people in wheelchairs.



GATHERING PLAZA

Provides open space to gather fruits and vegetables in the fall.



SEAT

Provides rest area for residents after gardening



Pervious Color Concrete

SENSORY GARDEN

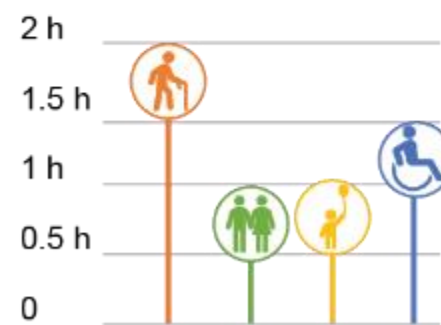


ACTIVITIES:

Sensory stimulation:
Touching, smelling, watching, hearing,
tasting
Dry fountain play
Fountain light show with music

PARTICULAR STRATEGIES:

Therapy (Sensory Stimulation)
Biophilia
Social Engagement
Accessibility
Walkability
Comfort



The model of community center is made by Danielle Smith.



1



SEASONAL VIEW

Different trees and flowers create various views with beautiful flowers, leaf color and fruits, to provide a beautiful and changeable environment for residents.



SENSORY STIMULATION

Provides different vegetation for watching, hearing, touching, smelling and tasting to stimulate different senses of residents for healing therapy, especially for dementia residents.

2



DRY FOUNTAIN

Provides children a place to play with water and brings coolness in summer. There are special light and music shows connected to the fountain during summer nights and special events.

3



LINER BENCH

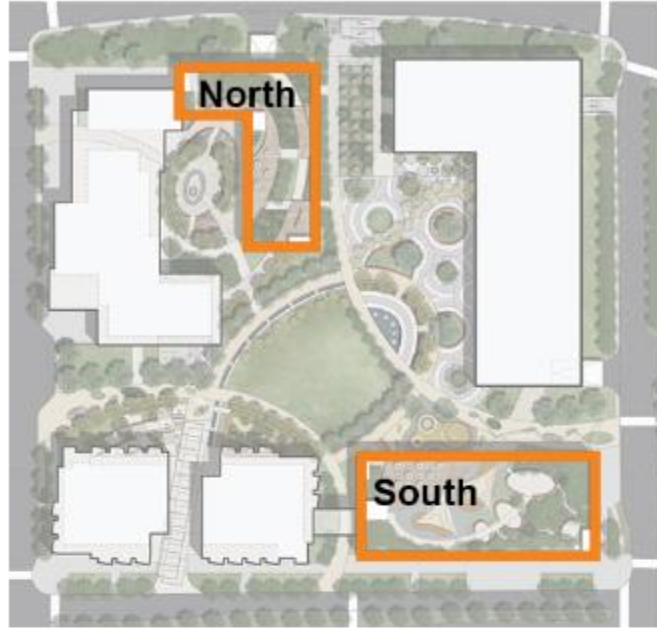
The liner bench along the road provides a good place for residents to enjoy the sensory garden.



4

Bird View for Sensory Garden

ROOF GARDEN

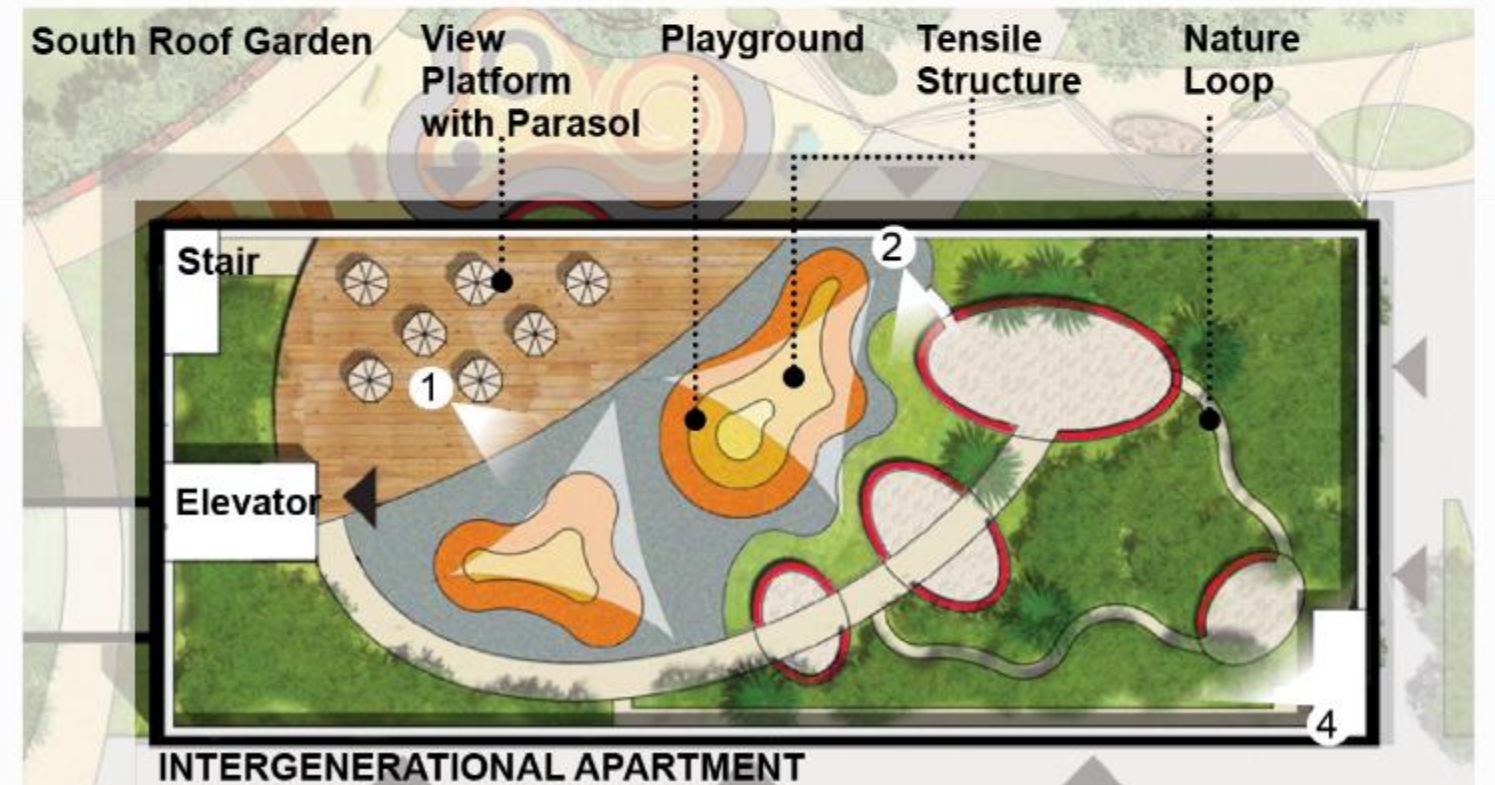
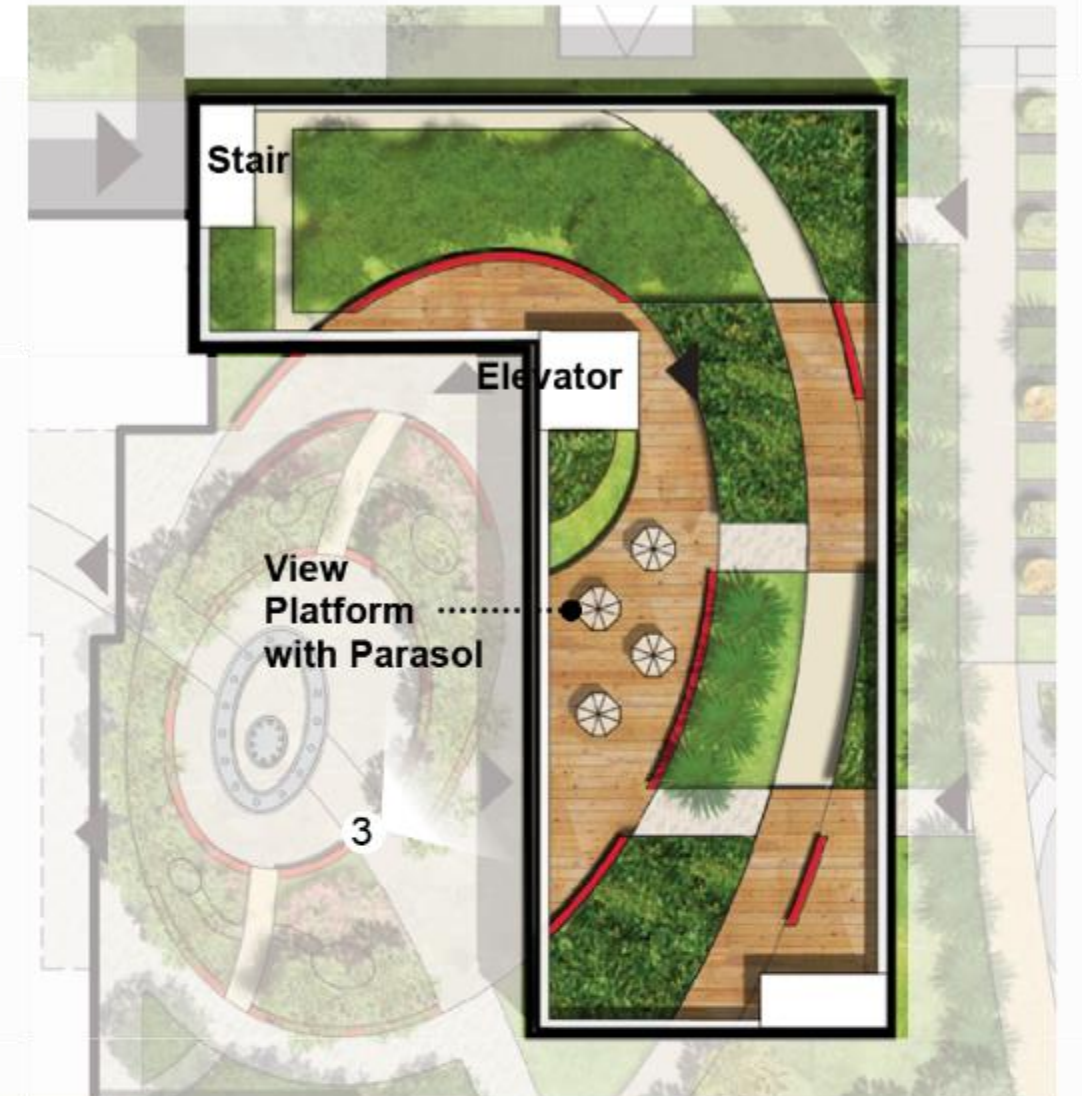
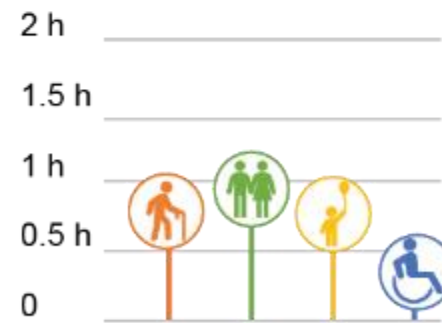


ACTIVITIES:

Sightseeing
Shopping
Dining

PARTICULAR STRATEGIES:

Biophilia
Social Engagement
Accessibility
Walkability
Comfort





1
South Roof Garden



2
South Roof Garden



3
North Roof Garden



RETAIL & RESTAURANT

The ground floor, which faces the main road, is used for retail and restaurants that sell daily necessities and healthy food close to homes.



SHADED SEATING AREA

Provides trees and parasols to protect residents from sunshine during the hot summer.



SEMIPRIVATE AREA

Provide semiprivate area for residents to meet and chat.



TRAILS

Long, continuous, and curved trails for recreational walking. Adequate width for wheelchair, families, and staff to go through together



SEAT

Adequate rest area along the road including benches and seats with protection background



MICROCLIMATE

The vines on the facade and roof garden provide a cooling environment for the buildings.



4

South Roof Garden

SUMMARY



Safety and Security

- Non-slip paving
- Enough seats with handrail and back
- Sufficient lights
- Good visibility and supervision in outdoor space



Comfort

- Temperature moderation/ control
- Shadowing in hot area
- Comfortable seat with backrest, handrail



Walkability

- Trails without crowds and collisions
- No trip hazards
- Low-glare paving



Accessibility

- Easy access to nature
- Easy wayfinding
- Appropriate walking distance



Therapy

- Sensory Stimulation
- Exercise and active living programs
- Therapeutic landscape for seniors and disables
- Amenities to promote outdoor activities
- Engagement activities related to art, music, nature



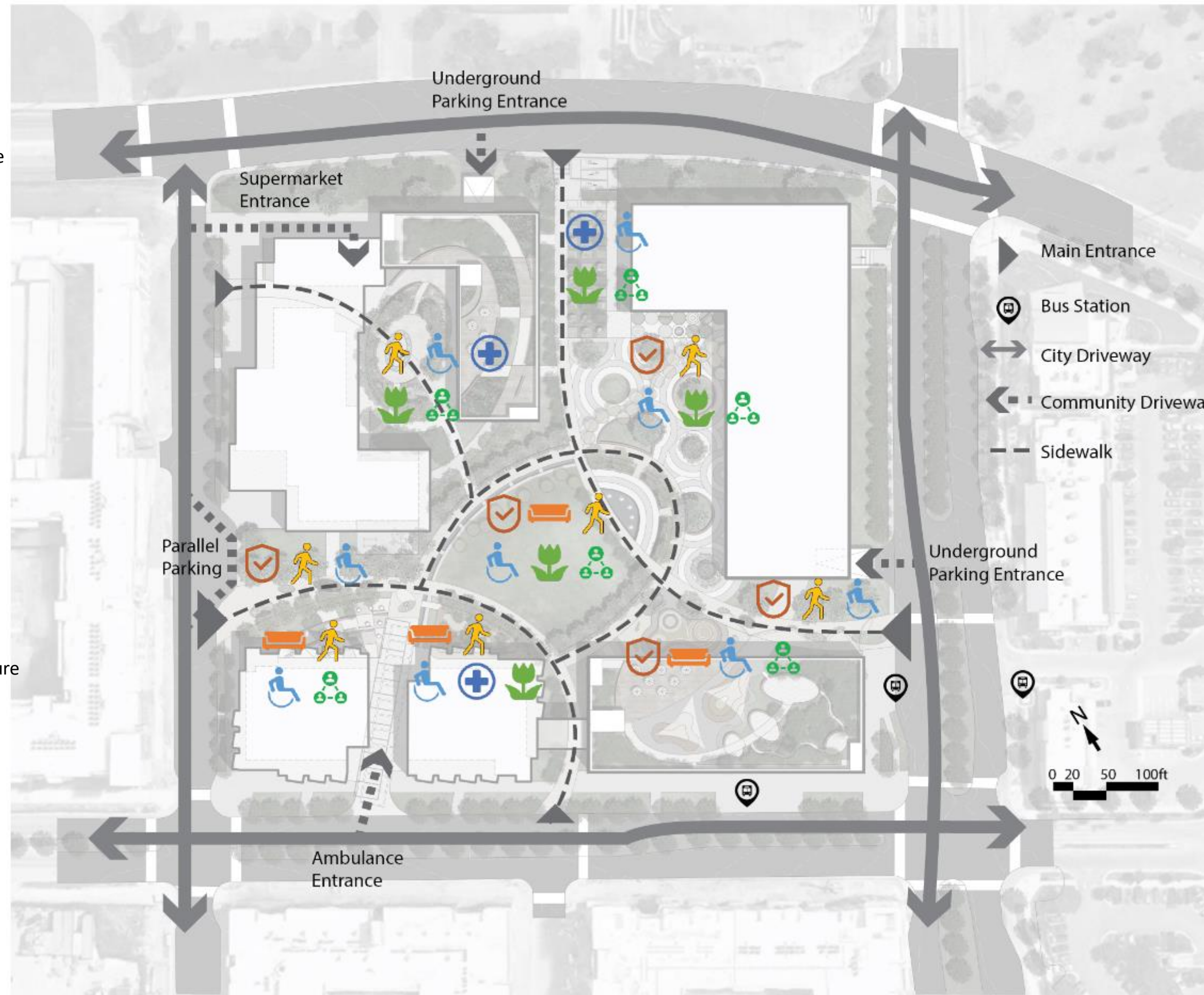
Biophilia

- Path in nature
- Community farm for gardening
- Local microclimate environment



Social Engagement

- Public area for social participation
- Urban agriculture for intergenerational interaction
- Social integration events for all ages
- Intergenerational interaction that are mutually beneficial





<https://www.designspiration.com/save/17853509760513/>

D

DESIGN ANALYSIS

Intergenerational Interaction_01

Parking Analysis_02

Topography Analysis_03

Section_04

Planting Analysis_05

Next Step_06

Conclusion_07

USER & PROGRAMMING

Residents, Homeless People, and Visitors in Community Center



AGE

Residents – all ages
Homeless

- 73.7% ≥ 24 ,
- 7.5% 18-24,
- 18.8% <18

NEEDS

- Commercial and retail spaces
- Community engagement spaces
- Public green spaces
- Shelters for homeless people
- Job training and opportunities
- Therapy for mental disorders

INTERGENERATIONAL INTERACTION

- Take care of kids
- Learn experience from senior adults
- Organize events for memorial day
- Organize a yard sale or flea market

Senior Adults and Those with Disabilities in Greenhouse



- Senior residents ≥ 65
- The disabled- all ages

- Independent living
- Assistant living
- On-site health care services
- Safety
- Participate into social activities

- Help kids with their homework
- Give free music/art/handcraft classes to kids and the homeless
- Plant trees, flowers, fruits in community farm
- Learn new(internet) skills

Families in Intergenerational Apartments



- Children and teenager 0-18
- Young people 19-34
- Middle age 35-64
- Seniors ≥ 65

- Affordable housing
- Playground
- Educational area & amenities
- Health and fitness facilities

- Plant trees, flowers, fruits in community farm
- Give internet class/online guidance to senior adults and homeless people

Employees and Retired Teachers in Teaching Retirement System



- Employees ≥ 18
- Retired teachers ≥ 65

- Green space for break time
- Enough space for a large number of people flow during rush hours

- Plant trees, flowers, fruits in community farm
- Job training for the homeless

- Age-Friendly Communities

A place with policies, services, settings, and structures that encourage all residents to actively **age in place** and maintain their functional capacity over their entire lifetime, including early life, adult life, and older age.

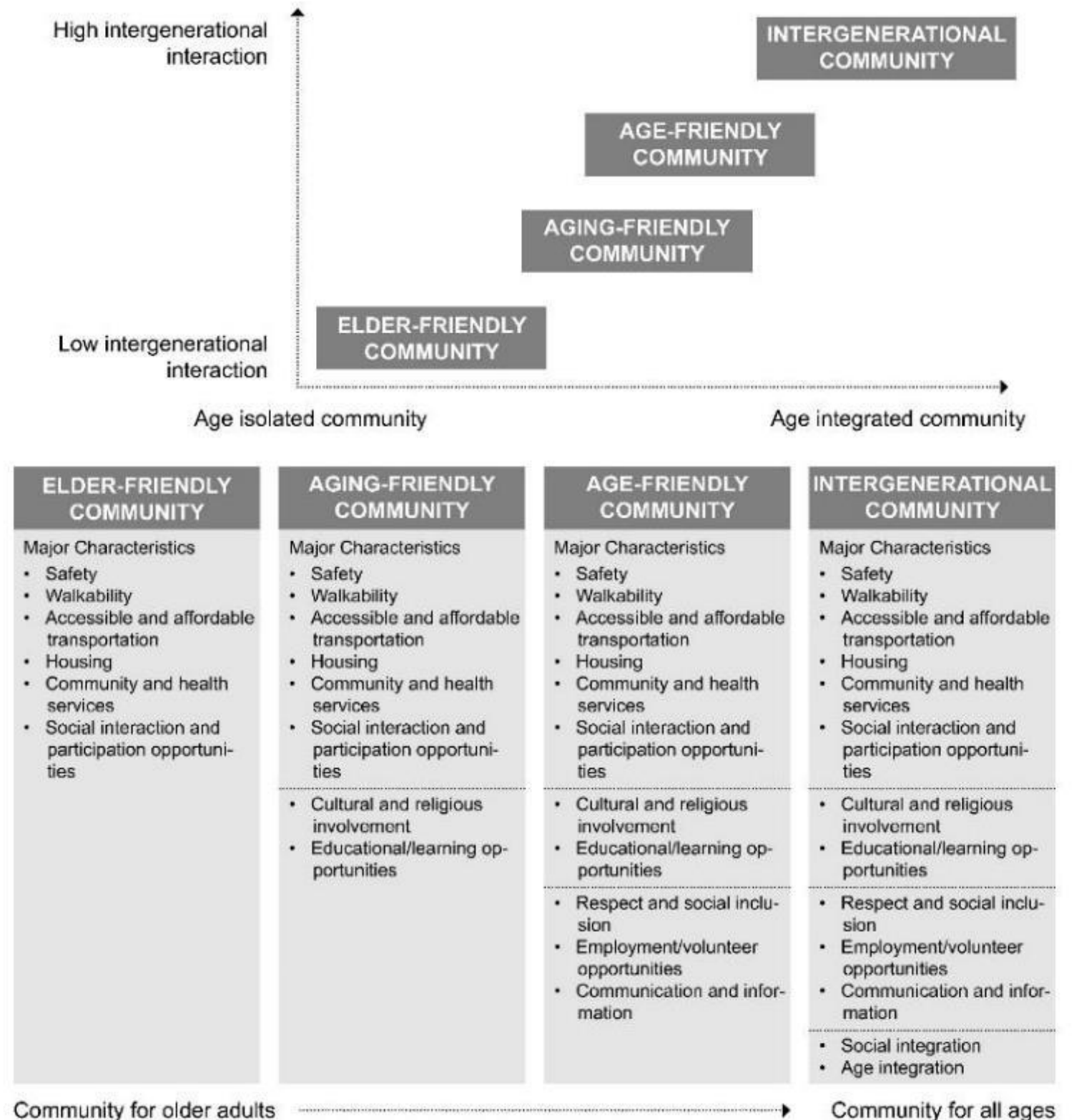
Design principles

Category	Subcategory
Landscape Features	Aesthetics, Legibility, Soundscape and Air Quality, Sunshine and shade, Cultural heritages
Infrastructures and Facilities	Trails, Intersections, Seating
Maintenance	Recreational facilities, Business settings and toilets, Cleanliness, Security
Accessibility	The proximity of green space, Travel modes other than walking, Interactions with others

Intergenerational Communities

- Provides adequately for the safety, health, education and basic necessities of life for people of **all ages**;
- Promotes programs, policies, and practices that **increase cooperation, interaction, and exchange** between people of different generations;
- Enables all ages to share their talents** and resources and **support each other** in **relationships** that benefit both individuals and their community.

Type of Communities



Seasonal Activity Schedule

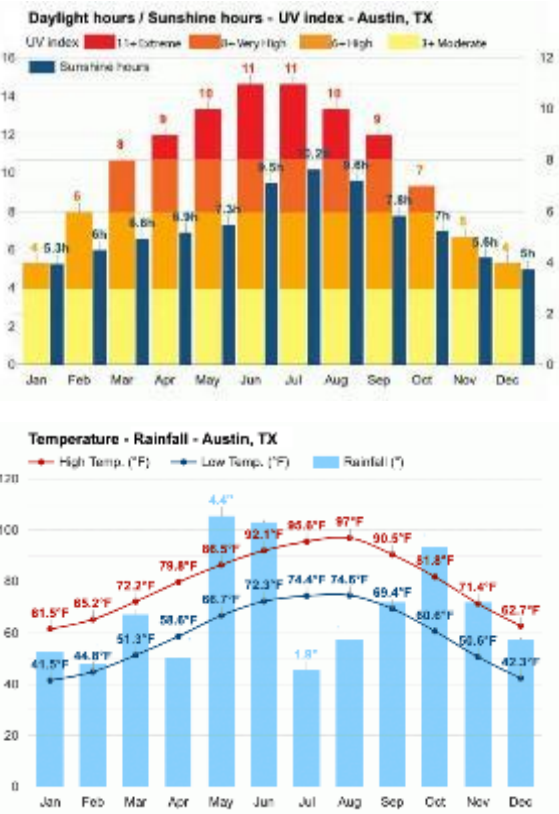
Sunrise and Sunset Times in Austin, TX

	January	February	March	April	May	June	July	August	September	October	November	December
Sunrise	7:30am	7:30am	7am	7am	6:30am	6:30am	6:30am	7am	7am	7:30am	7am	7am
Sunset	5:30pm	6pm	6:30pm	7pm	8pm	8:30pm	8:30pm	8:30pm	8pm	7pm	6pm	5:30pm

Best month to enjoy outdoor	Activities
Daytime	Sunshine bathing
Night	Watch Sky
	Movie Night
	Music Show
	Light Music Show in Spray Plaza

https://www.meteoblue.com/en/weather/historyclimate/climatemodelled/austin_united-states-of-america_4671654
<https://www.timeanddate.com/sun/usa/austin?month=12&year=2020>
<https://uv.willyweather.com/tx/travis-county/austin.html>

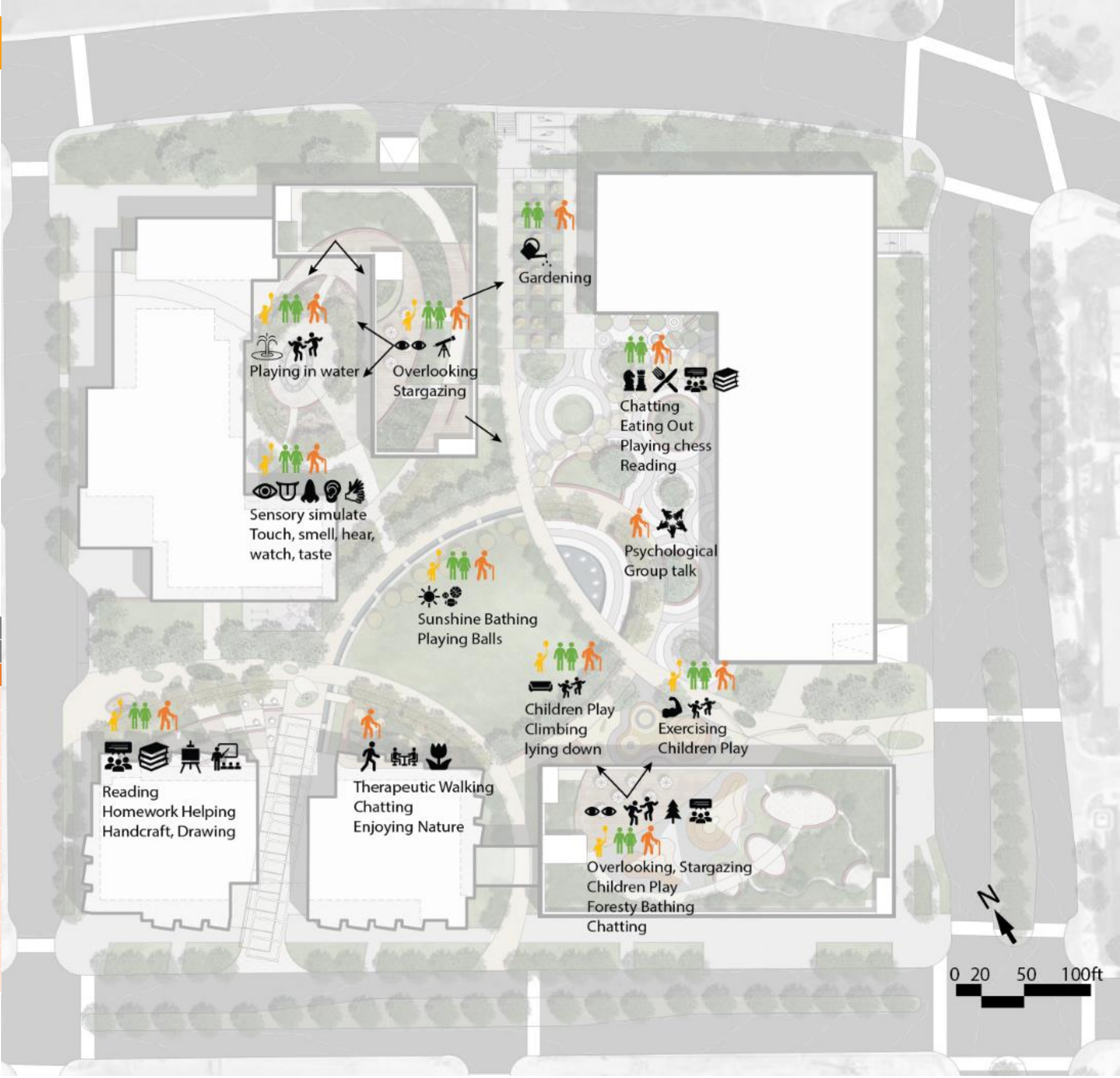
ACTIVITIES DUE TO SEASON				
SITE	SEASON SCHEDULE			
	Spring	Summer	Fall	Winter
Roof Garden	Chatting, Children Play			
	Stargazing, Overlooking			
Community Farm	Gardening			
	Sowing	Pruning	Gathering	
Reading Corner	Reading Book, Homework Helping			
Art Studio	Music, Dance Show, Art Show			
	HandCraft Making			
Intergenerational Playground	Children Play, Exercising			
	Watching Blossom			
Blossom Plaza	Meeting Friends, Eating Out, Playing chess, Reading			
Liner Flexible Furniture	Siting and lying down, Children Play, Climbing			
Walking Loop	Walking, Running			
Dry Fountain	Playing with Water , Fountain Light Show			
Sensory Garden	Smelling, Touching, Watching, Tasting, Hearing			
Therapeutic Walkway	Therapeutic Walking, Chatting			
Multifunction Lawn	Sunshine Bathing, Playing Balls, Picnic			



Weekday Activities

On weekday afternoons, seniors could look after children and spend time together doing activities. Such as homework helping in the learning plaza, playing together at the intergenerational playground and the dry fountain.

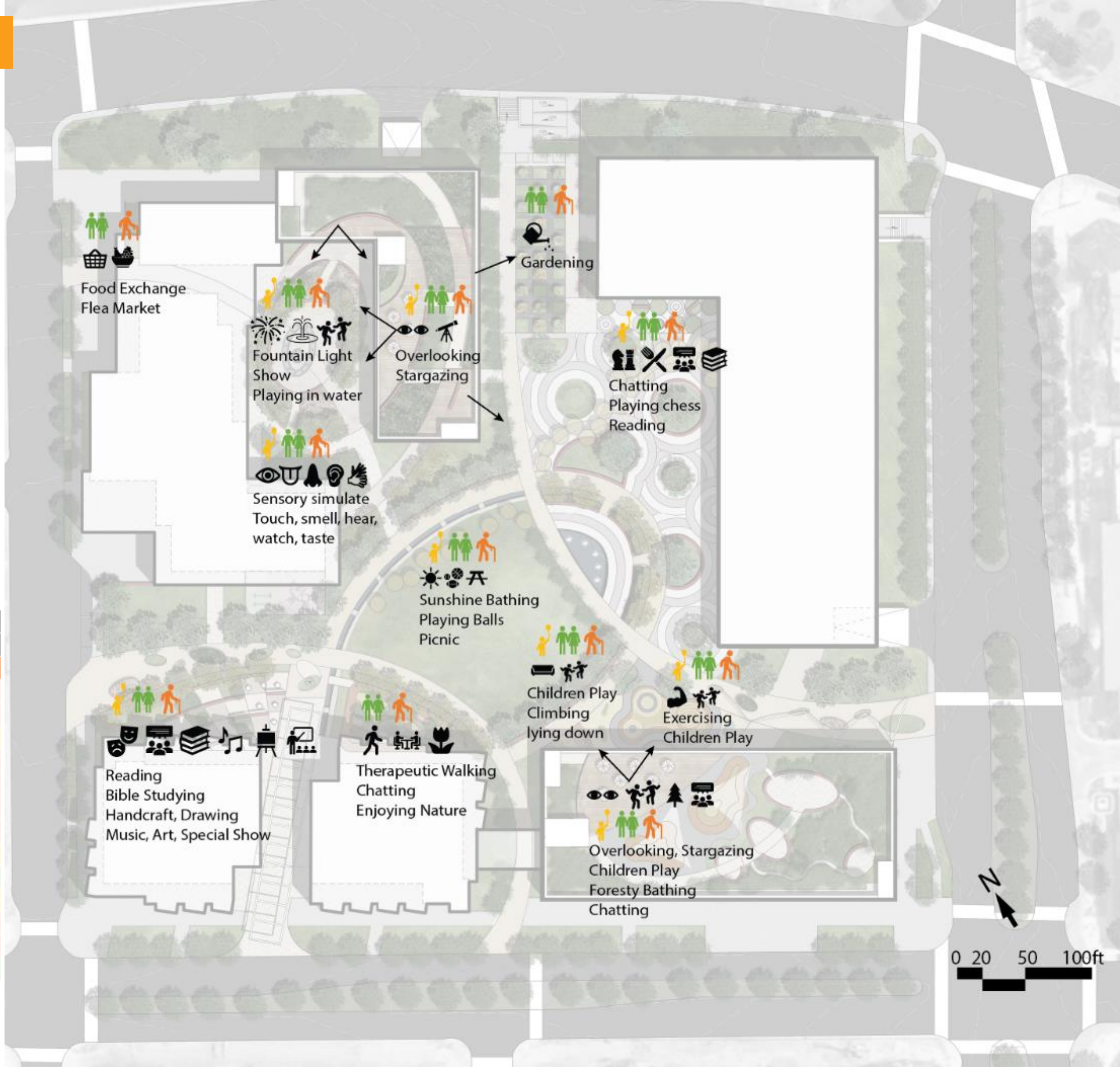
SITE	WEEKDAY		
	USERS SCHEDULE		
	Children	Adult	Senior
Roof Garden	4-9pm	6-10pm	8am-9pm
Community Farm		6-8am,pm	7am-6pm
Reading Corner	4-6pm		10am-6pm
Art Studio	4-6pm		10am-6pm
Intergenerational Playground	4-7pm	5-7pm	7am-7pm
Blossom Plaza		8am-5pm	10am-6pm
Liner Flexible Furniture			4-7pm
Walking Loop		4-8pm	7am-6pm
Dry Fountain	4-8pm		10am-6pm
Sensory Garden	4-6pm		10am-6pm
Therapeutic Walkway			7am-7pm
Multifunction Lawn	4-8pm		10am-6pm



Weekends Activities

On weekends, there are more public activities for all ages, such as **fountain light shows** in the **sensory garden**, **music or art shows** in the **learning plaza**, and **flea markets** in the **community center plaza**.

SITE	WEEKEND		
	USERS SCHEDULE		
	Children	Adult	Senior
Roof Garden	10am-9pm	10am-11pm	10am-10pm
Community Farm		8am-6pm	
Reading Corner		10am-6pm	
Art Studio		10am-6pm	
Intergenerational Playground	8am-7pm	8am-7pm	
Blossom Plaza		10am-6pm	
Liner Flexible Furniture		10am-6pm	
Walking Loop		8am-8pm	
Dry Fountain		10am-10pm	
Sensory Garden		10am-6pm	
Therapeutic Walkway		10am-6pm	
Multifunction Lawn		10am-6pm	



INTERGENERATIONAL INTERACTION

Susan's One Day

Susan

AGE: 70 yrs.

JOB: Retired teacher

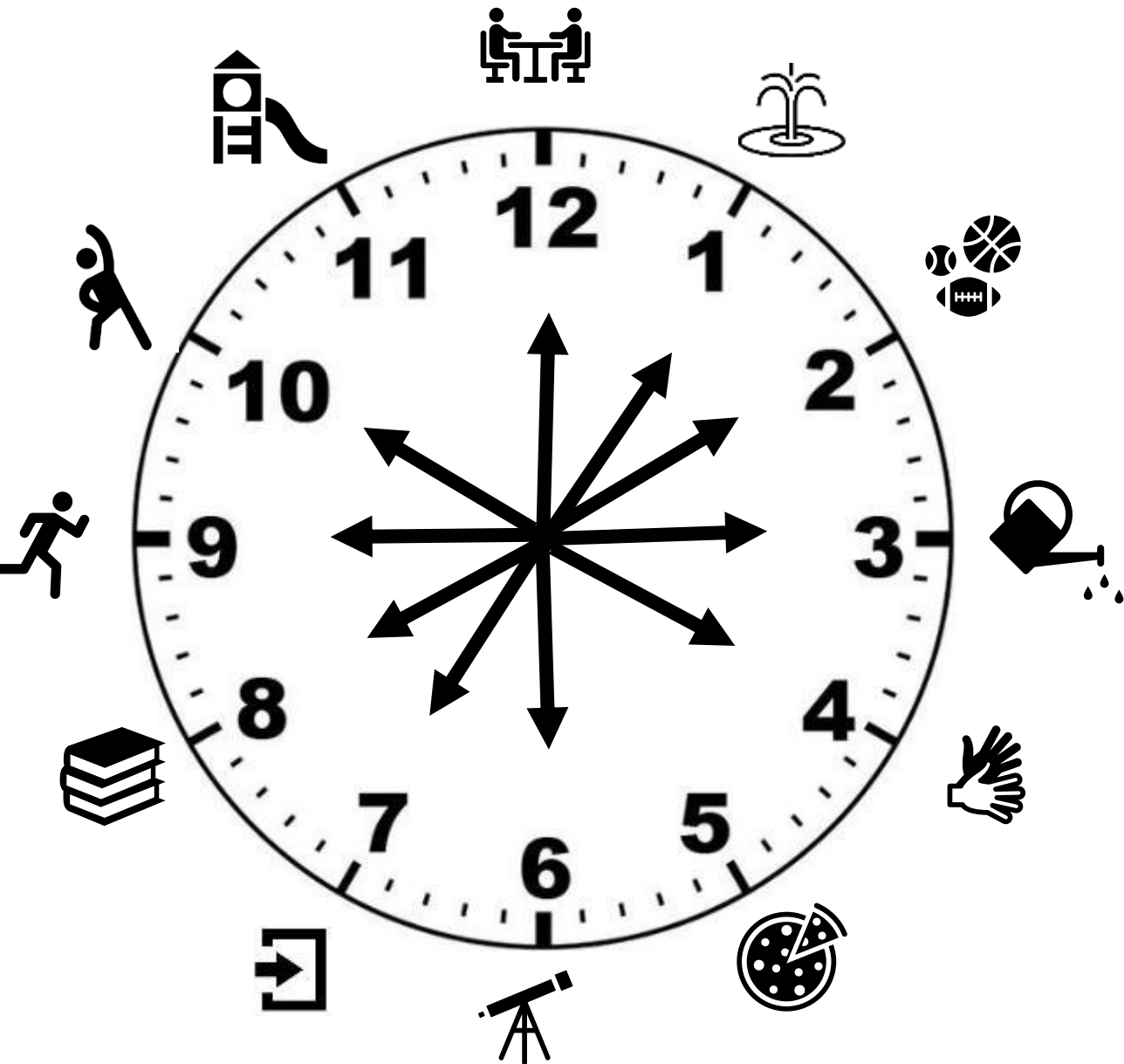
LIVE: **Green house.**

FAMILIES:

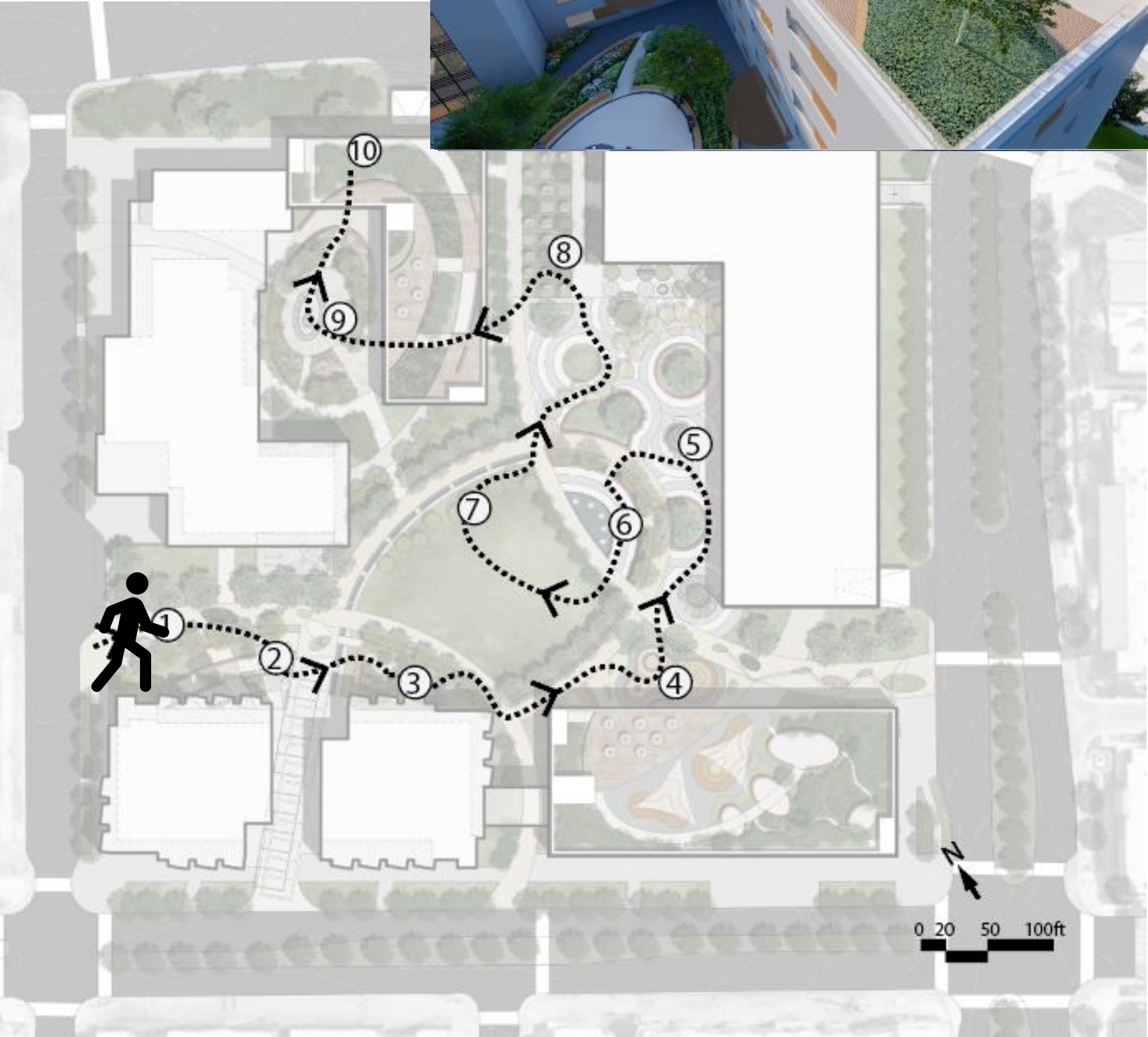
Grandchildren - Tom (7 yrs.)

Son, daughter in law (35 yrs.)

Live in **intergenerational apartment.**



Site Tour Map



9.35.120 PARKING STRUCTURE DESIGN STANDARDS

- **Ramp Width & Radius:** A **two-way ramp** shall be at least **24 ft** in width. The minimum outside wall radius of a circular ramp shall be **36 ft**.
- **Parking Structure Driveway Width:** Any driveway providing access to a parking structure shall have a **minimum width of 28 ft**.
- **Sidewalk Width:** A sidewalk with a minimum width of **6 ft** shall be provided adjacent to the entrance driveway.
- **Ceiling Height:** The minimum **height** from the floor to the lowest ceiling structure shall be **8 ft 2 inches** for areas providing access to handicapped parking.
- **Ramp Transitions:** All ramps shall be provided with **transition zones** at the top and bottom of the ramp. Ramps with a grade of greater than 10 percent shall have transition zones at least **12 ft in length**.
- **Parking Floor and Ramp Grades:** The grade of a straight internal **ramp** shall not exceed **15 percent**. The grade of a circular ramp shall not exceed 12 percent as measured at the outside ramp wall.

https://library.municode.com/tx/austin/codes/code_of_ordinances?nodeId=TIT25LADE_CH25-6TR_ART7OREPALO_DIV6SPPRUNNEOVDI_S25-6-601PAREUNNEOVDI
https://library.municode.com/tx/austin/codes/transportation_criteria_manual?nodeId=TRCRMA_S9PA

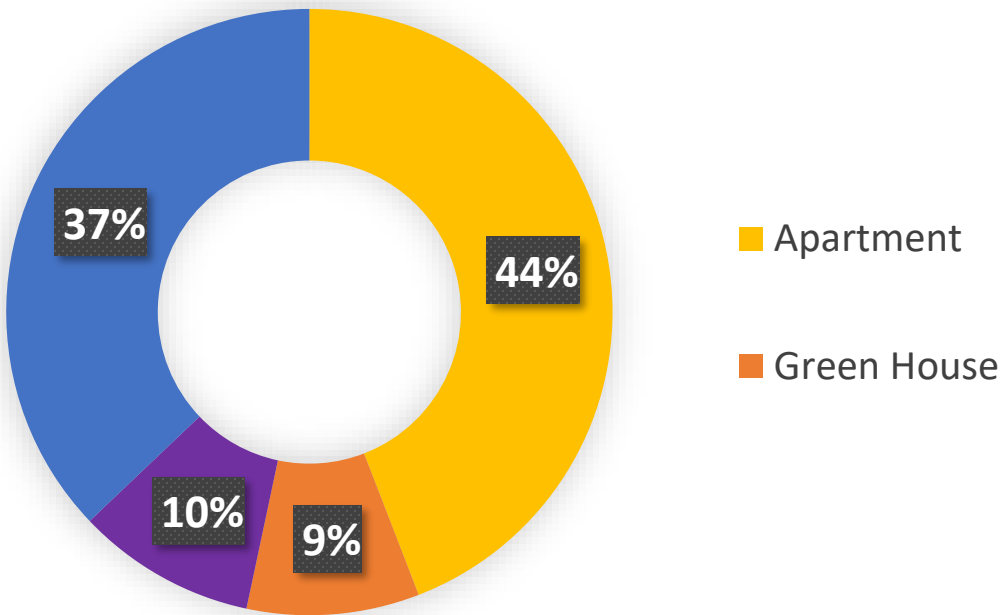
CITY OF AUSTIN PARKING RATIO REQUIREMENTS

(Excerpts from the Land Development Code Sec. 25-6 Appendix A)

RESIDENTIAL	
Land Use	Parking Ratio
Multifamily or Condominium Efficiency	1.0 spaces/unit
One Bedroom	1.5 spaces/unit
Two Bedroom	2.0 spaces/unit
Three Bedroom	2.5 spaces/unit
Each Addn Bedroom	0.5 spaces per bedroom per unit
Group Residential (Boarding House)	1 space/dwelling unit plus 1 space per 2 lodgers or tenants
COMMERCIAL	
Auto Sales or Rental	
Office	1 space/275 sq. ft.
Indoor Sales	1 space/500 sq. ft.
Outdoor Sales	1 space/750 sq. ft.
Admin./Prof. Office	1 space/275 sq. ft.
Meeting Halls	1 space per 50 sq. ft.
Food Sales (Conv. Store)	1 space/275 sq. ft.
General Retail Sales (Convenience or general)	1 space/275 sq. ft.
Indoor Sports and Rec. (except below)	1 space/500 sq. ft.
Personal Improvement Services	1 space/275 sq. ft.
Restaurant	
• <2,500 sq. ft.	1 space/100 sq. ft.
• 2,500+ sq. ft.	1 space/75 sq. ft.
Service Station/Lube	1 space/bay plus 3 queuing spaces/bay
Business and professional offices	1 space/275 sq. ft.

Underground Parking

- **Location:** One level underground covering most of the 7.5-acre site.
- **Cost:** Up to **\$35,000** per parking space.
- **Advantage: Safer** for vehicles in extreme weather. **No** need to **walk** in unpleasant weather. Some drivers do not like underground parking.
- **Disadvantage:** More **expensive** to build.

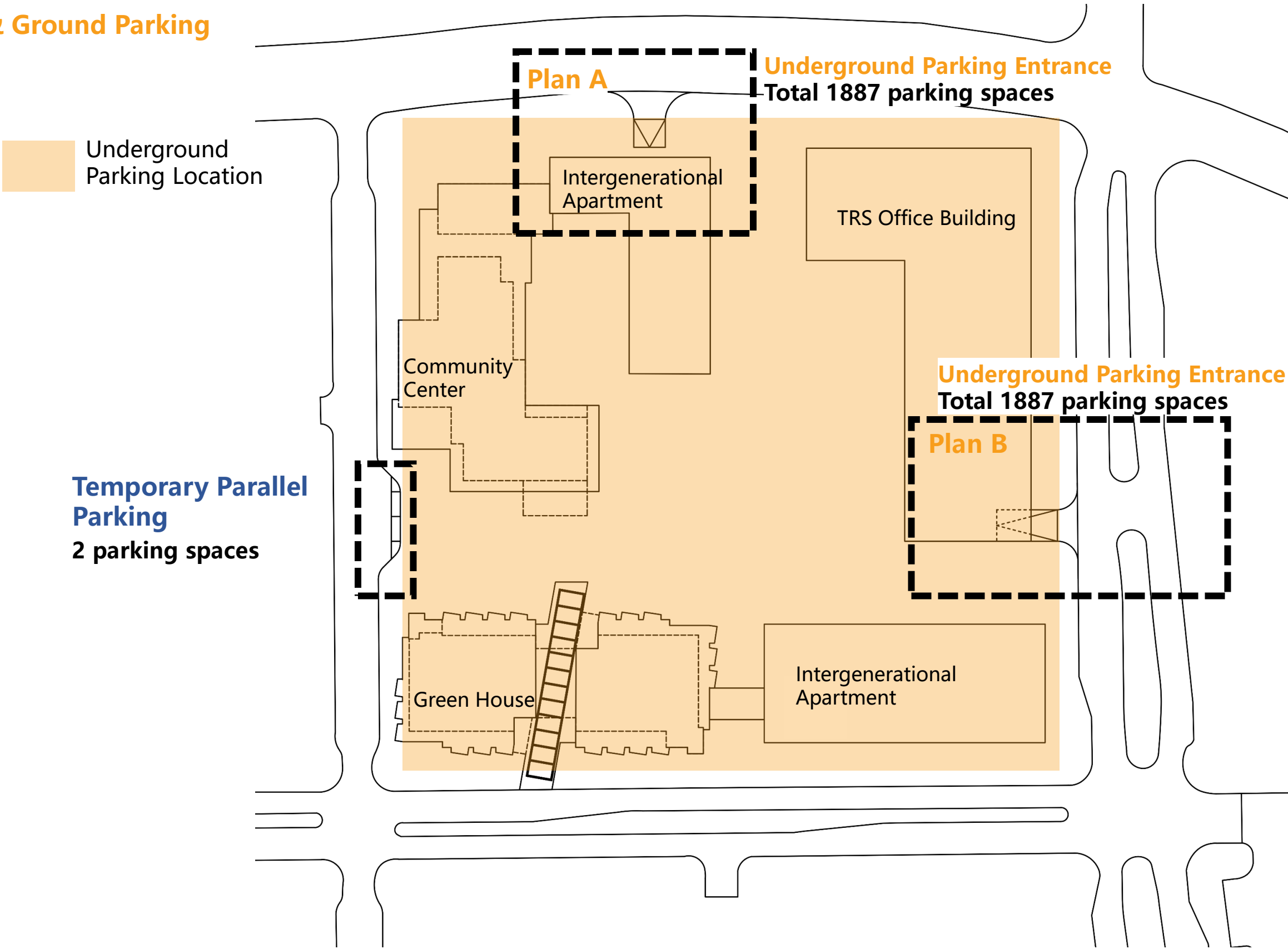


Parking Capacity

BUILDING	TOTAL	FUNCTION	GFA (SF)	PARKING RATIO REQUIREMENTS	PARKING NUMBER	PERCENTAGE
Intergenerational Apartment	833	Living Room	240570	1.0 Spaces/Unit	481	44.13%
		Restaurant	5900	1 Space/100 sf	60	
		Retail	314860	1 Space/275 sf	292	
Green House	174	Senior Living	108000	1.0 Spaces/Unit	86	9.20%
		Retail	24000	1 Space/275 sf	87	
Community Center	181		49662	1 Space/275 sf	181	9.57%
TRS Office Building	700		192500	1 Space/275 sf	700	37.10%
Total	1887		935492		1887	100.00%

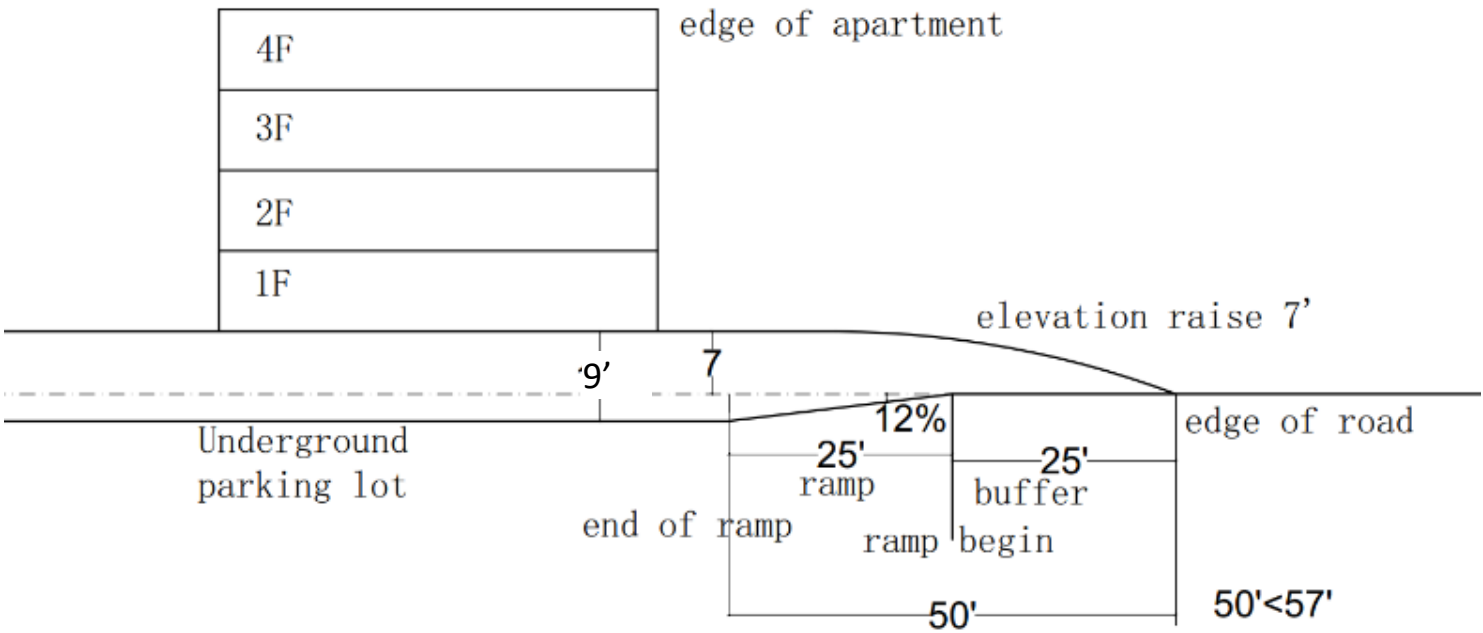
PARKING ANALYSIS

Location of Underground Parking Entrances
& Ground Parking



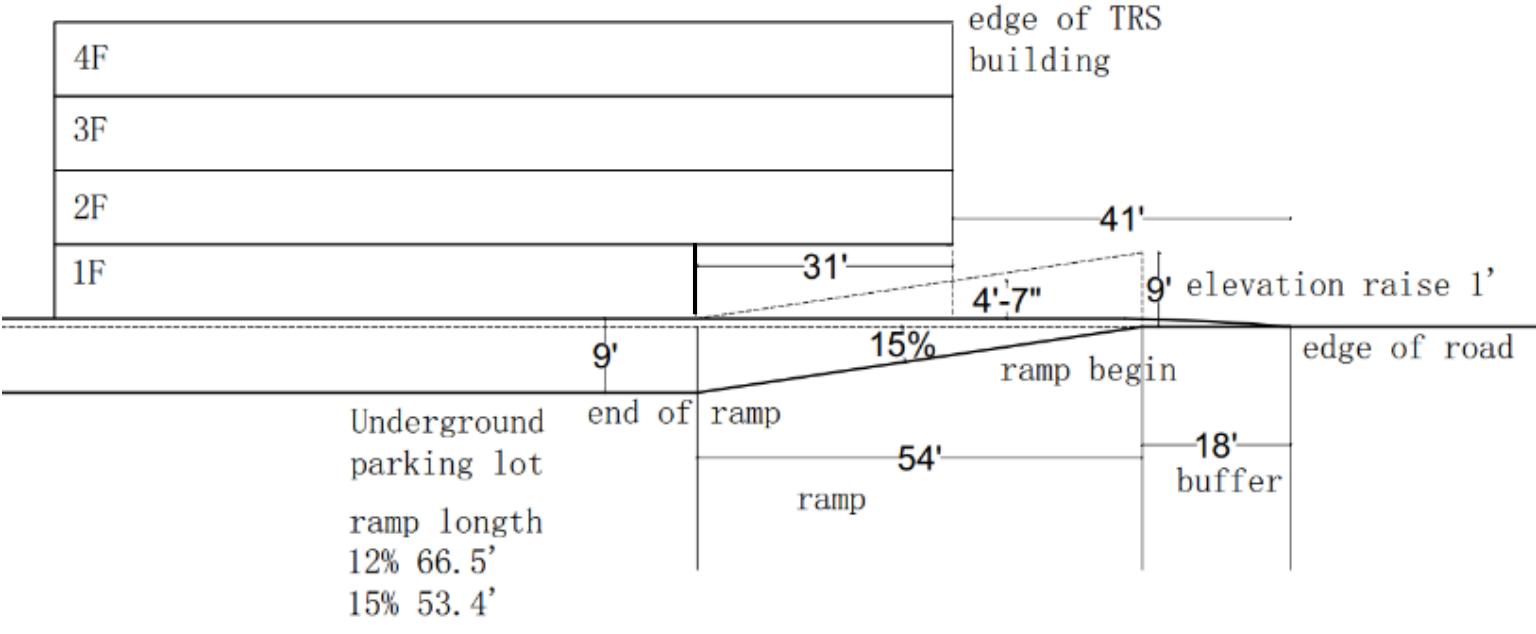
UNDERGROUND PARKING ENTRANCE

SECTION A-A

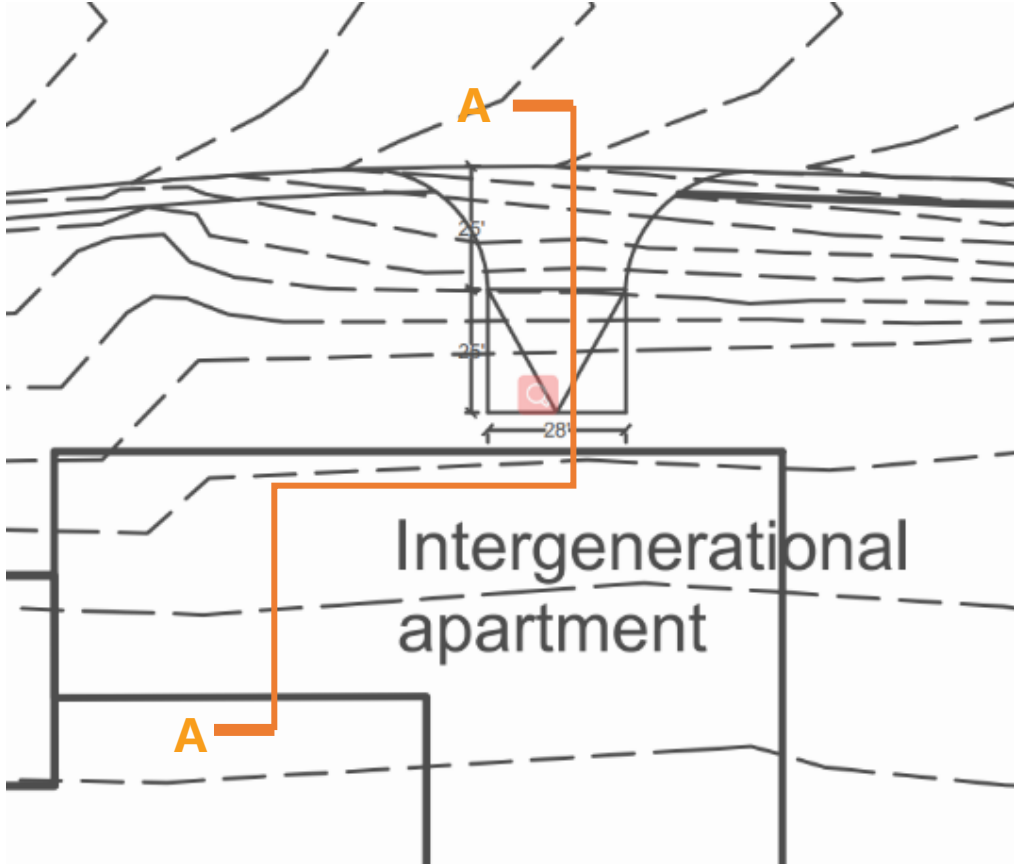


SECTION B-B

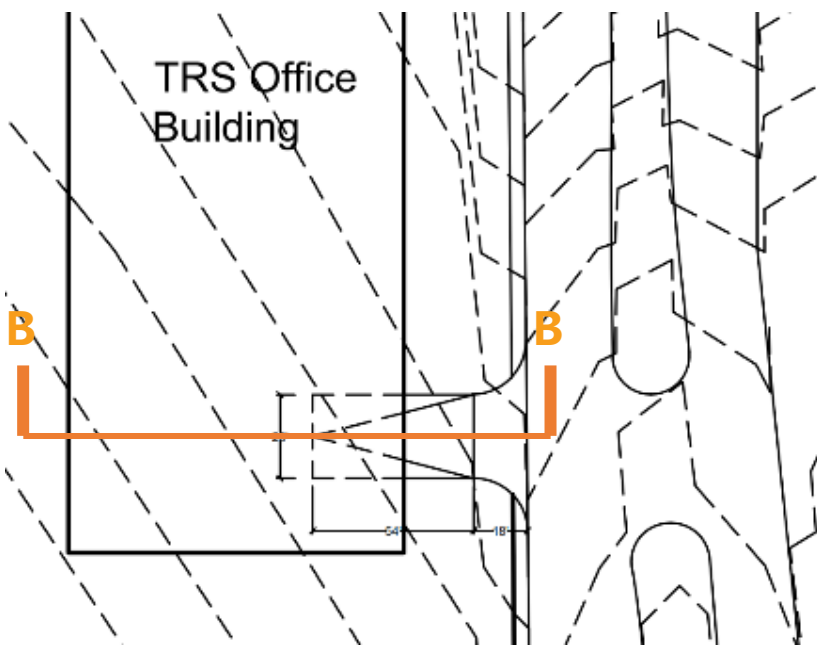
This underground parking entrance will **occupy** part of the TRS office building.



PLAN A

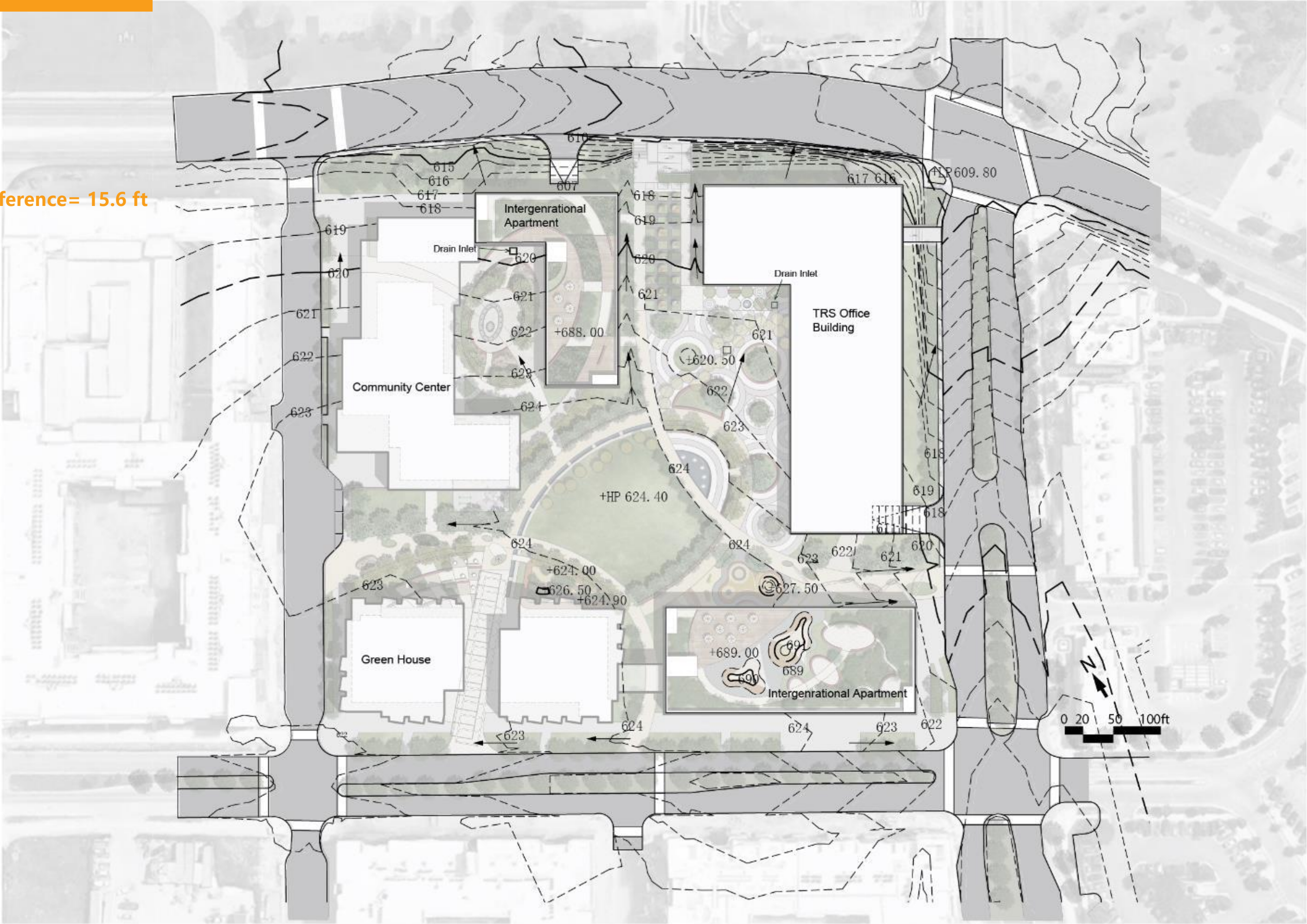


PLAN B



TOPOGRAPHY ANALYSIS

- HP=624.40 ft
- LP=609.80 ft
- Elevation Difference= 15.6 ft



SECTION & PAVING

SECTION A-A'

Community Farm

Blossom Plaza

Water Feature

Intergenerational
Playground

Liner Flexible
Furniture

Roof Garden



0 20 40 80ft

Main
Road

Steps

Road

Community Farm

Blossom Plaza

Water Feature

Intergenerational Playground
Liner Flexible Furniture

Roof
Garden



Pervious Color
Concrete



Stabilized Decomposed
Granite



Grey Granite Paving



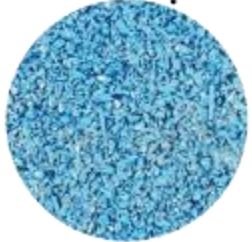
Rubber Crumb Runway



Wood-deck



Tinted
concrete



Blue Rubber
Paver

PLANTING ANALYSIS

ROOF GARDEN



Acer platanoides
Norway Maples



Quercus palustris
Pin Oaks



Acer saccharinum
Silver Maples

THERAPEUTIC WALKWAY



Betula nigra
River Birch



Heuchera americana
Alumroot Orange



Acer saccharinum
Silver Maples



Muhlenbergia capillaris
Gulf Muhly



ORCHARD



Ficus carica
Common Fig



Malus domestica 'Red Delicious'
Red Delicious Apple



Prunus persica
Peach



Pyrus calleryana Decne
Callery Pear

BLOSSOM FLOWER



Cercis canadensis var. *texensis*
Texas Redbud



Lagerstroemia indica
Crape Myrtle



Cornus
Dogwood



Magnolia × *soulangeana*
Saucer Magnolia

PLANTING ANALYSIS

SENSORY GARDEN PLATING DESIGN



TASTE



Foeniculum vulgare, Sweet Fennel



Tagetes minuta, Mustard John Henry



Hibiscus moscheutos, Rosemallow



Daucus pusillus, American Wild Carrot



Mentha spicata, Spearmint

TOUCH



Antennaria parlinii, Parlin's Pussytoes



Eryngium planum, Sea Holly



Limonium Thymus praecox, Creeping Thyme



Stachys byzantina, Lamb's Ears



Limonium carolinianum, Lavender Thrift



Fatsia japonica, Fatsia

HEAR



Briza maxima, Quaking Grass



Lunaria annua, Honesty



Papaver orientale, Oriental Poppy



Arundinaria, Canes



Cottonwood, Poplar

SIGHT



Physalis franchetii, Chinese Lanterns



Helianthus annuus, Sunflowers



Sambucus, Elderberry



Buddleja, Butterflybush



Clematis fremontii, Fremont's Leather Flower



Solidago, Goldenrod

SMELL



Prosopis velutina, Velvet Mesquite



Philadelphus laxus, Mock Orange



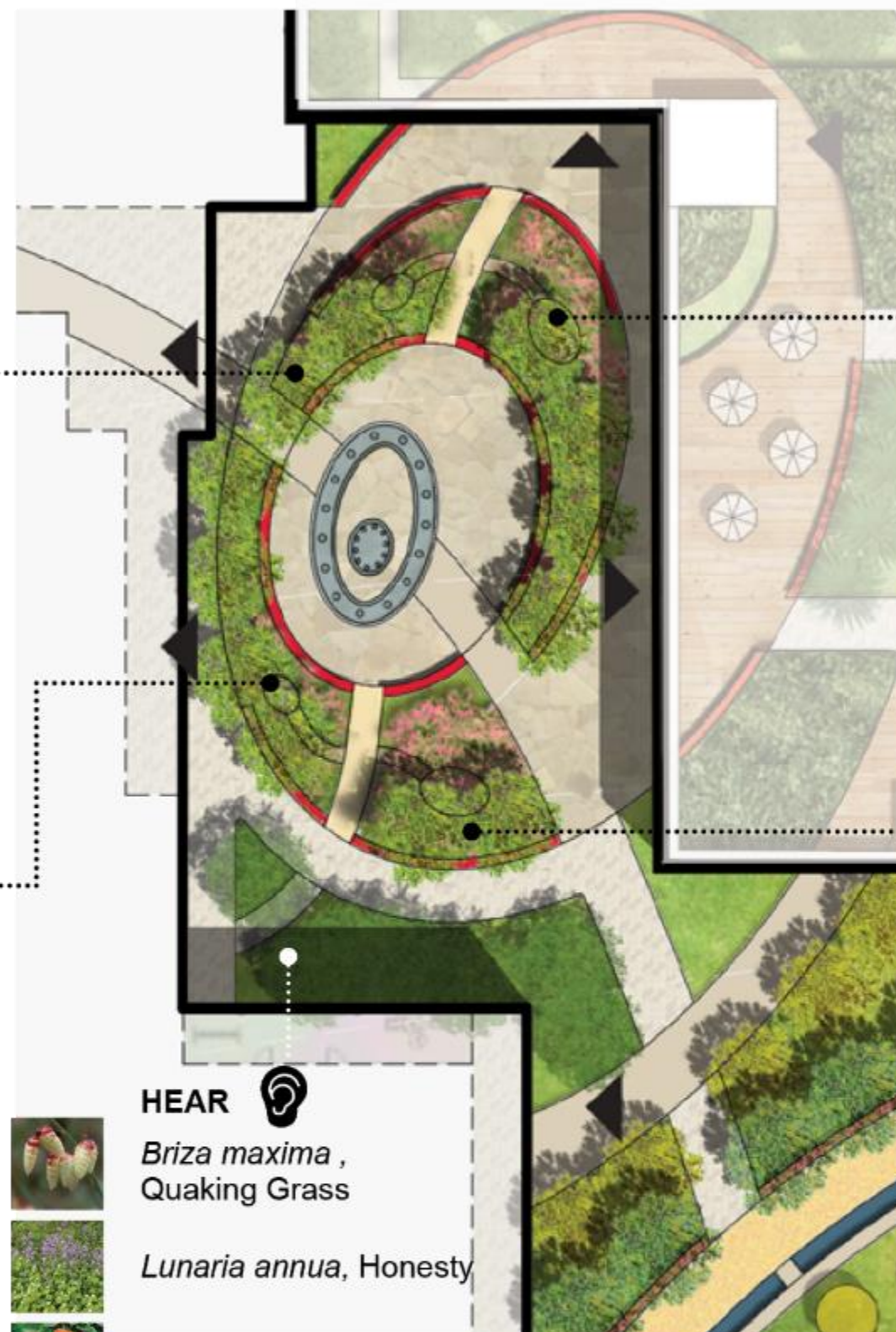
Geranium columbinum, Longstalk Cranesbill



Phlox subulata, Creeping Phlox



Nicotiana longiflora, Longflower Tobacco



TWO Solutions: Different design languages in terms of the form – circular versus rectilinear



Solution 1. Curve & Circle

Interplay of **circular forms** representing a cycle of human life and a life cycle of trees



Solution 2. Straight & Rectangle

Interplay of **rectilinear** forms representing the interplay of different age groups

Next steps:

- Improve the rectilinear model.
- Produce 5 minutes model videos for two solutions.
- Experiment with two different solutions to see how people react.

CONCLUSION



Safety and Security

- Non-slip paving
- Enough seats with handrail and back
- Sufficient lights
- Good visibility and supervision in outdoor space



Comfort

- Temperature moderation/ control
- Shadowing in hot area
- Comfortable seat with backrest, handrail



Walkability

- Trails without crowds and collisions
- No trip hazards
- Low-glare paving



Accessibility

- Easy access to nature
- Easy wayfinding
- Appropriate walking distance



Therapy

- Sensory Stimulation
- Exercise and active living programs
- Therapeutic landscape for seniors and disables
- Amenities to promote outdoor activities
- Engagement activities related to art, music, nature



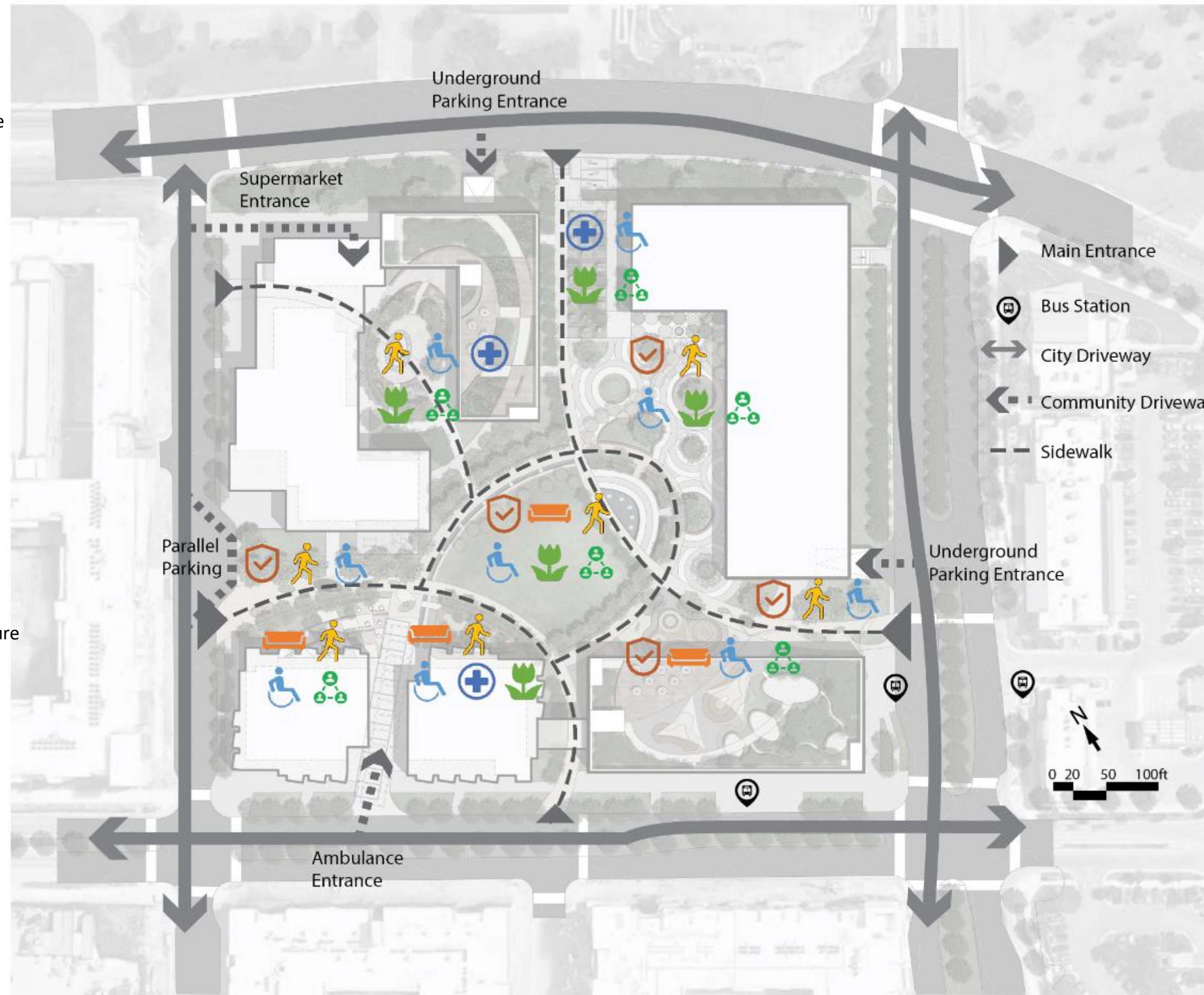
Biophilia

- Path in nature
- Community farm for gardening
- Butterfly sails
- Local microclimate environment



Social Engagement

- Public area for social participation
- Urban agriculture for intergenerational interaction
- Social integration events for all ages
- Intergenerational interaction that are mutually beneficial





THANK
YOU!

FOR COMMENTS, EMAIL

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