



## Campus Design: Assessing Outdoor Spaces at California Polytechnic State University, San Luis Obispo to Improve Student Experience

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To all my friends and family, thank you for your confidence and encouragement in me and my endeavors. I am forever indebted to my parents for showing me grit, especially in times of uncertainty. My heart is filled with gratitude for all my beautiful friends for your kind gestures during moments of stress and for never being apprehensive towards my dreams.

I am happy to share this project with you. I hope it makes you proud.

Meha Patel

# INTRODUCTION

The outdoor space of university campuses is an aspect of design which still remains, to a certain degree, uncharted. There are merely not enough relevant case studies and research in creating foundational principles which adhere to the design of a functional outdoor space on university campuses.

The success of the student body for a college, academically and socially, is dependent on creating a welcoming and holistic learning environment for students to thrive. Social spaces bridge the gap between the built and natural environment, therefore, providing proper physical components in an outdoor space becomes vital in creating a desired environment which serves the student body. Analyzing human interaction through observations and interviews will bring forward the necessity of creating an engaging academic experience outside of traditional classrooms and highlight how crucial outdoor spaces are for the social and academic success of students.

This project draws inspiration from William H. Whyte's documentary film and book "The Social Life of Small Urban Spaces." As he analyzes the effective and ineffective plazas and public spaces across the United States, he creates dialogue around human behavior and the built environment. Holly Whyte shows how basic tools of observation and interviews allow for learning substantial information about the human relationship with public spaces. Following his reasoning and methodology, this project uses location criteria, accounts for natural elements, observes student activities, and analyzes the relationship among each of these.

This study intends to understand how students utilize different outdoor spaces, the effectiveness of those spaces, and improvements students desire through observations and interviews acquired via activity scan forms and user intercept surveys. Ultimately, this study serves to create an identity for the outdoor learning spaces on university campuses to improve student success. Campus planners can create successful outdoor space by programming needs and analyzing the relationship between student behavior, activities, nature, and the built environment. Though, this project facilitates a conversation for creating effective outdoor spaces on university campuses, it is merely an introductory discussion of the intricate and imperative concepts of humanity and design.

# LITERATURE REVIEW

## The Social Life of Small Urban Spaces by William H. Whyte

In "The Social Life of Small Urban Spaces," William H. Whyte identifies key factors, ranging from physical attributes to natural elements, that create successful public spaces. Understanding these factors prior to performing observations and interviews for this project is important because they outline the basic necessities which have to be ingrained in any effective public space, even on university campuses. Being aware of these key factors, discussed below, and their relation to human interaction sets up the context for the project.

### People

According to William H. Whyte, best used outdoor spaces have higher proportion of couples than less-used outdoor spaces, creating a sociable environment. Furthermore, these spaces tend to have a higher than average percentage of women users.

### Seating

Sitting space is a prerequisite to a successful outdoor space. As Holly Whyte writes [simply,] "people tend to sit most where there are places to sit." A popular outdoor space have integral, socially comfortable sitting and provides the choice for users to determine how they will sit: up front, in the back, to the side, in the sun, in the shade, in groups, or off alone. Moreover, socially comfortable sitting creates opportunity for couples and groups to choose their position.

### Choice

The greatest value of a public space is the possibility of choice and the freedom to exercise it. In a space which is deprived of such a concept, the users may find themselves stuck and uncomfortable as their agency is reduced. Furthermore, the perception of choice is even more integral. In reality, people often move a chair only a few inches, but the small act intrinsically is the declaration of autonomy to oneself.

### Sun

Out of all natural elements of an outdoor space, the sun is the dictating factor for people's choice of seating. From the observation of the Seagram Plaza, Whyte noticed people's movement reflected the movement of the sun, usually during the colder months. During summer, people wanted shade. An outdoor space with plenty of sun facilitates the exercise of choice, people have the freedom to decide whether they want sun, shade, or in-between. When designing an outdoor space, it is important to provide southern exposure to optimize sunshine.

### Wind

The absence of winds and drafts are crucial for successful public spaces. The feeling of enclosure and protection from winds create a functional space. Semi outdoor spaces with glass canopies or small pavilions provide enclosed, usable public spaces for people.

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### Trees

During the summer months or drafty days, trees provide the necessary protection for people. Under trees, “people feel cuddles, protected —very much as they do under the awning of a street cafe.” Trees can add aesthetic value to the public space as well as establish viable habitat areas for wildlife population. The overlapping foliage of trees with sunlight peeking through shape a dreamy public space, perfect for relaxing during the afternoon.

### Water

Whyte emphasizes the integration of water into a public space because of the look and feel of it. Water means security, peace, and restfulness. The noise of a faint, babbling fountain blocks out street noise and preserves privacy of conversation. There lies a trust in people when water is present in a public space: access to water in exchange of proper use and mannerism.

### Food

According to Whyte, vendors have become the caterers of the city’s outdoor life. Food equals to activity as vendors attract people, who then use the public space to enjoy lunch and socialize. Therefore, designing a public space for socialization through food becomes crucial.

### Effective Capacity

In terms of capacity, Whyte discovers public spaces self regulate and self level. Even for high density spaces, people are inclined to cluster and the number of people sitting is a constant fraction of people standing or walking. The people are effective in

determining the density of the crowd. There is a strong relation between the amount of people and the number of people on the pedestrian way. However, there is an uneven distribution of people in a space. As mentioned above, people attract people, therefore, in an open space, people tend to cluster in an area depending on the environment and qualitative aspects of the seating area.

### Triangulation

Triangulation is the process by which some external stimulus provides a common link between people and prompts socialization between strangers, as if they were not. The stimulus can range from physical object to sight to musicians and entertainers.

## How to Design Outdoor Learning Environments by Ellen Kollie

Kollie outlines certain criterias for designing outdoor spaces for university campuses in “How to Design Outdoor Learning Environments” of College Planning and Management by interviewing Stephen Carroll, ASLA, LEED-AP, principal of EPTDesign, a California-based landscape and architecture firm. The articles defines the factors to consider when planning an outdoor campus space for learning:

### Programming Needs

The first step to designing a successful outdoor learning space is evaluating the programming needs. Carroll elaborates, “students and faculty don’t want just an outdoor classroom or just a pretty landscape. There are things they want that unconventional from

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typical classroom settings. Plus, the same comfort and elements that are found indoors are desirable outdoors.”

## Provide a Variety of Sun and Shade Spots

A successful outdoor space’s goal should be to extend the times of year in which it is pleasant to be outdoors by providing protection from extreme sun, cold, and wind.

## Seating Flexibility

While Whyte emphasizes the agency a person feels when they exercise their choice in a public space, Kollie frames the idea from the lens of designing outdoor learning environments for students on university campuses. Providing the greatest degree of seating presents students with the choice of seating alone, with one person, or in a group depending on the type of learning they are partaking in. Students can communicate eye to eye, lounge, or spread out with laptops.

## Designing for Learning: Creating Campus Environments for Student Success by C. Carney Strange and James H. Banning

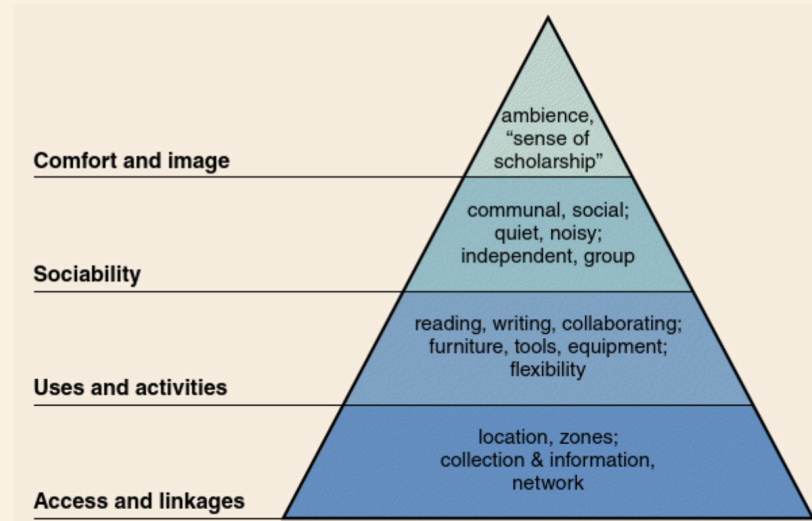
In the book “Designing for Learning: Creating Campus Environments for Student Success,” Strange and Banning explore the connection between design, place, and educational purposes. The book examines the characteristics of the person and environment to distinguish a college or university that is successful in supporting their educational purpose through design

of the campus buildings as well as the outdoor spaces. Physical environment is influential in determining the success of the learning experience. According to Strange and Banning, the built environment goes beyond “buildings, sidewalks, parking lots, natural and design landscapes” (Strange & Banning, 2015, p. 12). The campus as a place should promote the reciprocity between people and the environment such as interactions of students with “people-made objects and artifacts of material culture” (Strange & Banning, 2015, p. 12).

Expanding on H. Whyte’s explanation of creating choice in a public space to provide a sense of autonomy for the user, Strange and Banning analyze how design efforts to direct flow can often be ignored by users when someone chooses to take a shortcut and cut through a lawn instead of following the pedestrian footpath. Moreover, people tend to rearrange, change, or remove semi-fixed components of interior and exterior design. Therefore, adaptability and flexibility of a public space is important as it gives users the perception of choice and the freedom to exercise it. Furthermore, a well planned outdoor space on campus is more active and creates opportunities to achieve the purpose of learning for higher education institutions.

Understanding the effects of the built environments on human behavior is vital to a successful public space. Behavior settings shape the social and physical aspects of the desired human behavior or reactions. A university campus is a behavior setting, in and of itself, through its two components: student and faculty body and the buildings. The components of behavioral setting, through the perspective of Strange and Banning, are antagonistic and synomorphic. Antagonistic behavioral setting involves physical designs such as bolted down chairs which diminish choice and the social learning environment. Synomorphic behavior setting supports social learning through swivel chair and providing seating flexibility. A well design campus outdoor spaces create

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functional spaces, moods, and atmospheres to facilitate certain, deliberate behavior.

Strange and Banning discuss the Hierarchy of Learning Space Attributes created by Cunningham and Tabur to understand how design and activity for students converge to create a successful space (refer to image below).

To frame the hierarchy triangle, an example of embedding the learning space attributes are social gathering spaces where an informal structure of learning takes place. These spaces and areas "accommodate large groups of individuals interacting informally for academic, social, and personal purposes" (Strange & Banning, 2015, p. 30). Usually, these spaces are located near food service areas, student unions, and outdoor patios and cafes.

Successful public spaces are created through placemaking and

place marking. Placemaking connects the space to the "larger picture of the future" through transformation and upkeep of places (Strange & Banning, 2015, p. 39). On the other hand, placemarking is the physical attributes which offers the uniqueness of the place. These attributes include style, materials, landscapes, or landmarks. Through placemaking and placemarking, educational institutions have the change to engage students and create a sense of place.

Public spaces of higher educational institutions frame the pedestrian experience and include physical features and supporting activities. Moreover, the public space "serve as the in between space of the college experience" (Strange & Banning, 2015, p. 39). These are spaces students use at various times during day between classes and other activities to study, work, eat, socialize, and relax. The ultimate purpose of the design of public space is to "foster and encourage communication" (Sucher, 1995 p.166). Wayfinding, sufficient seating, generous use of green spaces, settings for games and activities, outlets for food and other vendors, and opportunities to enjoy the sunlight asset a sense of belonging and a sense of place.

Designing successful public spaces on campus to achieve the highest learning potential of the students can start with key design principles outlined by Kenney and Dumont. For informal learning opportunities to take place, informal settings must be created by adding cafes, coffee shops, and bistros at locations through campus. A huge draw is providing food in multiple locations. Accessibility to technology and opportunities to participate in co-curricular activities are guiding principles which aid in achieving the educational purpose. Essentially, emphasizes on student learning and development while designing outdoor spaces on campus fosters social discourse, safety, and relaxation.

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### Everyday Encounters with Nature: Students' Perceptions and Use of University Campus Green Spaces by Janet Speake, Sally Edmondson, and Haq Nawaz

The research and study by Speake, Edmondson, and Nawaz, aim to bring awareness to the lack of understanding of faculty and students often have of the environment in which they spend much of their times. The paper focuses on the student use and perception of the green spaces through exploring elements and variables which influence these outdoor spaces on university campus.

The papers discusses how students remember attractive and lively campuses, building loyalty among students, expanding on the restorative qualities of incorporating green spaces through the fabric of the campus. The intrinsic aesthetics of vegetation and trees help contextualize the campus as relaxing, protective, and healthy. Speake, Edmondson, and Nawaz report "predominant[ly] positive experiences of green spaces are associated with contact with nature and opportunities for social interaction contrast with more negative ones linked to fear and insecurity" (Speake, Edmonson, & Nawaz, 2013, p. 22).

The results of the study showcases a discrepancy, where 82% of the 205 respondents state knowledge of the existence of

campus green spaces, however, only 53% of the 205 respondents are users of the green spaces. Underutilization of a space indicates a poor design and a lack of placemaking. The maximization of greenspace use is associated with good quality and aesthetics. Additionally, location and immediate juxtaposition of green spaces with their earning and living environments are highly influential for positive perception of green campus spaces.

In conclusion, the study indicates how green spaces serve as a symbol of university campuses and provide an identity and connection to the local community. The paper clarifies the importance of understanding students use and perception of the space to open a dialogue on the enhancement and improvement of these spaces.

### The Campus as a Work of Art by Thomas A. Gaines

The book offers a comparative narrative of architecture, landscaping, and planning of university campuses as an art form. Gaines explores the components and principles of design and how the right amalgamation create a visual environment for activity to take place in. The book discusses libraries, classroom buildings, administration buildings, student centers, dormitories, chapels, museums, and gather places in context of requirements and opportunities to guide future campus planning.

Gaines defines the importance of campus planning to be concerned "with outdoor or urban space and how architectural elements work with each other" (Gaines, 1991, p. 3). The success of campus design comprises of the proper manipulation of buildings, landscape, monuments, and pathways in accordance to natural features like hills, trees, and water courses. Gaines



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suggests the inclusion of a focus or signature to make an outdoor space more legible. Examples such as the castle at Brandeis, the clock tower at the University of Texas, and the amphitheater at the University of Illinois at Chicago support his argument. Incorporation of focal points and signature structures as such provide placemarking and affirm the sense of place through wayfinding for students. Furthermore, the visual identity encourages students to utilize the space. According to the Carnegie Foundation, 60% of prospective students consider visual environment as an important factor when choosing a college. Therefore, it is important to create visual identity as well as accommodate for activities to take place in. Gaines astutely observes, "education is an endeavor that is most sensitive to ambience; students respond all their lives to memories of the place that nourished their intellectual growth" (Gaines, 1991, p. 11). This observation stresses the importance of creating outdoor spaces which are programmable to the university's academic goal.

In this comparative analysis, Gaines looks at various campuses in the United States to articulate the successes and failures of visual environment for the educational endeavor. The Iowa State Campanile, a bell tower framed by Olmsted's landscape design at Iowa State University perceive art as an extension of the university's purpose from the beginning. Through the landscape plan of Frederick Law Olmsted, the university pioneered the notion of campus to be a medley of public art, architecture, and landscape design. Including art to campus design and outdoor space from the beginning allowed the university to encourage students to use the green space and provide wayfinding.

Another example of a gathering place is the Library Mall at the University of Wisconsin with the varied paving and outdoor furnishing, clock tower, and benches. Lastly, the intersection between learning and the outdoor space is seen in Mies van der Rohe's Crown Hall at the Illinois Institute of Technology. The one story, open room for architecture students functions as a classroom and blends into the outdoor environment.

The book centers the discussion of campus planning around Urban Space, Architectural Quality, Landscape, and Overall Appeal. However, the common thread among these categories is the call for incorporating the academic and social needs of the students into the design. Gaines emphasizes campus planners, architects, stakeholders, and university to understand that theme when planning for future campuses.

# LOCATION CHARACTERISTICS

The location characteristics identify the similarities and differences of various outdoor spaces on campus to help analyze the results from observations and interviews. Understanding the physical components of the four outdoor space chosen for the project make it easy to evaluate the reasoning behind the trends in activities of the spaces. Hence, comparing outdoor spaces for their effectiveness to develop design guidelines.



## Moveable Seating

According to Whyte, the environment and qualitative aspects of a space determines where people sit. A well design outdoor space provides adequate sitting space in the form of moveable chairs. Whyte emphasizes the idea of letting users practice their autonomy by rearranging, changing, or removing semi-fixed objects to fit their needs. Providing seating flexibility, as Kollie mentions, allows for different types of learning for students to participate in as they choose how they will sit: alone, in a pair, or in a group. Hence, moveable seating creates the venue for choice and hands the power to the students to decide how they want to use the space.



## Fixed Seating

There is a degree of responsibility and power assigned to the designers of outdoor spaces. The designers of outdoor spaces shape the behavior settings of the outdoor spaces. Antagonistic

behavioral setting involves physical designs such as fixed seating to facilitate certain, deliberate behavior. In a group setting, students require tables or chairs, possibly with a patio umbrella to protect from the sun. Students studying alone do not need a large table, but may still require a chair and table to place their laptops and books. Fixed seating accommodates these needs for students in an outdoor space. Fixed seating deliberately convey the purpose of the space is to study or work. In a campus environment, supplying fixed seating with a clear purpose is essential to the academic mission.



## Food

Holly Whyte suggests that food is a catalyst for socialization and building community for a public space. Banning and Strange connect the idea of adding cafes, coffee shops, bristos near public space to informal learning opportunities. Since outdoor learning spaces are used by students and faculty throughout the day, providing food near the space with proper areas to enjoy lunch or snacks while working, studying, or socialize incentivizes the space and increases activity.



## Accessibility

Accessibility is vital to the success of an outdoor space. The ease of access is followed by the presence of community. When a public space is accessible to all, people are inclined to use the space and create a sociable environment. Even with placemaking and incorporating design which is inclusive, if people can not have access to the public space, it will be underused and

## LOCATION CHARACTERISTICS

unsuccessful. Limited accessibility deprive the built environment and the people to form the relationship an accessible public space has. Therefore, the location of a public space near a main pathway is important as it provides the opportunity for the users to access it with ease and prompt them to interact with it. Often underused outdoor learning spaces are placed farther away from many buildings or tucked away from main areas. While many students choose to study, work, socialize, eat, and/or relax in between classes, reaching the farther outdoor spaces can be difficult. Therefore, locating spaces between buildings and areas with high foot traffic activates the outdoor space through serendipitous social learning and engagement in other activities. Accessibility creates the opportunity for students to participate in outdoor learning environment through the incentive of not walking across the campus to the library or other study areas.



### Adaptability

A successful outdoor space is adaptable and functional. An outdoor learning space on university campuses has to be able to accommodate a spectrum of student needs. An adaptable space allows the users to exercise their agency to facilitate a certain and deliberate behavior. A dynamic space requires spatial organization which prioritizes various methods of learning to take place on a university campus and have aspects of social gathering spaces to “accommodate large groups of individuals interacting informally for academic, social, and personal purposes” (Strange & Banning, 2015, p.30).

Students engage in myriad of activities from studying to napping, therefore, an adaptable outdoor space provides the infrastructure for students. Besides, allowing multitude of activities to take place further serves university's education mission.



### Presence of Lawn

A well maintained lawn is great for socialization as well as relaxation. Generous use of green spaces create settings social activities such as games, hanging out, and college events. Additionally, the lawn has restorative qualities which help students be successful academically through stress reduction and relaxation. Green spaces bring natural elements into the campus environment and advocate for a relationship with nature. The established connection to nature showcase the intrinsic benefits to physical and mental health in students. Students reap the rewards of socialization and relaxation through the medium of an outdoor space by performing better academically. Likewise, lawns and green spaces add aesthetic value to the fabric of the campus, creating a welcoming environment.



### Percentage of Shaded Area

Tree and vegetation shade further encourage the feeling of enclosure and has restorative qualities. It protects from the harsh sun and allows students to be able to use electronic devices without the glare from the sun. Trees and vegetation also add aesthetic value to a public space and establish a sense of place.

# LOCATION CHARACTERISTICS MATRIX

Location Characteristic	5	4	3	2	1
<b>Moveable Seating</b>	The movable seatings can accommodate more than 21 students at a time.	The movable seatings can accommodate 11 to 20 students at a time.	The movable seatings can accommodate 5 to 10 students at a time.	The movable seatings can accommodate 1 to 4 students at a time.	The space has 0 moveable seating such as detached chairs and tables.
<b>Fixed Seating</b>	The fixed seatings can accommodate more than 21 students at a time.	The fixed seatings can accommodate 11 to 20 students at a time.	The fixed seatings can accommodate 5 to 10 students at a time.	The fixed seatings can accommodate 1 to 4 students at a time.	The space has no fixed seating.
<b>Accessibility</b>	The space is centrally located on campus, and it is adjacent to a main pathway.	The space is centrally located on campus, and it is close to a main pathway.	The space is not centrally located on campus, but it is adjacent to a main pathway. OR The space is centrally located on campus, but not adjacent to a main pathway.	The space is not centrally located on campus, but it is close to a main pathway.	The space is not centrally located on campus, and it is not close to a main pathway.
<b>Access to Food</b>	There are a variety of food options located on the space and are open for the entire day.	There are a variety of food options located near the space and are open for the entire day.	There are a variety of food options located near the space and are only open during high activity hours of the day.	There are few food options located near the space and are only open for limited hours of the day.	There are few food options located far from the space and are only open during limited hours of the day.
<b>Adaptability</b>	A variety of furnitures, surfaces (paved, lawn, landscaped, ..), and arrangements exists that provides a variety of choices to users	---	The space is designed to accommodate few activities.	---	The space is designed to only accommodate one activity.
<b>Presence of Lawn</b>	Greater than 80% of the space is a well maintained lawn.	80% - 50% of the space is a well maintained lawn.	50% - 30% of the space is a well maintained lawn.	30% - 10% of the space is a well maintained lawn.	Less than 10% of the space is a well maintained lawn.
<b>Percentage of Shaded Area</b>	Greater than 60% of the space is covered in shade.	60% - 50% of the space is covered in shade.	50% - 30% of the space is covered in shade.	30% - 10% of the space is covered in shade.	Less than 10% of the space is covered in shade.

The matrix defines the ranking for each location characteristics. This matrix is used to identify physical components of the outdoor spaces.

## LOCATION CHARACTERISTICS MATRIX

Location Characteristics	Dexter Lawn	UU Plaza	Centennial Green	Edible Garden
Moveable Seating	1	5	1	1
Fixed Seating	1	2	5	3
Accessibility	5	5	3	1
Access to Food	3	5	1	1
Adaptability	5	4	3	2
Presence of Lawn	5	1	4	3
Percentage of Shaded Area	3	4	3	2

This matrix displays the rank given to each space depending on the characteristics met as defined in the previous matrix.

## METHODOLOGY

### Data Collection Process

Data Collection will take place in April of 2019 on Monday, Tuesday, Wednesday, and Thursday. Friday will be considered a backup day in case of being unable to gather data on one of the four days due to weather conditions or other events. The dates are specified on the calendar to the left. Observations will take place for exactly 10 minutes count intervals each hour. The interval will start 10 minutes after the hour and last for 10 minutes. For example, the 10:00 A.M. interval will begin at 10:10 A.M. and end at 10:20 A.M. The observer will fill out the Activity Scan Form at the start of the interval and take a photo of the space. The observer will fill out the Activity Scan Form at the end of the interval and take a photo of the space. The average of those will be used as the data for that hour. Each location will have period of monitoring from 10 AM to 4 PM. Each hour, the observer will interview one to two subjects using the space using the User Intercept Survey. The minimum requirement for UIS are 6 subjects per day. The maximum surveys for a day are 12 subjects.

The locations for the observation are Dexter Lawn, UU Plaza, the Edible Garden, and Centennial Green

The data collection and observation will be conducted through an Activity Scan Form and a User Intercept Survey.

### Field Observation Schedule

APRIL 2019

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				



## METHODOLOGY

## Data Collection Locations

# Dexter Lawn



## UU Plaza



## Edible Graden



## Centennial Green

# METHODOLOGY

## Data Collection Instruments

The observations are assessed through the number of people utilizing the outdoor spaces and the activities they are performing as well as surveys to understand 'the how' and 'the why' behind their use of the particular outdoor spaces.





The observations will be recorded twice per hour at the start and end of 10 minutes at each location from 10:00 AM to 4:00 PM. This will be done through in person observation using the Activity Scan Form, photographs of the space, and User Intercept Surveys. During the in-person observation, an activity scan form will be completed to record activities of people. The activity scan will represent a snapshot of the activities during the sampled hour.

The attributes recorded through the activity scan includes number of people (single, pair, or in groups) and the activities (eating/drinking, socializing, people watching, using electronic devices, studying, or sleeping) of the individuals. The form

The attributes recorded with the photographs and User Intercept Surveys will include the qualitative observations and behavior, often missed by quantitative data collection. The camera will capture the essence of public space and the daily rhythms of people's behaviors to understand the intricate science of mundane elements. Additionally, the photographs will help determine the physical attributes of the different outdoor spaces and how that affects people's behavior.

Pedestrian counts will be taken for exactly 10 minutes every hour for each installment location. If there is a rush hour for those 10 minutes, it will be marked as > 40 pedestrian counts. In any other occasion, the pedestrians will be counted.


## ACTIVITY SCAN FORM

LOCATION	NEAR OTHER SITTING AREAS								SHADE	
DATE	NEAR FOOD VENDORS								NOTES	
DAY	WEATHER CONDITION    									
TIME IN	TEMPERATURE									
TIME OUT										

	SUBJECT	MALE	FEMALE	PAIR = 2	GROUP > 3	EATING/DRINKING	SOCIALIZING	PEOPLE WATCHING	ON ELECTRONIC DEVICE	STUDYING	SLEEPING	PRESENT AT START TIME	TIME	NOTES
	GENDER	GROUP		ACTIVITIES							TIME			
1														
2														
3														
4														
5														
6														
7														
8														
9														
10														
11														
12														
13														
14														
15														
16														
17														
18														
19														
20														
TOTAL														

	PEDESTRIAN COUNT	<input type="checkbox"/> RUSH HOUR   > 40
		<input type="checkbox"/> _____



# METHODOLOGY

## USER INTERCEPT SURVEY

	Respondent 1					Respondent 2					Respondent 3					Respondent 4					Respondent 5					Respondent 6					
Gender	M	F	OTHER			M	F	OTHER			M	F	OTHER			M	F	OTHER			M	F	OTHER			M	F	OTHER			Gender
Which activities do you prefer to do at this location?	S	SO	R	E		S	SO	R	E		S	SO	R	E		S	SO	R	E		S	SO	R	E		S	SO	R	E		Which activities do you prefer to do at this location?
Compared to other open space and plazas on campus, how would you rate this space?	UNSATISFIED — 1 2 3 4 5 — SATISFIED																														Compared to other open space and plazas on campus, how would you rate this space?
Cleanliness	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	Cleanliness
Greenery	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	Greenery
Ability to study or work	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	Ability to study or work
Relax	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	Relax
What time during the day do you come here?	M	T	W	TH	F	M	T	W	TH	F	M	T	W	TH	F	M	T	W	TH	F	M	T	W	TH	F	M	T	W	TH	F	What time during the day do you come here?
8:00 a.m. - 9:00 a.m.																														8:00 AM	
9:00 a.m. - 10:00 a.m.																														9:00 AM	
10:00 a.m. - 11:00 a.m.																														10:00 AM	
11:00 a.m. - 12:00 p.m.																														11:00 AM	
12:00 p.m. - 1:00 p.m.																														12:00 PM	
1:00 p.m. - 2:00 p.m.																														1:00 PM	
2:00 p.m. - 3:00 p.m.																														2:00 PM	
3:00 p.m. - 4:00 p.m.																														3:00 PM	
4:00 p.m. - 5:00 p.m.																														4:00 PM	
5:00 p.m. - 6:00 p.m.																														5:00 PM	
What would you like to improve in this space to make it more comfortable to STUDY?																										What would you like to improve in this space to make it more comfortable to STUDY?					
What would you like to improve in this space to make it more comfortable to RELAX?																										What would you like to improve in this space to make it more comfortable to RELAX?					
Which plaza or green space on campus do you prefer? Why?																										Which plaza or green space on campus do you prefer? Why?					
Which activities do you prefer to do at that location?	S	SO	R	E		S	SO	R	E		S	SO	R	E		S	SO	R	E		S	SO	R	E		S	SO	R	E		Which activities do you prefer to do at that location?
S — Studying																															
SO — Socializing																															
R — Relax																															
E — Eating																															

S - STUDYING

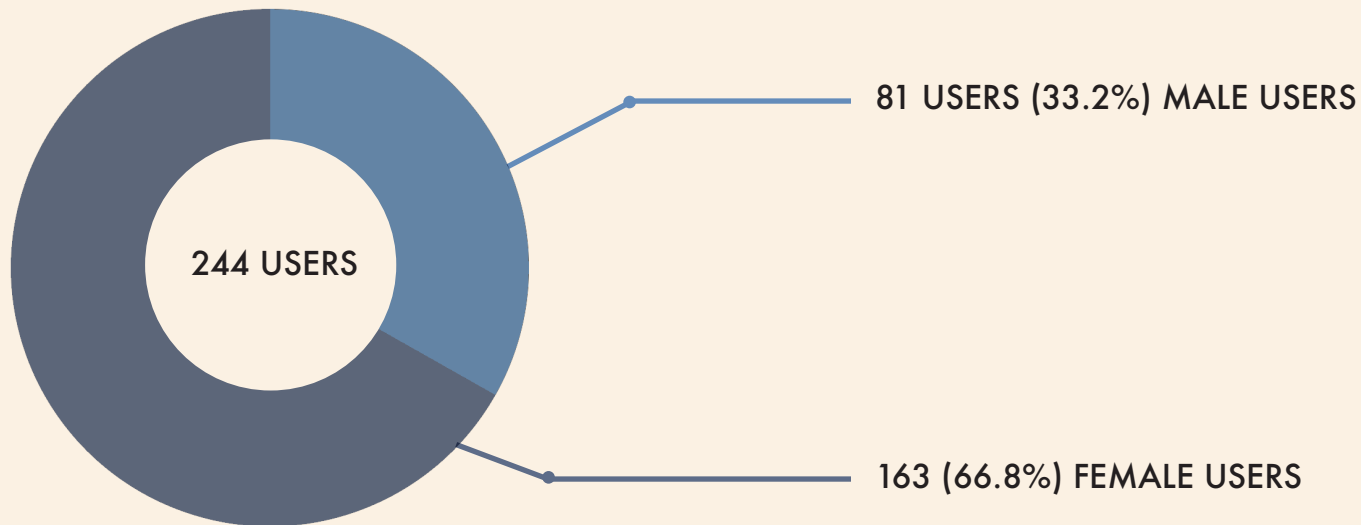
R - RELAX

SO - SOCIALIZING

E - EATING

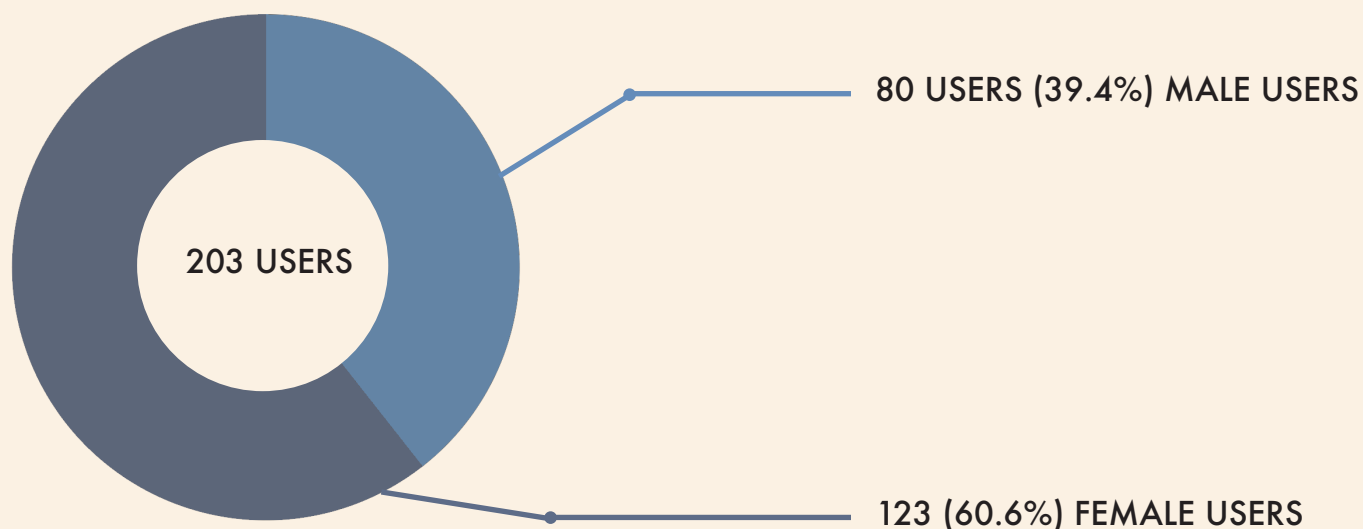
## ACITIVITY SCAN FORM RESULTS: DEMOGRAPHICS

### DEXTER LAWN TOTAL USERS



The graph is of the total users at Dexter Lawn on Monday, April 22nd 2019. Out of the 244 users total users, 81 users (33.2%) were male users and 163 users (66.8%) were female users. Dexter Lawn has the highest number of users from all four locations.

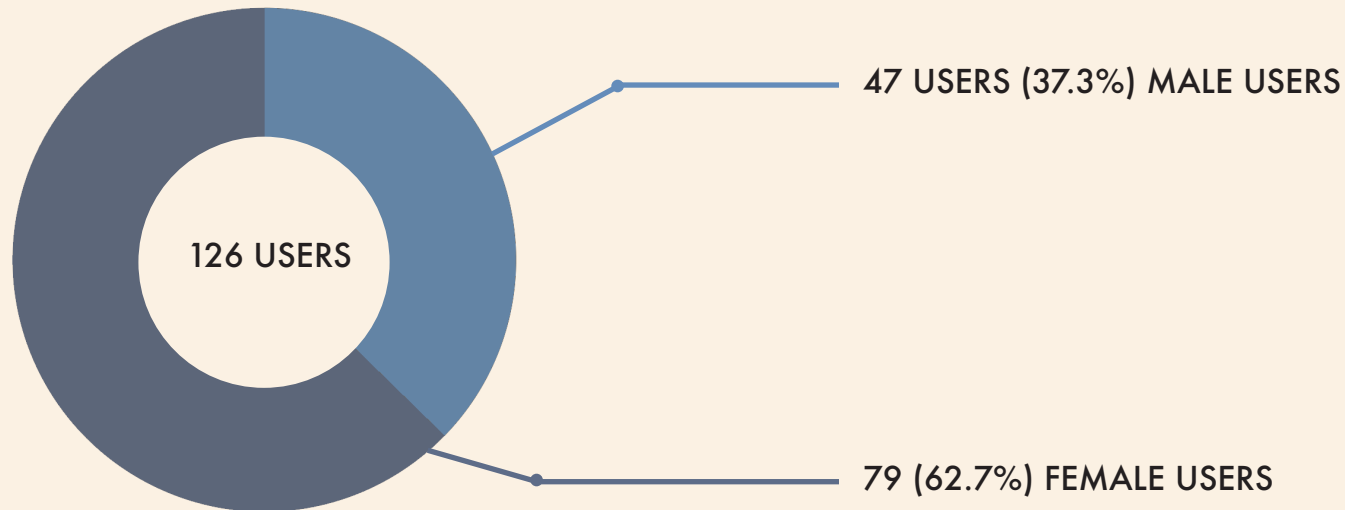
### UNIVERSITY UNION PLAZA TOTAL USERS



The graph shows the total number of people using University Union Plaza on Wednesday, April 24th 2019. Out of 203 total users, 80 users (39.4%) were male users and 123 users (60.6%) were female users. UU Plaza has the highest number of users from all four locations.

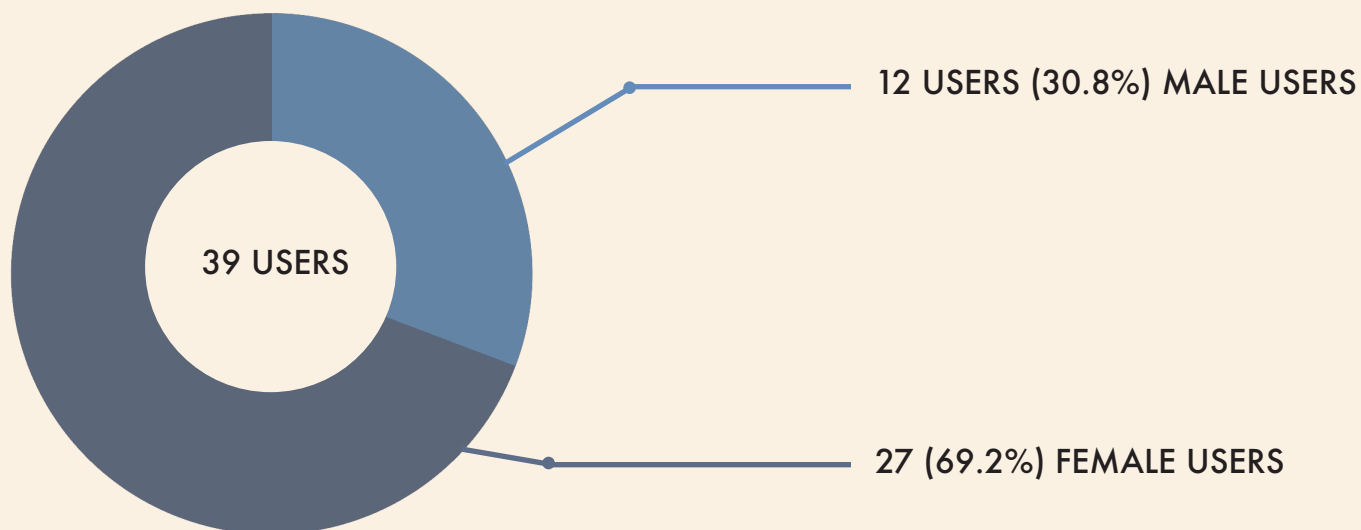
# ACTIVITY SCAN FORM RESULTS: DEMOGRAPHICS

## CENTENNIAL GREEN TOTAL USERS



The graph displays the total users of Centennial Green on Tuesday, April 23rd 2019. Out of 126 users, 47 users (37.3%) were male users and 79 (62.7%) were female users.

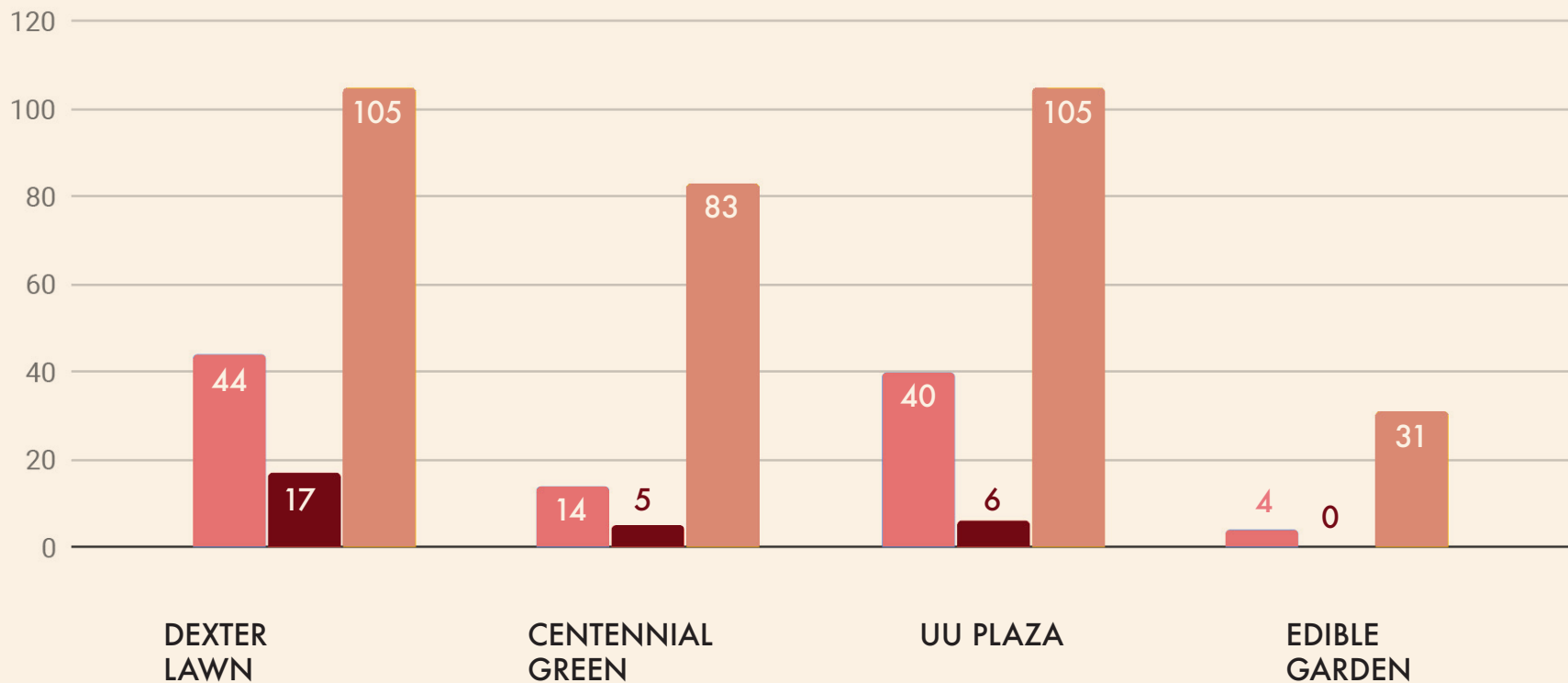
## EDIBLE GARDEN TOTAL USERS



The graph is of the total users at Edible Garden on Thursday, April 25th 2019. Out of 39 users, 12 users (30.8%) were male users and 27 users (69.2%) were female users. From the four locations, Edible Garden was the lowest performing outdoor space.

# ACTIVITY SCAN FORM RESULTS: DEMOGRAPHICS

## TOTAL NUMBER OF SOLO USERS, PAIRS, AND GROUPS

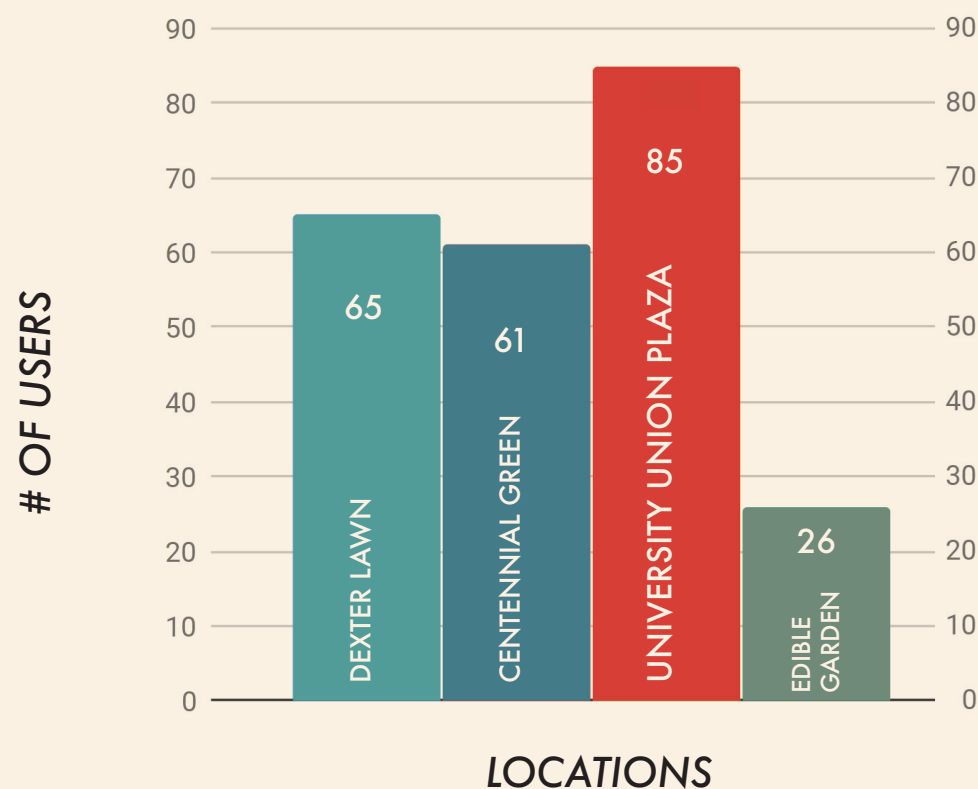


The bar graph compares the number of solo users, users in pair, and users in groups for each location. Dexter Lawn has highest numbers of pairs and groups, at 44 pairs and 17 groups, respectively. Edible Garden has the lowest number of pairs (4 pairs) and 0 groups. UU Plaza is closest to Dexter Lawn in terms of pairs, at 40 pairs. Centennial Green and UU Plaza have 5 groups and 6 groups, respectively.

# ACITIVITY SCAN FORM RESULTS: ACTIVITIES



## TOTAL USERS STUDYING AT ALL LOCATIONS

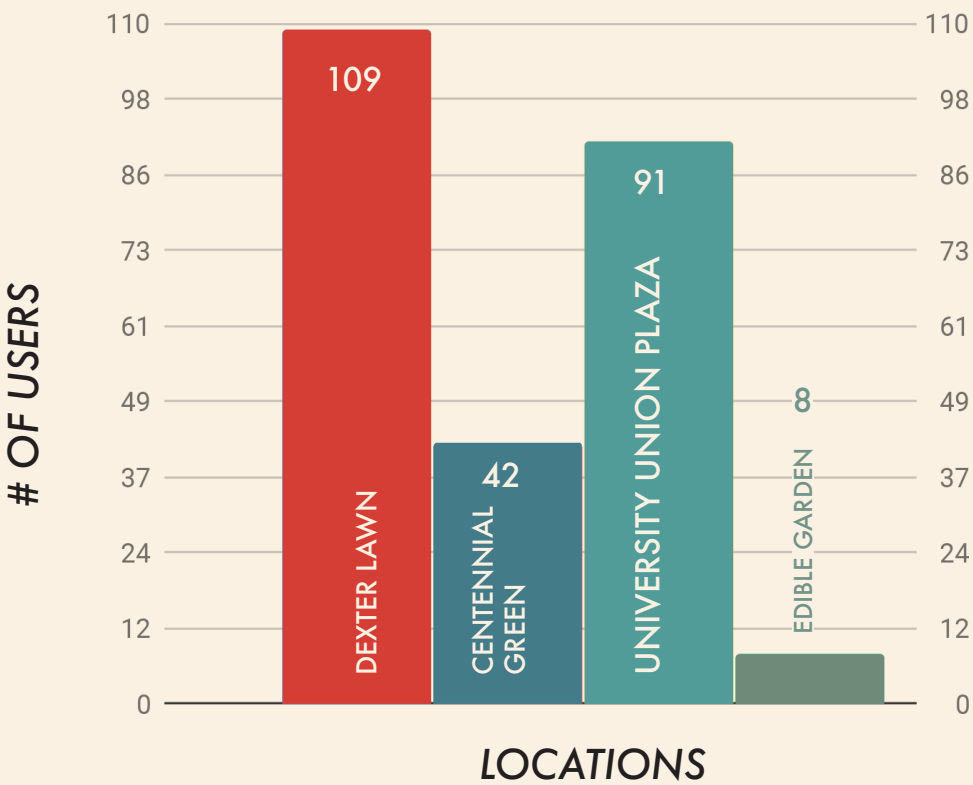


The bar graph presents the number of users studying at each location. At University Union Plaza, out of 203 total users, 85 users (42%) were studying. Dexter Lawn had 65 users (26.6%) out of 244 users studying. In contrast, 61 users (48%) out of 126 users were studying at Centennial Green. Edible Garden had 26 users (66%) out of 39 users. Even though, UU Plaza has the highest number of users studying, more than half of the total users at Edible Garden and Centennial Green were studying. While Dexter Lawn and UU Plaza, less than half of the total users were studying.

# ACITIVITY SCAN FORM RESULTS: ACTIVITIES



## TOTAL USERS SOCIALIZING AT ALL LOCATIONS



The bar graph displays the number of users socializing at each location. Dexter Lawn has the highest number of users socializing. Out of 244 users, 109 users (44.7%) were socializing. At University Union Plaza, 91 users (45%) out of 203 total users were socializing. Centennial Green has 42 users (33%) out of 126 users socializing and Edible Garden has 8 users (20.5%) out of 39 users socializing. The bar graph of users socializing is directly correlated to the bar graph of solo users, pairs, and groups. Locations with higher number of pairs and groups have higher number of users socializing.

# ACITIVITY SCAN FORM RESULTS: ACTIVITIES



## TOTAL USERS EATING AT ALL LOCATIONS

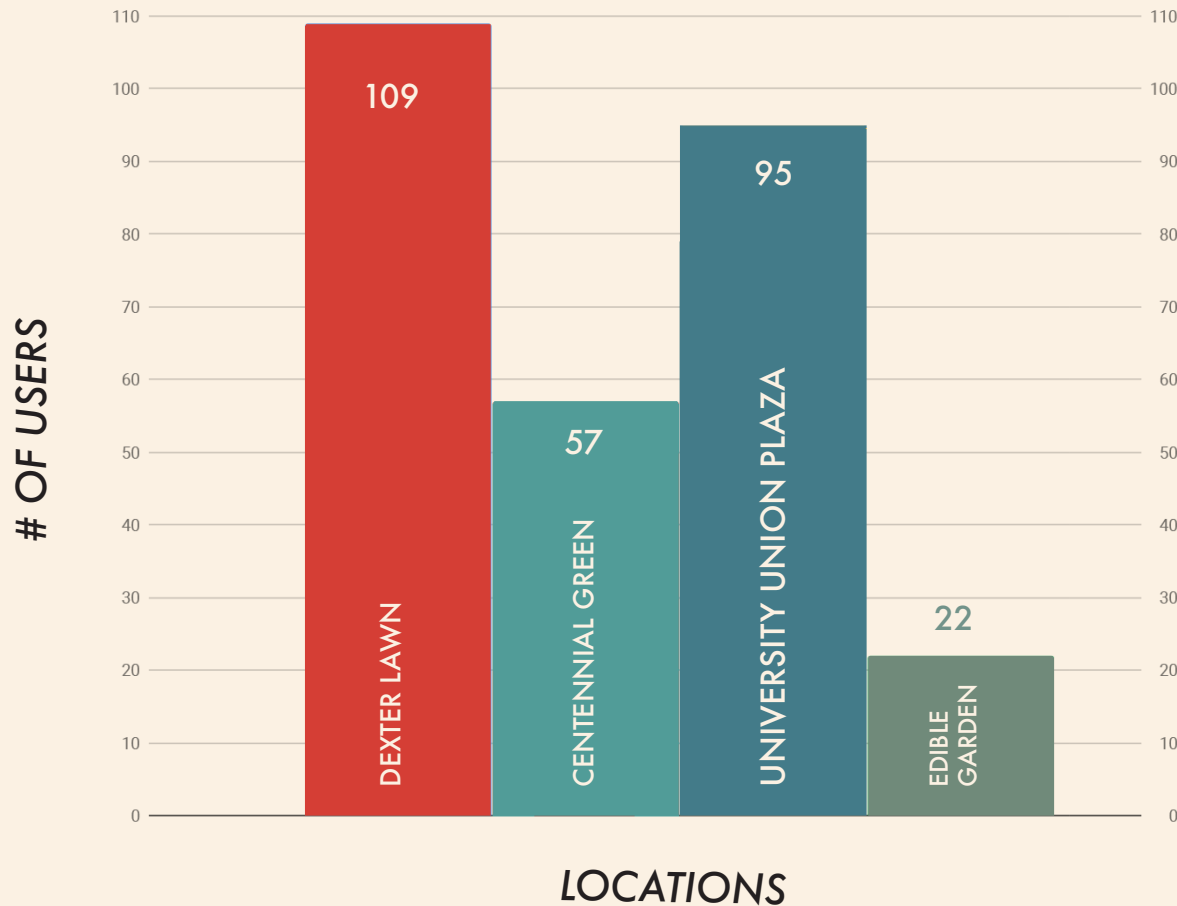


The bar graph shows the number of users eating at each location. University Union Plaza has the highest number of users eating: 108 users (53%) out of 203 users. Dexter Lawn has 69 users (28%) eating out of 244 users. Centennial Green has 13 users (10%) eating out of 126 total users. Edible Garden has 2 users (5%) out of 39 total users eating food.

## ACTIVITY SCAN FORM RESULTS: ACTIVITIES



### TOTAL USERS ON ELECTRONIC DEVICES AT ALL LOCATIONS

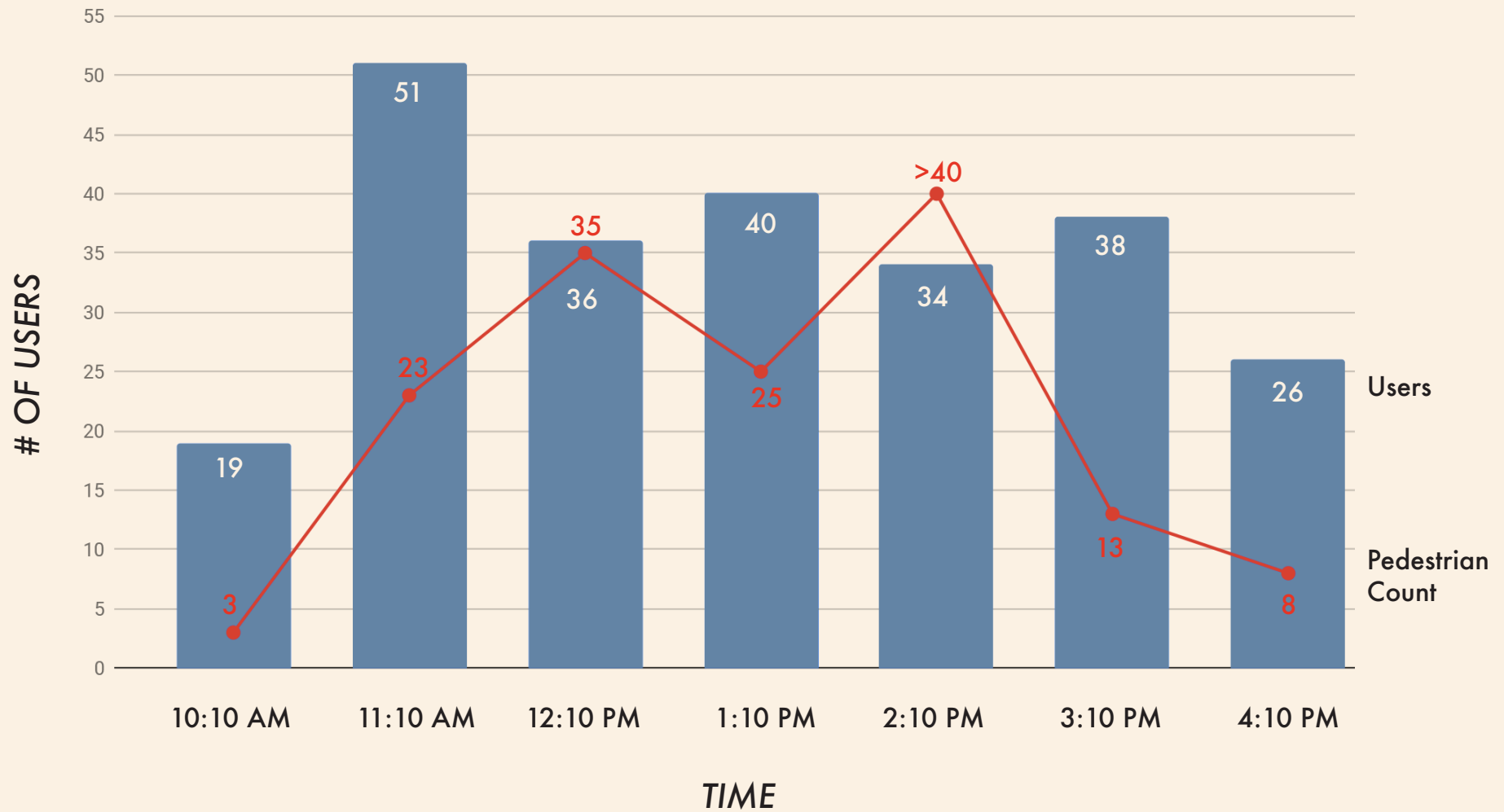


The bar graph shows the number of users on electronic devices at each location. Users studying on laptops were counted as being on electronic devices as well as users on their phones. Dexter Lawn has the highest number of users on electronic devices. Out of 244 users, 109 users (44.7%) are on electronic devices. University Union has 95 users (47%) on electronic devices out of 203 users. Centennial Green has 57 users (45%) out of 126 total users on electronic devices. Edible Garden has 22 users (56%) out of 39 total users on electronic devices. It is important to know that some users were using electronic device to study while others were using their phones to relax and spend time.



## RESULTS: USERS + PEDESTRIAN COUNT

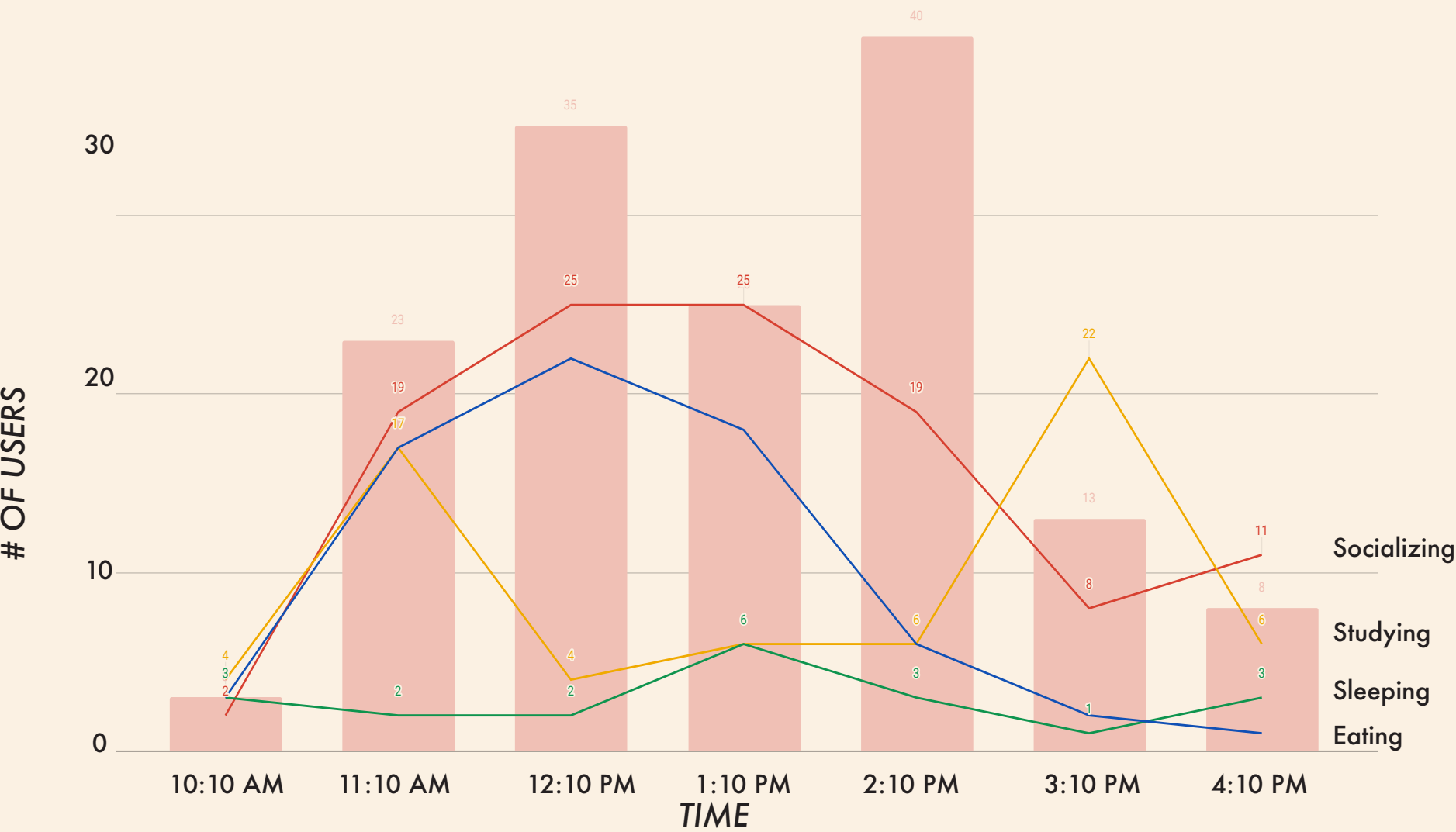
## DEXTER LAWN



The graph shows the relationship between users and pedestrian count for Dexter Lawn at each time interval

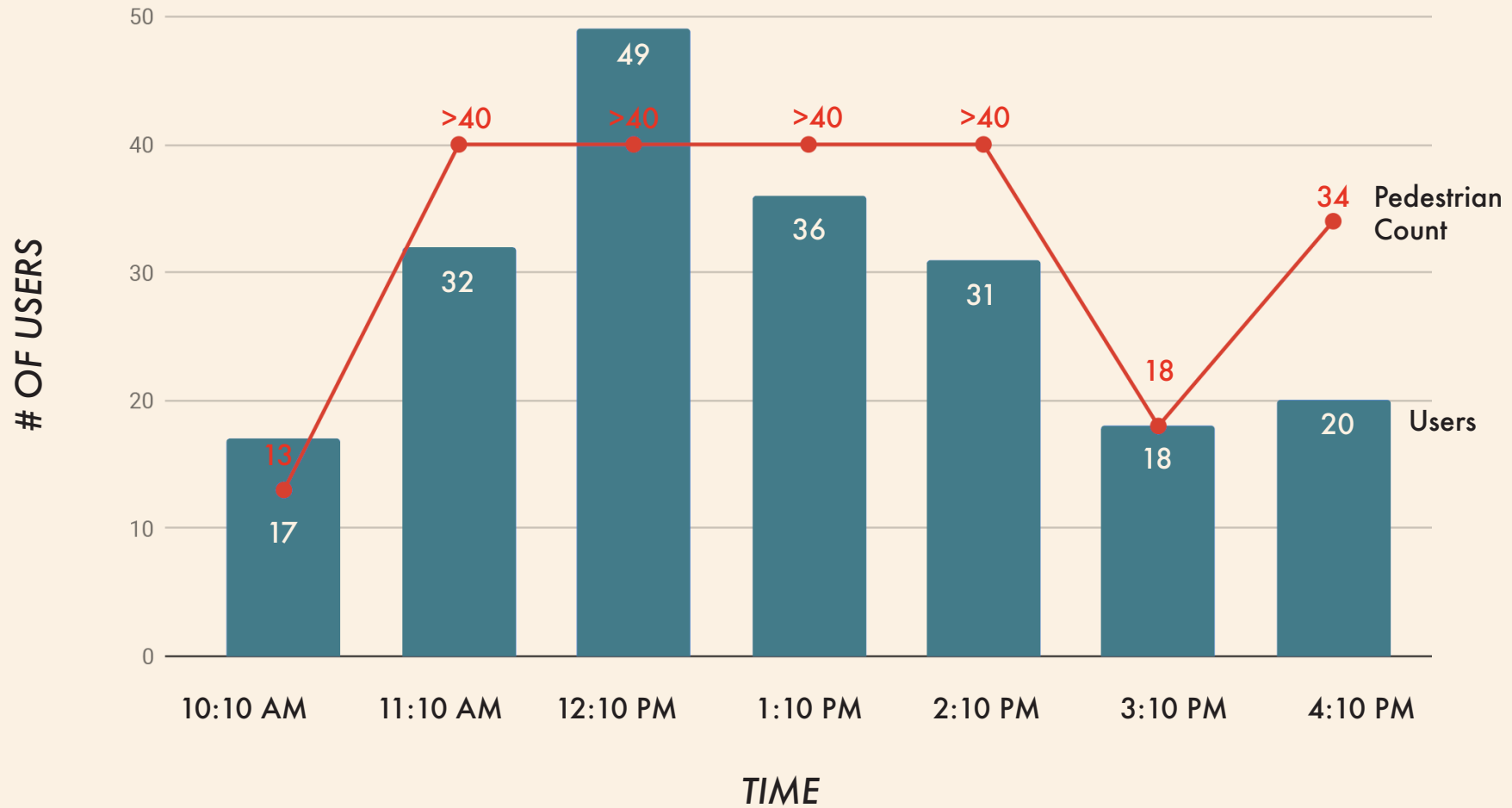
# RESULTS: PEDESTRIAN COUNT + ACTIVITY TRENDS DEXTER LAWN

The graph presents the trends for each activity in terms of users and time for Dexter Lawn. Socializing, studying, and eating increase drastically at 11:10 a.m. Socializing and eating continue to increase until 12:10 p.m. While socializing remains at 25 users, users eating food drops at 1:10 p.m. Studying drops to 4 users at 12:10 p.m. and only increases by 2 users at 1:10 p.m. Other activities drop at 3:10 p.m., studying increases to 22 users. Sleeping reaches its highest point at 1:10 p.m. with 6 users relaxing and continues to drop until 4:10 p.m. with 3 users. Pedestrian count is at 3 people at 10:10 a.m., but increases until 12:10 p.m. There is no direct correlation to pedestrian count and the activities.



## RESULTS: USERS + PEDESTRIAN COUNT

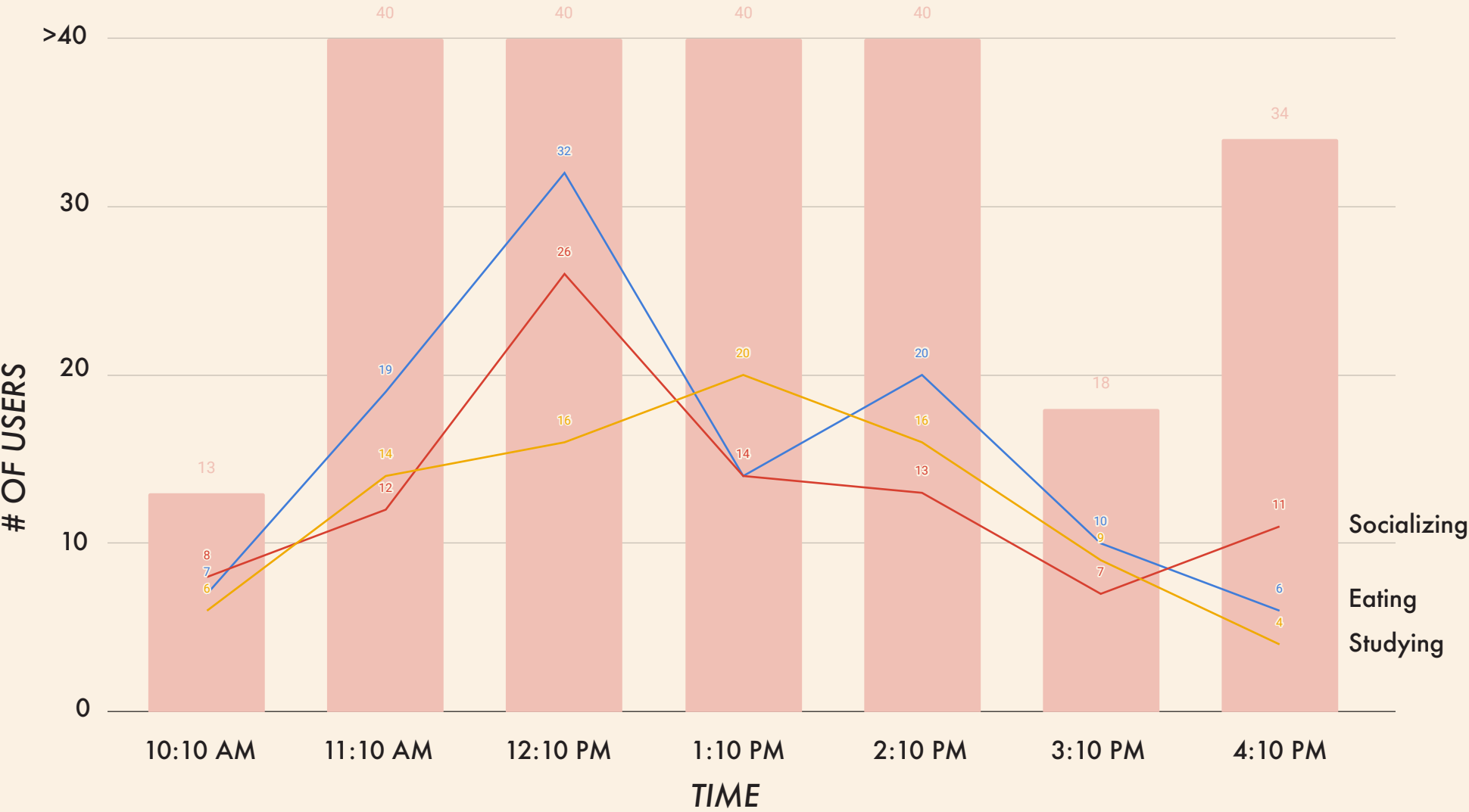
## UNIVERSITY UNION PLAZA



The graph shows the relationship between users and pedestrian count for UU Plaza at each time interval.

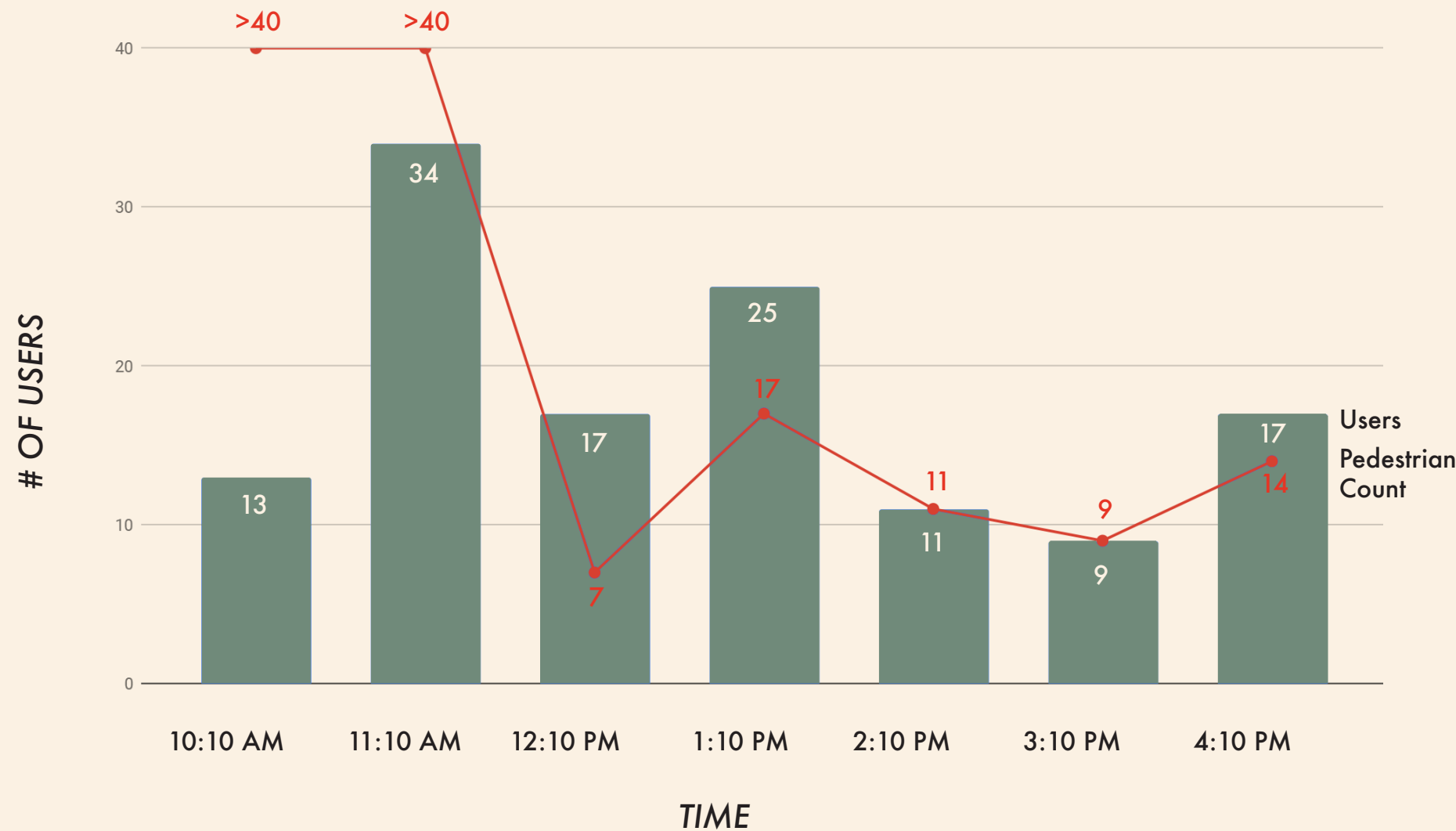
# RESULTS: PEDESTRIAN COUNT + ACTIVITY TRENDS UNIVERSITY UNION PLAZA

The graph shows the trends for each activity in terms of users and time for UU Plaza. There were no users sleeping at UU Plaza. Users eating increase gradually from 10:10 a.m. to 12:10 p.m. and then drops at 1:10 p.m. The activity trend of users eating and users socializing is directly related. Users studying as a similar trend; there is an increase until 1:10 p.m. and then continues dropping until 4:10 p.m. Pedestrian count increases at 11:10 a.m. to greater than 40 users and remains constant until 2:10 p.m. The count drops to 18 users at 3:10 p.m. and increases to 34 users at 4:10 p.m.



# RESULTS: USERS + PEDESTRIAN COUNT

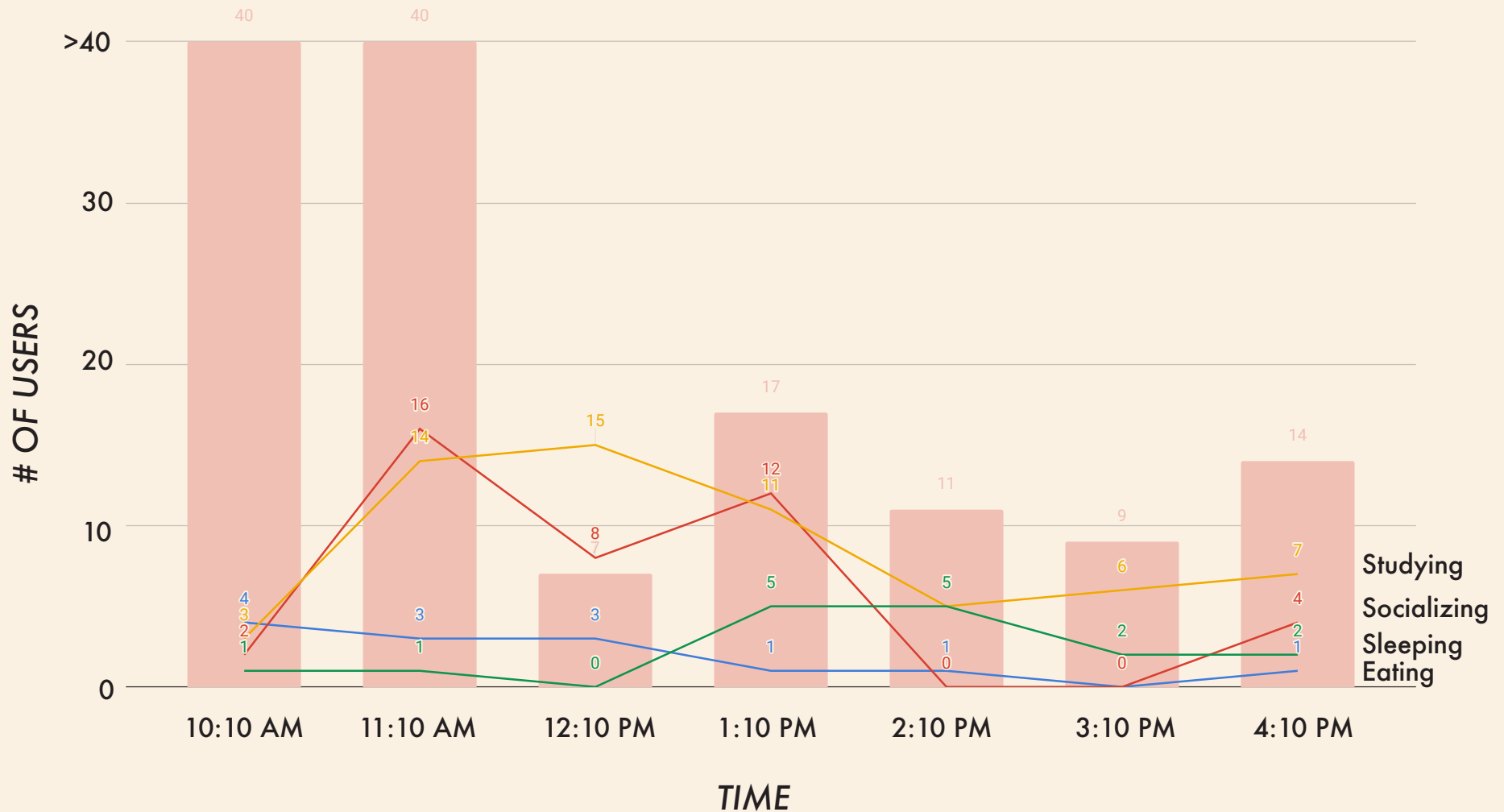
# CENTENNIAL GREEN



The graph shows the relationship between users and pedestrian count for Centennial Green at each time interval.

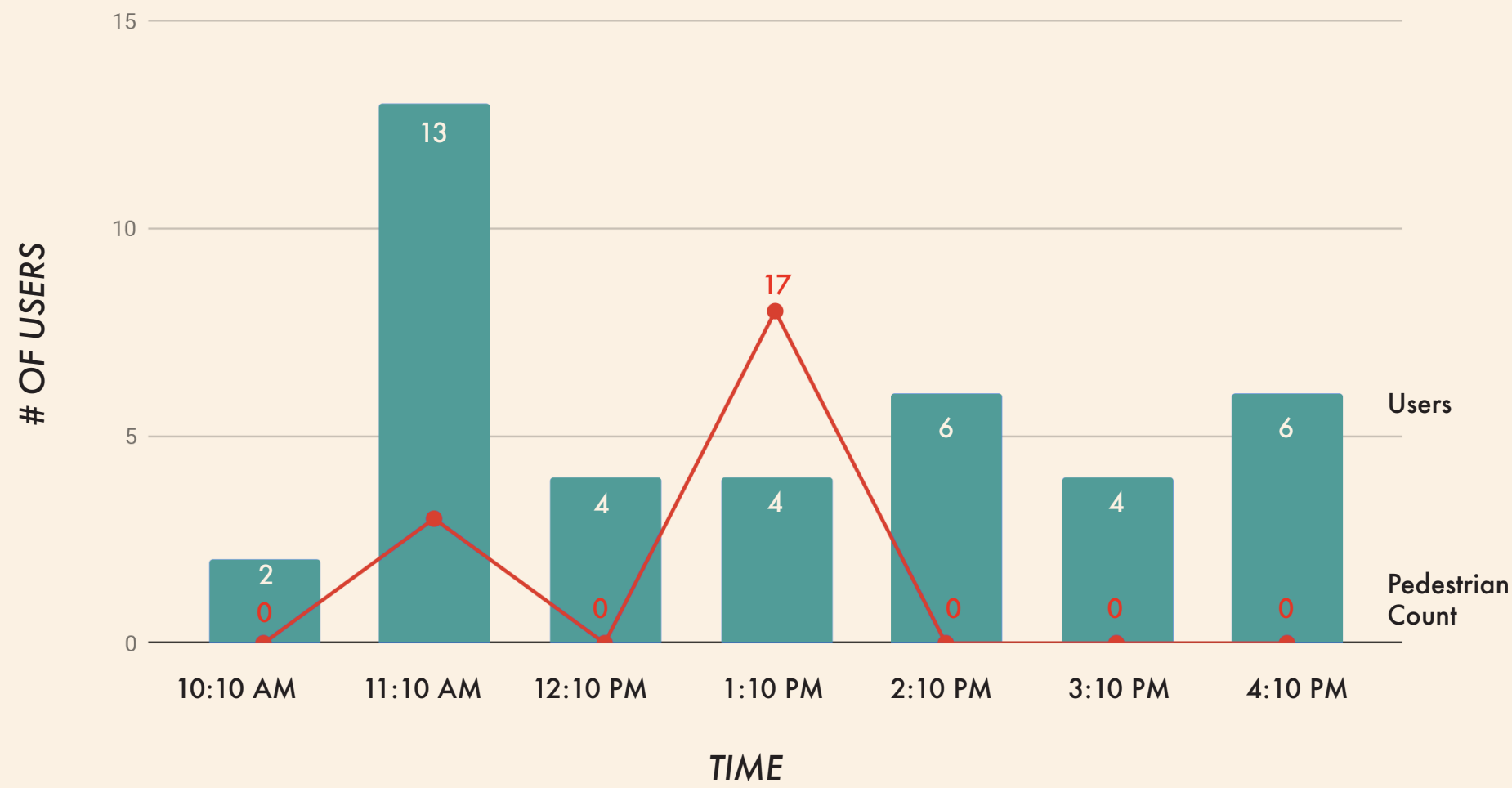
## RESULTS: PEDESTRIAN COUNT + ACTIVITY TRENDS CENTENNIAL GREEN

The pedestrian count for Centennial Green drops significantly at 12:10 p.m. and does not exceed 20 users after 12:10 pm. Users socializing follows a similar pattern, when it is at the highest number of users at 11:10 a.m., drops at 12:10 p.m., increases by 4 users at 1:10 p.m., and drops to 0 at 2:10 p.m. Users eating does not increase above 5 users at any given time. Users studying does not increase above 20 users at any given time.



# RESULTS: USERS + PEDESTRIAN COUNT

## EDIBLE GARDEN

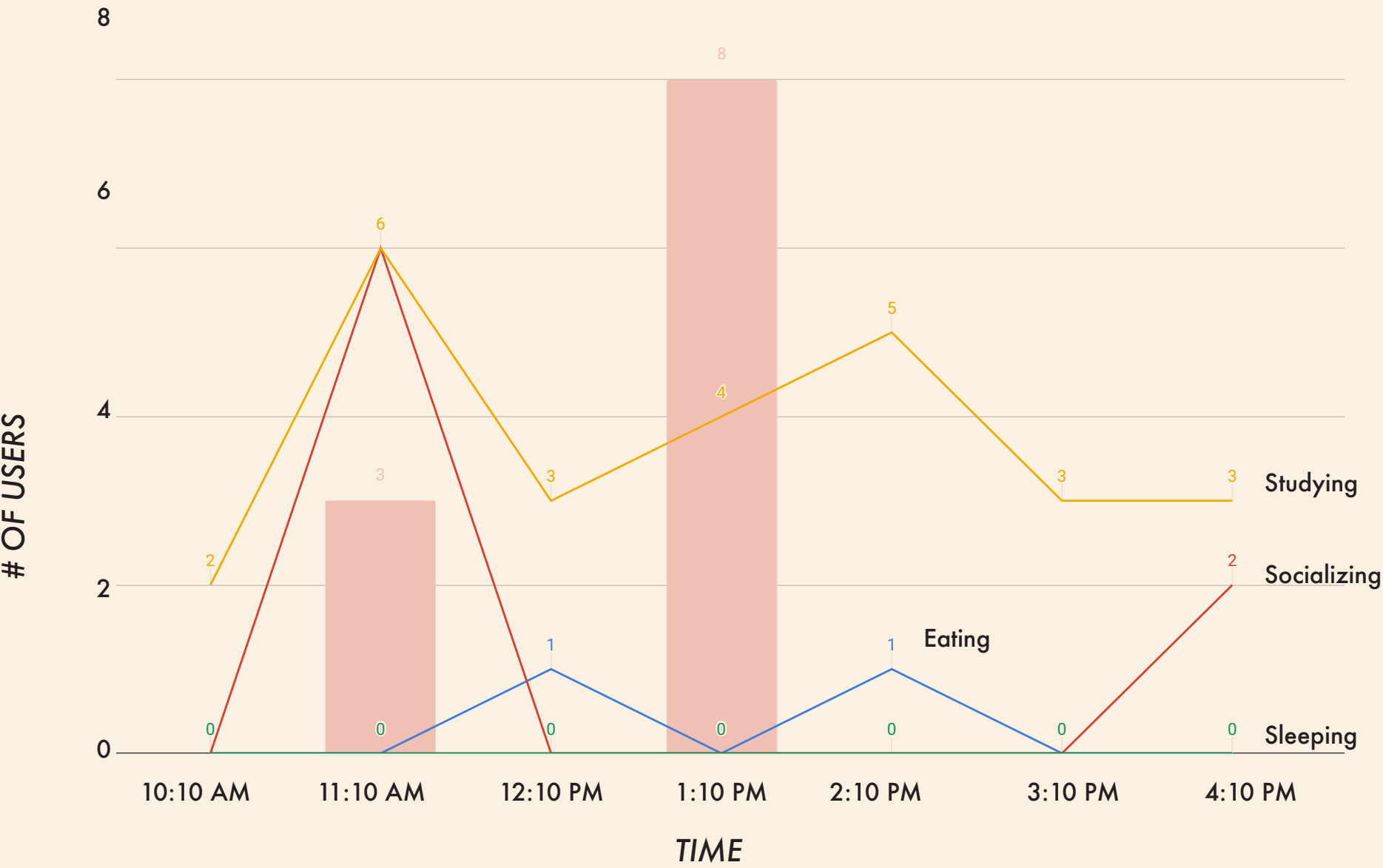


The graph shows the relationship between users and pedestrian count for Edible Garden at each time interval.

RESULTS: PEDESTRIAN COUNT + ACTIVITY TRENDS

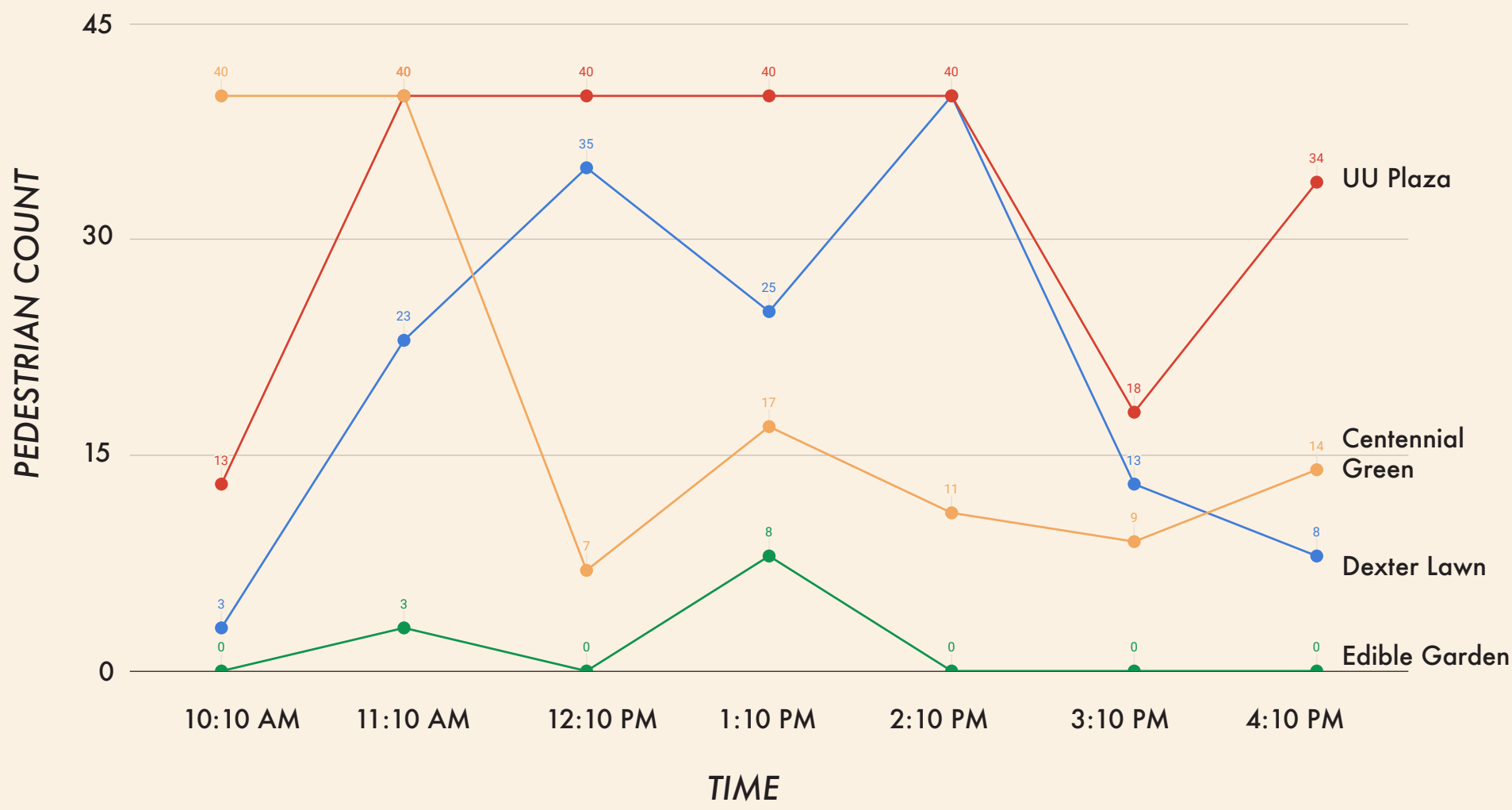
EDIBLE GARDEN

Edible Garden only had pedestrian walking by at 11:10 a.m. and 1:10 p.m. There were no users sleeping and only 2 users eating at 12:10 p.m. and 2:10 p.m. There is an increase in users studying at 11:10 p.m., a drop at 12:10 p.m., and a steady increase until 2:10 p.m. All activities drops at 4:10 p.m. except for socializing. Users are only socializing at 11:10 a.m. and at 4:10 p.m.





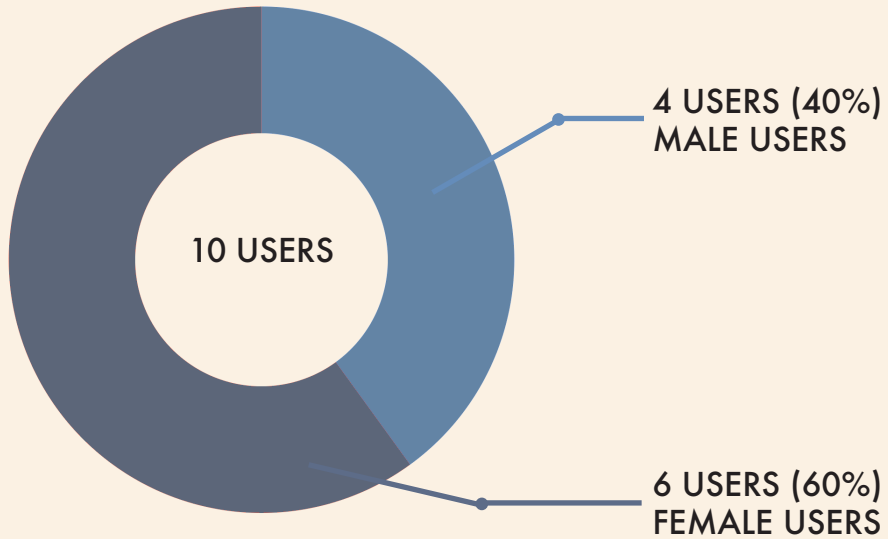
# RESULTS: PEDESTRIAN TRENDS ALL LOCATIONS



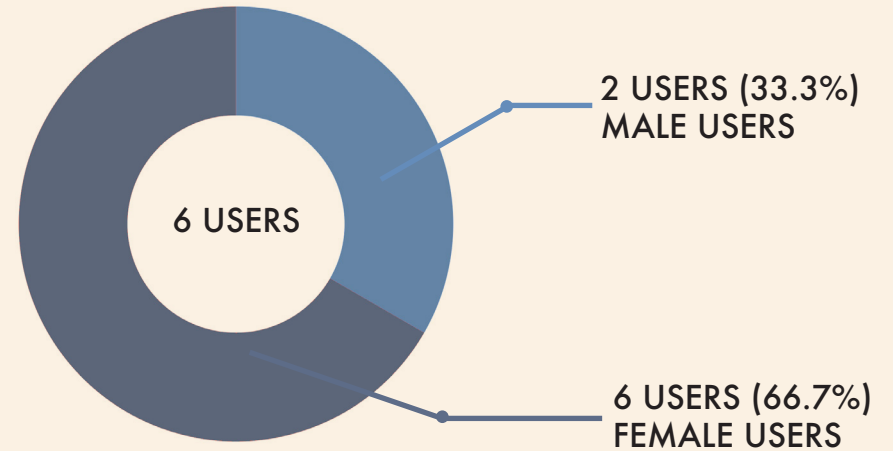
The graph showcases the trend in pedestrian counts for each location for the time length. Dexter Lawn and UU Plaza have similar pattern, while Centennial Green and Edible Garden are somewhat consistent to each other. UU Plaza has four occurrences with pedestrian counts reaching greater than 40 users. Edible Garden does not reach pedestrian counts greater than 10 users.

## USER INTERCEPT SURVEY RESULTS: DEMOGRAPHICS

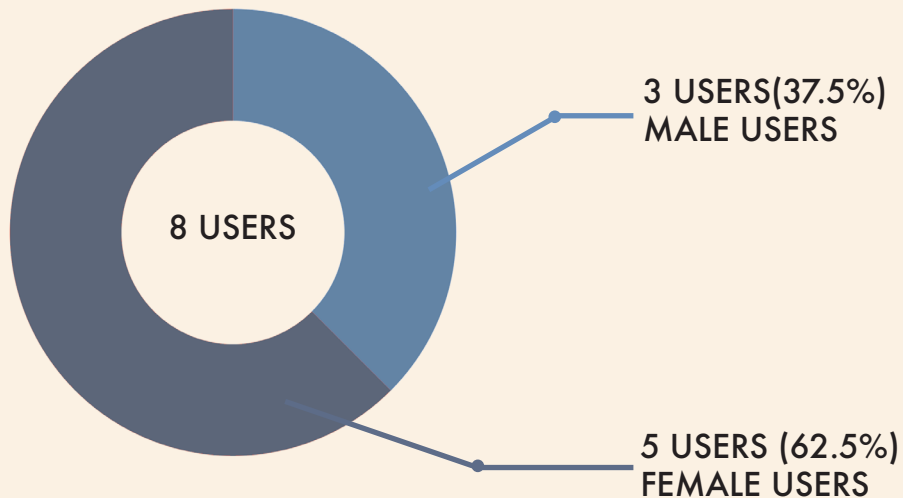
### DEXTER LAWN



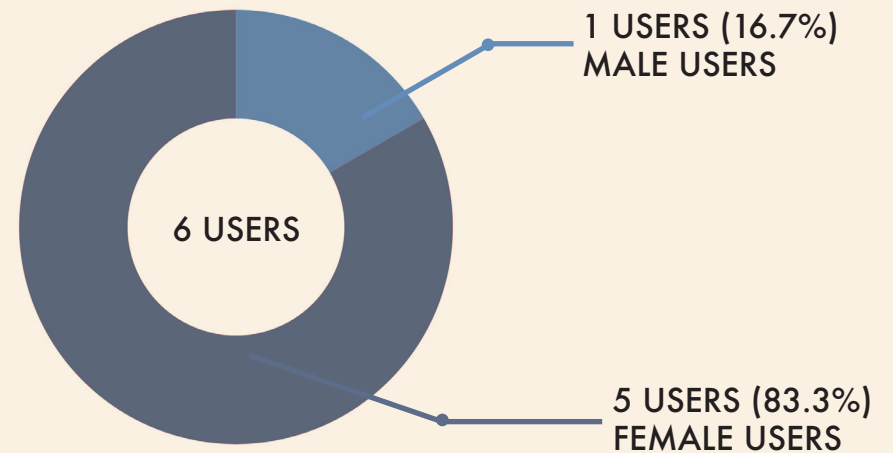
### CENTENNIAL GREEN



### UU PLAZA



### EDIBLE GREEN

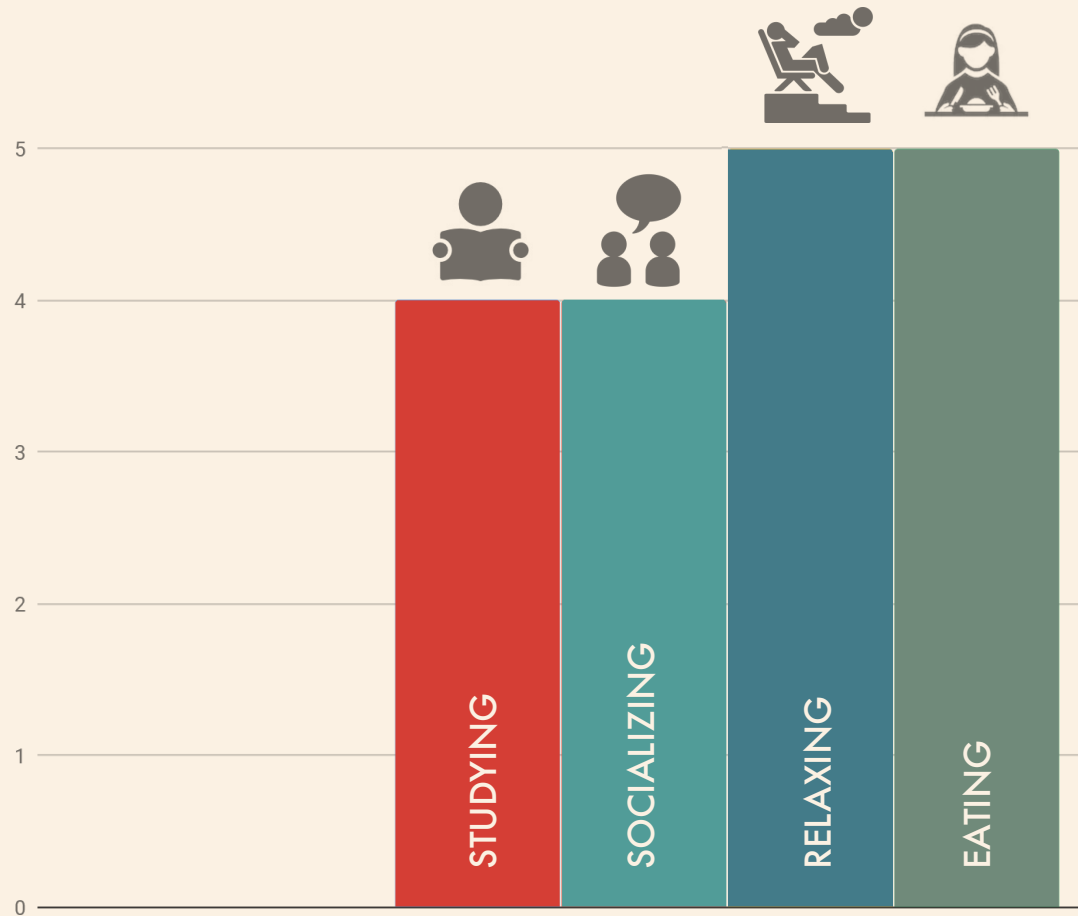


The donut graphs display female and male users surveyed for the User Inter Survey. Similar to the Activity Scan results, there are higher percentage of female users (more than 60% for each locations) surveyed.

# USER INTERCEPT SURVEY RESULTS: ACTIVITIES

## DEXTER LAWN

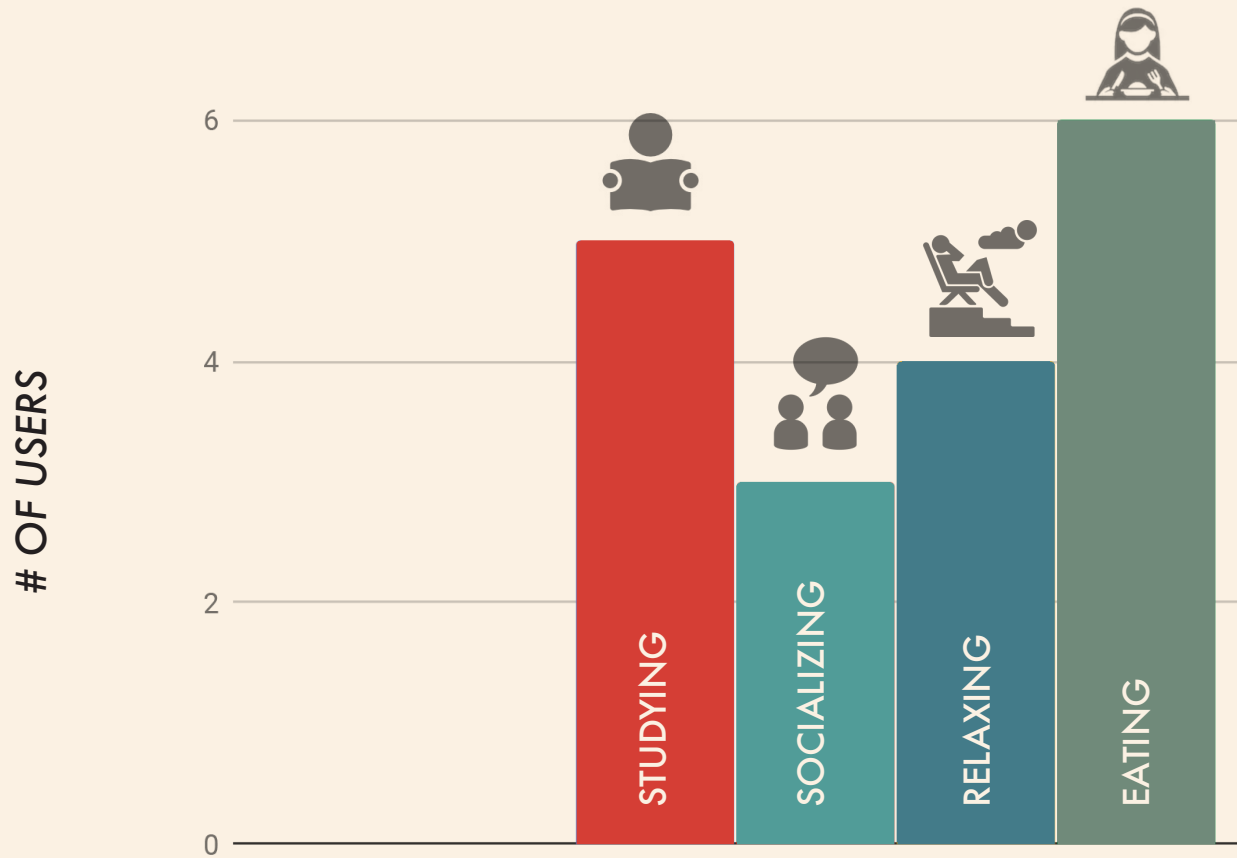
# OF USERS



The bar graph compares the activities surveyed users prefer to participate in. 5 users prefer to relax and eat at Dexter Lawn. 4 users prefer to study and socialize. There is overlap of activities because users preferred to do more than one activity at the location.

# USER INTERCEPT SURVEY RESULTS: ACTIVITIES

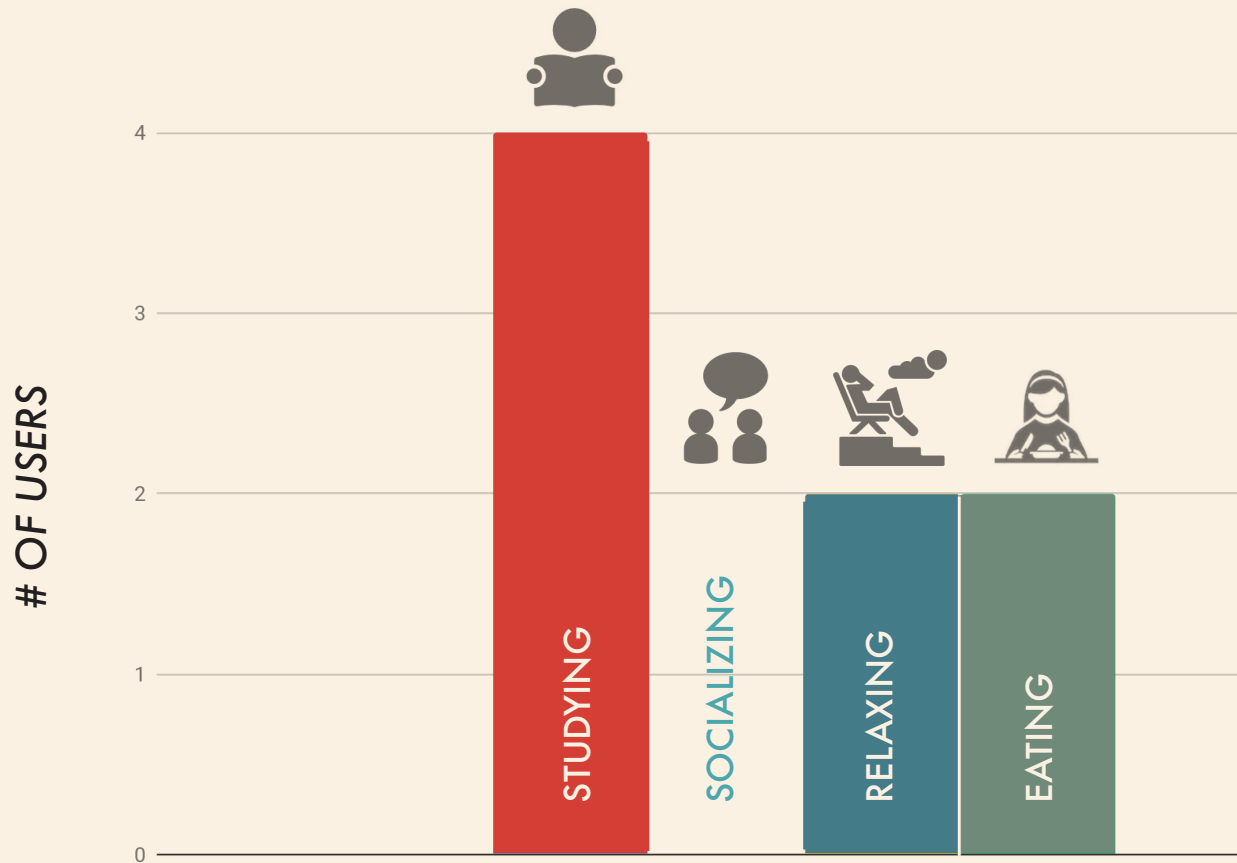
## UNIVERSITY UNION PLAZA



The bar graph compares the activities surveyed users prefer to participate in. 6 users prefer to eat and 5 users prefer to study at UU Plaza. 3 users prefer to socialize and 4 users prefer to relax. There is overlap of activities because users preferred to do more than one activity at the location.

# USER INTERCEPT SURVEY RESULTS: ACTIVITIES

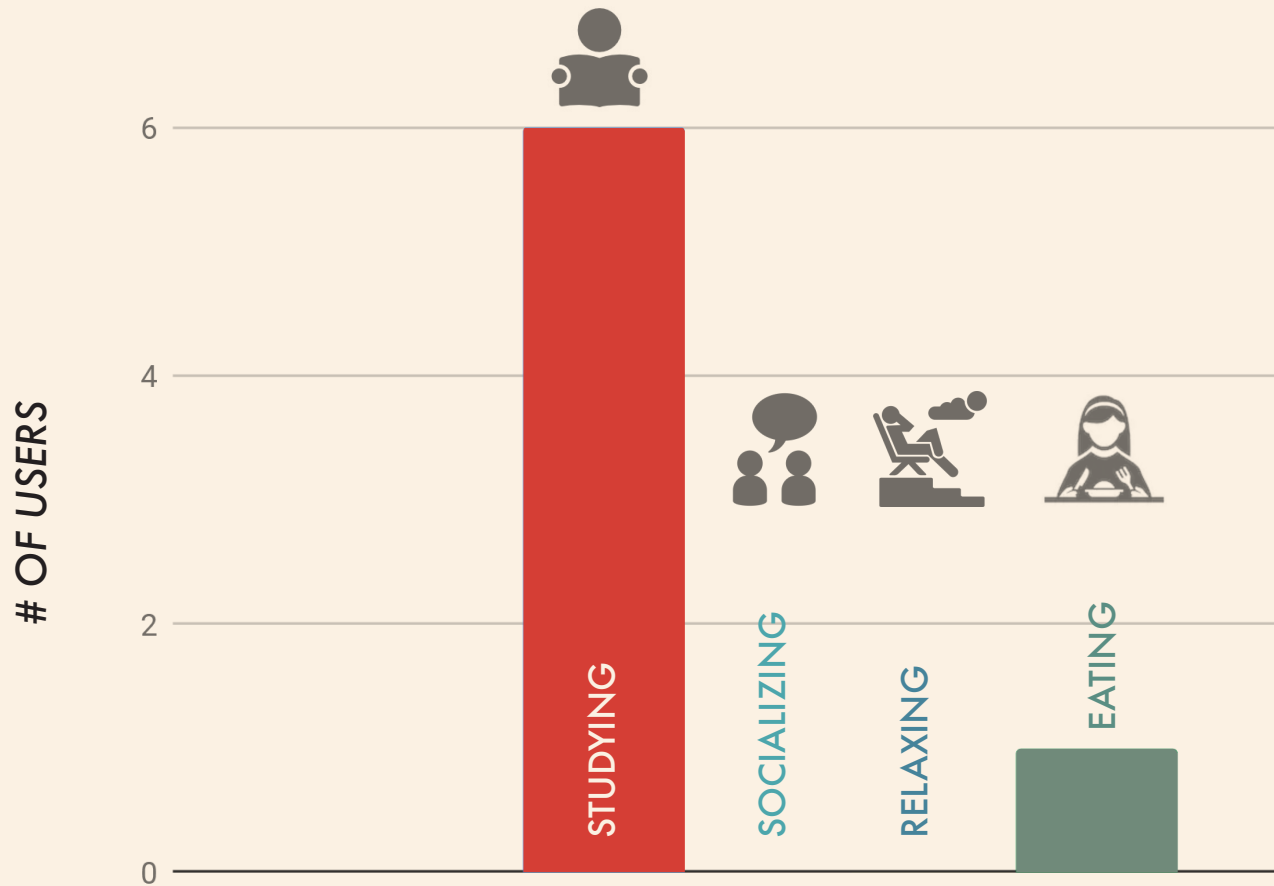
## CENTENNIAL GREEN



The bar graph compares the activities surveyed users prefer to participate in at Centennial Green. 4 users prefer to study at Centennial Green. 2 users prefer to relax and 2 users prefer to eat. None of the surveyed users prefer to socialize at Centennial Green. There is overlap of activities because users preferred to do more than one activity at the location.

# USER INTERCEPT SURVEY RESULTS: ACTIVITIES

## EDIBLE GARDEN

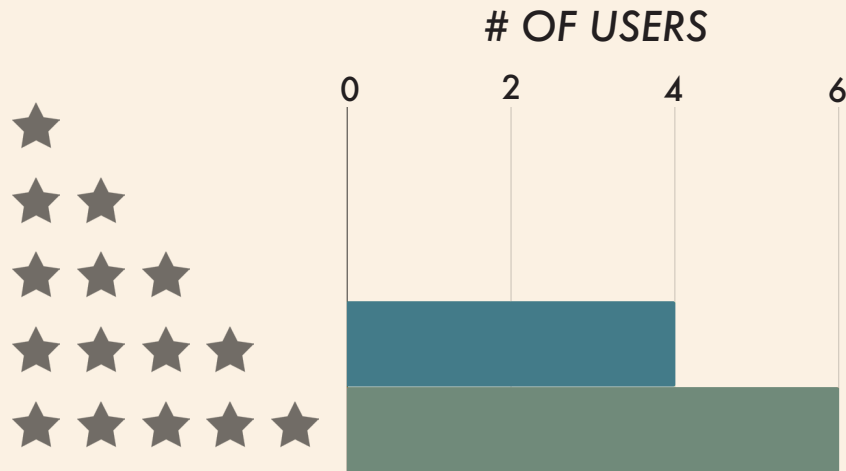


The bar graph compares the activities surveyed users prefer to participate in at Edible Green. 6 users prefer to study at Edible Green and 1 user prefers to eat. None of the surveyed users prefer to socialize or relax. There is overlap of activities because users preferred to do more than one activity at the location.

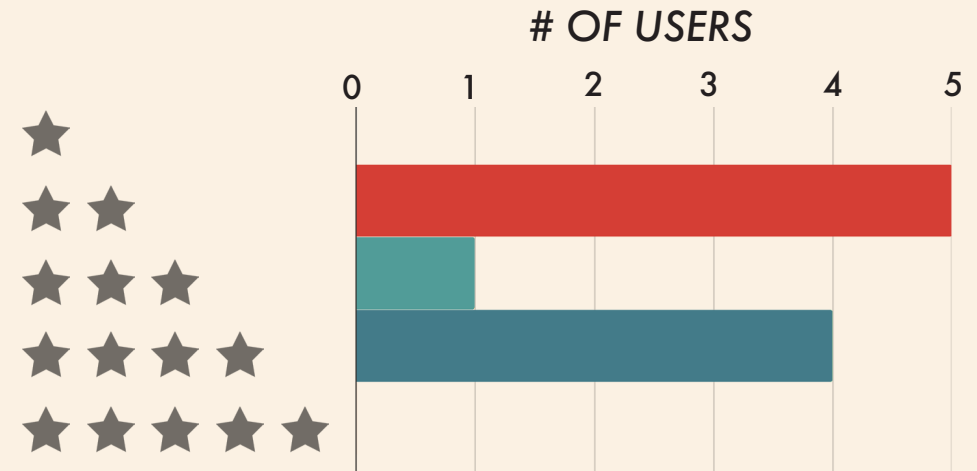
# USER INTERCEPT SURVEY RESULTS: RANKING

DEXTER LAWN

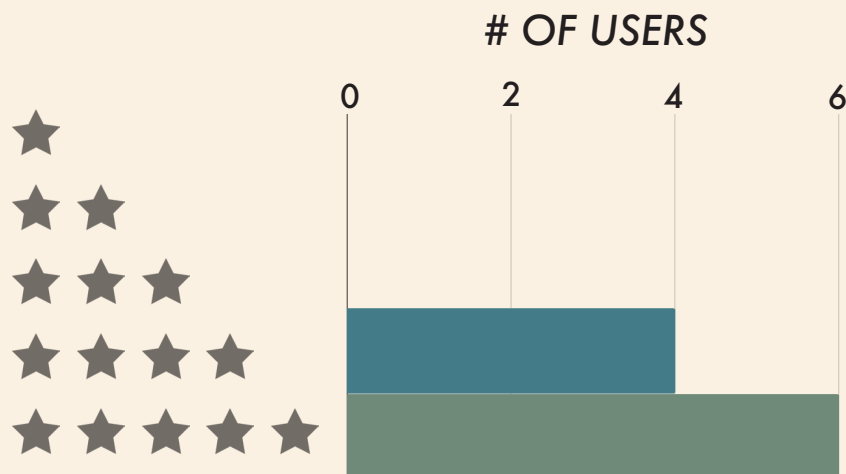
## CLEANLINESS



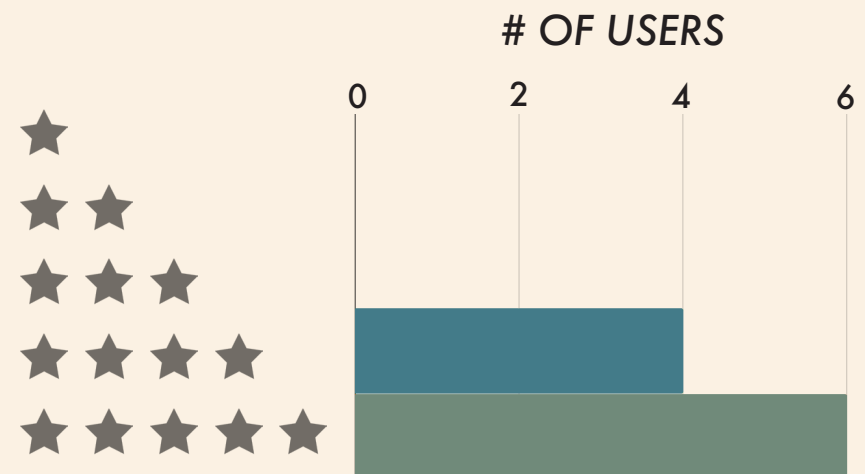
## ABILITY TO STUDY OR WORK



## GREENERY



## RELAX

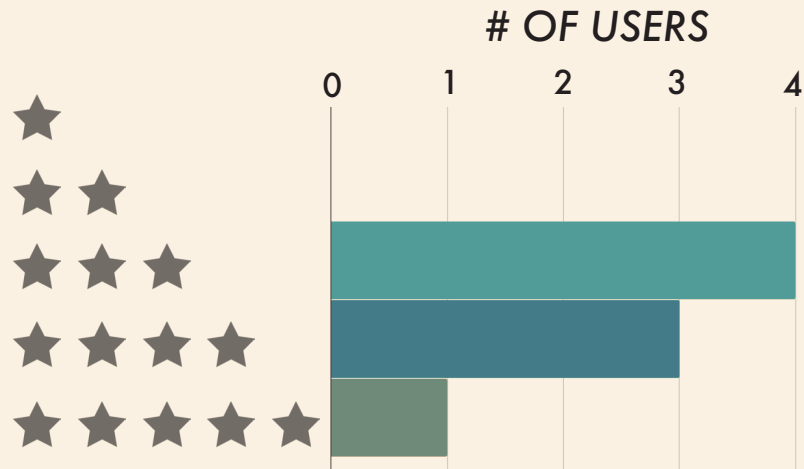


The four graphs show the ranking surveyed users gave for each category: Cleanliness, Ability to Study or Work, Greenery, and Ability to Relax. The ranking scale was set at 5 stars to 1 star; 5 meaning satisfied and 1 meaning unsatisfied. The horizontal axis represents number of users. The vertical axis represents the number of stars. 5 users gave Dexter Lawn 2 stars for the ability to study.

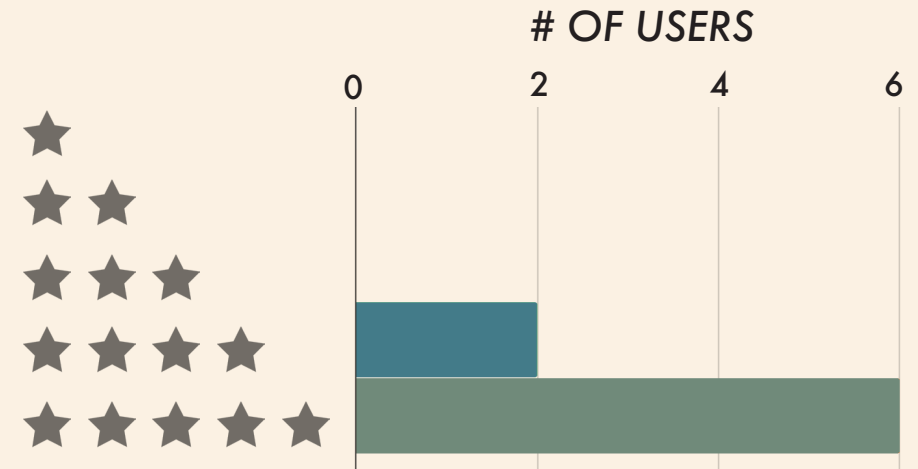
# USER INTERCEPT SURVEY RESULTS: ACTIVITIES

## UNIVERSITY UNION PLAZA

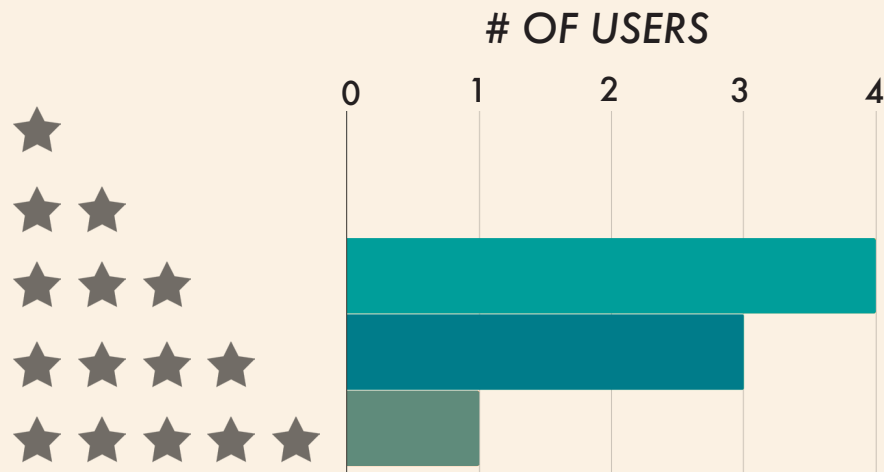
### CLEANLINESS



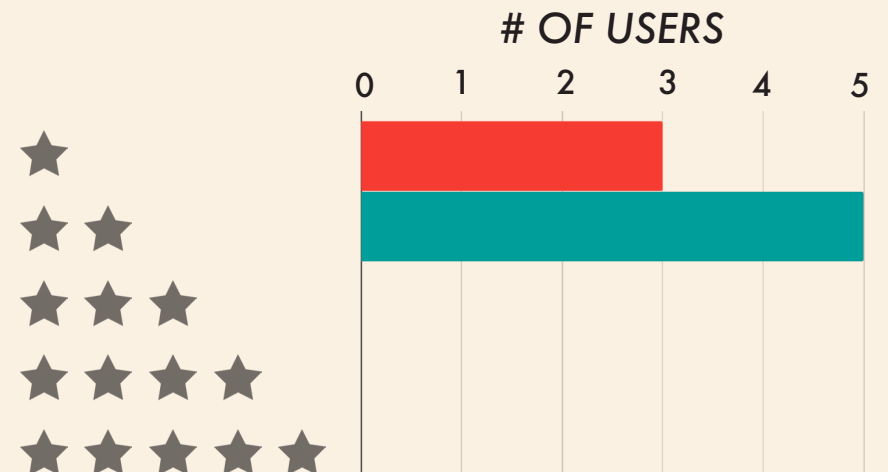
### ABILITY TO STUDY OR WORK



### GREENERY



### RELAX



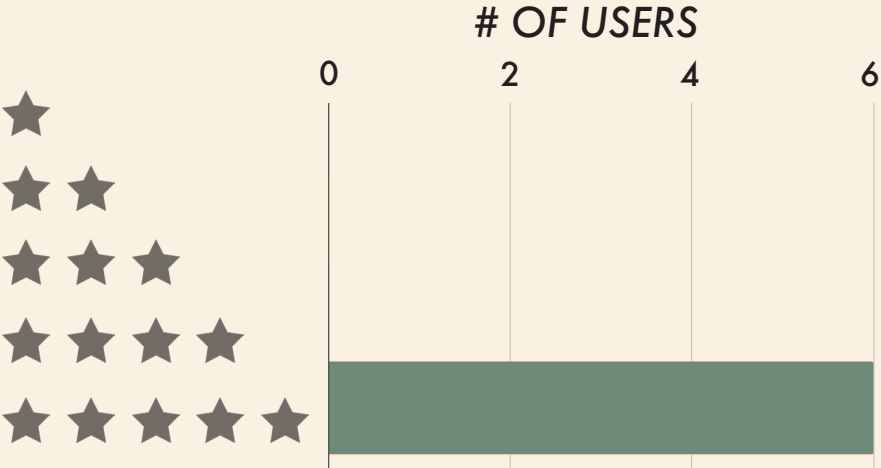
The four graphs show the ranking surveyed users gave for each category: Cleanliness, Ability to Study or Work, Greenery, and Ability to Relax. 3 users gave UU Plaza 1 star for the ability to relax. 6 users have 5 stars to UU Plaza for its ability to study.



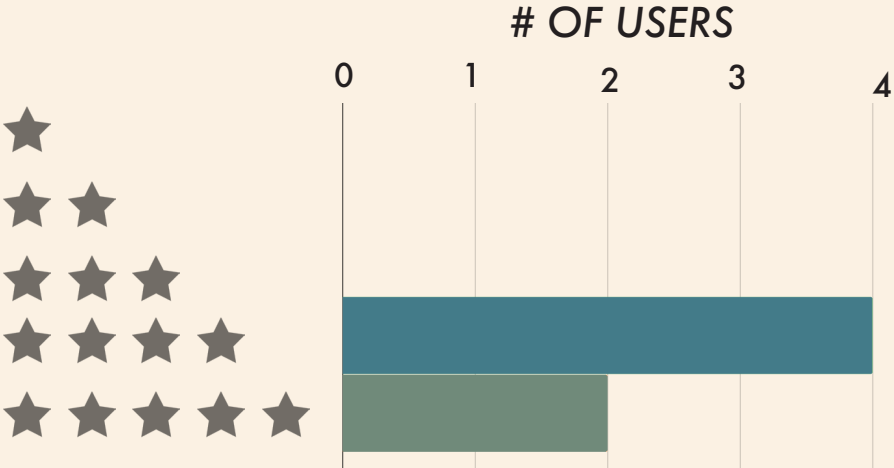
USER INTERCEPT SURVEY RESULTS: ACTIVITIES

CENTENNIAL GREEN

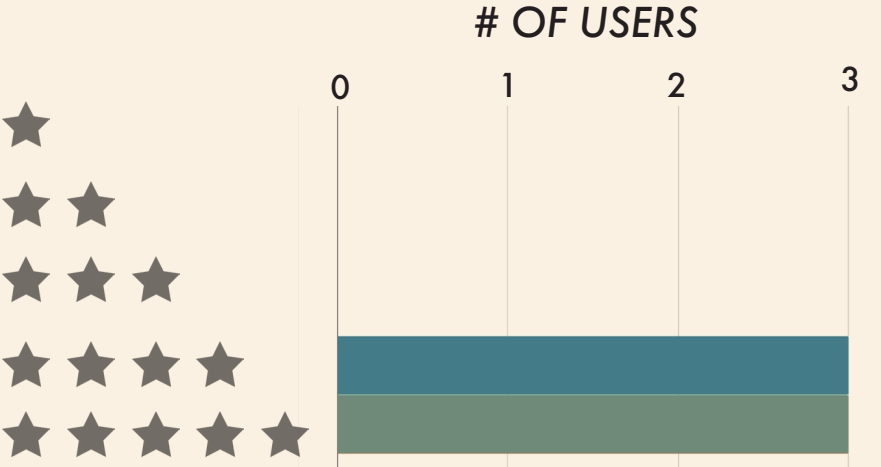
CLEANLINESS



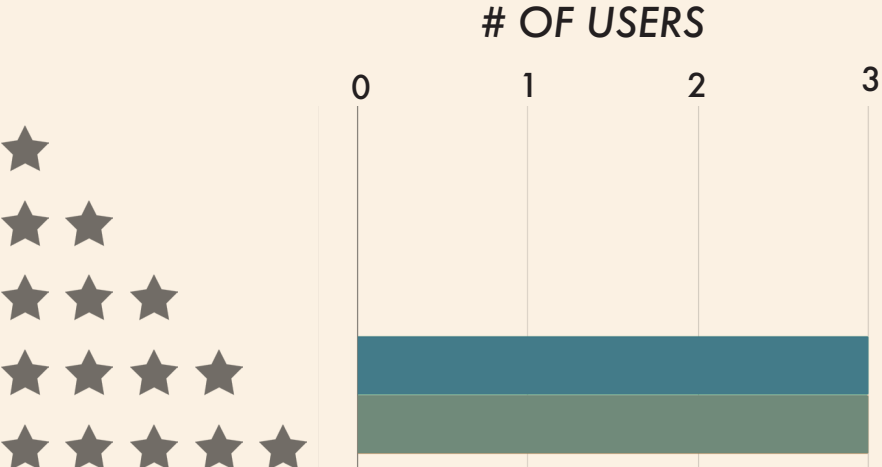
ABILITY TO STUDY OR WORK



GREENERY



RELAX

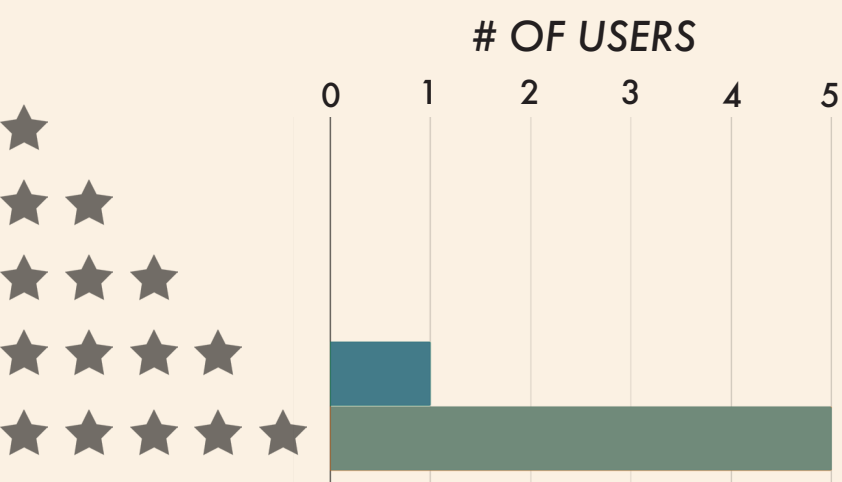


All 6 users surveyed gave Centennial Green 5 stars for cleanliness. For the rest of the categories, users were split evenly between 4 stars and 5 stars.

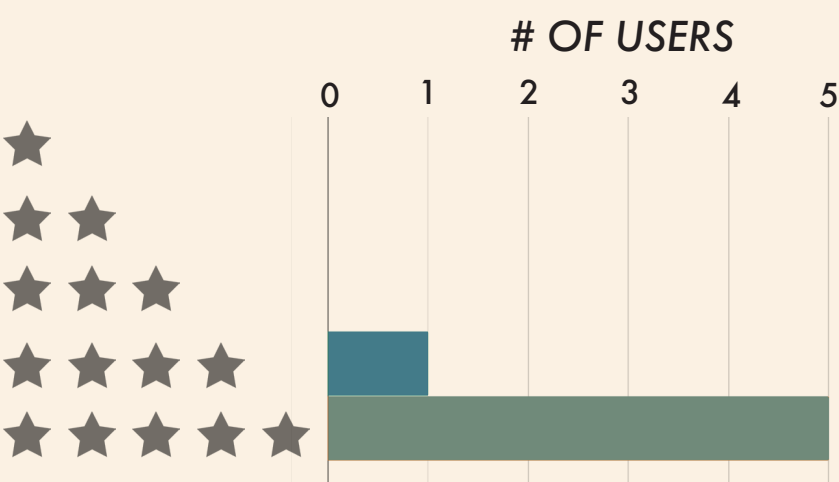
USER INTERCEPT SURVEY RESULTS: ACTIVITIES

EDIBLE GREEN

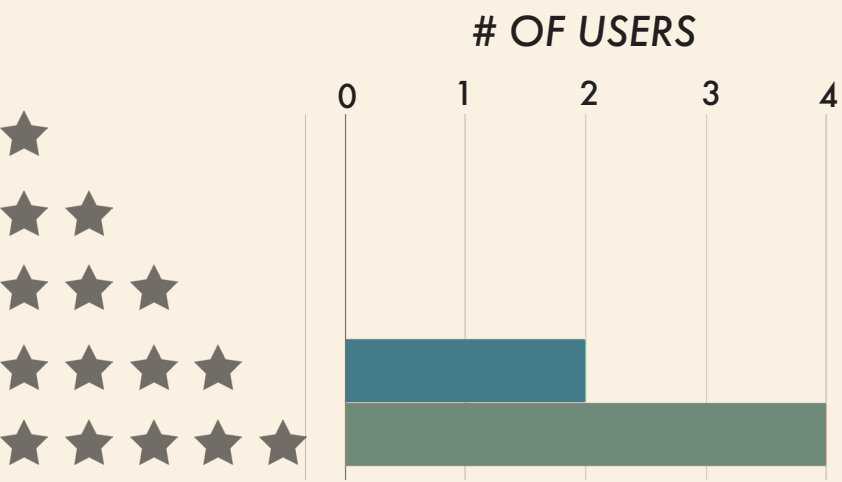
CLEANLINESS



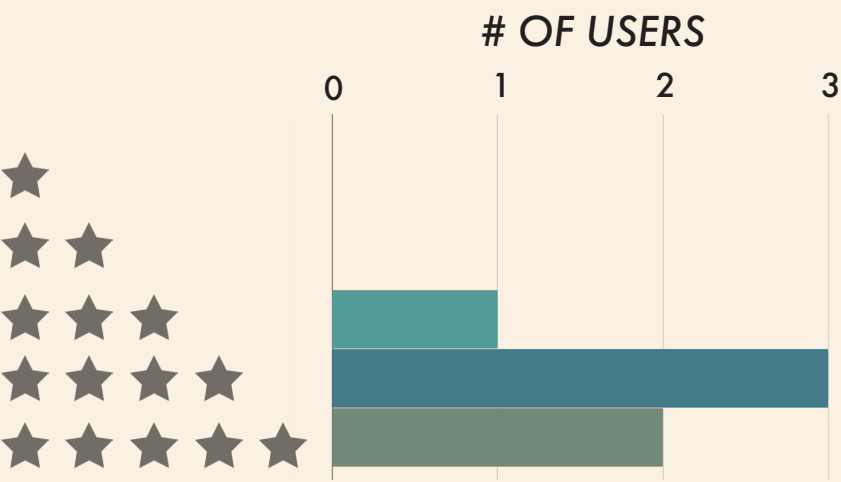
ABILITY TO STUDY OR WORK



GREENERY



RELAX



5 users gave Edible Garden 5 stars for the ability to study or work as well as cleanliness. 4 users gave Edible Garden 5 stars for greenery.

## USER INTERCEPT SURVEY RESULTS: PREFERRED TIME

*Dexter Lawn*

	M	T	W	TH	F
8:00 a.m. - 9:00 a.m.					
9:00 a.m. - 10:00 a.m.					
10:00 a.m. - 11:00 a.m.	x				
11:00 a.m. - 12:00 p.m.	x	x	x	x	
12:00 p.m. - 1:00 p.m.	x		x		
1:00 p.m. - 2:00 p.m.	x	x	x	x	
2:00 p.m. - 3:00 p.m.	x				
3:00 p.m. - 4:00 p.m.	x		x		
4:00 p.m. - 5:00 p.m.		x		x	
5:00 p.m. - 6:00 p.m.					

*Centennial Green*

	M	T	W	TH	F
8:00 a.m. - 9:00 a.m.					
9:00 a.m. - 10:00 a.m.	x		x		
10:00 a.m. - 11:00 a.m.		x		x	
11:00 a.m. - 12:00 p.m.		x			
12:00 p.m. - 1:00 p.m.		x		x	
1:00 p.m. - 2:00 p.m.		x	x	x	
2:00 p.m. - 3:00 p.m.	x	x		x	
3:00 p.m. - 4:00 p.m.		x		x	
4:00 p.m. - 5:00 p.m.					
5:00 p.m. - 6:00 p.m.					

*UU Plaza*

	M	T	W	TH	F
8:00 a.m. - 9:00 a.m.					
9:00 a.m. - 10:00 a.m.				x	
10:00 a.m. - 11:00 a.m.	x		x	x	x
11:00 a.m. - 12:00 p.m.		x	x		
12:00 p.m. - 1:00 p.m.		x	x		
1:00 p.m. - 2:00 p.m.	x		x		
2:00 p.m. - 3:00 p.m.	x	x	x		
3:00 p.m. - 4:00 p.m.	x		x		
4:00 p.m. - 5:00 p.m.					
5:00 p.m. - 6:00 p.m.					

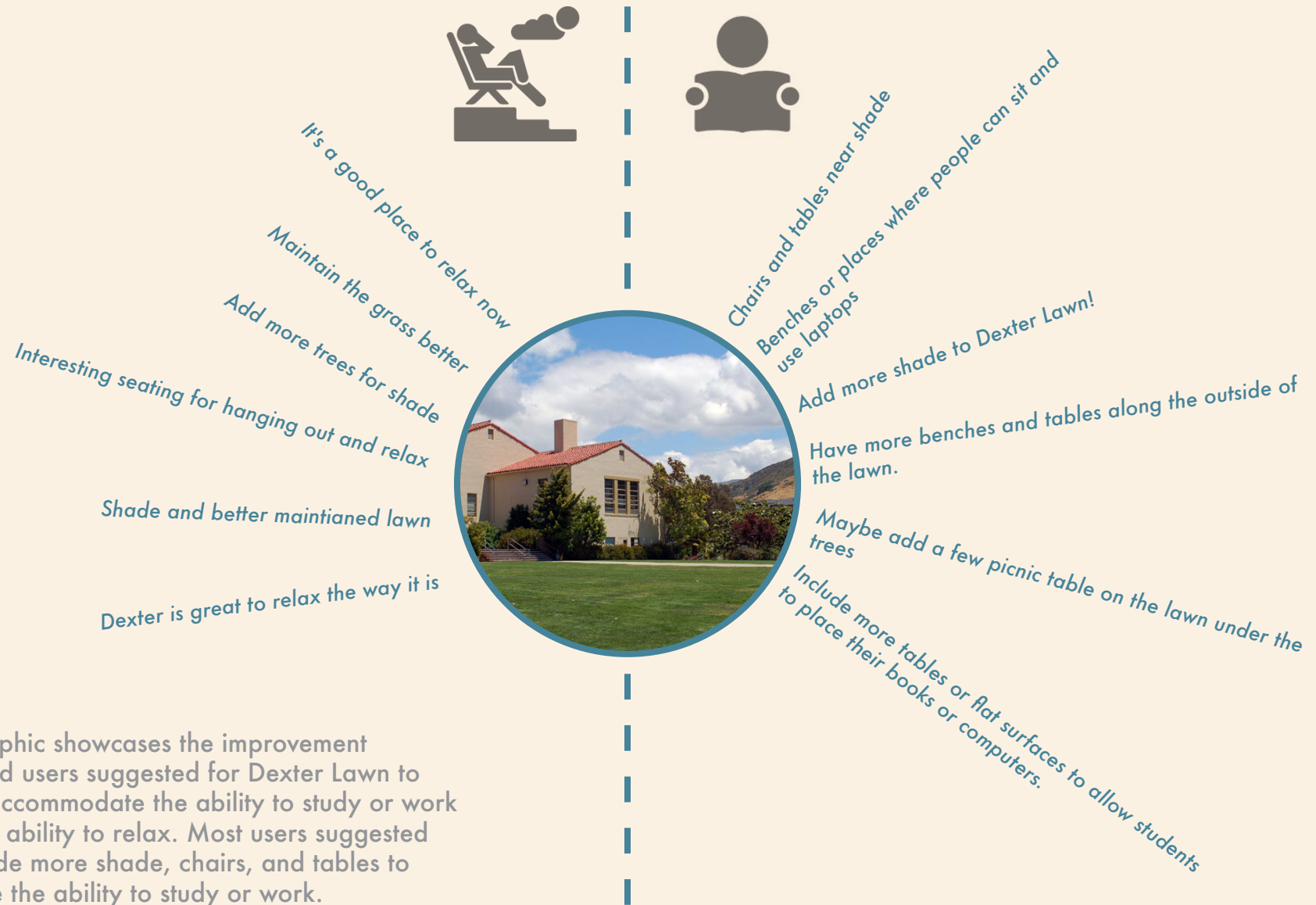
*Edible Garden*

	M	T	W	TH	F
8:00 a.m. - 9:00 a.m.					
9:00 a.m. - 10:00 a.m.					
10:00 a.m. - 11:00 a.m.	x	x		x	
11:00 a.m. - 12:00 p.m.	x	x	x	x	
12:00 p.m. - 1:00 p.m.				x	
1:00 p.m. - 2:00 p.m.		x		x	
2:00 p.m. - 3:00 p.m.				x	
3:00 p.m. - 4:00 p.m.				x	
4:00 p.m. - 5:00 p.m.					
5:00 p.m. - 6:00 p.m.					

The four charts represent the days of the week and times during the day, surveyed users prefer to use the outdoor space.

# USER INTERCEPT SURVEY RESULTS: IMPROVEMENT

## DEXTER LAWN



The graphic showcases the improvement surveyed users suggested for Dexter Lawn to better accommodate the ability to study or work and the ability to relax. Most users suggested to include more shade, chairs, and tables to improve the ability to study or work.

# USER INTERCEPT SURVEY RESULTS: IMPROVEMENT

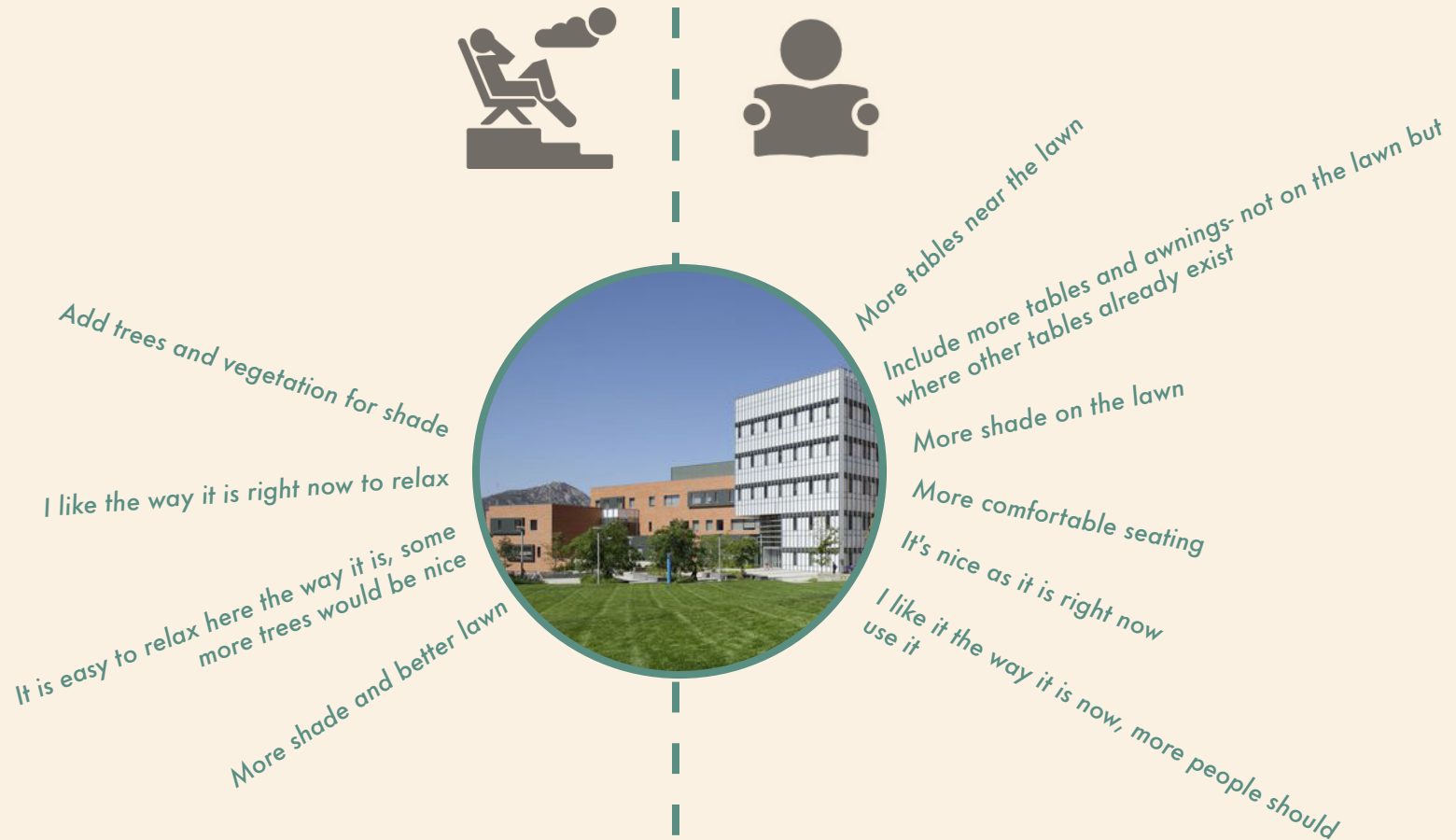
## UNIVERSITY UNION PLAZA



The graphic showcases the improvement surveyed users suggested for UU Plaza to better accommodate the ability to study or work and the ability to relax. Users suggestions ranged from not implementing any improvements for studying to cleaner space. One user suggested there are no improvements needed for relaxing as other spaces on campus can be used to relax.

# USER INTERCEPT SURVEY RESULTS: IMPROVEMENT

## CENTENNIAL GREEN



The graphic showcases the improvement surveyed users suggested for Centennial Green to better accommodate the ability to study or work and the ability to relax. Most users suggested to include more shade, chairs, and tables to improve the ability to study or work.

# USER INTERCEPT SURVEY RESULTS: IMPROVEMENT

## EDIBLE GREEN



The graphic showcases the improvement surveyed users suggested for Edible Garden to better accommodate the ability to study or work and the ability to relax. Most users suggest that more students should take advantage of the space for studying and working.

## Linking Environmental Characteristics to Campus Life



The analysis and discussion section of this project takes into consideration the location characteristics to understand the trends in activities for each space. Moreover, each space is evaluated against each other to address dominant constituents and create an identity for the open spaces. Understanding the effectiveness of some spaces in relation to the physical elements facilitates a discussion around programming needs for students and the academic purpose.



# Linking Environmental Characteristics to Campus Life

## DEXTER LAWN THE CENTRAL PARK



## Linking Environmental Characteristics to Campus Life

When the college's academic motto is "Learn By Doing," it is not at all surprising to come across a space like Dexter Lawn on campus. The open space located centrally with a generous lawn hosts a multitude of student activities as well as allow students to hang out and relax. The location characteristics of Dexter Lawn encourage activities with the purpose of creating a gathering space for students. It is centrally located and adjacent to a main pathway to create opportunities for students who have classes in the surrounding buildings to congregate outside for socialization and relaxation.

While several students choose to study at Dexter Lawn, the behavioral setting and physical components of the space do not sustain the activity. Dexter Lawn had 65 out of 244 students (26.6%) studying and 109 out of 244 students (44.7%) socializing (See Results). The greater number of users socializing rather than studying indicate the intended use of Dexter Lawn. Furthermore, the higher ranking of Dexter Lawn in characteristics such as 'Presence of Lawn' and 'Adaptability' foster social behavior. In contrast to the University Union Plaza, the lack of moveable and fixed seating necessitate students use the space for social learning instead of traditional academic learning. Even though, the characteristics of the space does not directly correspond to the education purpose of a university, the history of socializing, relaxing, and gathering of students at Dexter Lawn implicitly addresses the academic mission through its social learning and restorative attributes.

On any given day, Dexter Lawn has students participating in social discourse. Many students use the space in between classes to hang out with friends, enjoy their lunch, or people watch. Additionally, students will use Dexter Lawn for physical activities such as yoga, slacklining, hula hooping, spikeball, or even volleyball. Landscape Architecture, Architecture, and Art and Design students use Dexter

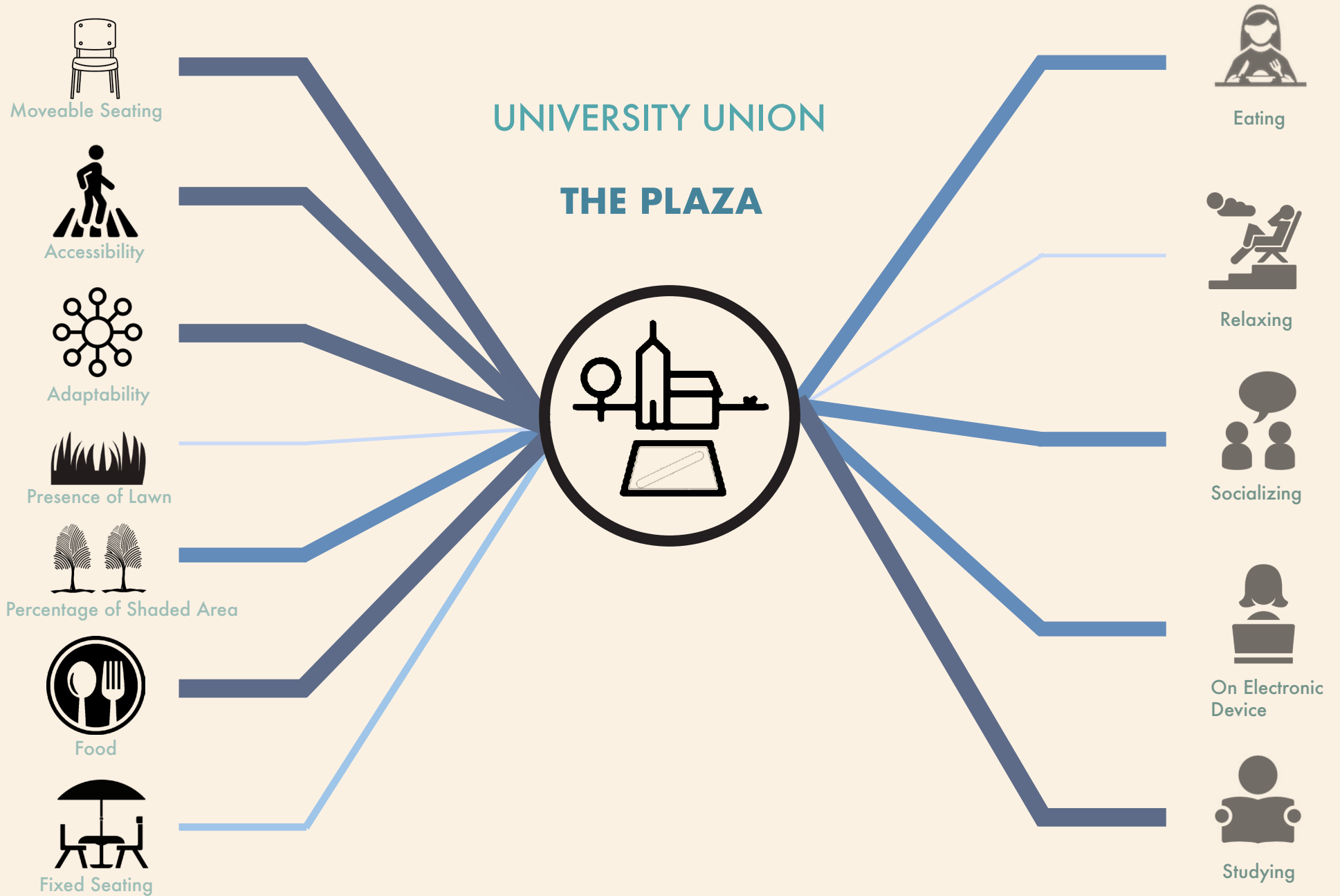
Lawn to exhibit their projects throughout the year. Clubs, panhellenic societies, and various departments host events such as the Study Abroad Fair, Blood Drives, information booths, and fundraisers. For example, every Thursday, CPCycling club sets up a booth on Dexter Lawn for free bike repairs for students.

A Central Park should embrace student activism, engagement, and socialization as an extension of the educational mission to promote social learning. The dominant presence of the lawn enables Dexter Lawn to facilitate conversation and movements around arts differently than University Union Plaza. The flat landscape and grassy area allow for political and controversial events to take place, fulfilling the purpose of a gathering space. From the Free Speech gallery to the march on Dexter Lawn over the blackface incident give students a chance to participate in learning through socialization and embody the academic purpose.

Due to San Luis Obispo's weather, students can enjoy the outdoor space all around the year. The large lawn area and shade from the tree canopies attract students to nap, meditate, and relax. Students use Dexter Lawn to take a break from academic activities and prioritize their mental health. The physical components support the amalgamation of social and restorative activities to recognize Dexter Lawn as the Central Park of the campus.



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University Union Plaza is a physical extension of the academic purpose, providing numerous resources for student needs, food venues, amphitheatre, and plenty moveable seating. Located near the freshman dormitories, the recreation center, university store, and the Administrative building, the plaza is a prime spot for campus hustle and bustle. The presence of lawn replaced with concrete space and amphitheatre undertake a different aspect of the education purpose.

There are several food venues at UU plaza open for the entire day and the weekend. These spaces are especially catered towards the freshman population. The proximity to the dormitories encourage students to come to the UU plaza to enjoy lunch or dinner with their friends. Whyte suggests that food is a catalyst for socialization and building community and furthermore, Banning and Strange encourage universities to add cafes and coffee shops to provide spaces for informal learning opportunities for students. The access to a variety of food and location bring activity to the plaza as reflected in the data collected. University Union had 108 out of 203 users (53%) eating, compared to Dexter Lawn's 28%, Centennial Green's 10%, and Edible Garden 5% of users eating. The accommodation provided by the moveable chairs support the findings. Students have proper seating arrangement to enjoy their food while working, studying, or socializing. Food attracts people which in return attract more people creating a community and socialization through food transpires. These physical and social attributes lead to a successful outdoor space on campus.

University Union Plaza is an interesting juxtaposition to Dexter Lawn due to a main difference in the physical design of the spaces. While Dexter Lawn has a generous amount of lawn, University Union

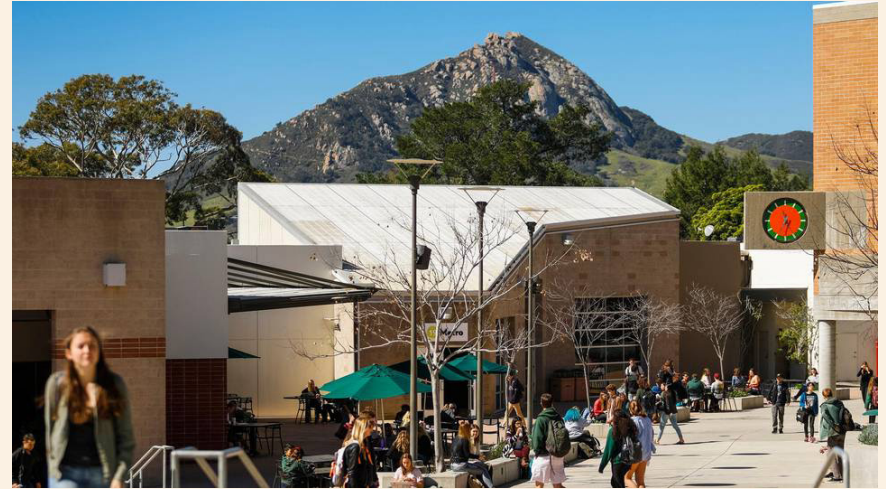
only has one patch of lawn area and the rest is paved surface. The physical components of the two spaces create a specific behavior setting and shape their unique character. Dexter Lawn is recognized as a central park for socialization and relaxation whereas University Union Plaza creates a more traditional academic experience. This distinction is perpetuated with the presence of moveable and fixed seating at University Union Plaza. The patio table, chair, and umbrella set facilitate a deliberate behavior which is similar to that of a library. During the data collection day, 85 students out of 203 (42%) were studying compared to Dexter Lawn's 26.6% (65 students out of 244). Students often need a table to place their laptops and books down while they study. Additionally, they need protection from the sun to avoid a glare on their electronic device. The moveable chairs allow students to choose if they want to sit alone, with one person, or in a group. Since, the library is farther away from the dorms, the moveable and fixed seating at the UU Plaza and the study spaces inside the University Union building substitute the need for the freshman students.

Moveable seating is valuable for socialization as well. According to Whyte, popular outdoor spaces have integral, socially comfortable seating, where users have the choice to up front, in the back, to the side, in the sun, in the shade, in groups, or off alone. Whyte, Strange, and Banning suggest the importance of creating choice in public space to give a sense of autonomy. People tend to rearrange, change, or remove semi-fixed components of exterior space and moveable seating allows them to do so. The socialization and ability to study facilitated by the moveable seating show the adaptability of the plaza. The number of students socializing is close to the number of students studying (42%); out of 203 users, 91 were socializing (45%). Another physical attribute of the UU Plaza space that contributes to the informal learning environment is the amphitheatre. Events such as

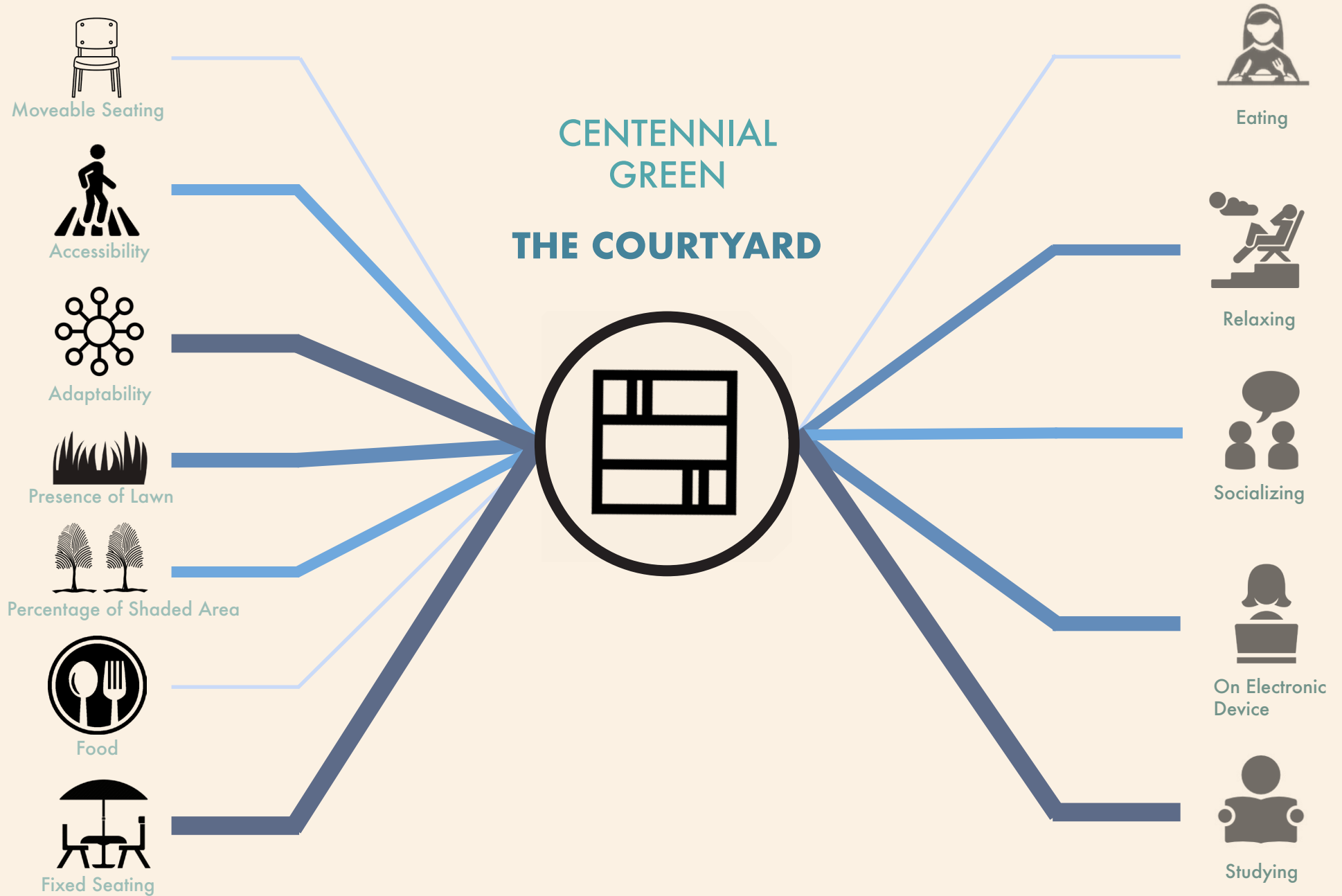
# Linking Environmental Characteristics to Campus Life

the ASI Student Government Presidential Debate, Poly Cultural Weekend Performances, concerts, and WOW activities are held the UU Plaza stage. These activities differ from events which take place at Dexter Lawn as they are organized through ASI. On Dexter Lawn, most social activities happen through student initiative like hula hooping or slacklining. Similar to Dexter Lawn, clubs setup informative and interactive booths at UU Plaza as well. The reason for this particular similarity is the accessibility of both spaces.

The physical characteristics of University Union Plaza likens to that of an urban plaza. The difference between the two is the public. An urban plaza caters to the city dwellers and visitors, while the UU Plaza caters to student needs. Nevertheless, they are the hub for the hustle and bustle of the public. The UU Plaza's components prioritizes the academic purpose of the university by enabling diverse activities for the students.



# Linking Environmental Characteristics to Campus Life





## Linking Environmental Characteristics to Campus Life

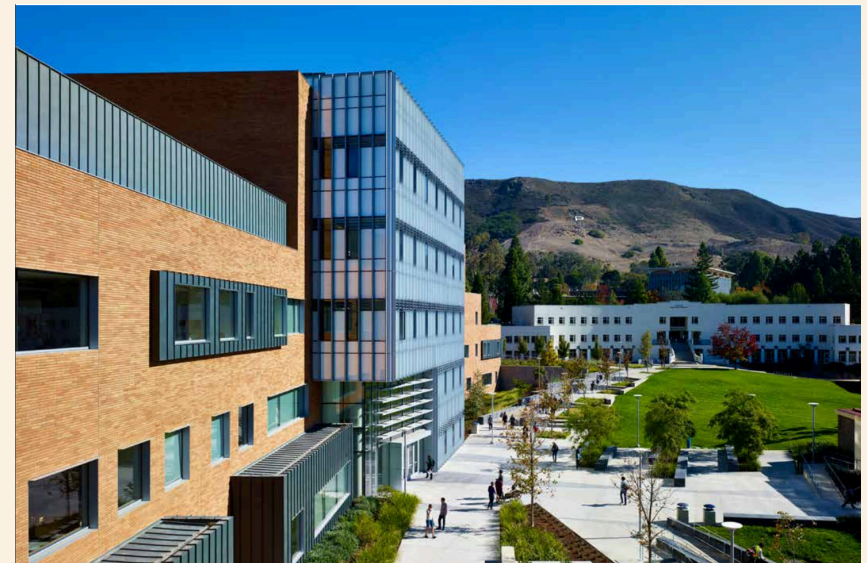
Nestled between Baker Center for Science and Mathematics and the Science building, Centennial Green is a quiet space with fixed seating, a lawn, benches, and a statue of Einstein. Despite possessing similar characteristics of Dexter Lawn and University Union Plaza, Centennial Green acquired significantly lower number of users. Dexter Lawn had 244 users, University Union Plaza had 203, and Centennial Green had 126.

Unlike Dexter Lawn and UU Plaza, Centennial Green has a more quieter and studious environment. Aspects of socialization still exists because of the presence of lawn, however, only 42 users out of 126 (33%) socialized on the day of the observation. On the other hand, 61 users out 126 (48%) were studying. The scholastic environment present in the Baker Center for Science and Mathematics seeps into the Centennial Green. Even though Centennial Green had less number of users than UU Plaza, more of the users were studying. Centennial Green has fixed seating instead of moveable seating. Fixed seating creates an antagonistic behavior setting which diminishes choice as it tells people what the intended use of the furniture is. This can be useful when a certain, deliberate behavior needs to be demanded from users. Fixed seating such as the Carousel Seating tells users that the space is for working. It does not give users autonomy to pick the activity. The vegetation surrounding the carousel seating provide shade and add aesthetic value to the space.

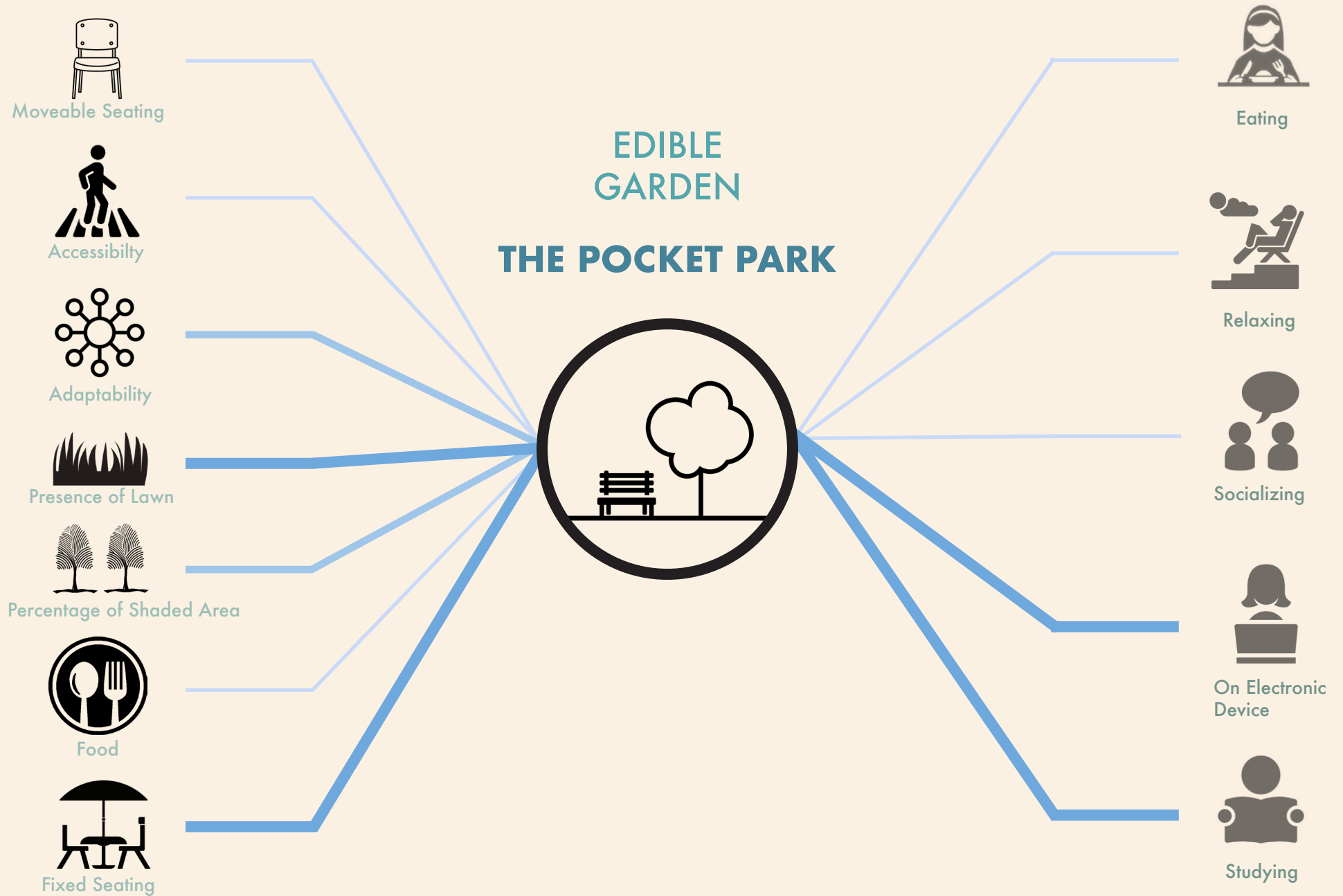
The presence of lawn and shade from vegetation provided an opportunity for students to relax; 16 out of 126 users (12.7%) sleeping, while Dexter Lawn only had 20 out of 244 users (8%) sleeping. The physical attributes mixed with the calmer environment perfect for relaxing during the afternoon. The restorative qualities of the lawn and shade give way to a calm, slower lifestyle students

sometimes seek to take a break from their academic pursuit. Even through Centennial Green had less users than Dexter Lawn, more of them were partaking in relaxation.

Centennial Green shares physical components with Dexter Lawn and University Union Plaza which are reflected in the reflected in the activities. The percentage of users socializing and studying are not far apart and the space provides for relaxation as well. However, key aspects of the location characteristics such as Accessibility, Moveable Seating, and Access to Food bring into existence an average space. A space which hosts many activities, but not to quantity of other spaces on campus.



# Linking Environmental Characteristics to Campus Life





## Linking Environmental Characteristics to Campus Life

Edible Garden is located between the Earhart Agriculture building and English building. The space has an adequate lawn area and few fixed seating. The space is sunken from Polyview Drive, is not visible to the pedestrians walking by and is not centrally located. From the four locations, Edible Garden is the most isolated and unseen space. The physical characteristics and the lack of activities suggest a ghostly presence.

Edible Garden had a total of 39 users compared to the 126 users at Centennial Green, 203 users at UU Plaza, and 244 users at Dexter Lawn. The fixed seating accommodated 10 students at a time for working and studying. Out of the 39 users, 26 users were studying (66%) which means that studying was the most popular activity for Edible Lawn. Similar to Centennial Green, the fixed seating create an antagonistic behavior setting, communicating to the students the purpose of the furniture. Hence, students who come to Edible Garden know they will be studying here. However, unlike Centennial Green, the notable difference in the number of users suggest the difference in other physical components.

According to Whyte, people attract people. This phenomena is seen at Dexter Lawn, UU Plaza, and to a certain degree at Centennial Green. However, the lack of accessibility to Edible Garden is reflected on the low number of users. In the same manner, food attracts people. Edible Garden does not have access to food near the space which decreases the amount of people using the space. The space has adequate lawn space and fixed seating similar to Centennial Green. However, Centennial Green had a higher percentage of users relaxing. The quiet atmosphere would suggest more users relaxing in the same way users did at Centennial Green, but the space has 0 users relaxing and 3 users on their electronic device.

Despite the lawn, paved surface, and fixed seating, Edible Garden provides very little adaptability for various activities. Users have minimum choice on the type of social learning they want to partake in. Learning opportunities from the socializing at Dexter Lawn and UU Plaza do not occur at Edible Garden due to the lack of adaptability for those social activities. Additionally, Centennial Green had 42 out of 126 (33%) socializing with 28 users in pair and 5 user in groups of threes. Edible Garden had 4 pairs of 2 users and 0 groups. The three space had some form of socializing that is missed at Edible Garden.

Ultimately, missed opportunities to create a social learning environment makes Edible Garden underutilized. The physical elements present at the other locations are present at Edible Garden, however, few key principles such as Access to Food, Accessibility, and Adaptability hinder the utilization of the space and does not serve the education purpose.



# Linking Environmental Characteristics to Campus Life

The discussion illustrates the importance of understanding the outdoor spaces on university campuses. The observation and location characteristics reveal the unique and dominant qualities of a space which helps create an identity of the same. For example, the presence of lawn and the high socialization at Dexter Lawn give it the identification of a “Central Park.” Even though Dexter Lawn and UU Plaza have distinct physical features, the high accessibility and adaptability of both spaces contribute to the diversity and intensity of activities at each location. The movable and fixed seating at UU Plaza attract students who want to study despite the noiser atmosphere. Conversely, Edible Garden serves as a secluded and quiet space for students to study. This is reflected in the data as the dominant activity of Edible Garden is studying. The contrast between UU Plaza and Edible Plaza is the preference of students; whether they prefer quiet or white noise for studying, socializing, and relaxing. However, other factors such as accessibility, adaptability, and presence of food reinforce students preferences for their activities. Consequently, campus designers should better define the characteristics and the function of outdoor spaces to provide options to students. These astute observations and collection of data divulge aspects of the space that makes it effective and inform campus planners on the improvements necessary to create a successful outdoor learning environment.



## CONCLUSION

The project aims to expand upon the research conducted by observers of public space and researchers of the campus environment to understand the principles of an outdoor learning space on a university campus. The research and findings of the project are only a preliminary, but foundational discussion of the indispensable need for effective outdoor spaces on university campuses. Comprehension of the various outdoor learning environment on campus necessitates the creation of identity of the space depending on the location characteristics and user activities. Campus planners and designers can use identifications, the behavioral setting cues, and activity trends to design a successful outdoor learning space to serve the educational purpose.

Students use the space depending on the social learning they wish to partake in and therefore, are at the center of a successful outdoor learning space. The design attributes must support the desired activities. At the same time, an advantageous campus appreciates the different cultures at each outdoor learning space because it is the different culture which attracts the students and create a dynamic environment. However, an outdoor learning environment fails to address the academic mission when the space does not serve a specific student culture efficiently.

Ultimately, this study is enthusiastic about facilitating conversation around creating valuable and dynamic outdoor spaces on university campuses. It is the desire of the study to offer foundational principles of the design of functional outdoor space and emphasize the importance of outdoor learning environments on university campuses.

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# APPENDIX

## USER INTERCEPT SURVEY

	Respondent 1	Respondent 2	Respondent 3	Respondent 4	Respondent 5	Respondent 6	
Gender	M <input checked="" type="radio"/> F OTHER	M <input checked="" type="radio"/> F OTHER	M <input checked="" type="radio"/> F OTHER	M <input checked="" type="radio"/> F OTHER	M <input checked="" type="radio"/> F OTHER	M <input checked="" type="radio"/> F OTHER	Gender
Which activities do you prefer to do at this location?	S SO R E	S SO <input checked="" type="radio"/> E	S SO <input checked="" type="radio"/> E	S SO R <input checked="" type="radio"/> E	S SO R <input checked="" type="radio"/> E	S SO R <input checked="" type="radio"/> E	Which activities do you prefer to do at this location?
Compared to other open space and plazas on campus, how would you rate this space?	UNSATISFIED — 1 2 3 4 5 — SATISFIED						Compared to other open space and plazas on campus, how would you rate this space?
Cleanliness	1 2 3 4 <input checked="" type="radio"/> 5	1 2 3 4 <input checked="" type="radio"/> 5	1 2 3 4 <input checked="" type="radio"/> 5	1 2 3 4 <input checked="" type="radio"/> 5	1 2 3 4 <input checked="" type="radio"/> 5	1 2 3 4 <input checked="" type="radio"/> 5	Cleanliness
Greenery	1 2 3 4 <input checked="" type="radio"/> 5	1 2 3 4 <input checked="" type="radio"/> 5	1 2 3 4 <input checked="" type="radio"/> 5	1 2 3 4 <input checked="" type="radio"/> 5	1 2 3 4 <input checked="" type="radio"/> 5	1 2 3 4 <input checked="" type="radio"/> 5	Greenery
Ability to study or work	1 2 3 4 <input checked="" type="radio"/> 5	1 2 3 4 <input checked="" type="radio"/> 5	1 2 3 4 <input checked="" type="radio"/> 5	1 2 3 4 <input checked="" type="radio"/> 5	1 2 3 4 <input checked="" type="radio"/> 5	1 2 3 4 <input checked="" type="radio"/> 5	Ability to study or work
Relax	1 2 3 4 <input checked="" type="radio"/> 5	1 2 3 4 <input checked="" type="radio"/> 5	1 2 3 4 <input checked="" type="radio"/> 5	1 2 3 4 <input checked="" type="radio"/> 5	1 2 3 4 <input checked="" type="radio"/> 5	1 2 3 4 <input checked="" type="radio"/> 5	Relax
What time during the day do you come here?	M T W TH F	M T W TH F	M T W TH F	M T W TH F	M T W TH F	M T W TH F	What time during the day do you come here?
8:00 a.m. - 9:00 a.m.							8:00 AM
9:00 a.m. - 10:00 a.m.	X	X					9:00 AM
10:00 a.m. - 11:00 a.m.	X	X					10:00 AM
11:00 a.m. - 12:00 p.m.		X	X				11:00 AM
12:00 p.m. - 1:00 p.m.				X	X		12:00 PM
1:00 p.m. - 2:00 p.m.					X	X	1:00 PM
2:00 p.m. - 3:00 p.m.							2:00 PM
3:00 p.m. - 4:00 p.m.							3:00 PM
4:00 p.m. - 5:00 p.m.							4:00 PM
5:00 p.m. - 6:00 p.m.							5:00 PM
What would you like to improve in this space to make it more comfortable to STUDY?	more tables near the lawn	more tables & awning not on the lawn	more shade on the lawn	more comfortable seating	it is nice as it is right now	it like it the way it is now more people should use it	What would you like to improve in this space to make it more comfortable to STUDY?
What would you like to improve in this space to make it more comfortable to RELAX?	add trees & vegetation or shade	i like the way it is in to relax	it is easy to relax here the way it is	more shade better	lawn	N/A	What would you like to improve in this space to make it more comfortable to RELAX?
Which plaza or green space on campus do you prefer? Why?	lawn & use other places often	Dexter	Engineering plaza	hills for shade? UU	Dexter	N/A	Which plaza or green space on campus do you prefer? Why?
Which activities do you prefer to do at that location?	S SO R E	S SO R E	S SO <input checked="" type="radio"/> E	S <input checked="" type="radio"/> SO <input checked="" type="radio"/> R <input checked="" type="radio"/> E	S SO <input checked="" type="radio"/> E	S SO R E	Which activities do you prefer to do at that location?





i have class near there

# APPENDIX

## ACTIVITY SCAN FORM

### ACTIVITY SCAN FORM

LOCATION	CG
DATE	4/23/2019
DAY	TUESDAY
TIME IN	1:10
TIME OUT	

NEAR OTHER SITTING AREAS	NO
NEAR FOOD VENDORS	NO
WEATHER CONDITION	   
TEMPERATURE	81°

SHADE	
NOTES	


	SUBJECT		MALE	FEMALE	PAIR + 2	GROUP + 3	ENTRANCE/EXIT	SOCIALIZING	PEOPLE WATCHING	ON ELECTRONIC DEVICE	STUDYING	SLEEPING	MOVED CHAIR	MOVED TABLE	MOVED BOTH	PRESENT AT START TIME	TIME	NOTES
	GENDER	GROUP																
1	✓																	
2			✓	✓														
3	✓			✓														
4			✓															
5			✓															
6			✓															
7	✓																	
8	✓																	
9			✓		✓													
10			✓		✓													
11			✓		✓													
12			✓		✓													
13	✓				✓													
14	✓				✓													
15	✓																	
16	✓																	
17			✓															
18			✓															
19			✓	✓	✓	✓												
20	✓				✓													
TOTAL			✓															

PEDESTRIAN COUNT	<input type="checkbox"/> RUSH HOUR   > 40
	✓ 13

17

### ACTIVITY SCAN FORM

LOCATION	CG
DATE	4/23
DAY	TUESDAY
TIME IN	1:20
TIME OUT	

NEAR OTHER SITTING AREAS	
NEAR FOOD VENDORS	
WEATHER CONDITION	   
TEMPERATURE	81°

SHADE	
NOTES	

	SUBJECT		MALE	FEMALE	PAIR + 2	GROUP + 3	ENTRANCE/EXIT	SOCIALIZING	PEOPLE WATCHING	ON ELECTRONIC DEVICE	STUDYING	SLEEPING	MOVED CHAIR	MOVED TABLE	MOVED BOTH	PRESENT AT START TIME	TIME	NOTES
	GENDER	GROUP																
1			✓															
2	✓																	
3	✓																	
4	✓																	
5			✓			✓												
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PEDESTRIAN COUNT	<input type="checkbox"/> RUSH HOUR   > 40
	<input type="checkbox"/> 0