



# CAMPUS PARKING STUDY

Salem State University

**2018**

# Table of Contents

## INTRODUCTION

Introduction to the Study	7
Overview	10

## STAKEHOLDER INPUT

Online Survey	14
SSU Community Responses	16
Neighborhood Responses	24

## ANALYSIS

Current Policies	28
2017 Parking Inventory	28
Parking Usage & Need	30
Peak Hour	30
Individual Lots	32
Campus Districts	34
On-Street Parking	36
Neighborhood Impacts	37
Class Scheduling	37
Future Conditions	38
Walking Conditions	40

## RECOMMENDATIONS

Permits & Space Allocation	44
New Parking Facilities	45
Improved Pedestrian Access	46
Demand Management, Technology & Enforcement	58

## APPENDIX: PARKING OCCUPANCY SURVEY RESULTS

September 26, 2017 Parking Occupancy	64
September 27, 2017 Parking Occupancy	68

# INTRODUCTION

1



# Introduction to the Study

Building on the work of the North Campus Precinct Plan, a comprehensive parking study is the next step in planning for the future of Salem State University (SSU).

## Project Understanding

The construction of the new garage on North Campus has greatly relieved the pressure of demand for commuter student parking, but other changes- residential development on Central Campus, evolving program in the athletic district north of Loring Ave., and the current plan to transfer South Campus's academic program to the North Campus- will modify both the location and quantity of SSU's parking needs. Under these circumstances, SSU needs to assess and recalibrate its parking supply on all four districts of its campus.

## Approach

The Campus Parking Plan tests current and future parking accommodations against the evolving physical and programmatic features of the university as a whole and its component campuses.

In evaluating parking supply and need at SSU, we determined the current typical occupancy of all parking lots. We made projections, based on anticipated enrollment growth. We examined the dynamics and causes of parking need among the primary sectors of the campus community: commuter students, resident students, faculty, staff, and visitors. Neighborhood needs were also thoroughly considered in conjunction with those of the SSU community. We tested ideas, in concert with the client, for mitigating parking need through transportation demand management measures including parking space assignment, alternative travel modes, inter-campus transit, and streetscape improvement suggestions. The result is a robust understanding of the quantitative and geographic dimensions of parking need for the institution as a whole.



Aerial of North Campus





SSU Garage interior

# Engagement Schedule

2017

2018

Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr
------	-----	-----	-----	-----	-----	-----	-----

## Phase 1 | Discovery & Data Collection



- Conduct site reconnaissance & review available data
- Meet with Neighborhood Liaison Group
- Meet with administrative staff
- Collect comprehensive occupancy data
- Meet with the SSU Neighborhood Advisory Committee

## Phase 2 | Analysis



- Develop projections of future parking need over a five-year period and a ten-year period
- Evaluate SSU's parking impact on the surrounding neighborhood

## Phase 3 | Plan Development



- SSU & Neighborhood Survey
- Develop alternative plans for parking development
- Meet with faculty & staff
- Review alternatives with Client Team
- Discuss TDM Options with NSTMA
- Review alternatives with President's Executive Cabinet

## Phase 4 | Plan Documentation



- Present to the Internal & External Community
- Final report: Data collection, analysis, findings, and recommendations





# Overview

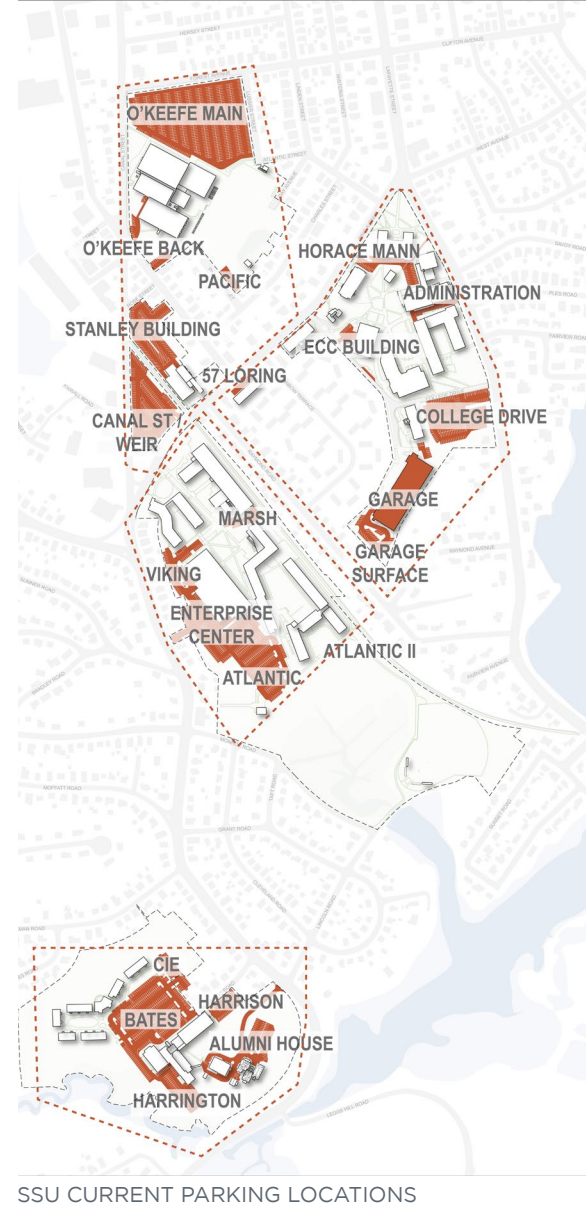
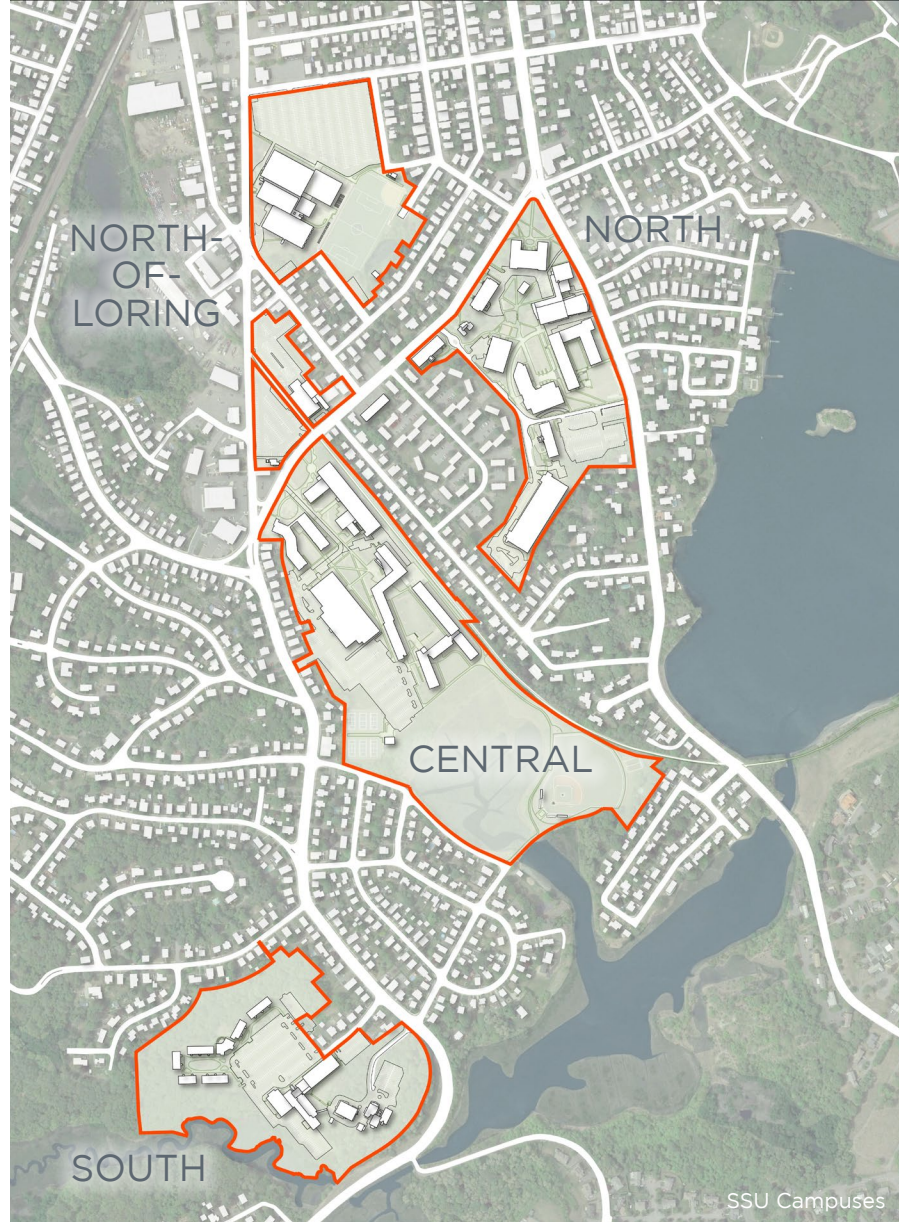
## Parking policies and investments must address both the University's needs and neighborhood concerns.

SSU is a fragmented campus, sited in the midst of established residential neighborhoods. This relationship makes SSU's parking and traffic problems distinct from other college campuses, despite similar size and enrollment. Both the residential and the SSU communities are auto-dependent due to the land use mix and lack of transportation alternatives.

The overlap of campus and neighborhood makes competition for parking inevitable. In designing a parking system that works well for faculty, staff, and students, SSU must also endeavor to keep their cars within campus bounds or in facilities under SSU control. The goal of SSU's parking program should be to provide adequate and appropriately located parking capacity for the SSU community, while encouraging and facilitating alternative modes of travel.

## Solutions must involve:

- Transportation Demand Management
- Assignment and Pricing of SSU Parking
- Parking Capacity Enhancement
- Enforcement by both SSU and the City
- Strong Communication



## Campus Parking Zones

Today, SSU has fifteen primary parking facilities distributed across its campuses. For purposes of this study, four parking zones have been identified: South, Central, North, and North-of-Loring.

South Campus includes Harrington lot, Bates lot (also referred to as Bates & CIE in this report), Harrison lot, and Alumni House lot. Central Campus includes Atlantic lot, the Enterprise Center lot, Marsh lot and Viking lot. Because the Enterprise Center is an independent entity, Enterprise Center parking is not the subject of this study and those spaces are not included in the data collection described below.

North Campus is home to the Horace Mann lot, the Administration lot, ECC Building lot, College Drive lot, and the Garage and adjacent Garage Surface lot. North-of-Loring includes O'Keefe Main and Back lots, Pacific lot, Stanley lot, Canal St./Weir lot, and the 57 Loring lot.

## Methodology

### PARKING COUNTS

To determine whether or not SSU's current parking inventory is sufficient to support its current parking demand, the consultants conducted parking occupancy counts, by permit, across all parking facilities between 7:00AM and 8:00PM on two of the busiest days of the week in September 2017. Parking counts were also conducted along sections of Loring Ave. by the consultants and, separately, by the South Salem Neighborhood Association (SSNA) in September and October 2017.

### SURVEY

To determine the specific impacts of parking on the SSU community as well as the neighborhood, an online survey was distributed to the SSU community and neighborhood to collect feedback on perceived issues and problem areas.

### SITE VISITS

To support recommendations on streetscape design, Sasaki investigated the SSU campus lots' existing circulation networks, conditions of adjacent sidewalks, and distances from SSU buildings.

SSU CURRENT PARKING LOCATIONS



**STAKEHOLDER  
INPUT**

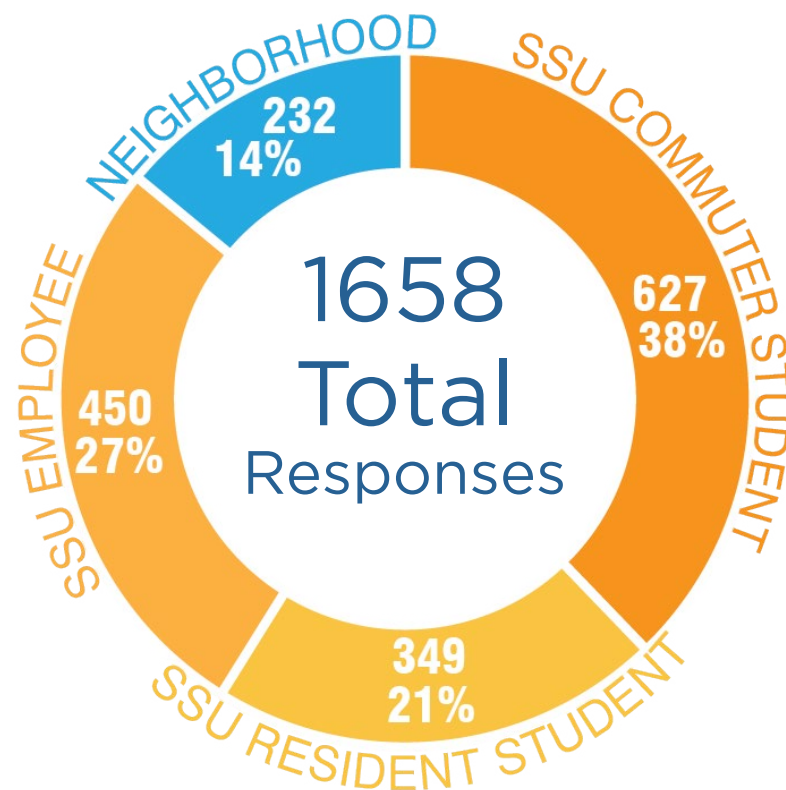
**2**



# Online Survey

To better understand the scope and extent of the parking issues at Salem State, Sasaki surveyed the SSU community as well as the immediate neighborhood around SSU, which includes commuter students, resident students, and faculty & staff.

The two groups were asked questions targeting their specific parking experiences. Their responses reflect overall perceptions of traffic and parking problems, which will be compared to SSU's current data on parking occupancy and violations to determine where solutions can be implemented.



## SSU Community

### Concerns & Complaints

#### Commuter Students:

- Restrictions on overnight commuter student parking cause more students to park in neighborhood

#### Resident Students:

- Expensive parking permits encourage neighborhood parking

#### Employees:

- Inconsistent university police parking enforcement
- Substantial traffic to and from College Drive Lot
- Lack of accessible parking, especially aggravated in inclement weather

### Ideas & Contributions

- Better enforcement of parking regulations
- More paved sidewalks and streetlights in and along parking lots
- Extend commuter student passes overnight
- Increase student parking options in Central campus
- Decrease permit cost/increase permit options to entice more regulated on-campus parking
- Closer parking for the Social Work building

## Neighborhood

### Concerns & Complaints

- SSU community parks on Loring Ave during the week
- Traffic is disrupted where pedestrians do not use crosswalks to get across Lafayette St. and Loring Ave.
- Neighborhood parking restrictions (at certain times of day) create a domino effect of illegal parking practices, e.g. After using up the 4-hour limit on one neighborhood street, students drive to another
- Residents associate parking congestion on neighborhood streets with the cost of resident parking passes, changed move-times for student parking, and restrictions on overnight commuter student parking
- Illegally parked cars block neighborhood driveways

### Ideas & Contributions

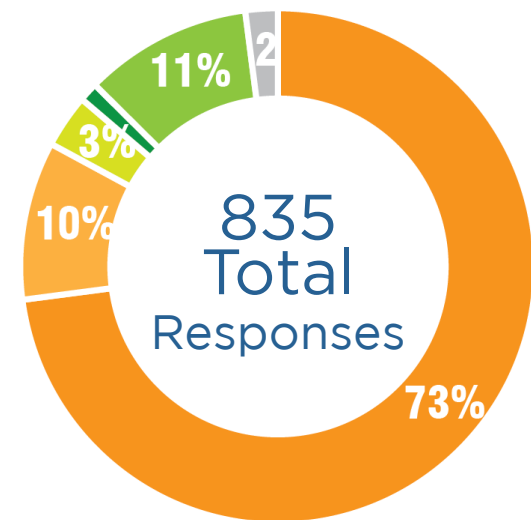
- Sophomore resident students should have more restrictive parking policies, i.e. limiting the ability for residential sophomores to bring cars to campus



# SSU Community Responses

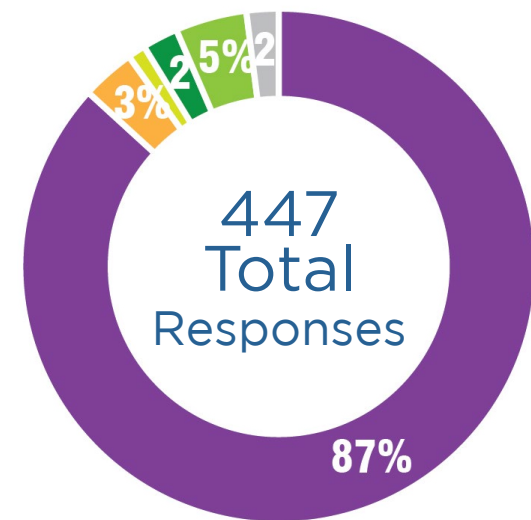
HOW DO YOU TYPICALLY GET TO AND FROM CAMPUS?

Students:



- Drive alone
- Ride with others
- Transit
- Bike
- Walk
- Other

Employees:



- Drive alone
- Ride with others
- Transit
- Bike
- Walk
- Other

Understanding how SSU students, faculty, and staff travel to and from campus is helpful in identifying opportunities for increased multi-modal transit. Today, the majority of the SSU community drives alone to campus. Reducing these percentages is key to reducing traffic and parking issues.

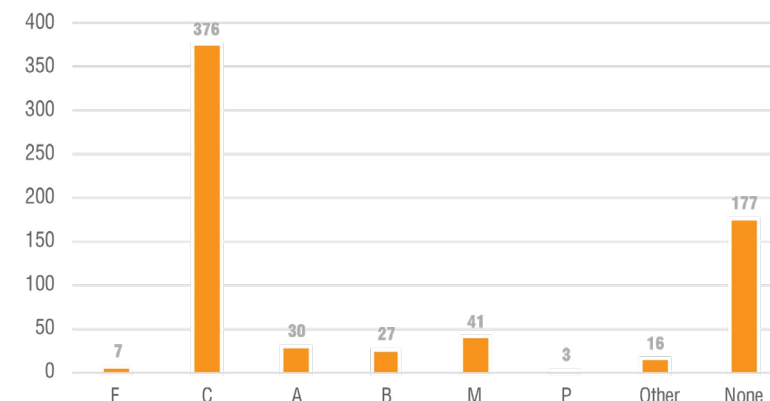
The ten percent of students who carpool (ride with others) are indication of the potential for ridesharing as a significant alternative to driving alone, and suggest opportunities to encourage it through incentives such as preferential parking and occasional parking permits. The low numbers of bicyclists present a challenge to improve cycling conditions city-wide as well as to make better use of the Marblehead Rail Trail. The low level of transit use reflects the relative scarcity of bus service in terms of frequency and coverage.

**Most SSU Community respondents drive alone to and from campus**

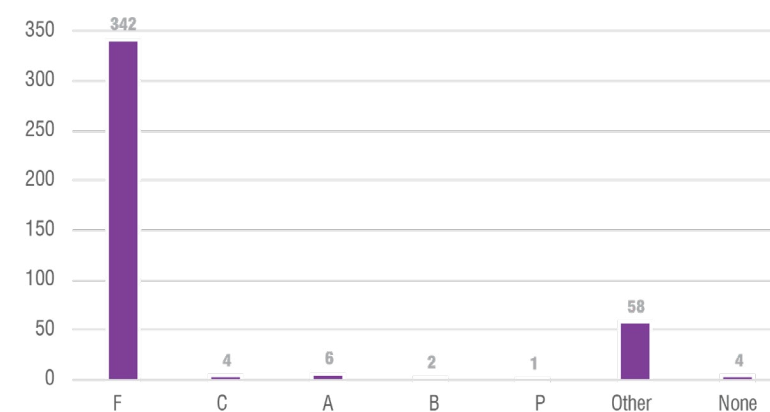
WHAT PERMIT DO YOU HOLD?

F: Faculty, Administration & Staff  
A, B, M, P: Resident Student  
C: Commuter Student

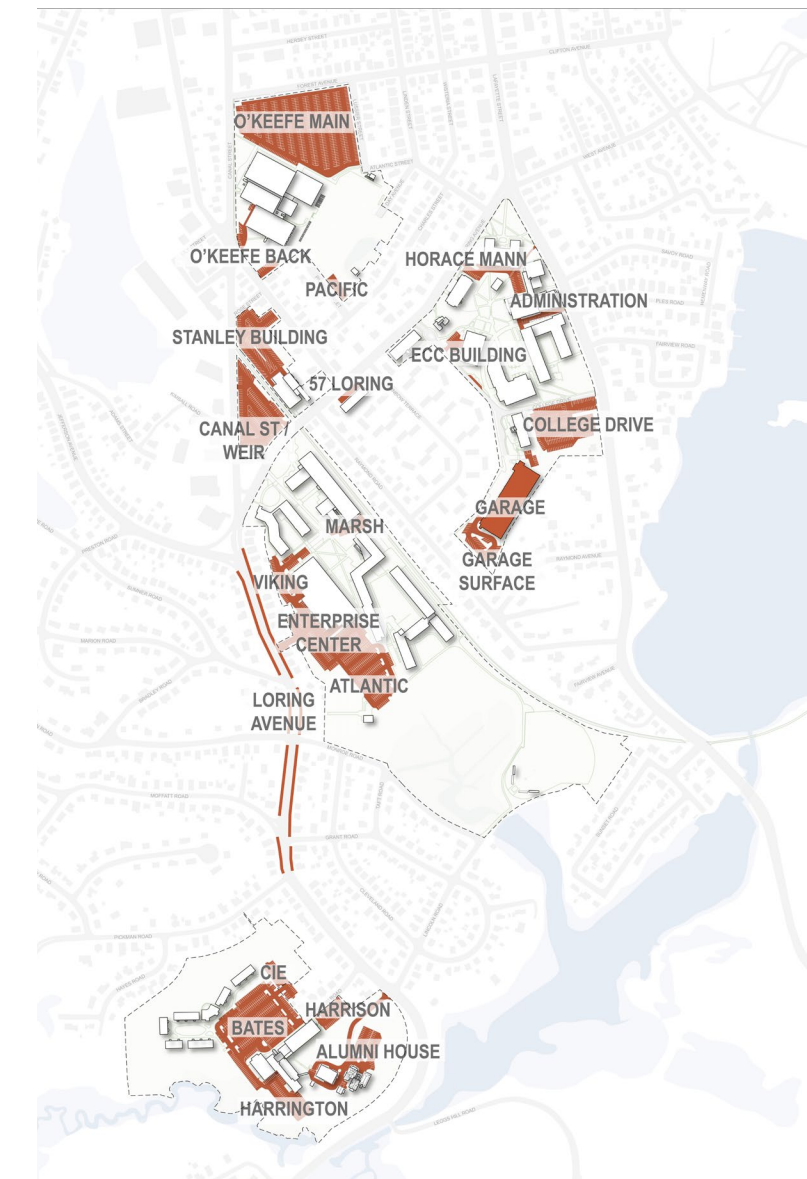
Students:



Employees:



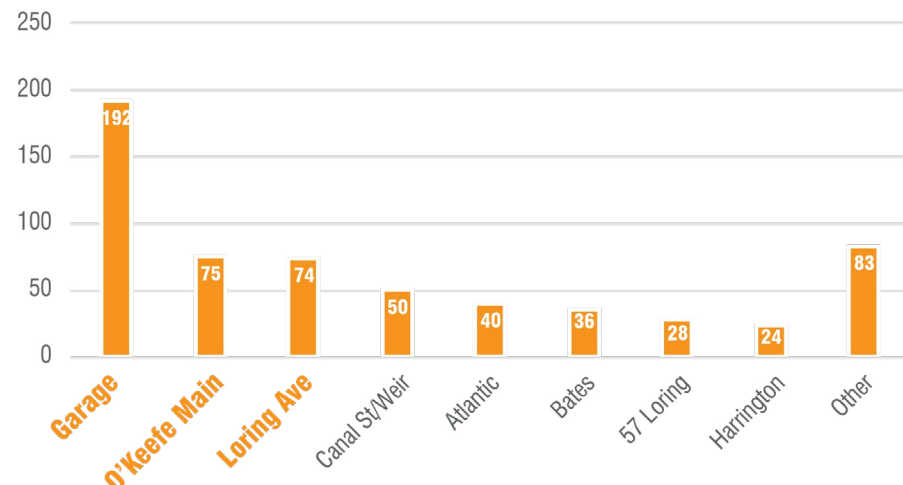
SSU offers a range of parking permits to drivers, and permit distribution can have an impact on parking habits. The most popular permits for SSU are Commuter Permits and Staff Permits. A large number of respondents (184) have no designated permits, and therefore no guaranteed parking space.



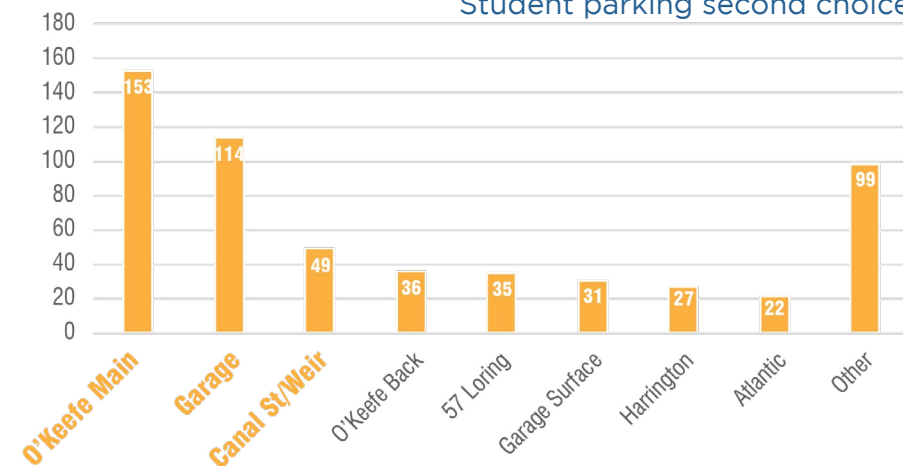
SSU CURRENT PARKING LOCATIONS

WHICH ARE YOUR FIRST AND SECOND CHOICES FOR PARKING?

Student parking first choice

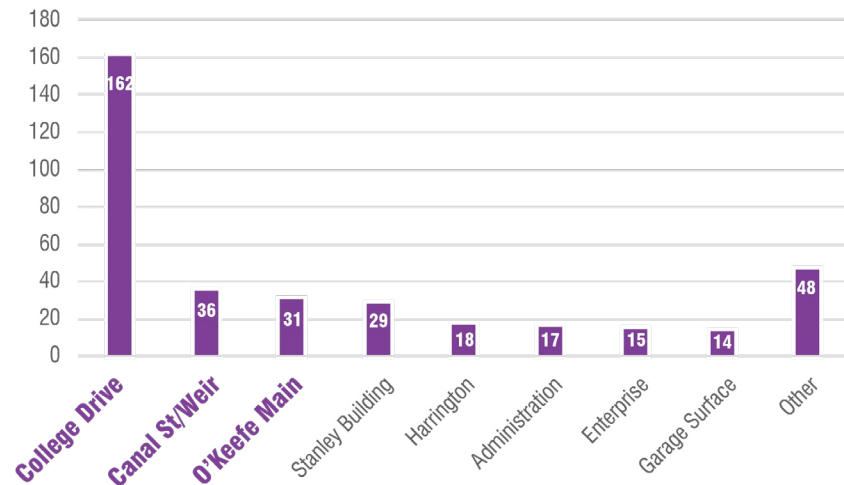


Student parking second choice

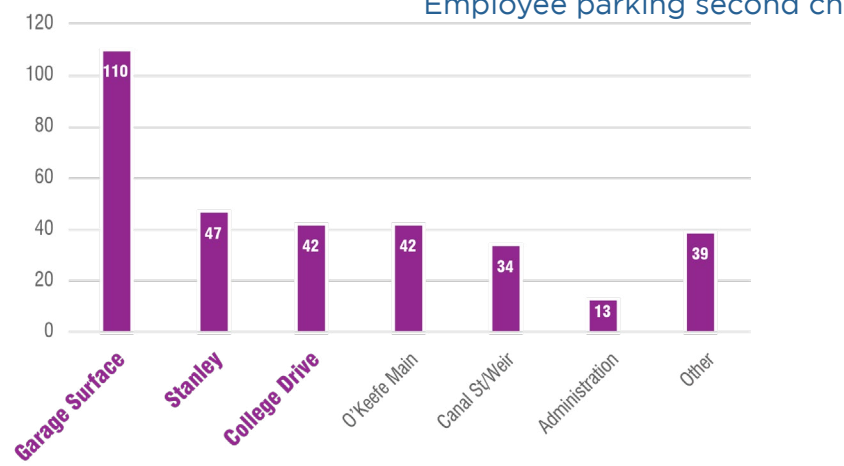


Preferred parking location indicates where parking is reliably found. Students have a strong preference for the garage, but tend to park at O'Keefe Main when the garage is full. Both sites are large facilities that are less likely to run out of spaces when school is in session.

Employee parking first choice



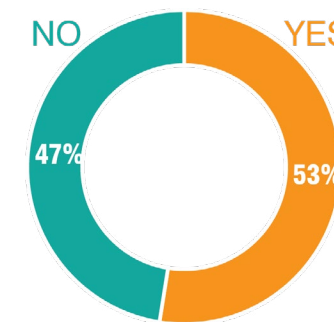
Employee parking second choice



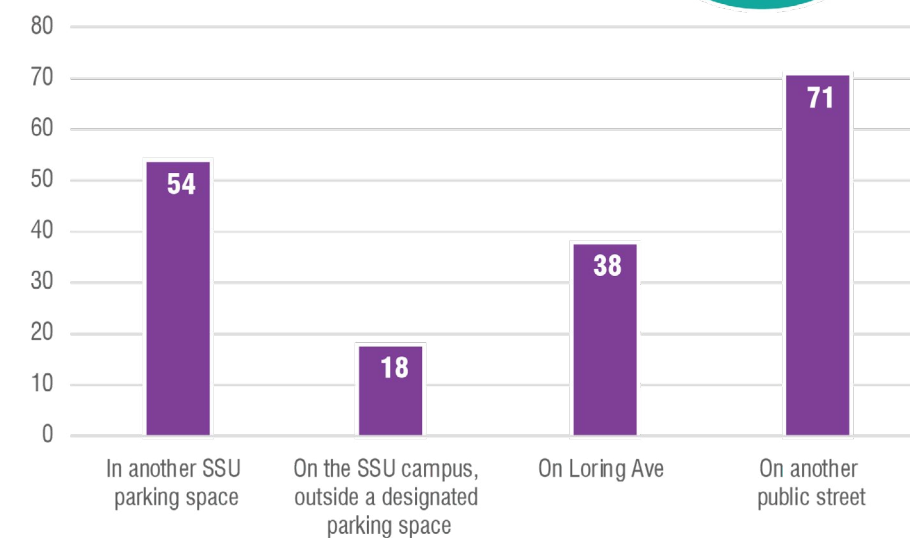
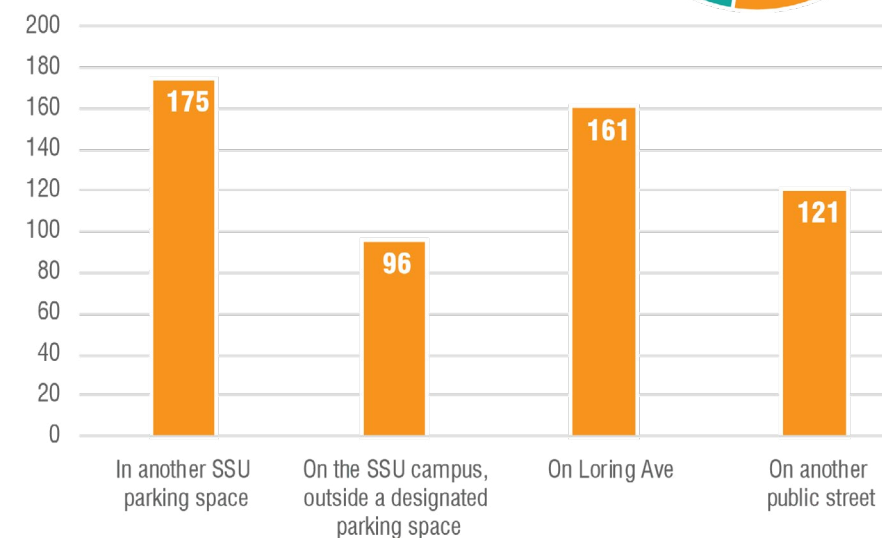
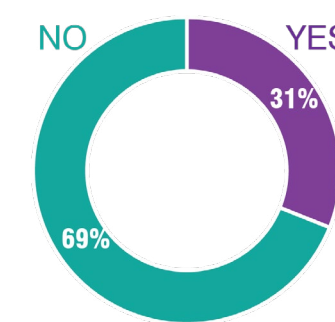
SSU employees prefer parking in College Drive over other parking locations. Garage surface is popular only as a second choice. Both sites are close to academic functions in the North Campus, where many employees are situated.

DO YOU EVER PARK BESIDES WHERE YOUR PERMIT ALLOWS? IF SO, WHERE?

Students:



Employees:

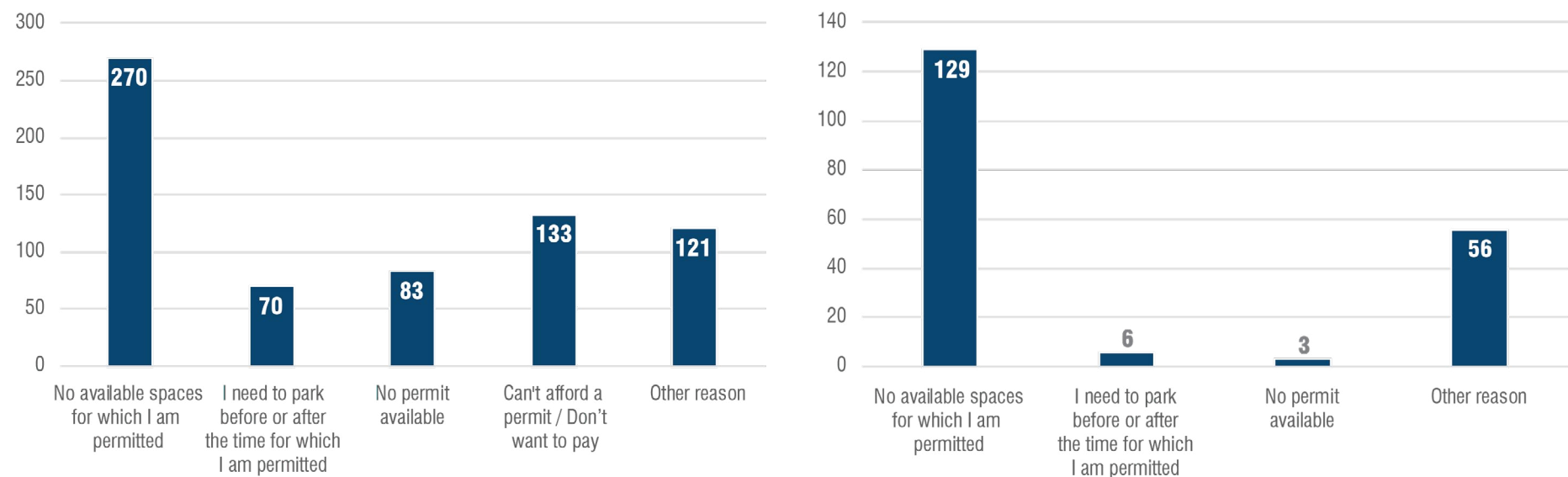


A significant portion of the SSU student and employee populations will park in areas other than where their parking permits allow. Students and employee frequently park in other SSU parking spaces, thereby occupying spaces designated to other SSU permit holders, while parking on public streets is also common. These public streets include Lafayette St., Broadway, Jefferson Ave., Moffat Rd., and Pickman Rd. These responses are consistent with the complaints of neighborhood residents that there are too many cars parking on residential streets.



WHY DO YOU PARK SOMEWHERE BESIDES WHERE YOUR PERMIT ALLOWS?

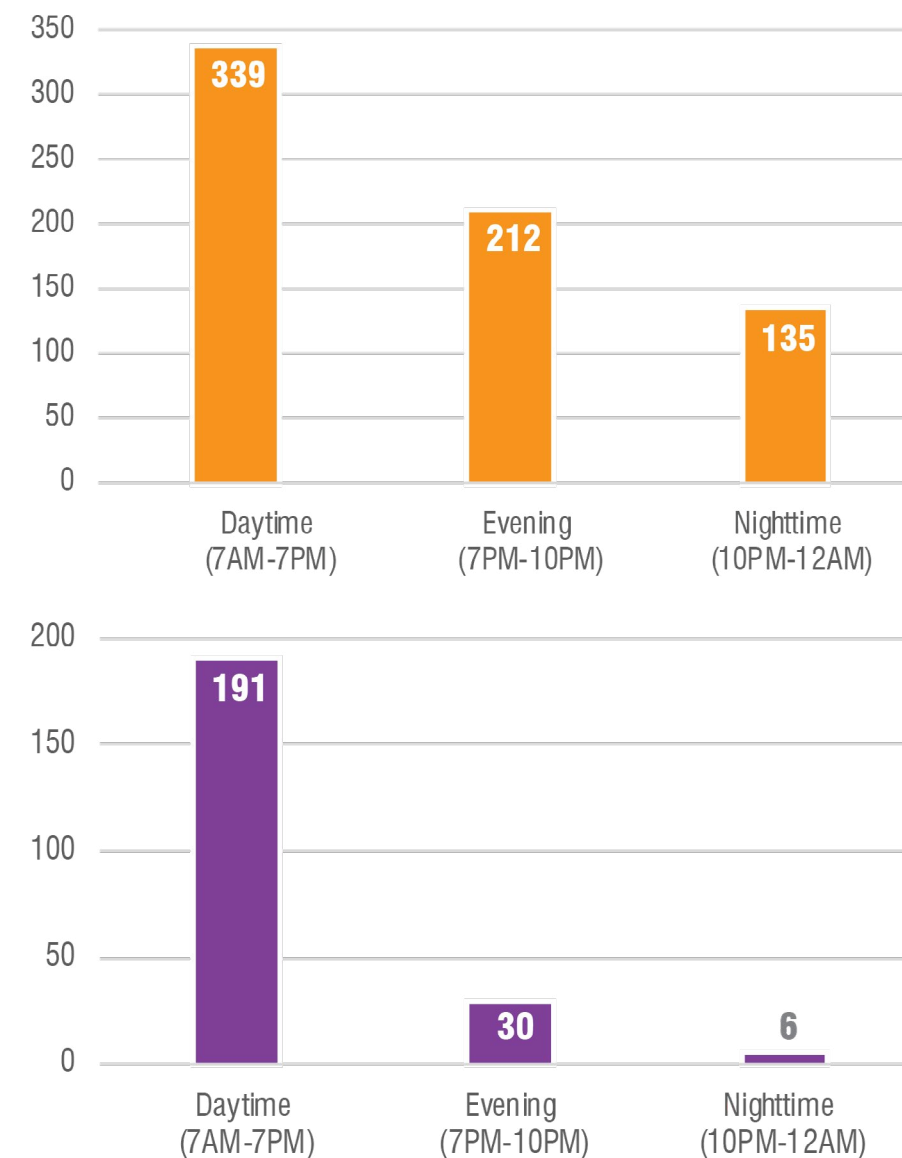
When asked why they would park other than where their permit allows, many SSU respondents identified a lack of spaces in their designated parking zones as the primary reason. This may indicate that there is not enough capacity for particular permits in popular locations. Many students cite expense as a barrier to acquiring a parking permit in the first place, and so risk parking in an inconvenient location or being ticketed. Limited handicapped spaces, far distances from final destinations, and avoiding trafficked areas, are also described as reasons for parking in areas other than where a designated permit allows.



DURING WHAT TIMES DO YOU PARK SOMEWHERE BESIDES WHERE YOUR PERMIT ALLOWS?

Generally, parking in alternate locations occurs during the day (7am - 7pm), when classes are in session. However, students will also park in locations other than where their permit allows after 7pm.

There is an opportunity to better organize parking locations and enforce parking regulations, especially during the daytime.



## Driving within Campus

Heavy traffic in the neighborhood surrounding SSU is exacerbated by the number of drivers traveling between SSU campuses. Members of the SSU community drive between the four campuses: North, Central, South, and North-or-Loring, although parking is not guaranteed at each location.

DO YOU USE YOUR VEHICLE AS TRANSPORTATION BETWEEN CAMPUSES?

SSU Resident Students:

60 Yes 50 No

SSU Commuter Students:

133 Yes 154 No

SSU Employee:

131 Yes 154 No

WHY?

### Yes

- Poor weather conditions
- Traveling between class, work, and clubs on a tight timeline
- Physical limitations, impairments or other medical needs
- Carrying many, or heavy materials
- Perceived lack of safety at night
- Unreliable or limited-route shuttles
- To specific buildings far from central campus: e.g. Harrington, Social Work Building, Cat Cove

### No

- Compact campus
- Shuttle bus
- Time wasted hunting for parking
- Fear of losing initial parking spot

## Final Impressions

### SSU Conditions

- Among the SSU community, there is often misunderstanding about the purposes and priorities of campus parking enforcement
- Substantial traffic to and from College Drive Lot
- Lack of accessible parking, especially aggravated in inclement weather

### SSU Recommendations

- Better enforcement of parking regulations
- More paved sidewalks and streetlights in and along parking lots
- Extend commuter student passes overnight
- Increase student parking options in Central campus
- Decrease permit cost/increase permit options to entice more regulated on-campus parking
- Closer parking for the Social Work building



ENTRANCE TO O'KEEFE MAIN LOT



# Neighborhood Responses

To address neighborhood concerns, the following survey questions were asked to identify the specific locations, frequency and intensity of parking and driving impacts on streets near SSU.

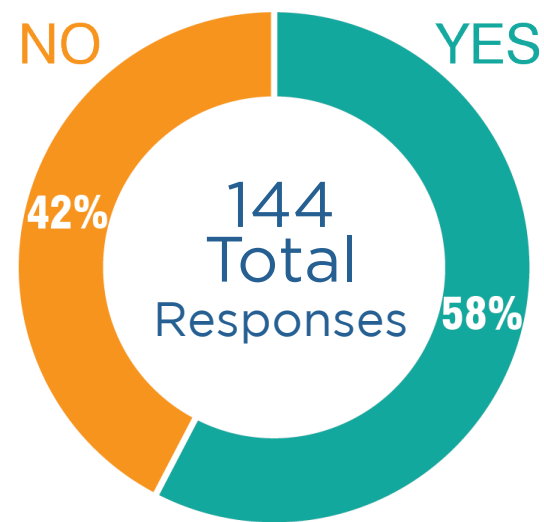
## General Neighborhood Conditions

- Traffic backs up to Vinnin Square, starting at 3pm
- Neighborhood streets used as shortcuts between campus and baseball field
- Limited parking available for visitors
- Cars on narrower streets limit access for emergency vehicles
- Cars limit street and curb visibility
- Limited crosswalks
- Limited street lighting

## Parking & Driving Habits

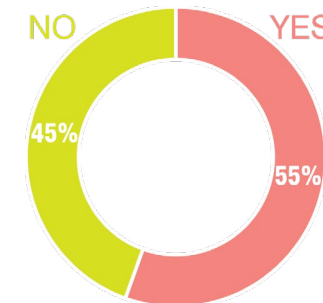
- Cars block fire hydrants, driveways, street corners
- Cars parked on the wrong side of the street
- Cars not parked within lines
- Cars illegally parked in one spot for days at a time
- Illegal turns and speeding

IS THERE A RESIDENT PARKING RESTRICTION ON YOUR STREET?



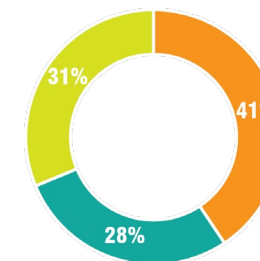
A majority of respondents reported that they experience a change in their ability to park when SSU is in session. Over 40% of respondents perceived that their parking ability is affected everyday. Many residents are limited from parking on their streets for several hours at a time, with the majority citing non-resident cars parked all day or all day and overnight on a residential, if public, street.

DO YOU EXPERIENCE A CHANGE IN YOUR ABILITY TO PARK WHEN THE UNIVERSITY IS IN SESSION?

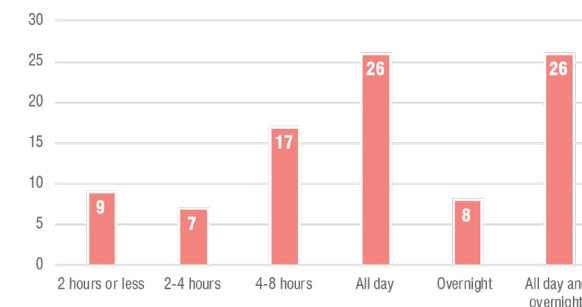


IF SO, HOW OFTEN?

- Every day
- Most days
- Occasionally



FOR HOW LONG?



HAVE YOU OBSERVED UNSAFE PARKING ON YOUR STREET WHEN THE UNIVERSITY IS IN SESSION?



HOTSPOTS FOR UNSAFE PARKING

PLEASE WRITE ANY OTHER OBSERVATIONS, CONCERNS OR COMMENTS ON PARKING CHANGES OR IMPACTS IN YOUR NEIGHBORHOOD WHEN THE UNIVERSITY IS IN SESSION

- Traffic increase, particularly during baseball season
- Littering & loud noises increase
- More out-of-state cars on the weekends
- Elementary school staff cars, in addition to SSU community, occupying parking spaces

## Neighborhood Recommendations

- Better enforce parking regulations
- Increase crosswalks
- Plow streets and sidewalks during winter to prevent cars from blocking too much of the street
- Decrease permit cost to entice more on-campus parking

ANALYSIS

3



# Current Policies

## Policies

- All students and employees must have permits to park on-campus
- Parking fines \$35 - \$50

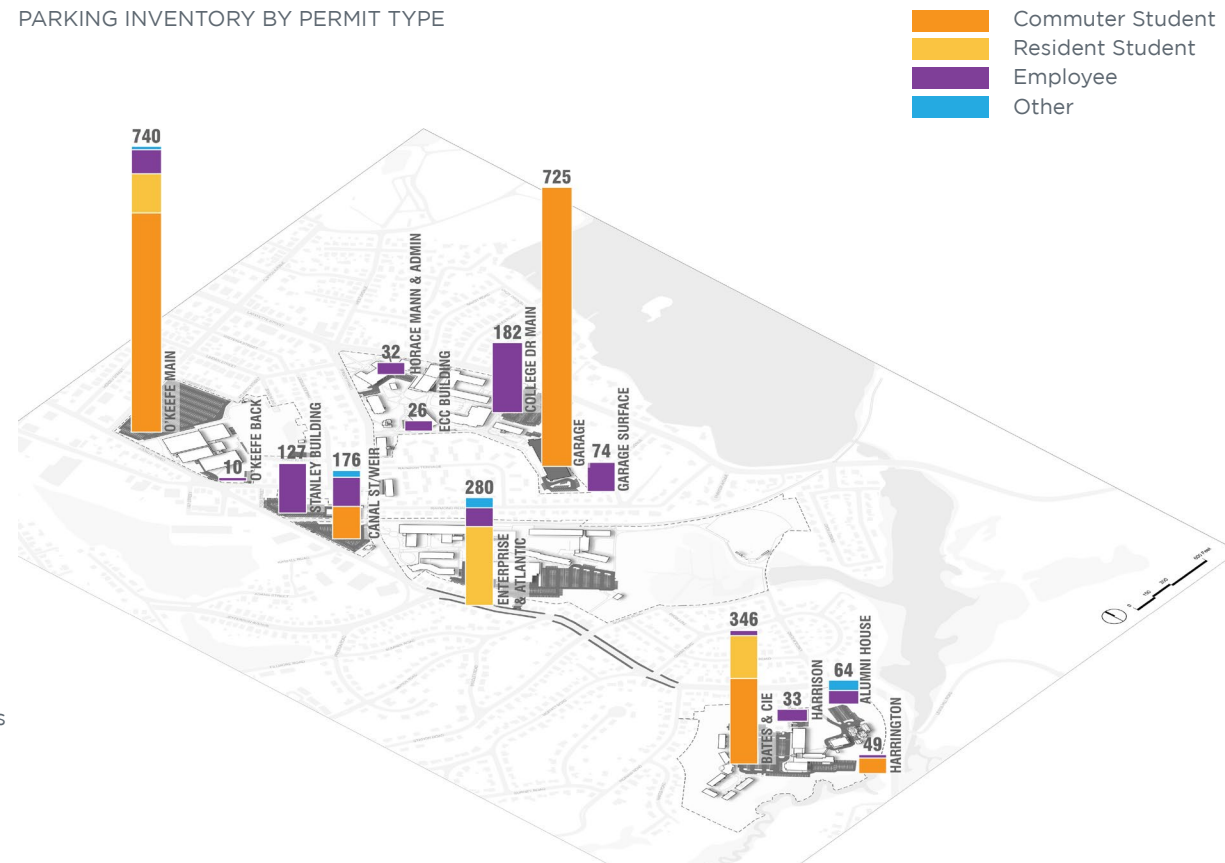
## Annual Permits

- Commuter \$150
- Resident A \$500
- Resident B \$450
- Resident M \$400
- Resident P \$500
- Employee \$5

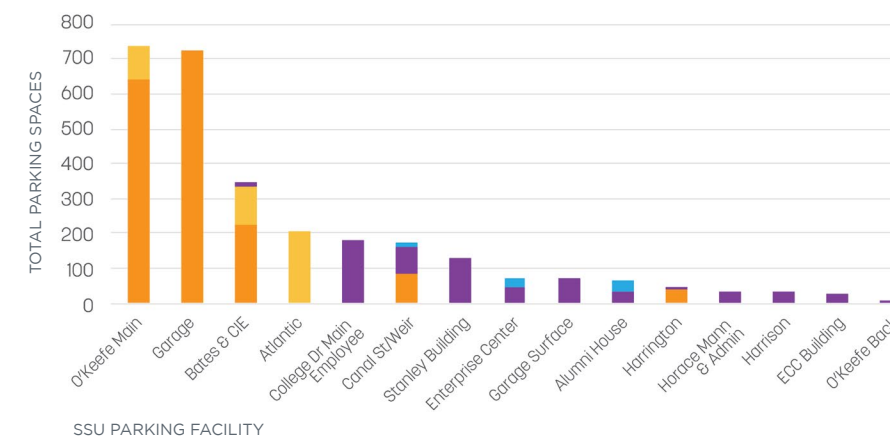
SSU has fifteen primary parking facilities distributed across campus. Each lot has spaces that are only available to specific permit holders. SSU employees are permitted to park in the greatest range of available facilities, while resident students are offered the narrowest range of facilities, which are typically located next to residential buildings. Commuter students receive permits for the largest parking facilities in all campuses except for Central.

# 2017 Parking Inventory

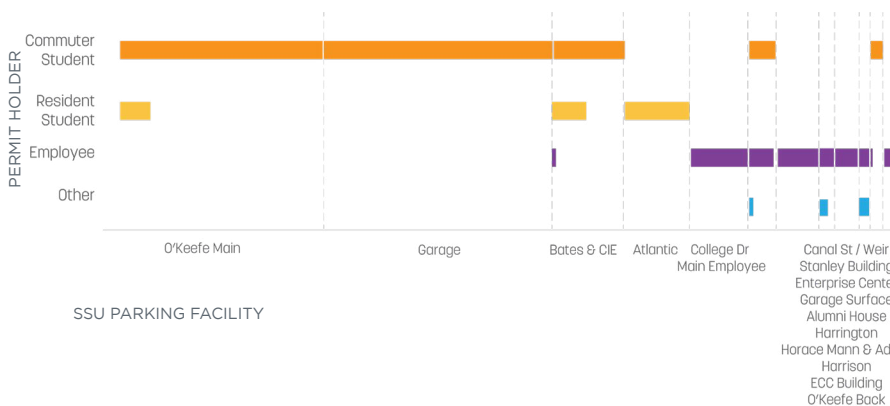
PARKING INVENTORY BY PERMIT TYPE



PARKING INVENTORY BY PERMIT TYPE

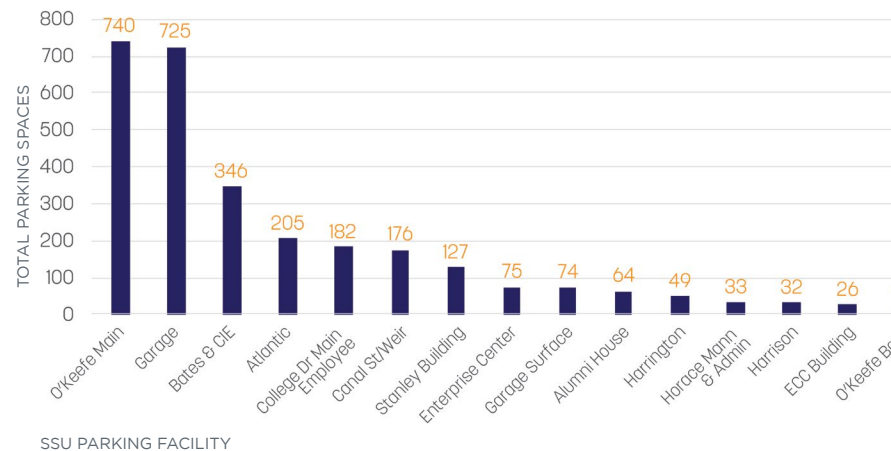


PARKING INVENTORY BY PERMIT TYPE

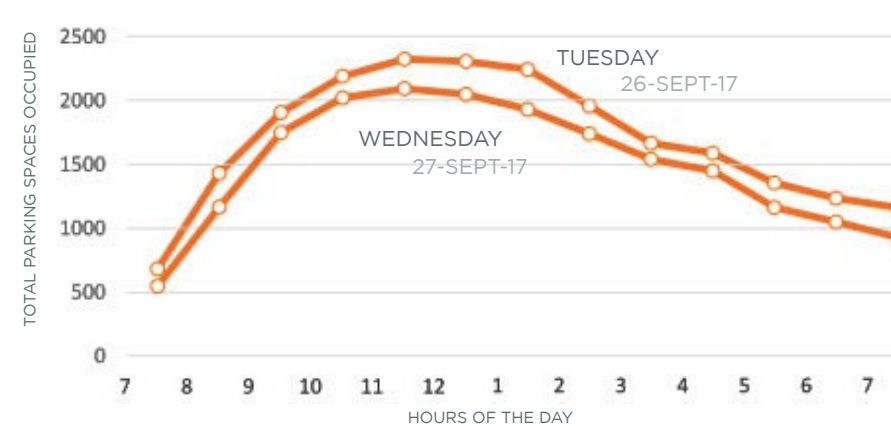


Most parking facilities tend to offer spaces for one permit type, although six do offer spaces to a range of different permit holders. The largest facilities, O'Keefe Main and the Garage, are majority commuter-student parking. Employees are distributed across all but three of the parking facilities.

OVERALL PARKING COUNTS



TUESDAY AND WEDNESDAY PARKING OCCUPANCY

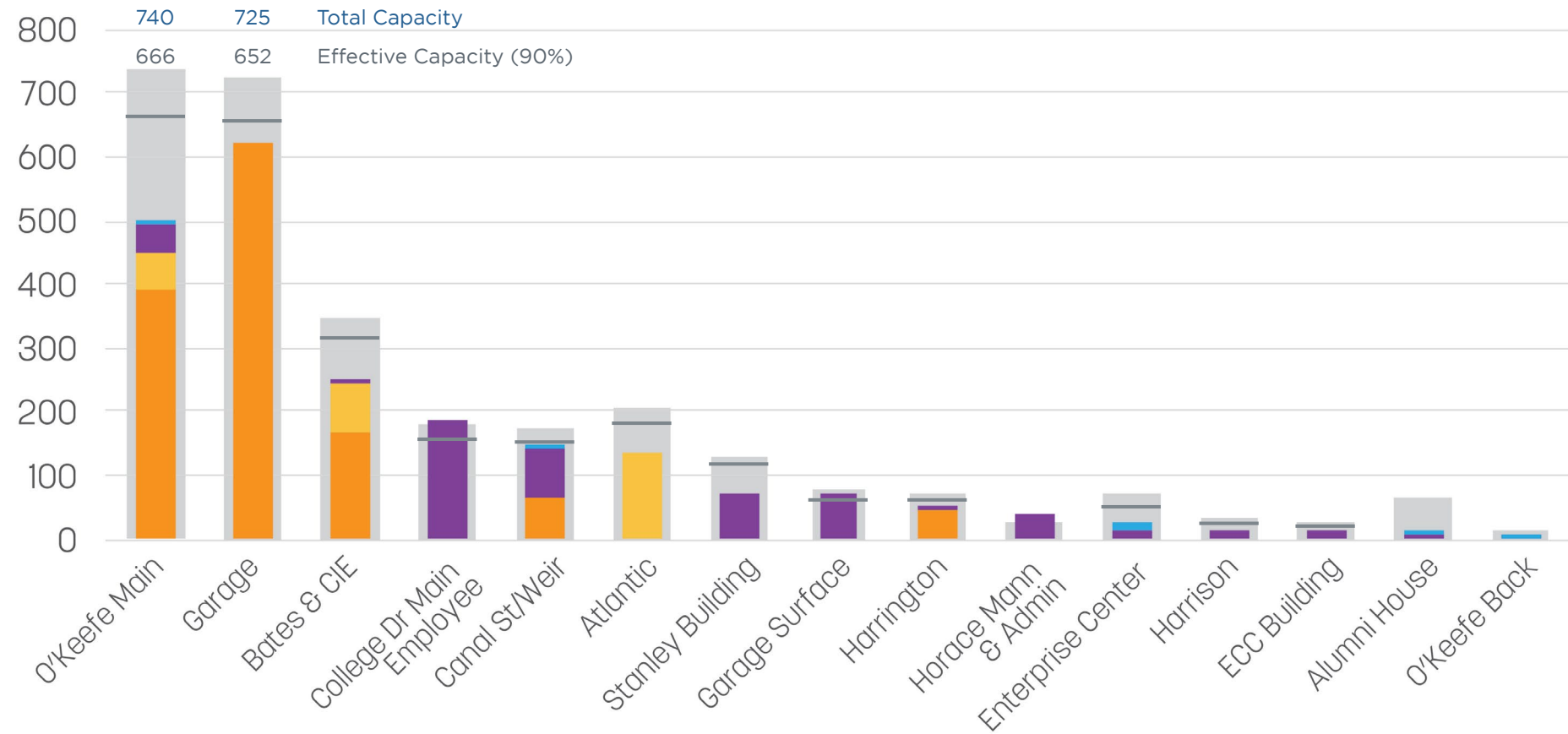
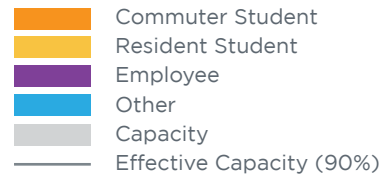


Parking counts conducted in September 2017 demonstrate the rate at which SSU's parking facilities become occupied or emptied throughout the course of a day. In this instance, Tuesday occupancy is higher than Wednesday's, but the pattern of use is similar. This suggests that Tuesday and Wednesday schedules at SSU are similar, with more activity occurring on Tuesdays to result in increased cars on campus.



# Parking Usage & Need - Peak Hour

DATA FROM 11:00AM-12:00PM, TUESDAY SEPTEMBER 26, 2017



Parking Usage is represented by midweek, midday counts because they reflect greatest intensity of parking facility use.

At 74% occupancy, current parking supply is adequate to meet current demand

Nonetheless, up to 6% of campus parking demand is met on Loring Ave. and neighborhood streets (p.34). If on-street parked cars were to relocate to SSU facilities, parking occupancy would increase to 80%.

In general, 90% occupancy is considered effective capacity for a parking facility. Although collective parking occupancy at SSU may not currently exceed 80%, individual lots are oversubscribed. This is particularly true for North campus employee parking lots College Dr, Garage Surface, and Horace Mann & Admin. Employees are also parking in O'Keefe Main lot, which does have remaining capacity but is not a designated employee lot.

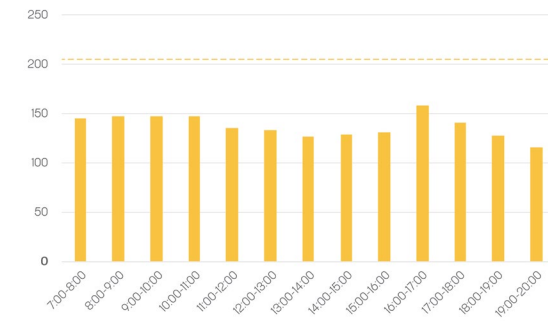
Other high occupancy facilities include the Canal St./Weir lot, Harrington lot, and the Garage, which all approach or meet effective capacity during the peak hour.

# Parking Usage & Need - Individual Lots

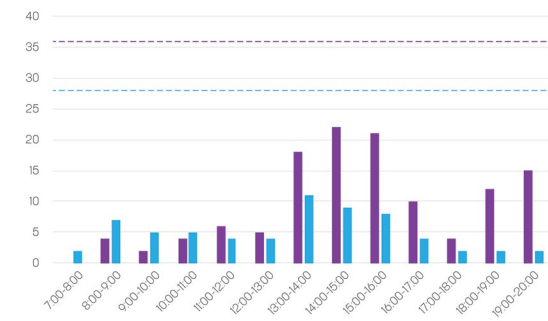
DATA FROM TUESDAY SEPTEMBER 26, 2017

Figures XX - XY reflect parking occupancy in each parking facility over the course of a 13 hour day, separated by permit type.

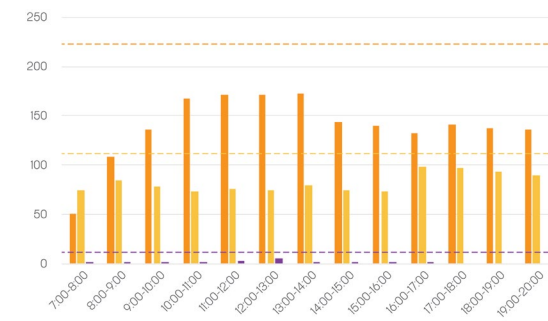
## Atlantic



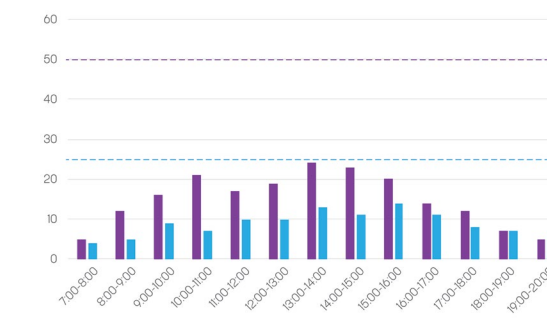
## Alumni House



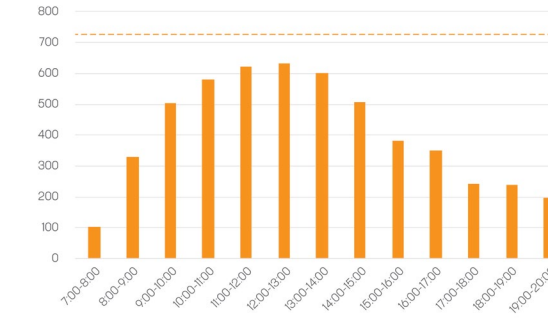
## Bates & CIE



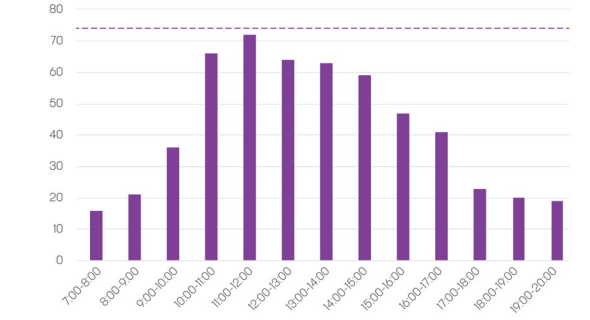
## Enterprise Center



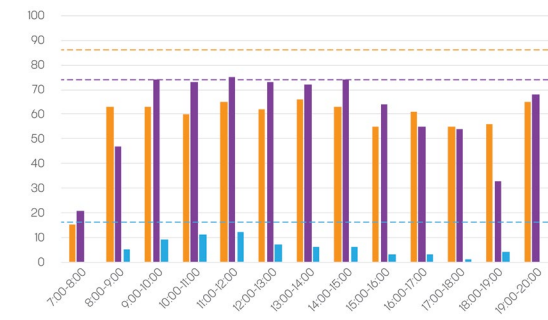
## Garage



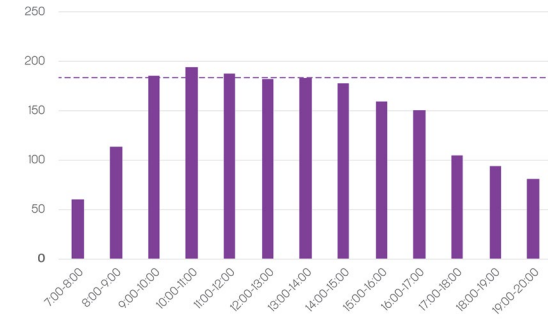
## Garage Surface



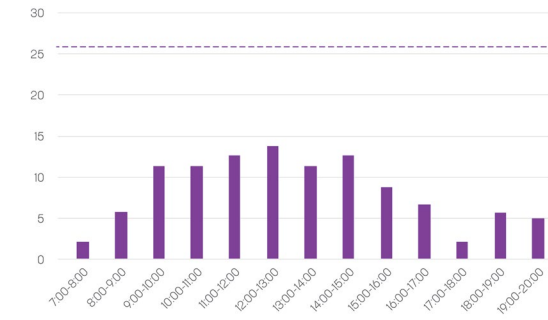
## Canal & Weir



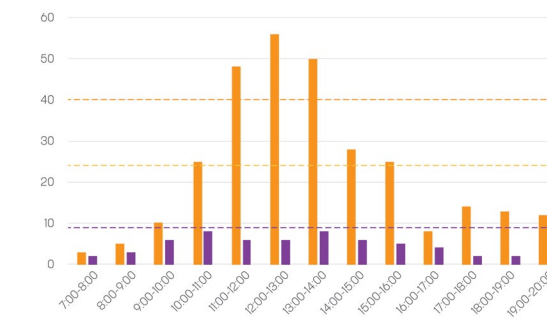
## College Dr Main



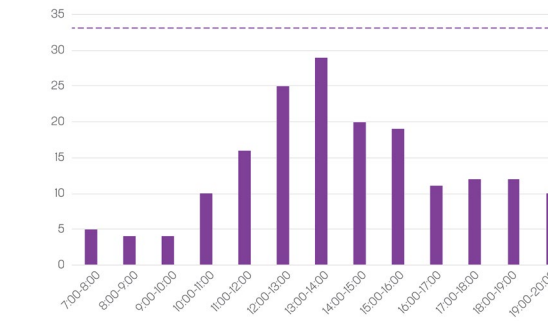
## ECC



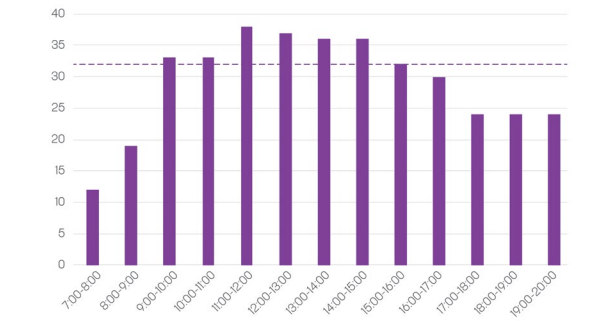
## Harrington



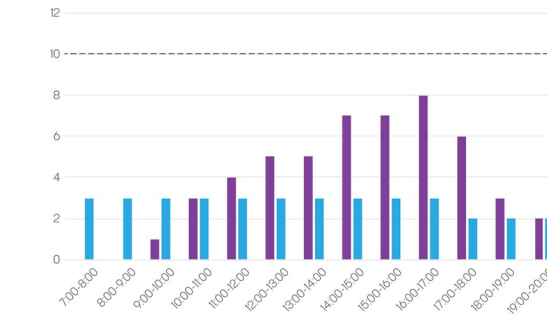
## Harrison



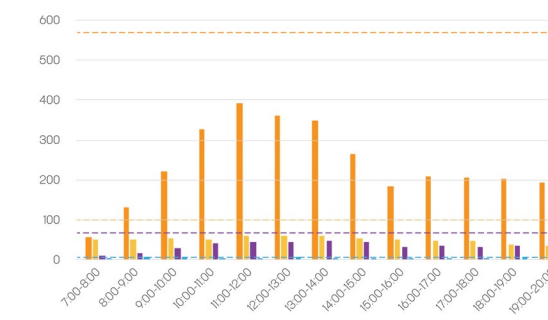
## Horace Mann & Admin



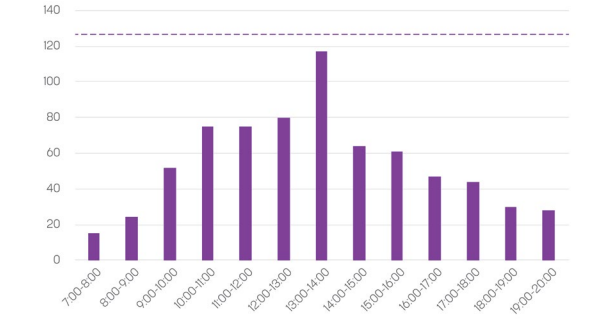
## O'Keefe Back



## O'Keefe Main



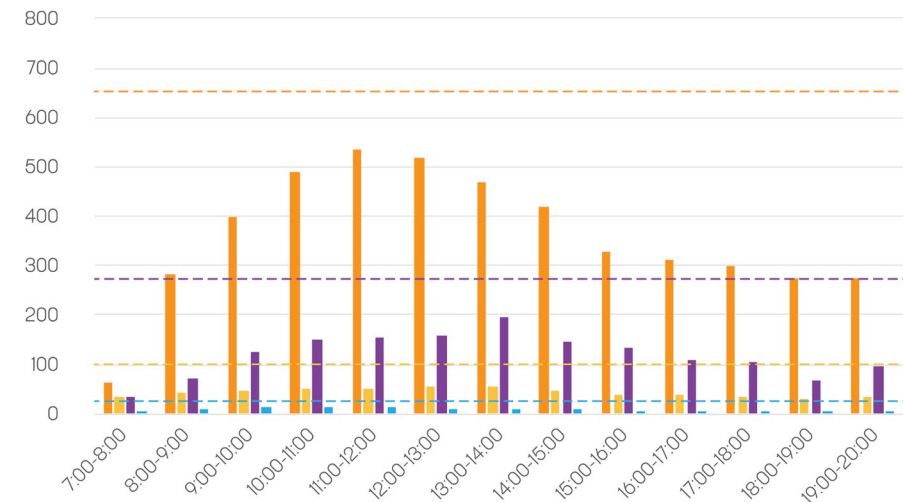
## Stanley





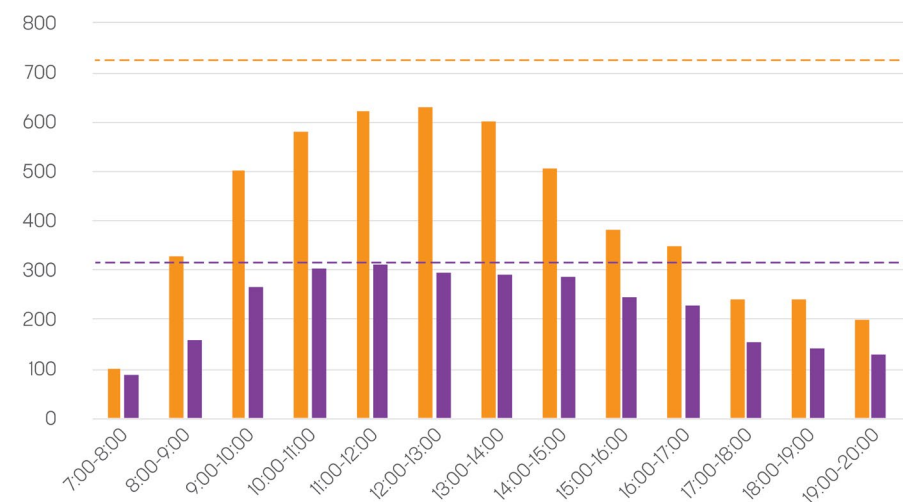
# Parking Usage & Need - Campus Districts

NORTH-OF-LORING  
TUESDAY SEPTEMBER 26, 2017



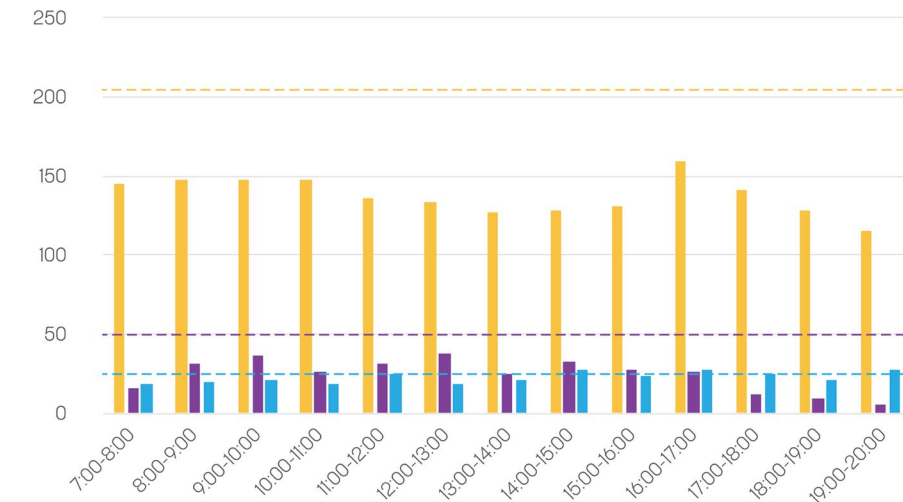
- North-of-Loring holds more spaces than North Campus
- Occupancy in the North-of-Loring lots peaks at 11:00 AM, at 72% of capacity
- Students identified walking conditions and distance as a deterrent to using
- Loring itself is a barrier

NORTH CAMPUS  
TUESDAY SEPTEMBER 26, 2017



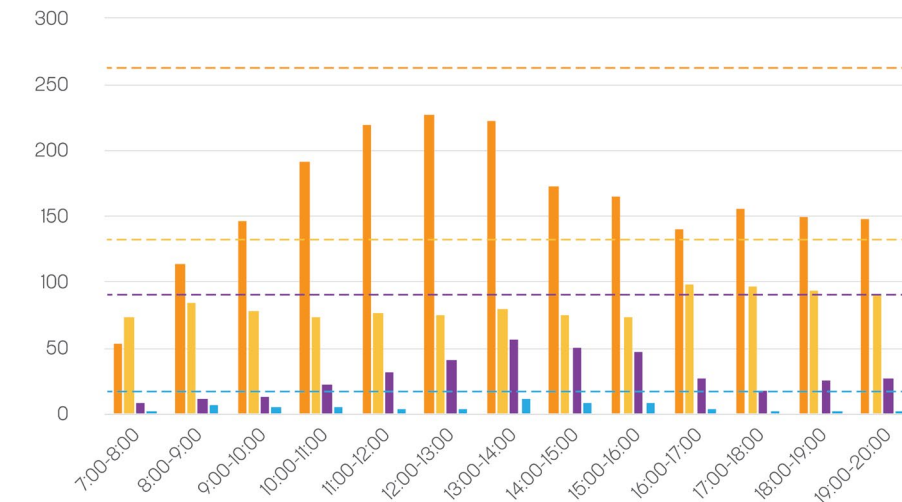
- North Campus employee parking is at or over capacity for most of the day
- Garage occupancy peaks 11:00 - 1:00 at 621 vehicles, but decreases by over 50% between 7:00-9:00 and 17:00-20:00.
- Dedication of the garage to commuter students (per terms of construction bond) leads to unused capacity on the garage during off-peak times

CENTRAL CAMPUS  
TUESDAY SEPTEMBER 26, 2017



- High-turnover spaces around Enterprise Center serve Admissions visitors, Bookstore, Res Life staff, HP, EV charging
  - Atlantic lot is underutilized during the day (occupancy counts were not taken overnight)
- Commuter Student  
■ Resident Student  
■ Employee  
■ Other  
■ Enterprise Center spaces not included

SOUTH CAMPUS  
TUESDAY SEPTEMBER 26, 2017

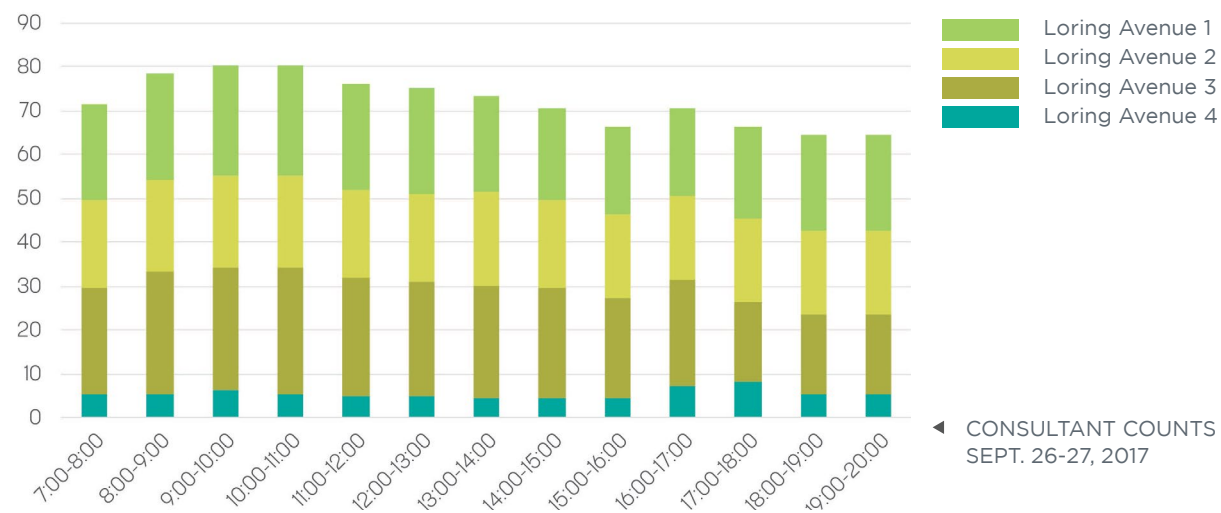


- Currently, South Campus parking occupancy peaks at 40%. Pending move of all academic to North Campus greatly reduces parking need
- Could serve as remote parking, e.g. for resident students, if reliable shuttle or Transportation Network Company ('rideshare') services can be guaranteed

# On-Street Parking

Loring Ave. is a popular location for on-street parking, close to Central Campus, although primary academic functions are in North Campus. Although the owners of cars parked on-street were not identified, it is likely that the majority of vehicles parked on Loring are related to SSU.

## Loring Avenue Parking Counts

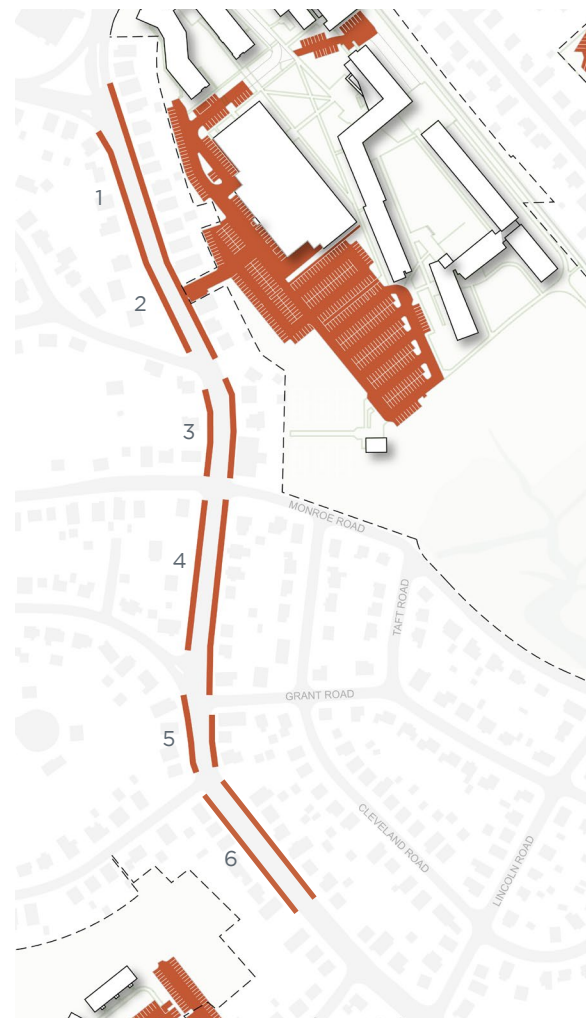


	East Side	West Side
1	4	6
2	4	5
3	9	9
4	10	13
5	4	15
6	14	3
<b>TOTAL</b>	<b>96</b>	

◀ COUNTS BY SSNA  
2:15PM, WEDNESDAY OCT. 4, 2017

◀ CONSULTANT COUNTS  
SEPT. 26-27, 2017

DATA FROM TUESDAY SEPTEMBER 26, 2017

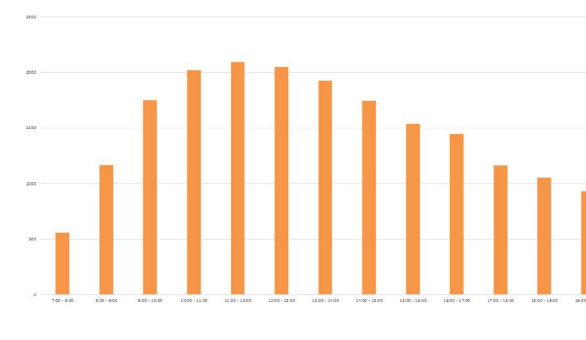


# Neighborhood Impacts

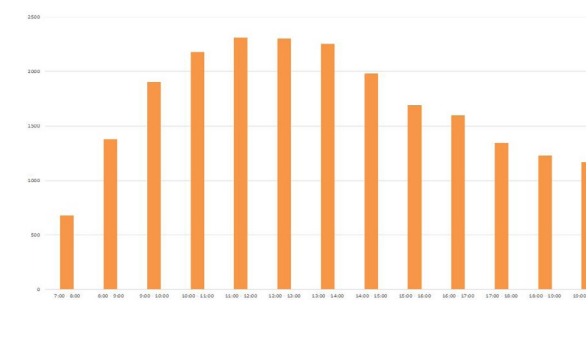
- Parking on neighborhood streets is a real, persistent and potential growing problem
- Based on counts taken on Loring Ave. and the reports in the neighborhood survey of parking on other neighborhood streets, off-campus parking may be up to 150-200 spaces
- Near-campus residents need help keeping their cars off neighborhood streets
- Cases of resident students buying C permits on 'black market' have increased

# Scheduling Impacts

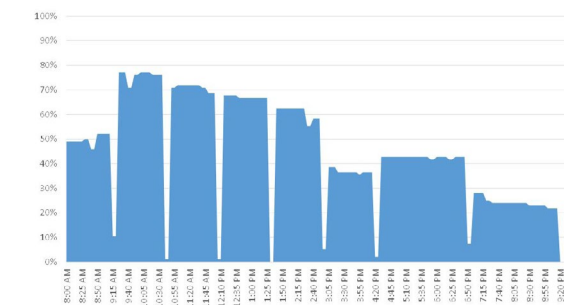
Parking occupancy rates closely track classroom use, according to Tuesday and Wednesday Fall semester scheduling data. The correlation between class times and parking occupancy suggests opportunities to schedule more courses outside of peak hours to better distribute parking demand.



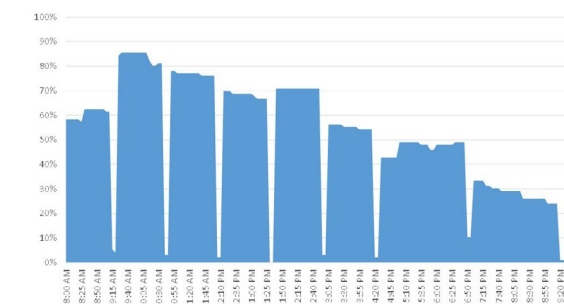
CAMPUS-WIDE PARKING OCCUPANCY  
TUESDAY SEPTEMBER 26, 2017



CAMPUS-WIDE PARKING OCCUPANCY  
WEDNESDAY SEPTEMBER 27, 2017



CLASSROOM ROOM-HOUR UTILIZATION  
TUESDAYS AND THURSDAYS



CLASSROOM ROOM-HOUR UTILIZATION  
WEDNESDAYS

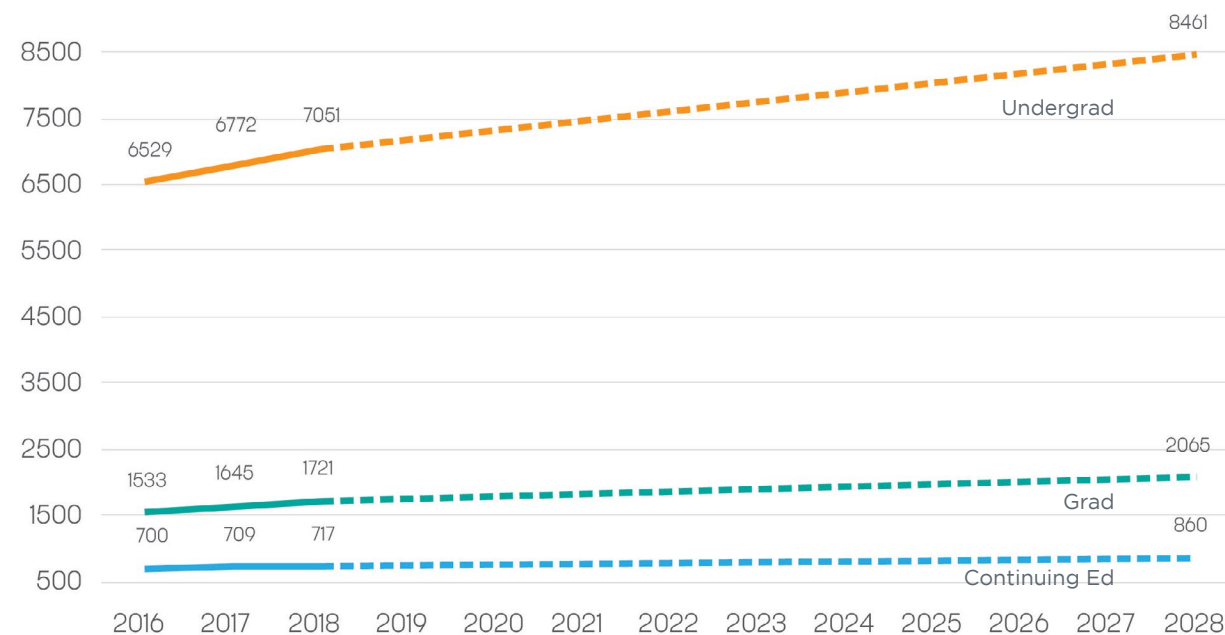


# Future Conditions

As the SSU population continues to grow, parking demand will grow accordingly. This, in addition to the possibility of relocating South Campus programs to Central and North Campuses, will increase pressure on current parking capacity.

## ENROLLMENT TRENDS

For purposes of this study, the following charts and tables show changes in parking need over a ten-year period, assuming a steady growth in enrollment of 2% per year. Actual enrollment growth, and changes in on-campus population, may differ from this rate due to a variety of factors including increasing use of distance learning techniques.



## Pending Space Moves

- Moving Criminal Justice & Nursing from South Campus will add to parking demand on the other campuses

- Peak occupancy:

	F	C
Harrison	29	
Bates/CIE	2	173
Harrington	8	50
Alumni	18	
<b>Total</b>	<b>280</b>	

- If this parking demand is added to North, Central and North-of-Loring, current peak occupancy there increases from 78% to 88%.

## Future Parking Need

Assumes 2% annual parking growth based on anticipated enrollment  
Base parking needs include 189 spaces for parking currently estimated to take place off-campus

### ALL SSU CAMPUSES IMPACT OF ENROLLMENT GROWTH

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Base Parking Need	2,342	2,389	2,437	2,485	2,535	2,586	2,637	2,690	2,744	2,799	2,855
+ 15% Cushion	<b>2,693</b>	<b>2,747</b>	<b>2,802</b>	<b>2,858</b>	<b>2,915</b>	<b>2,974</b>	<b>3,033</b>	<b>3,094</b>	<b>3,156</b>	<b>3,219</b>	<b>3,283</b>
						2,924 EXISTING					

At 2% per year population growth, but without taking Criminal Justice and Nursing move into account, SSU parking capacity is sufficient until 2022. However, campus-wide demand will exceed practical capacity by over 400 spaces in 2027.

### CAMPUS CORE (NORTH, CENTRAL, AND NORTH-OF-LORING) IMPACT OF CRIMINAL JUSTICE & NURSING MOVE

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Base Parking Need	2,069	2,110	2,152	2,196	2,239	2,284	2,330	2,377	2,424	2,473	2,522
+ 15% Cushion	<b>2,379</b>	<b>2,427</b>	<b>2,475</b>	<b>2,525</b>	<b>2,575</b>	<b>2,627</b>	<b>2,679</b>	<b>2,733</b>	<b>2,788</b>	<b>2,843</b>	<b>2,900</b>
	+ 280 WHEN SCHOOLS MOVE VS. 2,408 EXISTING										

Current total parking supply is adequate to meet current demand. However, shifts in parking patterns are necessary to prevent over-subscription of particular facilities and to bring off-campus parking onto campus. If and when South Campus programs such as Criminal Justice and the School of Nursing are relocated, their respective parking need of up to 280 spaces would exceed current practical capacity (occupancy + 15%) of Central, North and North-of-Loring.

# Walking Conditions

To increase parking occupancy in facilities that have remaining capacity during peak hours of the day, walking conditions of pathways between peripheral parking and final destinations must be considered.

## Existing Conditions

- Walking distances are appropriate for a university
- Convenience issues reflect the discontinuity of the campus
- Walking paths to available parking can be improved
- Also Loring & Canal crosswalks
- O'Keefe, Canal/Weir and Stanley lots are perceived as too far away, but are a few minutes' walk from the cores of both North and Central campuses
- Conditions that increase the perceived distance include:
  - Crossing Loring Ave.
  - Lighting
  - Linden/Atlantic St pavement conditions
  - Traffic on Canal St.
  - Grade change
  - Winter weather
  - Leaving the campus





**RECOMMENDATIONS**

**4**

# Overview

To ensure availability of parking to those who need it while protecting the surrounding residential neighborhood from undue impacts, SSU should implement a range of measures over both the short and long term. This section identifies potential actions in four basic categories:

- Permits & Space Allocation
- New Parking Facilities
- Improved Pedestrian Access
- Demand Management, Technology and Enforcement

# Permits & Space Allocation

The Campus Framework provides an organizing structure for future campus development. Key elements that shape the framework include the open space system, vehicular and pedestrian circulation, and gateways. The proposed framework builds on the existing North Campus structure, particularly those areas that have seen investment over the last several years, such as the Library Quad and Drinkwater Way.

## Principles

- ‘Park Once’: reduce inter-campus driving
- More lot-specific permits
- Use pricing as a demand management tool
- Encourage and facilitate use of Canal/Weir, Stanley & O’Keefe
- Consider limiting permit eligibility for resident sophomores
- Parking regulations must be enforced both within SSU and the neighborhood

## Potential Measures

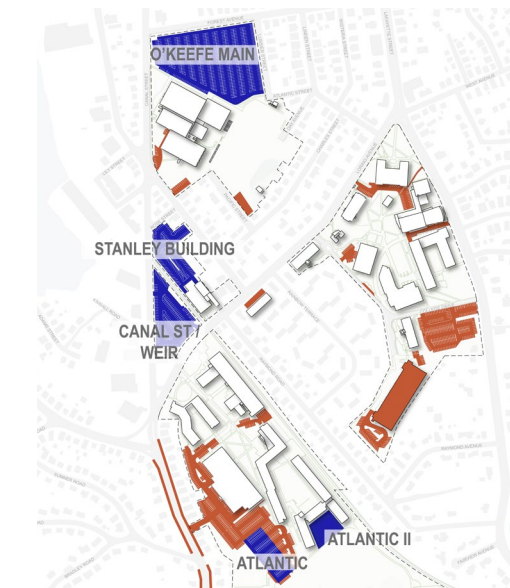
- Increase M spaces in O’Keefe
- Reassign spaces in Stanley from F to M
- Reassign some Atlantic spaces from A to C
- Increase oversell at Atlantic
- Sophomore parking restrictions/Need-based issuance
- Require lottery winners to purchase permits – put on tuition bill
- Designate Motorcycle spaces – would yield 2-3 per auto space

# New Parking Facilities

## Options

- Garage on buildable portion of O’Keefe lot
- Garage on Canal/Weir lot
- Garage on Stanley lot
- Garage on Atlantic lot
- New Atlantic Hall lot

\*Cost assumptions:  
 • Garage space: \$35,000  
 • Surface space: \$7,000



Candidate	Spaces/Level (approx.)	Levels	Net Spaces	Cost*	Pro	Con
Garage on buildable portion of O’Keefe lot	155	4	465	\$16.3 M	Serves athletic complex	Longer term. Further away
Garage on Canal/Weir lot	80	4	240	\$11.2 M	Well located for Central Campus access	Triangular site is not ideal Site may have a better use
Garage on Stanley lot	80	4	240	\$11.2 M	Works with redevelopment of Stanley building	Site is barely 120' wide; might require reconfiguration of drainage swale.
Garage on Atlantic lot	120	4	360	\$16.8 M	Maximizes parking utility	Severe traffic impacts
New Atlantic Hall lot	160	1	160	\$0.8 M	Doesn't displace existing parking. No new structure	Wetlands impacts



# Improving Pedestrian Access

## Walkability is Key

Enhancing pedestrian access to SSU's lots will improve safety conditions, encourage permit holders to park in their designated zones, and reduce vehicular traffic caused by parking space hunting. The following illustrations focus on potential intervention that would better connect O'Keefe Main and Canal St./Weir lot to adjacent streets. Each proposal targets a number of walkability concerns:

- Winter Conditions
- Defined pedestrian routes
- Lighting
- Loring Ave.
- Cooperation between SSU and the City of Salem
- Sidewalk at garage lot

### Loring Ave. Crosswalk



### Canal St. at O'Keefe Lot

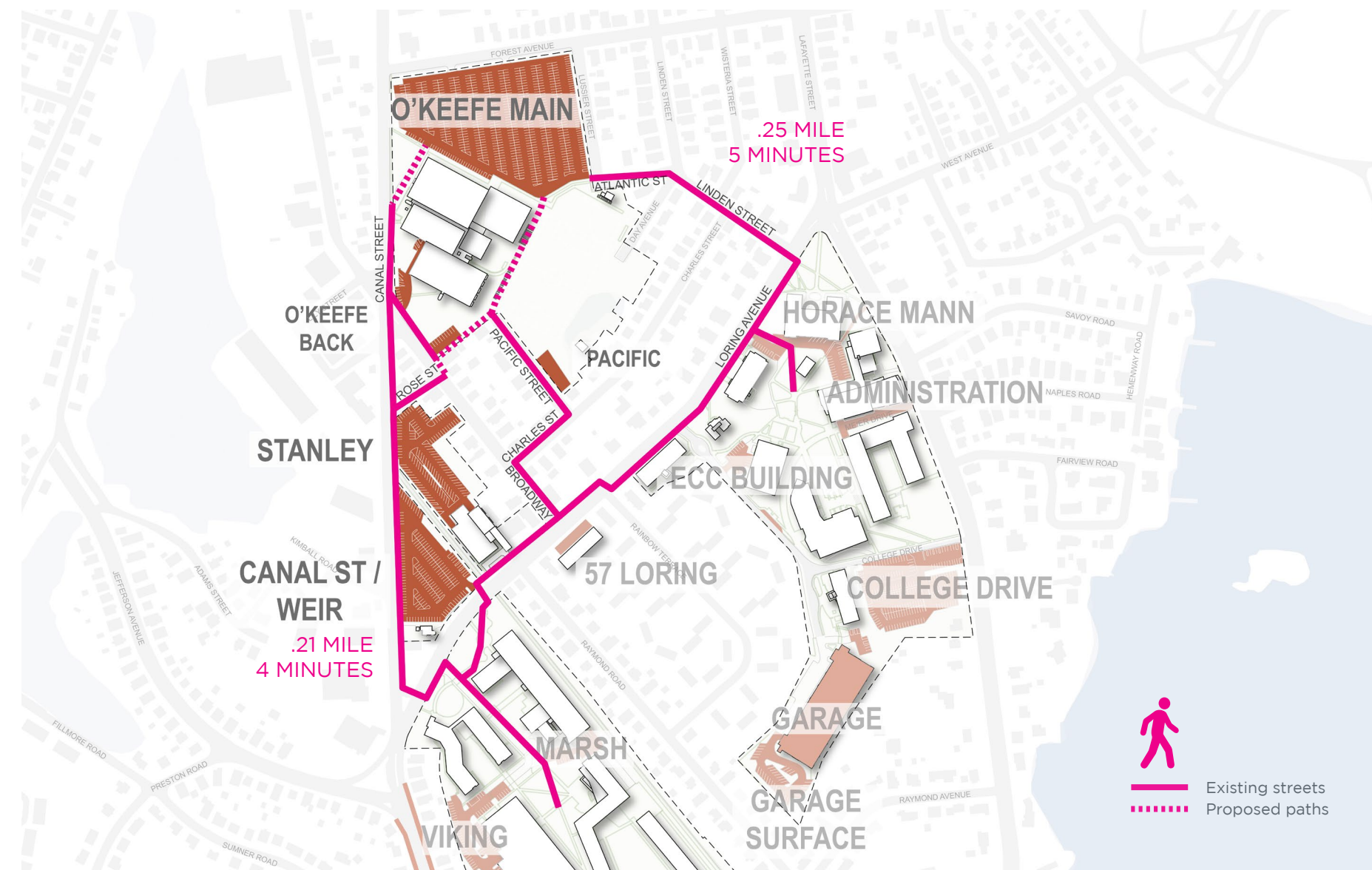


CURRENT CONDITIONS OF PATHWAYS CONNECTED TO SSU PARKING LOTS

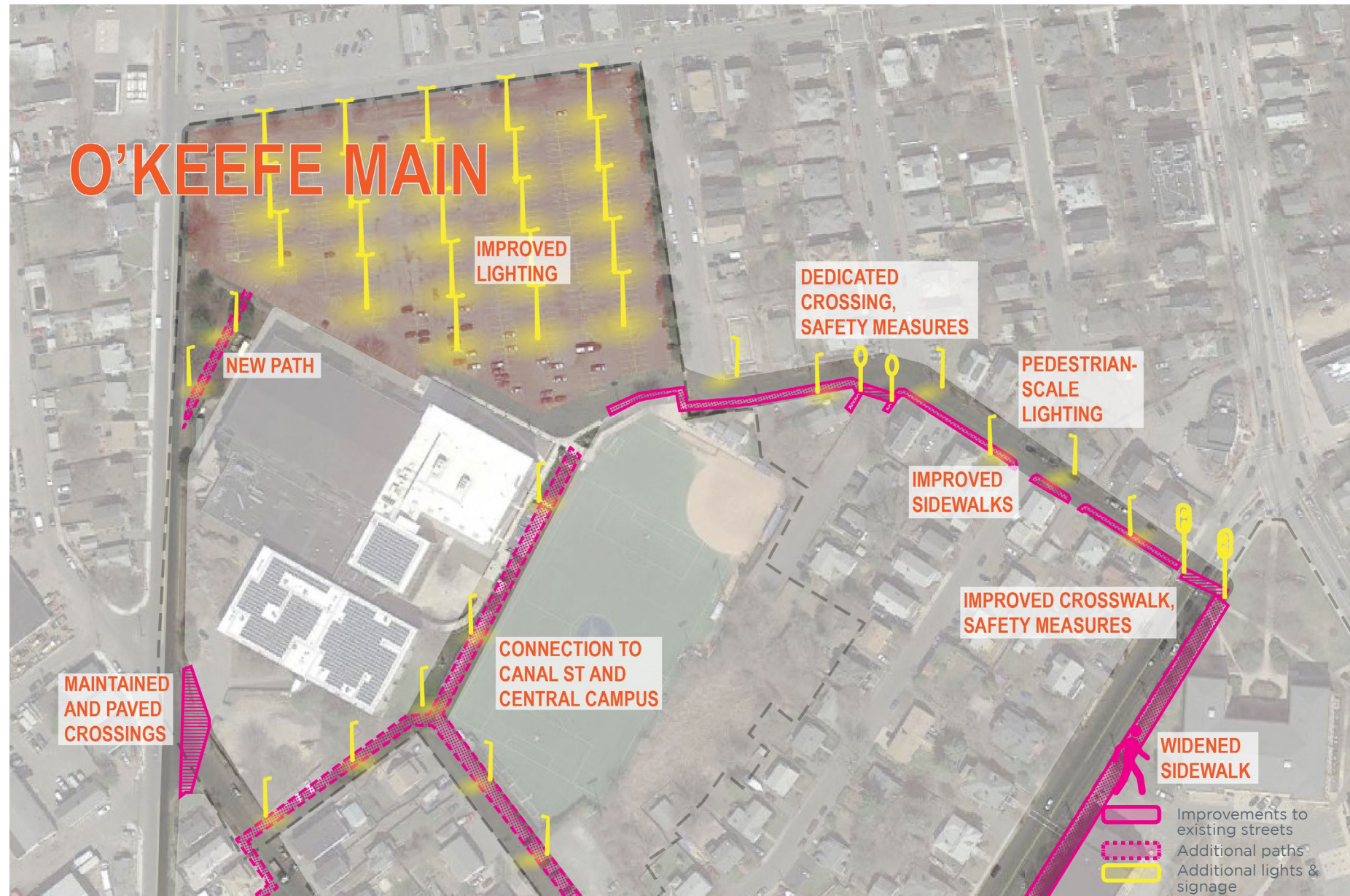
### Linden & Atlantic Streets



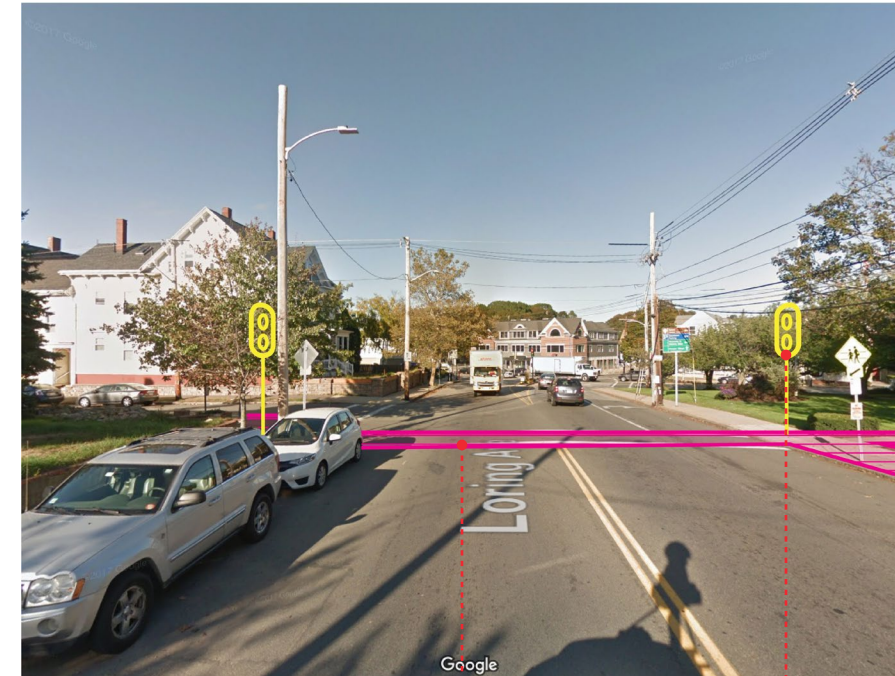
## North-of-Loring







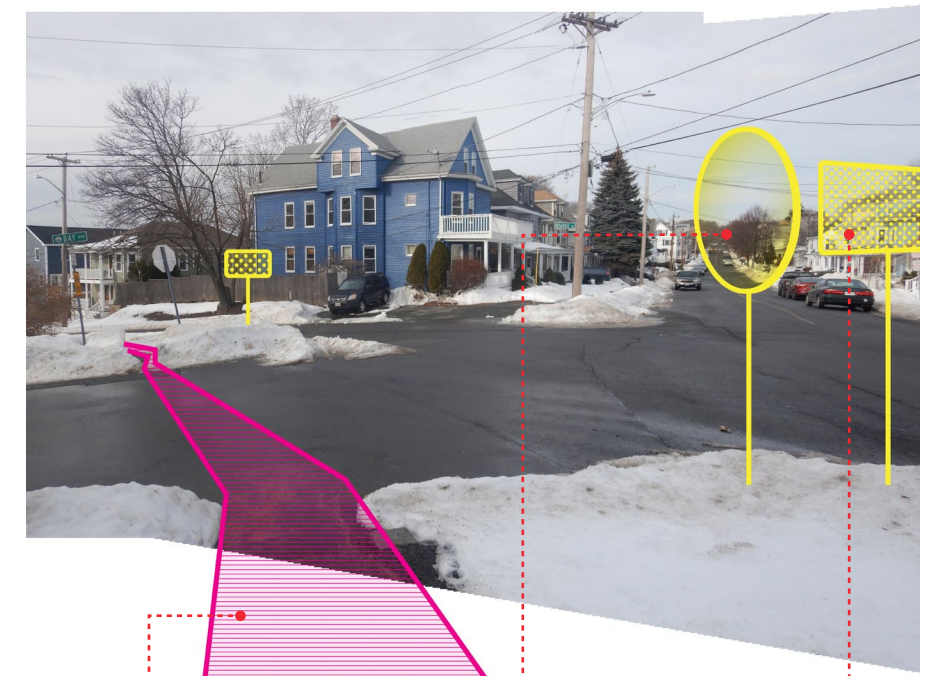
Loring Ave.



Upgrade crosswalks for pedestrian and driver visibility

Pedestrian signal for major Loring Ave. crossing at Linden St.

Linden/Atlantic St.



More effective pavement markings for pedestrian and driver visibility

Mirror for increased visibility around tight curves

Traffic-regulation signage at Linden/Atlantic/Day St. intersection

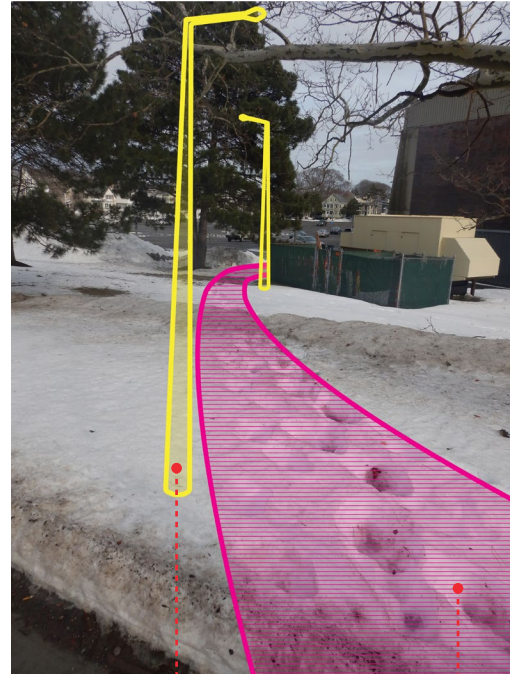


### O'Keefe Lot Improvements



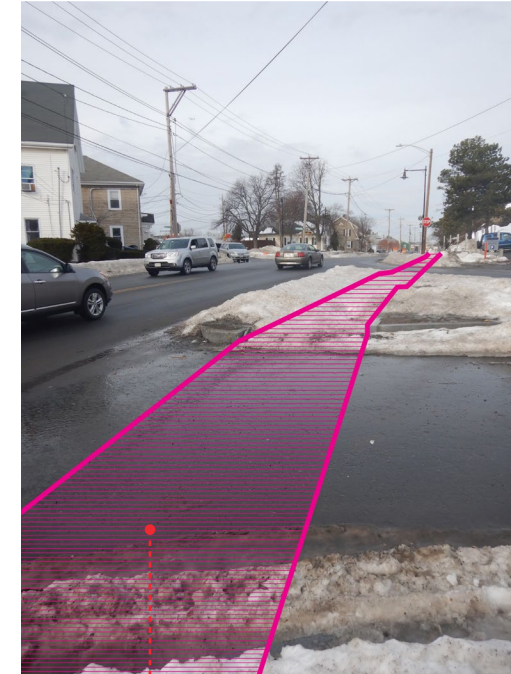
Lighting in O'Keefe Lot to enhance perception of safety

### Paths to O'Keefe

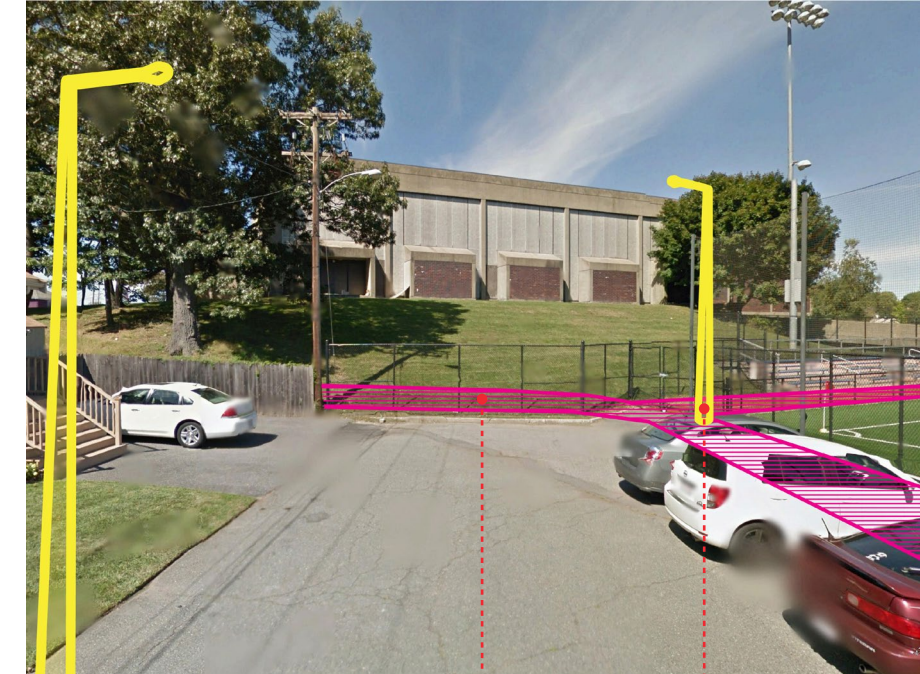


Better lighting enhances perception of safety

Create path from O'Keefe Lot to Canal St.



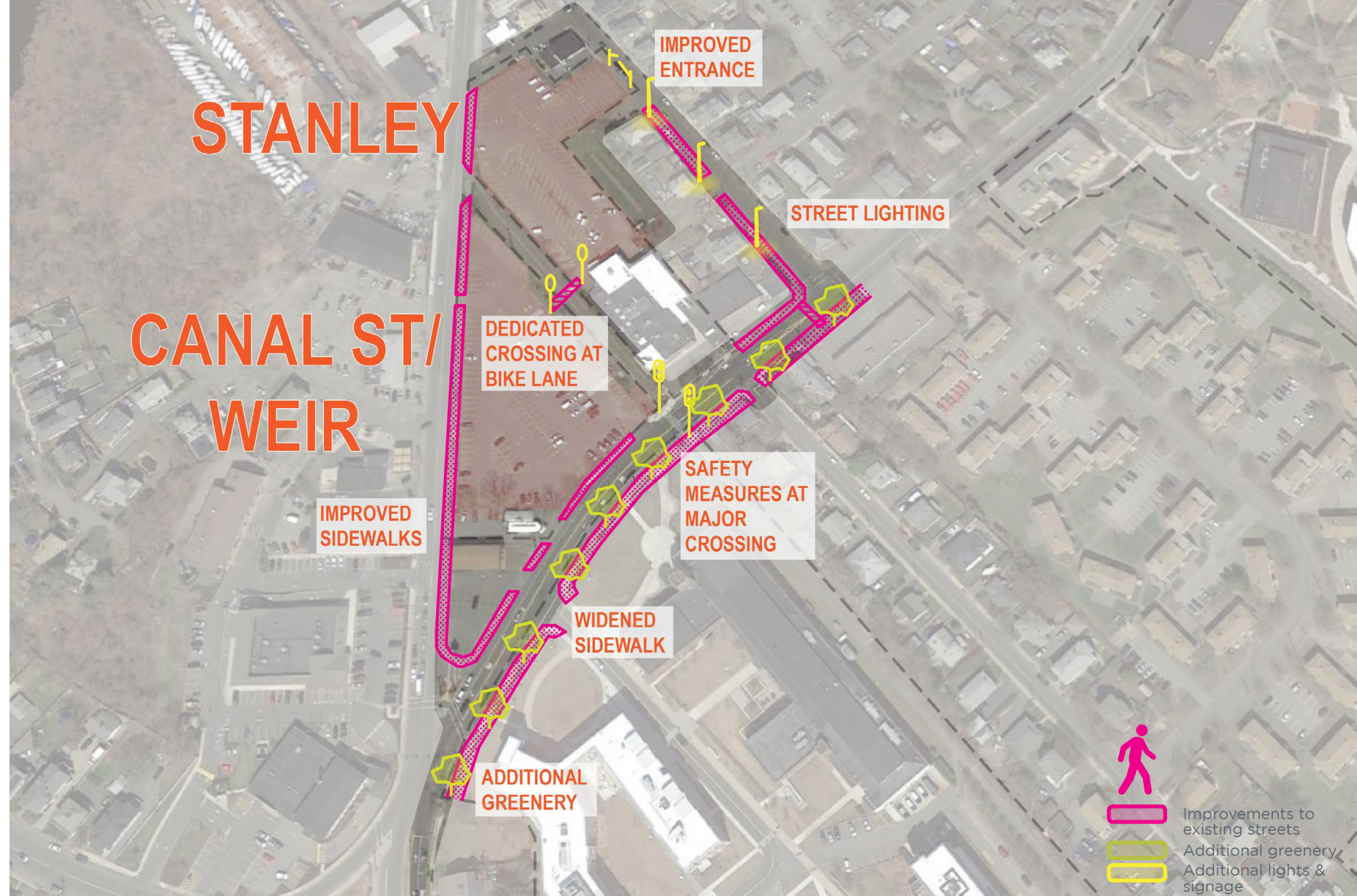
Maintain pedestrian-friendly route from O'Keefe to SSU along Canal Street



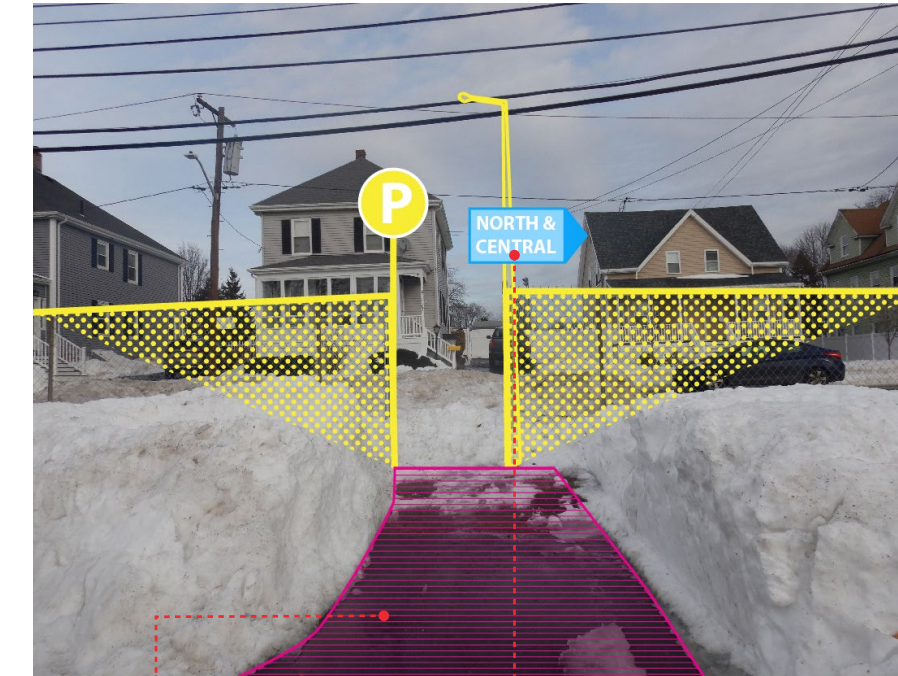
Open path along edge of football field, to Canal St.

Lighting in O'Keefe Lot to enhance perception of safety

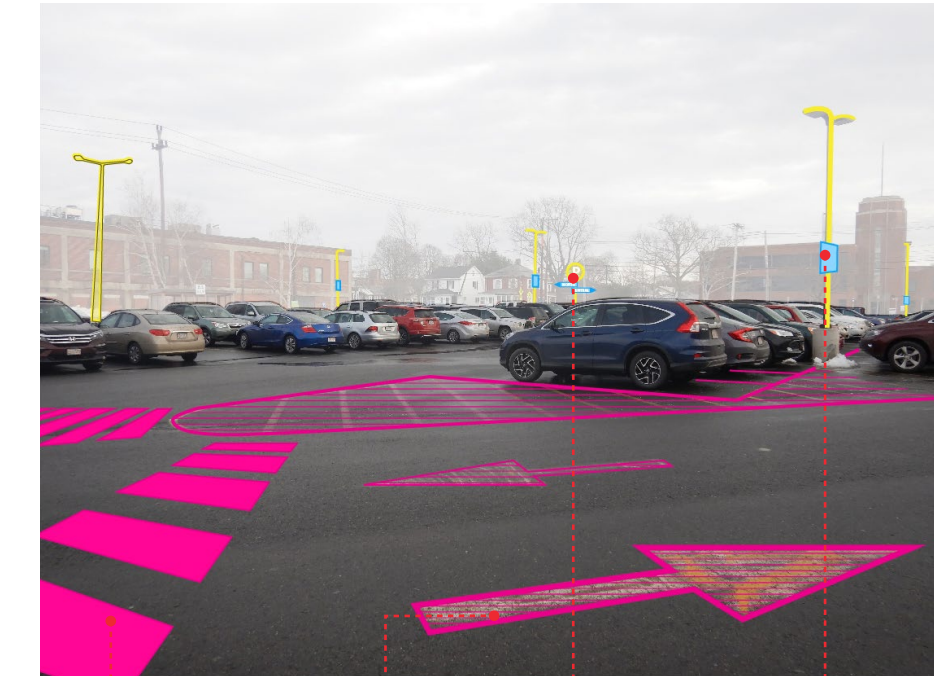




Stanley Lot

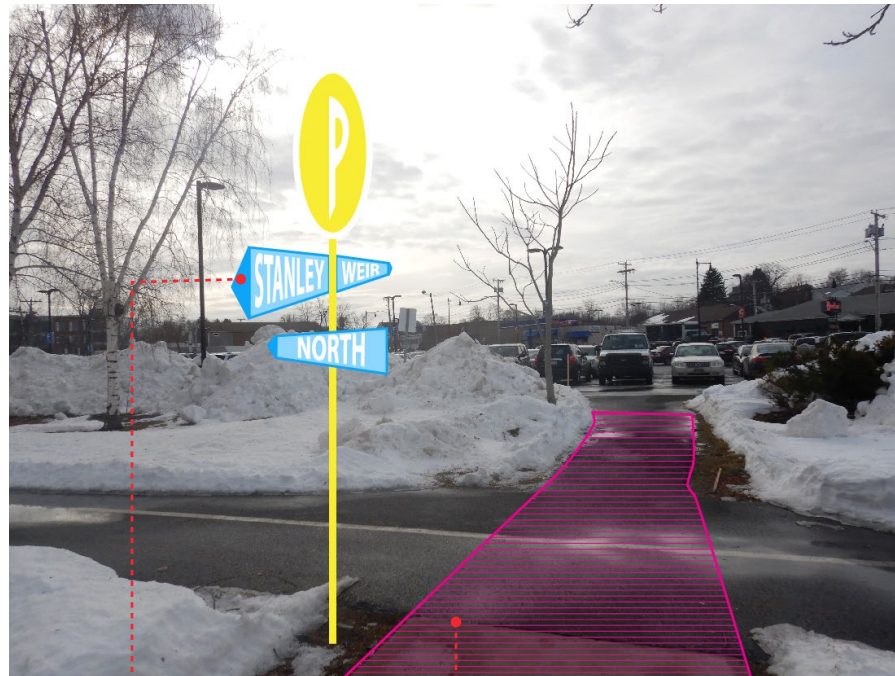


Canal St./Weir Lot





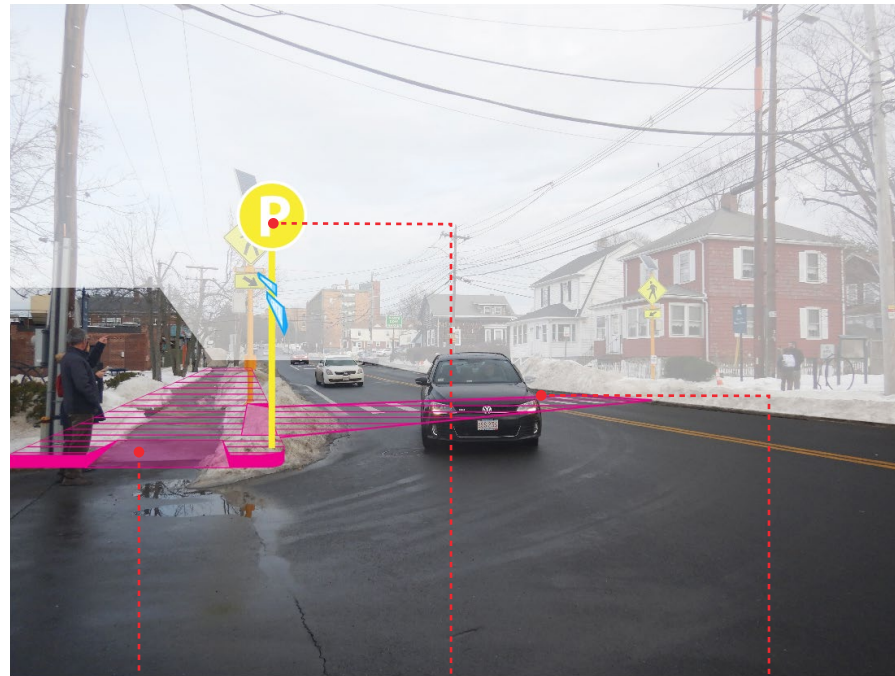
### Canal St./Weir & Stanley



Additional signage to guide visitors and SSU newcomers between lots and campuses

Highlight connection between Stanley & Canal St./Weir Lots

### Canal St./Weir & Stanley Access



Renovate sidewalks

Additional signage to guide drivers and pedestrians

Upgrade crosswalks for pedestrian and driver visibility

### Loring Ave. Streetscape

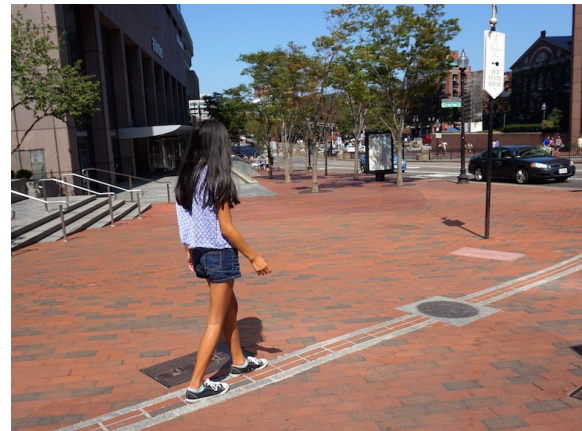


Add trees to shelter walk from Central Campus to Weir & Stanley Lots

Enhanced sidewalks to improve accessibility



# Pavement Guide Precedents



# Streetlamp Precedents





# Demand Management, Technology & Enforcement

Parking needs are shaped by supply and demand, both of which are subject to management. Demand management measures include:

- Providing alternatives to single-occupant-vehicle commuting
- Technological tools to help those who do drive find legitimate parking
- Communication and enforcement of parking regulations by both the City and SSU

## Technology

A variety of new tools are available to better manage parking and to provide users with useful, timely information. Wireless vehicle sensors can generate space occupancy data in real time and communicated via variable-message signage and mobile applications. Such information is valuable both to operators, for parking administration, and to users, for wayfinding and efficiency.



## Alternatives

- Bicycling and walking
- Telecommuting & Flex-time
- Ridesharing
- Transit - Campus Shuttle, MBTA Bus and (long-term) South Salem Commuter Rail

## Communication & Enforcement

Successful parking management depends on reinforcement of regulations through consistent communication and enforcement. SSU has a longstanding commitment to making parking policies fair, enforceable and clear. The City of Salem is also committed to enforcing parking regulations on neighborhood streets, and has recently increased staff for that purpose. SSU should continue to work with faculty, staff, students and neighbors to ensure that parking regulations and programs are understood, enforced and evaluated over time.



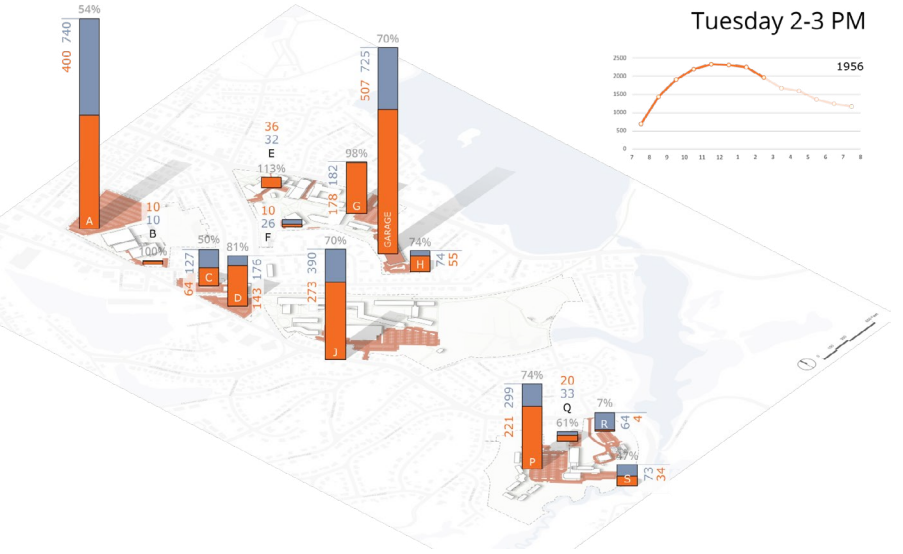
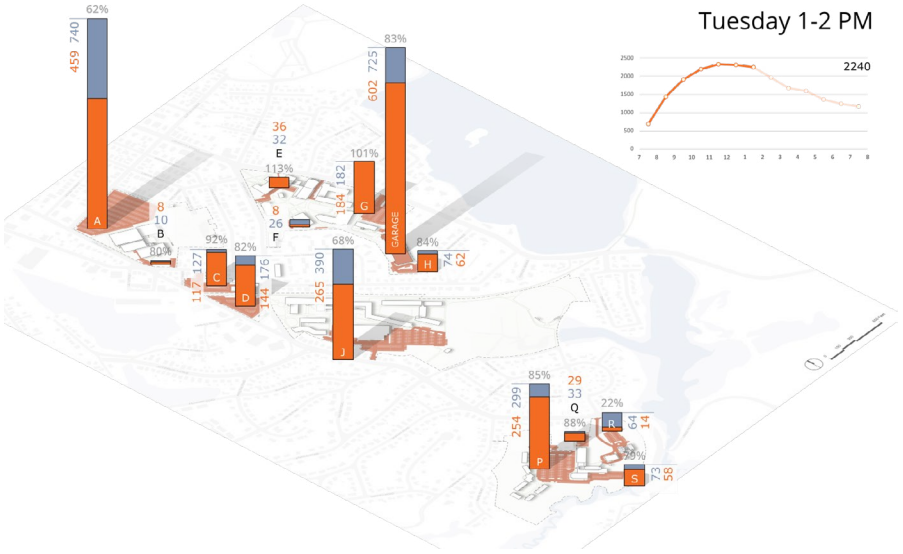
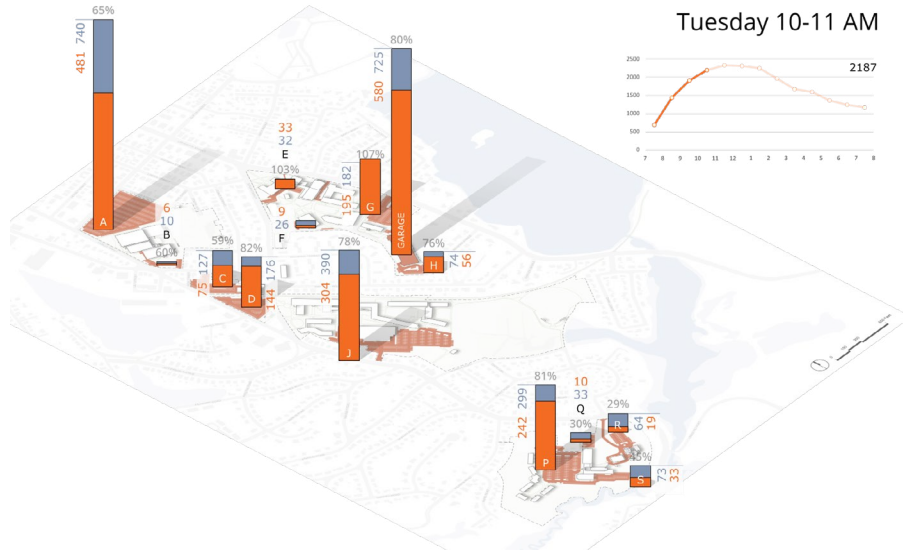
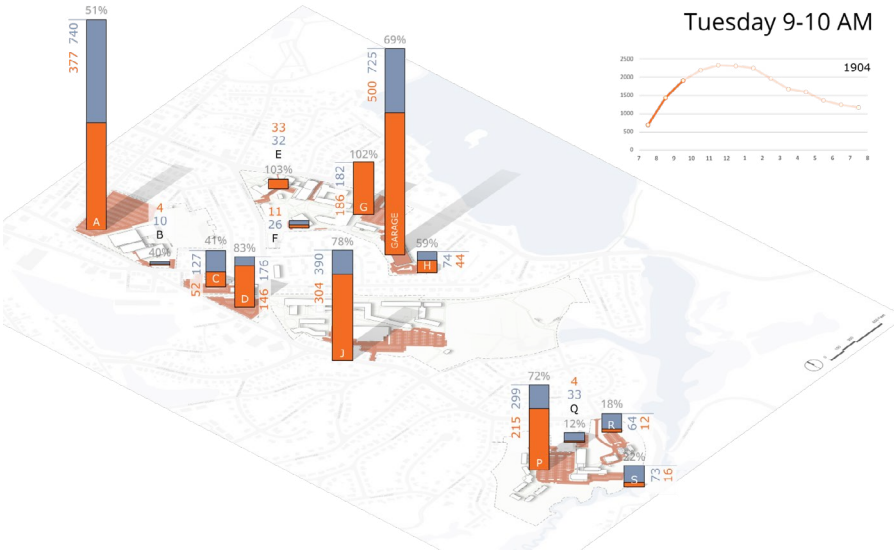
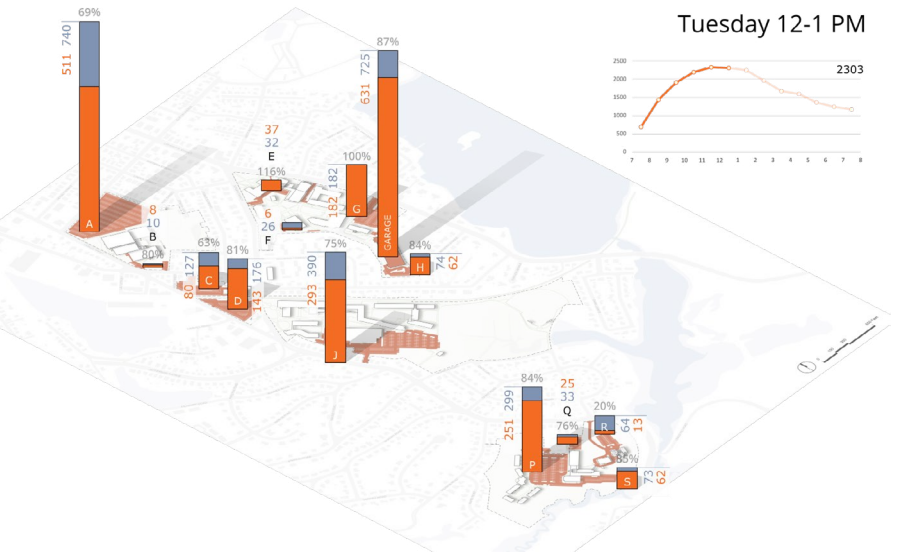
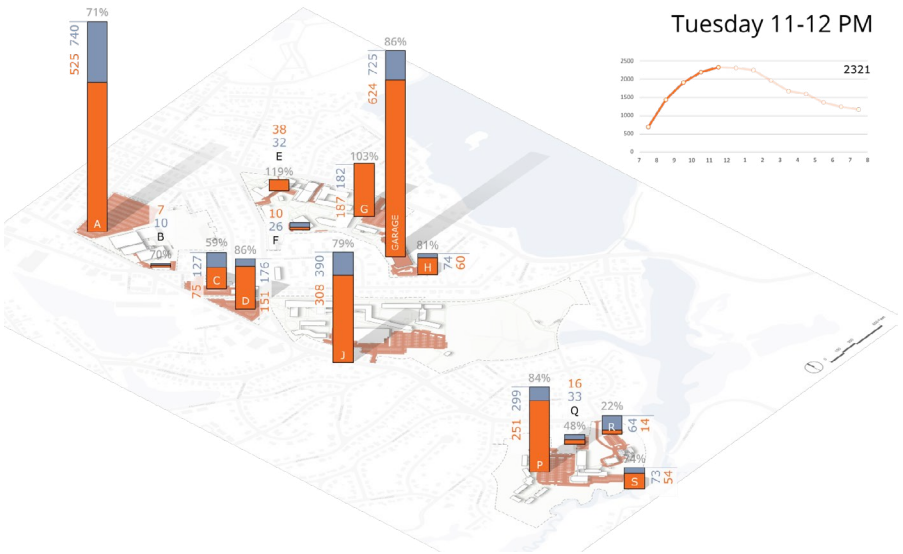
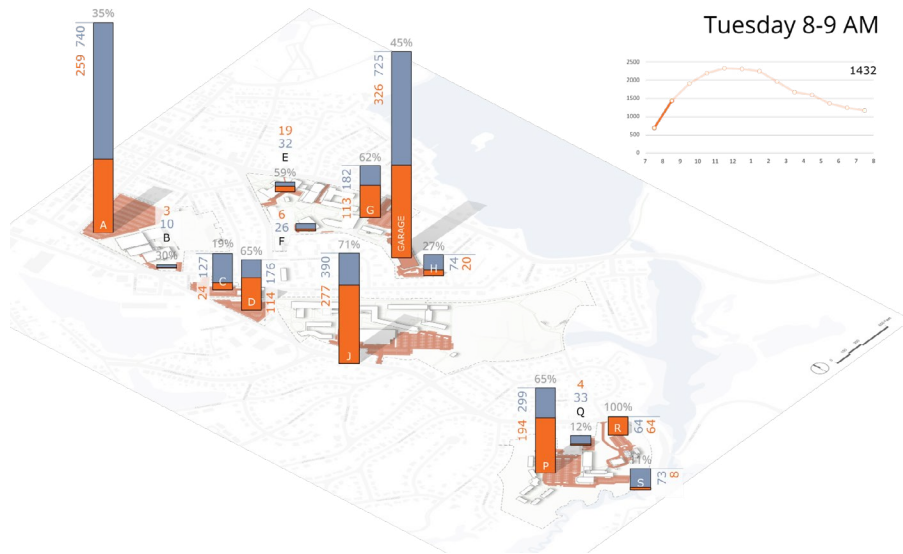
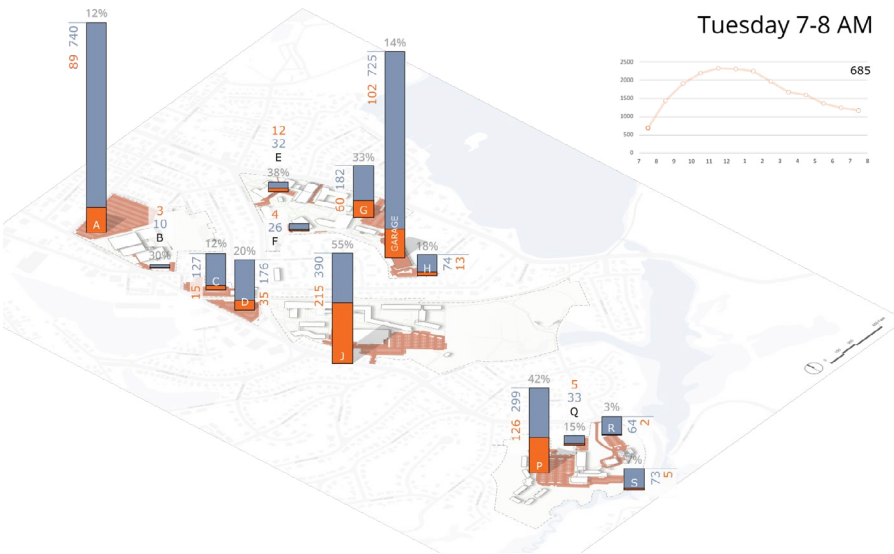


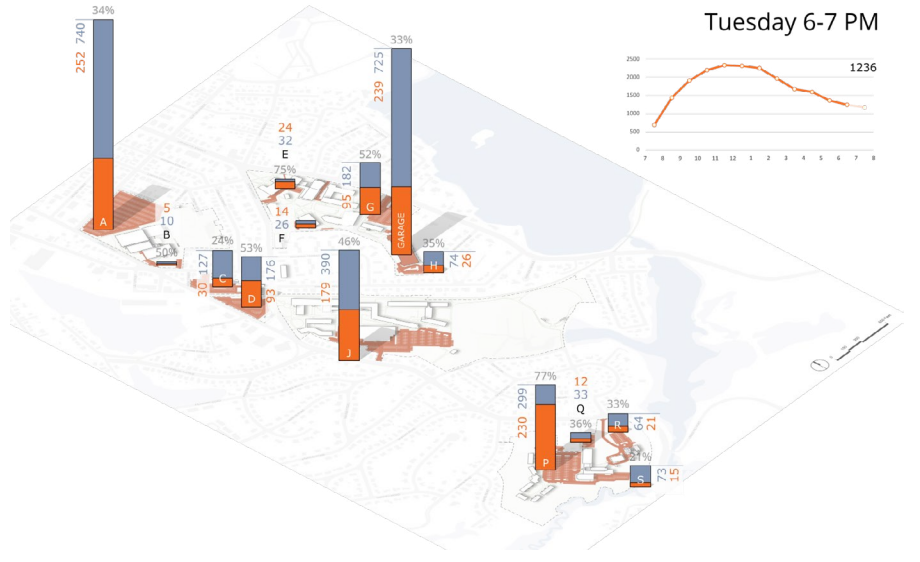
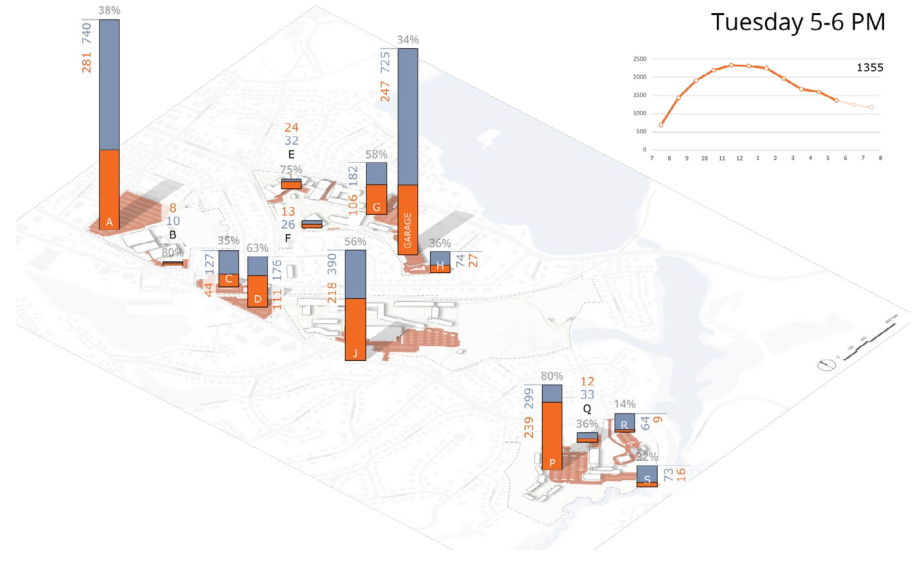
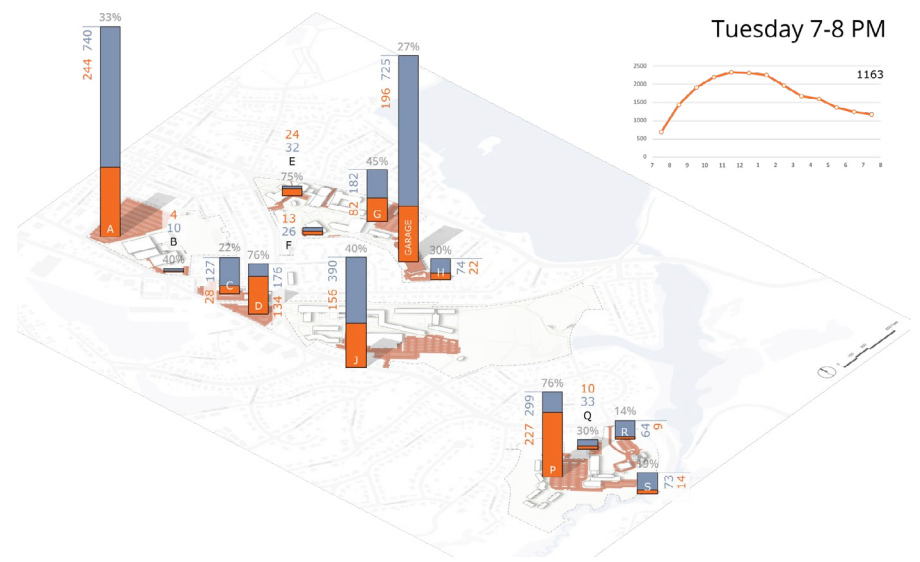
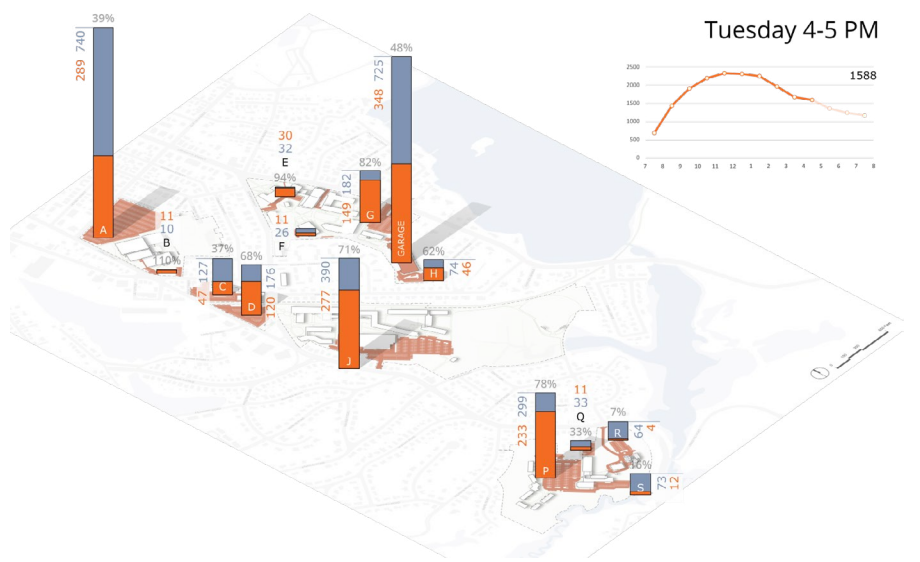
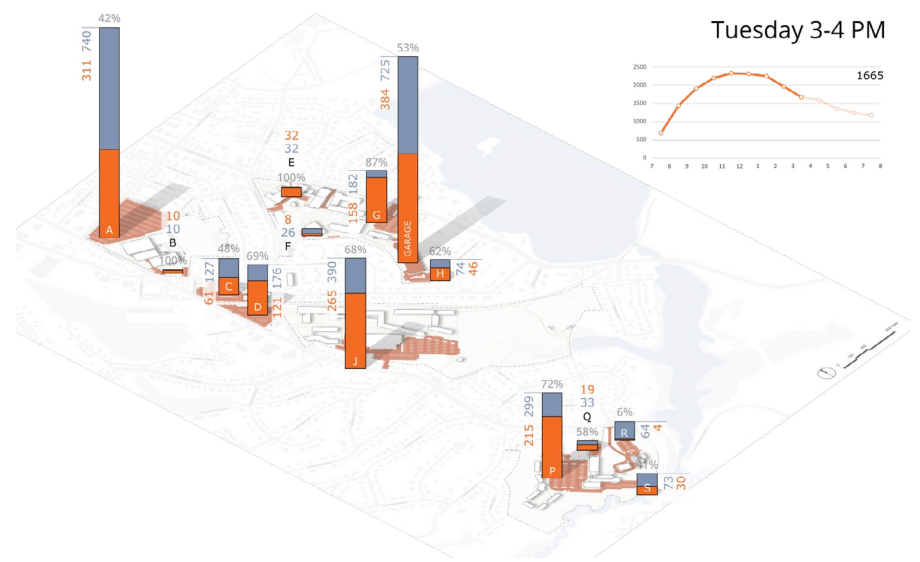
**APPENDIX:  
PARKING OCCUPANCY  
SURVEY RESULTS**



# Parking Occupancy by Hour

Tuesday, September 26th 2017







# Parking Occupancy by Hour Wednesday, September 27th 2017

