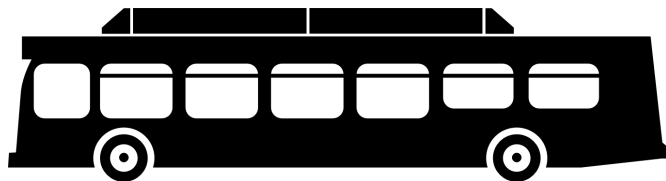
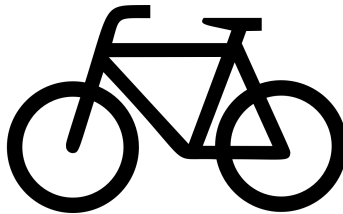


University of Oregon Student Transportation: Perceptions & Habits

Fall 2015
University of Oregon
Planning, Public Policy and Management



Acknowledgements

This report was compiled by students Corum Ketchum, Mitch Koch, Max Morrison and Madeleine McNally from the University of Oregon. The report is the result of ten weeks worth of data collection and analysis. It would not have come to fruition without the help of a few dedicated professors and city employees.

Thank you Professor Bethany Steiner, Jason Dedrick from the City of Eugene and Professor Bob Parker for your time and input.

Additional thanks is extended to Rob Inerfeld, Transportation Planning Manager from the City of Eugene.

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Introduction

In the Fall of 2015, we set out to gain insight into transportation trends among students at the University of Oregon. After meeting with Rob Inerfeld from the City of Eugene we decided to gather data about student car usage and ownership through parking trends, geolocation and qualitative data collection.

While forming our scope and methodology, we referenced a report published by graduate students in the Oregon Leaders in Sustainability (OLIS) program at the University of Oregon. Their report was conducted in 2013 and focused on parking characteristics of multi-family developments in the West University Neighborhood.

Our research and analysis spanned a ten week period -- October 1, 2015 to December 8, 2015. The result is this report -- a summary of our results and the policy implications of our results.

Scope

As our end result we wanted to be able to provide unique insight to the City of Eugene about student transportation behavior and provide recommendations for future research and student-targeted campaigns.

We conducted a survey to provide qualitative and quantitative data about student commuting behavior. We also collected data about parking utilization at five student housing complexes around Eugene. To analyze our data we conducted a spatial analysis using GIS to determine the accessibility to bike facilities and mass transit stops from the five student complexes.

Background

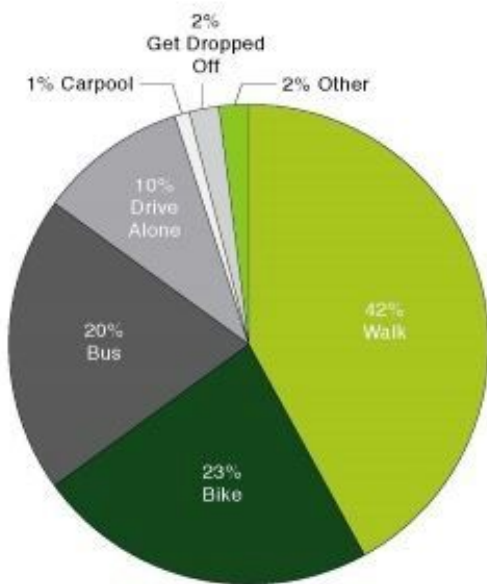
The city of Eugene has a 2030 goal of reducing emissions by 50% of 2010 levels (Envision). City traffic projections show that based on current trends, Franklin, Ferry Street Bridge, and other key intersections from campus are experiencing more traffic than capacity can allow (see Appendix B). University of Oregon student and faculty lots are already at maximum capacity. Steps must be taken

to reduce vehicle volume to and from campus in order to meet emission goals, and keep traffic moving smoothly in the city.

Student Population vs. Transportation Habits (2014)

The University of Oregon has a student population of 24,181 graduates and undergraduates (Registrar’s). Using a 2014 survey conducted by the UO Department of Transportation and Parking, over the course of one week from the end of February to the beginning of March the number of students using each of these means can be roughly extrapolated as such:

2014 Student Transportation Habits (Estimated)



Drive Alone	2,418.1
Carpool	241.8
Dropped Off	483.6
Walk	1,0156.0
Bike	5,561.6
Bus	4,836.2
Other	483.6

Source: <https://parking.uoregon.edu/sites/parking.uoregon.edu/files/UOTransportationGuide.pdf>

Parking costs on campus:

Student and faculty parking passes:

- \$300 per year for students
- \$400 per year for faculty and staff
- Pay to Park and Metered Parking
- 5 hour and 30 minute meters available, \$1.50 per hour. Pay to park lots are also \$1.50 per hour
- Additional free 2 hour parking off campus

See Appendix B for more information on different parking costs

All parking information and charts courtesy of UO Dept. of Parking and Transportation

Methodology & Results

Methodology: Survey

To achieve a better understanding of the transportation perceptions and behaviors among University of Oregon students, we conducted a survey and distributed it among various groups. These included the club baseball team, personal social media pages, and the listservs of the Department of Planning, Public Policy and Management, and LiveMove, a transportation planning student group on campus. We chose to distribute the survey among these groups due to time constraints and convenience. Listed below are several questions from the survey:

- *What made you bring your car to Eugene?*
- *What factors cause you to drive to campus?*
- *What do you wish you had known about Eugene before you came here?*

We used our results to discuss policy implications and provide education recommendations.

See Appendix A for complete survey.

Results: Survey

Our survey received 100 responses. This data is not based on a random sample and does not represent the views of the diverse student body of the University of Oregon. The majority of our survey respondents are affiliated with the sustainable transportation group, LiveMove, and the Department of Planning, Public Policy and Management. Because of this, we can assume the majority of our survey respondents have a preference towards sustainable modes of transportation. Due to the small sample size and non-random sample of this survey, we encourage the City of Eugene to use this data as a starting point for further data collection in the future.

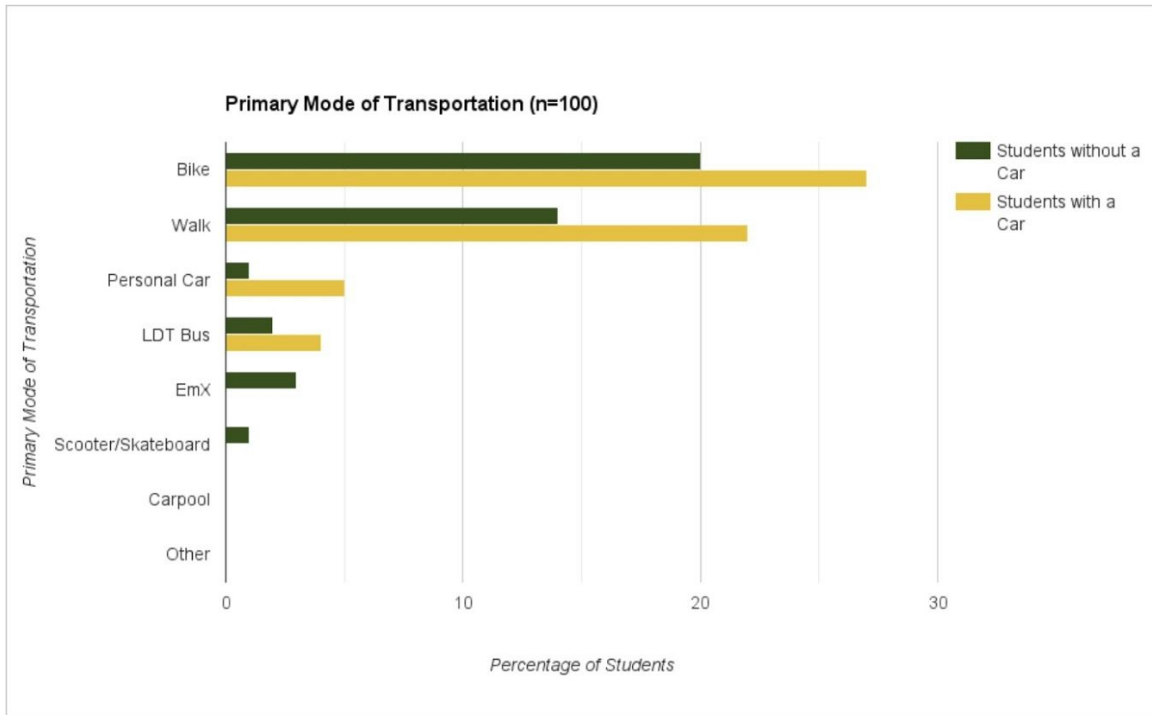
See Appendix A for survey data visualization by Google Analytics.

Based on the survey data, 58% of the respondents indicated they owned a car in Eugene. However, only 7% of all respondents indicated a personal car as their primary mode of transportation to school. The two most popular modes of transportation were biking and walking.

Figure 1, Primary Mode of Transportation, is a visual representation of students' primary transportation commuting to and from campus based on our survey

data. The graph compares the transportation habits of students who own cars in Eugene and students who do not own cars in Eugene.*

Figure 1.

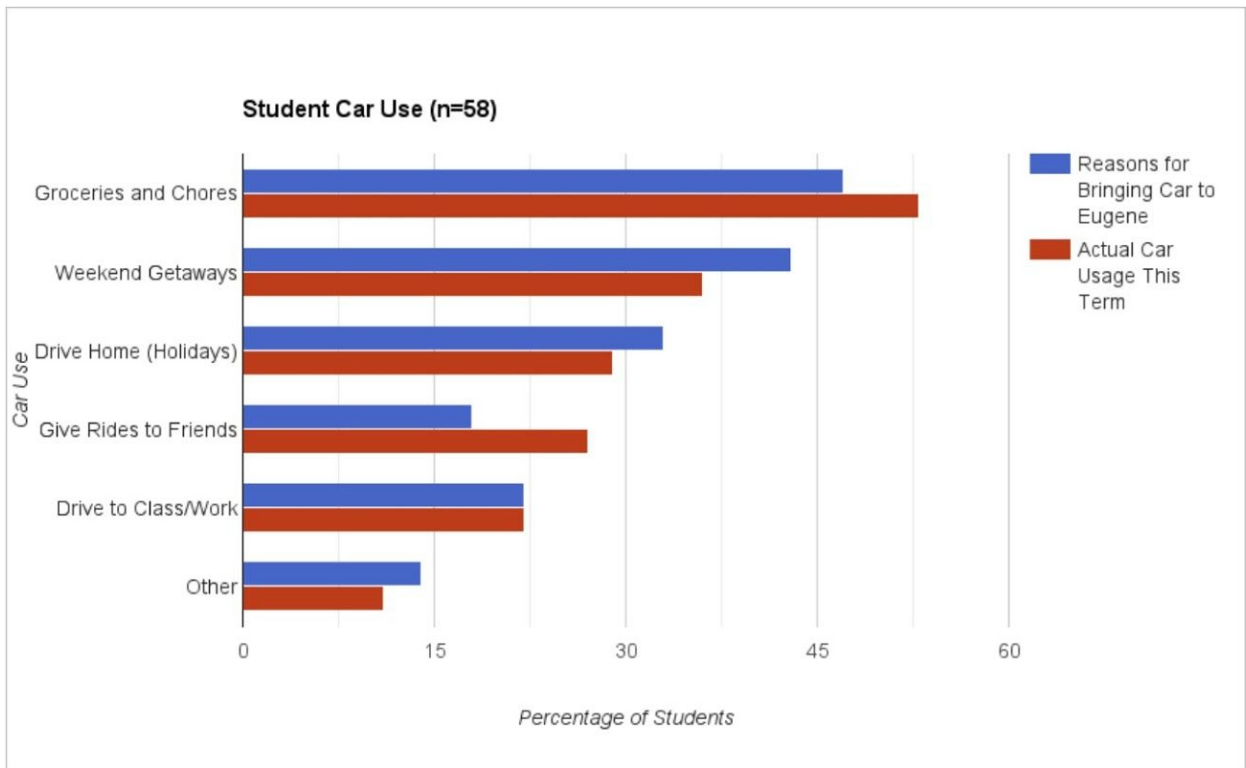


Source: Student Travel Behavior Survey 2015

Figure 2, Expected Use and Actual Use, is a visual representation of reasons for student car use beyond commuting to campus. In our survey we offered six reasons for car use -- Groceries and Chores, Weekend Getaways, Drive Home (Holidays), Give Rides to Friends, Drive to Class/Work, Other. The graph compares students' expected reason for car use to students' actual car use in Fall 2015. The "other" category generated answers about having children that needed to be transported, moving to Eugene permanently and using one's car to drive to college versus flying.

¹ *One participant indicated using a "personal car" to commute to campus, but indicated they did not own a personal car in Eugene

Figure II.



Source: Student Travel Behavior Survey 2015

While crafting our survey we decided to use travel time as a proxy for distance, as the average respondent is less likely able to accurately estimate distance, but would have a good sense of how long it takes them to commute. By pairing a respondent's commuting method with the time it took them, it is possible to generate an approximate commuting distance.

For example, we learned that most respondents (42%) who indicated biking as their primary mode of transportation had an average commute time of 6 to 10 minutes. The most common (27%) commute time for respondents indicating walking as their primary mode also had an average commute time of 6 to 10 minutes. However, the seven respondents who indicated personal car as their primary mode of transportation indicated a much longer commute time -- which indicates a much longer distance traveled. Two respondents indicated a 26 minute or over commute time. Two more indicated a 21 to 25 minute commute.

We asked participants who owned cars in Eugene where they parked on campus despite their primary mode of transportation. Survey participants were allowed to select multiple answers -- the two most common answers were Free On-Street 2 Hour Limit parking (47.2%) and Metered Parking (University or City) (39.6%).

Note: Although we were only working with 58 data points in regards to parking preferences, our results reflect a reality in parking behavior. In a previous section, "Student Parking Costs" (page 4), a student parking pass is shown to be \$300 annually. The University of Oregon Transportation Department seeks to maximize profits while maintaining a competitive commodity. This price point is set in order to attract a certain number of students, non-price sensitive students. Whereas, the price point is high enough to deter price sensitive students.

We asked the same participants who owned cars what factors cause them to drive to school. Once again, participants were able to select multiple answers. The two most commonly selected choices were Weather (45.5%) and Obligation Before/After Class (45.5%). The choice Other was the third most popular choice (34.5%). Respondents often cited familial obligations.

At the end of the survey we steered towards education-related questions. One of the final questions asked participants what they wished they had known about Eugene transportation before coming to the University of Oregon. 56% of the participants wished there was more information about bus routes advertised to students, 28% wished they had known how little parking there was, and 20% wished they had known how bike-friendly campus is.

The final question asked for general comments or concerns about accessibility to campus. There were a few recurring themes:

- Increased bus frequency at night and on the weekends - this was mainly talked about as a safety concern because people feel uncomfortable waiting at bus stops at night for an extended period of time, especially during winter when it is cold and dark.
- Rethinking campus parking for non-traditional students who have jobs and kids, and depend on cars.
- Adding a two-way bike lane on 13th avenue.
- Plan to reduce bike theft, because it currently deters students from bringing bikes to campus.

- More bus routes servicing Springfield from campus, students choose to live in Springfield because of the lower cost of living.

Methodology: Parking Utilization Case Studies

The second part of our data collection was used to calculate the fill rates of five student housing complexes near University of Oregon, which are listed below:

- 13th & Olive (1180 Willamette St, Eugene, OR 97401)
- Duck's Village (3225 Kinsrow Ave, Eugene, OR 97401)
- Skybox (1425 Villard St, Eugene, OR 97403)
- The Indigo (889 East 19th Ave Eugene, OR 97401)
- The Hub (515 E Broadway, Eugene, OR 97401)

We received permission from the five student housing complex offices to conduct four parking counts over the course of two weeks. We counted the number of parking spaces available at each lot the number of vehicles parked overnight at each lot, and the number of vehicles parked in the late morning at each lot. We collected the overnight data between 8pm and 10pm and the late morning data the following day between 10am and 2pm. We chose to collect data within these timeframes because most students are home at by 8pm on weeknights and most students leave home for classes between 10am and 2pm. We conducted one set of counts on either Sunday night and Monday morning or Tuesday night and Wednesday morning. We conducted the second set of counts on either Monday night and Tuesday Morning or Wednesday night and Thursday Morning. This allowed us to capture students who have Monday/ Wednesday classes and students who have Tuesday/ Thursday classes.

To calculate the fill rates of each complex, we divided the number of occupied parking spaces by the number of total parking spaces in each parking lot. We compared the overnight and late morning fill rates of each student housing complex to determine the change in fill rates. The change in fill rates will theoretically show the percentage of students that drive their cars to school from each of the selected student housing complexes. In addition to conducting parking counts, we also recorded the type of bike parking and its usage at each student housing complex.

Results: Parking Utilization Case Studies

Complex	Number of Units	Parking Type	Onsite Parking	Number of Spaces	Change in Parking Utilization	# of Mass Trans. Stops	Bike Parking Availability	Bike Parking Usage
13th and Olive (Main Garage)	375	Secured Interior	Included	500	-4.50%	54	Interior Cage	Full
Duck's Village	230	Unsecured Exterior	Included	521	-10.50%	7	Exterior Rungs, Bikes Locked on Balconies	Low
The Hub (Inside)-	183	Secured Interior	\$45/ Month	73	-17.50%	34	Interior Cage	Full
The Hub (Outside)	NA	Secured Exterior	\$45/ Month	117	+4%	NA	None	NA
The Indigo	6	Unsecured Exterior	Included	5	-20%	35	None, Bikes Locked to Railing	Moderate
Skybox	76	Unsecured Exterior	\$75/ Month	35	-1.5%	15	Exterior Rungs	Full

Description of Complexes and Implications of Behavior

Note that we cannot assume all occupants at the five complexes are students at University of Oregon; however, we did select these five locations based on their proximity to campus and advertising campaigns geared towards University of Oregon students. Some occupants may be young adults, recent graduates, or attend Lane Community College or Northwest Christian University.

13th and Olive: Large student housing project covering two city blocks, accompanied by two, 500-car garages. The higher utilized garage was surveyed.

- Moderate change in fill rate indicates that a small number of tenants drive to campus. Access to bus stops, the EmX, and some circuitous bike

routes, as well as a moderately short distance to campus, leads us to believe that this complex is well positioned to cut the number of drivers further. The other garage was near empty, showing a lack of demand from tenants for parking.

Duck's Village: A series of 2 to 3 level apartment buildings, outdoor parking, and common spaces for tenants in the center.

- Fairly high change in fill rate: It is a 4 mile drive to campus, but only a 1.5 mile ride or walk to campus. Access to the campus LTD line is available but underused. Perceptions around bus stop safety and the comfort of the bus ride (cleanliness, negative perceptions of the ridership) limit use. The limited lighting of the park may negatively impact the perception of safety using the path to commute to and from campus.

The Hub: A newly completed student housing complex: The closest to campus and the most expensive to live at. Two different lots belonging to the building were surveyed: One was an enclosed structure below the building, the other was approximately 1/4 mile down Franklin, going toward campus.

- A small positive change in fill rate on the far lot indicates more people use the lots in the morning, than leave to go to campus or work. The complex sells passes to non-tenants, this indicates that this program is used.
- Very high change in fill rate at the main lot shows that many of the students drive to campus, likely parking in metered or free parking, judging by survey results. This also indicates an unwillingness to walk or ride to campus. Suggestions for changes to the built environment will be discussed later.

The Indigo: A series of townhouses, with small parking lots, and a small number of units. Located just to the south of campus. 4 stories high with a dedicated parking lot.

- Deceptively large change in fillrate every morning, one of the 5 vehicles is gone every morning. This could be a person driving to campus, but could also be a work commute. The other tenants must use other methods for their morning commutes, and campus is near enough to be seen from the building. Pedestrian and bike features such as lights, sharrows, and bike lanes are missing from this block.

Skybox: About half the size of The Hub, and also located close to campus, this mixed-use apartment building sees many of its occupants walking or biking to campus. The unsecured bike racks outside are always full.

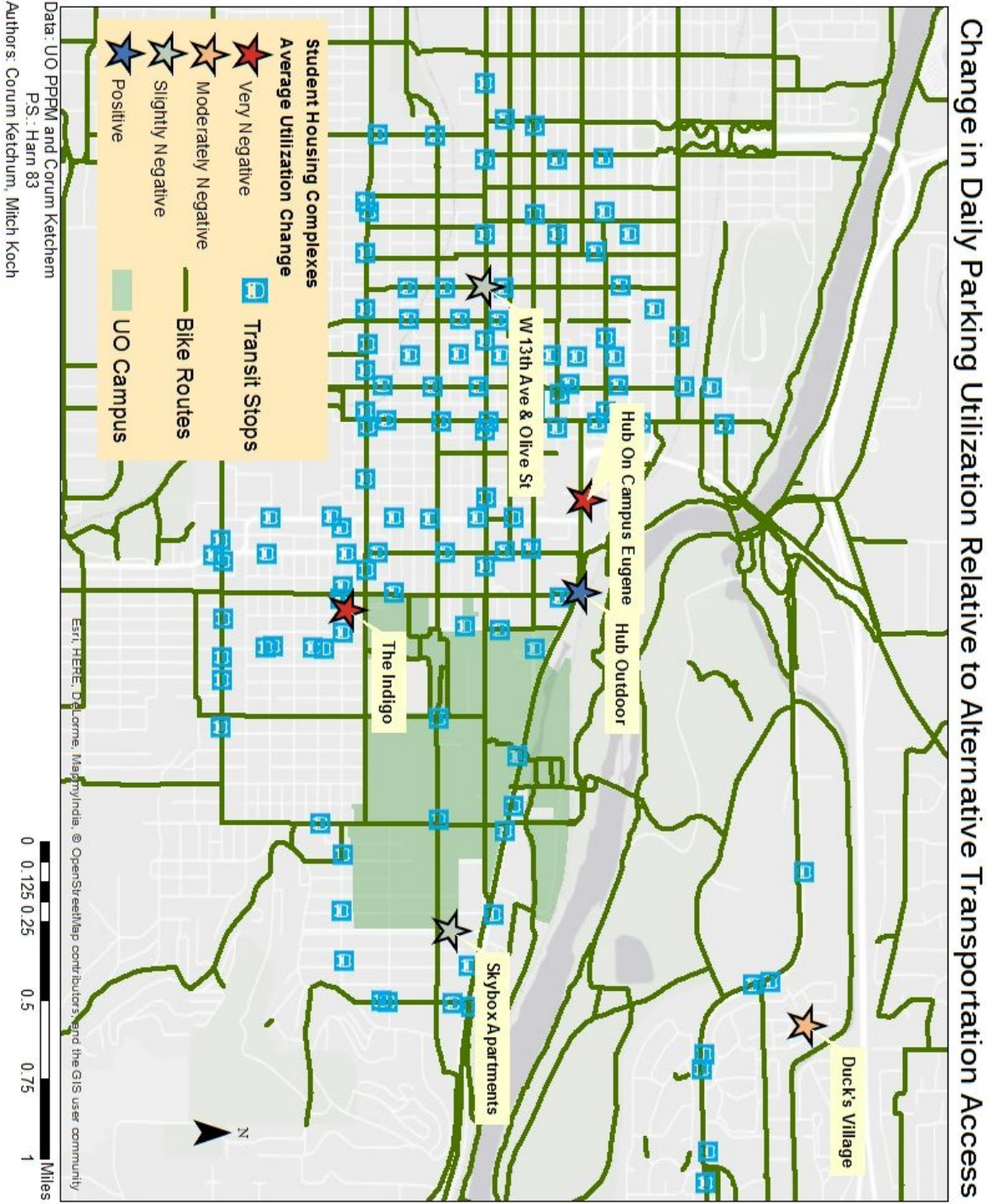
- A very small negative change in fill rate shows that many of the students walk or bike to campus, which is not surprising given the proximity to the university. The bike racks in front are always filled to capacity, showing strong support for cycling at this complex.

Methodology: GIS Analysis

Using GIS, we conducted a spatial analysis to determine the accessibility of bike facilities and mass transit stops for each student housing complex. We created a half-mile buffer to show the bike facilities and mass transit stops within a half-mile of each student housing complex. We also displayed the average change in fill rates of each student housing complex with different colors using natural breaks. The spatial analysis will help us determine any correlations between the change in fill rates of each student housing complex and the number of bike facilities and mass transit stops near them.

Results: GIS Analysis

A negative change indicates more vehicles have left the parking lot during the day, indicating daily vehicle use.



Recommendations

Survey Recommendations

- Providing an incentive to survey respondents was very conducive to obtaining greater survey participation. We included an optional space for survey respondents to enter their email address for a chance to win a Dutch Bros. gift card. Based on the survey results, 49% of the respondents entered their emails. While some survey respondents may have completed the survey regardless of the incentive, it is clear that the incentive increased the survey participation to a large degree.
- While crafting our survey, we took into consideration the demographic that we were targeting, University of Oregon students, and their attitude towards surveys. We chose to make the survey concise because college students value their time. We also introduced the survey in a way that would resonate with students by stating that it will aid the City of Eugene and University of Oregon in implementing future parking and transportation plans and policies that will directly affect University of Oregon students.
- Although our survey was non-random, distributed to a select group of students with sustainable transportation preferences, we learned how to effectively engage and gather responses. We learned that email listservs are an effective tool to distribute surveys. We recommend that the city is strategic about distributing material. The city should use existing listservs (i.e. academic departments, organizations and clubs) therefore, students will receive material from a familiar source versus an unknown email from the city. Students are more likely to open emails from their academic department listservs than promotional material from outside sources.
- Including a survey question that determines where survey respondents are from (i.e. in-state, out-of-state, or abroad) would have allowed us to compare car ownership across these demographics.

Education Recommendations

- Collaborate with the Office of Admissions at University of Oregon to ensure that incoming students receive information regarding transportation and parking options in Eugene prior to attending University of Oregon.

- Provide the University of Oregon Orientation Office with necessary Eugene transportation and parking information that the Student Orientation Staff can share with incoming students during campus tours and orientation sessions, both of which occur before students attend University of Oregon.
- Target students who will be moving out of campus housing and into off-campus housing prior to moving. University of Oregon Housing can provide these students with information regarding available transportation options around University of Oregon and Eugene.

Policy Implications

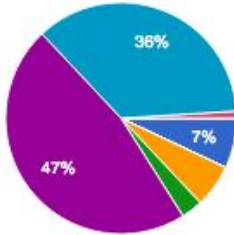
While we need more data to confidently recommend policy implementations, we have provided a list of possible policies that the City can further explore:

- Incentivising complexes to charge for their parking separately from the tenant's rent for future projects.
- Incentivising more bike parking, both secure and unsecure, at complexes.
 - This can be done by allowing complexes with more bicycle storage options to build less automotive parking, similar to what has been done in downtown Portland.
- Modifying off-campus neighborhood parking south and east of campus, as most respondents took advantage of the free parking.
 - Changing the duration of free parking zones
 - Stricter parking limits enforcement
 - Limiting the amount of free parking
- Increasing the quality of bicycle facilities, to encourage more bicycle use among students.
 - Safety: Lights and road condition
 - Safety was a common concern; especially for female survey respondents in regards to waiting at bus stops in the dark. We assume that the survey respondents would also feel unsafe walking or cycling through a dark park.
 - Providing more separate off-street bike facilities; ie 13th cycle track, buffered bike lanes.
 - Respondents indicated support for more bicycle infrastructure between various student housing complexes and campus.
- The Hub has no bike facilities on the south side of the building.

- Cyclists have to either ride on sidewalks, share space with busy, multi lane traffic, or ride north of the building on a side road that is not explicitly marked.
- Sharrows and signs to this road could help bikers navigate from this road to the bike path, and to the Franklin Boulevard/Alder Street crossing.

Appendix A: Raw Survey Data

1. What is your primary mode of transportation to get to campus?



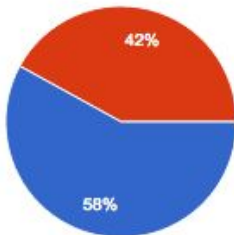
Personal Car	7	7%
Carpool	0	0%
LTD Bus	6	6%
EmX	3	3%
Bike	47	47%
Walk	36	36%
Scooter/Skateboard	1	1%
Other	0	0%

2. Using your primary mode of transportation, how long is your commute to campus from your place of residence?



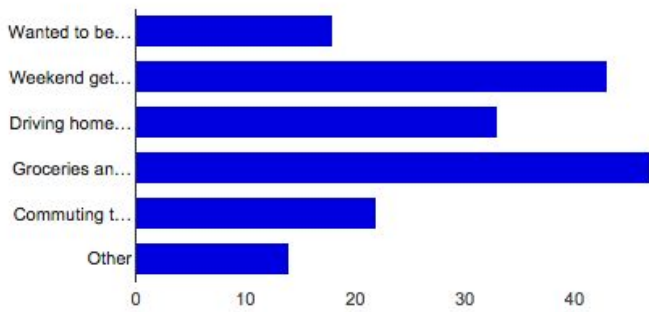
5 Minutes or Less	19	19%
6 to 10 Minutes	32	32%
11 to 15 Minutes	28	28%
16 to 20 Minutes	7	7%
21 to 25 Minutes	7	7%
26 to 30 Minutes	7	7%
Greater than 30 Minutes	0	0%

3. Do you own a car in Eugene?



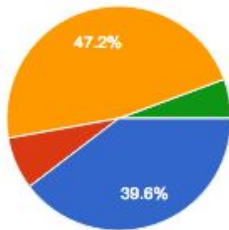
Yes	58	58%
No	42	42%

4. What made you decide to bring your car to Eugene?



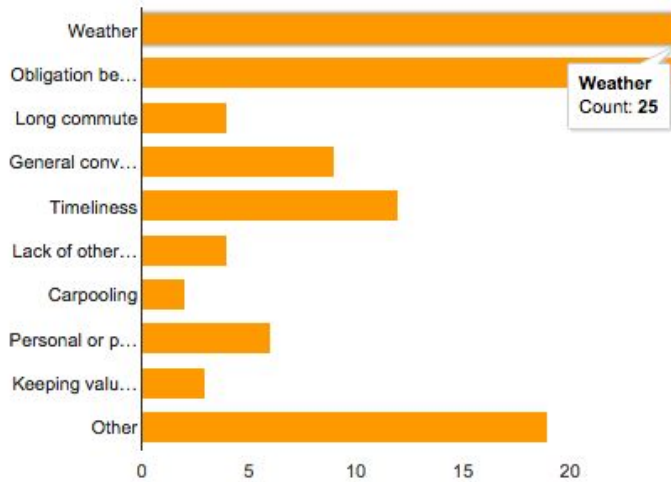
Wanted to be able to give rides to friends	18	30%
Weekend getaways	43	71.7%
Driving home on the holidays	33	55%
Groceries and chores	47	78.3%
Commuting to class or to work	22	36.7%
Other	14	23.3%

5. When you drive to campus, where do you normally park?



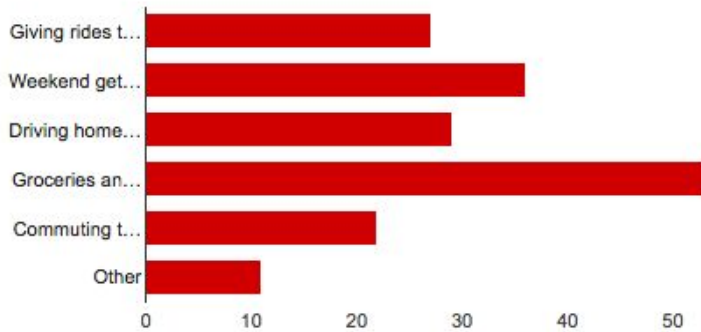
Metered Parking (University or City)	21	39.6%
University Permit Parking	4	7.5%
Free On-Street 2-Hour Limit Parking	25	47.2%
Downtown Parking Structure or Off Campus Parking	3	5.7%

6. What factors cause you to drive to campus?



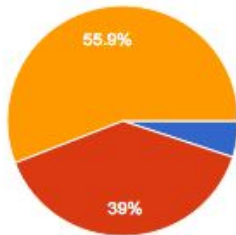
Weather	25	45.5%
Obligation before/after classes	25	45.5%
Long commute	4	7.3%
General convenience	9	16.4%
Timeliness	12	21.8%
Lack of other options	4	7.3%
Carpooling	2	3.6%
Personal or professional appearance	6	10.9%
Keeping valuables and homework safe	3	5.5%
Other	19	34.5%

7. As of this term, what do you use your vehicle for?



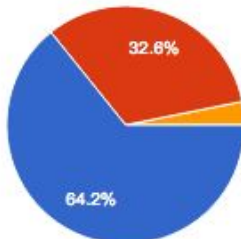
Giving rides to friends	27	45.8%
Weekend getaways	36	61%
Driving home on the holidays	29	49.2%
Groceries and chores	53	89.8%
Commuting to class or to work	22	37.3%
Other	11	18.6%

8. Are you driving more or less than you had originally expected?



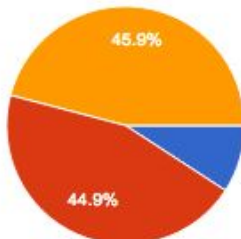
More than you thought	3	5.1%
Less than you thought	23	39%
About right	33	55.9%

9. On average, how many trips do you make to campus in one day?



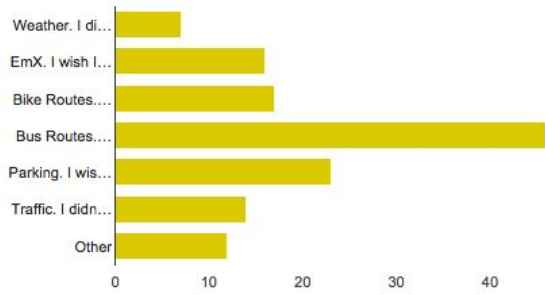
1 trip	61	64.2%
2 trips	31	32.6%
Over 3 trips	3	3.2%

10. On an average day, how long do you spend on campus, per visit?



<3 hours	9	9.2%
3-6 hours	44	44.9%
Over 6 hours	45	45.9%

11. What do wish you would have known about Eugene before you came here?



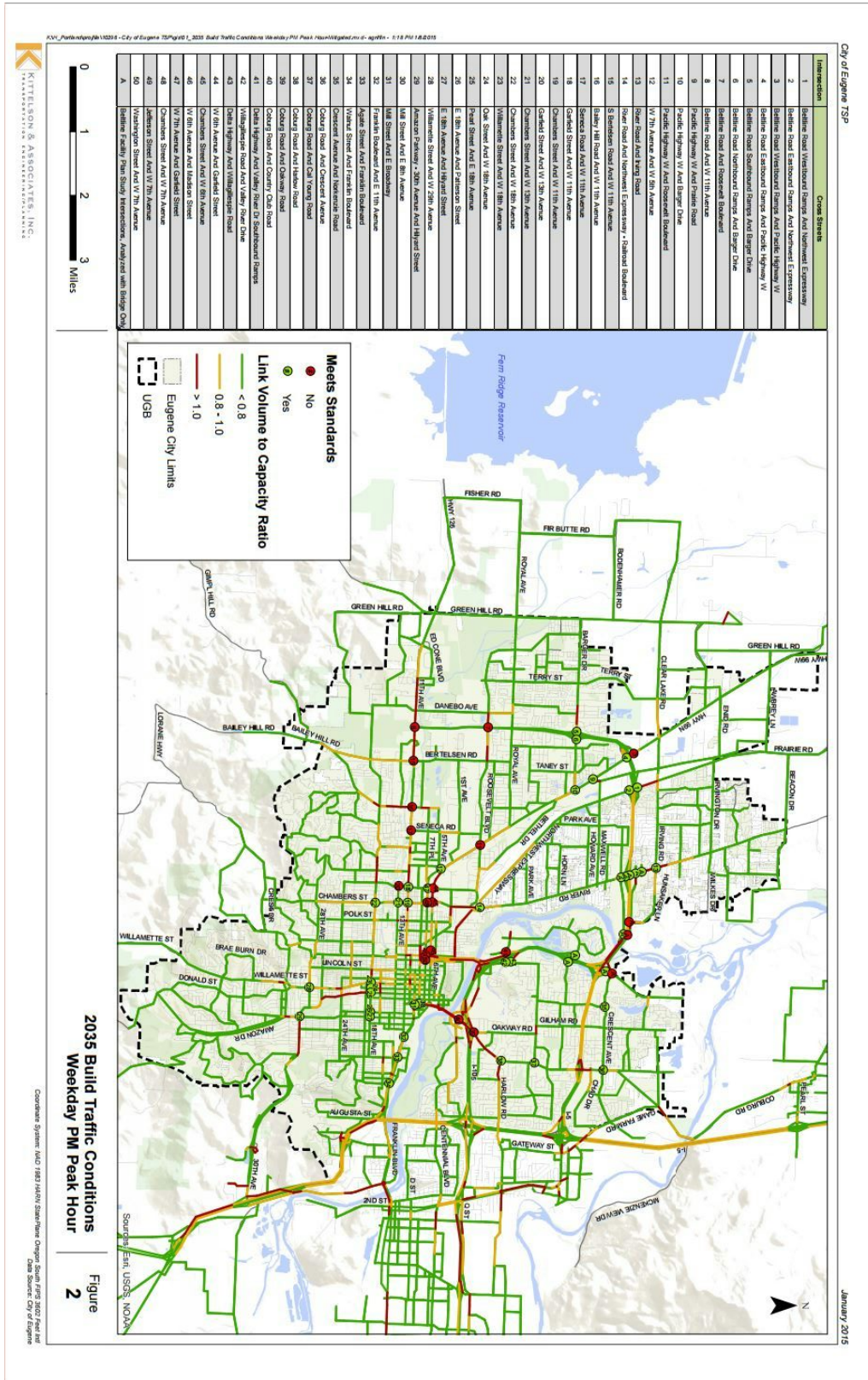
Weather. I didn't realize it was so wet, and that summers were so nice!	7	8.5%
EmX. I wish I had known about its service and schedule.	16	19.5%
Bike Routes. I didn't know biking was a viable option.	17	20.7%
Bus Routes. I wish routes, stops, and schedules and were advertised more clearly	46	56.1%
Parking. I wish I had known all the places I could have parked, and how much it would have cost.	23	28%
Traffic. I didn't know what to expect from rush hour and game-day traffic	14	17.1%
Other	12	14.6%

Appendix B: Parking & Traffic Data

DESCRIPTION	Regular Fee	Reserved Fee	Issue Amount
Faculty/Staff Daily Parker Hangtag	\$ 25.00		
Faculty/Staff Daily Voucher	\$5.00 per day		
Faculty/Staff 1 Term	\$ 105.00		\$ 105.00
Faculty/Staff 9 Month	\$ 315.00		\$ 315.00
Faculty/Staff 12 Month	\$ 420.00		\$ 420.00
Twilight 9 Month	\$ 112.50		\$ 112.50
Twilight 12 Month	\$ 150.00		\$ 150.00
Reserved, 7am-6pm, 9 Month	\$ 315.00	\$ 904.50	\$ 1,219.50
Reserved, 7am-6pm, 12 Month	\$ 420.00	\$ 1,206.00	\$ 1,626.00
Reserved, 24/7 9 Month	\$ 315.00	\$ 1,023.75	\$ 1,338.75
Reserved, 24/7 12 Month	\$ 420.00	\$ 1,365.00	\$ 1,785.00
Emeritus/Retired Faculty/Staff	No Fee		\$ -
Disabled, Temporary	Based on time allotted	No Fee	\$ -
Disabled, Permanent, Faculty/Staff	\$ 420.00	No Fee	\$ 420.00
Disabled 12 month, Student Daytime	\$ 360.00	No Fee	\$ 360.00
Student Daytime, 1 term	\$ 90.00		\$ 90.00
Student 9 Month	\$ 270.00		\$ 270.00
Student 12 Month	\$ 360.00		\$ 360.00
Student Monthly	\$ 30.00		\$ 30.00
Grad Village (Lot 44 only)	\$84.25 per month		\$84.25 per month
Barnhart (Lot 50) & Riley (Lot 49) only	\$252.75 per term		\$84.25 per month
Student Overnight Lots 33, 34E, 51, and 54	\$252.75 per term		\$84.25 per month
No UO Status, Affiliate	\$600.00 per year		\$ -
Carpool, 9 Month	\$ 150.00		
Carpool, 12 Month	\$ 200.00		\$ 200.00
Reserved, Carpool 9 Month	\$ 150.00	\$ 904.50	\$ 1,054.50
Reserved, Carpool 12 Month	\$ 200.00	\$ 1,206.00	\$ 1,406.00

Parking Costs, University of Oregon Department of Parking and Transportation

TLS Map



Appendix C: Contacts

To obtain information regarding any of the topics studied within this project, the following is a list of names and their corresponding telephone numbers that could be of assistance:

- 13th and Olive offices - 541.685.1300 - scarptenter@capstonemail.com
- Duck's Village offices - 541.485.7200
- Von Klein offices (regarding the Indigo) - 541.485.7776 - vkpm@vonkleinrentals.com
- Skybox offices - 541.393.8080 - info@livearenadistrict.com
- The Hub offices - 541.844.0149
- Gwendolyn Bolden, University of Oregon Director of Parking and Transportation - 541.346.5796 - gbolden@uoregon.edu

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