CLACKAMAS
COMMUNITY COLLEGE

2014 Comprehensive Transportation Study

Conducted and Compiled by Adam Moore, Hatfield Resident Fellow

adam.moore@clackamas.com

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Acknowledgements

This document is the result of a collaborative effort among many different parties at Clackamas Community College, without whose input this work would not have been possible.

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Executive Summary

The costs of driving are extremely high. In fact, driving-related expenses have outpaced tuition expenses for many years. Today, tuition at CCC has roughly doubled from the 1970s. The cost of driving, though, has quadrupled. And yet transportation costs are often not factored into the cost of an education the same way that books, lodging, and childcare are. Minimizing transportation costs should be a goal of every educational institution to help ease student financial burdens.

Clackamas Community College, recognizing the important role transportation plays in a CCC education, commissioned in Spring 2014 a dedicated and comprehensive transportation study to assess the current state of affairs and make recommendations for improvement. Adam Moore, a Hatfield Resident Fellow through the Portland State University Hatfield School of Government, was hired to compile the report.

The eight-month study provides CCC with an assessment of the current states of affairs and guidance for future directions, analyzing the many modes of transportation that provide access to CCC's campuses, and the ways those modes interact. The study makes a case for the reduction of single occupant automobile travel through the promotion of alternative modes of transportation. It provides an update on initiatives that were started during Adam Moore's tenure and details the need for future efforts.

Overview

More can be done to maximize the effectiveness of existing infrastructure and mitigate demand for stressed systems before resorting to capital improvements that demand substantial resources. This study examines transportation improvements not covered in the 2006 CCC Master Plan. It focuses on solutions that are quick to implement, substantial in their impact, and often virtually free. It also recommends larger projects, though very few capital improvements.

Parking

The general sentiment at CCC is that parking on campus is a hassle and finding space can be difficult. This goes against the data, which show overall parking capacity to be plentiful, if unevenly distributed during peak hours. To begin the process of shifting student perception, in any transportation marketing material, parking advice is being given that directs students to the Barlow parking lot in place of the Niemeyer and Rook/DeJardin lots. The suggestion is phrased to help students understand they are ultimately saving time by going straight to a parking lot with space instead of circling around a lot that is at capacity. Efforts should be made to formally name each parking lot, for the purposes of easier wayfinding.
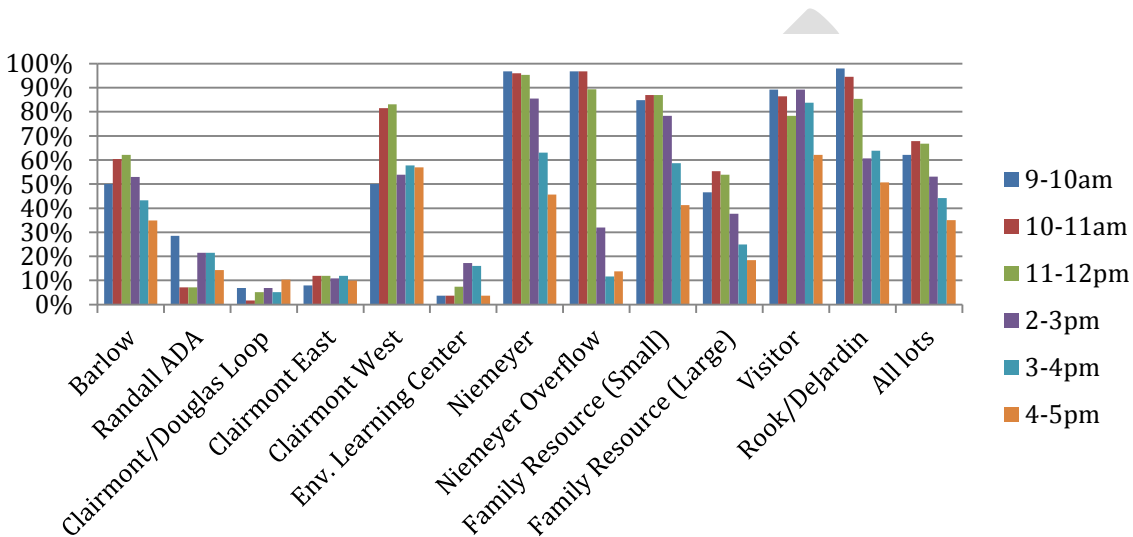
Figure 1 Parking capacity on April 8, 2014 (second week of Spring Term classes)

Improving CCC Transportation 2014

At the outset of the study in April 2014, very little was known about current student travel habits, general transportation option awareness, or willingness to explore transportation options. To gather information and begin to develop a current state analysis, the Improving CCC Transportation 2014 survey was given to students, faculty, and staff between May 19 and May 31, 2014. The survey investigated opinions on specific transportation situations, mode choice to get to CCC, and any desired transportation improvements. Opportunities for open-ended feedback were provided. The survey was distributed to 2332 students, 415 faculty, and 213 staff. Response rates of 22%, 37%, and 58% were achieved, respectively; the student response rate was the greatest of any online survey in the school's history.

The survey was a resounding success from a response rate point of view. Extremely valuable feedback was garnered for a variety of scenarios that helped to direct the remainder of the transportation study.

Significant findings from the survey include:

- 70% of students drive alone to get to campus
- 25% of students report having had to drop or miss a class due to a transportation barrier
- 40% of students would consider ridesharing/carpooling if they had help finding a partner
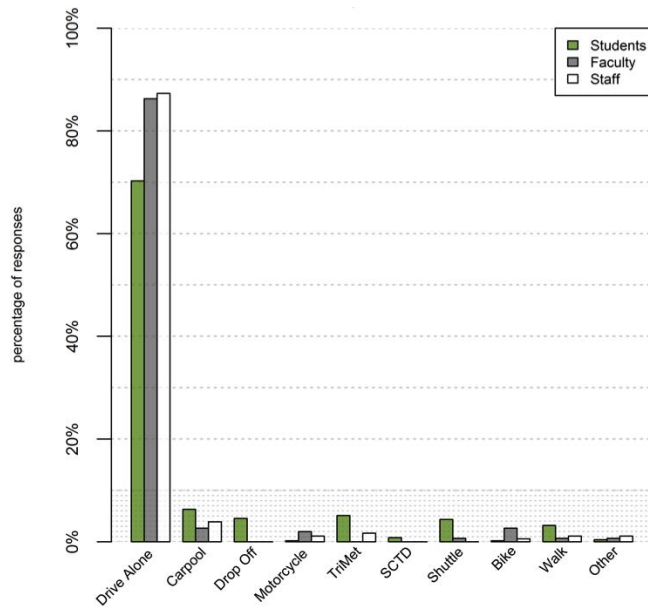
Figure 2 Mode choice of students, faculty, and staff

CCC Xpress Shuttle

30% of students revealed in the Improving CCC Transportation 2014 survey that they did not know the shuttle existed, and a number of free responses in the survey revealed they did not know whether the shuttle is free (it is) and whether it is restricted to CCC students with ID cards (it is open to the public). Many students commented they had heard rumors of the shuttle service coming to an end (it isn't).

The shuttle is very much a success. Many students recognize it as an essential fixture in CCC's transportation network. Ridership has been generally increasing since the shuttle's launch, and at a faster rate in recent academic terms.
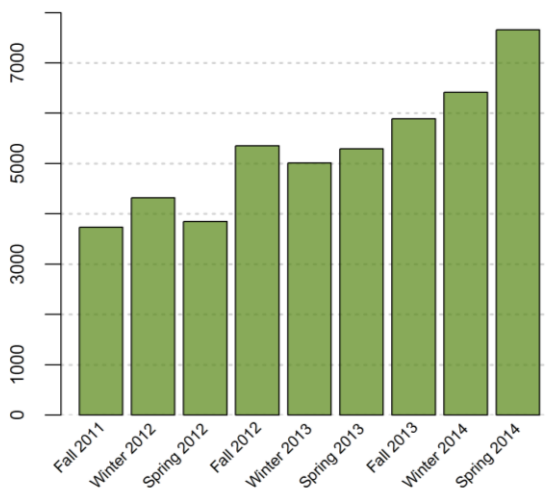
Figure 3 Historic CCC Xpress Shuttle ridership

Shuttle branding was recognized as one of the key shortcomings of the shuttle. The shuttle name, appearance, and signage were all evaluated and determined to need improvement. The shuttle was rebranded CCC Xpress at the start of the Fall 2014 term to better denote the shuttle's purpose and destinations from its previous name, "Towncenter Xpress." The two shuttle buses were "wrapped" with CCC's most recent marketing branding. New signs were designed that featured colors consistent with the most recent marketing branding, the "CCC Xpress" name, and a shuttle bus icon.

The CCC Xpress Shuttle has received praise for its current service area given its young age and has also received many requests to consider expanding to new areas. The most frequently cited extensions are CCC Wilsonville campus and the Oregon City Transit Center in downtown Oregon City. Expanding to these locations should be a priority in the shuttle planning process.

The shuttle is currently funded through a combination of the TriMet-administered Job Access and Reverse Commute (JARC) grant and the student general fund. The JARC grant will last through Spring 2016, at which point its annual $45,000 contribution to shuttle operations will need to be supplemented with another funding source.

Consideration should be made for partnering the shuttle with other organizations, institutions, or agencies to share the burden of shuttle funding and operation. This possibility has been brought up in meetings with the City of Oregon City and in a Clackamas County shuttle task force.

Transit Partnerships

At the outset of this study, very little was being done to communicate consistently with transit agencies. Communication is critical to ensure that transit agency initiatives are in the best interest of CCC and its student body, especially for an agency the size of TriMet, which exerts considerable influence on regional travel habits. Since that time, many transit partnerships have been formed.

TriMet has been invited to "table" at all student orientation events. A representative was sent to the Fall 2014 events to distribute promotional material, bus and MAX schedules, and to answer questions.

Information on the CCC Xpress Shuttle system was presented to the TriMet Board of Directors at the monthly board meeting in October 2014. The board was briefed on the shuttle improvements, including branding and signage, and goals like increased ridership and increased service area. They were very receptive to the shuttle and lauded CCC's efforts to supplement TriMet service where it may best serve student interests.

CCC does not offer subsidized student transit passes and remains one of the only institutions in the region to lack this service. TriMet's Select Term Pass Program is designed to help schools offer discounted passes. Under the program, a monthly pass that normally costs $100 can be had for $90. CCC can investigate offering this service for students as soon as the Winter 2014/2015 term.

CCC Website: Transportation Hub

At the outset of this study, CCC had three webpages dedicated to transportation. The pages did not necessarily originate in the same location (they were located in different menus from the main page). The shuttle page was often featured on the main page to help promote shuttle use, but parking and transit information were buried deeper in the website.

Creating a main transportation landing page with links to all relevant modes of transportation became a priority. The Transportation Hub, as it is branded, was conceived to serve as a repository for a new student to learn more about all the different ways to get to each campus and for a current student to access information like shuttle arrival times or TriMet's Trip Planner tool.

The Transportation Hub is located at www.clackamas.edu/transportation - a simple, easy-to-remember, and intuitive address. From the landing page, clear icons with descriptions highlight all modes:

- Driving (specifically, parking)
- Public Transportation
- CCC Xpress Shuttle
- Rideshare
- Bike/Walk

Transportation Systems Manager

Many of the initiatives identified over the duration of this study, as mandated by the findings of the Improving CCC Transportation 2014 survey, will require steady and ongoing oversight. A dedicated transportation systems manager will be needed to efficiently, reliability, and consistently monitor the CCC transportation network and address challenges as they arise.

Oversight will include:

- Shuttle management
- Parking management
- Transit partnerships with all regional agencies, including steady communication
- Transit management, especially concerning subsidized student transit passes
- High school transportation coordination, with counselors and directly with high school students
- Rideshare promotion
- Transportation Hub website upkeep
- Data collection and analysis, including iterations of the Improving CCC Transportation survey
- Coordination with Marketing, Social Media, Institutional Research, and other departments
- Address student feedback and provide responses
- Report to ASG, College Council, Presidents' Council, and Board of Education, when appropriate
- Capital project input, including input on the Meyers Road extension and similar projects
- Public meeting attendance
- Task force input, including Clackamas County shuttle task force input

Summary of Recommendations

Here the recommendations made in the report are listed, including references to the reasoning behind each recommendation.

Table 1 Summary of Report Recommendations

Deploy a transportation survey at least every other year and more often if possible. Survey questions should remain as consistent as possible between implementations, to better allow for comparisons year-over-year. Changes to the current survey instrument should be weighed carefully against the value of longitudinal analysis.	Page 26
Create a packet or brochure with information on transportation options that takes high school schedules into account. This packet should be shared with CCC outreach coordinators, who in turn can share it with high school counselors and high school students at outreach events.	Page 49
Prominently feature the Transportation Hub website on all transportation-related marketing and outreach material. Continually update the Transportation Hub website to keep it current and informative.	Page 52
Remain in discussions with the Clackamas County shuttle task force and the City of Oregon City. A person or an entity should be designated that can maintain these connections. Additionally, CCC should be involved in Clackamas County Coordinating Committee (C4) meetings, as these meetings concern land use and transportation issues in the region.	Page 55
Add reserved parking lot spaces for ridesharers in a few desirable locations to help increase awareness, and, more importantly, provide incentive to rideshare.	Page 62
Name each parking lot and place a sign at each entrance. Conduct routine parking occupancy counts.	Page 63
Establish shuttle routes to CCC Wilsonville campus and the Oregon City Transit Center. Begin discussions for the replacement of the JARC grant that funds the majority of shuttle expenses. Consider a second shuttle stop on the CCC Oregon City campus by Clairmont Hall. Develop a feedback response template for the ASG feedback hotline	Page 68
Designate a dedicated transportation systems manager to efficiently, reliability, and consistently monitor the CCC transportation network and address challenges as they arise.	Page 73

Introduction

Imagine Clackamas was a community engagement process, specifically designed to bring the college into its 50th year of service in 2016. Its goal was to understand what the Clackamas Community College (CCC) community most values and to protect those long-term interests. The endeavor, which ran from 2012 into 2013, uncovered a variety of student concerns. The second most-often mentioned concern was transportation to CCC. Specific concerns were public transportation, parking availability, and transportation affordability.

That transportation affordability is such a great concern for CCC students could be considered unsurprising; CCC is an auto-oriented campus and any other mode of transportation has been "shoe-horned" into the infrastructure. One would be forgiven for assuming driving is the only practical way to get to campus, and the costs of driving are extremely high. In fact, driving-related expenses have outpaced tuition expenses for many years. When CCC was coming of age in the 1970s, tuition was $47 per credit hour (adjusted for inflation) and the cost of driving was $2,154 per 15,000 miles (adjusted for inflation). Today, tuition at CCC is $84 per credit hour – roughly doubled from the 1970s. The cost of driving, though, has quadrupled to $8,876 per 15,000 miles[1]. And yet transportation costs are often not factored into the cost of an education the same way that books, lodging, and childcare are. Minimizing transportation costs should be a goal of every educational institution.

The college, recognizing the important role transportation plays in a CCC education, commissioned in Spring 2014 a dedicated and comprehensive transportation study to assess the current state of affairs and make recommendations for improvement. Adam Moore, a Hatfield Resident Fellow through the Portland State University Hatfield School of Government, was hired to compile the report.

Improving CCC's transportation network is about more than institutional competitiveness or environmental awareness; easing transportation burdens is to alleviate one of the most significant barriers to higher education. Thus, the comprehensive transportation study was primarily approached from the point of view of student access and student retention, with environmental and competitive enhancements understood to be incidental benefactors of any improvements.

The eight-month study provides CCC with an assessment of the current states of affairs and guidance for future directions, analyzing the many modes of transportation that provide access to CCC's campuses, and the ways those modes interact. The study makes a case for the reduction of single occupant automobile travel through the promotion of alternative modes of transportation. It provides an update on initiatives that were started during Adam Moore's tenure and details the need for future efforts.

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[1] AAA "Your Driving Cost" Annual Study

Strategic Priorities

The study, branded the CCC Comprehensive Transportation Study, is positioned within the context of the CCC 2013-2016 Strategic Priorities. The Strategic Priorities focus the college's energies on four goals:

1. Increase retention and persistence
2. Increase credential completions, transfers, job placements
3. Stabilize the college's fiscal health
4. Improve community connections

Of these goals, Goals 1, 2, & 4 are directly relevant to addressing student transportation concerns. These three Strategic Priorities served as the foundation and justification for the transportation study.

Study Overview

The study can be broadly separated into two categories: assessment and recommendations.

Assessment

The purpose of the assessment was to provide a current state analysis of the CCC transportation system. This included collecting data on student travel patterns, establishing and consolidating with outside stakeholders like TriMet, and summarizing existing and needed community connections.

Recommendations

Recommendations for improvements to the CCC transportation network took the form of short-term and long-term initiatives designed to tackle "low-hanging fruit" while preparing the college to address more ingrained travel habits.

Organization of Report

This report is organized to give a background of CCC transportation efforts and current feasibility of various initiatives. The report also recommends long-term improvements. Its major sections are:

Background

A brief overview of past transportation improvement efforts at CCC

Current State Analysis

An in-depth look at the current CCC transportation system, its successes, and its deficiencies

Current Initiatives

Initiatives that were put in place during the eight-month study period

Future Steps

Short- and long-term solutions to CCC's transportation needs, as identified in the Current State Analysis and the Current Initiatives

Background

CCC is focused around its Oregon City campus, which was laid out in the 1960s and 1970s as an auto-oriented campus with extremely limited options for other modes of transportation. The Wilsonville campus constructed in the early 1990s and the Harmony Community campus constructed a decade and a half later are no less auto-centric than the Oregon City campus.

CCC's mission is "to serve the people of the college district with high quality education and training opportunities that are accessible to all students, adaptable to changing needs, and accountable to the community it serves." While the college prides itself in its ability to change with the times, it is increasingly apparent that a transportation vision is a necessary component to the college's strategic planning if it is to match the transformational travel habit shifts taking place across the nation.

Prior to the initiation of this study, no comprehensive transportation plan had been undertaken in the college's history. The CCC Master Plan, completed in 2008 by Kittelson & Associates, incorporates elements of a transportation plan concerning capital improvements for the Oregon City campus. The Master Plan recommends "multi-modal transportation facilities that enable college users to easily access the campus" and "parking resources to accommodate college users." It also recommends pedestrian pathways for circulation.

The 2009 Harmony Community Campus Master Plan mentions transportation system improvements within the context of the region at large, though very few specifics are given other than acknowledgement of existing plans to improve Harmony Road and extend Sunnybrook Boulevard (since shelved).

More can be done, however, to maximize the effectiveness of existing infrastructure and mitigate demand for stressed systems before resorting to capital improvements that demand substantial resources. This study examines transportation improvements not covered in the 2006 CCC Master Plan. It focuses on solutions that are quick to implement, substantial in their impact, and often virtually free. It also recommends larger projects, though very few capital improvements.

Current State Analysis

This section describes the current state of the CCC transportation system.

CCC is primarily an auto-focused college, though a minority of students takes alternative modes of transportation to arrive on campus. Alternative modes that serve a campus are:

- Transit
  o TriMet
  o South Clackamas Transit District (serving Molalla)
  o Canby Area Transit via a TriMet connection in downtown Oregon City
  o South Metro Area Regional Transit (serving Wilsonville)
- CCC Xpress Shuttle
- Rideshare/carpool
- Drop off
- Motorcycle
- Bike
- Walk

Each of these modes is represented by students, and most are represented by faculty and staff as well. While official support from CCC for some alternative modes is present, it is not always well advertised. The CCC Xpress Shuttle (previously the Towncenter Xpress) has been in existence for over three years, yet 30% of the student body was unaware of its existence and no shuttle stop signage was present at two of the three shuttle stops at the outset of this study.

Non-supported modes (i.e. modes not actively promoted) are still made possible by a variety of ad-hoc student networks. For example, students reported having formed their own carpool networks in classrooms when similar commute patterns happened into conversations.

Still, driving alone is and will remain the dominant way to get to CCC for the foreseeable future, despite rising gas prices, increasing costs of car ownership, and changing demographics. For this reason, a large portion of the study was dedicated to better understanding parking constraints at all three CCC campuses and the likelihood of instituting transportation demand management strategies such as parking fees should the demand for parking begin to outstrip supply.

Parking

Parking at the CCC Oregon City campus is located on 12 surface parking lots providing 2,343 parking spaces. There is no permit, registration, or payment required for parking on campus. All parking lots are available for all users, with the exception of the visitor parking lot, which is limited to visitors for two hour periods. ADA (Americans with Disabilities Act) compliant spaces are available in most lots. There are 71 ADA spaces. Forty Park and Ride spaces are provided in cooperation with TriMet, though they are not specifically designated. A sign in the Rook/Dejardin lot notes the Park and Ride arrangement, and CCC is listed in TriMet documents as an official Park and Ride location.

Ample parking is available at the CCC Harmony campus. The main parking lot does not reach capacity, even during the busiest hours. A small parking lot is situated adjacent to Harmony Road in front of the main building, but it fills up quickly during peak hours. Some spaces in the main parking lot are reserved for the North Clackamas Aquatic Park. These spaces are located very close to the CCC Harmony building, and the park aggressively protects its reserved spaces.

The parking lot at CCC Wilsonville rarely reaches capacity. However, occasional PGE utility training days do congest the parking lot. On these days, parking will be difficult to find and CCC has occasionally coordinated with a nearby church to use its parking spaces on these days.

Figure 4 and Table 2 detail parking lot location and capacity on the Oregon City campus.

Figure 4 Parking lot names on the Oregon City campus

Table 2 Parking Lot Capacity on the Oregon City Campus

	Total Spaces	ADA Spaces
Barlow	833	7
Randall	14	14
Clairmont/Douglas Loop	58	0
Clairmont East	101	5
Clairmont West	130	9
Env. Learning Center	81	3
Niemeyer	346	14
Niemeyer Overflow	94	0
Family Resource (Small)	46	2
Family Resource (Large)	260	0
Visitor	37	5
Rook/DeJardin	343	12
All lots	2343	71

A parking inventory was taken on April 8, 2014, to better understand capacity and demand. April 8 was the second week of Spring Term classes, providing an accurate representation of typical usage.

Figure 5 shows the results of the inventory. Parking occupancy on campus is highest between 10:00am and noon. Approximately 68% of the parking spaces on campus are occupied in the hour starting 10:00am. Because "full" is typically defined as 85% to 90% occupancy, CCC parking utilization is well below capacity. In retail environments, peak-hour occupancy of 85% is typically considered an optimal trade-off between driver convenience and efficient use of parking resources.

Individual lots tell a different story, however. Three lots exceeded 95% occupancy. At 90% or greater occupancy, drivers are likely to spend considerable time searching for an available parking space. Anecdotal evidence from students and outlets like the Clackamas Print bears out this statistic; general sentiment is that parking on campus is a hassle and finding space can be difficult. This goes against the data, which show overall parking capacity to be plentiful, if unevenly distributed during peak hours.
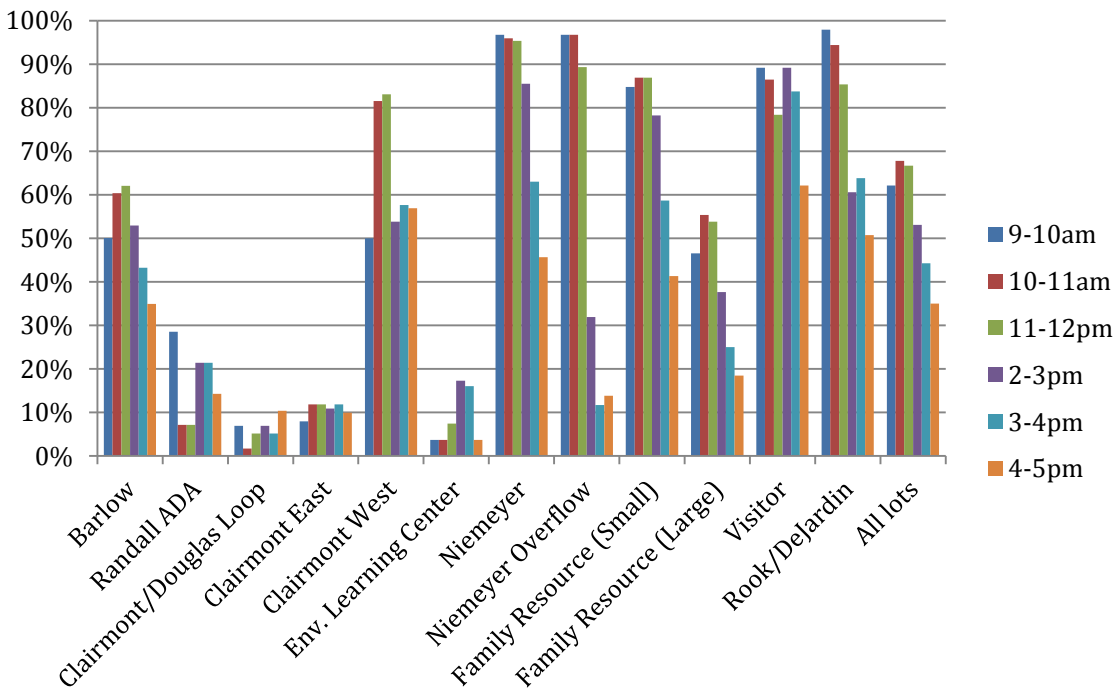
Figure 5 Parking capacity on April 8, 2014 (second week of Spring Term classes)

Figure 6 shows student sentiment towards finding parking on campus. These results are from the "Improving CCC Transportation 2014" survey administered in May 2014, discussed later in this report.

Figure 6 Parking sentiment from "Improving CCC Transportation 2014" (student responses only)

Improving CCC Transportation 2014 Survey

At the outset of the study in April 2014, very little was known about current student travel habits, general transportation option awareness, or willingness to explore transportation options. To gather information and begin to develop a current state analysis, a large student transportation survey was deemed necessary. The survey would also be designed for faculty and staff to explore their travel habits.

The survey was developed with input from Institutional Research and Reporting, and administered with assistance from the Marketing Department. The survey was given to a sample of full-time students from each of CCC's three campuses, all faculty, and all full-time staff. The student sample size was chosen anticipating a 20% response rate, ensuring a large and statistically rigorous dataset.

The Improving CCC Transportation 2014 survey was given to students, faculty, and staff between May 19 and May 31, 2014. The survey investigated opinions on specific transportation situations, mode choice to get to CCC, and any desired transportation improvements. Opportunities for open-ended feedback were provided. In all, the survey ranged from 28 to over 33 questions, depending on the answer tree route. The survey took 10-15 minutes to complete.

The web-based survey was emailed directly to the sample group. Advertising was done through the myClackamas portal, social media, and other appropriate outlets. Students were automatically entered into a raffle for a free tablet computer, a prize featured extensively in the advertising campaign. The survey was distributed to 2332 students, 415 faculty, and 213 staff. Response rates of 22%, 37%, and 58% were achieved, respectively; the student response rate was the greatest of any online survey in the school's history.

Select survey results are presented in the following pages, with additional responses highlighted in Appendix A. The focus in this section of the report is on mode choice, the CCC Xpress Shuttle, and transit.

Table 3 Sample Size and Response Rate for Improving CCC Transportation 2014

	Students	Faculty	Staff
Sample size	2332	414	311
Responses	508	180	152
Response rate	21.78%	43.48%	48.87%

Survey Results

Mode Choice

The transportation mode a person uses to arrive on campus, typically

357 students identified themselves as primarily driving alone to arrive on campus. Driving alone was the overwhelmingly most common mode of transportation, followed distantly by the remaining modes. Faculty and staff drove alone at even greater rates than students.
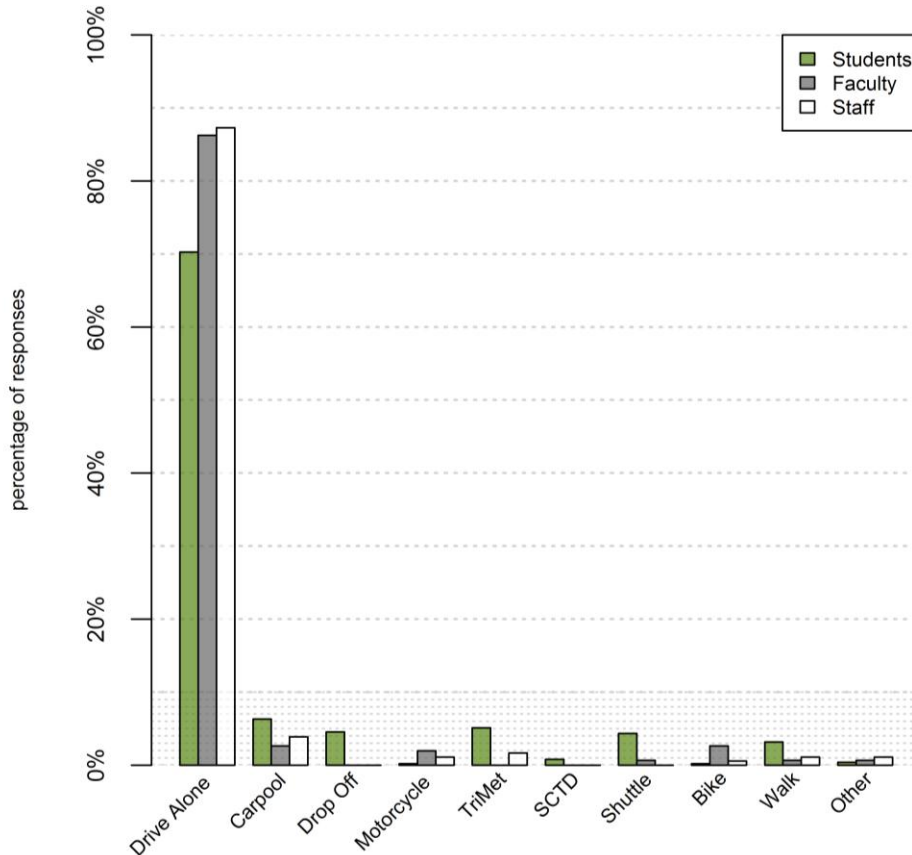
Figure 7 Mode choice of students, faculty, and staff

32 students identified themselves as primarily carpooling to arrive on campus. 26 students identified themselves as primarily taking TriMet to arrive on campus. Four students indicated SCTD as their primary arrival mode. 22 students identified themselves as primarily taking the CCC Xpress Shuttle to arrive on campus.

Transportation Barriers

Issues attending CCC due to transportation barriers

About 25% of students reported experiencing barriers to attending classes as a result of transportation issues.
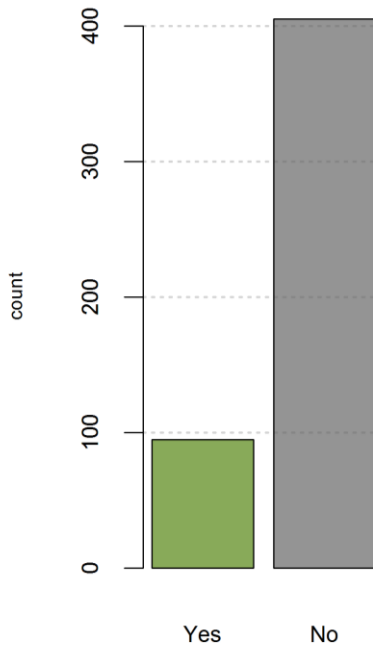
Figure 8 "Has a transportation issue ever kept you from taking a class or forced you to drop a class?"

Shuttle Use

The typical use of the shuttle
*Asked only to respondents who take the shuttle

The CCC Xpress Shuttle is primarily used as a transport between the Oregon City campus and the Clackamas Town Center Transit Center (CTC TC). About 30% of students use it to get between the Oregon City and Harmony campuses, and less than 15% use it to get between the Harmony campus and CTC TC.
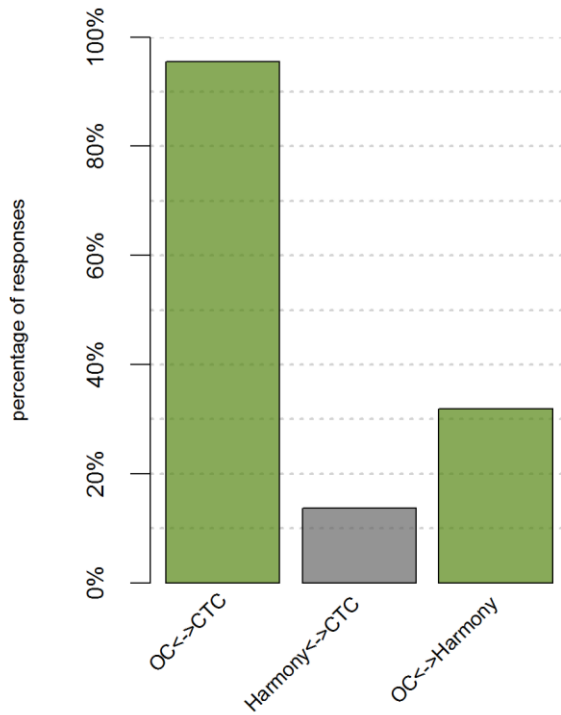
Figure 9 Shuttle use trips (student responses only)

Counterpart Transportation

How students get to the shuttle
*Asked only to respondents who take the shuttle

Students who use the shuttle have to get to the shuttle stop at Clackamas Town Center Transit Station somehow. Most are dropped off (and/or picked up) by someone else.
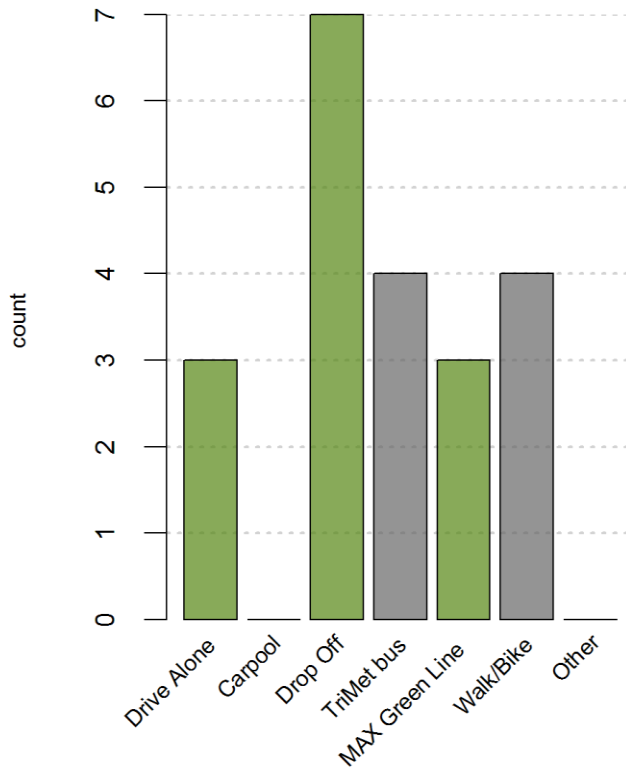
Figure 10 How students get to the Clackamas Town Center Transit Station stop (student responses only) (one result removed – a student answered "other" but gave a nonsensical explanation)

Ride Frequency

How often the shuttle is used
*Asked only to respondents who take the shuttle

Students use the shuttle frequently over a typical week. Ten students reported using it four days a week, and over half of the responses use the shuttle at least three days a week.
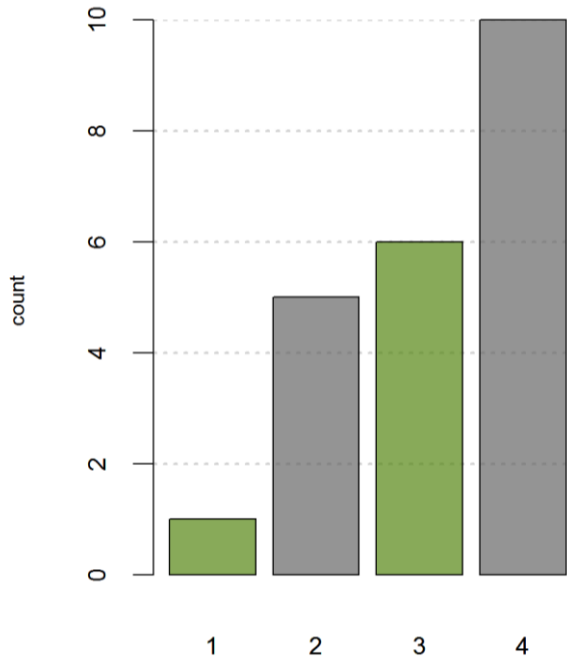
Figure 11 Number of days per week the shuttle is used (student responses only)

Shuttle Use Rationale

Why students use the shuttle
*Asked only to respondents who take the shuttle

Students use the shuttle because it saves them money, it is convenient, and it is faster than taking a comparable trip on TriMet's system. Of the students who answered "other," two do not drive and one uses the shuttle as part of a multimodal trip to campus that would not be possible without the shuttle.
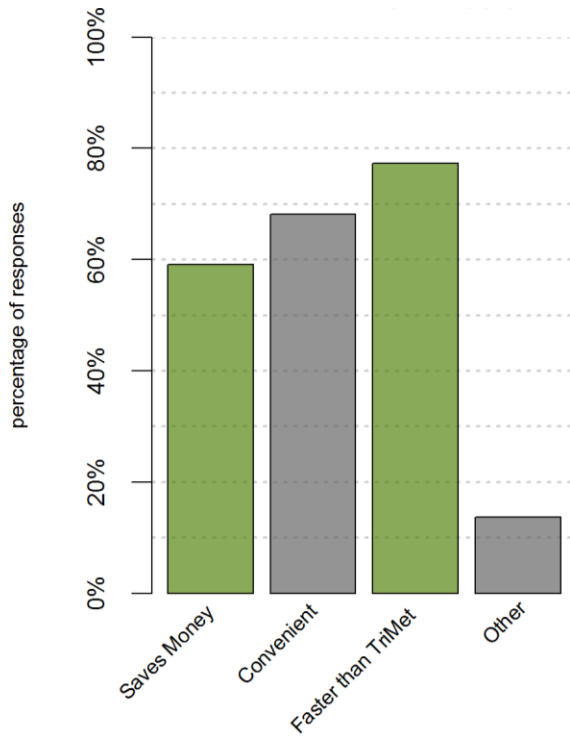
Figure 12 Reasons students use the shuttle (student responses only)

Shuttle Alternatives

How students would get to campus if the shuttle did not exist
*Asked only to respondents who take the shuttle

The shuttle route is not easily replicated, as indicated by the varied responses to the question, "How would you get to campus if the shuttle did not exist?" Most students would use Trimet to replace the shuttle, despite the substantially increased travel time of TriMet's comparable route. One student would not attend CCC were it not for the shuttle.
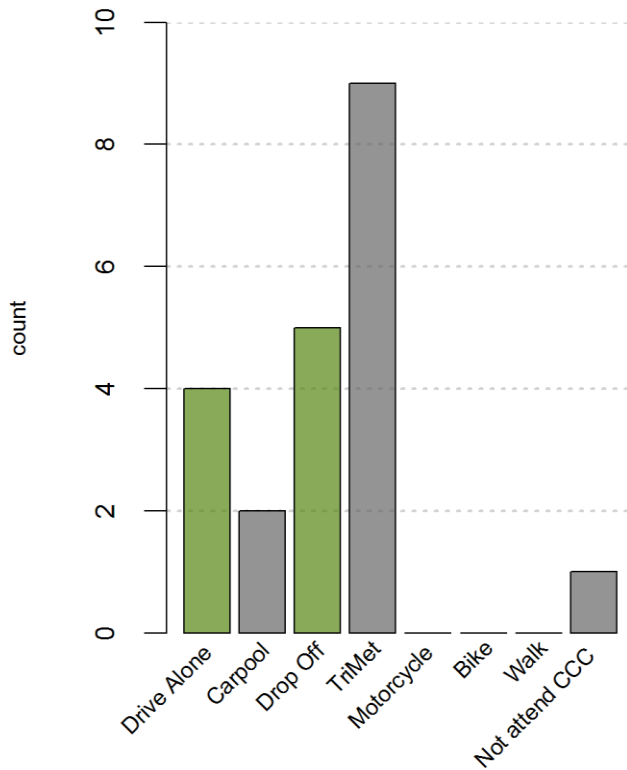
Figure 13 Alternative modes of transportation if the shuttle did not exist (student responses only)

Driving Alternatives

Likelihood of trying an alternative to driving alone
*Asked to all students

Students were generally more willing to try other modes of transportation compared to faculty and staff. Almost 40% of students would consider carpooling if they had help finding a carpool partner. There was substantial interest in public transportation (such as the shuttle) with the proper incentives, including information and subsidies. Many students, faculty, and staff answered that nothing would persuade them to try an alternative to driving alone. Those who answered "other" generally mentioned a need for improved transit headways (service frequency) and reliability.

A "guaranteed ride home" program is offered in some transit systems as a failsafe way to get home quickly in the event of an emergency. Typical implementations include complimentary taxi fare or point-to-point shuttle service. Chemeketa Community College offers such a service[2].
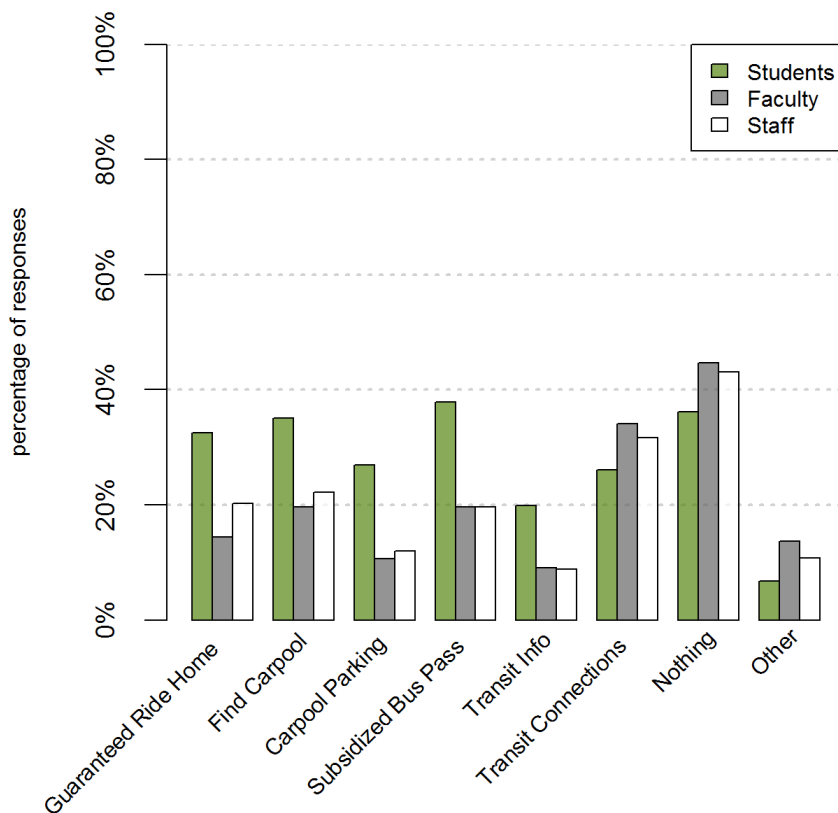
Figure 14 Feasibility of trying an alternative to driving alone given certain incentives

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[2] http://www.chemeketa.edu/aboutchemeketa/collegelife/documents/EmergencyRideHome.pdf

Shuttle Improvement

How students would improve the shuttle
*Asked to all students

Students indicated a desire for improved shuttle headways (service frequency) as the primary area for bettering the service. Later service also received many votes. Advertising was noted in the question and in many free responses as lacking in its present form.
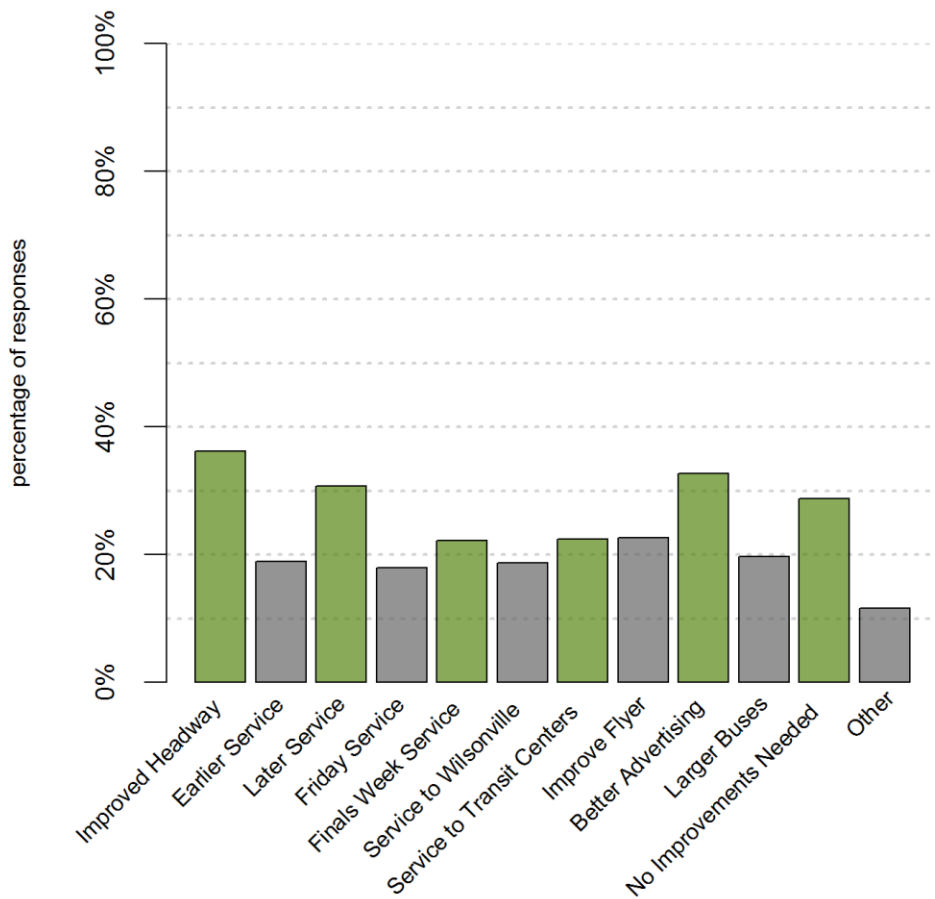
Figure 15 Shuttle improvement possibilities (student responses only)

Shuttle Awareness

"Are you aware of the free CCC shuttle?"
Asked to all students

Almost 30% of students were unaware of the CCC Xpress Shuttle's existence. Unaware rates were less for faculty and staff, though still very high. One fifth of faculty did not know about the shuttle.
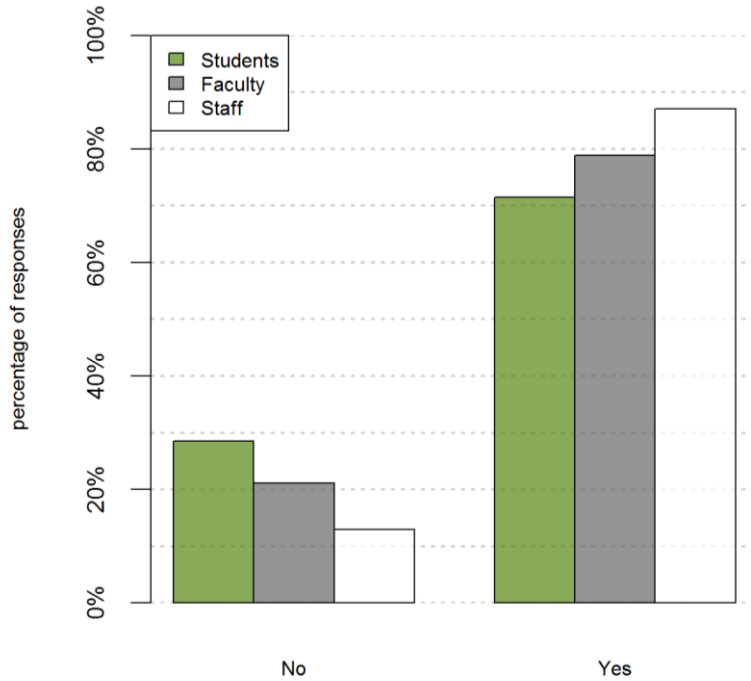
Figure 16 Awareness of the CCC shuttle

Transit Captives

Students who have no access to private automobiles

The survey asked one question specific to transit riders, seeking to identify transit captives. Two thirds of transit riders (both TriMet and SCTD) identified themselves as transit captives; that is, they had no choice but to take transit to get to campus.
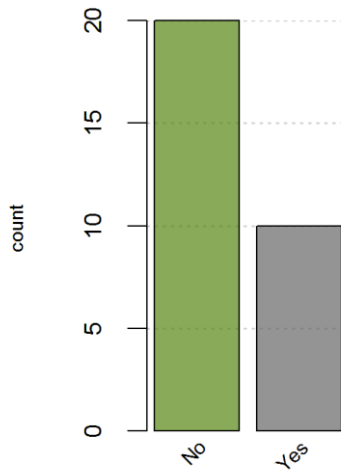
Figure 17 "Do you have access to a private vehicle if you need it to get to campus (instead of taking the bus)?" (student responses only)

Transit Knowledge

Current understanding of the transit network

Generally, those who already took transit would know how to get route and schedule information, but those who took an automobile were not as confident in their ability to find information. Younger students were less likely to know where to get information. This was a surprising result, since youth are anecdotally more familiar with smartphones and Internet knowledge outlets that would easily lead to transit information.

If I needed to make a trip on the bus today to get to CCC, I would know how to get route and schedule information - Student
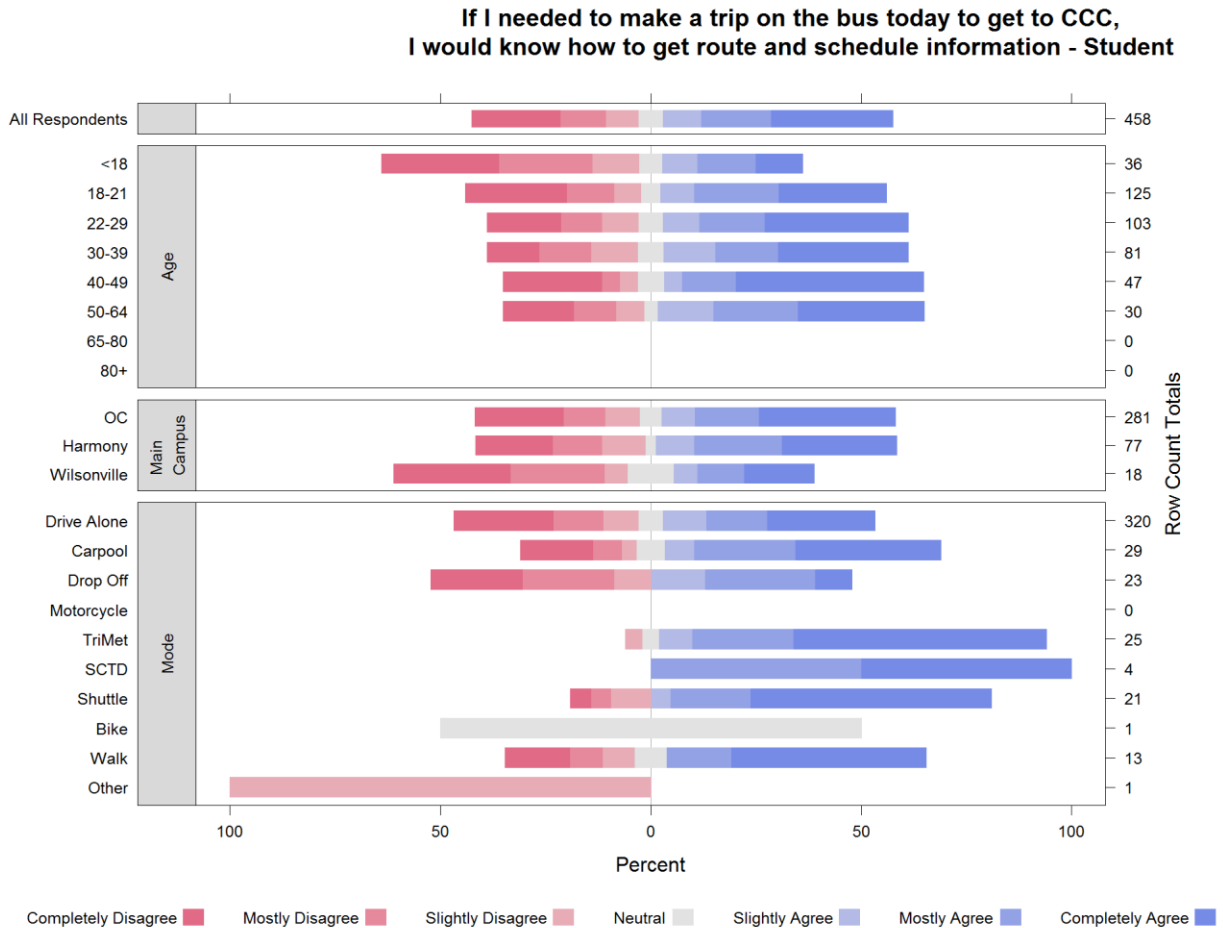
Figure 18 Transit route and schedule knowledge (student responses only)

Student Home Locations

Student origin by ZIP code

Students commute from near and far, though the majority came from ZIP codes closest to the Oregon City campus. Further breakdowns of origins by mode and by campus are available in the Appendix.
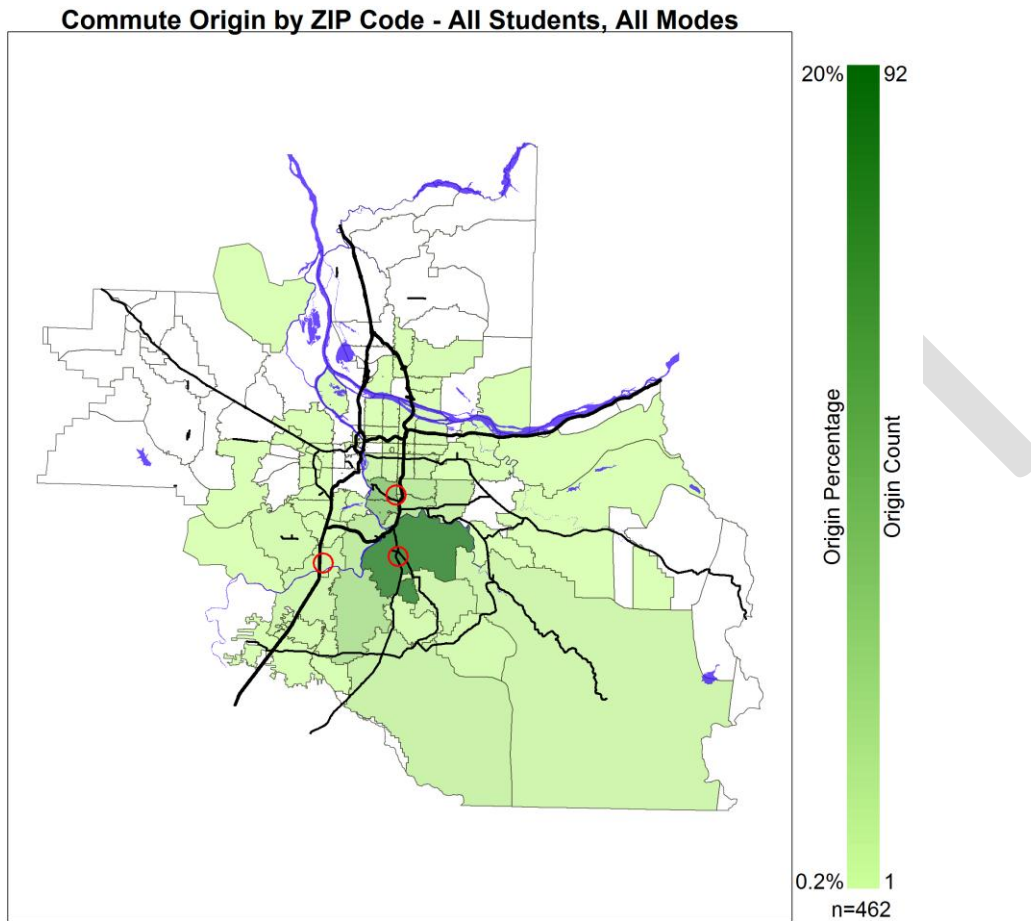
Figure 19 Student commute origin map for all students, all modes, and to all campuses (north towards top of page, major roadways marked in black, campuses marked with red circles)

Survey Takeaways

The survey was a resounding success from a response rate point of view. Extremely valuable feedback was garnered for a variety of scenarios that helped to direct the remainder of the transportation study.

Future surveys will need to make greater efforts at advertising, especially to capture feedback from non-automotive travelers. Specifically, a marketing push should be directed at CCC Xpress Shuttle riders. As the shuttle is operated by CCC, its structure is exceptionally malleable and can be quickly and painlessly adapted to incorporate feedback, when feedback is available. By comparison, changing TriMet service or addressing commute traffic jams encountered on the Interstates is extremely difficult or impossible. For this reason, efforts need to be made to garner as many responses from shuttle riders as possible to better improve the service.

Recommendations

Deploy a survey at least every other year and more often if possible. These metrics are key to tracking progress in CCC's transportation initiatives, and the survey is also one of the best opportunities to garner feedback from the student body on transportation-related issues.

Survey questions should remain as consistent as possible between implementations, to better allow for comparisons year-over-year. Changes to the current survey instrument should be weighed carefully against the value of longitudinal analysis.

A series of scripts were created in the open source statistical software package "R" that can output plots, graphs, and summary statistics with a minimum of effort. They are included in the documents accompanying this study.

CCC Xpress Shuttle

The CCC Xpress Shuttle has been in service since Fall 2011. While originally a partnership between CCC and a number of outside agencies, over time the partnerships have ended and CCC is now the sole party operating the shuttle. The shuttle was previously branded "Towncenter Xpress" in recognition of the multiple partners that once held stake in its operation.

The shuttle consists of two buses and two routes. The first route ("Route 1") travels between CCC Oregon City and the Clackamas Town Center Transit Center. The second route ("Route 2") was added in January 2014 and travels in a loop between CCC Oregon City, CCC Harmony, and CTC Transit Center. Shuttle operation is contracted to Premiere Valet, headquartered in Beaverton. Shuttle buses, when not in use, are parked in the CTC Transit Center parking deck.

As of this study, the shuttle runs from 6:45am to 6:20pm, covering a large portion of classroom time at both Oregon City and Harmony campuses. Only Route 1 runs on Fridays, and shuttle service is stopped for both lines during school holidays, breaks, and for all of summer term.

Shuttle 1 – Clackamas Town Center to CCC Oregon City Campus

- Shuttle 1 runs Monday – Thursday, and part of Friday
- 7:30am – 6:20pm (7:30am – 11:25am on Fridays)
- Shuttle 1 does not operate on Finals Week

Shuttle 2 – Clackamas Town Center to CCC Oregon City Campus to Harmony Community Campus

- Shuttle 2 runs Monday – Thursday
- 6:45am – 3:55pm
- Shuttle 2 runs Monday – Wednesday on Finals Week

The shuttle is funded through a combination of general funds and the Job Access and Reverse Commute (JARC) federal grant administered through TriMet. The JARC grant was most recently awarded in Spring 2014 and will carry through Spring 2016. It is in the amount of $45,000 annually, covering approximately 60-65% of the shuttle expenses.

Existing Shuttle Conditions

The CCC Xpress Shuttle, at the outset of this study, was an effective but underachieving mode of transportation between CCC Oregon City, CCC Harmony, and the Clackamas Town Center Transit Center. The shuttle suffered from a disorganized management system that saw several disconnected managers for essentials like funding, operations, scheduling, marketing, communications with Premiere Valet, data analysis, etc. Additionally, the shuttle was practically unbranded; a small magnet was placed on one side of the bus, rendering it virtually indiscernible from a distance. No signage for the shuttle stop was present at two of the three shuttle stops. The shuttle schedule flyer was difficult to read and lacking vital information like the locations served or where to find a stop – important considering the lack of signage.

Students, faculty, and staff lacked a general understanding of the shuttle's operations. Just as alarming as the 30% of students who revealed they did not know the shuttle existed was the number of free responses in the Improving CCC Transportation 2014 survey who revealed they did not know whether

the shuttle is free (it is) and whether it is restricted to CCC students with ID cards (it is open to the public). Many students commented they had heard rumors of the shuttle service coming to an end (it isn't). Shuttle reliability is a persistent challenge; students are very sensitive to delays in campus arrival times as such a delay directly affects classroom attendance.

Many of these sentiments were repeated by faculty and staff in their free responses, often accompanied by encouragements to keep the service running because they had seen how beneficial it is to students.

Despite these potential barriers, the shuttle is very much a success. Many students recognize it as an essential fixture in CCC's transportation network. At least one student indicated in the survey that he or she would be unable to attend CCC if the shuttle did not exist. Students were keen to suggest improvements in the free response section of the survey. Suggestions included bike racks on the front of the shuttle (currently being implemented as a direct result) and better visibility of the CTC Transit Center stop (more signage has been added).

Ridership

The best indicator of CCC Xpress Shuttle success is ridership, and ridership has been generally increasing since the shuttle's launch, and at a faster rate in recent academic terms. Figure 20 and Table 4 show historic and more recent ridership numbers, respectively.
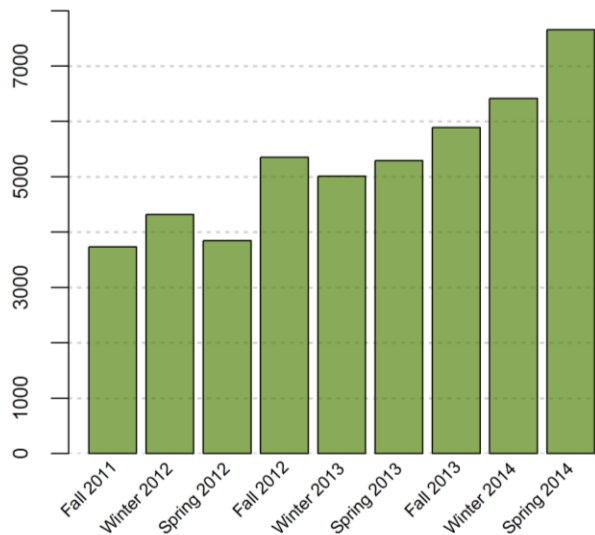
Figure 20 Historic CCC Xpress Shuttle ridership

Ridership is reported by the shuttle driver, who also tallies the number of students who are turned away when the bus reaches capacity. While turned away students have been largely mitigated from low points early in the shuttle's operation, there are still instances from time to time. As recently as Week 3 of Fall 2014 term, two students were turned away.

No metrics for shuttle on-time reliability are tallied, by the driver or otherwise. That is, no one keeps track of whether the shuttle arrives on time or is delayed. Along those same lines, students have no way to know whether a shuttle will be late to its next stop.

Table 4 Recent Ridership for the CCC Xpress Shuttle

Week	Fall '13	Winter '13-14	Spring '14	Fall '14
1	534	686	769	**766**
2	542	679	732	**769**
3	648	565	765	**818**
4	688	745	749	
5	633	604	778	
6	646	524	775	
7	490	538	739	
8	627	593	731	
9	243	531	572	
10	592	666	753	
Finals	247	283	296	
Total	5890	6414	7659	

Transit Accessibility

All CCC campuses are accessible by public transportation. TriMet directly serves two campuses (Oregon City and Harmony) and indirectly serves one (Wilsonville). The South Clackamas Transit District (SCTD) serves the Oregon City campus. Canby Area Transit (CAT) does not serve any campus, but connects to TriMet at the Oregon City Transit Center in downtown Oregon City. South Metro Area Regional Transit (SMART) serves Wilsonville and connects to TriMet at the Barbur Transit Center, the Tualatin Park and Ride, and the Westside Express Service commuter rail line.

Oregon City campus

- TriMet bus
    - Line 32-Oatfield
    - Line 33-McLoughlin
    - Line 99-McLoughlin Express
- South Clackamas Transportation District (SCTD) bus
    - Molalla to Clackamas Community College
- Canby Area Transit bus
    - The CAT Orange Line provides service from Canby to the Oregon City Transit Center. TriMet Line 32 and Line 33 both provide service from the Transit Center to CCC.

Harmony campus

- TriMet bus service is available a short walk from Harmony campus.
    - Line 28-Linwood
    - Line 29-Lake/Webster Road
    - Line 30-Estacada
    - Line 79-Clackamas/Oregon City
    - Line 152-Milwaukie
- MAX Green Line
    - The MAX Green line is a one-mile walk from Harmony campus. It is also accessible via the CCC Xpress Shuttle.

Wilsonville campus

- Westside Express Service (WES)
    - TriMet's WES serves Wilsonville approximately two miles from the CCC Wilsonville campus.
- Wilsonville South Metro Area Regional Transit (SMART) bus
    - All SMART bus lines serve the TriMet WES station.
    - Line 4 stops directly in front of CCC Wilsonville campus
    - A Line 2X stop is a short walk from CCC Wilsonville campus. Line 2X serves the TriMet Tualatin Park and Ride and Barbur Transit Center.

Information

TriMet has extensive service information available on its website and through partner outlets. Guides are available for riding the bus, MAX, WES, and Streetcar.

TriMet Trip Planner

TriMet's Trip Planner is an extremely useful tool that gives a step-by-step itinerary showing how to get to a destination using any combination of bus, MAX, WES, Streetcar, walking, and biking. It incorporates exact origin and destination location, schedules, and even terrain when biking or walking.

Google Maps

Google Maps is a fast, well-known tool for transit information. It has agency information from TriMet and SMART. It is not as capable as TriMet's Trip Planner but is more accessible due to its public recognition and integration into most smartphones.

Phone hotlines are available for all transit agencies. No trip planning software is available for SCTD and CAT outside of the respective agency website.

CCC's transit webpage prior to this study included minimal information about TriMet lines to the Oregon City campus and brief mentions of SCTD and CAT.

Fares

TriMet fares are $2.50 for a two-hour ticket, $5 for a day pass, $100 for a month pass, and $1100 for an annual pass. Discounted rates are provided for youth under 18.

SCTD fares are $1.00 per ride. Rides within Molalla are free.

CAT fares are $1.00 per ride. A 24-ride punch pass is $20. A monthly pass is $20.

SMART fares are dependent on the route. Line 4, which stops directly in front of the CCC Wilsonville campus, is free for all riders. Line 2X, which serves the TriMet Tualatin Park and Ride and the Barbur Transit Center, is $1.50 per ride and $25 or $50 for a 20- or 40-ride punch pass, respectively. Discounted rates are provided for youth under 18.

CCC does not provide subsidized transit passes for any transit agency to students, faculty, or staff. At orientation informational events, students frequently approached the transportation table and asked about subsidized passes, indicating a previously unrecognized demand.

Wilsonville Campus Connections

Limited Transit Connections

The Wilsonville campus is the only CCC campus not directly served by TriMet. TriMet's WES commuter train serves the city of Wilsonville approximately two miles from the campus. The closest TriMet bus line terminates in Tualatin, about seven miles north of Wilsonville.

To travel from CCC Oregon City to CCC Wilsonville via TriMet is impractical at best and involves transfer between two different transit agencies, multiple bus lines, and almost two and a half hours of travel time one way. Travel times between CCC Harmony and CCC Wilsonville are marginally better thanks to the availability of the MAX Green Line, though still entirely impractical.

CCC Wilsonville is also the only CCC campus not served by the CCC Xpress Shuttle.

SMART

Adjacent to the TriMet WES station is the SMART Central station. SMART Central serves as one of the system's central hubs and provides convenient connections between WES and SMART bus lines. Two bus lines (2X and 4) serve CCC Wilsonville. Line 4 stops directly in front of the campus, and line 2X stops a short, walkable distance from the campus. Line 2X connects to TriMet's Tualatin Park & Ride and Barbur Transit Center.

SMART bus routes and schedules are integrated into Google Maps directions, providing seamless routing between TriMet and SMART systems for students wishing to plan their trips. SMART routes do not appear to be integrated into TriMet's Trip Planner service.

Transit Partnerships

At the outset of this study, very little was being done to communicate consistently with transit agencies. Communication is critical to ensure that transit agency initiatives are in the best interest of CCC and its student body, especially for an agency the size of TriMet, which exerts considerable influence on regional travel habits.

Two important TriMet projects were already underway when this study began: the new MAX Orange Line and the Southeast Service Enhancement Plan.

- The MAX Orange Line, also referred to as the Portland-Milwaukie Light Rail Project during construction, will not directly serve any CCC campus but will have impacts on bus lines that do serve CCC. It will go into service in September 2015.
- The Southeast Service Enhancement Plan is a vision plan with significant community input opportunities, looking at demand for more local and regional bus service connectivity in the area encompassing Southeast Portland, Milwaukie, Happy Valley, Gladstone, unincorporated Clackamas County, Oregon City, and Estacada. The shared vision for bus service improvements will be finalized in Fall 2015.

Details about transit partnerships made after the start of this study are provided in the Current Initiatives section.

Biking and Walking

Students walk and bike to CCC at a very low rate. This can be attributable to a number of factors, not limited to surrounding infrastructure deficiencies, lack of institutional promotion, and negative sentiment.

The areas surrounding each campus are generally poorly designed for pedestrian and bicyclist access. CCC Oregon City is essentially surrounded by major roadways – Beavercreek Road and OR-213 – that are inappropriate for cycling and walking, especially considering the inconsistent sidewalk network. CCC Wilsonville is located in a business park with poor connectivity to the surrounding roadway network. CCC Harmony is slightly more urban than CCC's other two campuses, but suffers from problems related to connectivity. For instance, a fence located on the east side of the campus blocks the most direct pedestrian route. Anecdotal evidence suggests students traveling from 82nd Avenue have climbed over the fence to reach CCC Harmony.

Fostering a sense of safety is key to increasing bicyclist and pedestrian mode shares. CCC should encourage walking by constructing a pedestrian network with greater connections to surrounding networks. CCC should also be present at regional planning meetings to advocate for better sidewalk and bikeway connectivity.

Figure 21 An incomplete sidewalk network on CCC Oregon City at the OR-213 entrance

Each campus has bike racks for locking bicycles. CCC Oregon City campus has several "corrals" of bike racks in front of the major buildings. Bike racks can go a long way in showing institutional support for bicycling.

Rural Students' Access

Students living in rural locations face limited transportation options to get to any CCC campus. Transit lines, if available, are not direct and often have poor headways (service frequency). Estacada is frequently cited as an example of an isolated market in the context of CCC's reach. To get to CCC Oregon City from Estacada via transit takes about two hours.

Enhancing student access in rural areas is a very difficult problem to solve. Compared to urbanized areas, investing in transit in rural areas is an unrealistic financial burden. Ad-hoc solutions are much more likely to be successful, such as promoting ridesharing/carpooling for those who regularly make the trip to CCC.

Recommendation

Creating opportunities for students in rural communities to earn college credit without having to travel to CCC is an efficient way to alleviate rural access burdens. Dual credit high school classes and distance learning programs should be enhanced and expanded in communities like Estacada, Molalla, and Canby.

High School Communications and Feedback

High school students are an important part of CCC's student body. Courses are offered in conjunction with a high school diploma so that students may gain college credit while before they graduate. More often than not, high school students must travel to CCC's campuses to take these courses.

Early in this study, identifying barriers to high school student commutes was deemed an important goal. The Student Outreach office at CCC was consulted, and counselors at local and regional high schools were contacted for comment.

22 high schools or academies were contacted. Feedback was received from seven schools. A number of counselors expressed gratitude that CCC was outreaching to discuss transportation issues, but most commented that they had no knowledge of student barriers to CCC's campuses. At Estacada High School, the point was brought up that high school students often cannot carpool; youth license regulations prevent non-relatives from riding in the car with a new driver. This is an imposing barrier to high student CCC access. David Douglas High School counselors suggested a dedicated transportation counselor at CCC who could discuss transportation options with their students.

Recommendation

Create a packet or brochure with information on transportation options that takes high school schedules into account. This packet should be shared with CCC outreach coordinators, who in turn can share it with high school counselors and students at outreach events.

Schools contacted:

Alliance Charter Academy	Molalla High School
Canby High School	New Urban High School
Clackamas Academy of Industrial Sciences	North Clackamas Christian School
Clackamas High School	North Marion High School
Colton High School	Oregon City High School
Country Christian	Rex Putnam High School
David Douglas High School	Sandy High School
Estacada High School	Silverton High School
Gladstone High School	SSC - Schellenberg
LaSalle High School	West Linn High School
Milwaukie High School	Wilsonville High School

Current Initiatives

This section describes initiatives that were put in place over the course of the CCC 2014 Comprehensive Transportation Study.

The Improving CCC Transportation 2014 survey identified a number of areas within the CCC transportation network that could be quickly, inexpensively, and relatively easily improved. Initiatives generally focused on ways to increase usage share of alternative modes of transportation. Rather than wait to pursue these network improvements after this study's final report, immediate efforts were made to:

- Improve the CCC Xpress Shuttle
- Promote ridesharing/carpooling
- Increase communication and coordination with transit agencies
- Create a comprehensive transportation website within CCC's website
- Connect transportation to student retention/success programs
- Better direct parking peak hour demand
- Foster accountability for these and future initiatives

Transportation Hub Website

At the outset of this study, CCC had three webpages dedicated to transportation:

- Parking information
- Shuttle information
- Transit information

The pages did not necessarily originate in the same location (they were located in different menus from the main page). The shuttle page was often featured on the main page to help promote shuttle use, but parking and transit information were buried deeper in the website.

Within the pages, information quality varied:

- The parking page only featured information for the Oregon City campus. No information was provided for demand at the various lots.
- The shuttle page displayed a generous amount of information but it was visually cluttered. The page lacked images of the shuttle – crucial since the shuttle was essentially unmarked.
- The transit page only featured information for the Oregon City campus. The focus was on TriMet service, and minimal mention was made of SCTD or CAT service.

Creating a main transportation landing page with links to all relevant modes of transportation became a priority. The Transportation Hub, as it is branded, was conceived to serve as a repository for a new student to learn more about all the different ways to get to each campus and for a current student to access information like shuttle arrival times or TriMet's Trip Planner tool. The webpage was built with substantial help from Dean Walch, CCC's Website Coordinator, and Jessie Kirk, CCC's Web/New Media Market Specialist.

The Transportation Hub is located at www.clackamas.edu/transportation - a simple, easy-to-remember, and intuitive address. From the landing page, clear icons with descriptions highlight all modes:

- Driving (specifically, parking)
- Public Transportation
- CCC Xpress Shuttle
- Rideshare
- Bike/Walk

The bottom of every page on the Transportation Hub advertises channels for feedback and Q&A. A new email address was created, transportation@clackamas.edu, replacing the ASG general email address previously in use. As of this report, the email address forwards to Sean Pollack.

Recommendation

Prominently feature the Transportation Hub website on all transportation-related marketing and outreach material. Students should be aware the Transportation Hub can answer many of their transportation-related questions.

Continually update the Transportation Hub website to keep it current and informative.

Website Layout

The Transportation Hub is laid out as follows:

[www.clackamas.edu/transportation] – the landing page

[Sections within www.clackamas.edu/transportation:]

- Parking (…/parking) *(i.e. www.clackamas.edu/transportation/parking)*
- Transit (…/transit)
- CCC Xpress Shuttle (…/shuttle)
- Rideshare/Carpool (…/rideshare)
- Bike/Walk (…/bikewalk)

Screenshots

Figure 22 shows the new Transportation Hub landing page. From this page, a simple icon and brief descriptions leads to each mode of transportation. Contact information is located at the bottom of the page.

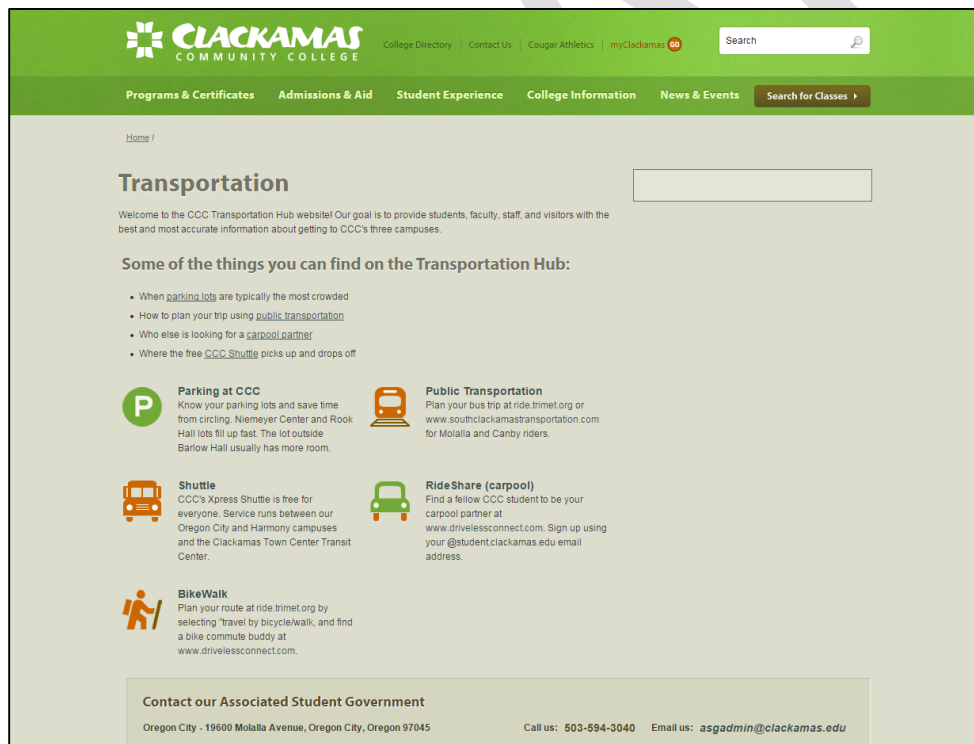Figure 23 and Figure 24 show the old and new parking pages, respectively.

Figure 22 Transportation Hub landing page

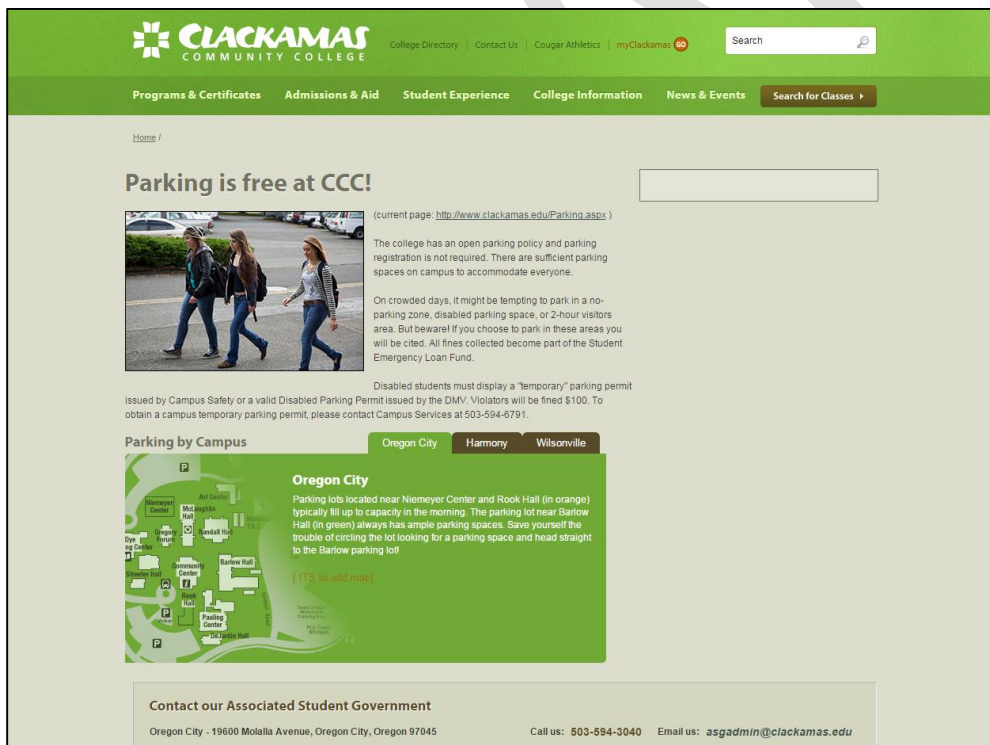**Figure 23 Old parking webpage**

Figure 24 Parking webpage within the Transportation Hub

CCC Xpress Shuttle Improvements

Improving CCC Transportation 2014 revealed a significant portion of the student body was unaware that the shuttle exists. Some of the first steps to improve the shuttle, then, focused on marketing and outreach.

Marketing and Outreach

Shuttle branding was recognized as one of the key shortcomings of the shuttle. The shuttle name, appearance, and signage were all evaluated and determined to need improvement.

The shuttle name at the start of this study was Towncenter Xpress, stylized "TX" on signage. Reflective of a variety of partners at the beginning of the shuttle program, the name was deemed too general and undescriptive for the current incarnation of the shuttle, which essentially serves only CCC interests. Anecdotal evidence from students suggested the "TX" was confusing. The shuttle was rebranded CCC Xpress at the start of the Fall 2014 term to better denote the shuttle's purpose and destinations.

The shuttle, which is operated by Premiere Valet, was previously a white 14-passenger bus with no ADA access and essentially no branding. At the start of the Fall 2014 term, both buses were upgraded to ADA-compliant vehicles. Additionally, through the efforts of the CCC Marketing and Publications departments, both were "wrapped" with CCC's most recent marketing branding. The wraps are dramatic improvements over the previous markings, which were small magnets located on the passenger side of the van – and even then, the magnets were undescriptive "TX" logos that did not describe the shuttle, or even hint that the vehicle was in fact a shuttle. The shuttle, in its new CCC wrap, now clearly denotes that the vehicle is a CCC shuttle. Figure 25 shows the new shuttle wrap. Figure 26 highlights the new ADA-compliant features of the shuttle buses.

Shuttle signage was in a similar state as the shuttle itself. Signage was present at only one of the three shuttle stops, and the signage was largely undescriptive, with only a "TX Shuttle" logo and an arrow. New signs were designed that featured colors consistent with the most recent marketing branding, the "CCC Xpress" name, and a shuttle bus icon. Two variations of the sign were made. The first displays information about the shuttle including its stop locations, the ASG phone number, and the Transportation Hub website address. It is intended to be placed at the stop location. The second variation replaces the information with a directional arrow, intended for wayfinding – specifically at the Clackamas Town Center Transit Center location, to direct students from various points to the shuttle stop. These new signs were placed at all three shuttle stop locations. Figure 27 shows the new sign designs. Figure 28 and Figure 29 show the new signs at CCC Harmony and CCC Oregon City campuses, respectively. Previously, no signage existed at these campuses. Figure 30 and Figure 31 show old and new signage at the CTC Transit Center location. Previously, no outwardly-visible signage existed at the Figure 31 location – a sign on the interior of the parking deck denoted a "Reserved Parking" area for the shuttles but did not indicate an actual shuttle stop in that location.

The shuttle schedule flyer, often handed out at orientations and distributed at various outlets on the CCC Oregon City and CCC Harmony campuses, was found to be difficult to interpret – a fact supported by feedback in the Improving CCC Transportation 2014 survey. The flyer, on which students rely almost exclusively for schedule information, did not volunteer any information beyond the schedule itself. A new flyer was designed that included a redesigned, easier-to-read schedule, shuttle destinations and stop locations, increased information outlets including the Transportation Hub website address. It has replaced the old flyer at all locations. Figure 32 shows the old and new flyer designs. Figure 33 shows a brand-new mini flyer, designed to be foldable for easier storage and reference.

Figure 25 New shuttle branding

Figure 26 ADA-compliant shuttle

Figure 27 New shuttle stop sign designs

Figure 28 Shuttle stop sign at CCC Harmony Community campus

Figure 29 Shuttle stop sign at CCC Oregon City campus bus turnaround area

Figure 30 Old shuttle signage at CTC Transit Center (left) and new signage (right)

Figure 31 New signage at the shuttle stop location at CTC Transit Center
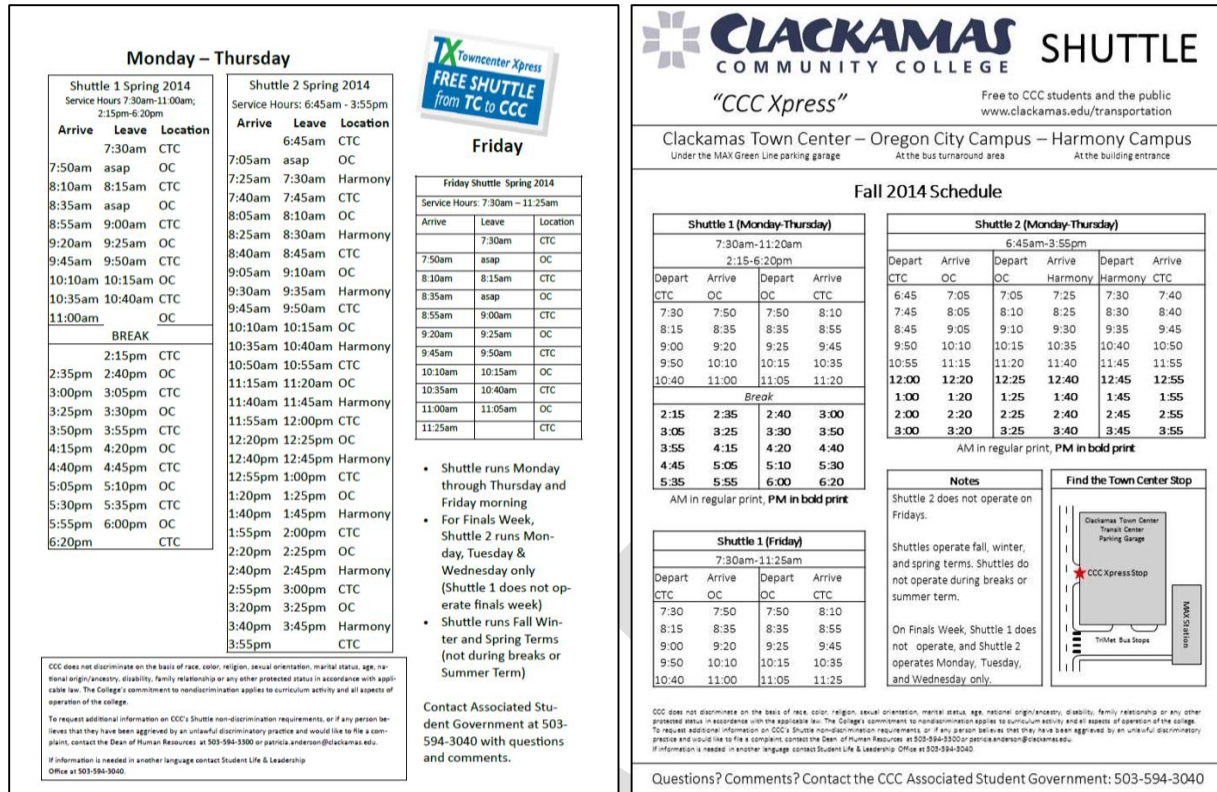
Figure 32 Previous shuttle schedule flyer (left) and new shuttle schedule flyer (right)
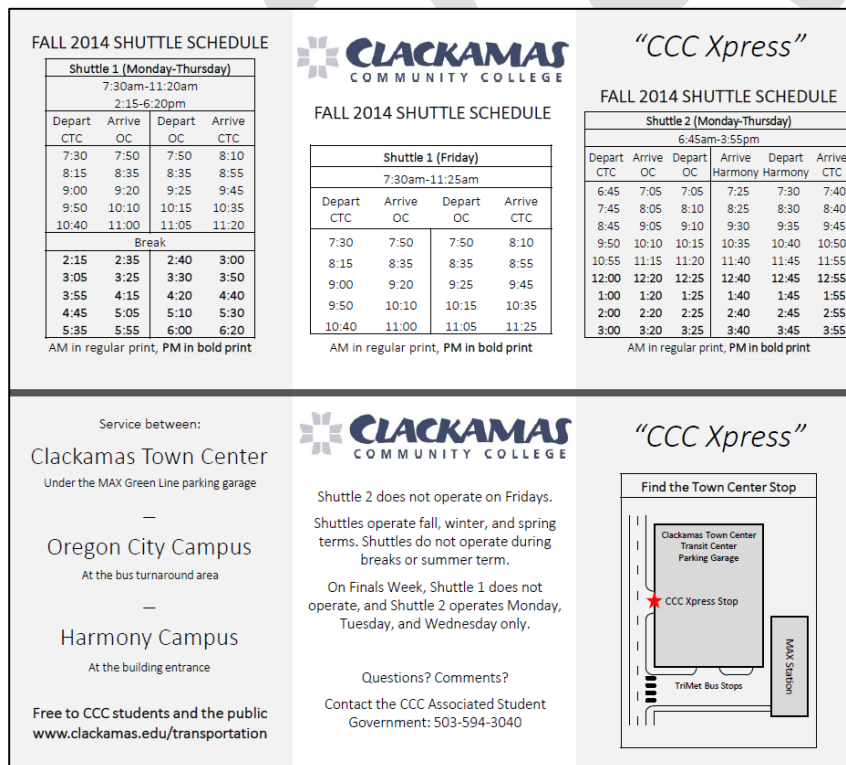
Figure 33 Mini shuttle schedule flyer – foldable pocket version (front and back)

Shuttle Partnerships

Efforts were made to establish shuttle awareness among the larger community for the purpose of future partnerships to expand shuttle routes into new areas.

A Clackamas County task force, led by Clackamas County Strategic Policy Advisor Dan Chandler, was formed in September 2014 to discuss transit services supplemental to TriMet. CCC became a part of the discussion and met at the first transit workgroup meeting. There, the group learned more about the CCC Xpress Shuttle and was keen to ask questions about its route, operation, and finances. The group is aware of CCC's interest in expanding its shuttle coverage to CCC Wilsonville campus and to downtown Oregon City.

CCC has also been in talks with the City of Oregon City about expanding the shuttle service area. John Lewis, the public works director for the city, and Tony Konkol, the Community Development Director, have met with CCC to discuss CCC Xpress enhancements.

Information on the shuttle system was presented to the TriMet Board of Directors at the monthly board meeting in October 2014. The board was briefed on the shuttle improvements, including branding and signage, and goals like increased ridership and increased service area. They were very receptive to the shuttle and lauded CCC's efforts to supplement TriMet service where it may best serve student interests.

Recommendation

Remain in discussions with the Clackamas County shuttle task force and the City of Oregon City. A person or an entity should be designated that can maintain these connections. Additionally, CCC should be involved in Clackamas County Coordinating Committee (C4) meetings, as these meetings concern land use and transportation issues in the region.

Ridesharing

About 6% of students reported ridesharing/carpooling to get to campus. Faculty and staff share rides at approximately half that rate. Almost 40% of students indicated in Improving CCC Transportation 2014 that they would be willing to consider ridesharing if they had help finding a rideshare partner. Many regional institutions have a rideshare program, but no such program existed at CCC to help match rideshare partners.

There are a number of benefits to a vibrant rideshare community. Students save transportation costs when they share the burden with others. Parking demands are lessened, saving the college space and also increasing arrival time reliability for students who no longer have to search for a parking space. Rideshare participants often report a sense of community with their rideshare partners. A successful, extensive rideshare community can also supplement a transit network, to a degree.

To establish a rideshare network, CCC partnered with Drive Less Connect, a statewide ride-matching tool administered by Metro in this region. Drive Less Connect is a free service that matches drivers with those in need of a ride. CCC students who sign up using their CCC email address are automatically placed into a network with other CCC students. Similarly, faculty and staff will be placed into a network if they sign up with their CCC email address.

Drive Less Connect has been fully integrated into CCC's transportation marketing message. It is advertised in tandem with other alternative transportation modes on all flyers and the Transportation Hub website. In addition to CCC's marketing efforts, the Drive Less Connect team periodically sends out promotions that include prizes for using the service.

CCC's contact at Drive Less Connect is Pamela Blackhorse. She is aware of CCC's desire to see the school rideshare network grow and can provide metrics upon request.

A rideshare network is not as visible as something like the CCC Xpress Shuttle. While the shuttle has been relatively easy to market – especially with its new wrap – Drive Less Connect is more reliant on flyers, social media, and word of mouth. At the time of this report, the school network is growing but still marginal.

Recommendation

Making ridesharing more visible will help grow the network. Reserved rideshare parking spaces on campus are very visible and, depending on their placement, desirable. Reserved spaces for ridesharers should be added in a few key locations to help increase awareness, and, more importantly, provide incentive to rideshare.

Parking

Many students reported having trouble finding parking spaces. This sentiment is repeated by outlets such as the Clackamas Print, and is widespread enough that there is an impression that parking is at capacity across campus. At CCC Oregon City, much can be done to intelligently direct traffic towards larger lots that always have space.

To begin the process of shifting student perception, in any transportation marketing material, parking advice is being given that directs students to the Barlow parking lot in place of the Niemeyer and Rook/DeJardin lots. The suggestion is phrased to help students understand they are ultimately saving time by going straight to a parking lot with space instead of circling around a lot that is at capacity. Infographics like the prototype in Figure 34 can be used to help convey parking demands.

Along these lines, efforts should be made to formally name each parking lot, for the purposes of easier wayfinding.

Additionally, parking occupancy counts should be routinely collected for the purpose of understanding which lots are in need of more stringent parking management.

Recommendation

Name each parking lot and place a sign at each entrance. Conduct routine parking occupancy counts.

Figure 34 A parking infographic of parking lot demand used in marketing

New Transit Partnerships

Transit partnerships existed prior to the start of this study – TriMet uses CCC's campus as a Park and Ride and as a terminus for three of its bus lines – but communication was infrequent and little was being done to lobby on CCC's behalf.

As mentioned in the Current State Analysis, TriMet had already begun a study of its southeast service area, dubbed the Southeast Service Enhancement Plan. CCC reached out to Steve Kautz, the manager of the plan, to provide input. Mr. Kautz was eager to discuss CCC's transportation needs, including increased bus headways (service frequency) and rural student access. He will be incorporating CCC's input into the plan, which is expected to be completed in Fall 2015.

TriMet has been invited to "table" at all student orientation events. A representative was sent to the Fall 2014 events to distribute promotional material, bus and MAX schedules, and to answer questions.

TriMet contacts: Steve Kautz, 503-962-5859, kautzs@trimet.org (general)

Inessa Vitko, 503-962-5624, vitkoi@trimet.org (shuttle signage at Clackamas Town Center)

Jan Martin, 503-962-5635, martinj@trimet.org (TriMet tabling)

Select Term Pass Program

CCC does not offer subsidized student transit passes and remains one of the only institutions in the region to lack this service. TriMet's Select Term Pass Program is designed to help schools offer discounted passes. Under the program, a monthly pass that normally costs $100 can be had for $90.

Passes are purchased in bulk by CCC and then redistributed to students. Unsold passes can be returned to TriMet and refunded, and more passes can be purchased should the original supply run out. The amount ordered can fluctuate from term to term.

Passes are purchased in monthly installments that best "wrap around" the school term. So, for Fall term, passes would cover September-December and cost $360 – a savings of $40 over full price.

Until CCC establishes a revenue stream that may subsidize student transit passes to a greater degree, and to a greater number of agencies, the Select Term Pass is an ideal method for assisting students with transit pass costs. TriMet is aware of CCC's desire to implement the Select Term Pass Program in lieu of a more robust subsidization program.

Increased Bus Service

TriMet is rolling out bus service improvements that will directly impact CCC. The following is TriMet's rollout schedule relevant to CCC including opening of the new MAX line, and may be subject to change.

March 2014

Restoration of weekday midday service to every 15 minutes or better on all twelve Frequent Service (FS) bus lines.

- Line 72 to Clackamas Town Center was already at full FS (every 12 mins.)
- Line 33 to Oregon City and to CCC -- service increased with 13 additional midday trips

June 2014

Schedule reliability improvements on Line 72 to Clackamas Town Center, weekday and weekends (buses added for more predictable arrival times)

September 2014

Restoration of weekday evening service to every 15 minutes or better through 8 pm on all twelve Frequent Service (FS) bus lines and all MAX lines.

- Line 72 added evening trip
- Line 33 to CCC -- service increased with 4 additional evening trips
- Line 33 – added buses and trip time adjustments through the day for schedule reliability
- Line 99 – added p.m. trip to CCC to relieve overcrowding

March 2015 (planned)

Restoration of Saturday service to every 15 minutes or better on all twelve Frequent Service (FS) bus lines.

- Line 72 to Clackamas Town Center already at full Frequent Service
- Line 33 to Oregon City and to CCC -- additional buses and more trips

June 2015 (planned -contingent on final budget)

Restoration of Saturday and Sunday service to every 15 minutes or better on all MAX lines.

Restoration of Sunday service to every 15 minutes or better on all twelve Frequent Service (FS) bus lines.

September 12, 2015

Bus service changes and improvements to complement new MAX Orange Line service:

Line 33-McLoughlin (revision from initial draft proposal)
- Maintain existing frequency, days and hours of service.
- Maintain existing route to Downtown Milwaukie, then most trips continue east on Harrison Street and King Road to Clackamas Town Center as Line 31 (route name and number to be determined).
- Riders can transfer to the MAX Orange Line at SE Park Ave and Milwaukie/Main St stations.

Line 99-McLoughlin Express
- Maintain existing frequency for the weekday rush-hour only service.
- Service in both directions during weekday rush hours -- between about 5:30 a.m. until 8:45 a.m. and from 3 p.m. until 7 p.m.
- New route into Downtown Portland via Sellwood Bridge with limited stops on Tacoma Street, Macadam Boulevard and Corbett Street to existing route on the Downtown Portland Transit Mall. The route change would occur when the Sellwood Bridge is open to bus traffic. In the meantime, interim routing is being reviewed.
- Transfer to MAX Orange Line at SE Park Ave, Milwaukie/Main St or SE Tacoma St/Johnson Creek stations, plus stations on the Downtown Portland Transit Mall.

Connecting Transportation to Retention and Success

Habitualizing students, faculty, and staff to consider transportation options in their daily decision-making will be a key requirement to seeing current and future transportation projects succeed. Students should always be aware that they have multiple ways to get to campus and to get between campuses. They should be aware of resources to help them learn more about a particular mode, to voice a complaint, or to seek help when transportation burdens become too onerous. A healthy CCC transportation community will help student retention and regional institutional competitiveness.

As part of this study, flyers were made in various forms to distribute at events. One such flyer is shown in Figure 35 (this flyer was made before the launch of the Transportation Hub website, hence the lack of web address). Along these same lines, an informational video was made for the First Year Experience course being offered as part of a pilot study to new students in Fall 2014. The video discussed the ways to get to campus and where to go to get more information, covering the same topics as those present in the flyer in Figure 35. Efforts like these can help engender transportation awareness on a broad level and ensure that students are making optimal choices when considering their transportation options.

Accountability

Fostering accountability will help maintain momentum for current and future transportation projects. To this end, a person or entity will need to take oversight of CCC's transportation interests to ensure continuity and organization. The Presidents' Council should serve as the accountability agent in the interim time between this report's publication and the appointment of a transportation coordinator so that the initiatives and partnerships begun during the study may continue.

Figure 35 Sample transportation awareness mini-flyer (front and back)

Future Steps

This section discusses transportation projects taking place after the completion of the CCC 2014 Comprehensive Transportation study, recommendations for improvements to existing systems, and the need for increased transportation investment at the college level.

The projects initiated over the course of this study have demonstrated the immediate effect of simple and inexpensive modifications to existing systems. More work will need to be done to establish transportation as a central tenant of CCC's strategic planning.

Extensive improvements can be made to the CCC Xpress Shuttle that will allow it to more effectively supplement transit *and* auto trips. The CCC Xpress Shuttle can also be viewed as a symbol of CCC's transportation efforts, and with its successes, student transportation awareness will follow. With route expansions, its marketing wraps will serve as mobile billboards for the college.

The anticipated recurring transportation needs, in addition with maintenance of existing initiatives and the burden of daily transportation systems management, will require a more dedicated oversight than is presently given to CCC's network as a whole. For this reason, a transportation systems manager will be recommended to provide steady and ongoing oversight of all transportation concerns in the CCC community.

CCC Xpress Shuttle Expansion

The CCC Xpress Shuttle has received praise for its current service area given its young age and has also received many requests to consider expanding to new areas. The most frequently cited extensions are CCC Wilsonville campus and the Oregon City Transit Center in downtown Oregon City. Expanding to these locations should be a priority in the shuttle planning process.

Students who do not drive have no practical way to get between CCC Wilsonville campus and other CCC campuses. Via transit, the trip takes over two hours one-way. The shuttle would allow travel times comparable to auto travel.

Connecting the shuttle system to the Oregon City Transit Center would serve the same purpose as the current connection at Clackamas Town Center Transit Center: transferring between the shuttle and the extensive TriMet system. Many bus lines serve the OC Transit Center. Three continue to CCC Oregon City campus: Lines 32, 33, and 99. Still, travel times from OC Transit Center to campus via bus are considerably longer than a direct shuttle route would take. Additionally, Canby Area Transit serves the OC Transit Center. Students travelling via CAT must make the transfer to TriMet, adding considerable length to their trip when a transfer to the shuttle would help minimize travel times.

Expanding the shuttle service area has the added benefit of increased advertising for CCC given the shuttle's new branding efforts.

Shuttle Funding

The shuttle is currently funded through a combination of the TriMet-administered Job Access and Reverse Commute (JARC) grant and the student general fund. The JARC grant will last through Spring 2016, at which point its annual $45,000 contribution to shuttle operations will need to be supplemented with another funding source. The discussion for replacing the JARC grant should begin as soon as possible to ensure continuation of the shuttle service.

Two courses of action can be taken in regards to shuttle funding sources:

1. Soft money – find a new grant source
2. Hard money – establish a fee- or permit-based revenue stream

Both of these courses are feasible and practical. The city of Forest Grove's new shuttle service, GroveLink, is funded through a Ride Connection grant. Linn-Benton Community College's shuttle service, the Loop, is funded through a $1-per-credit-hour student transportation fee. Each of these funding models should be investigated and considered for the CCC Xpress Shuttle.

Shuttle Size

As the shuttle increases its ridership, contingency plans will need to be made for when the growth outpaces capacity, as it occasionally does in the shuttle's present form. Adding more shuttles to increase headways (service frequency), or increasing the capacity of the two current buses, will help mitigate overcrowding. Shuttle capacity is currently limited to 14 passengers because any more passenger capacity mandates a commercial drivers license and other functional changes to the shuttle.

Shuttle Stops on CCC Oregon City Campus

A second shuttle stop on CCC Oregon City campus should be considered at Clairmont Hall. Students reported in the Improving the CCC Transportation 2014 survey that the walk from the current shuttle stop at the bus turnaround area to Clairmont Hall is discouraging. It would be little additional distance or time for the shuttle to exit campus via Beavercreek Road instead of OR-213 and make a stop at Clairmont Hall on its way out. A shuttle stop sign should be placed at Clairmont Hall if this stop is added.

Shuttle Feedback Mechanism

Presently, students have several uncoordinated methods of providing feedback or asking questions regarding the shuttle. A phone number and an email address – each going to a different person – are provided on the new shuttle signs and on the redesigned shuttle flyer. The phone number goes to ASG and the email address goes to Sean Pollack. While it is anticipated that these two parties will share feedback, this is a disorganized system.

Additionally, ASG is staffed by a rotation of students whose ability to respond to shuttle questions may vary. A template of shuttle scenarios and responses (i.e. what to do when the shuttle is late, what to do when the shuttle breaks down, what to do when the student has a scheduling question…) should be developed and distributed to the ASG call desk.

Ultimately, shuttle feedback should be unified under one person who is familiar with various shuttle issue scenarios and can respond more efficiently and can effectively log reports in one database. This person should be able to provide immediate feedback via the contact channels while also relaying constructive feedback to the proper parties for longer-term shuttle improvement.

Shuttle Google Maps Data

The shuttle schedule may be considered for input into Google Maps' database. Google Maps accepts data from all transit agencies for its direction services. In other words, transit agencies submit their routes and schedules to Google Maps, and Google Maps then integrates these data into its directions queries. A student using Google Maps to get directions from home to campus would see the CCC Xpress Shuttle as an option when relevant.

Shuttle Partnerships

Consideration should be made for partnering the shuttle with other organizations, institutions, or agencies to share the burden of shuttle funding and operation. This possibility has been brought up in meetings with the City of Oregon City and in the Clackamas County shuttle task force.

Recommendations

- Establish shuttle routes to CCC Wilsonville campus and the Oregon City Transit Center
- Begin discussions for the replacement of the JARC grant that funds the majority of shuttle expenses
- Consider a second shuttle stop on OC campus by Clairmont Hall
- Develop a feedback response template for the ASG feedback hotline

Anticipated Recurring Needs

Data Collection

Data will need to continue to be gathered for performance assessments and other metrics. The Improving CCC Transportation 2014 survey was extremely successful in gathering valuable data on many different fronts, from parking to transit to future needs. This survey will help guide CCC transportation initiatives for the near future, but will need to be periodically updated to reflect changes.

Parking lot occupancy data should be routinely collected to determine which parking lots are reaching capacity and at what point more stringent parking management will need to be put in place. Data collections like these can be "crowdsourced" by teaming up with math or statistics classes as a real-world example of data collection and analysis.

Scheduling

Efforts need to be made to alter course scheduling from a transportation viewpoint. Such coordination will be a very data- and coordination-intensive task and involve many stakeholders, including CCC faculty, a CCC transportation representative, and regional transportation managers. However, the payoff will be a more efficient student course load that considers travel patterns and travel burdens. For example, classes should be offered during off-peak travel periods and avoid peak travel times in the morning and evening periods to minimize roadway congestion.

The CCC Xpress Shuttle schedule should similarly be expressly optimized to account for class start times. It should also take peak hour travel times into account. Presently, travel times suffer during peak periods due to congestion on I-205, but these travel times are not accounted for in the schedule, which does not differentiate travel times in peak and off-peak periods.

Real-time Travel Information

A system of real-time travel updates should be made available to students. This system should be able to give updates on travel conditions in the region, such as congestion in the Interstates or incidents on nearby roadways. Students can use this information to plan their arrival times on campus, helping to mitigate late arrivals. Many students reported in the Improving CCC Transportation 2014 survey that they often encountered unexpected congestion on their way to campus, resulting in late class arrival times.

The real-time travel information should consider all transportation modes. This system will need to be actively managed to ensure timely updates. These updates can be actively sent to students via email or text message alerts, or passively posted to a central location such as the Transportation Hub website.

Recommendation

Designate a single person who can manage these and other recurring needs to ensure accountability and consistency.

Upcoming Regional Projects

Over the course of this study, CCC has become involved, and will need to stay involved, in the following projects being planned at the county and regional level.

Meyers Road Extension

Meyers Road is to the south of the campus and extends westward from Beavercreek Road, south of Oregon City High School. The road presently terminates at High School Ave at the border of OCHS. An extension of Meyers Road to OR-213 about 2,500 ft away has been planned for some time. In fact, the extension is discussed in the 2006 CCC Master Plan.

As CCC expands its Oregon City campus, it will be required to mitigate the ensuing traffic impacts. This can be accomplished either by constructing a new college access point on the Meyers Road extension or through other means like constructing dual left turn lanes at the OR-213/Molalla Ave intersection.

The project is currently in its planning phase and plans to move forward have not yet been announced.

Contact: John Lewis, 503-657-0891, jmlewis@ci.oregon-city.or.us

Harmony Campus Upcoming Projects

Southwest Connector Project

The Southwest Connector Project is a project focused on addressing issues and deficiencies at the Harmony/Sunnyside/82nd and 82nd/Sunnybrook intersections. The intent of the project is to reduce congestion and improve safety and connectivity for all modes of travel. The project design is split into two phases: the first phase explores design alternatives and puts them before public and stakeholder review; the second phase will see the construction of the preferred alternative, likely in Summer 2017. The county intends to look to CCC as a significant stakeholder in the project.

Contact: David Queener, 503-742-4322, davidque@co.clackamas.or.us

Multimodal Mixed Use Area (MMA)

The Clackamas Regional Center Multimodal Mixed Use Area (MMA) project is an upcoming project that will guide development and redevelopment on the land encompassing CCC Harmony Community campus and the immediately adjacent buildings bounded by 82nd Ave and Harmony Rd. An MMA is a designation applied to areas where the local government determines there is:

- High-quality connectivity to and within the area by modes of transportation other than the automobile;
- A denser level of development of a variety of commercial and residential uses than in surrounding areas;
- A desire to encourage these characteristics through development standards; and
- An understanding that increased automobile congestion within and around the MMA is accepted as a potential trade-off.

The purpose of the MMA is to ensure that the Clackamas Regional Center continues to develop into the center of commerce that is envisioned in the 2040 Growth Concept and ensure that the regional center continues to be the "*focus of transit and highway improvements.*"

As of Fall 2014, the project is in its scoping phase, and a final set of tasks and schedule have not yet been determined.

Contact: Larry Conrad, 503-742-4539, larryc@co.clackamas.or.us

Wayfinding – Clackamas Regional Center Project

CCC is one of the stakeholders in a current project administered by Clackamas County: Clackamas Regional Center (CRC) Wayfinding Project. The project includes business owners, Clackamas Town Center, and the county to enhance safety and visibility of routes for cyclists and pedestrians in a heavily traveled area that includes Clackamas Town Center, the bike routes along Sunnyside Road, and the I-205 bike paths, and CCC's Harmony Campus. Work will continue on this project through early 2015.

Contact: Lori Mastrantonio, Senior Planner, Clackamas County, lorim@clackamas.co.us

Recommendation

Remain in communication with the contacts for each of these projects and promote CCC interests.

Transportation Systems Manager

Many of the initiatives identified over the duration of this study, as mandated by the findings of the Improving CCC Transportation 2014 survey, will require steady and ongoing oversight. A dedicated transportation systems manager will be needed to efficiently, reliability, and consistently monitor the CCC transportation network and address challenges as they arise.

The shuttle alone is in need of a dedicated manager to efficiently manage the many different tasks including funding sourcing, scheduling coordination, marketing, frequent communication with Premiere Valet, data analysis and benchmarking, and attending public meetings to coordinate and promote CCC's shuttle interests. Each of these tasks is currently assigned to a different person, if attributed at all. A dedicated manager will be more efficient and, just as important, take the burden off its existing designees.

Oversight

The shuttle is one of many responsibilities that need to be assigned to a designated transportation systems manager:

- Shuttle management
- Parking management
- Transit partnerships with all regional agencies, including steady communication
- Transit management, especially concerning subsidized student transit passes
- High school transportation coordination, with counselors and directly with high school students
- Rideshare promotion
- Transportation Hub website upkeep
- Data collection and analysis, including iterations of the Improving CCC Transportation survey
- Coordination with Marketing, Social Media, Institutional Research, and other departments
- Address student feedback and provide responses
- Report to ASG, College Council, Presidents Council, and Board of Education, when appropriate
- Capital project input, including input on the Meyers Road extension and similar projects
- Public meeting attendance
- Task force input, including Clackamas County shuttle task force input

Transportation Demand Management

A transportation systems manager's responsibilities will include smart management of CCC's overall transportation network demand. A transportation demand management plan, which will put into place the recommendations made in this study, will adhere to the following Strategic Objectives:

1. Reduce percentage of CCC students traveling in single-occupancy vehicles to all CCC campuses
2. Reduce percentage of students, faculty, and staff traveling between CCC campuses in single-occupancy vehicles
3. Reduce percentage of students reporting transportation barriers
4. Systematically track student, faculty, and staff transportation concerns, mode choice, and barriers

Details of each Strategic Objective are given in Table 5. A sample transportation systems manager position is provided in Appendix B.

Funding

Funding for such a transportation systems manager position may come from a variety of sources. Grants and other external, temporary funding sources may be considered until more permanent internal funding sources are allocated. For example, the Metro Regional Travel Options grant program[3] administers grants for planning projects "aimed at further defining a regional travel options program or series of strategies at the local level. Ideally, a plan would build upon planning guidance found in a transportation system plan." This report may serve as an acceptable transportation system plan for justifying the Metro RTO grant. As of the publication of this report, the 2015-2017 RTO grant program is accepting applications – the deadline is December 19, 2014.

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[3] http://www.oregonmetro.gov/tools-partners/grants-and-resources/travel-options-grants

Table 5 Strategic Objectives for a Transportation Systems Manager

Objective #1: Reduce percentage of students traveling in single-occupancy vehicles to all CCC campuses			
Strategies	*Metric*	*Results/Progress*	*Completion Date*
1A Increase student public transportation ridership			
Initiate connections at all relevant transit agencies	Point person at each agency	Connections made	ASAP
Collaborate with Trimet	Communicate CCC initiatives and seek agency feedback and resources	Agency kept up-to-date	Ongoing
Collaborate with Metro	Communicate CCC initiatives and seek agency feedback and resources	Agency kept up-to-date	Ongoing
Collaborate with SCTD	Communicate CCC initiatives and seek agency feedback and resources	Agency kept up-to-date	Ongoing
Collaborate with CAT	Communicate CCC initiatives and seek agency feedback and resources	Agency kept up-to-date	Ongoing
Collaborate with SMART	Communicate CCC initiatives and seek agency feedback and resources	Agency kept up-to-date	Ongoing
Assist with trip planning	Help students find best transit route	Prominent trip plan advertising	Ongoing (+ orientations)
Subsidize transit passes for students	Transit passes discounted from full price	Subsidization programs initiated	When funding allows
1B Increase student shuttle ridership			
Track shuttle ridership	Total riders per term	5% increase each term	End of every term
Expand shuttle frequency	Times shuttle is at capacity	20% decrease in turnaways each term	As needed
Expand shuttle routes	Noted service areas in need	New routes	As needed
Expand shuttle service times	Start and end times of shuttle service	Earlier/later start/end times	As needed
Improve shuttle reliability	On-time arrivals and departures	Decrease in schedule deviance	Ongoing
Provide channels for student feedback	Feedback forms and website links	Feedback avenues advertised	Ongoing
Advertise (brochures, posters, supplementals…)	Descriptive and informative materials throughout campus	Materials easily accessible	Ongoing

Objective #1 (continued)			
Strategies	*Metric*	*Results/Progress*	*Completion Date*
Coordinate class and shuttle schedules	Avoid arrival times shortly after class start times	Fewer overlaps per term	End of every term
Brand shuttle vehicle with prominent wrap	-	Shuttle branded	As needed
Add and maintain shuttle schedule to Google Maps directions	Route and schedule info available	Up-to-date information	As needed
Create permanent and obvious shuttle stops with signage	-	Signage placed	ASAP
1C Increase student rideshare (carpool) ridership			
Maintain Drive Less Connect program	Point person at Metro	Connections made	Ongoing
Advertise DLC	Descriptive and informative materials throughout campus	Materials easily accessible	Ongoing
Incentivise carpooling with reserved desirable parking spaces	Dedicated parking spaces at each lot with signage	At least five dedicated spaces at each lot	ASAP
1D Increase student walk/bike rate			
Provide secure bike parking	Available near all buildings	Deficiencies addressed	ASAP
Highlight walk and bike routes to campus	In promotional materials	Materials easily accessible	Ongoing (+ orientations)
Advocate for nearby dedicated bike and walk routes at the city and county level	Presence at city and county meetings	Advocate at meetings attended	Ongoing
Objective #2: Reduce percentage of students, faculty, and staff traveling between CCC campuses in single-occupancy vehicles			
Strategies	*Metric*	*Results/Progress*	*Completion Date*
2A Expand shuttle service to all CCC campuses			
Service to Wilsonville campus	-	Service to Wilsonville provided	When funding allows
2B Promote rideshare for intercampus trips			
Utilize Drive Less Connect	DLC promoted for intercampus trips	DLC utilized for intercampus trips	ASAP
2C Promote teleconferencing for staff, faculty meetings			
Work with department chairs	Reports from department chairs	More frequent teleconferencing	Ongoing

Objective #3: Reduce percentage of students reporting transportation barriers			
Strategies	*Metric*	*Results/Progress*	*Completion Date*
3A Advertise transportation options at all student orientations			
Set up table for materials handout and face-to-face time	-	Conspicuous table in conspicuous location	Ongoing
Provide brochures and handouts, and advertise website and feedback avenues	-	Sufficient physical materials at orientation	Ongoing
3B Maintain college transportation website portal			
Create sections for each mode of transportation	-	Each mode detailed on website	ASAP
Maintain current information about each mode	All information kept up to date	Website up to date	Ongoing
Coordinate with all transit agencies to keep relevant routes and schedules current	Agency changes promptly reflected on website	Website up to date	Ongoing
Provide channels for student feedback	Dedicated feedback space on website	Feedback form utilized by students	ASAP
Include website on all transportation material, communications, and handouts	Website prominently featured	Website on all relevant material	Ongoing
3C Alleviate parking concerns			
Name each parking lot at CCC Oregon City campus	-	Parking lots named	ASAP
Sign each parking lot with its name at the entrance to the lot	-	Parking lots signed	ASAP
Provide information about which lots fill up first on transportation website	Text and visual aids illustrate high-demand lots	Fewer students reporting difficulty finding parking spaces	Ongoing
Objective #4: Systematically track student, faculty, and staff transportation concerns, mode choice, and barriers			
Strategies	*Metric*	*Results/Progress*	*Completion Date*
4A Distribute college-wide transportation survey			
Distribute as often as possible (ideally annually)	-	Survey administered consistently	Annually
Coordinate with Marketing to ensure best possible response rate	Survey advertised prior to deployment	High response rates	Annually
Work to keep questions as consistent as possible	No unnecessary change year-to-year	Consistent measureability	Annually
Unify all transportation-related surveys on campus	Shuttle survey, DEQ survey…		

Objective #4 (continued)			
Strategies	*Metric*	*Results/Progress*	*Completion Date*
4B Analyze transportation survey results			
Uncover student, faculty, staff transportation concerns	Provide guided Likert-style questions	Address stated concerns	Ongoing
Investigate mode choices	Ask how students, faculty, staff get to campuses	Improvement in Objective #1-#2	Ongoing
Provide opportunity for students to voice transportation barrier concerns	Ask simple yes/no barrier question	Improvement in Objective #3	Ongoing
Compare and contrast year-by-year changes in responses	Compare responses	Improvements in Objectives #1-#3	Annually
4C Provide conclusions and recommendations based on survey results			
Written and presentation form to administration	-	Administration briefed on results	Annually
Written form for distribution to students through Marketing	-	Students aware of survey results	Annually

Challenges Ahead

Improving Rural Student Access

Improving rural student access will need to be an ongoing CCC transportation goal and will hinge on partnerships and a robust campus rideshare network. Efforts should be made to establish communication with current and prospective students and community leaders in rural areas to best understand the needs of these markets.

Institutional Competitiveness

While not the express goal of an efficient and extensive transportation network, CCC's transportation system can be used as an incentive to prospective students to attend this institution over others. Transportation is often a designated priority at community colleges in the region. Portland Community College has made it a board policy to reduce driving alone while simultaneously promoting alternative modes of transportation[4].

Establishing Partnerships

Several potential partnerships have been uncovered over the course of this study. Particularly, new partnerships can be forged with the City of Oregon City and Clackamas County to better use CCC's transportation resources to reach the maximum number of students. Additionally, the partnership with TriMet has been greatly strengthened since the outset of this study and can continue to grow if properly fostered.

CCC needs to ensure it is a part of transit and land use conversations at the local level, including discussions with C4, TriMet, and a future Area Commission on Transportation (ACT).

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[4] http://www.pcc.edu/about/administration/board/policies/b602.html

Appendix A

Results from the Improving CCC Transportation 2014 survey that are not presented in the main body of this report are presented here.

Subsidized TriMet Passes

"Would you pay for a Trimet pass if it were subsidized by CCC?"

Roughly 40% of students would purchase a TriMet pass if it were subsidized; a small percentage of those students already purchase Trimet passes. Over 40% would not purchase a pass, even if it were subsidized. A large portion of respondents are not served by TriMet.
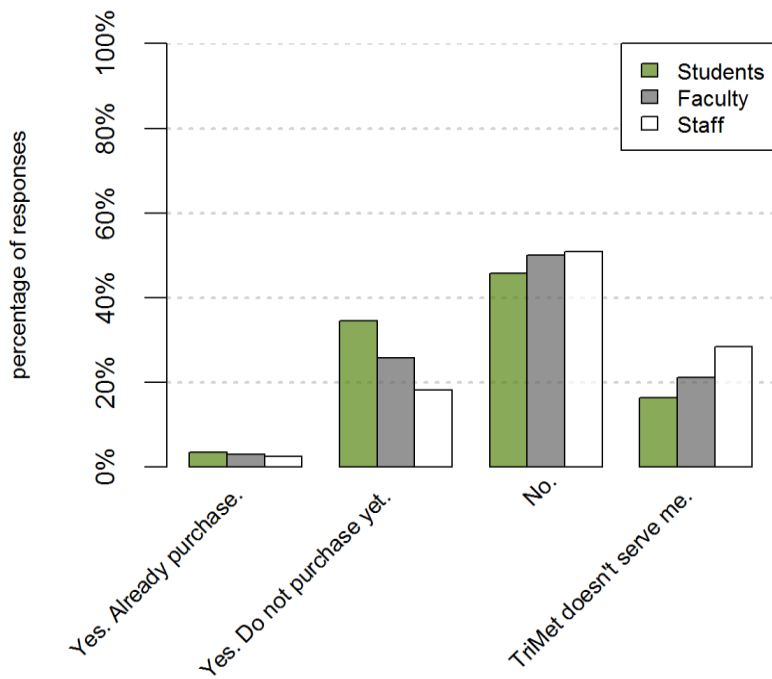
Figure 36 Respondent willingness to purchase a subsidized TriMet pass

Parking Permits – Campus Improvements

Would you be willing to pay for a parking permit on campus if the proceeds from permits went towards campus transportation improvements, like parking lot improvements?

Student respondents were largely unwilling to consider paying for parking permits. This sentiment was reflected in many open responses.
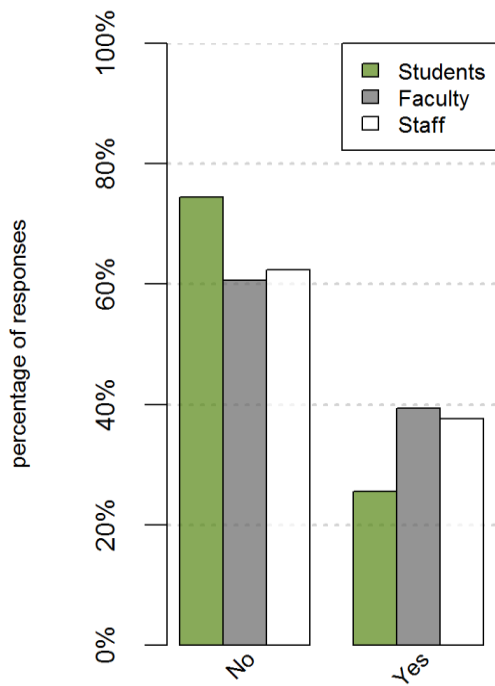
Figure 37 Willingness to pay for parking permits if proceeds went towards infrastructure improvements

Parking Permits – Subsidized Transit

Would you be willing to pay for a parking permit on campus if the proceeds went towards subsidizing bus passes for all CCC students?

Even more so than permit fees going towards campus improvements, student respondents were against hypothetical permit fees going towards subsidized transit passes for all students.
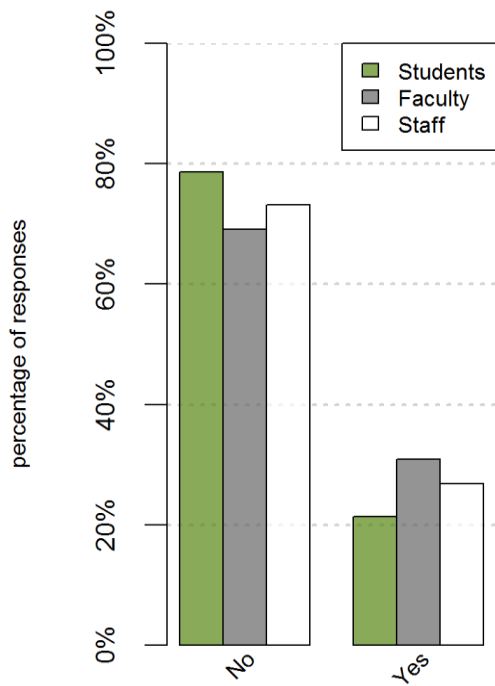
Figure 38 Willingness to pay for parking permits if proceeds went towards subsidized bus passes

Campus Parking

Difficulty finding parking on campus

All survey participants generally felt that finding parking was an easy task. Students expressed a slightly less favorable attitude towards parking than faculty or staff.
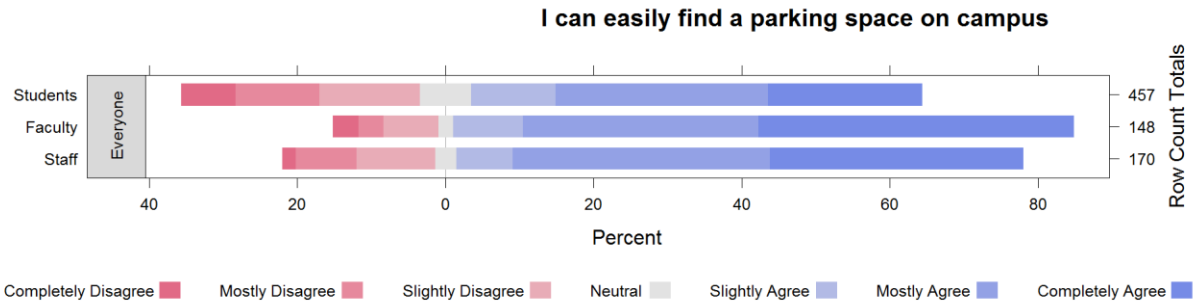
Figure 39 Parking Likert for all campuses
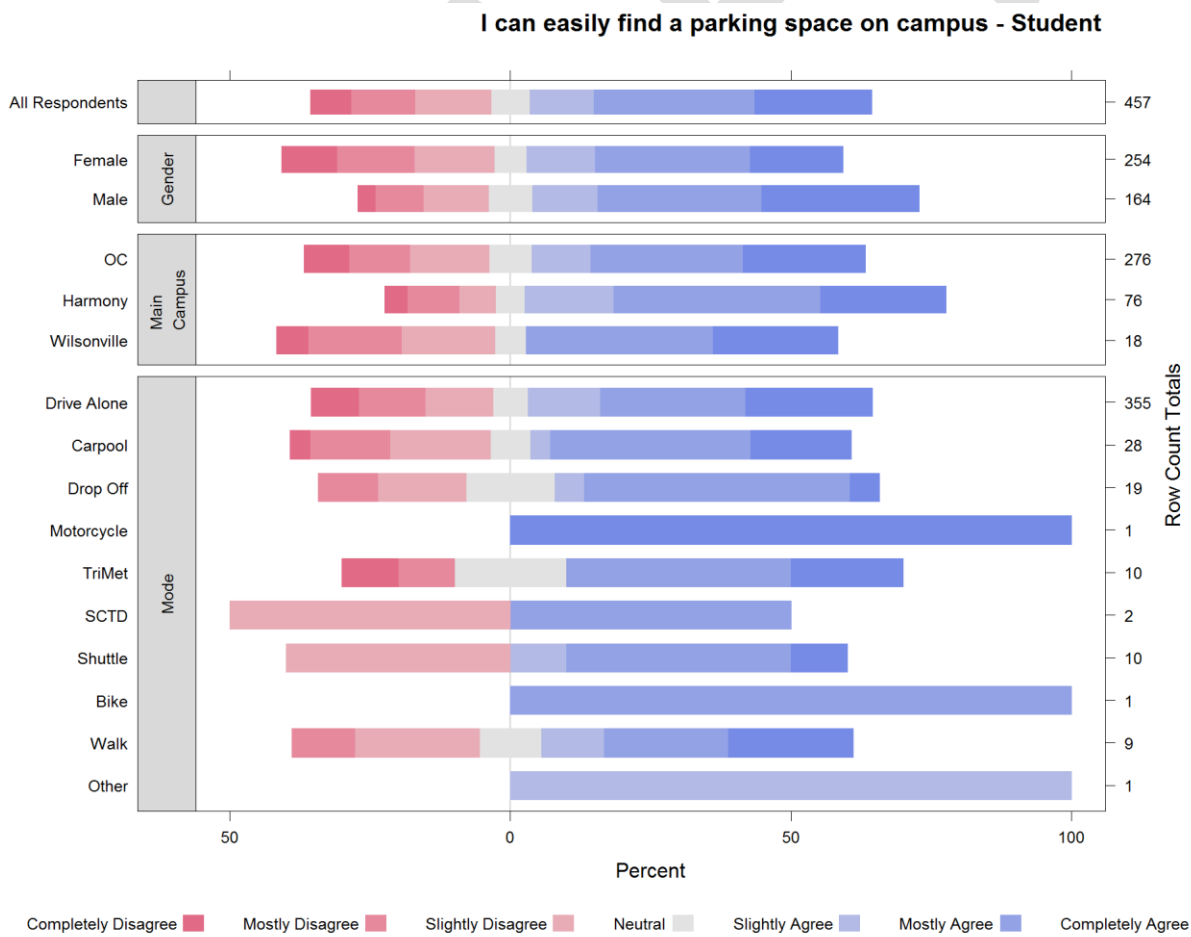
Figure 40 Parking Likert for students only

Gas Prices

Sensitivity to the cost of fuel

Students are more willing to consider alternative transportation modes than faculty or staff. Travel distance seems to play no significant role in willingness to consider alternative transportation modes.
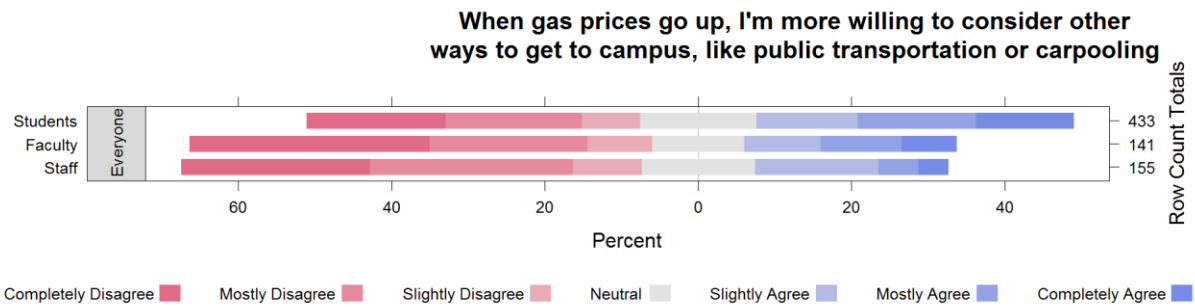
Figure 41 Gas price Likert for all campuses
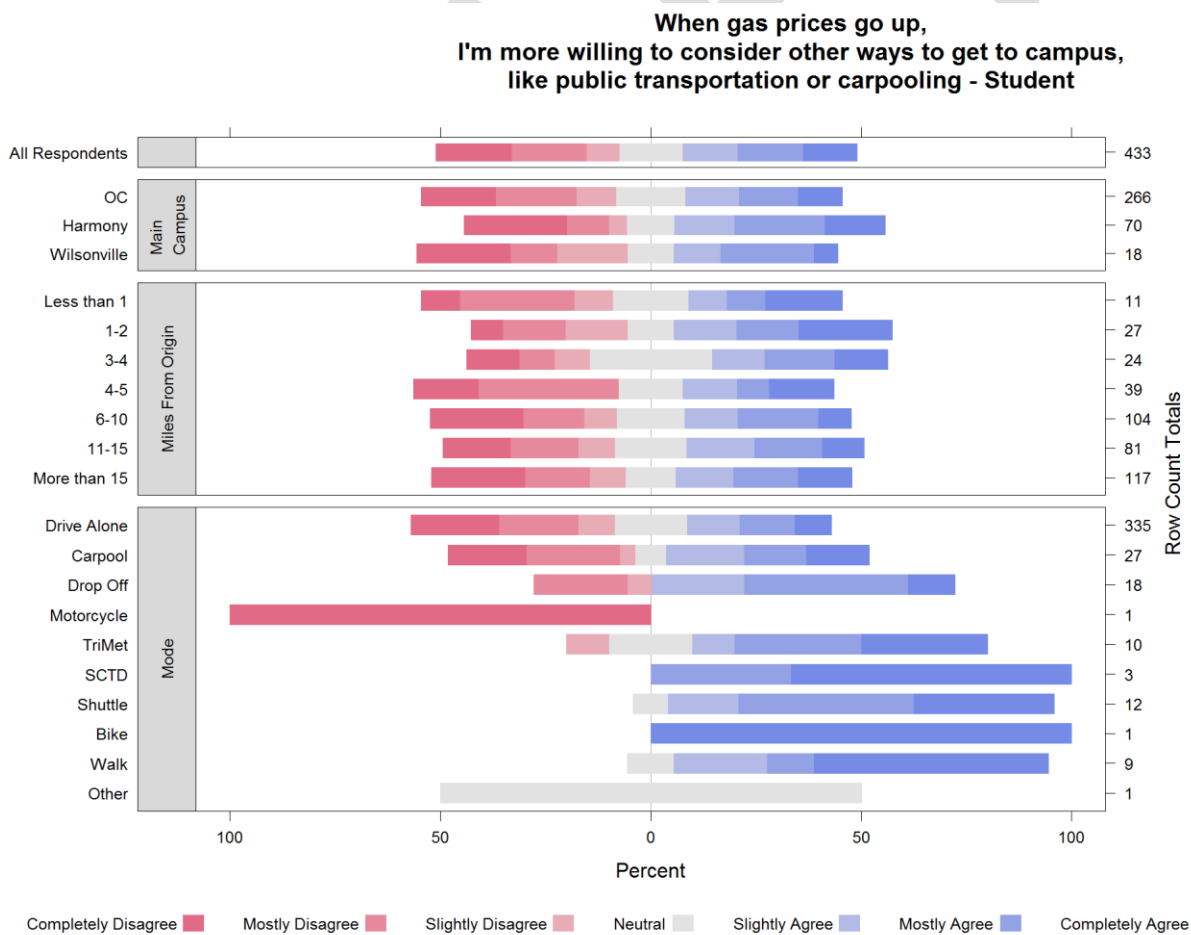
Figure 42 Gas price Likert for students only

Transit Knowledge

Current transit knowledge

Generally, those who already take transit would know how to get route and schedule information, but those who take an automobile are not as confident.
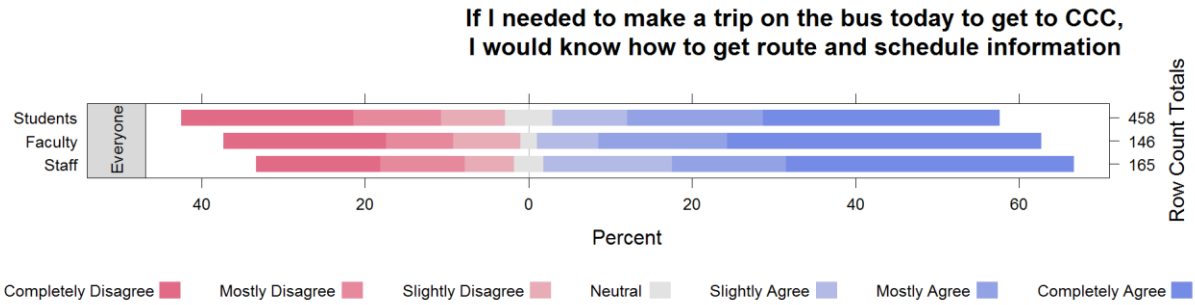
Figure 43 Transit knowledge Likert for all campuses
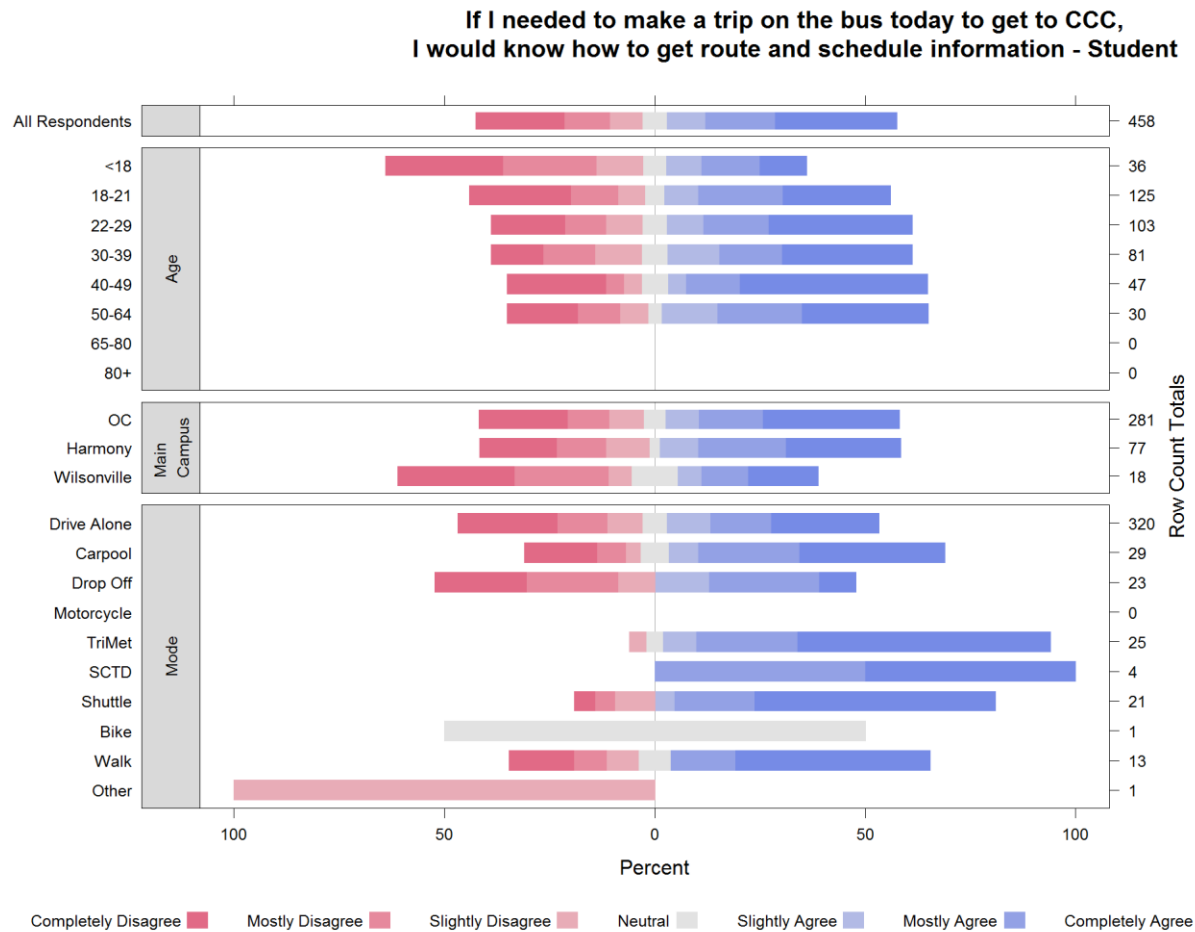
Figure 44 Transit knowledge Likert for students only

Nearby Roads

Perceived safety when crossing roads

Staff expressed the most concern towards crossing roads near campus. Age appears to play a small role in crossing confidence for students, as does gender.
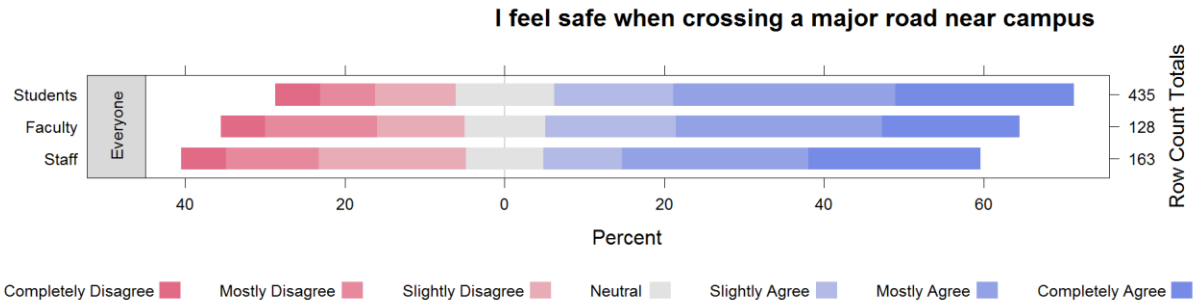
Figure 45 Road safety Likert for all campuses
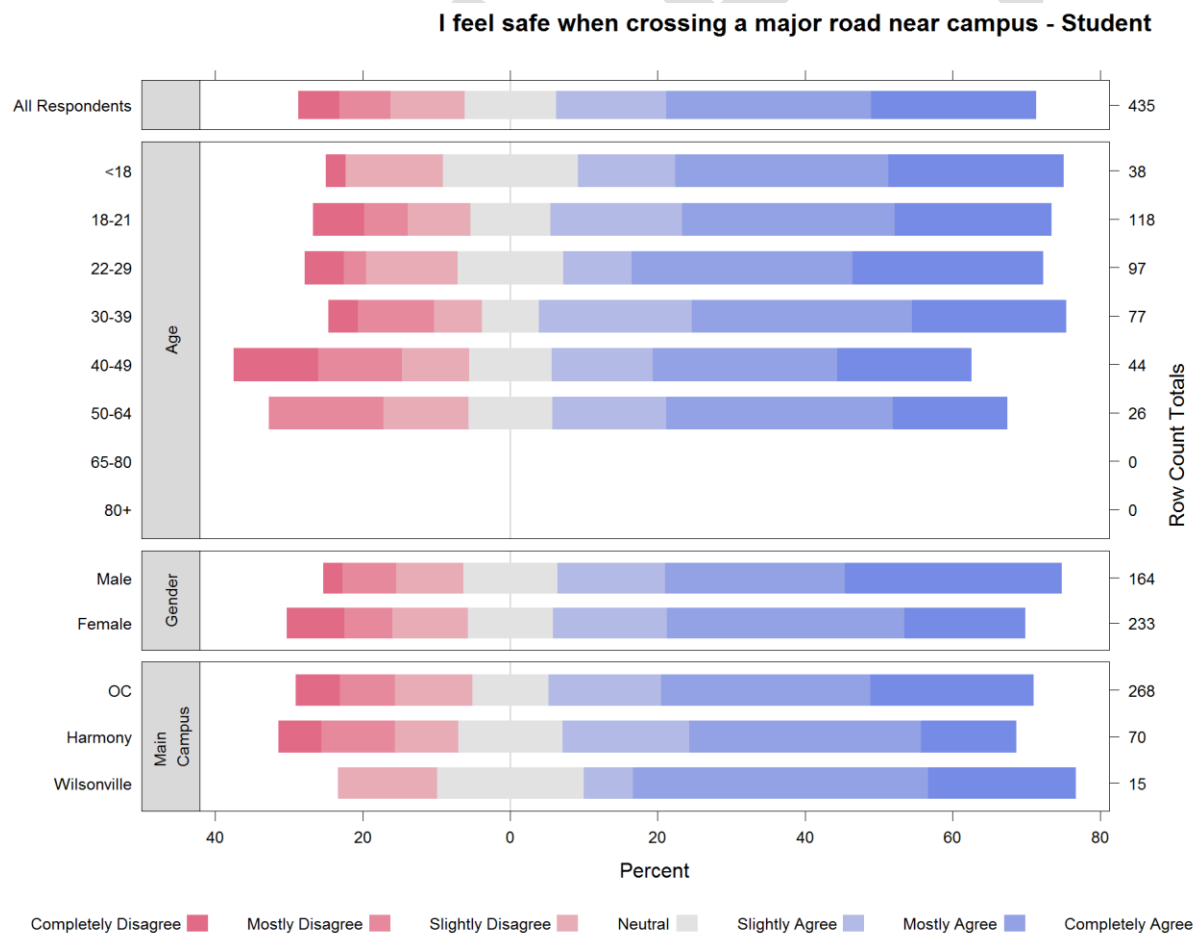
Figure 46 Road safety Likert for students only

Sidewalk Network

Ease of access using campus sidewalk network

The campus sidewalk networks are almost universally approved by students, while faculty and staff expressed slight disapproval.
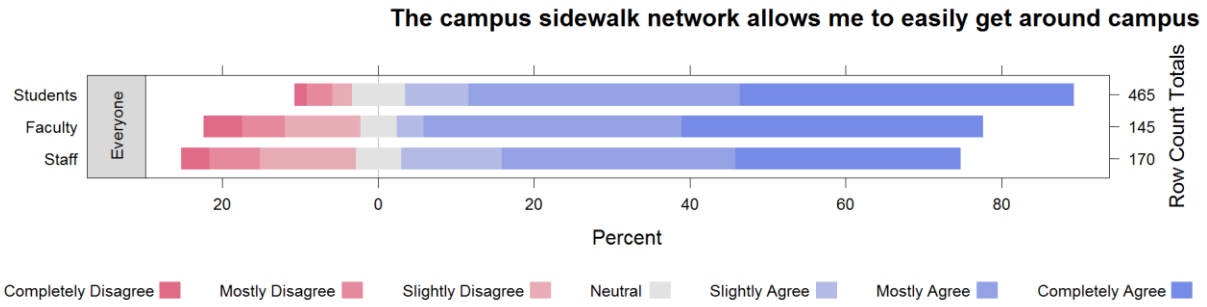
Figure 47 Campus sidewalk access Likert for all campuses
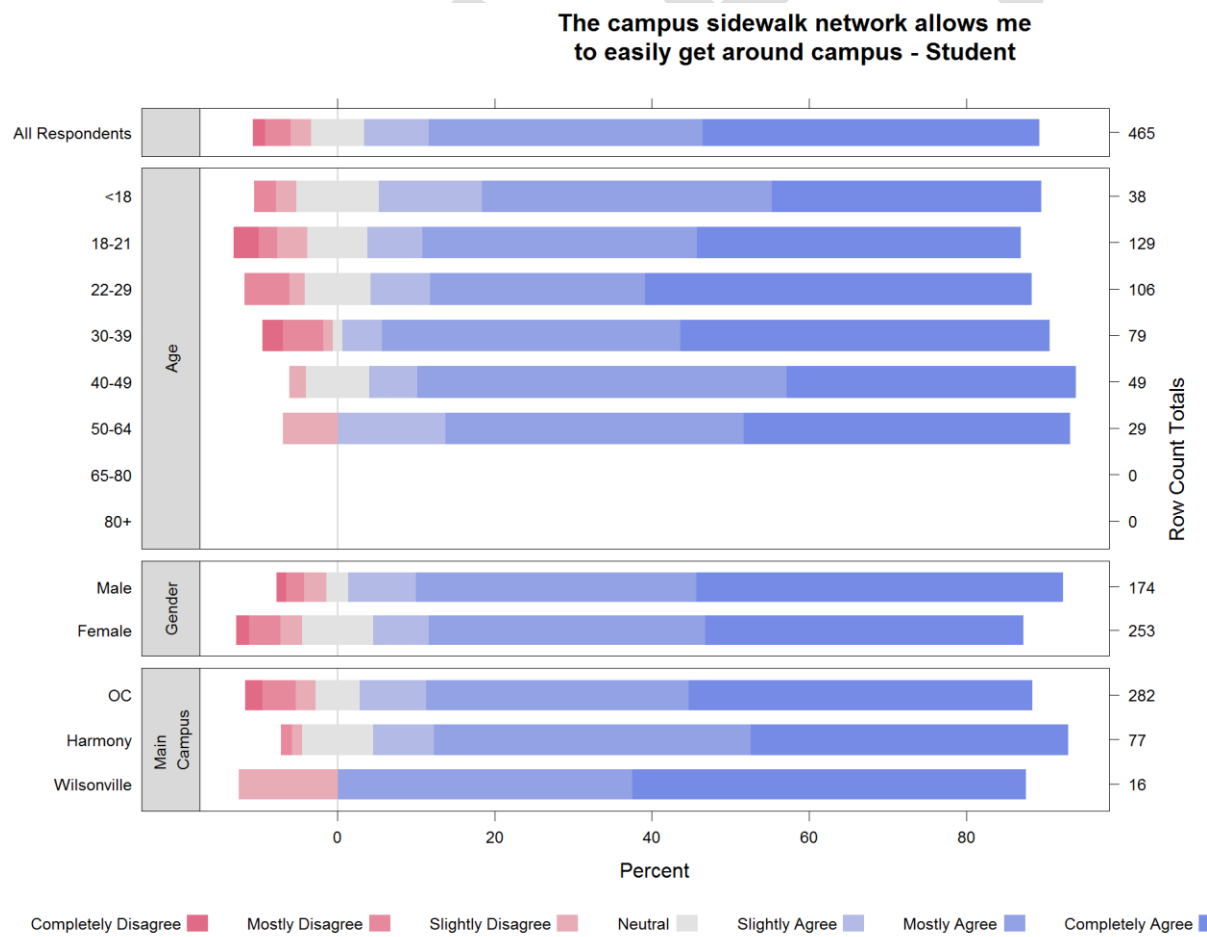
Figure 48 Campus sidewalk access Likert for students only

Bicycle Practicality

Self-assessment of feasibly commuting by bike

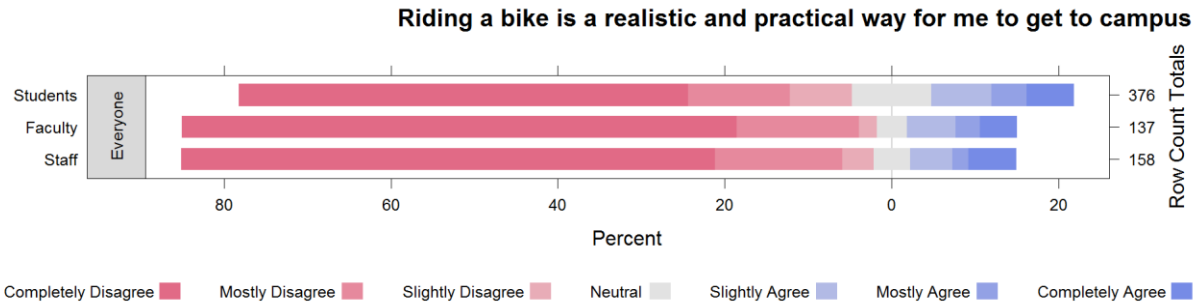Commuting by bike is widely regarded as an impractical way to get to campus.

Figure 49 Bicycle practicality Likert for all campuses
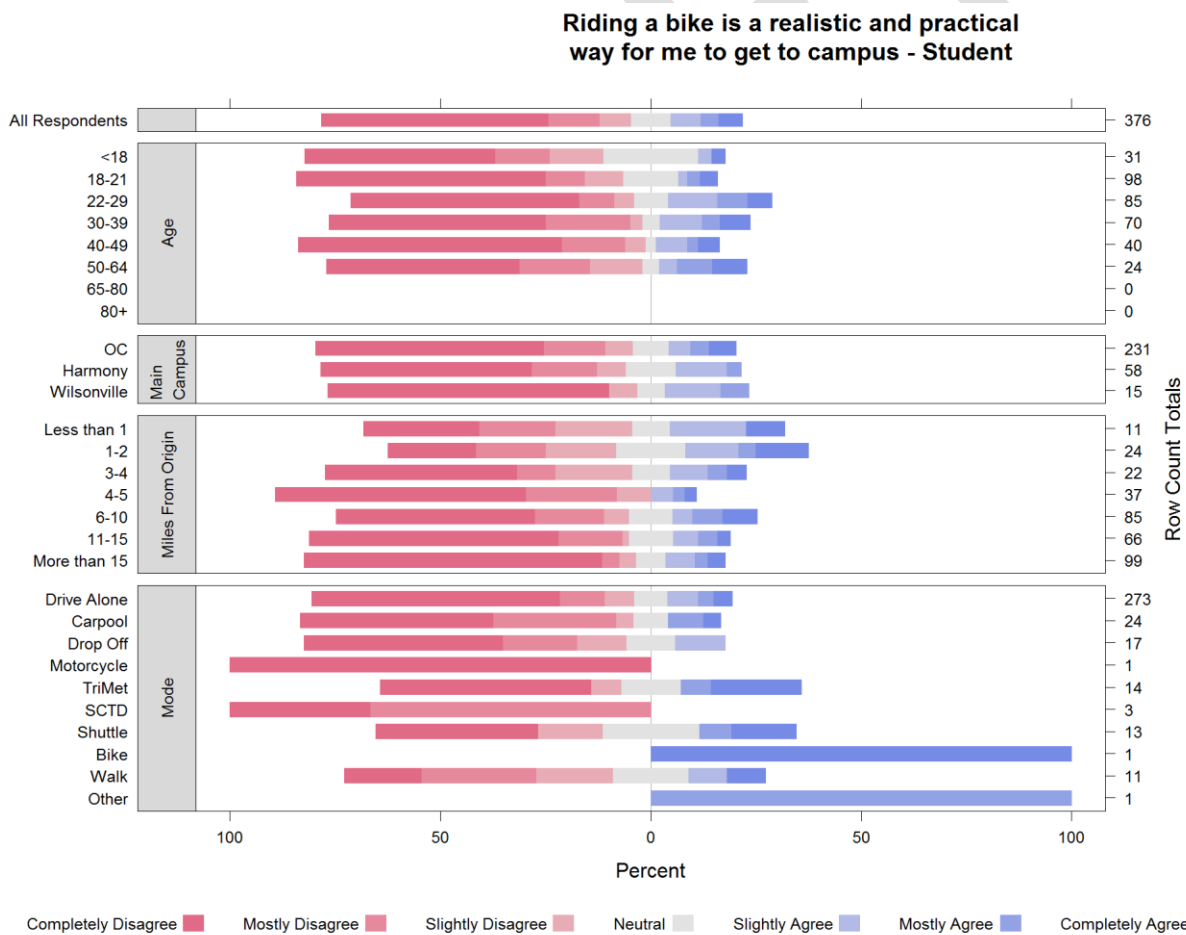
Figure 50 Bicycle practicality Likert for students only

Intercampus Transportation

Ease of transportation between campuses

Generally, intercampus transportation is seen as feasible, if not practical. Wilsonville students were slightly less positive than Harmony students, who in turn were less positive than Oregon City students.
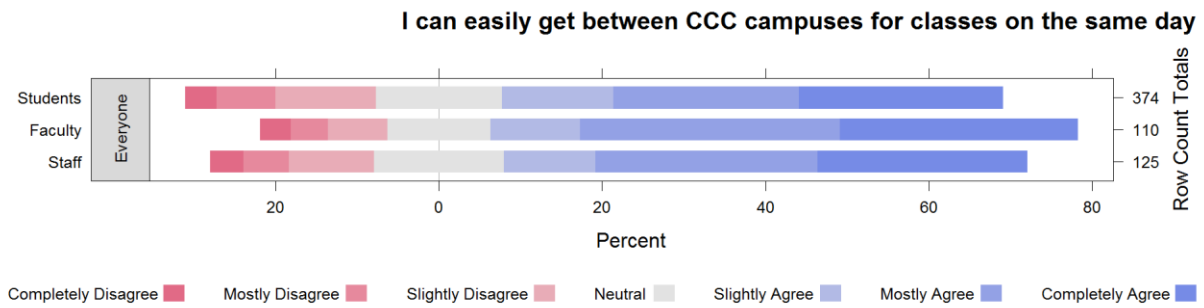
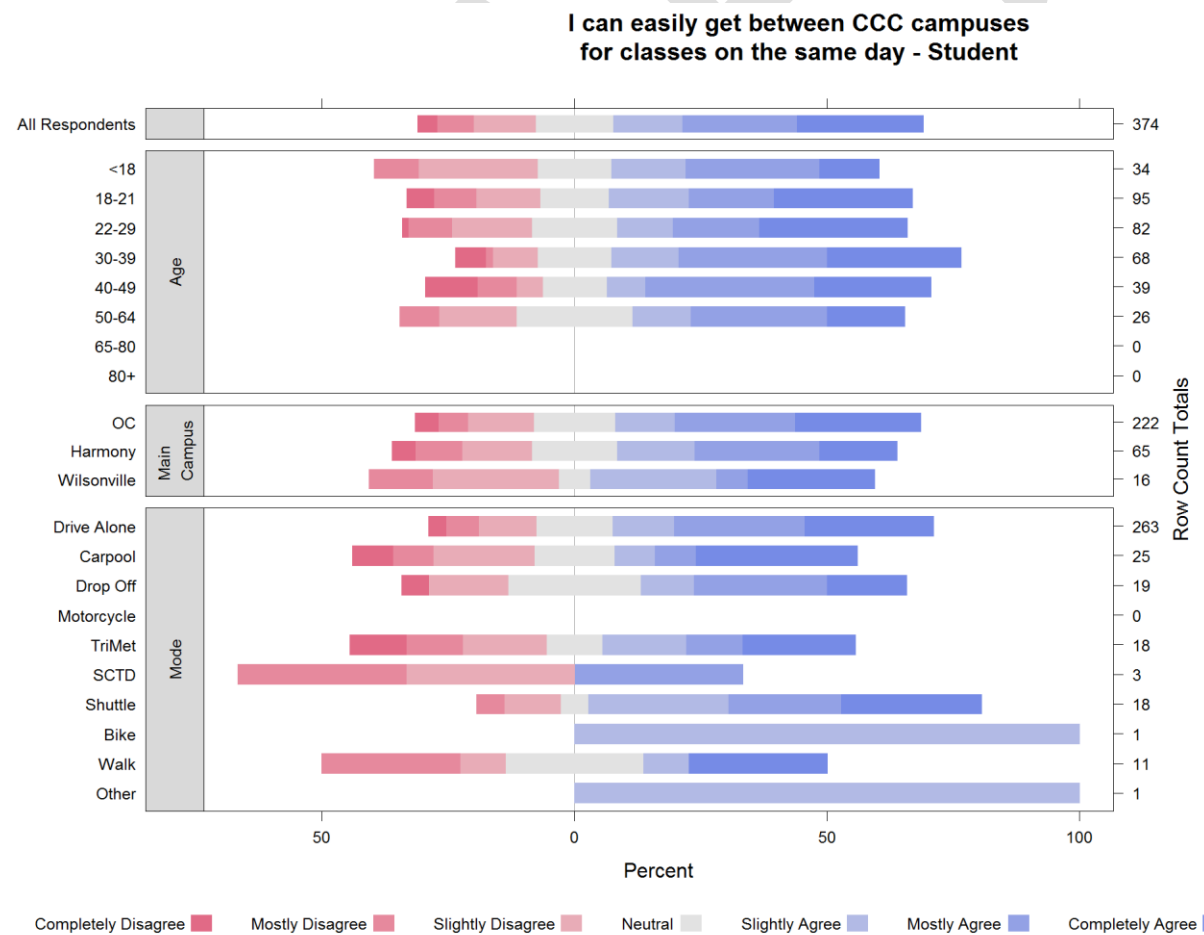**Figure 51 Intercampus transportation Likert for all campuses**

Figure 52 Intercampus transportation Likert for students only

Transportation and Class Schedule

Influence of transportation on class scheduling

Generally, all students consider transportation and timing when scheduling classes. Younger students consider transportation to a greater degree than older students. Virtually all public transportation users consider transportation, while those who travel by auto are slightly less likely to consider transportation.
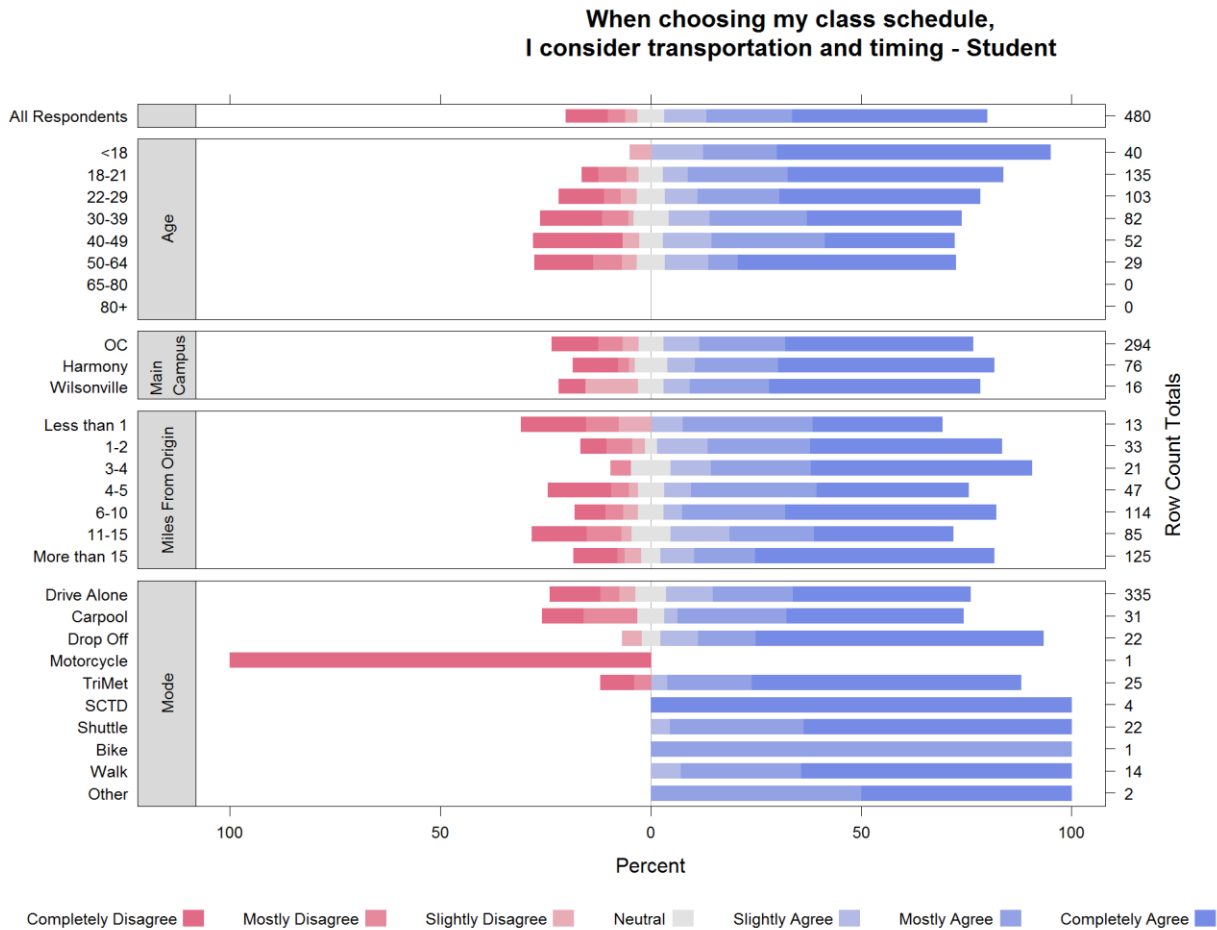

Figure 53 Transportation and class scheduling Likert for students only

Survey Demographics

Student Age

Age distribution of student respondents

Survey respondents skewed towards younger ages, with the largest age group being 18-21 years old. No respondents over 65 responded to the survey.
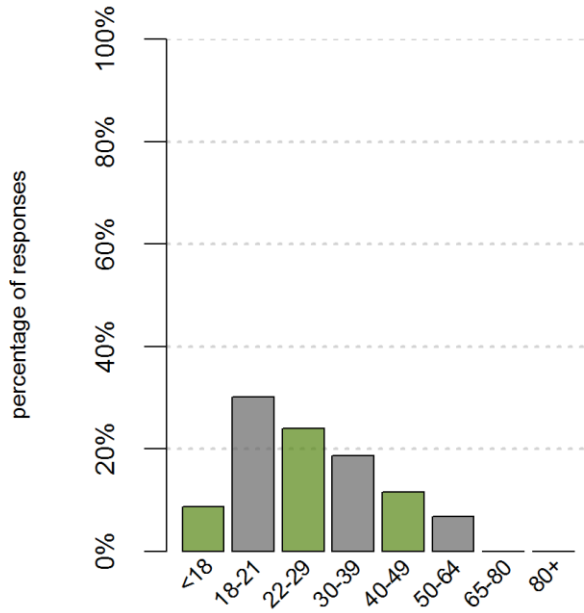

Figure 54 Student respondent age

Student Gender

Gender distribution of student respondents

The gender distribution was 60%-40% for females and males, respectively.
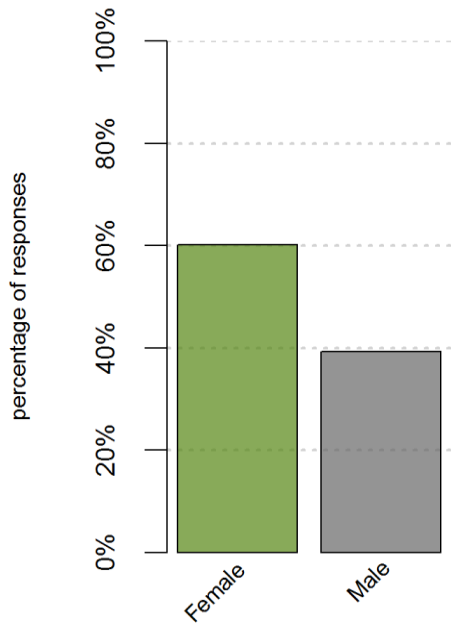

Figure 55 Student respondent gender

Student Race

Race distribution of student respondents

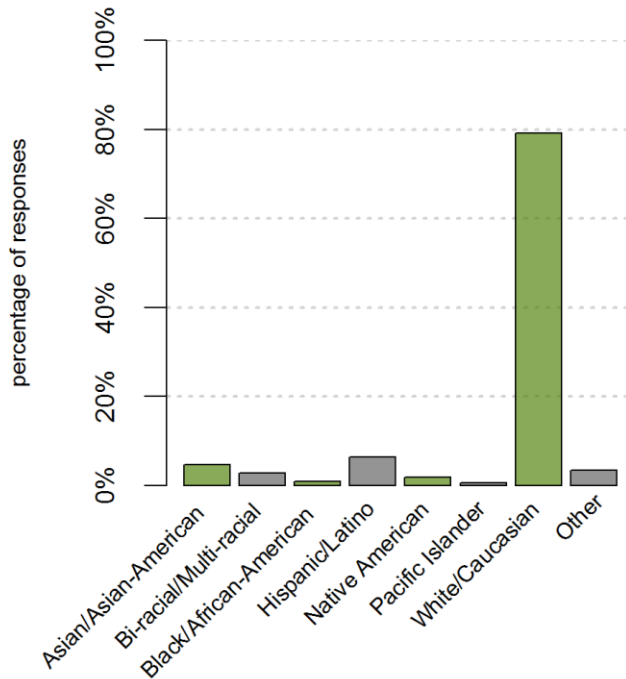White student respondents were the overwhelming majority. No other race was above 7%.

Figure 56 Student respondent race

Student Household Size

Household size distribution of student respondents

Household size among student respondents was roughly a normal distribution (bell-curve). 3- and 4-person households were most common. 8% of students reported living alone.
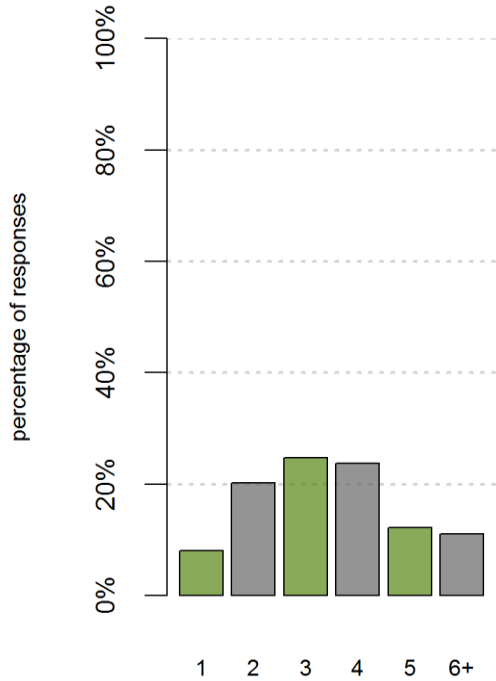

Figure 57 Student respondent household size

Student Household Income

Household income distribution of student respondents

No single household income bracket was substantially greater than any other, though incomes less than $30,000 accounted for almost 50% of the distribution.
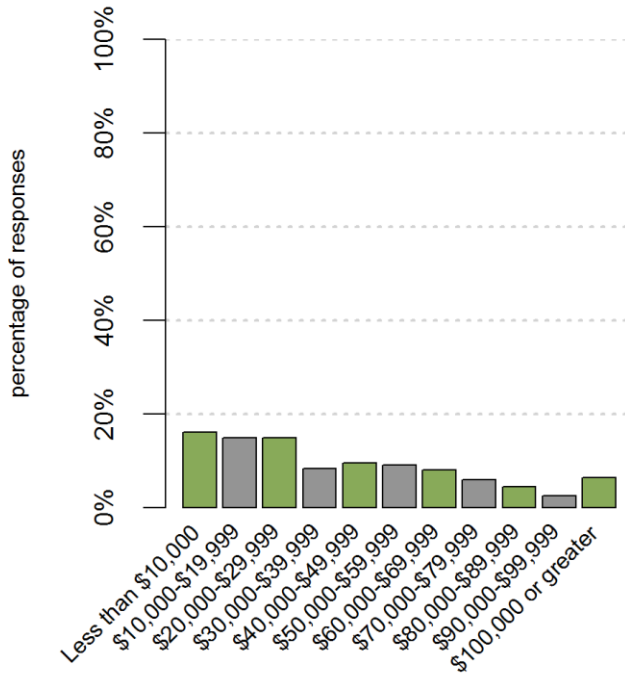

Figure 58 Student respondent household income

Travel Distance

Stated commute distance of student respondents

Student commute distances across all modes are most commonly greater than 6 miles.
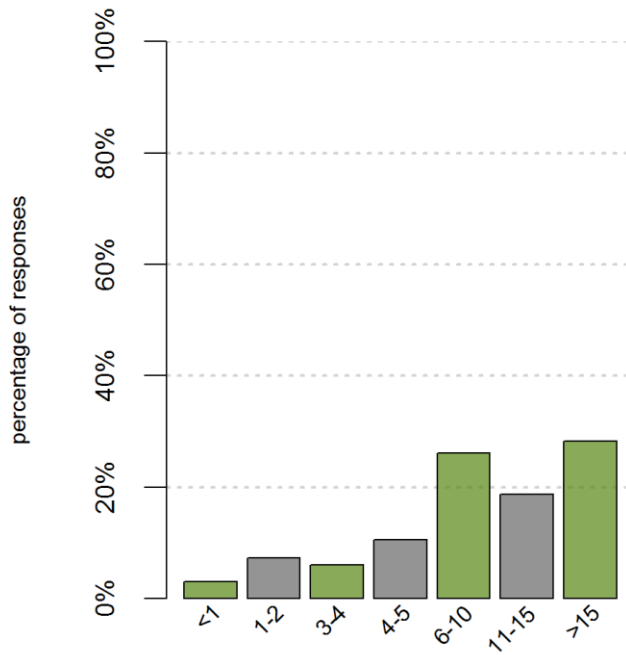

Figure 59 Student stated travel distance from origin to campus (miles)
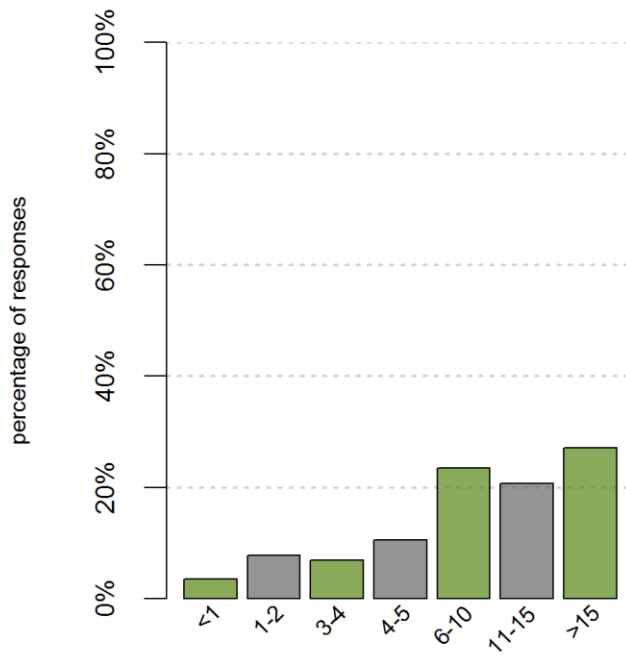

Figure 60 Student stated travel distance from campus to destination (miles)

Travel Time

Stated commute time of student respondents

Student commute time across all modes are mostly less than one hour, 67% are less than 30 minutes.

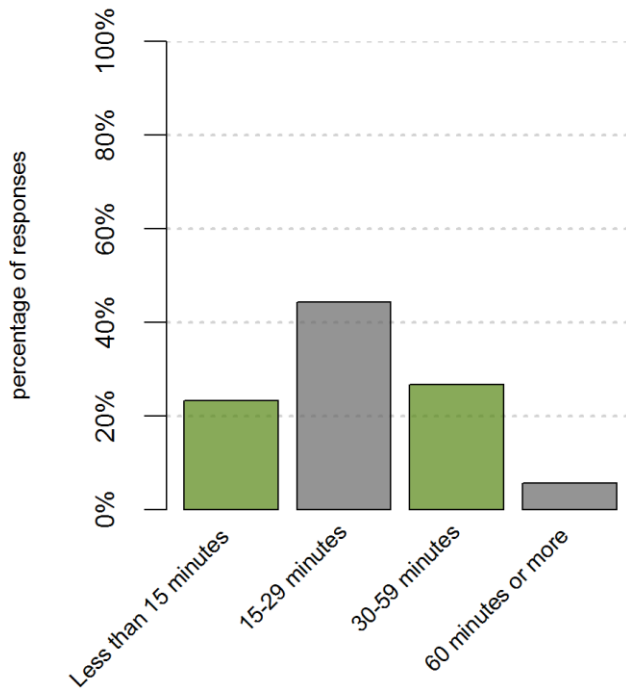**Figure 61 Student stated travel time from origin to campus**
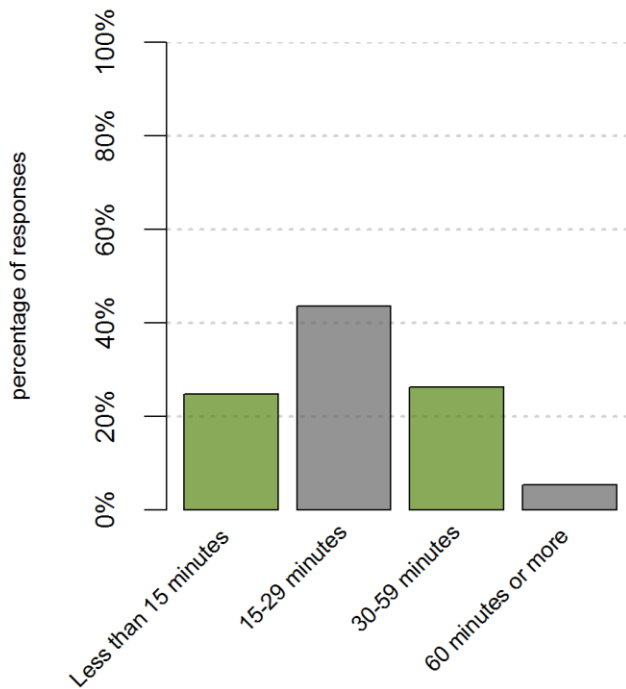
Figure 62 Student stated travel time from campus to destination

Student Home Locations - Shuttle

Student origin by ZIP code for shuttle riders only

Figure 63 Student commute origin map for all students who ride the shuttle (north towards top of page, major roadways marked in black, campuses marked with red circles)

Student Home Locations - Rideshare

Student origin by ZIP code for ridesharers only
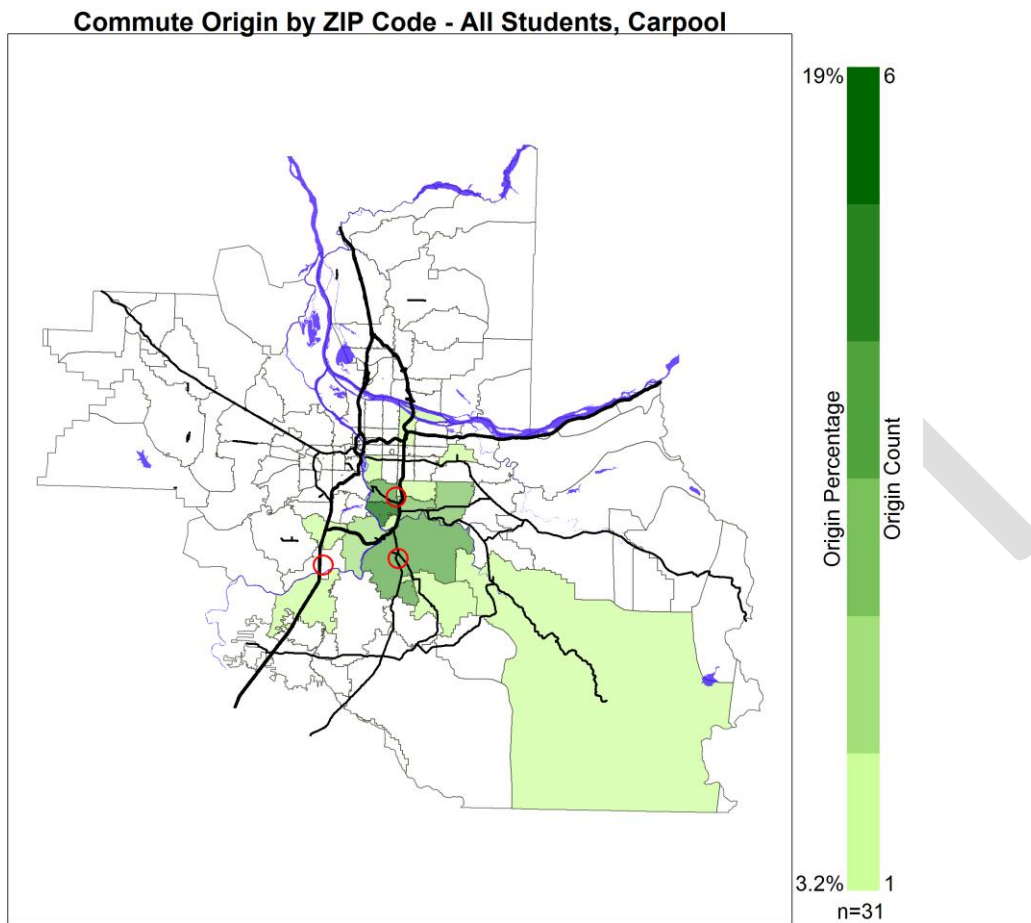
Figure 64 Student commute origin map for all students who rideshare (north towards top of page, major roadways marked in black, campuses marked with red circles)

Student Home Locations - Transit

Student origin by ZIP code for transit users only

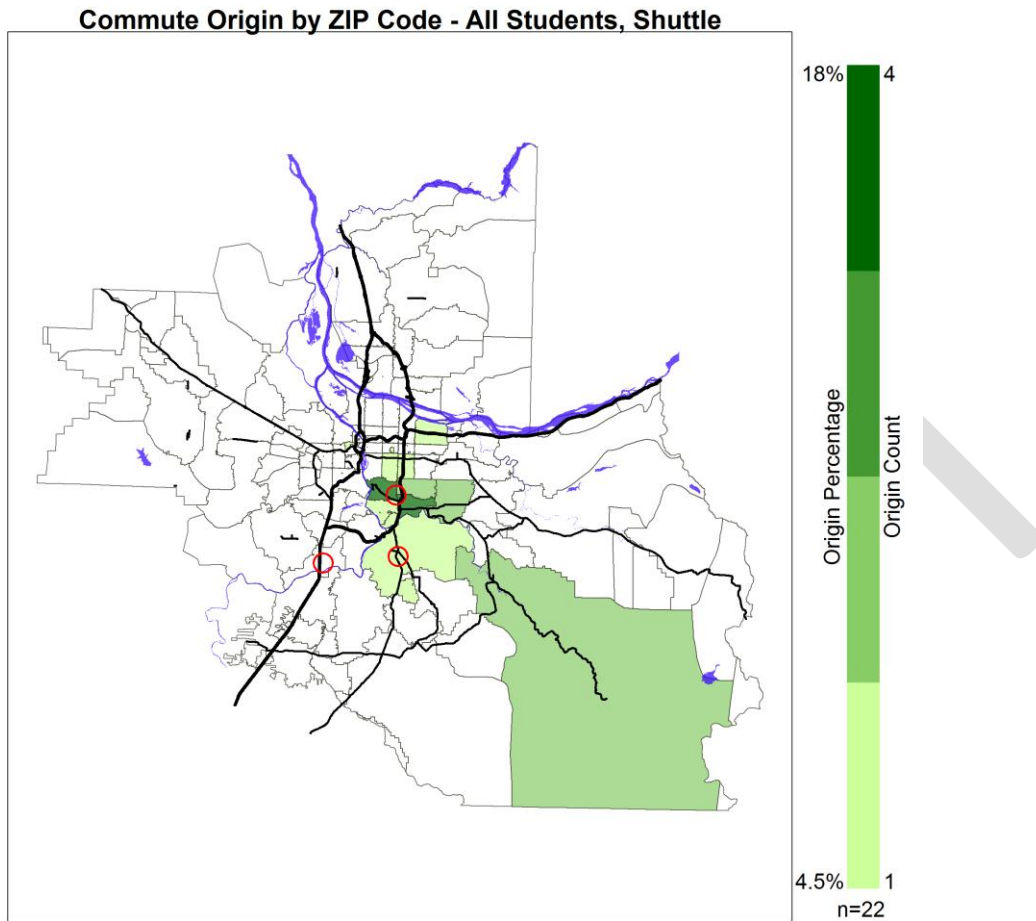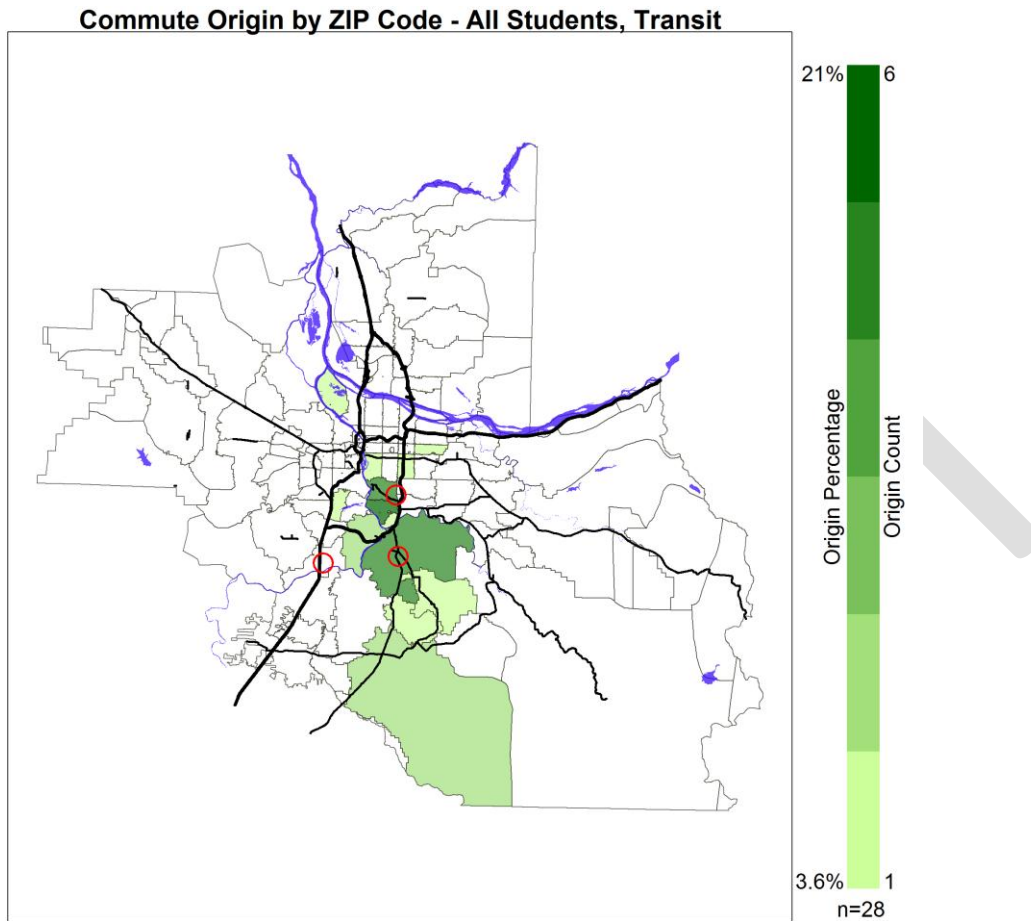**Figure 65 Student commute origin map for all students who take transit (north towards top of page, major roadways marked in black, campuses marked with red circles)**

Faculty Home Locations

Faculty origin by ZIP code

Figure 66 Faculty commute origin map for all faculty, all modes, and to all campuses (north towards top of page, major roadways marked in black, campuses marked with red circles)

Staff Home Locations

Staff origin by ZIP code

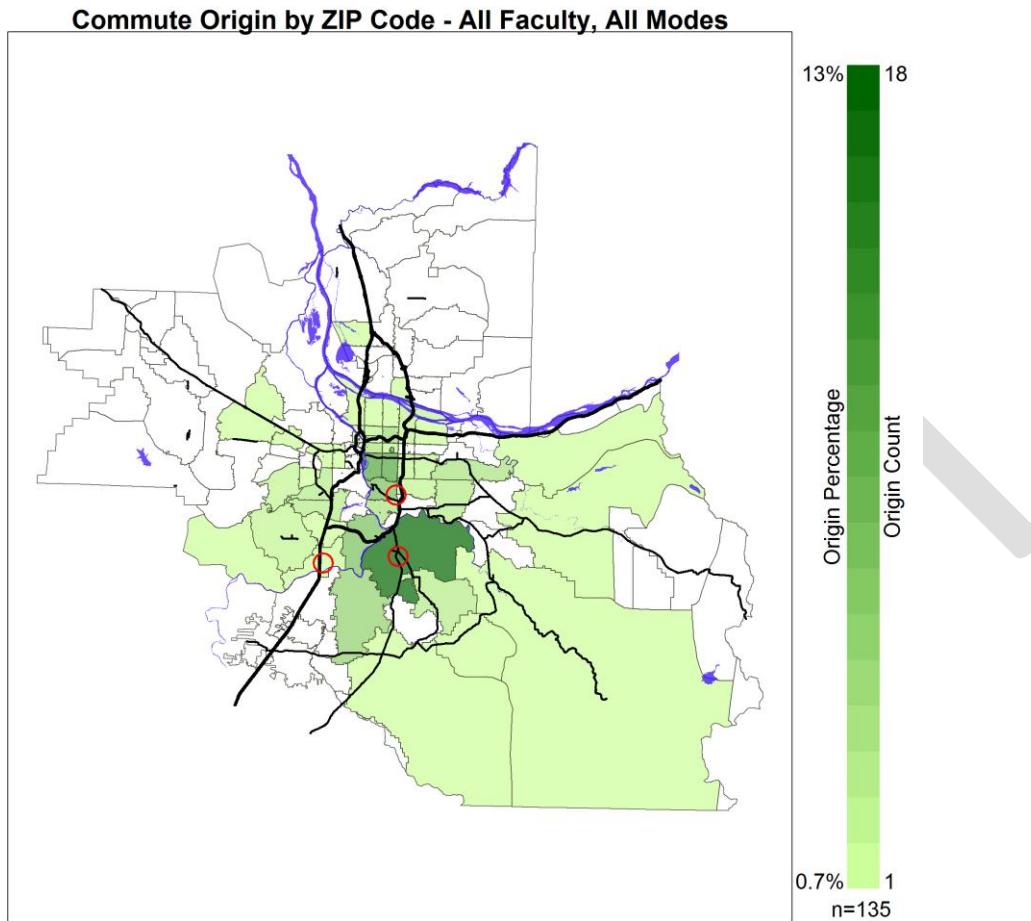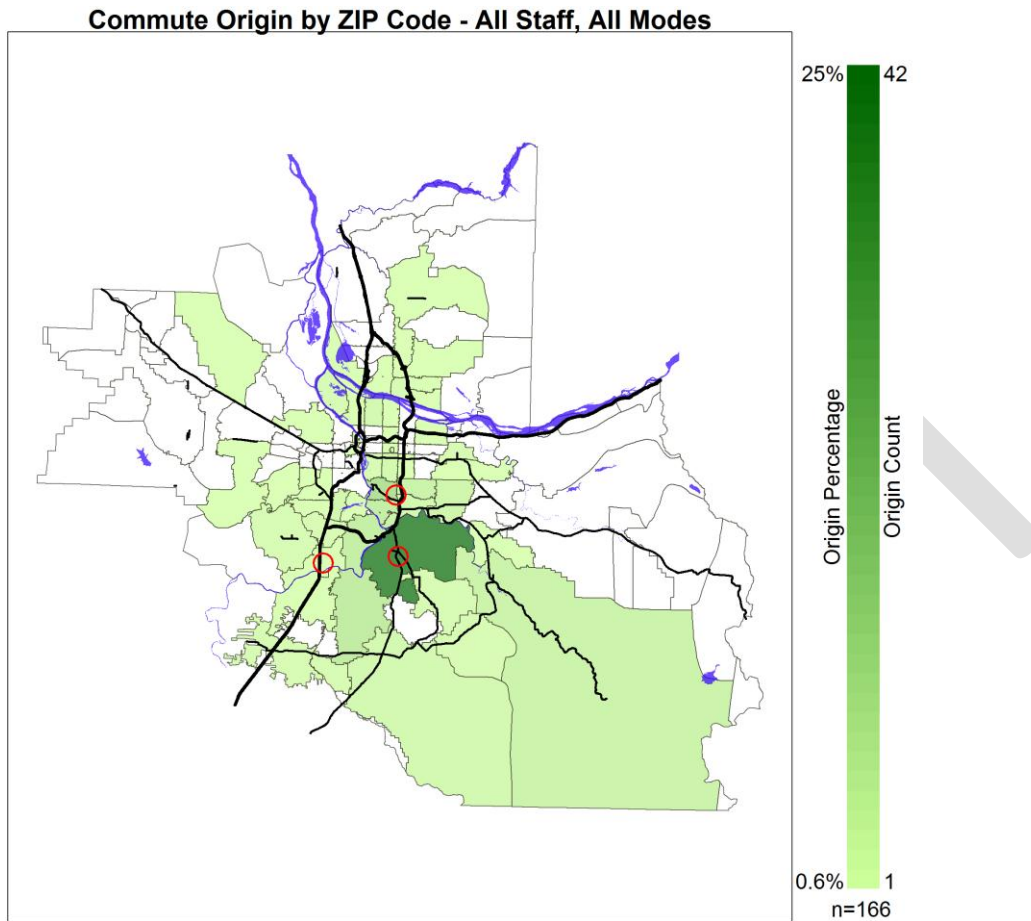**Figure 67 Staff commute origin map for all staff, all modes, and to all campuses (north towards top of page, major roadways marked in black, campuses marked with red circles)**

Appendix B

Below are the responsibilities for a sample transportation systems manager position, posted in Fall 2014 at Portland Community College.

Position Information

Title – Transportation & Parking Services Manager

Open Date – 10-10-2014

Location – Sylvania Campus

Address – 12000 SW 49th Ave.

Hours of Work – 8 a.m. to 5 p.m. Monday - Friday

Position Status – Management; Level K; Full-time; Exempt

Starting Salary Range – $63,457 to $92,012/year

Job Summary

Under the direction of the Director, manages College-wide Transportation and Parking programs and services. Plans and coordinates College transportation and parking services and supervises staff assigned to the Office of Transportation and Parking Services (TPS). Creates, directs and integrates transportation demand management strategies. Work output has the potential to impact College systems, programs, infrastructure, and individuals on a broad scale.

Responsibilities/Duties

1. Develops and coordinates a College-wide, objective-based transportation demand management (TDM) plan and implements strategies to alleviate traffic and parking congestion and hazards. Engages stakeholders such as students, staff, faculty, government, and community members to develop TDM strategies, plans and programs and ensures that these programs are consistent with the needs of these groups while representing the College's interests. Initiates and coordinates marketing strategies to promote TDM programs on a routine basis. Conducts independent research and analysis to inform strategic TDM plans.
2. Conducts traffic and parking studies; coordinates traffic engineering studies. Analyzes data to plan parking resources, including need for specific types of parking spaces, and recommends policy. Plans and procures traffic control devices; oversees College roadway signage and ensures compliance with state law.
3. Designs and implements short and long-term financial and capital plans and maintains a rolling forecast for roadway and parking lot maintenance, capital expenditures and project management.
4. Develops, manages and administers Parking and Transportation budget; authorizes timecards, justifies and approves expenditures, reviews financial statements and reports, and allocates resources following budget approval process. Adjusts expenditures (labor, materials, supplies, services and capital) in accordance with income fluctuations to maintain adequate reserves.
5. Ensures availability of funds for short and long-term business development or operational requirements to include capital plans, operational contingencies and debt service.
6. Plans, implements, administers, monitors, evaluates and improves the day-to-day processes and operations of Parking and Transportation programs and services. Interprets and applies

Federal, State, and local laws, rules, regulations, codes and/or statutes. Evaluates and communicates the impact of potential legal or regulatory changes on the College.

7. Supervises administrative services professional, paraprofessional, technical/support and student staff and performs both direct and indirect supervision through subordinates. Hires, evaluates, trains, disciplines and recommends dismissal of staff as necessary. Continually develops excellent customer service skills.

8. Leads campus and other public and/or private transportation, traffic and parking committees; serves as a liaison with local neighborhood groups in the planning and implementation of programs; responds to and resolves complaints from the College and surrounding communities.

9. Serves as an active participant in the district's emergency notification committee/process. Must be able to participate in the decision making process for any emergency at any day or time of the day/night when situations arise. Participates as an active member of the Emergency Operations Center and Business Continuity Command Group in the event of a district emergency, disaster or recovery.

10. Manages all parking permit processes, including design, procurement, regulations, and customer order forms; makes permit and fee structure recommendations; coordinates vehicle registration and permit sales throughout the district.

Minimum Qualifications

- Satisfactory references and successful completion of the criminal background check are required to meet the minimum qualifications for hire into this position.
- Bachelor's Degree in Urban or Transportation planning or a related field (experience performing the duties of the job may substitute for the degree requirement on a year-for-year basis).
- Five years' progressively responsible transportation and parking management experience, including three years in a supervisory capacity.
- Must have a valid driver's license to operate a motor vehicle in the State of Oregon and possess an acceptable driving record.

Knowledge of:
- Transportation demand management strategy;
- Supervisory principles;
- Principles and practices in transportation and parking;
- Budgeting, financial and business management principles and practices;
- Project management principles and practices;
- Community College operations and administration principles and practices;
- Applicable federal, state and local laws, rules, regulations, codes and statutes;
- Policy and procedure development and implementation practices;
- Inventory management principles and practices;
- Successful financial performance in the operations of a self-sustaining financial model;
- Fee-based parking systems, traffic and parking control devices, revenue control procedures, computerized recordkeeping systems, transportation systems, transportation demand management strategies, parking space allocation and design, survey/research techniques;
- Conflict management.

Skill in:
- Coordinating activities with other internal departments and/or external agencies and vendors;

- Data collection and analysis;
- Analyzing problems, identifying alternative solutions, projecting consequences of proposed actions and making recommendations in support of goals;
- Preparing a variety of reports and presentations related to operational activities, including statistical analysis;
- Managing, marketing and promoting programs in an entrepreneurial environment.

Able to:
- Interpret and evaluate complex problems to successfully recognize and define solutions;
- Establish and maintain cooperation, understanding, trust and credibility;
- Handle stress and perform duties efficiently in a courteous, tactful, responsible and timely manner;
- Work with diverse students, faculty and staff as well as parents, neighbors, neighborhood associations, governmental agencies and organizations in a diverse and multicultural environment;
- Build teams and motivate subordinates;
- Use computer technology for communication, data gathering and reporting activities;
- Communicate effectively through writing, speaking, presenting, influencing and negotiating in order to achieve objectives.

Work Environment and Physical Requirements

Work performed in an office and outdoor environment with frequent interruptions and irregularities in the work schedule. Frequent walking, standing, lifting, stooping, or carrying of equipment and materials may be required. Incumbents may be required to lift and carry up to 50 pounds. Working hours may vary and occasional evening or weekend work is required. No special coordination beyond that used for normal mobility and handling of everyday objects and materials is needed to perform the job satisfactorily.

Preferred Qualifications

- Preference will be given to applicants with additional education beyond the minimum qualifications in Business, Public Administration, Urban or Transportation Planning, or related.
- Experience in working with an Enterprise Resource Planning (ERP) system for parking such as T2 Systems PowerPark, Cardinal Tracking or other.
- Experience in reviewing maintenance requirements of surface and structured parking, and knowledgeably recommending repairs within industry best practices.
- Experience developing, implementing, and maintaining parking mitigation strategies that include sustainable multi-modal solutions.

Additional Posting Information

To apply for this position you must submit:
1. Completed responses to the Required Questions from the Committee
2. Completed online application
3. Cover Letter
4. Current Resume

- Normally the starting salary for new employees will be at the entry salary for that level, unless approved for advanced salary placement.
- Upon hire candidate will be required to provide official transcripts for all degrees earned.
- Applicants selected for hire will be required to pass a criminal background check as a condition of employment.
- Effective January 1, 2014, all applicants hired by the college will be required to reimburse PCC for the cost of their criminal background check, through payroll deduction.
- Portland Community College will hire only United States citizens and aliens lawfully authorized to work in the United States. All new employees will be required to complete the designated Immigration Service Employers Verification I-9 form.
- As an Affirmative Action, Equal Employment Opportunity institution, PCC is actively seeking qualified minorities, women, disabled veterans, veterans and individuals with disabilities to enhance its work force and to reflect the diversity of its student body. Applicants with disabilities may request accommodation to complete the application and selection process. Please notify Human Resources at least three (3) working days prior to the date of need.

Questions

Please restrict responses to one page per response.

1. Describe how you have obtained at least five years of progressively responsible management experience in the administration of transportation and parking programs? Please include your managerial experience with Transportation Demand Management programs/strategies as well as fee-based parking systems, traffic and control devices, enterprise resource planning systems in the administration of parking/citation management and project management for parking lot and roadway capital improvements.
2. What approaches and techniques have you found particularly effective in strengthening diversity in the workforce? Please describe and give specific examples.
3. Describe your experience in resolving customer conflicts from the point of initial inquiry by the customer to the formal hearings process.
4. Describe your experience with the financial management of a business operation to include the size of the budget(s), the preparation of operating budgets, maintaining and/or exceeding financial objectives, developing financial projections and associated business plans, as well as your ability to interpret and act upon financial reporting data. In addition, what experience have you had in the development of entrepreneurial/creative funding to include the steps you would take to find new funding sources other than permits and citation revenue?
5. Describe your experience in working with the administration of collective bargaining agreements to include hiring, progressive discipline, labor relations, performance reviews, and staff development.
6. Describe your experience in project management related to parking and roadway capital improvements? Please specific provide examples noting the type of project, your role in it, and how it enhanced the existing transportation system. Include in your description your approach to working with design teams and contractors and how you influenced the final outcome. Also note any specific design principles used such as Crime Prevention Through Environmental Design.