

Transportation and Parking



Prepared by: Lancaster Engineering

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Portland Community College Master Plan



Portland Community College Master Plan – Transportation and Parking

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Executive Summary



Introduction

Transportation, parking, and alternative mode needs were considered in detail as part of the Portland Community College Master Plan. This document serves as the detailed considerations that led to the improvements and strategies that are outlined in the Master Plan. To reach the determination of what improvements and strategies should be presented in the Master Plan, a group of from PCC's transportation and parking team were assembled with the transportation consultants. This team identified the following outcomes they wanted to achieve with the future transportation network for PCC:

- Provide safe transportation options
- Provide a high value for active transportation options
- Provide cost effective transportation solutions for students and staff
- Develop an implementable and sustainable plan

Project Background

The 2012 Transportation Demand Management (TDM) Plan¹ provided much of the framework that was used for this document. This document is not considered a replacement of that document but an update that is built upon the work completed in 2012. The PCC Transportation and Parking Services team has been utilizing the past TDM documentation and efforts and applying strategies to manage transportation demand. At the same time the team has been working to create a sustainable approach that will reduce the number of single-occupancy vehicles traveling to campus by providing desirable options for alternative modes while still providing a well-managed parking program. The Transportation Department recently provided a summary of the TDM efforts that have been conducted and what are planned (see Appendix A).

Many programs have been applied from the past TDM work and are provided in the summary in Appendix A. Through conversations with the Transportation and Parking Services team and review of which TDM strategies have been applied, the following key takeaways can be identified from the past and on-going TDM work:

- Communication to employees and students help with alternative mode use
- Parking is an on-going constraint and could benefit from major upgrades (i.e, new regulations, integration of new technology)
- The shuttle program is a strong program that has lots of room for growth for continued success
- Transit subsidies have been successful and this program needs to be continued and built upon for continued success
- The bike-share program has been a positive step in supporting active transportation
- More funding and effort needs to be incorporated to integrate the much needed active transportation strategies
- The Transportation Services Department needs more staff to support the current demands and the continued growth

¹ https://www.pcc.edu/resources/parking/documents/FINALTDM_Report_2012-03-13.pdf

Existing Conditions

Portland Community College has four campuses and eight centers. The campuses are larger sites that offer full-service facilities including university transfer courses, professional-technical career training, libraries, and student services among other things. They include: Cascade, Rock Creek, Sylvania, and Southeast. Centers do not offer full-services and are typically more focused offering job training, specialized programs, and transfer courses among other things. Centers shown in Figure 1 have a physical location, there are additional centers that use other community buildings for classes that are not shown.

Figure 1: Portland Community College Campuses and Centers



The following existing conditions sub-sections will outline the components of the campuses that may have an impact on transportation strategies and solutions that will be identified in this document and carried forward into the Portland Community College Master Plan. These sections range from demographics of students to current infrastructure to the usage of various means of transportation and the current infrastructure.

Demographics

Portland Community College (PCC) is the largest college offering post-secondary education in Oregon. Between 2015 and 2016 there were about 89,900 students with over 33,500 of the students being full-time students and the remaining being part-time students.

The student population attending Portland Community College's is on average 20 years old and is roughly equivalent split between men and women. The largest majority (68%) of students are Caucasian with Hispanics representing the second largest (11%) ethnic background.

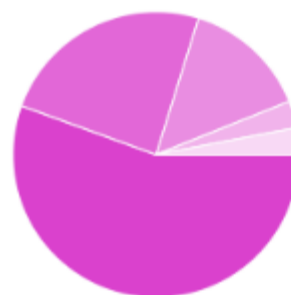
As can be seen in Figure 2, over 40% of students attending PCC are working towards getting a transfer degrees to obtain a bachelor's degree at University. Almost half of the students attending have no previous college.²

The faculty and staff population is just under 3,300. Of the faculty, the majority are part time, and of the staff the majority are full-time.

Figure 2: Portland Community College Campuses Demographics

Educational Fields

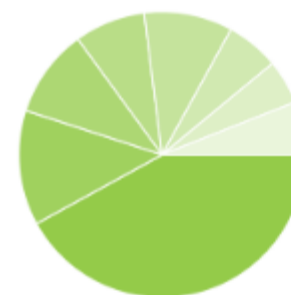
Percentages may not add to 100% due to rounding.



- 55% Lower Division Transfer
- 24% Career/Technical
- 14% Pre-College, Developmental Ed
- 3% Community Education
- 3% ESOL

Why Students Come to PCC

Percentages may not add to 100% due to rounding.



- 42% Work toward bachelor's degree
- 13% Explore new career
- 10% Skills to get or keep a job
- 8% Personal enrichment
- 10% Complete a certificate or technical degree
- 6% High school/GED completion
- 5% Explore new educational opportunity
- 6% Improve writing, math, reading skills

Source: Portland Community College Website² January 2017

² <http://www.pcc.edu/about/quick-facts/demographics.html>

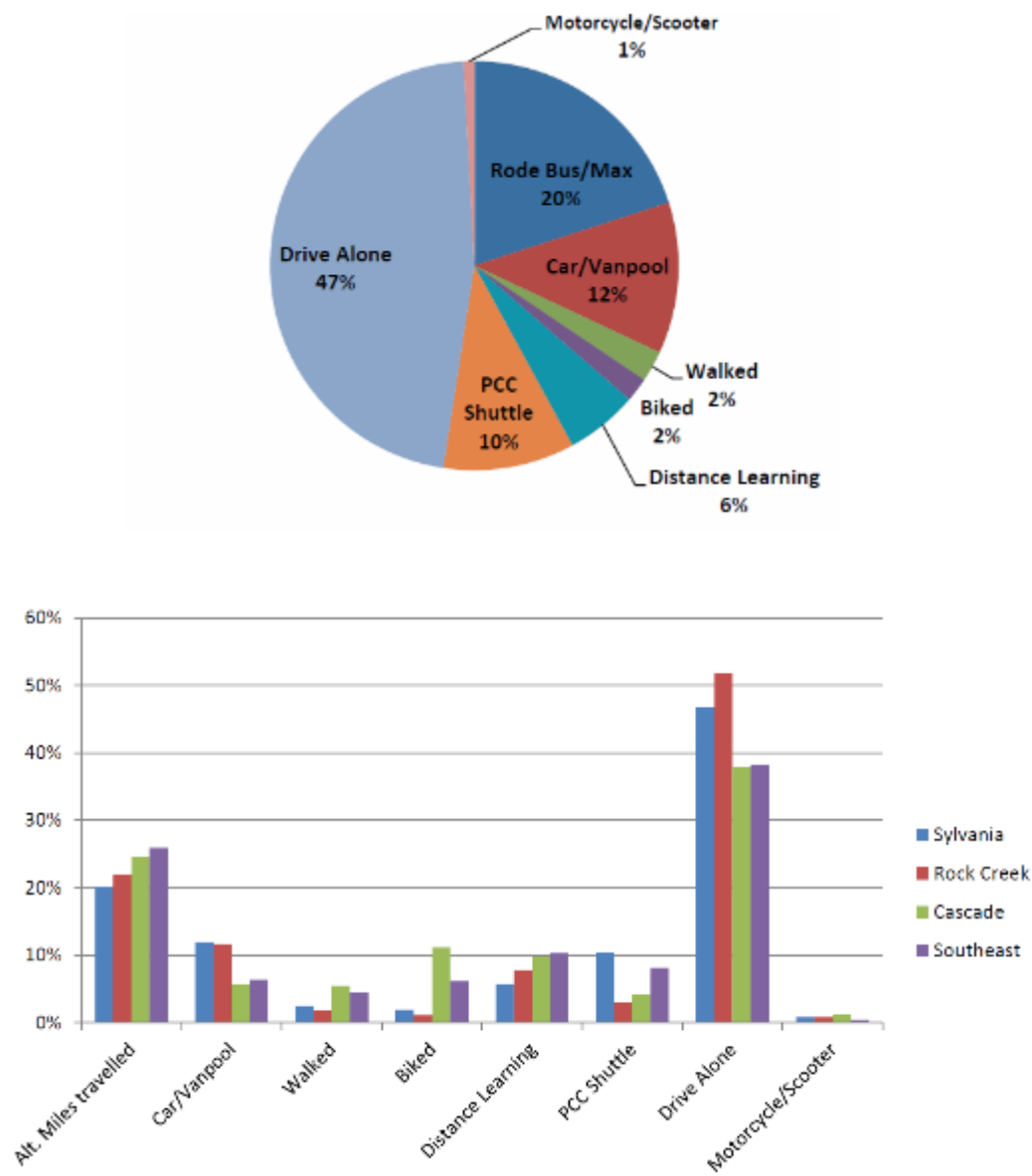
Modes of Transportation

Portland Community College transportation team conducts surveys every few years to evaluate what methods of transportation that students and employees of the college are using to get to and from the campuses. The survey includes walking, biking, telecommuting, the PCC shuttle, and various methods of driving (i.e., carpool, motorcycle). As shown in Figure 3, the majority of students travel to and from campus in a car by themselves according to the 2013 survey (see Appendix B). Walking and biking are the least frequent method of transportation.

The Cascade campus had higher splits of biking and walking compared to the other campuses. This is expected as it has more available infrastructure for both these modes of transportation. For all campuses, if a trip to and from campus was greater than three miles, there were almost no students that walked to campus. Similarly, biking trips dropped off quickly if the trip was more than five miles.

The PCC shuttle service was used most frequently at the Sylvania campus and TriMet transit was most frequently used at the Southeast campus. This is expected as Sylvania provides the most frequently shuttle service and Cascade has the most TriMet options.

Figure 3: Students Mode of Transportation to and from Campuses (2013)





TriMet Summary

The Transportation and Parking services department have worked hard to promote transit as a viable method of travel to and from campus. As highlighted on their website:

“To promote and encourage transit ridership, PCC has cost saving programs in place for both students and staff. TriMet tickets and passes are also available for purchase at all campus bookstores.”

The transit subsidy program they have developed allows students to save almost a thousand dollars on the TriMet annual all-zone pass. They also offer discounted rates for shorter term passes and pre-tax purchasing option for staff.³ As a result, over 20% of student trips to and from each campus are via TriMet.

TriMet provides access to all PCC campuses and satellite centers through its fixed-route bus and lightrail lines (MAX). The following summarizes information related to the fixed-routes and stops that serve PCC students, faculty, and staff by campus and center. The information is based on TriMet’s current route maps and schedules available on their website (trimet.org) as well as ridership data provided by TriMet that includes the average daily boardings and alightings (ons and offs) at each stop during a typical weekday in Spring 2016. The bus and lightrail lines serving campuses and centers are provided on their website as shown in Figure 4.

Cascade

The Cascade campus has a total of 25% of students using transit to get to and from campus. The campus is located in the urban area of Portland that has multiple bus lines and frequent service. It is served by Line 4 (Division/Fessenden), Line 44 (Capital Highway/Mocks Crest), Line 72 (Killingsworth/82nd), and the MAX Yellow Line, which is located less than a half mile west of the campus. All of these lines offer service at fairly high frequency (15 to 30 minutes) with the MAX Yellow Line providing high frequency service with 10 to 15 minute headways. Between these lines and their connections to various transit centers, service throughout

Figure 4: Bus Routes Serving Campuses and Centers as Provided by PCC

Bus Routes

Students, staff, and faculty are encouraged to use TriMet whenever possible. The following list give you the bus numbers that go to the various campuses and centers:

Sylvania: 44, 78

Rock Creek: 47, 52, 67

Cascade: 4, 44, 72, Max Yellow Line

Southeast: 4, 72

Portland Metropolitan Workforce Training Center: 72, 75

CLIMB Center for Advancement: 4, 7, 10, 14, 31, 32, 33, 41 (Bus stop is one block north on the Hawthorne Bridge)

Washington County Workforce Training Center: 52, 59

Hillsboro Center: 46, 57 Max Blue Line

Willow Creek Center: 47, 48, 52, 59, 88, Max Blue Line, Columbia County Rider

For trip planning contact [Michael Kuehn](#) or use the [TriMet trip planner](#).

³ <https://www.pcc.edu/resources/parking/public-transit.html>



most of the Portland METRO area is well covered. Additionally, these transit lines provide direct connections to the Southeast Campus, CLIMB Center, Sylvania Campus, Southeast Campus, and Portland Workforce Training Center.

Due to the Cascade campuses location in northern Portland, there are many students from Washington that attend this campus. There has been a high demand in requests for information on transit commutes to and from this campus and Washington. The PCC website offers the following routes and connections:

- Ride C-Tran to the PIR/EXPO Yellow Line light rail station, take the Yellow Line to Killingsworth. At Killingsworth, catch bus 72 to campus.
- Drive to the PIR/EXPO Park n Ride lot, park for free, catch the Yellow Line to Killingsworth. At Killingsworth, catch bus 72 to campus.

There is a total of nine transit stops within a half a mile of the campus.

Table 1 identifies these stops that serve the Cascade campus, including the stop ID, location, direction, amenity, and ridership information as provided by TriMet. Following TriMet's bus stop guidelines⁴, the N Killingsworth and Commercial bus stop has sufficient ridership to meet the criteria for installing a shelter.

Table 1: Cascade Campus Stop Summary

Stop ID	Location	Direction	Amenities	On	Off	Total
88	N Albina & Killingsworth	Northbound 4	Shelter	284	352	636
89	N Albina & Killingsworth	Southbound 4	Shelter	354	301	655
3153	N Killingsworth & Albina	Eastbound 72	Shelter	336	61	397
3154	N Killingsworth & Albina	Westbound 72	Shelter	60	314	374
3156	N Killingsworth & Commercial	Eastbound 72	Shelter	102	18	120
3157	N Killingsworth & Commercial	Westbound 72	Sign and Post, Seat	30	216	246
3171	N Killingsworth & Kerby	Eastbound 72	Shelter	156	23	179
3184	N Killingsworth & Vancouver	Westbound 44, 72	Sign and Post, Seat	33	115	148
5996	N Vancouver & Killingsworth	Southbound 44	Shelter	37	24	

Source: Transit ridership was provided via TriMet staff in January 2017

⁴ http://nacto.org/docs/usdg/bus_stop_guidelines_trimet.pdf



Rock Creek

The Rock Creek campus had a transit mode split of 22% of students using transit to get to and from campus in the 2013 survey. The campus is served by three lines that have reasonable headways (15 to 35 minutes) and easy connections to the MAX transit system. These routes do have times of day that they provide shortened routes that do not go to the Main Stop. The campus is serviced by Line 47 (Baseline/Evergreen), Line 52 (Farmington/185th), and Line 67 (Jenkins/158th). The campus also has its own transit center that supports the high number of students, faculty, and staff who use TriMet services. These transit lines provide direct connections to the Hillsboro Education Center and the Willow Creek Center.

There are a total of three transit stops within a half a mile of the campus. Table 2 identifies these stops that serve the Rock Creek campus, including stop ID, location, direction, amenity, and ridership information. Currently there are not sidewalks provided along the full length of the PCC driveway forcing folks accessing the stop on NW Springville Road to walk on the roadway shoulders of the driveway.

Table 2: Rock Creek Campus Stop Summary

Stop ID	Location	Direction Route	Amenities	On	Off	Total
4429	PCC Rock Creek Main Stop	Southbound 47, 52, 67	Shelter	579	531	1,110
4426	PCC Drive & Springville	Southbound 52	Sign and Post	26	2	28
10165	NW Springville & PCC Drive	Westbound 47, 67	Sign and Post	1	6	7

Source: Transit ridership was provided via TriMet staff in January 2017

Southeast

The Southeast campus had the highest split of transit riders (26%) in the 2013 survey. This is expected due to the location of the campus being more urban and the demographic of the campus being a higher percentage of students with low-income and English as a second language. The campus is served by Line 4 (Division/Fessenden) and Line 72 (Killingsworth/82nd). These lines provide direction connection to Cascade Campus, CLIMB center, and the Portland Workforce Training Center as well as connections to MAX lines. The frequency of these lines are fairly high with service about every 10 to 30 minutes.

There are a total of eight transit stops within a half a mile of this campus. Table 3 identifies the stops that serve the Southeast campus, including stop ID, location, direction, amenity, and ridership information. Following TriMet's bus stop guidelines⁵, the stop at SE 82nd Avenue and SE Harrison Street currently has sufficient ridership to meet the criteria for installing a shelter. This stop also does not provide a crossing from campus to the stop, however, students should have the same route service at SE Division Street.

⁵ http://nacto.org/docs/usdg/bus_stop_guidelines_trimet.pdf

Table 3: Rock Creek Campus Stop Summary

Stop ID	Location	Direction Route	Amenities	Passengers On	Passengers Off	Total
1492	SE Division & 77th	Westbound 4	Shelter	56	6	62
1493	SE Division & 79th	Eastbound 4	Sign and Post	11	77	88
1497	SE 82 nd & Division	Eastbound 4	Shelter	354	268	622
1499	SE 82 nd & Division	Westbound 4	Shelter	304	408	712
7923	2200 Block SE 82 nd	Southbound 72	Shelter	95	206	301
7957	SE 82 nd & Division	Northbound 72	Shelter	258	377	635
7958	SE 82 nd & Division	Southbound 72	Shelter	197	182	379
12755	SE 82 nd & Harrison	Northbound 72	Sign and Post	82	45	127

Sylvania

The Sylvania Campus has the lowest transit ridership with 20% of students identifying this as their mode of transportation in the 2013 survey. The campus has its own transit center that supports the high number of students, faculty, and staff that use these transit services. This campus is served by Line 44 (Capital Highway/Mocks Crest) and Line 78 (Beaverton/Lake Oswego) which provide direct connection to the Cascade Campus and MAX lines via downtown connections and the Barbur Boulevard transit center. The frequency of these lines are the least frequent of the campuses with headways between 15 to 60 minutes.

There are a total of four transit stops within a half a mile of the campus. Table 4 identifies the stops that serve the Sylvania campus, including stop ID, location, direction, amenity, and ridership information. Currently the shuttle and TriMet stop are combined together at one location which can provide some complications.

Table 4: Sylvania Campus Stop Summary

Stop ID	Location	Route	Amenities	On	Off	Total
4431	PCC Sylvania Main Stop	Southbound 44,78	Shelter	631	592	1,223
8951	SW 49 th & PCC Entrance	Southbound 44	Sign and Post	1	39	40
13645	Kerr & Hidalgo	Southbound 78	Sign and Post	7	5	12
12959	PCC Lower Drive (G St) & H St	Westbound 78	Sign and Post	8	1	9



Satellite Centers

All satellite centers have transit service and stops provided to them via TriMet (see Table 5). It was identified through the center transit evaluation that the stop at SE Baseline near the Hillsboro Education Center met the thresholds to provide a shelter based on ridership and that the stops near the Swan Island Trades Center had not sidewalks between the campus and the stops.

Table 5: Centers Stop Summary

Stop ID	Location	Direction Route	Amenities	On	Off	Total
Portland Metropolitan Workforce Training Center						
3199	NE Killingsworth & 42 nd	Eastbound 72	Shelter	177	155	332
3200	NE Killingsworth & 42 nd	Westbound 72	Shelter	149	186	335
7519	NE 42 nd & Killingsworth	Southbound 75	Shelter	183	111	294
7520	NE 42 nd & Killingsworth	Northbound 75	Shelter	116	204	320
CLIMB Center for Advancement						
2641	Hawthorne Bridge	Eastbound 4, 6, 10, 14, 15	Eastbound	152	175	327
2642	Hawthorne Bridge	Westbound 4, 6, 10, 14, 15	Sign and Post	95	132	227
13772	OMSI/SE Water	Eastbound 9, 17, 291	Shelter	66	25	91
13773	OMSI/SE Water	Westbound 9, 17	Shelter	35	61	96
Hillsboro Education Center						
308	SE Baseline St & 7 th	Westbound 47, 48, 57	Sign and Post	34	77	111
4123	SE Oak & 7 th	Eastbound 47, 48, 57	Shelter	86	40	126
9843	Tuality Hospital	EB MAX Blue Line	Shelter	415	78	493
9844	Tuality Hospital	WB MAX Blue Line	Shelter	70	430	500
Swan Island Trades Center						
11947	N Cutter Circle & Leverman	Eastbound 85		6	21	27
11950	N Leverman & Cutter Circle	Southbound 85	Sign and Post	8	4	12
Willow Creek Center						
9610	Willow Creek TC	Eastbound 52	Shelter	491	189	680
9621	Willow Creek TC	Eastbound 88	Shelter	225	195	420
9831	Willow Creek Transit Center	Eastbound Max Blue Line	Shelter			
9832	Willow Creek TC	Westbound Max Blue Line	Shelter			
9869	Willow Creek TC	Eastbound 52	Shelter	179	540	719
9871	Willow Creek TC	Eastbound 59	Shelter	16	18	34

Shuttle Summary

PCC provides a free shuttle service to students, faculty, and staff. Service is provided during Fall, Winter, and Spring terms while school is in session; service is not provided on weekends, holidays, or school breaks; there is also no shuttle service during Summer term. PCC offers an online system to track the shuttle services as shown in Figure 5.⁶ The shuttles include:

Orange Line (Downtown/Sylvania) – The Orange line provides service between downtown Portland and the Sylvania campus. Service is provided on 35 to 110 minute headways from 6:15 a.m. to 10:00 p.m.

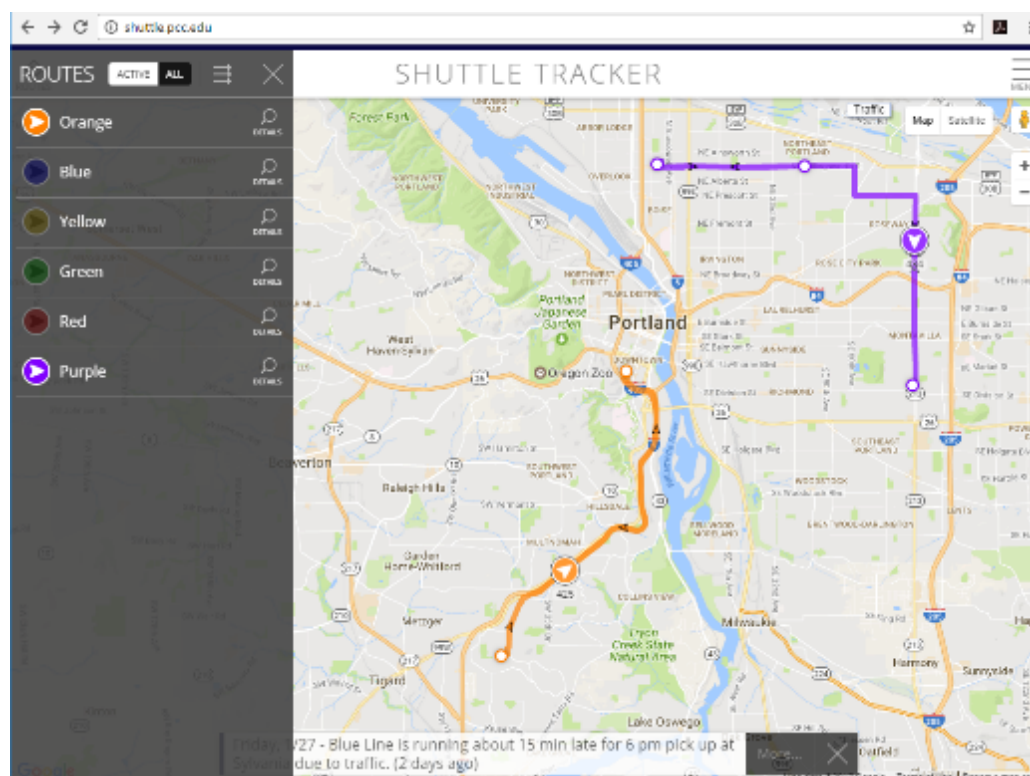
Yellow Line (Southeast/Sylvania) – The Yellow line provides service between the Southeast campus and the Sylvania campus with two stops located along SW Hawthorne Boulevard (Stop ID 2635 and 2604). Service is provided on 10 to 180 minute headways from 6:35 a.m. to 10:00 p.m.

Blue Line (Rock Creek/Sunset Transit/Sylvania) – The Blue line provides service between the Rock Creek Campus and the Sylvania campus with one stop at the Sunset Transit Center. Service is provided on 65 to 140 minute headways from 6:00 a.m. to 10:00 p.m.

Green Line (Cascade/Sylvania) – The Green line provides service between the Cascade Campus and the Sylvania campus on 55 to 90 minute headways from 6:15 a.m. to 10:00 p.m.

Red Line (Cascade/Sunset Transit/Rock Creek) – The Red line provides service between the Cascade Campus and the Rock Creek Campus with one stop at the Sunset Transit Center. Service is provided on 65 to 185 minute headways from 6:20 a.m. to 9:50 p.m.

Figure 5: PCC Online Shuttle Service Tracking System



⁶ <http://shuttle.pcc.edu/>

Purple Line (Cascade/PMWTC/Southeast) – The Purple line provides service between the Cascade campus, the Portland Metro Workforce Training Center (Stop ID 3199), and the Southeast campus. Service is provided on 60 to 100 minute headways from 6:30 a.m. to 10:00 p.m.

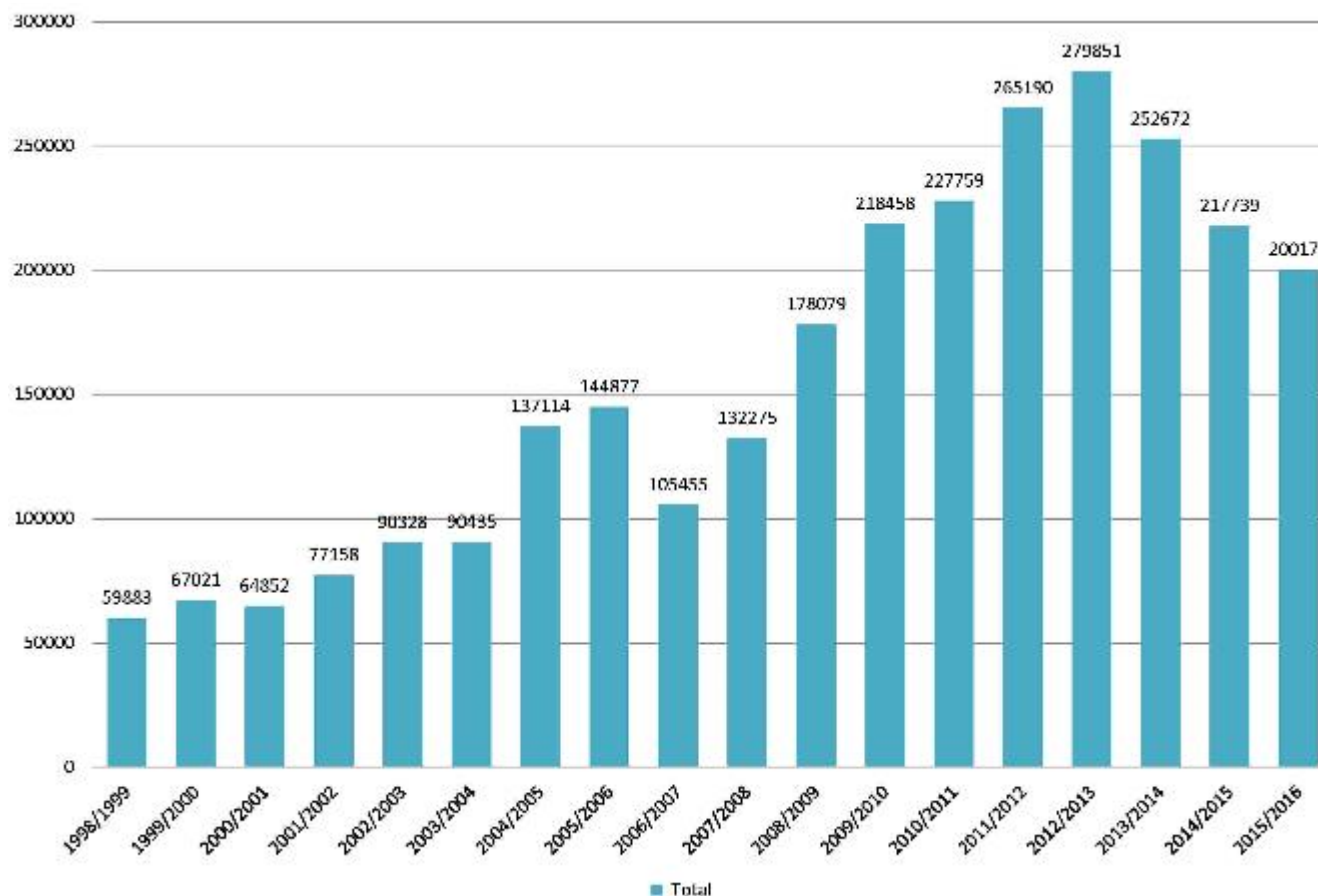
Shuttle usage has increased significantly over the last several years from a low of approximately 60,000 rides in 1998/1999 to a high of approximately 280,000 rides in 2012/2013. Shuttle usage has decreased in recent years along with enrollment; however, approximately 200,000 students, faculty, and staff used the shuttle service in 2015/2016.⁷

Ridership data obtained from PCC shows ridership levels by shuttle line and by term. Based on the data, ridership tends to be the highest during Fall with approximately 71,000 rides and lowest during Spring term with approximately 59,000 rides (see Figure 6). The shuttles have designated stops at each of the major campuses.

Shuttle Buses and Infrastructure

The shuttle service is currently supported by 15 shuttle buses. The buses range in terms of their age from 2004 to 2014 and in terms of their size from a Ford E450 Aerotech that seats 14 passengers to a 40-foot Bluebird Rear Engine

Figure 6: Total Shuttle Usage by Fiscal Years



⁷ Shuttle data provided by PCC staff January 2017

Diesel that seats 45 passengers. Table 6 provides a summary of the shuttles owned by PCC. Table 6 provides a summary of the shuttle numbers, the year they were built, the capacity, and if they meet ADA requirements.

Table 6: Summary of Shuttles Owned by PCC

Bus #	Year	Descriptions	Capacity	ADA
27	2004	Bus - Ford E450 Aerotech	14	NO
750	2004	Bus 40' - Bluebird Rear Engine Diesel	45	YES
43	2004	Bus - Chevy 5500 Eldorado Aero Elite	33	NO
20	2004	Bus - Chevy 5500 Aero Tech	23	YES
58	2006	Bus - International Aero Elite 320	28	YES
787	2009	Bus - Freightliner / Champion CTS Rear Engine	43	YES
976	2009	Bus - Freightliner / Champion CTS Rear Engine	43	YES
420	2011	Bus- International	28	YES
418	2011	Bus - Freightliner / Champion XBS Rear Engine	38	YES
419	2011	Bus - Freightliner / Champion XBS Rear Engine	33	YES
422	2011	Bus- International	28	YES
425	2013	Bus - Freightliner / Champion XBS Rear Engine	38	YES
426	2013	Bus - Freightliner / Champion XBS Rear Engine	38	YES
434	2014	Bus - Freightliner / Champion CTS Front Engine	26	YES
433	2014	Bus - Freightliner / Champion CTS Front Engine	26	YES

Operational components of the shuttle system worth noting are:

- All shuttles have bike racks that accommodate up to three bikes (changing to two-bikes)
- The shuttle system does not have a dispatch system
- The maintenance of the fleet is contracted to local businesses
- Shuttle shelters are limited in wayfinding and often don't have shelters
- PCC currently does not have a bus barn to store or maintain their fleet. Instead they store their buses at the campuses:
 - Four are stored at Cascade,
 - Five are stored at Sylvania,
 - Two are stored at Rock Creek, and
 - Four are stored at Southeast.

Transit Needs and Opportunities

Through the evaluation of the existing shuttle system, campus wide policy or major changes needed are:

- Identify a central location for housing buses
- Develop a program that allows the shuttle service to operate as a typical transit program keeping maintenance in house
- Identify additional funding sources for new shuttles.

Pedestrian and Bicycle Summary

Pedestrian and bicycle usage is highest at the more urban campuses: Cascade and Southeast. Overall campus wide, less than 10% of the students bike or walk. It appears that one of the largest contributors to biking and walking is distance to campus and infrastructure supporting this mode of transportation. PCC has been dedicated to providing, where possible, good biking and walking infrastructure around campus. This can be seen through infrastructure such as: multi-use paths on campus, bike-share programs, locker rooms, and bicycle storage boxes.

Cascade Campus

The Cascade campus is located in the heart of North Portland. Accordingly, it sees one of the highest percentages of pedestrian travel (5%) and bicycle travel (11%). The Cascade facility is a dedicated and enclosed campus with interlocking multi-use paths and crosswalks throughout that encourage pedestrian traffic.

The Cascade campus has a highly active student leadership program that promotes bike use and manages their bike share program⁸. As part of this program a student can rent a bicycle for \$15, but they also offer additional bike repair, u-locks, and storage sheds for bicycles.

Rock Creek Campus

The Rock Creek campus sees the lowest percentage of pedestrian travel (2%) and bicycle travel (1%) among the campuses. In a 2013 survey, students who responded that they drove alone to campus were

⁸ <https://www.pcc.edu/resources/aspcc/cascade/BikeProgram.html>

Figure 7: PCC Cascades Bike Rental Program



Cascade Bike Rental Program!

What's stopping YOU from riding your BIKE to school?! Oh, you don't have a bike? Let us fix that! Rent one from ASPCC for \$15 per term! Bikes may be checked out for the duration of one or a maximum of three consecutive terms.

The Bike Rental Program is the newest program from ASPCC Cascade starting winter 2012. We currently have a fleet of 50 mountain and hybrid style bikes.

What a mere \$15 per term gets you....

- A ready-to-ride mountain or hybrid bike
- All bikes come equipped with fenders, a rack, lights, a bell and a sturdy U-Lock
- You also get a helmet which is yours to keep
- Plastic seat covers to keep your saddle dry
- Free advice, support, and basic adjustments by an experienced mechanic

That's just \$5 a month - or the price of two Trimet bus tickets! (The getting in shape and having fun part is free.)



asked to list preferable alternative modes of transportation. This survey returned walking as the least preferable alternative mode of transportation at this campus. This is to be expected due to its suburban location with longer distances from housing to campus compounded by limited bicycle and pedestrian infrastructure between houses and the campus.

Historically one of the constraints to biking and walking to campus has been the limitation of supporting infrastructure along the main roadway providing north-south access to the campus, NW 185th Avenue. Washington County is currently planning to build biking and walking infrastructure along this roadway near campus in the near future.

While traveling to and from Rock Creek via walking or biking is limited, once on campus, students and staff are provided with a beautiful multi-use paths surrounded by art. Their website even highlights a “think to do” while on campus is to check out the art walk sculptures, gardens, and courtyards all interlocked with multi-us paths.⁹

Southeast Campus

The Southeast Campus is located among densely populated residential neighborhoods at the corner of SE 82nd Avenue and SE Division Street. As such, it sees higher pedestrian travel (4%) and bicycle travel (5%) than the more remote campuses. No comments made by surveyed students shed light on possible changes that could affect pedestrian traffic to this campus.¹⁰ It is worth noting that the Southeast campus is the most diverse campus with many students being low-income and having English as a second language. This demographic typically is more limited in mobility options to biking, walking, and transit. With this campus anticipated to double in size, this infrastructure will need to be significantly expanded to support the demands and this demographic of students.

Once on campus students are supported with a biking and walking infrastructure the provides interlocking multi-use paths and sidewalks that provide for pedestrian traffic on-campus.

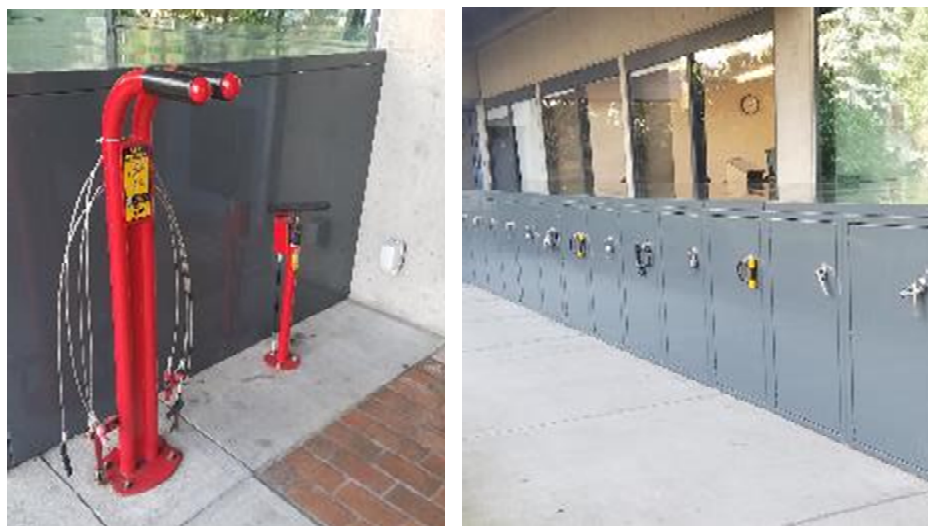
⁹ <http://www.pcc.edu/about/art/#rc-outside>

¹⁰ Portland Community College Student Commute Survey, October 2013

Sylvania Campus

While PCC Sylvania may be situated among large residential neighborhoods, many of them are comprised of mostly single-family homes and steep terrain between housing and the campus, which could lead to the low percentage of pedestrian travel (2%) and bicycle travel (2%). Once on campus, there are necessary sidewalks between buildings on the Sylvania campus, but it could benefit from a more robust multi-use path network. The wayfinding signs for walking and biking are faded and hard to read in many locations. The campus does provide biking infrastructure such as bike lockers and bike fix-it locations as shown in Figure 8.

Figure 8: Sylvania Bike Infrastructure Examples



Centers

Of the centers, CLIMB and Downtown are the most easily accessible for pedestrians and bicyclists. The Downtown location, is just over the river from the CLIMB Center, is situation well to serve pedestrians from the park blocks, Goose Hollow, South Waterfront, Pearl, and Nob Hill neighborhoods and bicyclists from all around the city. The CLIMB facility is located three blocks north of OMSI and provides pedestrian access to the highly-populated neighborhoods of Ladd's Addition, Hosford-Abernethy, and Buckman, among other East Portland neighborhoods and bicyclists from all around the city.

The remaining centers are in locations that are less supportive of biking and walking to campus. The Newberg Center provides easy pedestrian access for the immediate neighborhood, but the surrounding area of urban sprawl restricts access outside of that small residential zone. The Willow Creek Center is located near the intersection of W Baseline Road and SW 185th Avenue, two major arterials with high speeds and high traffic volumes. Willow Creek is located next to the Willow Creek MAX Station which has the capacity to service pedestrians in the immediate neighborhood.

The Hillsboro Center is situated in a similar fashion to the Willow Creek Center. Located in rural Hillsboro, it could provide pedestrian access to the immediate neighborhood, but the majority of students are commuters. It is located next to the Tuality Hospital/SE 8th Avenue MAX Station.

The Swan Island Trades and Workforce Training Centers are both located in North Portland. The Swan Island Trades Center resides in the Swan Island industrial district next to the Portland Flower Market and Columbia Distributing. This industrial district is restricted from pedestrian traffic by the Cliffside separating it from the University Park, Arbor Lodge, and Overlook residential neighborhoods. It is located along a bus line that

includes the 85 bus and the Swan Island Evening Shuttle. The Workforce Training Center is located at the intersection of NE Killingworth Street and NE 42nd Avenue and provides ample pedestrian access for the Northeast, Cully, Concordia, and Beaumont-Wilshire neighborhoods.

Parking Summary

Parking has been evaluated for campuses over the past few years. On average, 47% of students drive alone to PCC, 1% ride motorcycles/scooters, and 12% car/vanpool, all of which require parking spaces. This section outlines parking demand and utilization for general parking and for American Disabilities Association (ADA) spaces. The current parking availability and percent are summarized in Table 7.

Table 7: General and ADA Parking Summary for Campuses

Campus	Available Parking Spaces	Percent Utilized	ADA Parking Spaces	ADA Percent Utilized
Cascade	918		33	42%
Rock Creek	1792		47	38%
Southeast	731		24	50%
Sylvania	2802		66	64%

General Parking Parking

Parking at all campuses and centers are regulated following the same pricing guidelines because many students and staff attend and teach at multiple campuses and centers. The pricing of parking has not gone up for many years. A student can purchase various parking permits which are term based but can also be broken down into all day (\$45) or evening only permits for a \$10 savings. They also offer carpool permit savings that reduce the permits to \$20. Motorcycle parking is free and the remaining options are daily and hourly parking passes at the following rates:¹¹

- \$2 for two hours
- \$3 for three hours
- \$4 for four hours
- \$5 for five or more hours

The campuses that are the most constrained for general parking are Cascade and Sylvania. What Table 7 does not capture is the ebbs and flows that represent periods of time at these campuses where utilization is so high there are almost no parking spots available.

¹¹ <https://www.pcc.edu/resources/parking/>

The centers generally don't have parking constraints except for CLIMB. This center is right next to light rail and streetcar with quick access into downtown while also offering cheaper parking than downtown for students, thus, students will park here and commute into downtown while not attending classes adding to the constraint on parking.

ADA Parking

In a 2016 survey, it was determined that two campuses were operating outside the realm of ADA compliance. The Cascade campus needs to add ADA parking to their underground parking facility. The Sylvania campus needs to convert several existing parking spots to ADA spots.

GENERAL AND ADA TO BE EXPANDED UPON

Existing Conditions Summary

The existing conditions for transit, shuttle, bicycle, pedestrian, and parking are summarized in the Figure 9 through Figure 12.

Figure 9: Cascade Existing Conditions Summary

Figure 10: Rock Creek Existing Conditions Summary

Figure 11: Southeast Existing Conditions Summary

Figure 12: Sylvania Existing Conditions Summary

Strategies

The transportation team reviewed the 2012 TDM, the summary of past TDM policies applied, and the existing conditions. From this the team identified the most relevant strategies to prioritize based on the updated existing conditions and staff availability and capabilities. The recommended strategies are outlined in Table 8.

Table 8: Master Plan Transportation Strategies

Strategy	Implementation Recommendations
Department Operations	
Add additional resources to the PCC transportation and parking team	<ul style="list-style-type: none"> • Hire one full-time (1 FTE) staff member to be an ambassador • Hire one full-time (1 FTE) staff member to be an active transportation lead • Two additional FTE for maintenance for evenings for shuttle services • Additional drivers to support additional higher shuttle frequency and longer hours • Additional office support staff for transportation and parking department • Additional enforcement staff (2 FTE) for transportation and parking
Improve the method at which to incorporate transportation solutions into other projects	<ul style="list-style-type: none"> • Integrate campus and center needed improvement into local agency projects where possible: <ul style="list-style-type: none"> -Powell/Division -SW Corridor -Springville -Planning and Policy Plans (i.e., transportation safety action plans, transportation system plans) • Early stage involvement for new campus and centers from transportation and parking department • Transportation and parking department involved in campus updates (i.e., overlays, building upgrades)
Integrate transportation specific guidelines for new PCC buildings, campuses, and centers and have transportation input sooner for new infrastructure	<ul style="list-style-type: none"> • All new infrastructure should include bicycle lanes, sidewalks, and safe crossings. • All new infrastructure should include safe bicycle storage areas and showers if size is large enough. • All new infrastructure should exceed ADA guidelines. – paths from parking to building (meet owner standards and needs of the population) • Throw in power and communication as you go – create plan • Include when major class changes occur – quick analysis from transportation team to evaluate parking lot availability • Evaluate shuttle locations to minimize conflict with other modes while servicing the highest anticipated use locations

Create a district wide communications plan for transportation options	<ul style="list-style-type: none"> • Maintain transportation ambassador position, potentially add additional ambassador • Reintegrate discussion of transportation options into welcome day, new employee orientation, • Transportation solutions in permit renewal email and other mass email options • Create a transportation communications plan • Collaborating with other district services to share information • Include transportation information in “potty talk”
Parking	
Integrate new technology solutions for parking (i.e., pay by space, license plate reader)	<ul style="list-style-type: none"> • Take lessons learned from systems being implemented at college campuses in the Pacific Northwest to build a system at PCC • Build the capital cost for these solutions into longer term plans (i.e., PCC Master Plan) • Require new or expanding campuses and centers to build systems in as they are constructing new infrastructure
Long-term evaluation of impact to changing parking fees and structure of the system	<ul style="list-style-type: none"> • Conduct a detailed study to evaluate costs and impacts for parking fee increases • Identify methods that allow flexibility in parking fees by campuses and centers • Negotiate language in union contract to allow for more flexibility for staff parking fees • Collections for non-student and staff for parking fees • Allow flexibility in use of transportation fee • Incorporate transit subsidies into the balance of parking fees and alternate mode use
Transit and Shuttle	
Expand the shuttle program	<ul style="list-style-type: none"> • Create hubs at each campus. • Run during the summer • Higher frequency • Additional transportation coordinator • Increase driver wages to be competitive for starting pay (lower positions) • Align shuttle use with programs/classes • Develop a program that allows the shuttle service to operate as a typical transit program: <ul style="list-style-type: none"> ○ Keep maintenance in house ○ Identify bus barn location ○ Hire dispatch service (or in house person) • Hire additional drivers
Walking and Biking	
Make alternative modes more attractive	<ul style="list-style-type: none"> • Integrate a wellness incentive program in for employees to use alternative modes • Increase transit subsidies

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	<ul style="list-style-type: none"> • Increase frequency of shuttle services to better serve staff schedules • Add shuttle stops at centers • Integrate a guaranteed ride home program • More showers at campuses and centers • More short-term and long-term bike storage at campuses and centers • Add additional electric vehicle stations • On-going coordination with NikeTown to identify potential expansions in bikeshare program near campuses and centers
Improve pedestrian, bicycle, and ADA infrastructure to buildings from parking	<ul style="list-style-type: none"> • ADA compliant path from ADA parking spots to building entrances • Make sure new projects coming in integrate improvements (i.e., SW Corridor improving ADA and implementing pedestrian, and bike improvements from transit stops to buildings) • Add additional ADA spots at high utilization locations <ul style="list-style-type: none"> ○ Bicycle and pedestrian facilities be added or integrated into access roads
Other	
Broaden incentives for students and staff to live near	<ul style="list-style-type: none"> • Use land that PCC owns next to Sylvania to build housing options for students and staff • Evaluate purchases of land near other campuses for building housing options for students and staff • Guidelines for new campuses to buy additional land for building housing near the campus • Identify incentives for students and staff that live near campus (i.e., reduction in transportation fee)



Proposed Projects

This section outlines the recommended projects that were identified to be carried forward into the Master Plan for the next five to 10 years. To determine the projects, the advisory team pulled the most applicable infrastructure improvements from the 2012 TDM and brainstormed some new ideas based on experience and updated existing conditions. These identified projects were evaluated based criteria that utilized the guiding principles identified in the 2012 TDM. Details on all the guiding principles are provided in the Appendix C, the refined principles used as criteria for evaluation are as follows:

- Optimizes the Efficiency of Parking Use – Maximizes the use of current parking spaces
- Improves Safety – Reduces the likelihood of crashes between modes of travel and also reduces the likelihood of accidents for modes (i.e., wide sidewalks to ensure pedestrians don't bump into each other or trip)
- Improves Security – Infrastructure improvements include options that would reduce the likelihood of bicycle theft, car break-ins, and similar security issues.
- Provides Equitable Improvements – Provides an improvement that all incomes, races, genders, and so forth can use
- Improves the Alternative Mode Experience – Improves the experience for bicycles, pedestrians, and transit riders
- Provides Sustainable Improvements – Good environment as well as something that can be sustained for a long period of time
- Provides Options to Promote Positive Wellness – Encourages modes of travel that are positive to wellness, generally walking and biking

The recommended project list by campus is summarized in Table 9.

Table 9: Master Plan Project List (5 to 10-year)

Campus	Projects



Appendix