Portland Community College

# CASCADE CAMPUS Transportation Demand Management Plan

Portland, Oregon

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# PCC - CASCADE CAMPUS TRANSPORTATION DEMAND MANAGEMENT PLAN (TDMP) April 2012

This document is intended to provide a detailed description of the Transportation Demand Management Plan (TDMP) developed to support the PCC Cascade Master Plan for a new underground parking garage and approximately 65,000 gross square feet of academic building development. It is PCC's intent to develop a transportation demand management plan for the PCC Cascade Campus that serves as a guideline for reducing student and employee trips to the campus, mitigates student/employee parking in adjacent neighborhoods and business districts and receives City of Portland approval in the Impact Mitigation process.

#### I. INTRODUCTION AND PURPOSE

This report details a Transportation Demand Management (TDM) program for students and employees enrolled and working at the PCC Cascade Campus. The Plan is designed to specifically address access to the Cascade Campus as it will be influenced by the new development anticipated for the campus. However, the PCC Cascade Campus Plan is very much integrated with and borrows from the larger district TDM Plan developed by Portland Community College (PCC) for its broader campus system, particularly as it applies to the Rock Creek, Cascade, Sylvania and South East campuses. This Plan was developed by PCC's Transportation Demand Management Steering Committee (TDMSC) in 2011, a 21member group comprising representatives of PCC administrators, students, employees and faculty/staff. It is also important to note that PCC currently has a very successful TDM plan that has been operational since 1993. This plan has resulted in transportation mode efforts that far exceed those found at similar institutions.

There are many objectives served by the TDM program, such as minimizing the rate at which single occupant vehicle trips are generated by PCC students and employees and optimizing the use of more sustainable methods of access. It also is important to note that the TDM program is intended to support increasing student enrollment and job growth at PCC Cascade. Marketing, education, enforcement, and use of incentives and disincentives are key components in the application of the TDM measures that PCC implements with the Plan.

The TDM Plan and recommended measures contained in this report will be monitored, reviewed and revised as necessary by a designated District TDM Specialist, reporting directly to the District Manager, Parking and Transportation Services. Per the broader district TDM Plan, an internal advisory committee (possibly a continuation and enhancement of the original TDMSC) will review progress and document actions and outcomes and frame decision making. For PCC Cascade specifically, annual reports will be prepared by Parking and Transportation Services for review by the City and as a basis for communications with the neighborhoods adjoining the PCC Cascade Campus.

Though this Plan is developed for the PCC Cascade campus, the intent is to actively coordinate its implementation with many external partners, such as TriMet, the City of Portland and affected neighborhoods.

# II. EXISTING CONDITIONS

This section summarizes the most recent Kittleson & Associates, Inc. (KAI) traffic, circulation and parking studies conducted for the PCC Cascade Campus Impact Mitigation Plan update.<sup>1</sup> Elements included in this section will be particularly focused on outlining and describing existing parking conditions and current levels of infiltration of PCC cars in the neighborhood. This section will also provide a summary of current TDM programs at the Cascade Campus, to underscore the strong efforts at trip reduction already in place in the area of student transit, shuttles and biking.

This section is organized into the following elements:

- A. Travel to and from PCC Cascade
  - Geographic Distribution of Student Enrollment
  - Mode Split of students and employees
  - Transportation Facilities
- B. Existing TDM Programs
- C. Parking Conditions
  - Parking Supply
  - Peak Parking Utilization
  - Neighborhood Infiltration
  - Peak Parking Demand

# A. Existing Travel to and from PCC Cascade

# Geographic Distribution of Cascade Campus Student Enrollment

The map in Figure A illustrates where students who consider Cascade their home campus live by zip code. It shows that nearly half of all students live within relatively close proximity to the campus. Existing sidewalks, bicycle facilities, and transit facilities and services within the area currently provide considerable opportunities to meet student access needs by non-auto means.

<sup>&</sup>lt;sup>1</sup>Copies of the full reports are available from PCC.

#### **Figure A**

2010 Cascade Top Zipcodes



Map based on Longitude (generated) and Latitude (generated). Color shows details about Zipcodes. Size shows sumof Cascade. The marks are labeled by Zipcodes. The view is filtered on Zipcodes and sumof Cascade. The Zipcodes filter has multiple members selected. The sum of Cascade filter keeps all values.

Students coming from zip codes in central Washington County must travel a distance much greater than the regional average for a commute-to-school trip.

#### Existing Mode Split

PCC conducted a survey in early 2011 to better understand the transportation needs and preferences of its students. The online survey received 4,877 responses college-wide, with a margin of error of ±2.7% at the 95% confidence level. A total of 1,202 students at the Cascade campus responded. The survey included basic questions about transportation habits and choices, as well as a conjoint analysis. PCC administers the Employee Commute Options (ECO) Survey every two years, as required by the Oregon Department of Environmental Quality. The ECO survey tracks the mode split of employees in order to assess progress towards auto trip reduction goals. The current mode splits for students and employees, as reported by these surveys, is provided in Table 1.

MODE	Student <sup>1</sup>	Employee <sup>2</sup>
Drive Alone	61%	75%
Rideshare	5%	4%
Transit	16%	8%
PCC Shuttle	1%	3%
Bike	11%	3%
Walk	3%	2%
Other	3%	5%

Table 1
Existing Mode Split (Cascade Campus)

Source: DHM, ECO Survey

As shown in the table, the majority of trips made to the campus come via drive alone auto. It is also notable that the portion of students that drive alone to/from the PCC Cascade campus is substantially less than the portion of employees that drive alone. After driving alone, transit is the second most used option among both students and employees. The existing transportation facilities in the vicinity of the Cascade campus are described in the following sections.

#### **Roadway Facilities**

Access to the Cascade campus is currently provided by several collector streets including N Killingsworth Street, N Interstate Avenue, N Albina Avenue, N Vancouver Avenue, and N Williams Avenue. N Killingsworth Street is located along the southern boundary of the campus and provides connections between N Willamette Boulevard and NE Martin Luther King Jr. Boulevard to the west, and US 30 and Interstate 205 to the east. N Killingsworth Street also provides connections to Interstate 5, a major regional freeway located approximately two blocks west of campus. TriMet's Yellow Line is located along N Interstate Avenue which ties into several additional transit services provide by TriMet, including TriMet's Red, Blue, and Green Lines. N Albina Street provides additional north-south connections to the campus, while N Vancouver Avenue and N Williams Avenue are popular north-south bicycle routes.

Table 2 summarizes the physical characteristics of the major roadways within the vicinity of the campus, including their respective, functional classifications, cross sectional elements, posted travel speeds, and whether they currently serve as a transit route.

	Table 2	
Major Access Roadway	Characteristics	(PCC Cascade)

			Cross Section				
Roadway	Street Classification	Travel Lanes	Bike Lanes	Parking	Sidewalk s	Posted Speed	Transit
N Killingsworth Street	District Collector	2	No	Yes	Yes	30	Yes
N Interstate Avenue	District Collector	2	Yes	Yes <sup>1</sup>	Yes	30	Yes
N Albina Avenue	Local Service Street	2	No	Yes	Yes	25/30 <sup>2</sup>	Yes
N Vancouver Avenue	Neighborhood Collector	2 (SB)	Yes	Yes	Yes	30	Yes
N Williams Avenue	Neighborhood Collector	2 (NB)	Yes	Yes	Yes	25	Yes <sup>3</sup>

1.On-street parking along N Interstate is in select locations only.

2. Posted speed limit on Albina Avenue: 25 mph north of Killingsworth, 30 mph south of Killingsworth.

3. Transit is currently provided along N Williams Street south of N Killingsworth Street.

As referenced in the City of Portland's Transportation System Plan (TSP), the functional purpose of a District Collector (e.g. Killingsworth Street) is to distribute traffic from Major City Traffic Streets to lower-level streets, to provide access to district activity centers, and to serve trips that start and end in a City transportation district (such as the Northeast District in which the Cascade campus is located). Neighborhood Collectors (e.g. Vancouver Avenue and Williams Avenue) distribute traffic from Major City Traffic Streets and District Collectors. Local Service Streets provide local access to residences and businesses and provide for pedestrian circulation.

The City of Portland has several additional classifications for each roadway under its jurisdiction. Table 3 summarizes these functional classifications for pedestrian, bicycle, and transit use per the City's TSP.

Roadway	Pedestrian <sup>4</sup>	Bicycle	Transit				
N Killingsworth Street	City Walkway	Local Service Bikeway	Major City Transit Street				
N Interstate Avenue City Walkway		City Bikeway	Regional Transitway				
N Albina Avenue	City Walkway	Local Service Bikeway	Major City Transit Street				
N Vancouver Avenue	City Walkway	City Bikeway	Minor Transit Street				
N Williams Avenue	City Walkway	City Bikeway	Minor Transit Street				

Table 3 City of Portland Street Designations

1. The Cascade campus is entirely within the Killingsworth Pedestrian District.

#### Transit System

The main bus lines serving the Cascade campus are the #4 (Division/Fessenden), and the #72 (Killingsworth/82<sup>nd</sup>). These bus lines share a common stop near the N Albina Avenue/N Killingsworth Street intersection, where both buses operate at 10- to 18-minute headways. The #4 has an additional stop along N Albina Avenue near N Jessup Street and the #72 has three additional bus stops along Killingsworth Street near the Cascade campus. Table 4 summarizes the TriMet ridership at the bus stops near the Cascade campus. As shown, there has been a 16% increase in the number of "ons" (people getting on the bus) and an 8% increase in the number of "offs" (people getting off the bus) near the Cascade campus over the last three year period.

Fall 2007				Fall 2010		Inc	rease/Decrea	ase
Average Weekday Ons	Average Weekday Offs	Average Monthly Lifts	Average Weekday Ons	Average Weekday Offs	Average Monthly Lifts	Average Weekday Ons	Average Weekday Offs	Average Monthly Lifts
1335	1377	474	1553	1491	393	16%	8%	-17%

Table 4 TriMet Ridership near Cascade

Five blocks west of the Cascade campus is the MAX Yellow Line station, which provides access to the entire light rail system. The MAX Yellow line operates with 15-minute headways.

Other transit lines serving the Cascade campus are the Northwest POINT shuttles, Swan Island TMA Shuttle, and Vancouver C-Tran service. The Northwest POINT shuttle travels from Astoria to the Portland Amtrak station, which connects to the MAX Yellow Line. The Northwest POINT shuttle arrives at the Portland Greyhound Station at 10:30 a.m. and 8:30 p.m. The Swan Island TMA also has an evening shuttle that operates from 6:30 p.m. to 12:00 a.m. going from the Rose Quarter TC to Swan Island. The Swan Island TMA shuttle service operates with 30-minute headways. The Vancouver area operates the C-Tran transit service. The C-Tran line has four bus service lines that end at the Delta Park/Vanport Max Station (each with 30- to 45-minute headways), which is the final destination for the MAX Yellow Line. Those four lines are the #4 (Fourth Plain), #41 (Camas/Washougal Limited), #44 (Fourth Plain Limited), and #47 (Battle Ground Limited).

# Shuttle System

The PCC shuttle connects to the Cascade campus at a stop on Kerby Avenue between the Student Center and Jackson Hall. Shuttles connect Cascade to the Sylvania campus via the Green Line (Cascade/Sylvania) and Rock Creek via the Red Line (Rock Creek/Cascade/South East). The Green line runs from 6:00 a.m. to 9:30 p.m. at 60- to 75-minute headways. The Red line runs from 6:00 a.m. to 9:30 p.m. at 75– to 160-minute headways. The shuttle does not run during summer term.

#### Pedestrian Facilities

The Cascade campus falls entirely within the Killingsworth Pedestrian District, which is bounded by Ainsworth Street, Interstate 5, Emerson Street, Kerby Avenue, Jessup Street, Williams Avenue, and Alberta Street. Pedestrian Districts are areas with frequent pedestrian activity where pedestrian access is prioritized and all streets are of equal significance in serving pedestrian trips. Sidewalks in Pedestrian Districts should be separated from vehicle traffic by landscaping or on-street parking, and crosswalks, signalized crossings, curb extensions, and pedestrian refuges are appropriately used. According to the Transportation Element, protected crossings should be considered at every corner or every 400 feet, whichever is less.

Pedestrian facilities were inventoried along N Killingsworth Street between Interstate 5 and N Williams Avenue. Table 5 summarizes the pedestrian crossing treatments located at each intersection along N Killingsworth Street. The shaded portion of this table denotes the intersections adjacent to the Cascade campus.

Cross Street	Signalized Protection ?	Marked Crosswalk ?	Curb Extensions?
Missouri Avenue	Ν	Y	Υ
Michigan Avenue	Ν	Ν	Y
Mississippi Avenue	Ν	Ν	Ν
Albina Avenue	Y	Y	Y
Borthwick Avenue	Ν	Ν	Ν
Kerby Avenue	Ν	Y	Y
Commercial Avenue	Ν	Y	Y
Haight Avenue	Ν	Ν	Ν
Vancouver Avenue	Y	Y	Ν
Moore Avenue	Ν	Ν	Ν
Williams Avenue	Y	Y	Ν

Table 5 Killingsworth Pedestrian Treatments

\* Shaded portion of table denotes that section of Killingsworth along PCC Cascade frontage.

Pedestrian movements were observed on Killingsworth Street in the vicinity of the campus. Based on these observations, pedestrian movements generally are made legally at marked or unmarked crosswalks.

#### Bicycle Facilities & Use

The Cascade campus is the leader for bicycle accessibility among the four campuses. Although a majority of the streets adjacent to the campus do not have designated bicycle lanes, traffic volumes and speeds are such that most bicyclists feel comfortable riding in traffic. Also, the N Vancouver Avenue-N Williams Avenue couplet located a few blocks to the east serves as a major bicycle corridor through the neighborhood. The Cascade campus also boasts capacity for up to 302 bicycles, campus wide. Not surprisingly, Cascade also has the highest observed bike parking utilization rate at 53% (based on June 2011 observations); the only campus to exceed 50% occupancy. Covered parking appears to be the preferred option among bicyclists with 79% of those racks occupied. Table 6 summarizes the total number of covered and uncovered bicycle rack installations at the Cascade campus, along with the total number of available bicycle parking stalls and the observed utilization.

Un/Covered	# of Rack Installations	Bicycle Capacity	Occupancy
Uncovered	18	269	133 (49.4%)
Covered	6	33	26 (78.8%)
Total	24	302	159 (52.6%)

 Table 6

 Cascade Campus Bicycle Storage Inventory & Occupancy

# B. Existing TDM Programs

The first TDM plan for PCC was developed in 1992 with the goal of changing travel behavior and meeting the increasing transportation demands of PCC. In 2007, PCC retained Nelson/Nygaard Consulting Services, Inc. to update its TDM Plan. IN 2011, the college engaged in a planning process assisted by Kittelson & Associates, Rick Williams Consulting and Michael Kodama Planning Consultants to update the Parking and Transportation Demand Management Plan for all of PCC. The TDM Plan incorporated herein for the Cascade Campus will work in conjunction with the college-wide plan.

In addition, PCC currently offers a variety of programs to encourage students, faculty and staff to take alternative modes of transportation to the Cascade campus. These programs include:

- PCC shuttles are provided free to all students, faculty, and staff.
- Bicycles are allowed on PCC shuttles.
- Bicycle parking is provided and included on the Cascade campus map.
- Locker rooms are available for student, staff and faculty use.
- Students that commit to sharing a ride to campus can purchase a Ride Share Permit to park at a discounted rate.

- Access to a rideshare matching program that includes a PCC network.
- Faculty and staff may purchase a monthly Tri-Met bus pass on a pre-tax basis.
- "PCC offers a limited number of "Student Select" passes for \$160, discounted from its cost of \$236. The actual retail value of the pass is \$276 if such a pass were purchased directly from TriMet (a \$116 savings to the student). In comparison, Portland State University sells their Student Select Pass for \$190 (as of Spring term 2012).

PCC has already taken steps at its campus to encourage alternatives to driving alone. This plan is intended to support these efforts.

# C. Existing Parking Conditions

# Parking Supply

The parking supply for PCC Cascade Campus includes surface parking lots and on-street parking both on and off campus. This supply is summarized in Table 7.

The campus has seven parking lots on campus with a total of 607 off-street parking spaces. On-street parking that was assumed to be included in the PCC parking supply includes only those street frontages within the campus boundary and immediately adjacent to PCC for all streets forming the campus perimeter.

There are 212 on-street parking spaces located on streets adjacent to PCC. Because some of these parking spaces are located along streets that may have demand that is not related to PCC (i.e. businesses on Killingsworth Street), an additional count was conducted to attempt to identify how much of the demand on PCC-frontage is a result of the adjacent businesses or residences *versus* the Cascade campus. A special count was conducted after the end of the Fall Term (during the Christmas break—a known time when PCC classes are not in session) to determine the number of these spaces that are used by "non-PCC" users (patrons of commercial businesses on Killingsworth, neighborhood residents, etc.). Based on these field counts, 80 vehicles were identified to be parked within the previously identified 212 PCC-designated spaces. Because PCC classes were not in session during this additional parking count, these vehicles are assumed to be non-PCC users parked in the 212 PCC frontage spaces. As such, if these vehicles are assumed to be present when PCC classes are in session, then only 132 spaces (212 minus 80) would be available to PCC during typical weekdays.

This is a conservative estimate in that there is a possibility that not all 80 non-PCC vehicles counted would be parked in those same locations during PCC peak hours while classes are in session. This additional non-PCC demand may not be able to park in the counted spaces due to PCC-related demand competing with non-PCC-related demand while classes are in session. As a result, it can be concluded from this additional parking study that the peak supply (212 vehicles) along PCC campus frontage that is actually available to PCC may be as low as 132 vehicles if all 80 vehicles are reliably present in those

spaces year-round. However, a more realistic conclusion is that a range of PCC-available supply between 132 and 212 is present during the peak hours, and any on-street parking designation given to spaces adjacent to the campus, particularly on Killingsworth Street near businesses, should be considered carefully when implementing an enforcement policy.

For the purposes of this analysis, and to provide a conservative estimate, the PCC supply of 212 was reduced by the 80 vehicles counted in December 2010 to arrive at a PCC-available supply of 132 vehicles. Table 7 summarizes the PCC Cascade Campus existing parking supply.

		Stalls by Type <sup>1</sup>					
Lot/Parking ID	General	Staff	Visitor	Time Limited	Other	ADA	Total <sup>2</sup>
North Lot (P1)	284	0	0	4	0	16	304
Staff Lot (P2)	0	39	0	0	0	4	43
Gym Lot (P3)	0	18	0	0	0	2	20
West Lots (P4)	139	0	0	0	0	6	145
PSEB Lot (P5)	91	0	0	0	0	4	95
On-Campus Subtotal	514	57	0	4	0	32	607
Off-Campus Subtotal (Perimeter Street Parking)	132 <sup>3</sup>	0	0	0	0	0	132
Grand Total	646	57	0	4	0	32	739

 Table 7

 Existing PCC Campus Parking Supply

1. Stall type (e.g., general, staff, visitor, time limited, ADA) counts were taken in the 2007 survey work

2. Total stall counts were taken from the most recent survey in December, 2010.

3. Of the 212 on-street stalls that are located on PCC-frontage, there were 80 non-PCC vehicles parked, leaving a peak supply available to PCC of 132 parking stalls.

#### Peak Parking Utilization

Figure B provides a comparison of measured parking utilization on the Cascade Campus in 2007 and in 2010. The data is summarized by hour of the day. Demand by hour of day is consistently higher in 2010 over 2007. The 2010 data is an aggregate of two separate survey days, both were conducted at the end of February 2010.



Figure B Cascade Campus Vehicle Parking Occupancies

From Figure B, the following conclusions can be derived:

- Occupancies in 2010 exceed 90% for five consecutive hours of the day (10:00 AM to 2:00 PM)
- Peak hour for 2010 was at 11:00 AM, reaching 97.9% occupancy.
- At peak hour, a total of only 12 stalls are available for use.
- The Cascade Campus experiences very long sustained use of its parking supply, which implies an unknown latent demand in the adjacent neighborhoods.

During the 10:00 a.m. and 2:00 p.m. critical time period, the highest demand for on-campus parking was observed to occur at 11:00 a.m. with approximately 590 cars parked on-campus. With an on-campus lot parking supply of 607 spaces, this equates to a 97 percent utilization of on-campus parking. A parking utilization of 90 percent is typically considered "effective capacity" in recognition that the few number (10%) of remaining available spaces are typically needed for turnover. Therefore, the on-campus parking lots are operating over-capacity during the peak hour of 11:00 a.m. to 12:00 p.m. This results in a number of cars parking on neighborhood streets in the vicinity of the campus. The neighborhood infiltration was estimated based on a number of data collection efforts, described in the following section.

#### Neighborhood Infiltration

In order to estimate the number of PCC related vehicles that park on neighborhood streets during the peak parking demand, several data collection efforts were conducted within the study area, shown in Table 8. Counts were taken of vehicles parked on the streets in the study area between the peak hours of 10:00 a.m. and 2:00 p.m. To estimate the number of these cars that were PCC related, counts and license plate surveys were conducted at 6:00 a.m. to identify resident vehicles. All vehicles parked in the surrounding neighborhood at 10:00 a.m. that were not present at 6:00 a.m. were considered PCC-affiliated. This methodology may overestimate PCC-related parking demand, in that it assumes all new cars present on neighborhood streets after 10:00 a.m. are associated with PCC. These counts have been repeated several times. Based on counts conducted on Tuesday, October 6, 2011 (the third Tuesday of fall term), there are currently 347 PCC-related vehicles parked in the neighborhood. This data confirms the counts that had been collected the previous Spring 2011 term (within ten vehicles). Therefore, the neighborhood infiltration is assumed to be 347 vehicles.

# Peak Parking Demand

The peak parking demand was estimated by totaling the number of cars parked in PCC lots, along PCC street frontages, and on the surrounding neighborhood streets. The total peak parking demand is shown in Table 8.

PCC Cars parked in lots	590
PCC Cars parked on street frontages	132
PCC Cars parked in neighborhood	347
Total PCC demand	1,069

Table 8 Existing Parking Condition

This peak demand was used to estimate a peak parking generation rate for Cascade campus. The campus currently includes 339,600 square feet of development. Therefore, the parking generation rate is approximately 3.15 spaces per thousand square feet. This parking demand rate is then applied to the future space planned to be added on campus, to arrive at an estimated parking demand with the planned expansion.

# III. FUTURE CONDITIONS

PCC is planning to expand its Cascade campus over the next few years, which will alter both the parking supply and demand. Kittelson & Associates (KAI) conducted an analysis of future parking demand associated with building approximately 60, 000 - 65,000 gross square feet of additional campus

buildings.<sup>2</sup> The KAI study estimates the change in the total parking demand, based on new parking demand generated by the new building. It also provides an estimated "parking deficit" generated by the 60,000 - 65,000 gsf addition. The future parking conditions for PCC Cascade are summarized in Table 9.

	Existing	Future Projections
Campus Size (SF)	339,600	404,600 <sup>1</sup>
Parking Demand <sup>2</sup>	1069	1274
Parking Supply	739	940 <sup>3</sup>
Parking Deficit <sup>₄</sup>	347	352

Table 9					
Existing versus Future Parking Conditions					

1 Assuming 65,000 additional square feet

2 Based on the parking generation rate of 3.15 sp/KSF

3 Includes additional parking from underground garage, surface parking, and satellite lots. Parking supply (940) = 607 existing oncampus spaces + 132 on-street spaces + 75 net new spaces with underground garage + 126 surface spaces.

4 Accounts for 17 empty spaces in on-campus parking lots

Current parking demand is estimated at 3.15 stalls per 1,000 gross square feet of campus building area. This was derived by calculating peak parking demand (1,069 parked cars) as a relationship to total existing building area (339,600 SF). Applying this parking generation rate of 3.15 spaces per thousand square feet to what will be the future campus square footage, results in a total future parking demand of 1,274 spaces.

PCC is also planning on establishing several new parking facilities. A proposed underground parking garage with 220 spaces will add a net 75 spaces to the parking supply (an estimated 145 existing spaces will be eliminated). In addition, new surface parking both on-campus and off-campus is planned which will add an additional 126 parking spaces, bringing the total parking supply to 940 spaces (see Section VI, Tier 1 strategies, below).

The parking deficit reflects the difference between the parking demand and parking supply, while accounting for some unutilized parking spaces in the on-campus parking lots. These vehicles will likely park on the surrounding neighborhood streets. Therefore, the parking deficit represents the projected neighborhood infiltration. With the addition of the garage and new surface lots, future infiltration (assuming current mode splits) would rise from 347 to 352 parked vehicles at the peak hour of the peak day.

# IV. DEFINING THE PROBLEM – NEIGHBORHOOD INFILTRATION

As demonstrated in Sections II and III, approximately 347 cars associated with PCC students and employees currently park in the adjacent neighborhood on a typical peak operating day. The approach taken in this Plan will be to focus efforts to meaningfully reduce this number of PCC associated vehicles

<sup>&</sup>lt;sup>2</sup>Copies of the full reports are available from PCC.

parking in the neighborhood over the next 10 years. In numerous meetings with neighborhood representatives, the greatest concern expressed is that associated with growth at the campus and the infiltration of PCC-related vehicles into neighborhood parking areas. As such, the Plan tracks PCC's performance through routine and quantitative assessment of progress toward reducing the impact of PCC weekday vehicles in the neighborhood from a 2011 baseline (once a Term during the third week of each term). Measureable progress toward reducing PCC-related vehicles parking in the neighborhood will be the key measure of performance in this Plan.

Over the past several years, PCC has routinely surveyed vehicles within a "spillover" area to measure the impact of neighborhood infiltration. Kittelson & Associates (KAI) has collected the data for PCC, with a description of that methodology provided in Section II, above. This area is illustrated in Figure C and represents a zone bounded by N. Simpson Street on the north, N. Killingsworth Court on the south, N. Commercial Avenue on the east and N. Mississippi Avenue on the west.



Figure C PCC Cascade Campus – Neighborhood Infiltration Boundary

KITTELSON & ASSOCIATES, INC. TRANSPORTATION ENGINEERING / PLANNING

For purposes of the PCC Cascade TDM Plan, PCC will continue annual measurements within this area using the same methodology implemented to develop the 2011 baseline. Results will be correlated each year to targets established for the next 10 years. This will provide consistency and quantitative integrity for comparative measurements and decision making. The packages of TDM strategies implemented by

PCC to contribute to reductions in student and employee vehicle trips will transpire over "tiers," which are generally 3 years in duration and become incrementally more aggressive based on success or lack of success in meeting goal set for reducing vehicles parked in the neighborhood. The tiered strategy approach is detailed in Section VI of this report and infiltration reduction targets are summarized in Table 10.

PCC considers a 30% reduction over 10 years from the baseline year to be a reasonable target and goal. With a current estimate of 347 PCC-related vehicles parking in the neighborhood (per KAI survey), PCC would commit to reduction targets of 30% parked vehicles per year between 2012 and 2021. Achieving this 10-year goal will result in a reduction of approximately 104 PCC-related vehicles being parked on adjacent neighborhood streets during the established data collection period every fall term. Interim reporting benchmarks are recommended in no less than three-year increments (e.g. a cumulative 33 vehicle reduction by Year 3, 66 vehicles by Year 6, 88 vehicles by YR 8 and so on to YR 10).

	receased campus. Annual venicle initiation raigets									
	ANNUAL MITIGATION TARGETS TO ACHIEVE 30% REDUCTION									
	Tier 1 TDM Tier 2 TDM			M Tier 3 TDM			Tier 4 TDM			
Baseline Infiltration	YR1	YR2	YR3	YR4	YR5	YR6	9 YR7	YR8	YR9	YR10
347 cars	336	325	314	303	292	281	270	259	248	243
Cumu	ative Targ	gets	33			66		88		104
VEHICLES IN INFILTRATION AREA										

 Table 10

 PCC Cascade Campus: Annual Vehicle Infiltration Targets

As stated, PCC will track vehicle activity within the infiltration area, as well as periodic evaluation (through PCC enforcement) of citation activity adjacent to this area (see map of PCC Neighborhood Enforcement Area, Figure D in Section V. B, below). PCC will also track progress related to other supporting performance measures (TDM and program activities) and consolidate them into a "diagnostic dashboard" that clearly summarizes performance within specifically identified metrics (see Section VI and Appendix B). The comparative summary of performance across multiple metrics allows the "diagnostic dashboard" to be used as a decision-making tool by PCC (and the City) to best evaluate the utility and impact of strategies on infiltration. The comparative analysis can then lead to modification, enhancement of strategies and/or implementation of new strategies within Tiers or in subsequent Tiers.

#### V. EVALUATION CRITERIA

#### A. Guiding Themes & Principles<sup>3</sup>

Underpinning PCC's TDM approach for the Cascade Campus is a unique set of Guiding Themes and Principles developed by the all campus Transportation Demand Management Steering Committee (TDMSC). These Themes and Principles serve a vital purpose in the overall process of determining what specific strategy and program actions to consider and ultimately take, based on reported transportation conditions at a PCC campus. In fact, they are so important that the TDMSC is recommending that the College adopted them as policy to guiding parking and TDM decision-making. It is expected that any individual involved in decision-making related to parking and TDM at PCC will review and agree to follow these themes and principles. This is particularly true of any standing committee charged with overseeing parking and TDM, as well as the technical staff charged with administering, managing, and delivering the parking and TDM programs, which in this case would be for the PCC Cascade Campus.

Strategically, the principles encourage (1) the college to continue providing a variety of access methods and (2) people to use them in a manner that inherently supports the overarching PCC goals that have been established for the Cascade campus and the larger campus network. Access should continue to include walking, biking, ridesharing, driving, and riding transit and shuttle, as well as technology (i.e. telephone and internet). People seeking to access the Cascade campus should be cognizant of the available access options and the full costs of using any particular method. The Guiding Principles shape the ways in which PCC provides access and shares the costs with the people that use it. The Guiding Principles reflect PCC's commitment to changing the access environment; moving to strategic outcomes for access that actually support more than just arrival, but the college itself as a unique place and experience. The provision of access and the management of parking are keys to the success of the PCC Cascade campus Plan.

The Guiding Principles outlined here begin with an Objective Statement and are organized under theme categories, serving as a foundation for continuing discussions with PCC stakeholders. Ideally, these Guiding Principles give direction to near- and long-term decisions for parking management and access strategies for PCC at the Cascade campus.

#### **Objective Statement**

It is PCC's goal to sustainably and cost effectively provide sufficient physical and technological access to its academic system to meet the educational and vocational needs of the population it serves. To achieve this, PCC will need to create and implement an efficient and adaptable access management plan that balances cost and convenience between travel modes; strategically accommodates growth; and,

<sup>&</sup>lt;sup>3</sup> Much of this section on Themes and Principles is derived from the broader and more comprehensive *PCC Parking and Transportation Demand Management Plan Update (February 2012)*, prepared for PCC by Kittelson & Associates, Rick Williams Consulting and Michael Kodama Planning Consultants.

supports the PCC Mission, Vision, and Sustainability Initiative. The key objective is to transition each campus to a place that values sustainability, provides expanded options for access, and ensures the long-term educational and vocational success of its students, faculty, and staff.

#### Guiding Themes & Principles

Substantial input was provided through the TDM Steering Committee process, which also included oncampus open houses, and meetings with PCC staff. Topics of discussion have included the PCC mission/vision, goals and desires for the future, current access issues and ideas, and the challenges of providing access. This input was summarized into seven (7) organizing themes and twenty (20) Guiding Principles.

#### 1. Multi-Modal and Technological Access

- Assure that PCC can be accessed in a variety of ways to meet the needs of users (students, employees [faculty and staff], and visitors).
- Ensure that existing and any new parking enhances the campus experience and supports PCC's sustainability goals.
- Reduce employee, student, and visitor reliance on automobile-based trips to PCC through a transition into other modes (e.g., transit, bike, walk, rideshare, technology). PCC should establish alternative mode targets for all employees and students, both system-wide and by campus.

# 2. Equity & Affordability

- Through the use of pricing, subsidies and other measures, ensure that affordable options for access are available and manage access choices to avoid or at least minimize the need to expand vehicle parking supplies.
- Recognize that parking supply is a limited and expensive resource that will need to be evaluated and managed in a manner that reflects that value.
- Ensure that all users are equitably served through the provision of access.

# 3. Efficiency

- Optimize the utility and benefit of existing access resources.
- Leverage relationships with external partners.

#### 4. Safe & Convenient

• Provide access that is of the highest quality to create a safe and positive experience.

- Make access user-friendly and easy to understand.
- Provide safe, secure and well-lit access to allow a sense of security at all times.

#### 5. Sustainable

- Environmental: Ensure that access contributes to the broader vision that values sustainability, reduces greenhouse gas (GHG) emissions, and contributes to the environmental well-being of the College and the communities it serves.
- Fiscal: Provide viable access options that are financially sustainable and cost-effective.
- Health: Provide access programs and products that support individual and community health and well-being.

#### 6. Communication

- Provide a clear and consistent message about the access system via the PCC public information system.
- Develop and/or improve educational and communications programs that communicate PCC's commitment to access options and support these principles, under a common brand.

#### 7. Coordination

- Provide clear, strategic and consensus-based direction to assure that growth is accommodated in a manner that enhances the overall "PCC experience," while expanding options for access to all campuses.
- Coordinate access strategies to complement surrounding land uses while meeting user needs.
- Coordinate with local, regional, and state agencies to construct, provide, and maintain methods of access that are sustainable, available, safe, efficient, convenient, comfortable, and affordable and meet user needs.
- Implement measurements and reporting that assures Guiding Principles are supported and achieved.

Managing the program that supports multiple uses is challenging and requires fully utilizing the entire access system to provide convenient, safe, reliable options for students, visitors, and employees of the Cascade campus. The Guiding Principles serve as a solid foundation for coordinating transportation demand management decision-making. Their intent and purpose is to generate access strategies and programs that will complement PCC's efforts in attaining its long-term growth and development vision, while balancing academic needs with community partnership.

#### B. Performance Measures – Supporting Forward Progress

Successful implementation of the PCC Transportation Demand Management Plan (TDMP) is best supported by objective, quantifiable and measurable performance measures. Developing and monitoring a clear set of performance standards will provide PCC and its stakeholders, understandable information to assess success, program and resource need and a solid foundation for decision-making. The Guiding Themes and Principles developed and recommended by the TDMSC provide clear direction in this regard. Two Principles in particular call for targets and performance measures:

#### MULTI-MODAL AND TECHNOLOGICAL ACCESS

Reduce employee, student, and visitor reliance on automobile-based trips to PCC through a transition into other modes (e.g., transit, bike, walk, rideshare, technology). PCC should establish alternative mode targets for all employees and students, both system-wide and by campus.

#### COORDINATION

Implement measurements and reporting that assures Guiding Principles are supported and achieved.

This section outlines metrics that PCC will track on a routine basis to show effectiveness of this plan in mitigating neighborhood infiltration. Progress within these metrics will also be tied to the Tiered Strategy approach (Section VI) and infiltration targets summarized earlier in Table 10. Tracking performance measures will provide PCC with a "diagnostic approach" to its TDM efforts, comparing and contrasting a variety of variables that influence behavior and success. A diagnostic approach, keyed to neighborhood infiltration, creates an iterative and strategic guide to program decision-making. As an example, if progress on reducing vehicle infiltration was not made in a given year, and the diagnostic dashboard showed low occupancies in one or more off-street parking facilities, then a decision to adjust rates downward on those lots, and/or strategies that would assign parkers to lots and increase enforcement would be reasonably made, based on objective data derived from the diagnostic assessment.

#### Commitment to TDM

PCC's is committed to TDM campus-wide and at the Cascade campus. PCC is also committed to work strategically and meaningfully over time to reduce neighborhood infiltration, which will require new programs, approaches and, importantly, partnership with the neighborhoods. In short, PCC has demonstrated its commitment to TDM through its track record over time. Programs are already in place to support alternative modes, distance education, outreach, communications and investment in infrastructure. PCC also subscribes to the larger TDM Plan recently developed for all PCC campuses, which can provide leverage and depth to the Cascade TDM Plan, recognizing the significant overlap of trip activities for students and employees of a multi-campus college system. At bottom, PCC will endeavor through the PCC Cascade Campus TDM plan to:

- Ensure the long-term implementation and success of the TDM Plan for the Cascade campus.
- Routinely assess success of the Plan and report to City and community.
- Provide sufficient staffing to organize, manage and coordinate program implementation at PCC Cascade.

PCC will commit to an annual summary progress report that will be submitted to the City, other PCC stakeholders, and/or neighbors. A schedule for reporting will be developed with PCC and the City in the formation of this Plan. The diagnostic dashboard provides proposed timing for reporting and gathering metrics.

# A sample reporting summary and "dashboard" is included in Appendix B, attached.

A number of performance measures have been developed for this Plan, recognizing the need to create measures that are understandable, easy and cost effective to track and monitor and provide a meaningful measure of impact and success in achieving mode choice change. Measures to consider include:

# 1. KEY MEASURE - NEIGHBORHOOD INFILTRATION

<u>PCC considers a 30% reduction over 10 years from the baseline year to be a reasonable target and</u> <u>goal.</u> According to data derived by Kittelson & Associates for 2011, there are currently 347 PCCrelated vehicles parking in the neighborhood. PCC will engage in programs and strategies that result in a 30% reduction in vehicles parked in the neighborhood between 2012 and 2021. Achieving this 10-year goal will result in a reduction of approximately 104 PCC-related vehicles being parked on adjacent neighborhood streets during the established data collection period every fall term.

Annual targets have been established, as well as Tier based cumulative targets that fall in approximate three year increments. Table 10 above summarizes this approach for vehicle infiltration reductions. Tiered strategies supported by these tracking measures are detailed in Section VI.

As stated, PCC will routinely track vehicle activity within the infiltration area, as well as periodic evaluation (through PCC enforcement) of citation activity adjacent to this area. For purposes of statistical consistency, the methodology for collecting data on infiltration will be replicated during the third week of the Fall term (peak of peak) each year. The counts will be of vehicles parked on the streets in the study area between the peak hours of 10:00 a.m. and 2:00 p.m. To estimate the number of these cars that are PCC related, counts and license plate surveys will also be conducted at 6:00 a.m. to identify resident vehicles. All vehicles parked in the surrounding neighborhood at 10:00 a.m. that were not present at 6:00 a.m. will be considered PCC-affiliated.

#### 2. SUPPORTING MEASURES

#### a. Mode Split

Mode split is the most common measure of travel mode choice. PCC has utilized this measure in the past and implements regular surveys that assist the College in quantifying mode choice by students, faculty and staff. Table 11 provides a summary of current and targeted mode split performance for the Cascade campus.

The 2011 performance metrics for students are taken from the survey administered in May 2011 by DHM Research. The employee mode splits are from the 2011 Employee Commute Options (ECO) Rule survey.

The 2021 Performance Target Goals were developed based on the goal of reducing neighborhood parking infiltration by 30% from the baseline year. Assuming the future parking conditions outlined in Section III, these mode splits are expected to reduce the 2021 parking demand by approximately 104 cars, which will reduce the number of cars parked in the neighborhood by 30%. The equivalent mode split required to meet this 10 year target would be a reduction from the existing to the 2021 performance targets listed in Table 11 below. This estimate does not take into account factors beyond the mode split of students and employees, such as growth in student and employee populations, changes in class times, and availability of alternative work and class schedules (such as telecommuting and online classes).

2011 Performance Metrics			2021 Performance Targets			
MODE	Student	Employee	MODE Student		Employee	
Drive Alone	61%	75%	Drive Alone	52%	65%	
Rideshare	5%	4%	Rideshare	6%	5%	
Transit	16%	8%	Transit	20%	13%	
PCC Shuttle	1%	3%	PCC Shuttle	2%	4%	
Bike	11%	3%	Bike	13%	4%	
Walk	3%	2%	Walk	3%	3%	
Other	3%	5%	Other	4%	6%	

 Table 11

 PCC Cascade: Baseline Mode Performance and 2021 Performance Targets

With implementation of this TDM Plan, PCC Cascade will administer an annual student trip choice survey to measure and track mode choice. For employees, PCC will continue to utilize its bi-annual ECO Commute Survey, which is required by the State of Oregon. All results will be tracked within the Diagnostic Dashboard provided in Appendix B.

#### b. Shuttle Ridership

PCC already routinely tracks shuttle ridership throughout the academic year and sorts data for both student and employee use of the shuttle. This will continue and be reported annually through the diagnostic dashboards summary.

#### c. Parking occupancy

Routine parking occupancy counts will be conducted to accurately assess peak hour parking demand for the campus supply. Data from these counts will be used through the diagnostic process to (a) assess impacts of other TDM programs on peak hour use of parking supply, (b) to identify surpluses and constraints within the supply and (c) to inform PCC decisions related to rate and/or new supply needs.

#### d. Transit Pass sales

To the highest degree possible, transit pass sales will be tied to mode split trip reduction goals. As such, the target number of Student Select Passes sold will be correlated to the mode split target for transit use and/or improvement in non-auto modes (see Table3). PCC already quantifies and tracks pass sales, and this will continue. This will be recorded in the diagnostic dashboard.

Should an employee transit pass program be implemented in the future, PCC would similar track sales against an initial baseline.

# e. Transportation Pricing

PCC maintains an extensive menu of pricing options for students and employees related to parking and transit. PCC will track changes in pricing over time against the baseline year for all categories where access pricing is in place. Over time, as pricing on individual parking lots might occur, those changes will also be duly recording. These pricing summaries with be included with the diagnostic dashboard as part of annual reporting to the City.

# f. Bicycle Parking Stalls

The number of bike parking stalls on each campus should correlate to the peak bike mode split target. Tracking efforts to increase supply to meet the target will be a measure of successful performance, as well as tracking the actual bicycle mode split. For instance, if there are 1,000 students and 500 employees on a campus at the peak hour (1,500 total) and the bike mode split target is 10%, then the campus would be striving to place 150 bike parking stalls on campus.

#### g. Student and Employee Populations

The number of students and employees on campus will be tracked by quarter, with emphasis on peak days and hours. This will be contrasted to 2011 baseline data as a means to track increases or decreases in employee populations, which is instructive when analyzing data related to neighborhood infiltration.

#### h. Events and Outreach

In implementing the Cascade Campus TDM Plan, numerous events and outreach efforts will be coordinated through the District TDM Specialist. A log of transportation events and individualized outreach efforts specific to the Cascade campus will be developed.

#### i. Enforcement

An important element for reducing neighborhood infiltration will be PCC's continuing efforts at enforcement, both within the infiltration area (Figure C, above) and within the larger PCC Parking Enforcement Area (Figure D). PCC will record quarterly citation activity and summarize that annually within the diagnostic dashboard. Specific metrics recorded will include:

- + Total of all citations in enforcement area
- + Citations issued within infiltration area
- + Citations issued outside of infiltration area

Figure D PCC Cascade: Parking Enforcement



In summary, PCC will utilize existing data on travel mode performance at the Cascade campus to establish a "starting point" baseline to track and report the successful implementation of this plan. The standards presented here are meaningful, simple to understanding and easy to quantify in a routine manner, which not only benefits decision-making but communications with partners and stakeholders.

Once established, data regarding each standard will be collected routinely per the schedule embedded in the diagnostic dashboard. This will require coordination and centralization of data assembly, which will be the responsibility of the District TDM Specialist. An annual report will be developed each year that summarizes data in each performance category.

#### VI. DEMAND MANAGEMENT PROGRAM ACTIONS

The approach recommended for the PCC Cascade TDM Plan is to utilize a combination of (a) new oncampus parking supply, (b) satellite (off-campus) parking facilities and (c) TDM strategies drawn from the larger PCC TDM Plan to address the issue of neighborhood infiltration over time. The Plan commits PCC to a "tiered" system of strategies that allow for strategic and systematic TDM and parking management enhancements over time. Actions are timed and correlated to efforts to mitigate neighborhood infiltration by 30% over 10 years. Neighborhood infiltration will be monitored on a routine basis (see Section V) with supporting efforts similarly measured and reported against a documented baseline standard that targets specific reductions in vehicles in the neighborhood in one year increments and cumulatively every three years (see Table 2).

Tiers are used to organize the range of TDM strategies for two reasons. Some strategies cannot be immediately implemented due to funding and/or contractual constraints. Others are more aggressive in nature and/or build on the foundation of earlier strategies. Finally, the tiering of strategies should not be construed as proscriptive. Flexibility is needed to try various combinations of strategies and to quickly respond to changing circumstances.

Each Tier has a range of TDM strategies that can/will be implemented separately or in combination, based on forward progress toward reducing neighborhood infiltration and achieving other College goals and objectives. The majority of measures identified originate from the PCC district-wide TDM program, with a more aggressive implementation schedule for the Cascade campus, in some cases.

Regular monitoring and internal/external reporting will compel PCC to continually evaluate the effectiveness of implemented strategies and the necessity to move forward with additional and/or refined program/strategy options based on infiltration and progress toward meeting other goals. Some TDM measures, especially those currently untested at PCC may be initially implemented at Cascade, as pilot programs to gauge their effectiveness before full implementation on a District-wide basis. The tiered approach also allows flexibility for PCC to abandon programs that are not achieving reductions in neighborhood infiltration, to be replaced by new or modified programs with the potential for greater effectiveness.

The TDM program and reporting will be placed under the purview of a District TDM Specialist (charged with promoting, facilitating, handling and reporting program performance under the direction of the District Manager for PCC's Parking and Transportation Services).

A summary table of all strategies proposed for consideration, by Tier, is included in **Appendix A**, attached.

# A. Tiered Strategy Actions

The Cascade Campus TDM Plan will be implemented over a 10 year horizon, flexibly responding to changes in patterns of access and demand with a varied toolbox of strategies and programs. Actions will be influenced by performance in reducing neighborhood parking infiltration, supported by activity in a number of supporting "metrics" that will be routinely traced and reported.

PCC proposes four tiers, which are generally correlated to three year increments. Each tier provides for actions within a total of seven TDM Element areas. Some tiers include all elements, others a combination. TDM Elements in this Plan include:

- *General TDM Support*. Activities that support overall implementation of the TDM Plan, including coordination, communications, marketing and program assistance.
- Parking Access. At present, the most common form of access to the Cascade campus is by auto. Auto access will continue to be an important means of access now and into the future. However, measures that can be employed to "right size" the number of automobiles (particularly single occupant vehicles) arriving on campus, can result in lower development costs for PCC, more options for students and employees and measurable benefits for neighborhood infiltration.
- *Transit Access*. Increasing the number of students and employees utilizing transit as a primary mode of access to and from the Cascade campus (and all PCC campuses) is a central element of success in the TDM Plan and, if successful, can have significant beneficial impacts on issues related to neighborhood infiltration.
- PCC Shuttle Access. PCC's Parking and Transportation Services operates an extensive shuttle operation that provides direct and frequent links between its campuses (including Cascade). The shuttle has experienced significant growth in both infrastructure (number of shuttles operating) and use by students and employees.
- *Bike/Walk Access.* Programs, strategies and incentives to encourage greater bike and pedestrian access to the Cascade campus will create an effective and low cost means to reduce auto trips. Bike/walk not only facilitates mode change, but contributes to health and wellness initiatives as well.
- *External Partners*. A number of strategies contained in the Cascade Campus TDM Plan will require coordination with "external partners," which includes entities that control public rights-of-way (City of Portland), public transportation (TriMet), remote parking locations (private sector, TriMet) and/or are impacted by programs PCC delivers (adjacent neighborhoods). Communication, coordination and (most importantly) *partnering* with external partners will strengthen this Plan.
- *Monitoring and Reporting*. Good decision-making comes with accurate, quantifiable and consistently produced information. This Plan has developed a number of performance metrics that will be routinely collected using consistently applied methodologies.

• *Neighborhood Engagement.* As neighborhood infiltration is the key performance metric underlying this Plan, there will be a need to coordinate communications of progress with the neighborhoods

# **TIER 1 (0 – 3 YEARS)**

#### GENERAL TDM SUPPORT

- Establish 1.0 FTE District TDM Specialist, responsible for overall program effectiveness, including implementation, communication and monitoring. This position will report directly to the District Manager, Parking and Transportation Services and approximately 25 percent of the TDM Specialist's work will be devoted to coordination and implementation of the Cascade campus TDM Plan.
- Expand the provision and promotion of on-campus transportation services that include (at minimum):
  - + An active marketing campaign to raise awareness of the campus TDM program, methods of reducing vehicle/parking use, and ways to access and interact with the TDM Specialist.
    - Examples include use of existing websites, inclusion of TDM information with registration and orientation packets, in-person and on-line training on the use of TDM for campus access, frequent promotions during registration and the early weeks of each quarter, regular postings and placements of such printed materials as bulletins/flyers/posters placed in a great many buildings and appropriate sites on campus, targeted outreach to students and employees with significant vehicle/parking impacts (e.g. drive alone every day, park for 4 or more hours, park during the peak period of parking demand, etc.).
  - + Mentoring programs for all Cascade students and employees.
    - This effort could include developing the mentor program and supporting training program, soliciting and training volunteers to serve as mentors, promoting participation in the mentoring program, providing mentor/protégé matching services, and monitoring and reporting to strengthen program, determine productivity and expand use. It could also include development and implementation of a "new employee/student" TDM orientation program pilot. A pilot would allow for the program to be monitored for performance and possible expansion, if successful, to other campuses.
  - + Trip planning services.
    - Examples include web-based and in-person services for walking, biking, riding transit, carsharing/ridesharing (matching), and accessing via on-line services and estimating

total cost by method of access and total time to travel. This could also include pursuing the opportunity to integrate trip planning activities within the admissions process.

- Increase the prominence, accessibility and ease of use of campus transportation services, programs and options on the PCC webpage.
  - + The broader *PCC Parking and Transportation Demand Management Update* establishes a "near-term" action that calls for PCC to unify all access options under a common umbrella or brand. This would create a recognizable link for users of the system and reinforce the ease and convenience of access uniformly, at each campus (like Cascade) and system wide. The District TDM Specialist will play an important role in working with the district Marketing Department in establishing this "brand" and transferring that, at a high level, to students and employees at the Cascade campus.

#### PARKING ACCESS

- Build up to 220 new underground parking stalls (a net of 75 new stalls). The garage will be designed and equipped in a manner that facilitates a "pay-as-you-go" pricing option in the garage. PCC will utilize the pay-as-you-go option as appropriate and in combination with other pricing tools and broader TDM strategies to assure (a) effective use of the garage and (b) attainment of occupancy and mode targets.
- Initiate routine program of monitoring lot occupancy to inform parking rate decision-making (see Section V. b. 3).
- Develop 4 surface parking facilities totaling 126 net new parking stalls (see Table 4).

#### On-campus

PCC/CC plans to build two new parking lots on the campus' far western block, bound by N. Killingsworth Street, N. Michigan Avenue, N. Church Street and N. Missouri Avenue. This includes the new 30-space lot (P-7) an L-shared site that runs up the west side of N. Michigan Avenue rounding the corner to N. Church Street and a new 21-space lot (P-8) in the southwestern corner of the block at N. Killingsworth Street and N. Missouri Avenue; all this property currently is in PCC/CC ownership. The lots lie to the east and west of the Telephone Exchange Building, an apartment complex owned by PCC/CC. Because the lots are new construction, they will meet all requirements for perimeter/internal landscaping and storm water treatment. Detailed plans meeting these requirements will be presented for approval in the subsequent Type II Design Review application for the new Phase 2 underground parking structure and buildings.

#### Off-campus

As Table 12 indicates PCC/CC is in the process of obtaining long-term leases for off-site parking at two sites including:

**Emanuel Community Services/Church** (1033 N. Sumner Street). This lot is located three blocks south of the west end of the PCC/CC, or approximately 200' from the campus boundary. The church lot contains 60 spaces. Because the church primarily operates on weekends and weekend evenings and, therefore, its 60 parking spaces are not needed on weekdays, except to accommodate four on-site employees. As a result, 56 of the 60 spaces on site are available for long-term lease.

**Salvation Army Lot** (1 NE Killingsworth Street). The 6,500-sf Salvation Army lot is located on the northeast corner of the intersection of N. Killingsworth Street and N. Williams Avenue. It is about 3-1/2 blocks (960') east of the PCC/CC's eastern campus boundary at N. Killingsworth Street and N. Commercial Avenue. The lot is striped for 19 parking spaces.

The lot is now vacant and available for immediate use. PCC/CC proposes to plant a 5' buffer planted to the L3 standard on the eastern perimeter to provide visual barrier for the residences to the east.

Each of the four new lots are located within reasonable walking distance of the campus and incentives and programs necessary to ensure their use will be implemented, which will include:

- + Link satellite facilities to PCC shuttle as appropriate.
- + Consider pricing satellite facilities at a rate less than on-site parking.
- + Consider assignment of staff/employees to satellite lots to ensure use.

LOT #	LOCATION	SPACES	
New On-Ca	mpus Parking Facilities		
1	Telephone Exchange Block @ N. Killingsworth/N. Missouri	21	
2	Telephone Exchange Block @N. Killingsworth/N. Michigan	30	
Total		51	
New Lease	d Off-Campus Parking Facilities		
3	Emanuel Community Services/Church (1033 N. Sumner Street)	56	
4	Salvation Army Parking Lot (1 NE Killingsworth Street)	19	
Total		75	
GRAND TOTAL: NEW PARKING			

	Table 12	
PCC Cascade:	<b>Proposed New Surface</b>	Parking Lots

Source: PCC/CC and Harper Houf Peterson Rhighellis Inc. (HHPR)

- Increase the penalty on repeat student and employee parking offenders.
  - The current fine for parking in the neighborhood is \$25 which escalates to \$50 if not paid with 30 days. Parking and Transportation Services has recommended that the fine remain \$25 for the first violation and then increase to \$50 for the second violation and \$75 for the third violation in any school year.
- Increase the rate of collection on parking citations.
- Improve communications regarding parking expectations of students and employees, especially as regards parking infiltration.
  - + Work with PCC's Print Center to develop a new poster that will be distributed at Cascade to clearly show neighborhood parking boundaries.
  - + Develop and place five large A-frame signs strategically around campus reinforcing parking infiltration message.
  - + Add a third neighborhood boundary parking enforcement officer position.

# TRANSIT ACCESS

- Establish Student Select Pass sales goal directly tied to adopted transit performance targets (See Section VI. D, Mode Behavior) and assure pricing that increases the attractiveness of the pass to students and is competitive with campus parking rates.
  - + Efforts include targeting transit pass sales to students/employees with higher than average parking impacts, monitoring pass sales for volume and type of user (e.g. student/employee, full-time/part-time, frequency of campus access, predominant mode of access prior to pass purchase, etc.), and objectively correlating pass sales with transit mode split by user type (if practical).
- Strategically locate signs at various campus gathering points and promote the availability of a Tri-Met Bus connection with Interstate Max (every 6 min <rush hour> to 15 min), the bus number (72).

# PCC SHUTTLE ACCESS

• Coordinate the provision of satellite parking facilities with existing or expanded PCC Shuttle connections and/or along TriMet routes.

#### BIKE/WALK

- Equip campus with quality bike parking racks and facilities at a rate equal to the 2021bicycle mode split goal (See Section VI. D, Mode Behavior).
  - + The PCC Cascade campus bike system should provide access at a level equal to target goals for biking. The bike parking system will be of a uniform design and quality to create a consistent and recognizable presentation of type, location (where possible), means of access, signage and communication.
- Provide access to shower and locker facilities to support bicycling and walking as an access option for students and employees during all campus operating hours.
  - Research indicates that convenient access to shower and locker facilities significantly increase the attractiveness of biking and walking as a trip choice. Over the course of Tier 1, PCC will explore a program that communicates availability, protocols and hours of use.
- Support ASPCC bike rental program; including a partnership to establish facilities for self-repair of bicycles.
- Support city in attracting commercial bike rental firms that allow pick-up and drop-off at a variety of locations (e.g., Bike Share), with a potential location on the PCC Cascade campus, coordinated with the City's Bike Share project launching in Spring 2013.
- Sign and market a direct connection to MAX Yellow Line at Killingsworth Station as a linked trip commute option for bicyclists.

#### EXTERNAL PARTNERS

- Partner with TriMet to improve existing bus service/frequencies to PCC Cascade campus.
  - + Examples include minimizing transfer delay with MAX Yellow Line, sharing student/employee geocoding to target transit coverage improvements, and identifying potentially productive ridership areas that have poor frequency and/or hours of service to meet student/employee needs.

#### **MONITORING AND REPORTING**

• Initiate performance measurements as outlined in Section V. Reporting will be consolidated into an annual report for submittal to the City of Portland using the "diagnostic dashboard" as a basis for structuring the report (see Appendix B).

#### **NEIGHBORHOOD ENGAGEMENT**

 PCC will coordinate an annual meeting with the neighborhoods to review progress toward meeting neighborhood infiltration goals, to discuss options and strategies, liaison partnerships and inform the on-going TDM Plan implementation. The meeting will be scheduled within 60 days of submittal of the annual performance report to the City of Portland.

# **TIER 2 (4 – 6 YEARS)**

# Tier 2 assumes PCC would move to continue Tier 1 efforts determined to be successful with additional enhancements of programs with Tier 2 strategies.

#### GENERAL TDM SUPPORT

- Expand on-line and hybrid (combination of on-line and on-campus) options for classes, registration, and other means of accessing PCC Cascade without traveling or traveling less.
  - With growth (student and employee), access systems will become more constrained and costly. PCC's current on-line programs and hybrid classes are very effective and may have potential for greater use and are viewed here as a Tier 2 option. A critical key for PCC, in potential efforts to expand on-line learning, will be protecting excellence in curriculum.

#### PARKING ACCESS

- Implement a performance-based pricing strategy through the following steps:
  - + Performance-based parking pricing informs parking pricing decisions based on the correlation of parking rate to actual utilization of parking capacity. As demand for parking access exceeds established capacity triggers (see Section V.B.3), parking rates would be adjusted accordingly. Similarly, as demand falls significantly below capacity triggers, rates would be adjusted accordingly. Commitment to a performance-based parking pricing strategy, coupled with other TDM elements of this Plan, will provide PCC a decision- making framework that is both strategic and flexible.

Elements of performance based pricing will be evaluated in Tier 2 using a range of metrics provided within the diagnostic dashboard. Over time (in this and subsequent Tiers), performance-based pricing strategies may include (but not be limited to):

- Adjusting the fee(s) for parking based on the results of data derived from the diagnostic dashboard and uniformly applied to all Cascade lots.
- Adjusting the fee(s) for parking based on the performance of individual parking lots. This may, for instance, create a situation where parking rates would vary between lots, as opposed to the uniform pricing that characterizes the current parking rate structure.
- Consideration of elimination of term parking passes and institution of "pay-as-you-go" parking pricing in specific facilities (e.g., new garages) based on the unique access constraints of any one facility.

The variety of performance based pricing options is very large. Rates could vary by location, by time of year/term, or by day. The right strategy for PCC Cascade will also need to be coordinated with the entire package of TDM options and programs available to manage capacity in the system and assist in meeting infiltration targets established.

- Place lot-based counter systems and other data collection technology in parking areas to more effectively track parking utilization.
  - + Current lot technologies in place on PCC parking facilities do not include lot-based counter systems or technologies that would provide "real time" or routine capacity monitoring. A counter system would provide frequent data on lot usage by time of day, day of week and time of year. This type of information would greatly facilitate decision-making, particularly in the areas of rate and lot management. PCC will include installation of such systems in its new garage and as appropriate in its near and long- term capital facilities planning for existing facilities (i.e., surface lots). These types of technologies can streamline the current system that requires manual counting and enhance the data base and monitoring actions called for in the Plan.

#### TRANSIT ACCESS

- Price Student Select Pass at a rate that is competitive with the term fee for student parking.
  - + The current Student Select Pass was priced to the student at \$170 per term in 2011. Parking and Transportation Services reduced this to \$160 beginning Winter term 2012. Even with that reduction in cost to students, the pass could still be considered uncompetitive with parking, which is priced at \$50 per term. Information derived from the 2011 DHM PCC Transportation Preferences Survey conjoint study of PCC students (and employees) indicates that there is a very direct relationship between the competitive rate of transit pricing (and transit use) and the cost of parking. In Tier 2 the strategy recommends establishing a clear link between transit and parking pricing at PCC Cascade.

The District Transportation Specialist will work with PTS and other affected entities within PCC to determine the most reasonable critical path to the most competitive rate for the Student Select Pass and supporting funding streams to support its pricing and increased sales.

#### PCC SHUTTLE

• Improve frequency on shuttle routes that are most conducive to ridership growth associated with increased parking pricing.

#### BIKE/WALK

- Develop and fund an on-going program of bike/walk incentives for the Cascade campus.
  - + Incentive programs range from bike educations events, raffles, challenges to equipment purchase programs. The range of incentives will be coordinated by the District Transportation Specialist and with Parking and Transportation Services. There may be restrictions on the type of incentives the College can provide, which should be understood and reviewed. Nonetheless, an on-going program designed to actively encourage, incent and support bike and walking as a trip choice will be developed in Tier 2.

#### EXTERNAL PARTNERS

- Negotiate with TriMet and provide UPASS transit program for all campus employees.
  - + Currently, the only employee transit incentive offered by PCC is the opportunity to purchase a TriMet transit pass on a pre-tax basis, but with no subsidy. According to the District-wide transportation survey conducted during the spring of 2011, the faculty and staff have a transit mode split of less than 10%, indicating a potential opportunity to reduce auto trips within this combined user group. For instance, PCC, as a major employer, could negotiate a UPASS annual transit program pass for its employees. It is expected that the rate negotiated with TriMet will be calibrated to current transit usage within PCC's regional system (i.e. if PCC's employee transit mode split is at 10%, then PCC would pay only 10% of the face value of an annual UPASS transit pass for every employee pass that is purchased from TriMet), as a means to reduce the overall cost of a transit pass per employee.
- Support City of Portland's recommendation for establishing on-street time zones and/or metering (as appropriate with other strategies) on all streets that abut the Cascade campus (at minimum).
  - + The City of Portland has indicated to PCC that it would like to see a more strategic distribution of parking time zones and, potentially, parking metering implemented within the on-street system (most notably the area directly adjacent to the Cascade campus). PCC is not adverse to this type of strategy, but has no jurisdiction over the public on-street parking system. However, discussions and planning focuses on the most effective way to manage the on-street system to the benefit of the community and PCC is something that PCC is very interested in pursuing.

#### MONITORING AND REPORTING

• Continue performance measurements as outlined in Section V.

#### **NEIGHBORHOOD ENGAGEMENT**

- PCC will coordinate an annual meeting with the neighborhoods to review progress toward meeting neighborhood infiltration goals, to discuss options and strategies, liaison partnerships and inform the on-going TDM Plan implementation. The meeting will be scheduled within 60 days of submittal of the annual performance report to the City of Portland.
  - + On-going communications with the neighborhoods is essential, both as a means for PCC to report on its progress (through findings within the diagnostic dashboard) and to receive input that can lead to refinements in program design and delivery and partnerships. PCC believes communications with the neighborhoods will be on-going, but recommends the annual meeting to assure a specifically focused meeting on progress with infiltration and review and understanding of the dashboard metrics being tracked and monitored.

# **TIER 3 (6 – 8 YEARS)**

# Tier 3 assumes PCC would move to continue Tier 1 and 2 efforts determined to be successful with additional enhancements of programs with Tier 3 strategies.

#### GENERAL TDM SUPPORT

- Consider development and promotion of incentive programs (e.g., lower tuition rates for off-peak classes).
  - + Moving more students to off-peak periods for parking demand will reduce overall need for parking as employee and student growth takes place.

#### PARKING ACCESS

- Consider elimination of term parking passes at Cascade campus and replace with "pay as you go" parking pricing.
  - + Tier 3 would increase parking pricing strategies employed within the campus system, augmenting analysis and evaluation of performance based pricing conducted in Tier 2.

#### TRANSIT ACCESS

- Reduce rate of Student Select Pass below rate for standard term parking pass.
  - + Tier 3 would augment transit pricing strategies employed within the campus system, augmenting the Tier 2 analysis and evaluation conducted by the District Transportation Specialist and PTS designed to determine the most reasonable critical path to the most competitive rate for the Student Select Pass.

#### BIKE/WALK ACESS

• Initiate Bike Purchase program for faculty/employees to complement bike outreach/marketing and incentives initiated in Tier 2.

#### EXTERNAL PARTNERS

• Work with the City and affected neighborhoods and business districts in advocacy for and initiation of an Area Parking Permit Program (APPP); possibly starting with a pilot effort.

+ The City has expressed high interest to PCC as regards initiation of and Area Parking Permit Program within neighborhoods abutting the Cascade campus. PCC believes that efforts in Tier 1 and Tier 2 should be developed and evaluated first, give input by the neighborhoods skeptical of APPP's. As a Tier 3 strategy, an APPP will be a key tool to (a) mitigate parking impacts from PCC users in adjacent areas if infiltration targets are not met and (b) complement new access and pricing strategies implemented to meaningfully facilitate mode change. These conversations will require a strategic partnership between PCC, the City of Portland (Bureau of Transportation) and the affected neighborhoods.

#### **MONITORING AND REPORTING**

• Continue performance measurements as outlined in Section V.

#### **NEIGHBORHOOD ENGAGEMENT**

 PCC will coordinate an annual meeting with the neighborhoods to review progress toward meeting neighborhood infiltration goals, to discuss options and strategies, liaison partnerships and inform the on-going TDM Plan implementation. The meeting will be scheduled within 60 days of submittal of the annual performance report to the City of Portland.

# **TIER 4 (8 – 10 YEARS)**

Tier 4 assumes PCC would move to continue Tier 1, 2, and 3 efforts determined to be successful with additional enhancements of programs with Tier 4 strategies. If Tier 4 measures are required, PCC may also begin exploring and planning for the development of more parking supply, among other strategic options.

#### GENERAL TDM SUPPORT

- Commit up to 1.0 FTE campus TDM Specialist (expanding role, time commitment and resources to Cascade specific TDM).
  - + If successful, the full range and package of TDM strategies at the Cascade campus may require an expanded commitment of time and resources. At this time, the position would be reassessed, with a "recalibration" of FTE to assure adequate and meaningful support for the campus TDM Plan.
- Consider offering departments financial incentives to provide classes at off-peak parking times.
- + This effort would be an augmentation of Tier 2 and Tier 3 strategies targeting "incentives" that would move greater numbers of students out of the peak parking hour and into off-peak times of day to reduce overall peak parking demand.

#### PARKING

- Implement "pay as you go" parking pricing (if not already in place).
  - + Tier 4 would move to full implementation of performance based pricing, leveraging efforts initiated in Tiers 2 & 3.
- Develop options for further strategic investment by PCC in the event performance goals are not being met, possibly including construction of new parking, a N/NE satellite campus, redevelopment of PMWTC, Cascade instructional downsizing and others.

#### TRANSIT

• Greater discounting of Student Select transit pass to all students

+ Tier 4 would expand transit pricing strategies employed within the campus system, augmenting Tier 3 pricing.

#### EXTERNAL PARTNERS

• Partially subsidize the cost of an Area Parking Permit Program.

+ PCC would enter into a partnership with the City and the neighborhoods to establish an APPP. PCC would serve as not only a financial partner, through a partial subsidy contribution, but would consider assistance in administration and distribution of area permits through the Transportation Specialist. As with Tier 3 efforts in this regard, these conversations will require a strategic partnership between PCC, the City of Portland (Bureau of Transportation) and the affected neighborhoods.

#### MONITORING AND REPORTING

• Continue performance measurements as outlined in Section V.

# NEIGHBORHOOD ENGAGEMENT

• PCC will coordinate an annual meeting with the neighborhoods to review progress toward meeting neighborhood infiltration goals, to discuss options and strategies, liaison partnerships and inform the on-going TDM Plan implementation. The meeting will be scheduled within 60 days of submittal of the annual performance report to the City of Portland.

# VII. FORECASTING TDM IMPACTS

The expected effectiveness of the TDM strategies outlined in Section VI was assessed by Kittelson & Associates to better understand the mode splits that PCC Cascade campus could potentially reach by 2021. Analysis is based on research of TDM programs across the country, surveying of students at PCC Cascade, and an assessment of the TDM strategies outlined in Section VI. The potential proportion of students and employees that are likely to take each mode to the Cascade Campus in the future is estimated in Table 13.

	2011		Potential Ra	inge for 2021
MODE	Student	Employee	Student	Employee
Drive Alone	61%	75%	36-58%	49-72%
Rideshare	5%	4%	5-8%	4-7%
Transit	16%	8%	18-28%	9-15%
PCC Shuttle	1%	3%	1-3%	3-5%
Bike	11%	3%	11-14%	3-4%
Walk	3%	2%	3-4%	2-3%
Other	3%	5%	3-6%	6-11%

 Table 13

 Mode Split Change – Range of Potential Variation for Cascade Campus (2011 to 2021)

The following assumptions are built into the projections illustrated in Table 13.

- 1. The lower ranges for the alternative modes assume little to no additional promotion of TDM programs.
- 2. The upper ranges for the alternative modes is based on the execution of the strategies and programs in all four tiers of the TDM program, including:
  - Rideshare matching programs are further endorsed and greater financial incentives offered for ridesharing.
  - The cost of transit passes are significantly reduced to 60-65% of the cost of parking (or less).
  - The PCC Shuttle is used to supplement TriMet service in the immediate vicinity of the campus.
  - Walking programs are aggressively promoted.
  - Incentives are offered for biking to the campus.
- 3. There are no significant changes in the geographic make-up of the residences of employees and students at PCC Cascade.
- 4. Mode split is yearly monitored, reported, and appropriate adjustments are made to TDM strategies.

The projections provided in Table 13 were used to guide the formation of 2021 Mode Split targets discussed in Section V (page 21). They are intended to help guide the implementation of the TDM program and assess what strategies are most efficient and effective to implement. While informed by data collected from students and employees at PCC Cascade and research of TDM programs nationwide, they are not absolute and are subject to variability. Therefore, they should be used in conjunction with yearly progress reports and feedback from PCC Cascade.

#### V. SUMMARY

The Transportation Demand Management Plan proposed for the PCC Cascade Campus provides for a meaningful and strategic approach to reducing student and employee auto vehicle trips over time. This will result in a balanced approach to access demand and measurable reductions in vehicles parked in the neighborhoods. Key elements of the plan include:

- Parking management and TDM that exceeds current status quo.
- Decision-making based on measured performance.
- New programs in all mode categories.
- A support structure on campus to guide, facilitate and respond to changing access dynamics.
- Action tiers that ensure quick response and programs pre-committed as triggers are tripped.
- Objective and thorough reporting.
- Engagement with the community.

The tiered approach to TDM creates flexible "packages" of strategies that can be implemented and measured to ascertain their effectiveness in meeting targets. The infiltration targets provide useful milestones and reasonable triggers for more progressive action as demand or progress requires. Finally, the commitment to measurement and reporting provides objective data to inform decision-making and assures on-going collaborative communication between PCC, the City and other stakeholders and partners.

Strategy Element	Tier 1 (0 – 3 years)	Tier 2 (3 – 6 years)	Tier 3 (6 – 8 years)	Tier 4 (8 – 10 years)
General TDM Support	<ul> <li>1.0 FTE District TDM Specialist (0.25 FTE allocation of this FTE to Cascade campus)</li> <li>Expand the provision and promotion of on-campus transportation services Integrate trip planning activities within the admissions process.</li> <li>Increase the prominence, accessibility and ease of use of campus transportation services, programs and options on the PCC webpage.</li> </ul>	<ul> <li>Expand on-line and hybrid (combination of on-line and on- campus) options for classes, registration, and other means of accessing PCC Cascade without traveling or traveling less.</li> </ul>	<ul> <li>Develop and promote incentive programs (lower tuition rates) for off-peak classes.</li> </ul>	<ul> <li>Commit up to 1.0 FTE campus TDM Specialist (expanding role, time commitment and resources to Cascade specific TDM.</li> <li>Offer departments financial incentives to provide classes at off- peak parking times.</li> </ul>
Parking Access	<ul> <li>Build 220 new underground parking stalls (a net of 75 new stalls). The garage will be designed and equipped in a manner that facilitates a "pay-as-you-go" pricing option in the garage.</li> <li>Initiate routine program of monitoring lot occupancy to inform parking rate decision-making (see Section V. b. 3).</li> <li>Develop 4 surface parking facilities totaling 126 net new parking stalls.</li> </ul>	<ul> <li>Implement a performance-based pricing strategy</li> <li>Place lot-based counter systems and other data collection technology in parking areas to more effectively track parking utilization.</li> </ul>	<ul> <li>Consider elimination of term parking passes at Cascade campus and replace with "pay as you go" parking pricing.</li> </ul>	<ul> <li>Implement "pay as you go" parking pricing (if not already in place).</li> <li>Develop options for further strategic investment by PCC in the event performance goals are not being met, possibly including construction of new parking, a N/NE satellite campus, redevelopment of PMWTC, Cascade instructional downsizing and others.</li> </ul>
Transit Access	<ul> <li>Establish Student Select Pass sales goal directly tied to adopted transit performance targets and assure pricing that increases the</li> </ul>	• Price Student Select Pass at a rate that is competitive with the term fee for student parking.	<ul> <li>Reduce rate of Student Select Pass below rate for standard term parking pass.</li> </ul>	<ul> <li>Greater discounting of Student Select transit pass to all students</li> </ul>

APPENDIX A SUMMARY OF TIERED STRATEGIES

	<ul> <li>attractiveness of the pass to students and is competitive with campus parking rates.</li> <li>Strategically locate signs at various campus gathering points and promote the availability of a Tri-Met Bus connection with Interstate Max (every 6 min <rush hour=""> to 15 min), the bus number (72).</rush></li> </ul>			
PCC Shuttle Access	<ul> <li>Coordinate the provision of off-site (satellite) parking with existing or expanded PCC Shuttle connections and/or along TriMet routes.</li> </ul>	<ul> <li>Initiate frequency improvements on shuttle routes that are most conducive to ridership growth associated with increased parking pricing.</li> </ul>		
Bike/Walk	<ul> <li>Equip campus with quality bike parking racks and facilities at a rate equal to the 2021 bicycle mode split goal.</li> <li>Provide access to shower and locker facilities to support bicycling and walking as an access option for students and employees during all campus operating hours.</li> <li>Support ASPCC bike rental program; including partnership to establish facilities for self-repair of bicycles.</li> <li>Support city in attracting commercial bike rental firms that allow pick-up and drop-off at a variety of locations (e.g., Bike Share), with a potential location on</li> </ul>	<ul> <li>Develop and fund an on-going program of bike/walk incentives for the Cascade campus.</li> </ul>	<ul> <li>Initiate Bike Purchase program for faculty/employees to complement bike outreach/marketing and incentives initiated in Tier 2.</li> </ul>	

	<ul> <li>the PCC Cascade campus, coordinated with the City's Bike Share project launching in Spring 2013.</li> <li>Sign and market a direct connection to MAX Yellow Line at Killingsworth Station.</li> </ul>			
External Partners	<ul> <li>Partner with TriMet to improve existing bus service/frequencies to PCC Cascade campus.</li> </ul>	<ul> <li>Negotiate with TriMet and provide UPASS transit program for all campus employees.</li> <li>Support City of Portland's recommendation for establishing on- street time zones and/or metering (as appropriate with other strategies) on all streets that abut the Cascade campus (at minimum).</li> </ul>	<ul> <li>Work with the City and affected neighborhoods and business districts in advocacy for and initiation of an Area Parking Permit Program (APPP); possibly starting with a pilot effort.</li> </ul>	<ul> <li>Partially subsidize the cost of an Area Parking Permit Program (APPP).</li> </ul>
Monitoring/Reporting	Conduct monitoring and publish     reports per TDM Plan schedule.	<ul> <li>Conduct monitoring and publish reports per TDM Plan schedule.</li> </ul>	Conduct monitoring and publish     reports per TDM Plan schedule.	• Conduct monitoring and publish reports per TDM Plan schedule.
Neighborhood Engagement	<ul> <li>PCC will coordinate an annual meeting with the neighborhoods to review progress toward meeting neighborhood infiltration goals, to discuss options and strategies, liaison partnerships and inform the on-going TDM Plan implementation. The meeting will be scheduled within 60 days of submittal of the annual performance report to the City of Portland.</li> </ul>	<ul> <li>PCC will coordinate an annual meeting with the neighborhoods to review progress toward meeting neighborhood infiltration goals, to discuss options and strategies, liaison partnerships and inform the on-going TDM Plan implementation. The meeting will be scheduled within 60 days of submittal of the annual performance report to the City of Portland.</li> </ul>	<ul> <li>PCC will coordinate an annual meeting with the neighborhoods to review progress toward meeting neighborhood infiltration goals, to discuss options and strategies, liaison partnerships and inform the on-going TDM Plan implementation. The meeting will be scheduled within 60 days of submittal of the annual performance report to the City of Portland.</li> </ul>	<ul> <li>PCC will coordinate an annual meeting with the neighborhoods to review progress toward meeting neighborhood infiltration goals, to discuss options and strategies, liaison partnerships and inform the on-going TDM Plan implementation. The meeting will be scheduled within 60 days of submittal of the annual performance report to the City of Portland.</li> </ul>

# APPENDIX B <u>SAMPLE</u> PERFORMANCE REPORTING "DIAGNOSTIC DASHBOARD"

Strategy	Defined	How to Measure	Schedule	2011 Baseline	Year 1 Performance	Year 2 Performance	2021 Target
Objective: Reduce number of PCC employee	e/students parked (infiltrating) the neighborho	od					
Reduce neighborhood vehicle infiltration	PCC employee and student vehicles parked on-street within a defined neighborhood/district boundary	Vehicle license plate survey	Semi-Annual	347			243
Objective: Reduce number of students trave	eling to PCC campuses in Single Occupant Vehi	cles (SOV)					
Increase Student Shuttle Ridership	Every Student riding a PCC Shuttle one-way (Cascade)	Spot checks on the shuttles (90% of ridership is students)	Annual	1%			2%
Decrease Student Drive Alone Rates	A student commuting to campus via car	Student trip choice survey	Annual	61%			52%
Increase Student Carpool/Car-sharing	A student commuting to campus via carpooling or car-sharing	Student trip choice survey	Annual	5%			6%
Increase Student Public Transportation	A student commuting to campus via TriMet	Student trip choice survey	Annual	16%			20%
Increase Student Bike/Walk Commuters	A student commuting to campus via bicycle/walk	Student trip choice survey	Annual	14%			16%
Increase technology for student services	A student attending campus via distance learning	Student trip choice survey	Annual	3%			4%
Objective: Reduce number of employees tra	aveling to PCC campuses in Single Occupant Ve	hicles (SOV)					
Increase Employee Shuttle Ridership	Every employee riding a PCC Shuttle one- way (Cascade)	Spot checks on the shuttles (10% of ridership is employees)	Annual	2%			4%
Decrease Employee Drive Alone Rates	An employee commuting to campus via car	ECO Survey	Annual	75%			65%
Increase Employee Carpool/Car-sharing	An employee commuting to campus via carpooling or car-sharing	ECO Survey	Bi-Annual	4%			5%
Increase Employee Public Transportation	An employee commuting to campus via TriMet	ECO Survey	Bi-Annual	8%			13%
Increase Employee Bike/Walk Commuters	An employee commuting to campus via bicycle/walking	ECO Survey	Bi-Annual	5%			7%
Increase number of Employees Using Flex Hours and Telecommuting	An employee who works from home an average of one day per week or more OR a person who works 4 ten hour days instead of 5 eight hour days	ECO Survey	Bi-Annual	5%			6%
Objective: Manage PCC parking facilities us	ing the 85% Occupancy Standard as a measure	of constraint					
Manage peak parking at 85%	Lots with occupancies over 85% in the peak hour are considered constrained	Physical occupancy counts by lot during peak hours	Fall Term	97% (Fall 2010)			

Enforcement	Number of citations issued	Actual citations issued	TBD	TBD			
Objective: Increase the number of Student	Objective: Increase the number of Student Select Passes Sold						
Increase transit pass sales	Number of total passes sold and ratio of passes sold to student population.	Tracked by term and by year	Annual	TBD			
Objective: Track Cascade Campus enrollment and employee populations over time							
Student enrollment	Number of students enrolled on campus, particularly students on campus at peak hour.	Student data base	Quarterly	1,467			
Employee population	Number of employees on campus, particularly students on campus at peak hour.	Employee data base	Quarterly	206			
Objective: Assure adequate bike parking based on mode split targets							
Provide quality bike parking	Number of bike parking stalls on campus	Physical count of stalls and periodic occupancy counts	Annual	264			