

Central Oregon Community College Parking Management Plan - PMP



September 2013

*Revised November 23, 2010 to reflect new bicycle parking data
Revised June 2011 to reflect installation of improved and new parking spaces
Revised April 2012 to add the SC12 parking lot
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Executive Summary

The COCC Parking Management Plan (PMP) is a compilation of current parking assessments and transportation choices for students, educators, support staff, visitors, and the public. Parking strategies will be discussed in the body of the PMP as well as identifying combinations of parking techniques, additional Transportation Demand Management (TDM) strategies, and connections to other non-college transportation options, etc. Through implementation of the PMP, specific methods will be identified to improve transportation and parking management and create a more sustainable campus. The plan will be flexible and responsive to future demands and conditions. This means that regular updates are expected and will be completed when new information becomes available.

This PMP describes existing transportation and parking conditions; current and future challenges; specific transportation and parking policies; and, management strategies. The PMP is geared to respond to the unique requirements of the community college. COCC's Awbrey Butte campus is predominately a commuter campus and attracts many students who are often older, have jobs, and may have children. Thus, COCC has a higher percentage of students that rely on personal vehicles. This is in contrast to a traditional university environment with younger students, fewer families, and less reliance on vehicle use.

The current number of student parking, staff, visitor, bicycle, ADA spaces, loading facilities and other vehicular spaces *meet and or exceed* current Campus demands based upon accepted industry standards for colleges and universities. Core Campus demands are also combined with Campus Village parking scenarios to provide a comprehensive and shared parking facility throughout the entire COCC boundary.

Revisions to this PMP are required from time to time to accommodate expected growth, changes to Campus structures and operation, and other physical refinements. New data may result from the impact of new classrooms, enrollment fluctuations, funding opportunities, TDM strategies, construction activities, collaboration with private entities, management observations, and new analysis to support the need for additional parking areas, etc. Within this context, the purpose of this report is to prepare a Parking Management Plan (PMP) as a framework for the future. This will assist COCC in achieving a long-term supply goal, while providing an acceptable level of service now. In addition to parking supply data provided by the PMP and the refinement of existing and future TDM strategies, additional management techniques are likely to achieve other planning objectives such as emission reductions and reduced vehicle miles traveled. Such efforts help to enhance COCC's sustainability. The PMP must also be flexible and responsive to future demands and conditions, including economic limitations of COCC and its partners.

COCC parking projects respond to the demand for new programming as well as the relocation of existing programs into new buildings. Buildings that currently house programs, but which are planned for, will eventually be “re-purposed.” The City and COCC will examine the effect of such re-purposing at a date when the actual use of the building is known.

Special Note –New Residence Hall - In September 2013, COCC submitted a site plan application for a 330 bed 91 unit residence hall that will be located west of the existing track with vehicular access off of Mount Washington Drive and pedestrian connections to campus on the south side of the track. 150 vehicular parking stalls are planned, 10 outdoor covered bicycle parking spaces are planned near the main entry, 24 outdoor but exposed bicycle parking spaces are planned near the main entry, and each unit can accommodate room storage of bicycles. The existing residence hall facilities (Juniper Hall) will be coming off line when the new residence hall opens, and pending a determination of what the best next use of Juniper Hall will be.

Culinary Institute – The Culinary Institute includes 91 vehicular spaces, 3 ADA spaces and eight covered bicycle parking spaces. This area is denoted as H2 on the attached parking map. In July of 2013 27 new vehicular parking stall were added adjacent to the existing Culinary Institute in response to previously identified demand, with the planned addition of 28 spaces. It is anticipated that the additional 28 spaces will be provided in the coming 5 years resulting in a combined total of 119 parking spaces for the Culinary Institute.

Re-located Health Careers – The Health Careers Center is adjacent to College Way between parking areas C and E. The Health Careers Center is denoted on the attached parking map. The Health Careers Center did not add additional parking with the exception of 4 new ADA spaces. One existing ADA space at the Bookstore was lost with this construction in an effort to re-grade and design the existing ADA spaces to compliance (widening and grading). 22 new covered bicycle parking spaces were constructed with the project. There are also 18 uncovered bicycle parking spaces, for a total of 40 bicycle spaces near the building.

Re-located Science Building - The Science Center was constructed over part of an existing parking area. The Science Center is denoted on the attached parking map. In order to construct the Science Center building, approximately 37 spaces were consumed from parking areas B1 and B2. When the initial PMP report was prepared it was determined that sufficient numbers of nearby parking spaces were available to serve the Campus students, staff, and visitors without

consuming the Campus supply of surplus spaces. Although no additional standard parking spaces were originally proposed at this location, two new ADA spaces were constructed near the re-located Science Center and 16 new covered bicycle parking spaces were constructed with the project. There are also eight indoor bicycle racks for faculty and staff use in the Science Center. The physical location of the Science Center assists COCC in using existing, but underutilized spaces, due to the building's proposed location in the southeast area of the Campus close to general parking areas A and B.

In June 2011, COCC determined an additional 25 standard parking spaces should be paved to address efficient utilization of existing infrastructure investments and address current parking patterns near the Science Center. These 25 new spaces were developed within Parking Area A1, also known as the "Serpentine" parking area. The specific site for the additional 25 spaces is in an area that is already flat, and partially paved. This area accommodated the new asphalt needed to support the new spaces. In addition, COCC determined that an addition of 13 spaces to Parking Lot F6 near the west end of the existing tennis courts were needed to enhance the lot. The combined 48 spaces are identified on the parking map.

In April 2012, COCC determined the unimproved area below south of lot A1, which had been graded and previously used for the staging of materials and parking of construction vehicles, would be paved and striped. This parking lot now known as A2 and contains 41 vehicle parking spaces. This parking lot is another student parking choice along with other A area parking lots and shown on the attached parking map.

1.0 Study Overview

- The PMP is Flexible

The flexibility of the PMP provides a range of opportunities for COCC as it grows. Typically, COCC will develop surface vehicular parking using the parking ratios required for each new development taking into consideration the various methods of parking management. This flexibility is helpful considering the total of Campus parking spaces will be occasionally revised. The PMP is a dynamic planning tool, rather than a static planning tool.

- TDM Measures are in Place and Will be Expanded Over Time

The PMP recognizes TDM measures and multi-modal infrastructure connections to show parking can be achieved on the periphery of the campus or reduced through alternative programs or strategies. In addition, because the PMP identifies a surplus of surface parking now, it is essential to consider this before requiring new lots to be constructed. In some cases, new lots will

be the best and most efficient solution but there will be other cases where refinements to existing lots and documentation of the efficiency of TDM strategies serve the Campus needs more appropriately. This flexibility will also help provide documentation for mitigation of impacts with planned roadway closures, relocations, or access modifications internal to the college.

- COCC's Parking Management Strategies are Practical

Recognizing the nature of TDM and its relationship with COCC and its development partners is a critical feature of the PMP. The college will take pragmatic steps to integrate TDM over the life of the PMP and is the recognized leader of such strategies given the nature of COCC and its place within Bend's urban area. Opportunities provided by this PMP include opportunities to reduce infrastructure costs/needs, overall documentation of existing parking supply and internal roadway/parking connections. Importantly, the PMP provides a *system* of parking management tools. Overall, the campus base map can serve as a base map for all future PMP efforts.

2.0 Existing Parking Supply & Demand

2.1 Existing Parking Supply

The Bend COCC campus is located on the western portion of Awbrey Butte and contains varied topography – some of it steep and rolling amongst the native Ponderosa environment. COCC has diligently worked to blend educational facilities and parking areas within the natural landscape, preserving the flora in and around the current 2371 parking spaces provided on campus. The available spaces are located in multiple parking areas distributed throughout the campus including the additional spaces to be developed in the new residence hall facility area. The data to support the inventory of spaces was provided by the Director of Campus Services who is responsible for campus facilities and operations. The inventory, as shown in the table below, not only lists the total number of spaces, but designates them by category and location: Disabled, Student, Staff, Visitor, Motorcycle (M/C), and Maintenance and Reserve (Other). Bicycle parking is designated on a separate map.



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COCC Vehicular Parking Space Survey

Revisions 8/27/10, 11/15/10, 6/10/11, 4/3/12, 1/11/13

Lot #	Location	ADA	Student	Staff	Visitor	M/C	Other	Total
B15	MET Staff	4		22	3	2	1	32
B14	W OCH Staff			13		2		15
B16	MOD Loading						2	2
B1	W DES Student		20					20
B2	W DES Staff	2		17				19
A2	South Serpentine		41					41
A4	Upper Serpentine		69			6		75
A3	Middle Serpentine		88					88
A1	Lower Serpentine		69					69
F6	MAZ Student	2	47		2			51
F5	MAZ Staff	2		10				12
B7	GRV Staff	2		10			1	13
B9	GRV Student		54		4	5	3	66
B11	JUN Student		62					62
B11	JUN Staff			3				3
B3	PEN Staff	6		24			1	31
C1	NEWBERRY	6	84		6	6		102
C2	PIO Student	1	69					70
C4	Upper PIO Staff	5		11		2		18
C3	Lower PIO Staff	2		16		1	3	22
F2	Upper PON Student	2	27	2				31
F3	Middle PON Student		47					47
F4	Lower PON Student		65				7	72
G1	Upper BOY	6			18		5	29
G3	BOY Middle		123					123
G4	BOY Lower		62					62
F7	Campus Services	1			3			4
F7	Maintenance Lot						7	7
B12	GRV overflow		25					25
F1	PON Staff/Auto	1		8		3	12	24
C6	CSB Upper Student	14	301					315
C5	CSB Roadway		35					35
B13	OCH Staff	3	13					16
G2	BOY Restricted						10	10
B10	JUN S Student		11					11
D4	LIB	2	192					194
D2	LIB Loading						2	2
E1	CCB	3	39					42
E2	LIB Roundabout	11					1	12
F5	MAZ Upper ADA	3	2					5
B5	PEN S Student	2	31			4		37
B4	PEN Staff			10				10
B5	Upper PEN Student		28					28
H	Culinary Institute	3	119					122
D4	N LIB		147					147
I1&2	Residence Hall	5	136	5	4			150
	Campus Total	88	1997	151	40	31	55	2371
College Way		2	95					97

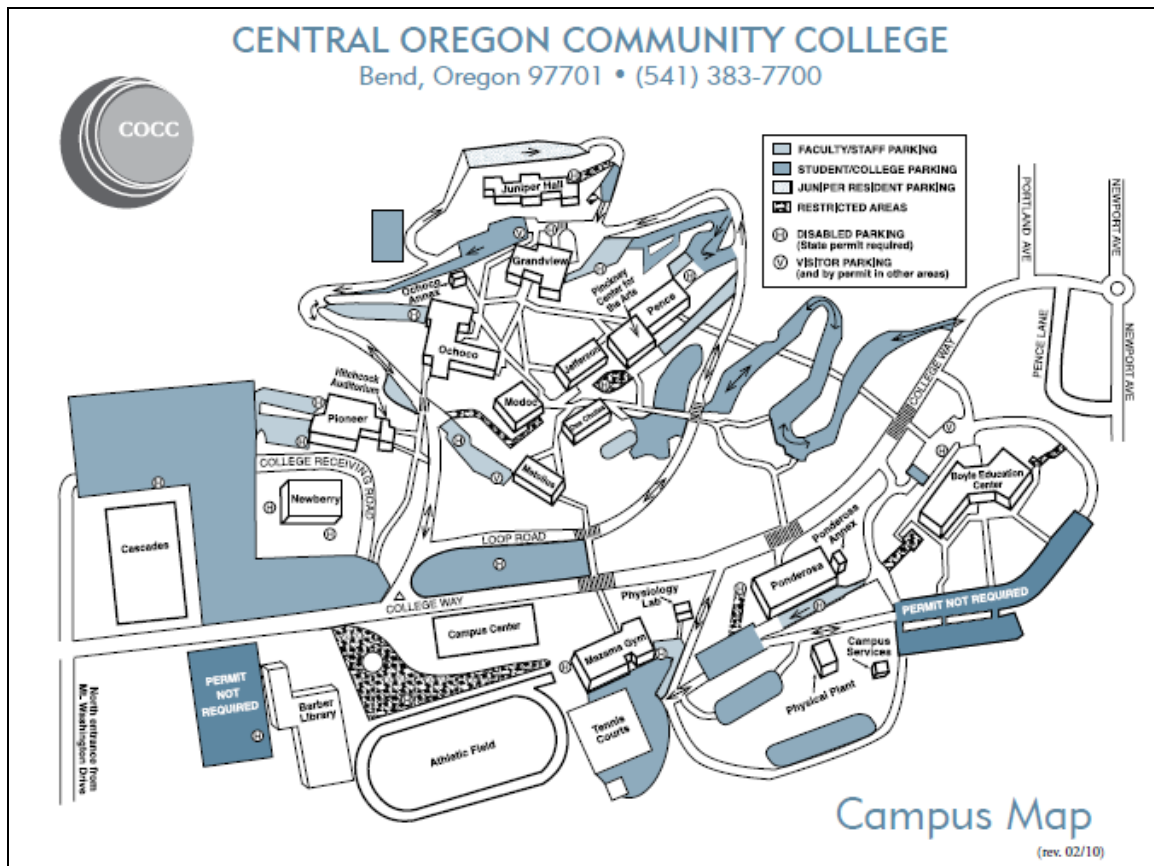
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Existing Parking Policies

Campus Information Sources and Parking Restrictions Data

The COCC website offers information to assist students and visitors about parking, TDM, and related services. Visitor parking permits are available from the Information Office located in the Boyle Education Center, from individual College departments, or from the Campus Services Office located behind the Boyle Education Center. Visitors are encouraged to call (541) 318-3746 for more information. In addition, permits are not needed to park along College Way, a City of Bend public street.

In student and staff parking areas, all vehicles parking at COCC must display a permanent or temporary COCC parking permit. The permits are currently free. Parking permits may be obtained from the Information Office in the Boyle Education Center. Vehicles in violation of this rule and in areas specifically designated for other uses are ticketed.

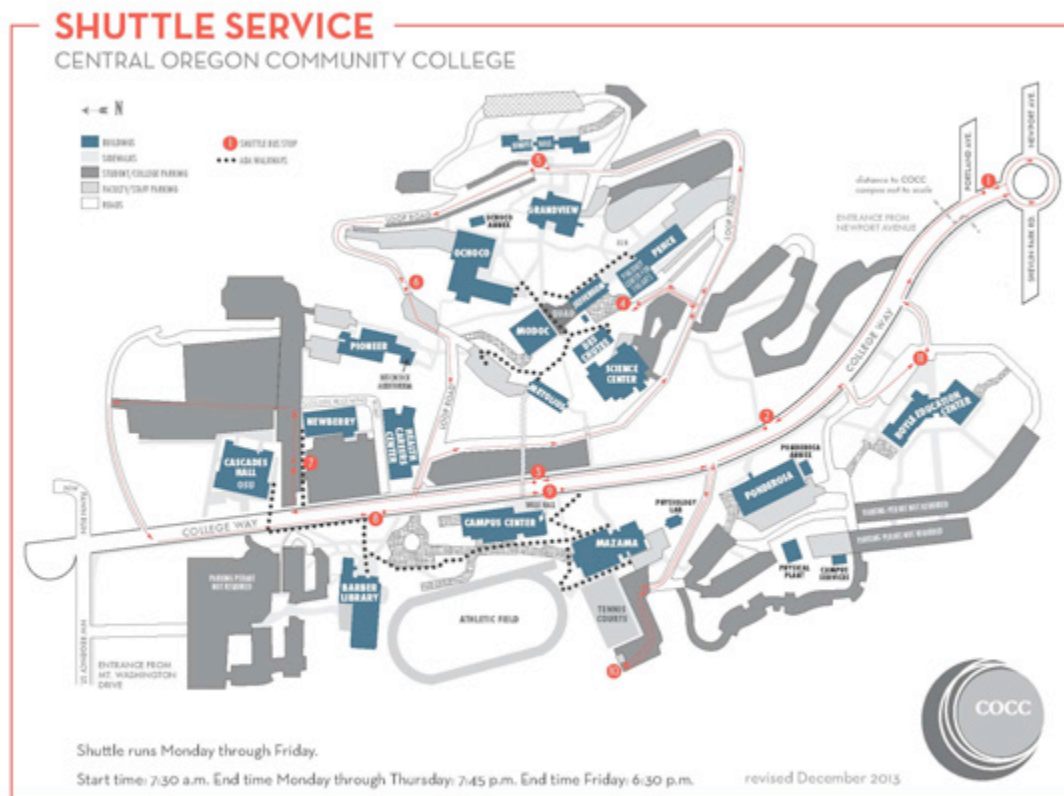


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Shuttle Service

A free campus shuttle service is available during fall, winter, and spring terms. The map provided below shows that the shuttle route begins at College Way and Newport Avenue and transports passengers to and from the COCC campus, stopping at nine key campus locations, including shuttle service to and from the new residence hall with pickup/drop-off near the Tennis courts without travel on City streets with the exception of College Way. COCC also has permission to use a portion of the Westside Church parking lot. All locations have been selected, on campus and off, to provide students convenient access to the established City of Bend transit system.

It is essential to note that the funding and availability of the shuttle is subject to change depending upon student enrollment and availability of college finances needed to support the program. There may be times when the shuttle route is expanded or reduced depending upon need and available funding. The PMP plan recognizes that flexibility and the ability to match services to available resources will be a key element to long-term Campus parking strategies.



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Shared Parking

The entire campus operates as a “shared” parking facility and the number of spaces addresses current need, including overflow capacity. Registration days and other special event days will always operate at full capacity given the unique characteristics of those; however, they are limited in duration and not the norm. Logically, the highest demand is for the parking spaces closest to the Campus core, near educational buildings. Parking areas further from the core are generally in less demand but still necessary to provide adequate parking overall.

As the College class schedule expands to include more classes early and late in the day, as well as more online classes, existing parking will be utilized during low demand periods or no increase in demand will result from online courses.

Carpooling

In the spring of 2013 COCC initiated a pilot carpool program by indentifying 15 spaces spread throughout the campus as carpool only spaces. The use of these spaces will be monitored to determine the future appropriate number of spaces and locations dedicated to carpool use.

3.0 Parking Space Needs – developing baseline calculations

In accordance with City of Bend requirements COCC is required to provide a Parking Management Plan (PMP) for the Core Campus Area and this is required to be updated with each subsequent Site Plan application³. The Campus Village Area may be included in this plan or parking in the Campus Village Area may be provided based on other uses in the City Development Code, Table 3.3.300. Parking needs for COCC and related facilities are calculated on educational spaces per student.

Current Spatial Allocations of Students per Classroom and Application

As each new educational building is developed, a calculation of student space is determined, which then results in potential “students” per building. COCC uses an industry standard based upon the *Association of Higher Education Facilities Officers* data and, generally allocates 20 square feet per student for educational classrooms, including faculty. This spatial calculation is then used in conjunction with a desired number of spaces using a factor combining FTE⁴, Faculty, and Staff parking needs becomes the basis for determining proper levels of surface vehicular parking. This combination helps to create a system by which to develop vehicular parking standards that are flexible and best fit the needs of COCC. Unique structures, like the Culinary Institute, are not standard classroom sizes subject to the typical spatial calculations. Unique structures are limited by

³ Additional updates to the PMP, outside of submitted site plans, may occur through a City land use process. Thus, COCC does not have to wait for a *site plan* process in order to update PMP data.

⁴ Full Time Equivalent

enrollment because of the special aspects of the program. Likewise, the Science Center contains large spaces not used for classrooms or seminars. Laboratories within the Science Center are allocated to students enrolled in connecting lecture classes. Thus, non-Science students or other programs rarely use the laboratory spaces.

Determining a Baseline for Parking Needs

Spatial calculations alone are not adequate for determining parking needs. Since COCC is refining/expanding its parking and TDM programs it is essential to not over-park the Campus. Thus, a one-to-one ratio for student/faculty parking would be too generous and discourage alternate mode use while a low ratio would be too restrictive because not all parking management programs are fully established at this time. Based upon industry standards and examples from other similar campuses, COCC has determined that a baseline of .75 space per FTE/Faculty/Staff combination factor will be a useful guide until other Transportation Demand Management (TDM) strategies are refined, documented and fully implemented. This is reasonable because there are a large number of incentives to reduce vehicle miles traveled and to reduce energy consumption by encouraging alternate mode use. This factor also takes into consideration that not every classroom, laboratory, library seat, etc. is used at the same time. Various TDM strategies will be expanded and implemented over time and as the Campus grows.

Visitor parking and loading needs are attributed at approximately 2.5 % of surface parking provided⁵. This equates to about 55 spaces at this time. This number will fluctuate and likely be less than 2.5% as additional shared uses and TDM strategies are implemented. Using the 0.75 space allotment per FTE/Faculty/Staff combination factor and multiplying it times *the highest* numbers recorded for FTE per term results in a need of 1,541 surface parking spaces. Adding in the 55 visitor/loading spaces totals 1,596 surface parking spaces needed for vehicles. As noted above, COCC will provide 2,371 spaces for vehicular parking, which includes the additional residence hall spaces and the Culinary Institute, Health Careers Center and Science Center refinements and added spaces. This means there is a surplus of 775vehicular parking spaces throughout the campus as of the date of this plan update. Bicycle and other alternate mode parking inventory/needs are discussed below.

3.1 Seasonal and Economic Factors

There is a significant amount of fluctuation that occurs year-to-year with student enrollment numbers and seasonal/special events. Dramatic changes in the local, State, National and World economy influences student enrollment; current numbers reflect the influence of economic factors on the number of Full Time Equivalent (FTE) at the COCC Awbrey Butte campus. Nonetheless, the observations of the parking capacity show that not all surface parking spaces are

⁵ 2221 spaces are used in this calculation, excluding public street parking on College Way
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utilized even though FTE's have ranged between 457 to roughly 2050 per term, with the current FTE projected to be approximately 1930 for the fall 2013 term. There is evidence the recent economic conditions have also encouraged more students to utilize transit and other alternate modes of travel. Additional analysis will be completed to better understand how these alternate modes are used. For now, this PMP identifies parking options and how those may be maximized in combination with other travel opportunities.

Special Event Parking

COCC, by virtue of its educational programs and special events, hosts a number of temporary venues on site. Thus, COCC may cause certain lots, spaces, areas, drives, or garages to be reserved for those attending a special event or for specifically authorized persons.

4.0 Pedestrian and Bicycle Circulation

4.1 Pedestrian Crosswalks

COCC is within the urban growth boundary (UGB) of the City of Bend. City standards require sidewalks along public and private roadways. Pedestrian crosswalks occur at standard intervals and in several places along College Way are enhanced by the use of "speed tables." These "speed tables" help to slow vehicular traffic, elevate pedestrians for increased sight distance and direct pedestrians from adjacent sidewalks and trails. Additional data on actual pedestrian crosswalk usage will occur as college TDM strategies are developed and implemented. Such strategies are listed further on in this PMP.

4.2 Campus Pedestrian Ways and Sidewalks

COCC contains various trails, public/private sidewalks and, bike lanes to supplement public streets, private drives, and vehicular parking areas. COCC maintains a campus-wide network of private walkways and internal drives that serve campus pedestrian needs. This network is intended to expand as the College develops additional educational buildings and as the college or its partners develop the area designated as the Campus Village Area. The map provided with this PMP shows the location of typical paved trails and sidewalk systems throughout the campus. There are also unimproved paths on the campus. While these undesignated pathways exist, they are not encouraged for use. Some of these may be deer paths or part of a disc golf course available for public use. Nonetheless, pedestrians have a variety of choices when determining how to access and reach college facilities. However, like most college campuses there are segments of the pedestrian network that are not complete. As COCC grows and expands there will be additional connections made to further network connections which will enhance the campus and future TDM strategies. An inventory of campus pedestrian ways and sidewalks will need to be updated as part of a future TDM strategy.

4.3 Bicycle Accommodation

Bicycles are a common alternate mode of transportation used throughout the COCC campus, as well as throughout the City of Bend. Bicycles share the external and internal campus road network with pedestrians and motor vehicles, which due to the low-speed environment creates a safe and efficient multi-modal travel system throughout the campus. Marked bicycle lanes, which improve the visibility and safety of cyclists, are provided along College Way, Mt. Washington, and Newport Avenue. In addition, the COCC shuttle van has bike racks to carry bicycles up College Way from the base of the hill making the use of bicycles much more practical.

The City of Bend standard for providing bicycle parking is one bicycle parking space for every 10 motor vehicle spaces plus one space for every residence hall unit⁶. Fifty percent (50%) of the bicycle parking spaces are required to be sheltered under an eave, overhang, independent structure, or similar cover. Given the total number of vehicular parking spaces provided by COCC at this time – 2,371⁷ and applying the bicycle parking rate of 1 space per 10 motor vehicle spaces, plus 91 spaces to accommodate dorm units, results in a requirement to provide 328 bicycle spaces. Of this figure, 50% or 164 spaces must be sheltered or covered. COCC exceeds this standard as shown on the chart below and on the accompanying map.

⁶ New residence hall has 91 dormitory units rooms

⁷ The COCC identified need and total number of spaces existing are 1,541 and 2,221 respectively. Required bicycle parking is calculated on the 1,541 figure (154) plus 91 to accommodate the 91 dorm units. As surplus parking is allocated to new projects or other uses, new bicycle spaces, if needed, will be provided by COCC.

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COCC Campus Bicycle Parking Inventory

Location	Rack Coverage Type			Rack Type	
	Covered	Partially Covered	Uncovered	Inverted U – Type Rack	Other Rack Type*
BP1	16			8	
BP2	20		6	13	
BP3	22 ⁸		18	36	Ribbon
BP4		14		7	
BP5		11	11	4	COCC made Cork Screw Mis-matched
BP6	13	5			
BP7	12		14		
BP8			8	3	
BP9		4		2	
BP10			4	2	
BP11	12		12	18	
BP12	2			1	
BP13	8				
BP14	16 ⁹			16	
Residence Hall	101		24	34	
Staff	6				
Sub –total	218	34	97	132	Varies

Total Bicycle Parking Spaces Provided = (218 + 34 + 97= 349)¹⁰

COCC provides 349 formally designated bike rack spaces on campus¹¹. 218 of these spaces are covered (exceeds the 50% requirement), 34 spaces are partially covered, and 97 spaces are uncovered. In addition, many of the COCC educational facilities are designed to shelter informal bicycle parking which supplies much more than the required number of spaces. The residence hall rooms are included in the designated spaces as they will be utilized for bicycle storage and parking on a daily basis as permitted by the Fire Marshall. Faculty and staff members are permitted to store/park his or her bicycle within their office. To date, numerous faculty and staff members have chosen to do so. This number is expected to increase over time. As new facilities are constructed, additional designated spaces will be provided and the inventory updated.

The above chart also indicates the type of outdoor bike racks. 132 are inverted “U” type racks, which meet the current city specification. Other racks are constructed of various materials and in configurations appropriate at the time of construction and well before any city regulation. It should be noted that COCC

⁸ Added with Health Careers Center

⁹ Added with Science Center

¹⁰ 12 new, uncovered, U-Type bike racks were installed BP11 1/12

¹¹ This figure includes the eight covered spaces approved with the Culinary Institute permit. COCC meets the requirement through a variety of means that provide multiple opportunities exceeding 190 spaces.

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considers all of its bicycle parking areas and racks to meet City Standards because the college has existed long before the current city specification was in effect. As new buildings are constructed additional bicycle parking areas and racks will be constructed and the inventory updated. As funds become available, the College will upgrade racks that are not inverted “U” type.

5.0 Traffic Circulation and Signage

5.1 Internal Roadways

COCC maintains a network of private drives within and surrounding the core campus. These drives are used for access to the various academic, maintenance, and residential buildings.

5.2 Loading Areas

There are approximately six designated loading areas throughout the COCC campus and multiple places for additional deliveries. The majority of these areas are for food services at specific buildings, where kitchens are located. Loading docks are also located at several major academic and administrative buildings. Most of these areas are accessible only by internal roadways through the campus.

5.3 Signage

COCC’s campus utilizes a system of signage to direct people to various facilities. COCC recognizes that clear, visible, and efficient signage is an important aspect of the PMP. In 2012 COCC completed a comprehensive updating of campus signage intended to better direct students and college visitors to appropriate parking areas from adjacent city streets.

6.0 Parking Plan Recommendations and Planned Actions

COCC has had various discussions and assessments with members of the local community, public agencies, transportation engineers, civil engineers, architects, and other development experts to discuss issues related to parking and the development of the initial Parking Management Plan (PMP). Primary concerns revolve around development of parking in a phased approach rather than over-building and developing new parking lots, and concern students may utilize adjacent residential streets for parking. The College is mindful that an urban campus, which is expanding *and* developing a variety of access programs, will encounter various siting challenges. Timing and funding of projects is a major challenge too. However, the campus contains an extensive network of vehicular and alternate mode use options designed to reduce the number of single occupant vehicle miles traveled. This network is intended to be expanded and missing segments completed as the college expands.

6.1 Increase the Number of Spaces in Conjunction with New Facilities

COCC and its development partners will continue to monitor and manage parking needs using current city standards or the educational industry standards described above. As new TDM strategies are initiated and existing programs refined, the standards may change. The overall goal is to use land efficiently, provide a full range of transportation options, and recognize the benefits and challenges of a college located within a mixed-use urban setting. This goal can be constrained given the challenges that topography hold for the college - it is a huge task and one that requires constant vigilance and monitoring. COCC is prepared to handle such task and already has the proper staffing to accommodate the needed planning and monitoring. Thus, in determining potential locations for new parking areas, the focus will be on appropriate location and possibly reconfiguring and/or adding spaces to existing lots.

6.1 September 2013 Update COCC continues to monitor campus parking utilization on a regular basis and in conjunction with new educational structure development. Adjustments to the PMP were anticipated as described above. As part of parking management, COCC found that additional areas within the Campus should be improved for parking.

- **27 Spaces added to the existing Camus Village parking area**

COCC determined an additional 55 standard parking spaces should be added adjacent to the south portion of Parking Area H2 in the vicinity of the Junger's Culinary Institute. 27 spaces were added in the summer of 2013. Adding these spaces helps to address efficient utilization of existing road and parking infrastructure investments, given the current parking patterns near the Culinary Institute. On occasion, students and visitors have been finding areas for informal parking. This area has been considered for inclusion as part of the areas parking plan and this is the appropriate time to move forward and add the spaces.

This area can accommodate the additional new spaces and is identified on parking map and have been added to the COCC Vehicular Parking Space Survey on page 7 of this plan.

6.2 Examine and Improve Signage Program

COCC currently uses a number of passive signs to direct students, faculty, visitors, etc. to various parking areas. This program was reviewed and updated in 2012.

6.3 Explore Opportunities to Develop "Green" Parking Areas

“Green” parking areas will be considered for the construction of future parking areas, where practical. Green Parking areas are appropriate given benefits including cost benefit and life cycle costs. These areas could be useful as overflow lots to allow the college to accommodate unusual events (such as registration demands) without creating permanent infrastructure. Construction of new parking areas provides COCC the opportunity to be at the forefront of technology, by implementing green parking areas in an effort to limit impervious space and associated environmental impacts. Green parking techniques include the use of pervious pavements (gravel, pervious asphalt, pavers, etc.) and expanded use of islands and rain gardens/swales that provide additional storage and infiltration area.

6.4 Begin Dialog to Determine Options for Transfer of College Way to COCC

Most of the COCC transportation network is made up of private drives, trails, sidewalks, and streets. College Way is currently a public street. There may be an advantage to the community if College Way was transferred to the role of a private street. COCC and the City have initiated informal discussions and should start a formal discussion of the condition of the public street, talk about the need for it to convey information (such as crosswalk locations, parking areas, etc.), and its need to safely convey bicyclists.

6.5 Transportation Demand Management Considerations

COCC currently utilizes a variety of Transportation Demand Management (TDM) measures. TDM is typically made up of a set of measures determined by an employer, in this case the employer is COCC. These measures are aimed at reducing single occupancy vehicle (SOV) trips made by employees and users of the campus facility. In the case of COCC these measures are typically aimed at students, although some measures may apply to employees as well. TDM measures are essential to reducing the demand for parking on and around the COCC campus. However, it is not feasible to implement all of the desired programs and facilities at one time. TDM techniques and programs will be phased-in and developed in a strategic and practical way, building upon existing investments such as trails, existing parking facilities, and other transportation programs such as transit, ride sharing, park and ride, and shared infrastructure with adjacent mixed-use developments. The majority of TDM measures are most effective when students and employees of COCC have multiple choices on how to travel to and from work, especially for those that live within the City limits of Bend. Over the life of this PMP, which will evolve as the campus develops over time, COCC plans to do the following:

- Improve and implement TDM measures that will target those students and employees that live along transit routes within Bend.

- Expand its base survey showing the parking areas, circulation routes, and approximate pavement width. This will highlight the recent campus modifications and planned development (residence hall), along with pedestrian and bicycle trails.
- Identify proposed circulation changes and potential impacts to College Way access. COCC will also review potential opportunities to convert access drives to two-way control and restripe parking areas.
- Perform a Parking Demand Survey: This will show the current utilization of the current surface parking supply. This is a survey at set intervals (typically ½ hour to 1-hour increments) where the number of cars within specified boundaries are counted. This will then allow COCC to calculate how “full” the various parking areas are and to better understand system opportunities and constraints.
- Examine parking permit programs and potential permit pricing strategies.
- Examine the effectiveness of campus shuttles, carpool systems, park and ride, van pools, car sharing (Zipcars), and guaranteed ride home programs.
- Monitor bicycle usage and develop incentives.
- Examine the advantages and disadvantages of providing additional student housing on campus and other faculty housing options.
- Examine the need for additional sidewalk, trail, and crosswalk improvements.
- Consider the impacts of regional COCC development on faculty and student trips, including expansion or development of facilities in surrounding communities.

While a range of options are available to the college, elements of this PMP need to be phased and coordinated at the optimal time.

6.6 Key Actions to Reduce Parking Demand

An important strategy for reducing parking demand is to commit to refine and expand Transportation Demand Management (TDM) strategies. COCC currently provides several strategies aimed at reducing parking demand such as transit service for students and employees through the shuttle program, park and ride facilities at the Westside Church, and carpool parking. COCC will expand its existing TDM strategies through the addition of new measures and improved

advertising in the interest of reduced parking demand and maintaining a sustainable and pedestrian-friendly campus.

Specific TDM measures to be considered are broken down into four categories:

- Parking Management
- Transit Utilization
- Ridesharing
- Other Actions/Considerations

Parking Management

Measures falling under this category are specifically aimed at improvements in managing and better utilization of the existing parking areas maintained by COCC. With improved and effective parking management, COCC will be able to improve use of its existing parking, and may be able to limit the construction of new vehicular parking spaces in the future.

Pricing & Permitting

COCC recognizes that demand for parking is often directly tied to cost and location of campus parking. Free or low-cost parking close to one's destination provides limited incentive for employees or other users to utilize alternative transportation or perimeter parking areas.

When alternative travel modes are readily available, parking costs can reduce the total number of vehicle trips to a facility by a significant percentage. Thus, COCC plans to study and examine the ways and means of potentially developing a cost structure for parking permits. The goal of such a plan would be to shift vehicles to peripheral lots as well as reduce the need for parking. When peripheral lots are used, especially by students, it is more likely vehicle owners will take advantage of alternative modes of transportation that are more readily available, rather than using their car every time they want to run an errand. COCC will also explore the potential to assign permits according to specific on-campus parking areas to provide direction to individuals who bring vehicles on campus and help limit vehicles circulating the campus in search of available parking.

Parking Monitoring, Coordination & Enforcement

COCC believes consistent enforcement is a key to successful parking management. Parking areas are monitored on a daily basis with consistent enforcement of parking policies in order to deter illegal parking activities and support parking management initiatives. Adequate parking staff is already in place to effectively monitor on campus parking areas and enforce COCC parking policies. Parking violation fines range from \$20 to \$100. COCC will continue to examine whether the fine structure is appropriate as an effective deterrent.

Public Transit

COCC will continue to encourage students, staff and faculty to use public transit. Public transit is currently available to the College and is one of the highest ridership routes. The provision of bicycle racks on the Cascades East Transit (CET) buses allows students to link their trips, which is critical given the regional draw of the college and the areas outside of ¼ mile of bus routes.

Park & Ride

Park & Ride lots help to intercept commuters prior to their arrival on campus. Use of these lots is often reinforced by its location near a public transit stop or using a private shuttle. The cost to users of park and ride lots is made less expensive than parking at the final destination in an attempt to encourage its use.

The use of the Westside Church parking lot, which is under-utilized during the school hours, requires no additional infrastructure investments. Park & Ride lots also provided additional options for commuters to take part in other TDM strategies. COCC will explore the use of additional Park & Ride locations. This should be done in conjunction with the implementation of other TDM measures in order to provide commuters with additional transportation options. This could be especially helpful in the event of a major on-campus event (such as a sporting event), so visitors could be parked at the park-and-ride lot and be shuttled to campus, thereby reducing parking demand, on-site circulation, overall vehicle miles travelled, and potential impacts to the surrounding neighborhoods.

Ridesharing

Measures falling under this category are specifically aimed at encouraging the creation of carpools and vanpools.

Ride Share Incentives

Ride share incentive programs provide various incentives to employees to use carpools or vanpools. Incentives offered typically include an employer offered ride-matching service, preferential parking locations for carpools or vanpools, reduced costs for carpool parking and commuter rewards (i.e. drawings, gift certificates, etc.) for employees participating in carpools and vanpools. Employers that actively promote carpooling and provide a variety of incentives can expect up to a 20 percent increase in the number of employees participating in carpools.

Emergency Ride Home Program

COCC will explore an ERH program providing security to employees who use alternative modes of transportation. This type of program guarantees an employee that they can receive transportation to their residence in the event of an emergency.

Other Actions/Considerations

Other Transportation Demand Management (TDM) actions should be considered for development and implementation in order to further reduce parking demand on the campus. A brief description of these measures follows.

Car Share (Zipcars) Program

Car sharing programs provide participants with a vehicle when there is a necessity. Programs can be structured to work with other TDM measures, such as parking vanpools and other alternative modes of travel used for commuting. Car sharing provides facility users an option to run errands or travel for work, in the event that they use alternative modes of travel to commute to the facility. At colleges and universities, Zipcars are often provided to reinforce policies discouraging students from bringing personal vehicles to campus. Zipcars, or other car sharing services, provide a safety net for students (as well as employees who use alternative modes of transportation for commuting). Vehicles are used for errands, traveling to meetings or extra-curricular activities. Making Zipcars available to students and employees will encourage individuals to leave personal vehicles at home.

TDM Marketing

By engaging in a marketing campaign, the college can greatly enhance the effectiveness of its TDM strategies. Studies show that an effective marketing campaign can reduce automobile travel anywhere from 5-15% and improve the effectiveness of other TDM measures up to 3%. Marketing programs may involve setting up a designated TDM website, sending employees flyers and emails discussing the positive aspects of various TDM measures or setting up activities based on alternative modes of travel. COCC currently offers a number of marketing measures aimed at reducing single occupancy vehicle trips to the campus.

Bike Sharing Program

Bike sharing (or loaning) programs promote the use of bicycles for trips originating from a facility. The college will explore this option.

Bicycle Incentive Programs

Incentives can be used by the college to further encourage the use of bicycles among commuters. Potential incentives include short-term and long-term bicycle parking, additional covered bicycle racks that protect against weather and commuter rewards.

Housing

Housing incentives can be used to draw employees and students closer to campus, reducing the need for vehicle trips. Incentives include offering additional on-campus housing, and may include other financial incentives. COCC owns several properties on the nearby streets surrounding the campus.

The College is exploring opportunities for development of these parcels to accommodate housing for faculty and staff. These properties are within walking distance of the College and would serve to further reduce the parking needs on campus.

Pedestrian Safety Improvements

Providing and maintaining safe pedestrian facilities are critical to the success of a Transportation Demand Management Strategies and for a college campus in particular. COCC strives to be a pedestrian-oriented campus, where personal vehicles for student use are not encouraged based on its walkable campus proximity to existing housing and the public transit system. Pedestrian safety could be improved with several small improvements in and around campus. COCC will consider the following improvements in order to maximize pedestrian safety:

Raised Pedestrian Crossings

Due to the significant amount of pedestrian activity centered on and around the COCC campus, clearly defined pedestrian crossings are crucial to maintaining pedestrian visibility and safety. Raised crosswalks make pedestrians more visible to motorists, and can substantially reduce speeds on roads where they are installed.

Pedestrian Segment Planning

COCC's growing campus environment includes areas where there are missing segments of the pedestrian trail and sidewalk system. COCC plans to connect these segments over time.

Future Parking Needs with Transportation Demand Management Implementation

As discussed above, there is adequate surface parking existing at this time. As TDM strategies are refined and developed current parking can be utilized for new campus buildings and facilities. This provides a buffer while the TDM strategies are examined and implemented over the life of this PMP. With implementation of the demand management actions as recommended in this PMP, it is expected that a reduction in parking demand could be realized. However, given the topographical constraints of the COCC campus the College will need to examine new parking lot locations throughout the campus as growth occurs. Nonetheless, it is expected that TDM measures will help reduce the total number of new spaces overall. Future TDM studies will include such things as:

- Identification of User Groups
- Updating the Number of Existing Marked Parking Spaces
- Recommended Parking Supply (w/o TDM Measures)
- Listing of Current TDM Measures (with TDM Measures)
- Reduction Due to TDM Measures

- Future Planned TDM Measures
- Recommended Parking Supply
- Parking Surplus or Deficit

7.0 SUMMARY - Parking Plan Action Plan

1. Maximize Utilization of On-Campus Parking Facilities

Promote measures and parking regulations/policies that get campus parkers to maximize the use of existing on-campus parking facilities. These include:

- Explore assigning or designating all student and employee parking to on-campus or peripheral parking lots and increase enforcement of such assignments.
- Refine the current program of required parking permits for all vehicles on campus (faculty/staff, visitors, students).
- Explore where new peripheral parking spaces need to be added as part of the parking plan. In order to provide accessibility, safety, and security to peripheral parking users, a shuttle van operation should be explored and this would connect this parking area(s) with the core campus area.

2. Control Potential COCC Student and Employee Parking on Adjacent Residential Streets

- Work with City Officials, City Parking Division, and Neighborhood representatives to adopt and implement measures to discourage long-term student and employee parking on adjacent residential streets, including Polarstar Avenue as the priority.
- Continue to enforce the current COCC policy that all cars on campus (staff, faculty, students, visitors) must be registered and/or permitted and display a COCC ID tag.

3. Study and Implement Specific Parking Strategies and Transportation Demand Management Actions That Will Reduce Demand For Parking At COCC

- Continue, develop, approve, implement, monitor specific Parking Management Strategies where appropriate, including: parking permit requirements for all vehicles; improvements in parking monitoring, coordination, and enforcement; encourage public transit use; conduct further study of the use of park and ride lots with a campus shuttle service

(potential use and cost of operation); promote rideshare incentive programs to expand use of carpools and vanpools; enhance carpool matching via COCC website; promote a car sharing program; and, establish and maintain an On-Campus Transportation Demand Management (TDM) marketing/education strategies in conjunction with current programs.

4. Promote Alternative Travel Modes of Biking and Walking

- Bike sharing/bike loan program
- Continue to improve bike facilities on campus (paths, lanes, shelters, bike racks, covered bike parking)
- Explore financial incentives for employees to use alternative travel modes
- Improve pedestrian walkways and major street crosswalk areas

5. Improve Traffic Safety/Circulation Around Campus

- Provide improved signage and trailblazing (i.e. guide signs) for COCC College students and visitors, through better placement of guide signs on surrounding city street system.

PMP Implementation Plan/Timeline

The following are the priority actions of the COCC PMP to continue implementing in as resources allow:

1. Continue to manage parking and TDM strategies on campus and off campus. This includes preparation of Parking Demand Survey: This will show the current utilization of the current surface parking supply. This is a survey at set intervals (typically ½ hour to 1-hour increments) where the number of cars within specified boundaries are counted. This will then allow COCC to calculate how “full” the various parking areas are and to better understand system opportunities and constraints.
2. Refine current regulations to require *all* vehicles that belong to students and faculty/staff to be registered with COCC; increase the minimum fine for parking an unregistered vehicle on campus.
3. Examine campus parking policies with respect to the potential for adjusting the parking fee structure for students and faculty/staff.
4. Study and explore modifications to the parking regulations as needed to revise the parking permit assignments to specific on campus parking areas.

5. Further evaluate the cost and schedule for a shuttle van project that would serve the peripheral parking areas, park & ride areas, and City parking garage on a regular basis; based on available resources a trial period of operation for a minimum of one term may be established and monitored by Spring 2013 term.
6. Continue to identify, modify and/or re-stripe certain existing parking areas on campus in order to maximize (i.e. increase) the number of parking spaces available.
7. Work with the City of Bend and the adjacent residential neighborhoods to implement methods aimed at reducing use of public street parking on Polarstar by COCC students and staff.
8. Promote Alternative Travel Modes of Biking and Walking by exploring a bike sharing/bike loan program. This will likely be limited to core campus use given the steep slope of College Way.
9. Continue to improve bike facilities on campus (paths, lanes, shelters, bike racks, covered parking) with development of new COCC educational buildings.
10. Explore financial incentives for employees to use alternative travel modes
11. Identify needed improvements to private and public pedestrian walkways and major street crosswalk areas. Begin dialog with City of Bend for transfer of College Way and/or street maintenance along the same route.
12. Improve Traffic Safety/Circulation around Campus by developing an improved signage and trailblazing (i.e. guide signs) plan for COCC students and visitors. This would result in better placement of guide signs on surrounding city street system too. This plan should be developed by Spring 2011 term.
13. Develop TDM prioritization and implementation strategies that inventory current and future programs. This should be completed as needed, should the surplus of surface vehicular parking spaces be absorbed to support planned COCC facilities.
14. Explore Green Parking areas where appropriate given cost-benefit and life cycle costs.