Camosun College Transportation and Parking Management Plan

Technical Report
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DRAFT

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For
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Summary
This report for the Camosun College Transportation and Parking Management (TPM) project describes issues to consider when developing a transportation and parking management plan for the college’s two campuses that best responds to the future demands and goals. It identifies planning goals and objectives, describes current and future challenges, identifies potential transportation and parking management strategies, and discusses implementation policies and programs.
**Introduction**

The Camosun College Transportation and Parking Management (TPM) Project is a planning process to address campus traffic and parking problems in ways that support the College’s strategic goals and respond effectively to the future demands. This report provides background information for the TPM Project.

Camosun College is experiencing various transportation and parking problems at its two campuses, including traffic and parking congestion, the desire to improve affordable mobility options, and the need to make land currently devoted to campus parking lots available for other uses. In addition, the campus is working to help meet British Columbian climate change emission reduction targets. Better transportation and parking management can help address a variety of problems and planning objectives, including financial cost savings, improved user convenience, and support for various social and environmental objectives.

The TPM project will develop a transportation and parking management plan that identifies policies and programs that result in more efficient use of transport and parking resources. This plan will help create a more sustainable campus which effectively balances economic, social and environmental objectives. The plan will be flexible and responsive to future demands and conditions.

**Planning Goals and Objectives**

*Goals* are general things that people or organizations ultimately want to achieve, such as economic development, social equity, health and safety, and environmental quality. *Objectives* are specific ways to achieve goals, such as improved access to education and employment, improved mobility options for disadvantaged people, increased public fitness, reduced accidents, and reductions in pollution emissions.

Objectives are often defined as the inverse of a problem. For example, if traffic congestion is a problem, then congestion reduction and improved accessibility can be considered planning objectives. If high fuel prices are a problem, then improved transportation affordability can be considered a planning objective.

Camosun College has various stated goals related to transportation and parking planning, as defined in various documents. These include:

- Provide a framework for addressing transportation and parking problems, reduce traffic congestion around the campus and the total number of motor vehicles driven to campus (Transportation and Parking Management Charter).
- Allow additional development to occur within existing campuses, minimize impervious surface and preserve greenspace (Transportation and Parking Management Charter).
- Improve transportation within the context of developing an accessible, sustainable and environmentally conscionable service (Camosun Strategic Plan).
• Improve mobility options to campus, particularly for people who are economically or physically disadvantaged, including those burdened by rising fuel prices.

• Achieve BC greenhouse gas emission reduction targets. By 2020 and for each subsequent calendar year, BC greenhouse gas emissions will be at least 33% less than the level of those emissions in 2007. By 2050 and for each subsequent calendar year, BC greenhouse gas emissions will be at least 80% less than the level of those emissions in 2007 (BC Government Greenhouse Gas Emission Plan).

• Reduce Camosun Campus greenhouse gas emissions by 8.5% or 200 tonnes by the year 2012 (Camosun Energy Plan).

• Implement an energy management project to reduce energy use, increase energy efficiency and reduce the production of greenhouse gases (Camosun Strategic Plan).

• Encourage public fitness and health (ActNow BC).

Several current trends are likely to affect future travel demands (that is, the amount and type of transport that people will want to use in the future):

• Rising fuel prices and increasing consumer financial concerns are increasing demand for cost efficient modes, including walking, cycling, ridesharing, public transit and telework.

• Increased urbanization and local development are increasing traffic congestion on local roads, and therefore the value and feasibility of using space-efficient modes such as walking, ridesharing and public transit. For example, there may be more justification for High Occupant Vehicle (HOV) lanes and other incentives for ridesharing and public transit in order to help reduce local traffic congestion.

• Growing environmental concerns are justifying more support for energy efficient and space efficient modes in order to reduce pollution emissions and the need to pave more land for roads and parking facilities.

• Growing health concerns are justifying more support for physically active modes such as walking and cycling, as a way for people to exercise while traveling, as well as reducing total accident risk and pollution emissions.

• Rising construction costs are reducing the feasibility of expanding road and parking facilities.

• Improved technologies can help improve alternative modes, for example, by providing real-time bus arrival information, improved personal security for transit users, and increased feasibility of telework. Described differently, it is increasingly cost effective to transport information rather than people or equipment.
Camosun College Campuses

Camosun College has two separate campuses. The Lansdowne Campus, situated on the corner of Lansdowne Rd and Foul Bay Rd, is located within Oak Bay and Saanich municipalities, near the border of the city of Victoria and the University of Victoria.

Figure 1 Lansdowne Campus Location

Camosun College’s Lansdowne Campus is situated within Oak Bay and Saanich, close to the city of Victoria and the University of Victoria.

Figure 2 Lansdowne Campus Layout

Camosun’s Lansdowne Campus contains more than a dozen buildings and 8 parking lots. A significant portion of the total campus is devoted to parking facilities.
The Interurban Campus is located in Saanich Municipality at 4461 Interurban Rd, adjacent to the Pacific Institute for Sports Excellent (PISE), a new campus facility expected to attract numerous visitors, and near the Vancouver Island Technical Park (VITP), a major new employment center.

Figure 3  Interurban Campus Location

Camosun College’s Interurban Campus is located north of Victoria in Saanich. This is a suburban area currently experiencing rapid development.

Figure 4  Interurban Campus Layout

The Interurban Campus has more than two dozen buildings and 8 parking lots.
Current and Future Conditions
The following information is from various sources, including the Human Resources Department, the 2006 Student Profile Project Survey, and the 2007 Transportation Demand Management Report.

Camosun currently has approximately 8,000 students and 1,200 staff; only modest growth of these numbers is projected for the foreseeable future.

According to the Student Profile Project Survey, the most common modes used by students to travel to Camosun College were car (45%) and bus (41%). Just over a quarter (28%) of students had tried carpooling to Camosun. Bus service to Camosun was rated as excellent by one in five respondents (21%) and good by 44%, together accounting for two thirds (66%) of all responses. A quarter (26%) described the bus service to Camosun as fair or adequate. On the negative side, 6% felt the bus service was poor and 2% felt it was very poor or terrible.

Of those who drive to campus, half (51%) gave positive ratings for the availability of parking, either excellent (13%) or good (38%). Forty-two percent (42%) rated the convenience of parking at Camosun positively, either very convenient (11%) or convenient (31%). However, Only 13% felt that parking at Camosun College represented value for money, either excellent (2%) or good (11%) value.

Figure 5 shows the frequency of answers to a question concerning the importance of alternative modes.

Figure 5     How important are alternative transportation strategies that minimize the need for cars and parking (such as bus service, cycle facilities or organized car pooling)?

This graph illustrates student support for alternative transportation.
Walking and Cycling

- The Lansdowne campus has many destinations within walking distance, including housing, shops, parks and a major shopping center. Most local streets have sidewalks or paths, although there are some problems, particularly for users of wheelchairs, walkers and handcarts.

- The Interurban campus is relatively isolated, with few destinations within walking distance. Few local roads have sidewalks or paths.

- Both campuses connect to local bicycle routes, although these consist mostly of arterial road bike lanes that may be challenging for inexperienced cyclists, and some key roadways, such as Richmond Road and Shelbourne, lack bike lanes altogether.

- Both campuses have bike racks and showers in the Recreation and Fitness departments. There are 210 bike rack spaces at Interurban Campus and 236 bike rack spaces at Lansdowne Campus. Interurban also has a bike lock-up that provides high security storage for up to 18 bicycles for a modest monthly fee.

- During peak periods, as many as 300 commuters bike to Camosun campuses.

Public Transit

- Four bus routes currently serve the Lansdowne Campus (#4 and #7 to Foul Bay Rd, and #14 and #33 to Richmond Road).

- Four bus routes currently serve the Interurban Campus (#8, #21, #22 and #39). One additional bus route will start serving the Interurban Campus beginning Fall 2008.

- There is no direct bus service from the West Shore to Camosun; transit riders must transfer downtown or at the University of Victoria. This is considered a major barrier to transit travel by many students and staff.

- The College has a Universal Transit Pass UPass program that provides unlimited regional transit travel to all full-time students (except special education and continuing education students), financed through a $1 per month addition to student body fees.

- The College offers employees an optional BC Transit ProPass that provides unlimited regional transit travel for $29.02 bi-weekly fee deducted from pay. During August 2008, 24 employees purchased a ProPass.

- About half of students ride buses to Camosun at least occasionally.

- About 22% of full-time students are frequent (18 or more monthly trips) bus users.

- 11% more people leave the College by bus than arrive by bus.

Ridesharing

- Ridesharing (car- and vanpooling) is promoted by the campus, BC Transit and the Jack Bell Foundation.

- Ridematching services are provided by Carpool.ca.

- Carpools and vanpools have preferential parking spaces and discounted parking fees.

- Currently, 7 carpools take advantage of the campus parking incentives.
Telecommuting and Flextime

- Many staff and students telework (working from home using portable or personal computers and Internet access) at least occasionally, although this is informal since the college has no official telework policy.
- Approximately 160 campus staff currently take advantage of a “9/80” schedule option (9-hour days with one day off every two weeks).

Automobile Parking

**Campus Parking Supply**

Table 1 indicates the number and type of spaces at each campus parking lot.

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<th></th>
<th>Interurban</th>
<th>Landsdowne</th>
<th>Total</th>
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<tbody>
<tr>
<td></td>
<td>P11</td>
<td>P3</td>
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<tr>
<td>Student</td>
<td>49</td>
<td>155</td>
<td>83</td>
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<tr>
<td>Staff</td>
<td>9</td>
<td>0</td>
<td>89</td>
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<tr>
<td>Disability</td>
<td>0</td>
<td>0</td>
<td>1</td>
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<tr>
<td>Carpool</td>
<td>0</td>
<td>0</td>
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<td>Daycare</td>
<td>0</td>
<td>8</td>
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<td>Service</td>
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<td>Motorcycle</td>
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<td>Short term</td>
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<td>Subtotals</td>
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<td>163</td>
<td>184</td>
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</table>

This table indicates the capacity of all campus parking lots.
**Offsite Parking**

Off-site parking (use of parking facilities outside of the campuses) offer opportunities but can create problems.

**Interurban Campus**

- The Vancouver Island Technical Park (VITP) occasionally allows use of one lot (closest to Markham Road) during special events. Individuals pay daily rates. VITP has offered to lease its parking facilities at discounted bulk rates, but Camosun College has never used this option.

- Students sometimes park at Layritz Park and on nearby residential streets, which generates frequent complaints to the College. Residents are instructed to contact Saanich Municipality which can ticket or tow illegally-parked vehicles. If Camosun is able to identify the offending student, campus officials sometimes try to resolve the problem internally.

**Lansdowne Campus**

- Students may sometimes park at Hillside Mall but to date, there has been no discussion with Hillside Mall Management regarding the potential impact that Lansdowne Campus spillover parking may have.

**Current Parking Regulations**

The following regulations and enforcement practices apply to Camosun Campus parking:

- Permanent employees receive free parking permits (Hang Tags, Term Parking Permits, and User Paid Employee Permits) from the campus Physical Resources department. Staff may park in designated Staff spaces and in General Use spaces.

- Carpool Parking Permits, allow vehicles with three or more occupants to park in designated, preferred parking spaces and pay half the standard fee. Carpools must include at least three students or staff, of which two were previously drivers. The Physical Resources department distributes these passes.

- Special visitor parking permits are provided free to appropriate guests (i.e. Advisory Committee members, guest speakers, etc.). These passes are usually good for one day. They are supplied and controlled by Physical Resources Department and issued by various departments. One free visitor parking pass is issued each day to each campus September thru April, three are issued per week for each campus May-June, and one is issued per week per campus July through August.

- Board of Governors, Foundation Board members, contractors and consultants, service technicians, DND liaison, and other campus service providers are issued free, term parking permits as required.

- Parking Permits for Persons with Disability are issued to qualifying students and staff by Physical Resources.

- Special Event Permits provide free parking for 2-3 special events each year, such as Open House, are controlled and issued by Physical Resources, with special instructions provided to Robbins.
• Parking permits issued by Royal Roads but accepted by Camosun/Robbins due to the horticultural programs that are held by Camosun at Royal Roads.
• Disability parking permit – are available by the City of Victoria.
• Only one parking pass is generally issued per individual except owners of a motorcycle and an automobile may receive one permit for each. There may be exceptions to the rule.
• Royal Roads parking permits are honored at both Camosun campuses (mostly at Interurban) to accommodate Royal Roads horticultural program students.
• All User Pay permits expire at the end of each year. Term permits are colour coded by calendar year.
• Staff must display an appropriate permit to park in a campus lot.

The campus issues the types of parking passes listed below. There are currently no long-term (annual or term) parking passes available to general students.

• **Hang tag employee parking passes** are issued to permanent College employees by Physical Resources. These are individually numbered, with no expiration date. They are returned when employee resigns. These tags are not audited and there is no way to determine how many are in circulation.

• **Term employee parking passes** are issued to term employees by Physical Resources. They are color coded by year, with a stamped expiry month.

• **User pay parking permits** are issued on request to employees by Physical Resources. They are color coded by year. Users are required to purchase a daily parking pass but may use staff parking lots

• **Student motorcycle permits** are issued to students through cashier’s desk. They are for a specific period of time

• **Staff motorcycle permits** are stickers issued to staff by Physical Resources. Color of permit changes annually. They are color coded by year, with a stamped expiry month.

Table 3 summarizes the number of carpool spaces available and the number of carpool permits issued at each campus. Car pool parking spots are reserved until 9:00am (previously until 10:00am).

<table>
<thead>
<tr>
<th></th>
<th>Interurban</th>
<th>Landsdowne</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carpool parking spaces</td>
<td>15</td>
<td>20</td>
<td>35</td>
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<tr>
<td>Fall 2007 carpool permits</td>
<td>3</td>
<td>NA</td>
<td>3</td>
</tr>
<tr>
<td>Winter 2008 carpool permits</td>
<td>7</td>
<td>4</td>
<td>11</td>
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<tr>
<td>Spring 2008 carpool permits</td>
<td>7</td>
<td>2</td>
<td>9</td>
</tr>
<tr>
<td>Fall 2008 carpool permits</td>
<td>0</td>
<td>7</td>
<td>7</td>
</tr>
</tbody>
</table>

*Only a relatively small number of students use carpool parking spaces. Since staff receive free parking spaces there is little financial incentive for them to carpool.*
Parking Fees

Campus parking permits are provided free to all full time staff. This benefit is currently valued by Revenue Canada at $512 annually for income tax purposes, so employees who use a campus parking space typically pay $100 to $200 in additional annual income tax, depending on their marginal tax rate. The following fees currently apply at Camosun parking facilities. Short term and daily parking is purchased using meters that take coins ($0.25, $1.00, $2.00) and credit cards.

Table 4  Campus Parking Prices

<table>
<thead>
<tr>
<th>Pass Type</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Short-term</td>
<td>$0.50 per 20 minutes, $1.50 per hour</td>
</tr>
<tr>
<td>Daily</td>
<td>$2.00 for 4 hours, $4.00 per day</td>
</tr>
<tr>
<td>Carpool parking</td>
<td>$1.75 per day, $8.75 per week</td>
</tr>
<tr>
<td>Weekly</td>
<td>$16.00 per week</td>
</tr>
<tr>
<td>Motorcycle</td>
<td>$10 per month or $40 per semester</td>
</tr>
<tr>
<td>Disabled parking</td>
<td>$120/semester (may be pro-rated for temporary disabilities or part-time attendance)</td>
</tr>
</tbody>
</table>

This table indicates the price of various parking passes.

Figure 6  Daily Parking Prices Compared

This graph illustrates the price of parking for eight hours using different parking passes.

Most Camosun staff have a free parking passes, although not all use a parking space every day, because they are not on campus or use an alternative commute mode, such as walking, cycling or public transit. There is no data concerning how frequently staff passes are used, and since they are not audited it is possible that some passes issued to staff who no longer work at the campus are still in circulation.

In 2007 at Lansdowne, 3,069 weekly or longer permits were purchased: 2,687 tickets were purchased for one week (88%), 81 for two weeks (2.6%), 50 for three weeks (1.1%), and 251 for four weeks (8.2%). For Interurban a total of 9,373 week or ;pmger passes were purchased: 8,417 tickets were for one week (90%), 249 for two weeks (2.7%), 346 for three weeks (3.7%) and 361 for four weeks (3.8%).
An important factor in parking planning and management is the pass/space ratio (number of parking passes sold for each available space). At Lansdowne, there are 309 staff and 467 general use (including motorcycle, short term, car pool, disability, etc) parking spaces. At Interurban, there are 272 staff and 764 general use spaces. This equals a total of 581 staff parking spaces and 1,231 general use spaces. Table 5 summarizes parking supply and demand for the two campuses.

Table 5  Parking Supply and Demand

<table>
<thead>
<tr>
<th></th>
<th>Lansdowne</th>
<th>Interurban</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Staff</td>
<td>720</td>
<td>420</td>
<td>1,200</td>
</tr>
<tr>
<td>Students</td>
<td>480</td>
<td>3,200</td>
<td>8,000</td>
</tr>
<tr>
<td>Staff permits</td>
<td>746</td>
<td>498</td>
<td>1,244</td>
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<tr>
<td>General use permits</td>
<td>3,069</td>
<td>9,373</td>
<td>12,442</td>
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<tr>
<td>Staff spaces</td>
<td>309</td>
<td>272</td>
<td>581</td>
</tr>
<tr>
<td>General use spaces</td>
<td>467</td>
<td>764</td>
<td>1,231</td>
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<tr>
<td>Staff Permit/space</td>
<td>2.4</td>
<td>1.5</td>
<td>2.14</td>
</tr>
<tr>
<td>General Permit/space</td>
<td>6.6</td>
<td>12.3</td>
<td>10.1</td>
</tr>
</tbody>
</table>

This table summarizes the number of staff and general use parking permits and spaces.

The following graphs show the portion of parking spaces occupied at various times (from Camosun College Transportation Demand Management). This indicates that at virtually all days of the week a significant portion of total campus parking spaces are unoccupied.

Figure 7  Lansdowne Campus Parking Availability

Field surveys indicate that there are generally at least 200 unoccupied parking spaces at the Lansdowne Campus.
Field surveys indicate that there are sometimes fewer than 50 unoccupied parking spaces at the Interurban Campus.

**Parking Enforcement Practices**

Robbins Parking, a commercial parking operator that manages Camosun parking facilities under contract, patrols the lots and violators may be ticketed or towed. Their main patrol officer, Abdul, is familiar with the various types of parking passes. When other officers patrol the campuses there is generally an increase in erroneous parking tickets issued due to unfamiliarity with Camosun’s various types of parking passes.

Robbins Parking issues citations to violators. Staff violation appeals are reviewed and resolved by Physical Resources Department. For the period Jan 1, 2008 to August 31, 2008, 342 staff tickets were cancelled. Robbins Parking reviews and resolves any disputed student parking citations.

**Current and Future Transportation and Parking Problems**

Below is a summary of current and expected transportation and parking problems, based on consultation with campus administrators and facility managers.

**Interurban**

- Traffic congestion often occurs on Interurban Road during peak periods, due in part to recent changes to the North Road intersection off Interurban Road.
- Occasional delays are caused by traffic turning south into the north Interurban Rd entrance, and turning south into the south entrance.
- Congestion often occurs within campus parking lots by students searching for spaces.
• Traffic backs up at the Wilkinson/Interurban intersection, exacerbated by recent intersection design changes.
• Congestion is occasionally caused by large special campus events (2-3 times per year).
• Vehicles often park illegally in the bus loop and Interurban Road drop off areas, delaying bus service.
• The Vancouver Island Technical Park (VITP), located near the Interurban campus, is growing. The number of employees located there is expected to trip in the next 5 years, which will increase traffic volumes, parking demand and transport options (such as more bus routes and ridesharing opportunities) in the area, which will have spillover impacts on the Camosun campus.
• Camosun College’s Pacific Institute for Sport Excellence (PISE), adjacent to the Interurban campus, began operations during the autumn of 2008. The Institute has only 80 parking spaces, a relatively small number for a facility of its size and activities, based on the assumption that PISE and Camosun will develop effective transport and parking management programs.
• Student housing is planned for development at Interurban in the next five years, which is expected to require additional parking for residents, but reduce general use parking demand.
• The Health and Human Services program is planning to relocate from Landsdowne to the Interurban campus in the next five years.
• According to the Campus Plan, a new transit drop off may be required at Interurban in 5-10 years.

Landsdowne
• Traffic delay often results from vehicles turning into P1 (Parking Lot 1) and leaving P8.
• Landsdowne Road eastbound traffic is sometimes delayed due to limited turning options.
• Poor visibility contributes to delay for vehicles entering P6.
• Richmond Road traffic is often delayed by turning vehicles and pedestrian traffic.
• Student Housing is being planned for Landsdowne Campus. This will displace existing parking, require additional parking for residents, but reduce general use parking demand.
Transportation and Parking Management Concepts

Transportation and parking management (called Transportation Demand Management (TDM) or mobility management) includes various policies and programs that result in more efficient use of resources such as road space, parking facilities, fuel and money (VTPI, 2008). These typically involve:

- Improved travel options, including walking, cycling, ridesharing (car- and vanpooling), public transit, carsharing, telework (telecommunications that substitutes for physical travel, such as being able to access information and services by telephone or Internet, rather than traveling to a library or office) and flextime (more flexible work hours to help commuters avoid rush hour and coordinate with ridesharing, or even to reduce the total number of commute days).

- Incentives to use efficient transport options. This includes financial incentives, such as road and parking pricing, financial incentives for commuters who use alternative modes, and targeted discounts. It can also include non-financial incentives, such as promotion campaigns.

- Smart growth land use. This means creating more accessible, multi-modal communities, for example, providing common services (stores, refreshments, DVD rentals, medical clinics, etc.) on or near campus, and insuring that affordable housing is nearby or on bus lines, to minimize the need to drive.

- Policies and programs to support these strategies, such as least cost planning, which means that money currently dedicated to roads and parking facilities may be used for management strategies that provide comparable benefits, and commute trip reduction programs which encourage commuters to shift to alternative modes.

Parking management can involve a variety of specific strategies:

- Sharing of parking spaces.
- Use of off-site parking, particularly for occasional overflow parking.
- Improved walking conditions, to allow more convenient use of off-site parking facilities.
- Regulations and pricing to prioritize use of the most convenient spaces.
- Encouraging use of alternative modes, particularly under congested conditions.
- Improved user information, so travelers can determine their travel and parking options.
- Improved design of existing parking facilities.

These strategies can have synergistic effects (total impacts are greater than the sum of individual impacts). For example, by itself improving bus service may reduce 5% of automobile trips, and by itself increasing parking fees by 50¢ per day may reduce automobile trips by 5%, but together they may reduce trips by 15% because they provide both a push and a pull toward mode shifting. For this reason, it is generally important to
plan transportation and parking management as an integrated program, that includes a variety of complementary strategies.

It is generally impossible to predict future transportation and parking demands or the effectiveness of specific management strategies, so transportation and parking management plans should be flexible and responsive, including some strategies that will only be deployed if needed to achieve targets. These can be ranked according to their cost-effectiveness, political acceptability and support for other community objectives, so that strategies with lower unit costs and greater acceptability are implemented first, and those that have higher costs and more political resistance are only implemented if needed. For example, a parking management plan may include a provision that parking fees will be increased an additional 50¢ per day, with revenues used to finance additional rideshare and transit services, if needed to achieve specified automobile trip reduction targets.

Transportation and parking management programs tend to achieve equity objectives, including equal support for alternative modes and improved mobility options for transportation disadvantaged people. For example, it is currently common for employees to receive free or significantly subsidized parking, but no comparable benefit for those who commute by alternative modes. A transportation and parking management strategy called parking cash out means that employees who receive subsidized parking can instead choose its cash equivalent, so those who walk, bicycle, rideshare, bus or telework receive a fair share of support. Improving transportation options tends to help people who cannot drive due to physical disability or low incomes. Of course, not everybody can take advantage of every option or incentive, but a comprehensive transport and parking management program can provide benefits to almost everybody, including people who continue to drive who enjoy less traffic and parking congestion, and reduced need to chauffeur non-drivers.
Potential Transportation and Parking Management Strategies

Below are examples of transportation and parking management strategies that may be suitable for Camosun campuses.

**Improving Transportation Options**

**The Issue**

Improving the quality of walking, cycling, ridesharing, public transit, carsharing, flextime and telework on campus can help reduce trips.

*Walking and Cycling Improvements*

Walkability improvements are particularly important because walking substitutes for some automobile trips directly, and provides access to other modes, including ridesharing, public transit and off-site parking facilities. Most transit trips include walking links, so improving walking conditions is often an important way to increase public transit travel.

Walkability improvements should reflect *universal design*, that is, facilities should accommodate the broadest range of users, including people with disabilities and other special needs. For example, walkways with appropriate ramps and other design features accommodate wheelchair uses and pedestrians with handcarts and wheeled luggage, and minimize hazards of falls.

Cycling improvements can also reduce automobile travel directly and provide access to rideshare and public transit. Cycling is particularly common in Victoria so there is likely to be significant potential for improving walking and cycling audits (field surveys evaluating current conditions), identification of current problems and prioritize improvements, a program to improve conditions.

*Ridesharing (Carpooling and Vanpooling)*

Carpools typically involve 2-4 passengers using members own personal automobiles. Vanpools typically involve 4-7 passengers using a leased van. Ridesharing is particularly appropriate for commuters to or from dispersed destinations where fixed-route public transit service is limited.

There is probably significant potential for ridesharing, particularly if there are appropriate financial incentives (for example, parking is priced or cashed out, or if rideshare trips are subsidized at the same rate as public transit trips), and if rideshare matching and promotion are coordinated among various employment centers in the area, such as Camosun and the University of Victoria. For example, it may be possible to organize carpools or vanpools from over the Malahat highway, the Sooke region and North Saanich.
Public Transit Service
There are many possible ways to improve public transit services, including

- Additional routes, expanded coverage, increased service frequency, and longer hours of operation.
- HOV Priority (HOV lanes, busways, queue-jumper lanes, bus-priority traffic signals, and other measures that reduce delay to transit vehicles). Grade separate transit lines, so they are not delayed by cross-streets and traffic congestion.
- Comfort improvements, including bus shelters and better seats.
- Lower and more convenient fares (such as discounts for frequent users).
- More convenient fare payment using electronic smart cards.
- Improved rider information and marketing programs, including real-time information on transit vehicle arrival. This can include development of a multi-modal access guide, which includes maps, schedules, contact numbers and other information on how to reach a particular destination by public transit.
- Pedestrian and cycling improvements that improve access around transit stops.
- Park & Ride facilities.
- Improved security for transit users and pedestrians.
- Services targeting particular travel needs, such as express commuter buses, special event service, and shuttle services.

Some of these improvements may be particularly appropriate for Camosun. For example, although the campuses have relatively frequent bus service, most bus stops are unattractive and uncomfortable, the system lacks amenities such as real-time bus arrival information, and there is no express commuter service.

Telework
Telework (also called telecommuting) is a general term for the use of telecommunications (telephone, fax, email, websites, video connections, etc.) to substitute for physical travel. Camosun currently does not officially support or encourage telecommuting. A video conference center is planned for each campus and is scheduled for installation during Fall 2008, pending funding.

Alternative Work Schedules
Alternative Work Schedules (also called Variable Work Hours) include:

- Flextime. This means that employees are allowed some flexibility in their daily work schedules. For example, rather than all employees working 8:00 to 4:30, some might work 7:30 to 4:00, and others 9:00 to 5:30.
- Compressed Workweek (CWW). This means that employees work fewer but longer days, such as four 10-hour days each week (4/40), or 9-hour days with one day off every two weeks (9/80).
CUPE members are currently allowed to choose a longer workday in exchange for receiving every third Friday off, subject to operational needs and with the approval of the Manager. Faculty members schedule their classes and office hours, and have considerable flexibility.

**Improve User Information**
Transportation and parking problems can often be addressed by providing better information to users on their options. For example, campus websites, maps and signs can provide more information on walking, cycling and public transit options; information on parking availability and price; and guidance to more distant parking facilities. The campus transportation brochure was recently updated and the transportation website will be updated.

**Incentives**
Various incentives can be used to encourage use of alternative modes for travel to campus.

**Expand UPass**
The UPass is a bulk purchase of transit service for all students, so a current Camosun student body cards function as a BC Transit pass, allowing students unlimited use of the bus system. This service can be expanded in various ways to increase the portion of campus visitors who have a transit pass.

- Include campus staff in the UPass program.
- Provide transit passes for campus visitors, such as participants in short courses and training programs, and temporary international students, etc.
- Provide transit tickets to special event participants. For example, tickets to academic program orientations, sport and cultural events could function as a transit ticket.

**Charge Staff For Parking or Cash Out Their Parking Subsidies**
Campus employees currently receive subsidized parking spaces. This subsidy can be eliminated or reduced, so employees pay directly for parking, or it can be cashed out, so employees can choose between a subsidized parking space if they drive to campus, or its cash equivalent or a transportation subsidy if they commute by another mode.

**Adjust Campus Parking Fees**
Parking fees should be adjusted to support transport and parking management objectives. Changes should be as predictable and gradual (i.e., 10% per year) as possible. In order to minimize the financial burden, higher fees can be implemented in conjunction with lower fees for campus edge parking lots. For example, while central lot parking fees might increase to $5.00 per day, fees for outer parking lots could stay at $4.00 per day.
Weekly parking passes are currently relatively inexpensive and convenient to use ($16 per week equals $3.20 per day, which is 20% cheaper than the $4 daily rate), and once a motorist purchases one they have little incentive to use alternative modes even occasionally. Weekly passes can be replaced with daily parking passes sold with bulk discounts, which gives commuters an incentive to use alternative modes part time. Daily and hourly passes can be made more convenient through electronic pricing, so users are not required to have specific coins or perform frequent financial transactions.

**Peak-Period and Special Event Transport Management**

Develop an overflow parking plan which identifies specific transportation and parking management strategies that can be implemented during peak periods and special events. These can include:

- Encouragement to use alternative travel modes for staff, faculty, students and visitors.
- Transit discounts and extra transit service.
- Encouragement event visitors to use more distant parking sites.
- Provide shuttle-bus services during special events.
- Provide information to special event visitors (e.g., brochures about travel options included in student registration and special event information packets).

**Parking Management**

Below are examples of potential parking management strategies. These can be evaluated based on their unit costs (i.e., cost per avoided peak-period parking space required), their political acceptance, the degree to which they support other campus development objectives (e.g., traffic reduction, greenspace preservation, transportation affordability, equity, public health, etc.), and the speed with which they can be implemented. These strategies can then be prioritized based on these evaluation criteria, so that the higher-ranking strategies are implemented first, and the lower-ranking strategies are implemented if needed.

- *Efficient Parking Regulations.* Current parking regulations should be reviewed to identify ways to encourage more efficient use of parking facilities.

- *Encourage Shared Parking Facilities.* Most parking facilities can serve multiple users and destinations. For example, a parking space may be used by employees during the day and visitors at night. A parking lot can serve commuters during weekday and a church on Sundays. Campus parking spaces should be managed to maximize the amount of sharing between different users.

- *Use Off-Site Parking.* Off-site parking is often available, particularly for occasional overflow use. Off campus lots within convenient walking distance should be identified. User information and walking conditions should be surveyed to insure that motorists can easily identify and access off-site parking options.

- *Structure Parking Fees For Efficiency.* Adjust fees at various campus parking lots to maintain about 85% peak period occupancy. The campus parking manager can be given flexibility to adjust parking prices as needed to achieve this objective, for example, to
change the prices at different locations and times to reflect demands and achieve optimal utilization.

- **Increase Passes/Space Ratio.** Increase the number of passes that are allowed to be sold (including a program to offer semester passes by semester) per parking space until parking congestion problems develop.

- **Increase Convenient Short-Term Parking Spaces.** Increase the number of convenient parking spaces (located close to major destinations, such as large buildings) that are designated for short-term (one-hour maximum) paid use.

- **Provide More Convenient Payment Options.** Make it easier to pay for parking. This may include electronic payment systems (to allow use of credit and debit cards, and prepaid payment cards) and bulk purchase discounts.

- **Audit Parking Passes.** Parking passes are often used for unintended purposes. Review the use of parking passes.

**Prioritizing Convenient Parking Spaces**

Camosun campuses generally has adequate parking supply, but there are often conflicts over the most convenient spots, that is, the parking lots closest to the campus centre and the parking spaces within a particular lot that are closest to building entrances. To address this problem it is often useful to prioritize use of these spaces, particularly during peak periods. For example, priority may be given to:

1. Utility, delivery and drop-off vehicles.
3. Short-term parking.
4. Longer-term for students
5. Longer-term parking for staff and faculty.
6. Other longer-term parking.

It may be possible to encourages motorists to use less convenient parking spaces, for example, by offering discounted passes for less-convenient parking spaces. Such a restriction could be limited to periods (e.g., weekdays), with the discounted passes good at any parking space during off-peak periods (e.g., evenings and weekends). This could be implemented when parking pass rates increase, allowing motorists the option of avoiding rate increases if they accept restrictions on where they can park during peak periods.

**Policies and Programs**

The following policies and programs can help support transportation and parking management implementation.

**Employee Commute Trip Reduction Programs**

*Commute Trip Reduction* (CTR) (also called *Employee Trip Reduction* or *Vehicle Trip Reduction*) programs give commuters resources and incentives to reduce their automobile
trips. This can include a variety of specific strategies to meet a specific target over a specific time period.

**Transportation Management Association**

*Transportation Management Associations* (TMAs) are private, non-profit, member-controlled organizations that provide transportation services in a particular area, such as a university district. This allows campus officials to work with nearby businesses to offer services such as rideshare programs and shared parking facilities.

**Monitoring and Enforcement**

Transportation and parking management strategies such as increased parking pricing can cause spillover parking problems (motorists parking in inappropriate locations, such as neighboring residential streets or the parking lots of nearby businesses). Such impacts should be monitored, with physical surveys and invitations to neighbors to report such problems, warnings to violators, and adequate enforcement.

**Peak-Period Transportation and Parking Management**

Campus parking problems are greatest at certain times, particularly during registration week, and between 10:00 am and 2:00 pm in fall and winter semesters. It may be better to worthwhile to have special parking and transportation management programs during these periods to reduce parking problems and avoid the need to increase parking supply to accommodate occasional peaks.

Collect data to identify peak parking periods, when parking problems are likely to occur. Develop specific management programs for those periods, which may include:

- Encouragement to use alternative travel modes for staff, faculty, students and visitors.
- Transit discounts and extra transit service.
- Encourage class timetables to be more spread out over the day
- Encouragement to use more distant parking sites.
- Shuttle-bus services.
- Information resources.

**Capacity Development**

Managing campus transportation and parking requires new administrative capabilities beyond what is currently available, including improved data collection, professional resources and management responsibilities.

Establish a campus *Transportation Management* office that includes parking management and other responsibilities to be determined in campus transportation plans. Establish parking management goals, objectives and performance indicators. Provide professional development and resources as needed.
Program Evaluation

Transportation and parking management programs should include evaluation components, which track service quality, activity, and problems. Potential performance indicators are described below. Most of these should be evaluated for both peak periods (to reflect traffic and parking congestion) and total average (to reflect energy consumption and pollution emissions). Evaluation should include measuring against benchmarks, and desired targets/goals.

- Quality of facilities and services (quality of walking and cycling facilities, frequency and comfort of public transit services, etc.), and changes in service quality over time.
- Quality of transportation services for disadvantaged users (users of wheelchairs and walkers, children, people who cannot speak English, etc.), based on field surveys by experts, and user complaints.
- Transportation and parking affordability to low-income users, based on user costs relative to incomes (for example, the portion of staff income or student living expenses needed to pay for a transit pass or a parking space.
- Automobile trip and parking generation (number of vehicle trips to campus, and number of occupied parking spaces).
- Transportation mode split (portion of trips to campus by various modes, including walking, cycling, ridehsharing and public transit).
- Parking availability (ease of finding a parking space), based on whether at least 10% of parking spaces are unoccupied during peak periods and the average amount of time motorists spend searching for an available parking space.
- Parking spillover problems, based on complaints by nearby residents and businesses of Camosun campus travelers using inappropriate parking spaces, and field surveys.
- Campus transport energy consumption and pollution emissions, based on commuter travel surveys.
- Campus impervious surface coverage (portion of campus land devoted to buildings, parking facilities and roads).
- Transport and parking management program costs and revenues, and user feedback.

Summary

There are several transportation and parking management strategies that could help achieve campus planning objectives. No single strategy is likely to be adequate, an integrated plan will probably be needed that includes a combination of improvements to alternative modes and incentives to use each mode for what it does best.
Conclusions
Camosun College faces a number of transportation and vehicle parking challenges, including rising traffic and parking congestion, rising transportation costs to students and staff, and limited land. Improved transportation and parking management can help address these and other planning objectives.

Transportation and parking management include a variety of policies and programs that result in more efficient resource use. These strategies improve mobility options and give travelers incentives to use the most efficient option for each trip. A comprehensive program can significantly reduce automobile trip and parking generation in ways that are cost effective and overall beneficial to users.

Camosun College is already implementing some of these management strategies, but much more can be done. This report identifies potential transportation and parking management policies and programs, evaluates their benefits, costs and implementation requirements, and recommends a specific action plan. This plan is flexible and responsive – it includes a variety of specific strategies, some of which should be implemented immediately, and others that should be deployed as needed to achieve specific objectives and address specific problems.
References And Resources For More Information

ActNow BC (2008), *Fitting in Physical Activity at College or University*, BC Ministry of Health (www.actnowbc.ca); at www.actnowbc.ca/EN/families/fitting_in_physical_activity_at_college_or_university.


Camosun (2006), *Student Profile Project Survey Results*, Camosun College (www.camosun.ca); at http://disted.camosun.bc.ca/ERP/outcome/stuProfile.php.


*Campus Safety: Health and Environmental Management Association* (www.cshema.org) provides information sharing opportunities, continuing education, and professional fellowship to people with environmental health and safety responsibilities in the education and research communities.


NCEF, *National Clearinghouse for Educational Facilities Website* (www.edfacilities.org), provides information on the development of safe and healthy schools, including resources on transportation and parking management strategies.


*Sustainable Urban Transportation Project Student’s Corner* (www.sutp.org/download/academia.php) contains a variety of information resources on sustainable transportation issues. Note, registration is required, but is free.


