

APPENDIX C

TDM Experiences in Other Post Secondary Institutions

TDM EXPERIENCE AT OTHER POST-SECONDARY INSTITUTIONS

University of British Columbia

UBC's Official Community Plan (OCP) was adopted by the GVRD in July 1997. The OCP contains several transportation-related objectives which UBC has committed to pursue, including:

- Reducing single-occupant vehicle travel to and from UBC by 20%.
- Increasing transit use to and from UBC by 20%.
- Pursuing implementation of a U-Pass.

As a means of meeting these OCP objectives and achieving other related transportation goals, UBC developed a Strategic Transportation Plan, which was adopted in November 1999. The STP describes a comprehensive and integrated transportation strategy, and establishes specific targets consistent with the OCP objectives. The date for achieving these targets was set as 2002, the year in which the first review and update of the OCP would be undertaken.

The Strategic Transportation Plan describes a number of TDM measures which UBC will pursue in order to achieve established transportation targets. The following measures have been implemented to date:

Class start times. In an effort to minimize morning peak period transit demands, UBC adjusted class start times from the previous campus-wide 8:30 a.m. start time. Since September 2001, some students begin classes at 8:00 a.m., some students remain at 8:30 a.m., and the majority of students begin classes at 9:00 a.m. The intent was to reduce the peak demand for transit, thereby reducing the number of buses required to provide additional service, and to increase ridership on existing services. Subsequent monitoring has shown that as a result of the class time change, the morning peak transit demand has spread over a longer time period, and that approximately 12% more transit riders have been accommodated at the same level of transit service.

Parking supply and prices. Since 1997, UBC has reduced the supply of parking and increased the price of parking on campus. For example, the B-6 surface lot has been redeveloped into housing, eliminating 1,000 parking stalls. Parking has been restricted on portions of SW Marine Drive and 16th Avenue. In total, the amount of parking available to commuters has been reduced by approximately 1,200 stalls since 1997, equivalent to a reduction of approximately 10%. During the same time, the daily parking cost in surface lots has increased from \$2.00 to \$3.50.

Increased transit service. Each year since 1997, service levels to UBC have been increased, with the result that there are now approximately 30% more buses travelling to and from UBC each day than in 1997. Much of this increase has been on the Route 99 B-Line, a limited-stop express service which operates between UBC and the Commercial Drive SkyTrain station. Other service increases include a peak period express service from downtown, a new peak period express service along 41st Avenue between UBC and the Joyce SkyTrain station, and direct all-day service to UBC from Richmond Centre. During the same time period, transit ridership has increased 50%.

Improvements to bicycle facilities and services at and adjacent to UBC. As a means of improving safety for cyclists and encouraging more people to cycle to and from UBC, new bicycle facilities were implemented on several roadways on campus and leading to campus. Most notable was the conversion of University Boulevard from two lanes in each direction to one travel lane and one bicycle lane in each direction. Bicycle lanes were also added on 16th Avenue. On campus, changes include additional bicycle racks, bicycle lockers at the War Memorial Gym, and new services such as the AMS Bike Co-op, the purple and yellow bike program, TREK bike-buddy matching and the Bike Kitchen.

Carpooling program. UBC implemented a comprehensive carpooling program in 2001. The program includes access to a web-based ridematching service to help commuters organize carpools. Other carpooling incentives include access to preferred carpool parking, and a rewards program that includes transit vouchers, gift certificates and vehicle maintenance vouchers. Despite this, the carpooling mode share has declined each year since 1997, in direct and opposite proportion to increases in transit ridership.

Emergency Ride Home program. The UBC Emergency Ride Home Program commuters who use a non-automobile mode of travel at least three times per week a 90% reimbursement for the cost of a ride home by taxicab in the event of an emergency.

On-campus housing. UBC is developing new housing on campus, a significant proportion of which is intended to be occupied by staff, faculty and students. One of the objectives in increasing the amount of housing on campus is to reduce trips to and from UBC, as well as reduce the overall number of trips generated by housing development. Studies conducted at Hampton Place — one of the first developments on campus — indicate that the number of vehicle trips per household is approximately 40% less than at comparable developments elsewhere in the region.

Table 1 summarizes the changes in travel patterns at UBC from 1997 to 2002. The key change has been a 50% increase in transit ridership, which surpasses the OCP commitment and the target

established in the Strategic Transportation Plan. On the other hand, SOV trips have remained relatively constant, and have not been reduced by 20% as desired.

Table 1: 1997 and 2002 Daily Person Trips, By Mode (24 Hours)

Mode	Fall 1997		Spring 2002	
	Person Trips	Mode %	Person Trips	Mode %
Single occupant vehicles	46,000	43.4%	47,600	44.0%
Carpools and vanpools	36,100	34.0%	27,400	25.3%
Transit	19,000	17.9%	28,300	26.2%
Bicycles	2,700	2.5%	2,400	2.2%
Pedestrians	1,400	1.3%	1,400	1.3%
Heavy trucks	300	0.3%	300	0.3%
Motorcycle, other	600	0.6%	800	0.7%
Totals	106,100	100%	108,200	100%

Other initiatives identified in the Strategic Transportation Plan which have not yet been implemented at UBC include:

U-Pass. Since 1997, UBC has been working with TransLink to implement a U-Pass program for students, staff and faculty. A U-Pass would provide all students with unlimited access to transit services as well as other transportation programs at UBC. Currently, a student U-Pass is planned for implementation in September 2003, subject to student support in a referendum. If successful, it is intended that the U-Pass would be extended to staff, faculty and residents on campus at a later date.

The major challenge for UBC in implementing a U-pass will be to ensure that an adequate level of transit service is provided to accommodate the additional transit ridership which U-Pass is expected to generate. Currently, buses on many routes serving UBC are filled to capacity during peak hours, and TransLink staff acknowledge that there is a significant existing latent demand for transit service to UBC. UBC and TransLink are currently undertaking a study to forecast transit demand with U-Pass and to determine on-campus facility needs.

Parking management. As described above, UBC has reduced the supply of parking on campus by approximately 10% and has increase parking prices. However, in order to achieve significant reductions in SOV trips, UBC staff recognize that further reductions in supply, increases in prices and changes in the way parking is priced are needed. A parking strategy study currently underway at UBC has identified a need for substantial increases in parking prices. The Strategic Transportation Plan states that parking prices will be indexed to transit fares. And other studies have suggested a change to

daily parking pricing rather than monthly and annual permits, as are currently used for parkades and some surface lots.

A difficulty at UBC is that the department responsible for implementing TDM measures and achieving transportation targets is not the same department which is responsible for parking. To date, the parking department has been hesitant to significantly increase parking prices, due to concerns about revenue implications and an expected negative response from students, staff and faculty.

Simon Fraser University

SFU's Official Community Plan (OCP) was adopted in 1996, and describes expansion of the university from the currently 15,000 full-time equivalent students to 25,000 students. The OCP also describes how the SFU will quadruple the amount of student housing on campus from 1,400 students to 5,600 students, and how SFU will develop a residential community on Burnaby Mountain with up to 4,500 dwelling units.

In anticipation of increases in travel demand and parking demand, SFU has begun to consider a range of TDM options. The need for TDM is due in part to a perceived shortage of parking on campus. Currently, the supply of commuter parking amounts to 5,800 parking stalls, and SFU has committed to maintaining but not increasing the number of parking stalls. The demand for parking exceeds the supply, to the extent that students line up for hours at the beginning of each semester to obtain a parking permit. To reduce the demand for parking and avoid the need to construct additional parking on campus, SFU is considering several TDM options, including:

U-Pass. SFU is currently negotiating with TransLink to implement a U-Pass in September 2003. With the opening of the nearby Millennium SkyTrain line this year and a new express bus service between SkyTrain and the university, SFU and TransLink consider that there is considerable potential to increase transit use through a U-Pass program.

Parking pricing changes. In addition to annual increases in the price of parking, SFU is also considering eliminating the semester parking permit system and charging for parking on a daily basis. This option recognizes that once a semester parking permit is purchased, the marginal cost of parking thereafter is zero, which is a significant incentive to drive.

Programs for carpoolers, cyclists and transit users. These might include reduced prices for carpool parking, preferential locations for carpool parking, a ridematching program, an uphill bicycle shuttle,

secure bicycle parking, expanded transit services on Burnaby Mountain, and a guaranteed ride home program for persons who use alternative transportation modes.

At SFU, the department responsible for implementing TDM programs is also responsible for parking. However, parking price increases must be approved by the Board of Governors, and to date, the Board has been reluctant to approve significant price increases due to the expected negative response from students, staff and faculty.

Other Canadian Post-Secondary Institutions

Examples of TDM initiatives at other post-secondary institutions in Canada include the following. In general, TDM efforts at other Canadian post-secondary institutions are limited to U-Pass programs which provide unlimited access to transit services.

Vancouver Community College and Langara College. Neither Vancouver Community College nor Langara College in Vancouver have implemented any significant TDM programs. Both institutions partnered with SFU to conduct a study to determine the potential to introduce a U-Pass program for each institution, and are currently negotiating with TransLink.

Southern Alberta Institute of Technology in Calgary, Alberta. In August 2001, SAIT implemented a U-Pass for all 12,000 full-time and part-time students. At the same time, daily and monthly parking prices on campus were increased. The result was a 38% increase in transit ridership in the first year, with a 71% increase in transit ridership during the midday. Surprisingly, the demand for parking did not decrease.

One of the reasons for implementing U-Pass was to avoid the need to construct a proposed 700-stall parkade. To achieve this, SAIT plans to continue to increase parking prices each year, and is planning to implement additional TDM programs to expand the scope of the U-Pass. These include secure bicycle parking, additional carpool parking and a guaranteed ride home program.

University of Western Ontario. In September, 1998, a U-Pass program was implemented at the University of Western Ontario in London, Ontario. In response, transit ridership increased approximately 50%. Although many of the routes serving the university had excess capacity, London Transit has had to increase transit service, particularly on weekends. There are approximately 17,000 UWO U-Passes in use in London.

Other universities with U-Pass programs include the University of Calgary, the University of Guelph, the University of Windsor, Trent University in Peterborough, McMaster University in Hamilton, and Queens University in Kingston.

University of Washington

The University of Washington in Seattle pioneered the U-Pass program in 1991, and U of W's program remains one of the most comprehensive and successful TDM programs among post-secondary institutions in North America.

The University of Washington is the largest post-secondary institution in Washington State, with a total of 52,000 students, faculty and staff. U of W is located only a few kilometres north of downtown Seattle, and is served by freeways, transit routes and bicycle routes in all directions.

The TDM program at U of W is referred to as "U-Pass," even though it includes more than just unlimited access to transit services. At U of W, the U-Pass program includes:

- Unlimited travel on transit, and a nighttime shuttle service
- Ridematching, free carpool parking and subsidized vanpool fares
- Secure bicycle parking
- A guaranteed ride home for faculty and staff
- Reduced-price daily parking
- Discounts at more than 50 merchants

Persons eligible for a U-Pass include students, permanent employees working at least 50%-time, temporary and hourly employees commuting at least three days a week, and others certified by the personnel office. Unlike most other U-Pass programs, purchase of a U-Pass at the University of Washington is voluntary for students, staff and faculty. Currently, 85% of students participate in the program. The reason for this high participation rate is that a U-Pass is needed to access many transportation services — for example, a U-Pass is required to park in a carpool parking lot. For many students, the discounts offered by area merchants are worth the price of the pass alone.

U of W's U-Pass program has been declared an unqualified success, and has received several local and national awards. In the period since U-Pass was implemented, transit use at the University of Washington has increased 64%, and morning and afternoon peak period vehicle trips to campus have declined 19% and 9% respectively. The percentage of persons driving alone to campus has declined

from 33% to 25% — a 24% reduction. During the first year of the U-Pass program, parking lot use on the U of W campus decreased from 91% occupancy to 78% occupancy.

The annual budget for the University of Washington's U-Pass program exceeds US \$9 million (Cdn \$13.5 million) per year, 88% of which is for payments to transit operators. Pass sales generate 48% of the funding for the U-Pass program, and a further 43% is generated through parking charges and parking fines.

University of Colorado

The University of Colorado (CU) at Boulder's Student Bus Pass program was created in 1991 to avoid the need for future parkade construction on campus. The pass provides students with access to local and regional transit services, including:

- No-fare rides on all local and regional services, including trips to and from Denver and other nearby communities, but not local transit trips within these communities.
- No-fare rides on shuttle services operating in downtown Boulder and neighbourhoods adjacent the University, including a night shuttle.
- No-fare rides on the shuttle to Denver International Airport.

US \$5.00 (Cdn \$7.50) round-trip service on the CU Ski Bus, which operates 13 weekends each year to Copper, Winter Park, Vail, and Keystone ski resorts.

The Student Bus Pass is essentially a U-Pass program, and is paid for by a mandatory fee paid by all students, which students imposed on themselves through a referendum. Student transit ridership increased from 300,000 trips per year in 1991 prior to the introduction of the Student Bus Pass, to 1.5 million trips per year in 1997. The program is credited with eliminating the need to construct approximately 750 parking stalls, which University staff calculate has resulted in an annual savings of US \$1.0 million.

In 1998, a faculty/staff EcoPass was established. The EcoPass is issued at no charge to continuing employees of the University, and provides free, unlimited rides on any local, express, or regional bus service, local shuttles, the Skyride bus to Denver International Airport, and light rail in Denver. The EcoPass also incorporates a guaranteed ride home program for EcoPass holders who used any form of alternative transportation to commute to work on the day that they need a ride home.

Stanford University

Stanford University in Palo Alto, California plans to expand capacity by 25%, adding more than 2.3 million square feet of research and teaching buildings, public facilities and housing without increasing peak period vehicle traffic. To accomplish this, the campus transportation management plan includes:

- A 1.5 mile transit mall.
- A free transit system with timed transfers to regional rail.
- A free "Eco Pass" for employees who work 50% or more, valid on several local and regional transit services.
- A network of bicycle routes on campus and in adjacent neighbourhoods, and secure parking on campus and at the nearby regional rail station.
- A ridesharing program, including ridematching and carpool and vanpool parking.
- Other transportation demand management programs, including commute planning, cash rewards for not commuting in a single-occupancy vehicle, a guaranteed ride home program, pre-tax commuter checks and transit pass sales.

By 2000, 1.7 million square feet of new buildings had been developed while automobile commute trips were reduced by 500 per day. Through these TDM measures, the university was able to add \$500 million in new projects with minimal planning or environmental review required for individual projects. The university also avoided significant parking and roadway costs. Planners calculate that the university saves nearly US \$2,000 annually for every commuter shifted out of a car and into another mode.

University of Wisconsin

In 1994, the University of Wisconsin adopted a U-Pass, which provides students with unlimited travel on transit. Students who are registered for at least one credit receive a U-Pass, which is funded through a fee assessed to all students as part of their tuition. At the same time, transit service to the university was expanded with the addition of two express transit routes.

Enrolment at the Milwaukee campus of the University of Wisconsin is approximately 24,000 students, only 2,000 of whom live on campus. Due to the large number of commuters, the campus and surrounding neighbourhood has constantly been faced with severe parking problems. Commuters traveling to campus often spend considerable time searching for parking, and frequently find it difficult to locate parking within a few blocks of campus. Other students choose to wait in line as long as 20 to 30 minutes for a parking space to open in the central parkade on campus. One of the objectives in implementing a U-Pass program was to encourage students to shift to transit as their primary mode of

transportation, thereby reducing the demand for parking and traffic volumes through adjacent neighbourhoods.

After the U-Pass was implemented, the reported number of students driving to campus decreased from 54% to 38%, and reported transit use increased from 12% to 26%. Ten percent of students who drove to campus prior to the introduction of U-Pass shifted to transit, and 28% of students who walked to campus prior to the introduction of U-Pass shifted to transit. Twelve percent of students indicated that the availability of a U-Pass affected their decision to own an automobile. Implementation of U-Pass was also reported to have improved the availability of parking on campus and near the campus.

The other interesting effect of the U-Pass program is that 41% of returning students at the University of Wisconsin said that the availability of a U-Pass affected their decision to return to the university.

