



Campus Transit Plan

Summary Report | January 2013



University
of Victoria



BCTransit
Connecting People and Communities



UVIC CAMPUS TRANSIT PLAN

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Introduction

The University of Victoria is the second-largest transit destination in the Capital Region. Over 17,000 trips are made to and from UVic each day by transit, amounting to more than a quarter of all trips to and from the University. Future transit use at UVic could be considerably higher, depending on how much and how quickly the University population grows. BC Transit recognizes the potential for ridership growth, and plans to serve UVic with a combination of rapid transit and frequent bus services.

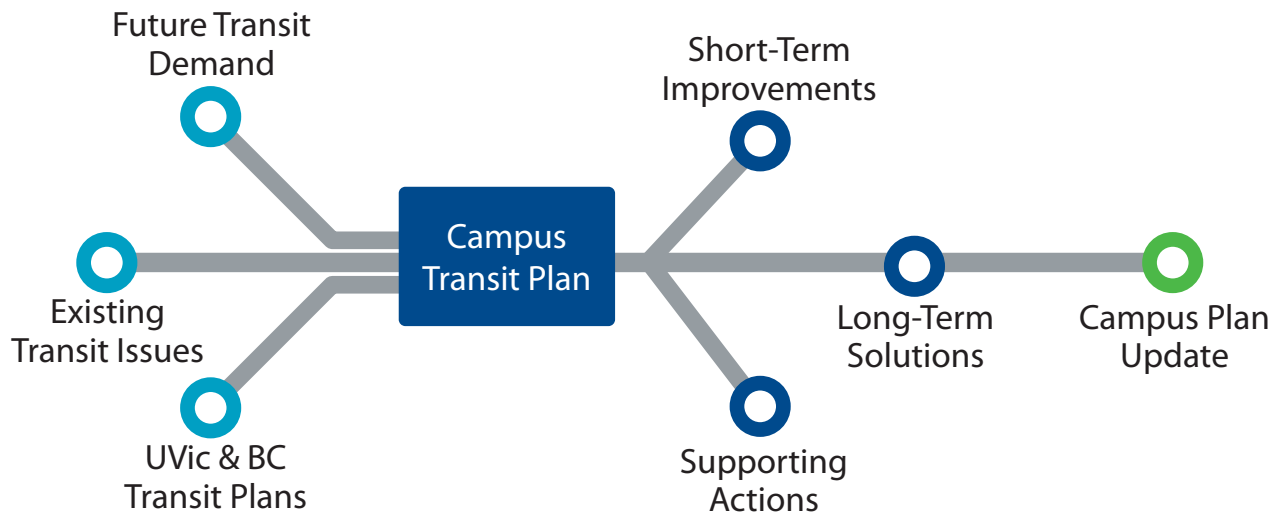
The problem is that the transit infrastructure at UVic is already over capacity, as illustrated in Figure 1, with little space to add more buses to accommodate increased ridership. The existing transit terminal on Finnerty Road was designed in the early 1990s, and pre-dates the U-Pass program. Ridership has increased to the point that many buses are full in peak periods, and buses “overflow” onto Ring Road. As well, the campus is expanding, which means more people will be a greater walking distance from the bus loop and transit services, and opportunities to expand or relocate the bus loop may soon disappear.

Given these many issues, UVic and BC Transit have prepared a plan to determine how best to provide transit services at UVic in the future. The Campus Transit Plan identifies short-term improvements to provide additional bus capacity on campus, and acceptable locations for a transit terminal in the long-term, as well as bus routes to and through the campus. The plan also identifies ways in which BC Transit and the University can address pass-ups, reliability and other issues. The intent is that long-term options and other actions can be considered in the subsequent update of UVic’s Campus Plan and the development of other plans and facility designs on campus.

Figure 1 – Peak conditions at main Finnerty Road terminal



Figure 2 – Campus Transit Plan process and outcomes



The process of developing the Campus Transit Plan is illustrated in Figure 2.

The key outcomes of the plan include:

- Capacity improvements that can be implemented in the short term.
- Options for new or expanded terminal facilities to be considered in the long term, as part of the update of the University's Campus Plan.
- Additional actions to improve the quality and utilization of transit services on campus.

Community input to the Campus Transit Plan was provided through meetings with key stakeholders in Feb 2011 (the UVic Student Society, Graduate Student Society, Sustainability Project, and Sustainability Advisory Committee) and an open house held in the SUB in March 2011, which was attended by more than 175 people. Key issues identified by the community include pass-ups on routes to UVic, the reliability of bus service, delays experienced by buses on Ring Road, and walking distances to transit terminals and bus stops on campus.



Context

Planning for transit services and facilities at UVic is undertaken within the direction and context provided by several plans and policies, most notably the University's Campus Plan and BC Transit's, Transit Future Plan.

- The Campus Plan is the strategic vision that guides development of the University. It was adopted in 2003, and is planned to be updated beginning in 2014. The current plan reflects pedestrian-oriented development, and an expectation that people will walk on campus.
- The Transit Future Plan is a plan prepared by BC Transit to guide and prioritize future investment in the transit system. Transit services at UVic would include a rapid transit connection via a transit priority corridor on McKenzie Avenue, a possible rapid transit connection direct to downtown Victoria, and frequent transit service via McKenzie Avenue and Henderson Road.

UVic and BC Transit have several objectives for transit services on campus, including:

- Increase transit ridership, and reduce automobile traffic
- Safe and efficient movement on campus
- Support a pedestrian-friendly campus
- Help to achieve the University's and BC Transit's mode share targets

The goal of the Campus Transit Plan is to determine how transit can best serve UVic in the future.

Table 1 provides a summary of potential ridership growth at UVic and the associated transit terminal requirements. The growth of Campus is dependent on future provincial initiatives at the university. Scenarios are presented, reflecting historical growth rates in student enrolment and staff/faculty employment.

Table 1– Forecast transit ridership and numbers of buses

	Existing	Future		
		Near-Term	→	Long-Term
Daily ridership (Moderate forecast)	17,100	25,000 +46%	35,500 +108%	52,300 +206%
PM Peak hour				
Ridership	1,190	1,810	2,670	4,100
Buses	49	65	82	103
Rider/Bus	24	28	33	40
Transit terminal capacity				
Actual bus spaces	14			
Required bus spaces	17	21	26	30

The experience at nine post-secondary institutions was reviewed as part of identifying potential options for UVic. In most cases, at other institutions there is a single terminal close to the “social centre” of the campus, and in some cases terminals are combined with other uses, as illustrated in Figures 3 and 4. Regional buses generally remain on major roads on periphery of campus, and shuttle buses serve trips on campus. At several post-secondary institutions, real-time bus arrival and departure times are available on-line through a web browser and in some cases also with dedicated smartphone applications.

Figure 3 – Multi-use transit hub at Simon Fraser University



Figure 4 – Transit terminals integrated into parkades, Boulder CO and Winnipeg MB



Short-Term Improvements

A final decision on the location for a long-term transit terminal will be deferred until the University updates the UVic Campus Plan in 2014, as the decision on the location of a long-term transit terminal will need to be considered with other Campus infrastructure needs. This means it will likely be several years before a long-term terminal is constructed. In the meantime, there is an immediate need to provide additional capacity, as the existing terminals are at capacity during peak periods and expanded service is needed to meet current transportation needs of students and faculty.

Today, there is capacity for a total of 11 buses in the main terminal and 3 buses in the satellite terminal, as illustrated in Figure 5, providing a total capacity of 14 buses. However, as Table 1 indicates capacity is needed for 17 buses, and by 2017 capacity will be needed for a total of 21 buses on campus.

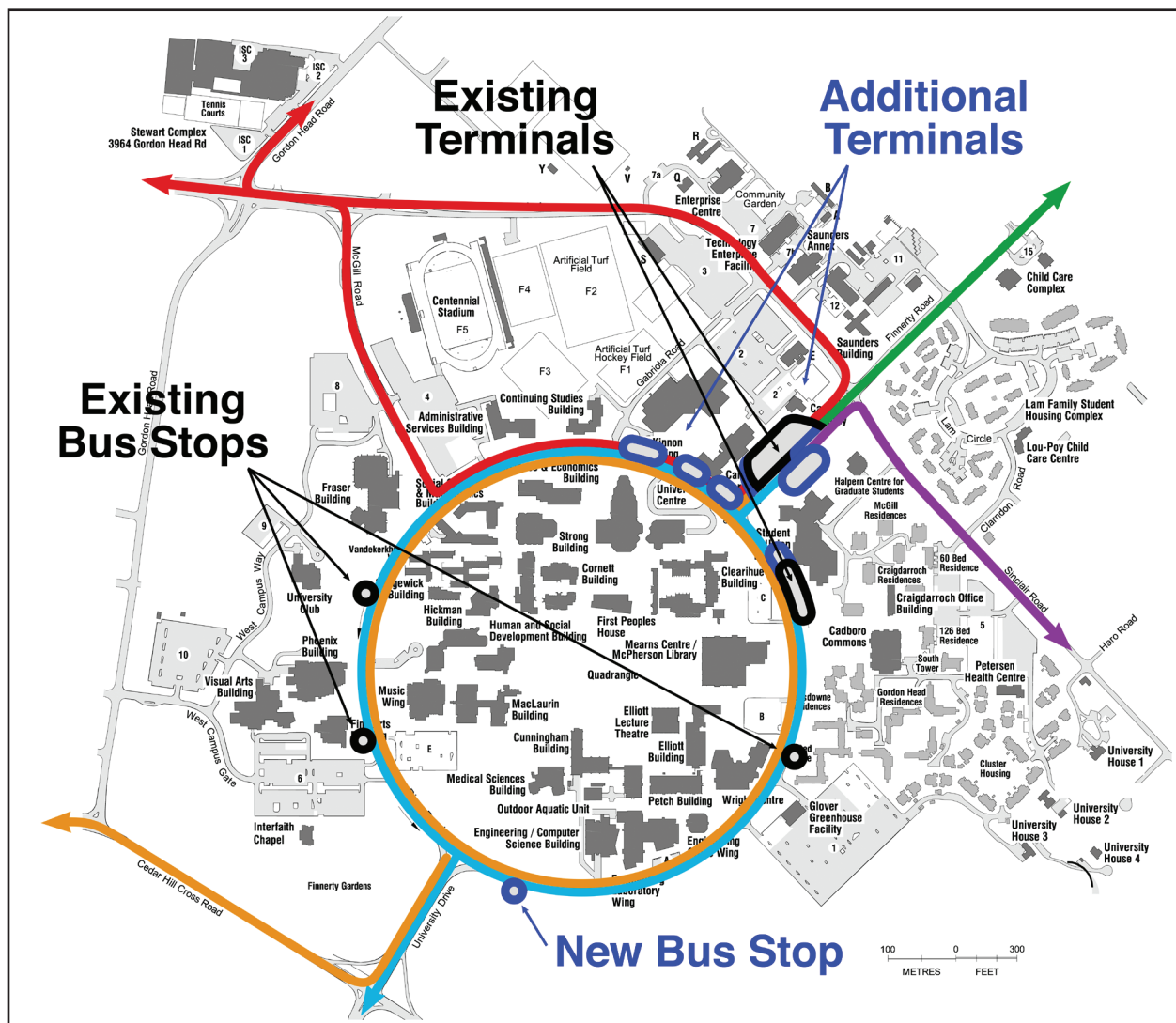
Figure 5 – Existing transit facilities and routes at UVic



Figure 6 illustrates locations where additional capacity for seven more buses could be provided in the short-term, including:

- Add more platforms at the main terminal by creating a bus bay on Finnerty Road and an additional platform at the south end of the terminal.
- Expand the main terminal across Finnerty Road, to incorporate the area on the south side of the road adjacent the SUB, including the existing parking lot.
- Expand the satellite terminal on Ring Road at the SUB.
- Create new satellite terminals on Ring Road west of Finnerty Road.

Figure 6 – Short-term capacity improvements



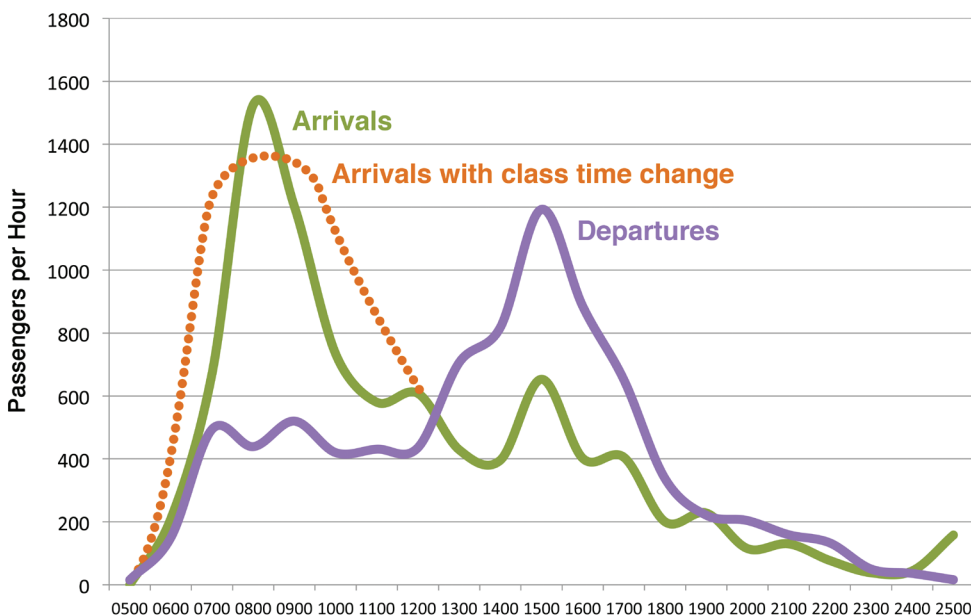
Supporting Actions

The University has undertaken several actions in support of transit service. Most notable is the student U-Pass program, which was implemented in 1999. As a result of U-Pass, the transit mode share increased from 11% in 1996 to 18% in 2000. Other actions that UVic has implemented include market-based parking fees, improved bicycle facilities, ridesharing and carsharing.

Another important supporting action that UVic should consider is to change class start times. As the green line in Figure 7 illustrates, there is a spike in arrivals by transit around 8:30 a.m., when many classes begin. To disperse morning peak transit ridership, class start times could be adjusted so that some classes start earlier at 8:00 a.m., some classes remain at 8:30 a.m., and some classes could start at 8:45 a.m. and 9:00 a.m.

Spreading class start times over a one-hour period would spread the peak demand for transit service over a longer time period in the morning, reducing peak ridership levels. This is illustrated by the orange line in Figure 8.

Figure 8 – Transit arrival and departure patterns (2010)



As a result of a similar change in class start times at UBC in 2001, 12% more transit trips were accommodated over the course of an average weekday on the same number of buses. Comparable benefits can be expected at UVic as a result of changing class start times.

Additional actions that can be undertaken in support of transit services on campus include:

- An additional bus stop on Ring Road east of University Drive (or on northbound University Drive at Ring Road).
- Improvements to passenger amenities at bus stops, including larger shelters, seating and additional illumination.
- On-line real-time transit information accessible through a web browser and dedicated smartphone applications.

Long-Term Options

Eight potential options were developed for transit terminals at UVic ranging from a single large terminal to multiple smaller terminals spread throughout the campus, as illustrated in Figure 9. These options were developed based on input from the community that indicated it was preferred that transit terminals be close to the bookstore, SUB and “Village Centre.” Longer walks to transit terminals would be acceptable if service was faster and more reliable. Most persons also supported removing buses from Ring Road to minimize delays and travel times.

Figure 9 – Eight potential options

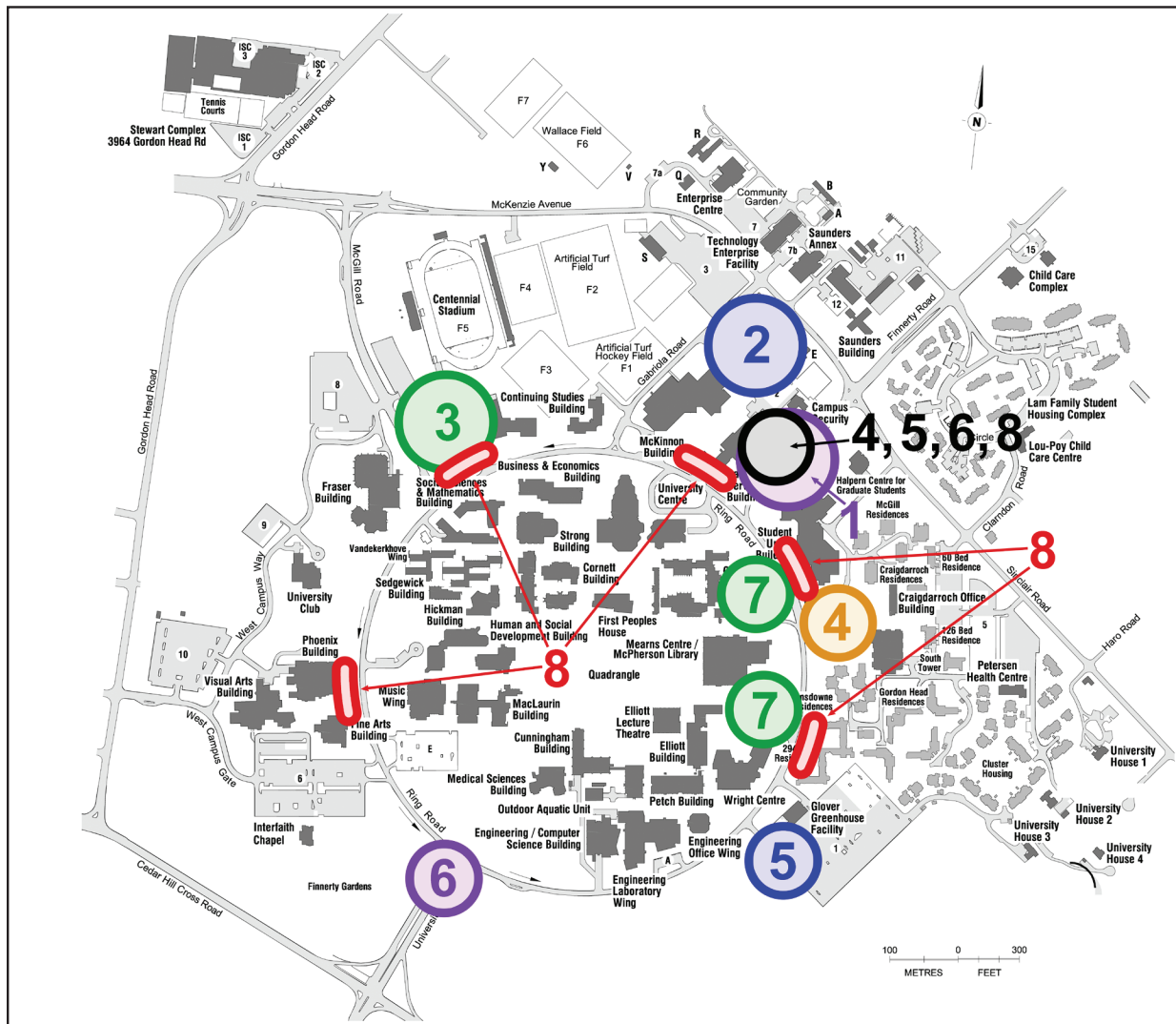
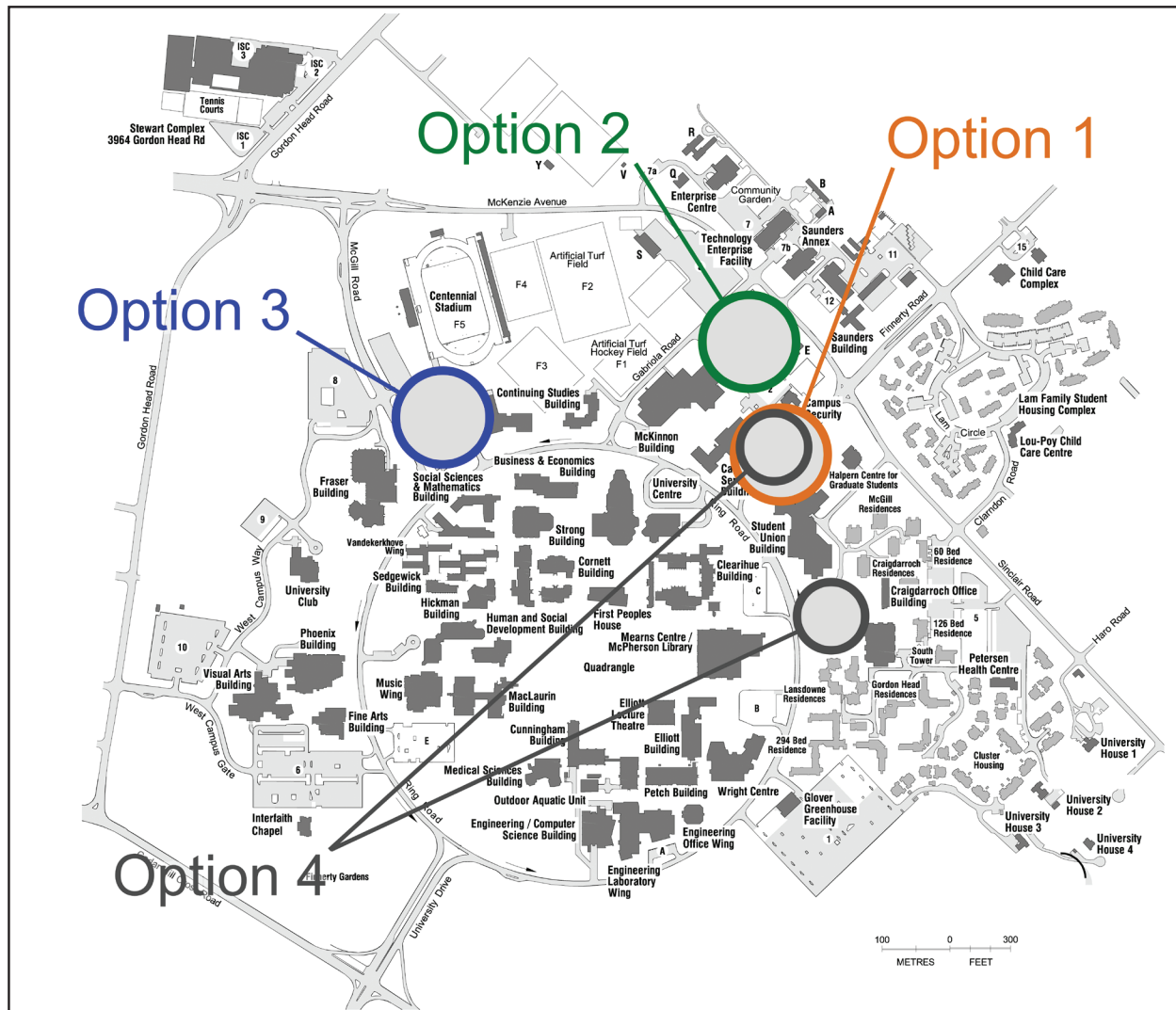


Figure 10 – Long-term terminal options



The eight potential options were evaluated through a screening process that reflected the perspectives of transit users, the campus community, UVic's neighbours, the University and BC Transit. Four options were then short-listed to be evaluated in greater detail.

To better understand the trade-offs between the four short-listed options BC Transit completed a more detailed evaluation using the same criteria as the initial evaluation of the eight options. For each criterion, options are rated qualitatively positive (●), neutral (●) or negative (●) as compared with other options, highlighting the relative advantages and disadvantages of each option. A total score is assigned to each option based on a simple summation of ratings, with positive and negative ratings assigned values of +1 and -1.

Table 2 – BC Transit evaluation summary

Categories	Criteria	Option 1	Option 2	Option 3	Option 4
Customers	Walking distance	●	●	●	●
	Travel times	●	●	●	●
	On-campus travel	●	●	●	●
	Clarity	●	●	●	●
Community	Student functionality	●	●	●	●
	Parking	●	●	●	●
	Neighbours	●	●	●	●
Safety	Vulnerable road users	●	●	●	●
	Traffic safety	●	●	●	●
	Personal safety	●	●	●	●
Campus Plan	Land use	●	●	●	●
Environment	Noise and air quality	●	●	●	●
	Landscape	●	●	●	●
Transit	Internal circulation	●	●	●	●
	Reliability	●	●	●	●
	Operations	●	●	●	●
Cost	Operating costs	●	●	●	●
	Capital costs	●	●	●	●
Implementation	Complexity	●	●	●	●
	Phasing	●	●	●	●
Totals		+3	+11	+7	-6

Option 2

The terminal would be located on a portion of parking Lot 2 to the north of the bookstore, and could incorporate other uses on-site, including parking in a structure above the terminal.

Option 3

The terminal would be located on the site of parking Lot 4. This location is a relatively long walking distance from key destinations on campus, including the SUB and planned Village Centre. Future development of Campus may make Lot 4 a more central location.

Option 1

The existing transit terminal is expanded, but results in an awkward configuration with significant safety issues as a result of being bisected by Finnerty Road and major pedestrian routes. Potential conflicts with pedestrians and motor vehicles need to be addressed, such as closing Finnerty Road to traffic and re-directing east-west pedestrian movements around the terminal to make this option more acceptable.

Option 4

A new terminal at the south end of the SUB building adjacent to the residential area would function as a dual exchange with the existing location at Finnerty. There are a number of concerns with this option that would need to be addressed before it would be acceptable. This option would involve substantially higher operational costs for BC Transit (2 million dollars annually), operational limitations (inter-lining of bus routes), as well as noise impacts to residences and potential conflicts with pedestrians walking through the transit exchange between housing and academic buildings.

Next Steps

Following the completion of the Campus Transit Plan, there are a number of steps for UVic and BC Transit to undertake, as summarized below.

Short-term improvements:

- Confirm sites for new and expanded terminals to provide capacity for 7 additional buses (a total of 21 buses) by 2017.
- Develop designs and cost estimates.
- Construct new and expanded terminals.
- Undertake a communications program (including signs on campus) to advise transit users as to changes to bus locations.

Supporting actions:

- UVic to examine morning class start times as part of their broader review of class scheduling.
- Develop a design for a new bus stop on Ring Road at University Drive.
- Provide real-time bus arrival and departure information when the on-bus GPS system is fully active.

Long-term options:

- BC Transit and UVic to mutually agree upon a preferred option from the four short-listed long-term options as part of the Campus Plan update (2014).
- Identify opportunities to integrate transit and mixed-use developments on the same site.
- Develop conceptual designs for new and expanded terminals.
- Develop cost estimates and cost sharing agreements.





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