



THOMPSON
RIVERS
UNIVERSITY

Sustainable Parking Framework

February 2017

EXECUTIVE SUMMARY

Thompson Rivers University is an institution constantly evolving to meet the diverse needs of its expanding community. The process of transitioning from a suburban college to an urban campus with a vibrant heart is informed by TRU's Strategic Priorities, and in particular, our desire to increase our sustainability. Our goal as a university is to reduce our impact on the environment so that we may continue to grow into a progressive and sustainable community.

To achieve this, we must transform from a campus where single-occupancy vehicles dominate to a campus that is pedestrian-oriented and supports a community that learns, works, plays and lives here. It is time for us, as members of the TRU community, to reconsider how we use transportation and parking resources.

In support of TRU's sustainability goals, and in response to proposals from the TRU Students' Union (TRUSU) and the Canadian Union of Public Employees (CUPE) Local 4879, the Parking Appeal and Advisory Committee has recommended changes to parking.

As recommended by the committee, and guided by the TRU Campus Master Plan, Transportation Demand Management Plan and Campus Strategic Sustainability Plan, TRU will implement a revised parking lot system and parking rate structure, and provide incentives for TRU community members to use more sustainable transportation options, as follows:

Action A:

To allocate existing parking spaces more equitably to reflect the ratio of students to employees on campus, parking lots dedicated to TRU employees ("staff lots") will be converted into reserved "Premium" and "Gated Premium" lots, and permits for these lots will be allocated in a ratio of 70% student spaces to 30% employee spaces.

Action B:

To encourage greater use of lots outside of the campus core and offer more options in parking rates, the parking rate structure will be revised from three tiers to five: Economy, General, Premium and Gated Premium, plus individual Reserved Stalls.

Action C:

To encourage more sustainable commuting and reward changes in travel behaviour, TRU's Rideshare program will offer sign-up incentives and implement a reward system, and the new Zipcar car-sharing program will provide a sustainable and convenient option for students, staff and faculty to access a vehicle for round-trip travel from campus for personal or work-related activities.

Action D:

To continue to develop our campus sustainably over the next 15 years and cultivate a vibrant community that learns, works, plays and lives here, surface parking lots in the campus core will be replaced with academic, office, market residential and commercial use buildings to develop a wider variety of land uses on campus, increasing density and walkability.

INTRODUCTION

Thompson Rivers University is an institution constantly evolving to meet the diverse needs of its expanding community. TRU has grown considerably since it was established as Cariboo College on its present location on the south slope of the city overlooking the Thompson rivers in 1971. In those early days 382 full-time and 245 part-time students attended trades, career and university transfer programs in a single utilitarian cinderblock building (Old Main) on a location considered to be on the outskirts of town.

Nearly 50 years later, TRU is no longer a suburban college, but a university in the process of transitioning to an urban campus with a vibrant heart. Guiding this process are TRU's Strategic Priorities—particularly increasing our sustainability

as an institution so that we may decrease our impact on the environment and continue to grow into a progressive and sustainable community.

To achieve this, we must transform from a campus where single-occupancy vehicles dominate to a campus that is pedestrian-oriented and supports a community that learns, works, plays and lives here.

It is time for us, as members of the TRU community, to reconsider how we use transportation and parking resources.

TRU is implementing a multi-faceted strategy to shift the dominance of single occupancy vehicle use on campus toward a more sustainable use of transportation resources. The actions detailed in this framework result from

changes recommended by TRU's Parking Appeal and Advisory Committee, a representative committee consisting of two faculty members, two staff members and two students.

The committee's recommendations considered proposals from the TRU Students' Union (TRUSU) and the Canadian Union of Public Employees (CUPE) Local 4879, and were guided by all of the relevant institutional planning documents and sustainability goals for the university.



INCREASING SUSTAINABILITY: KEY GOALS FOR CAMPUS DEVELOPMENT

The following key plans and proposals—each informed by extensive consultation with TRU community members—guided the TRU Parking Appeal and Advisory Committee in making its recommendations for change:

Institutional Plans

TRU Strategic Priorities 2014-2019

“Increasing sustainability” was adopted by pan-campus consultation as one of TRU’s five Strategic Priorities for 2014 to 2019. As the overarching goals of our institution, the Strategic Priorities guide all other TRU plans.

Campus Master Plan (2015)

Foremost of the plans influencing parking is the Campus Master Plan, which provides guidelines for all future development on campus. One of its key principles is to densify the core of campus, replacing surface parking lots with a mix of academic, commercial and residential spaces to enhance the vitality and 24/7 usability of campus for students, faculty, staff and the wider community.

To achieve this vision, we must encourage a change in behaviour of members of the campus community toward a more sustainable use of transportation resources, such as carpooling, walking and riding public transit, decreasing single occupancy vehicle (SOV) use. This strategy is informed by the Master Plan Transportation Report, prepared in 2015 by Bunt and Associates Engineering and based on the Transportation Demand Management Strategy prepared in 2012 by Urban Systems.

Campus Strategic Sustainability Plan (2014)

The Campus Strategic Sustainability Plan (CSSP), prepared collaboratively by TRU and Stantec, provides a framework to measure and make improvements on four key sustainability-related areas (operations, engagement, learning and governance) to reduce greenhouse gas emissions (GHGs).

Transportation, an important sub-theme of operations, has 16 wide-ranging initiatives and strategies to reduce GHGs and improve air quality. These include implementing or improving alternate transportation options such as ride sharing programs, car share services, and bike share programs, and improving bicycle facilities with showers and secure bike storage. The CSSP also identifies ways to reduce SOVs from entering campus, such as telecommuting, Guaranteed Return Trip (for alternate transportation users in case of an emergency) and improved pedestrian design.

Funding to advance transportation initiatives at TRU comes in part from the Sustainability Grant Fund (SGF), which in turn is funded by the parking budget. The SGF engages and empowers the TRU community to get involved with long term sustainability-related goals in order to meet provincial and federal GHG reduction targets.



TRUSU and CUPE Proposals

In 2015, both the Thompson Rivers University Students' Union (TRUSU) and the Canadian Union of Public Employees (CUPE) Local 4879 approached the Parking Appeal and Advisory Committee with proposals for campus parking changes. In implementing changes to parking, TRU considered and addressed each of TRUSU and CUPE's recommendations as follows:

TRUSU Recommendations

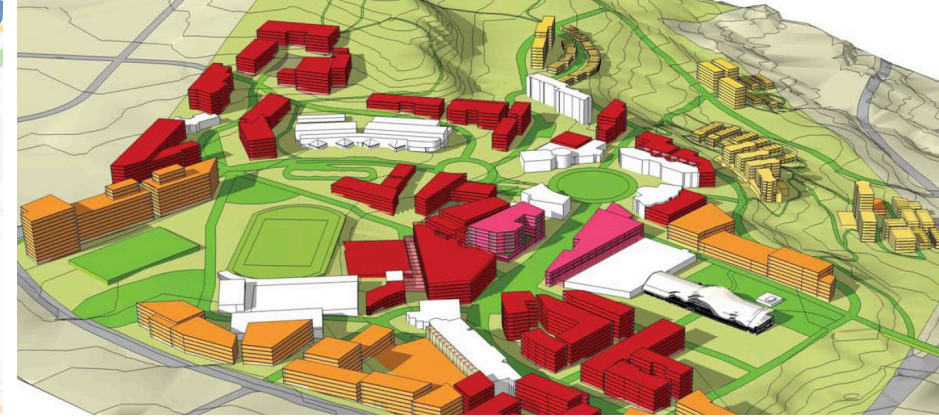
1. open employee-only lots to general availability
 - *new lot system implemented, see Action A*
2. implement standard parking fees of \$3 per day in peripheral lots and variable rates in central lots as follows: \$4 for 2 hours, \$5 for 3 hours and \$6 for 4+ hours
 - *new rate structure implemented, see Action B*
3. offer permits to peripheral lots for \$12 per week or equivalent and central lots for \$20 per week or equivalent
 - *new rate structure implemented, see Action B*
4. give a 20% discount on semester and annual passes for students who commute outside of the transit service area
 - *implemented September 2015*
5. convert the current employee-only Lot V spaces to visitor parking spaces
 - *new lot system implemented, current visitor spaces maintained, see Action A*

6. extend paid parking to evenings and weekends
 - *no change, contrary to developing campus life in the evening*
7. increase the price of reserved parking spaces to \$1,440 per year (September to August)
 - *new rate structure implemented, see Action B*
8. redirect parking revenues from the Sustainability Grant Fund to a parking and public transit improvement fund [Note: \$100,000 per year from the parking budget goes toward the Sustainability Grant Fund.]
 - *no change, any costs related to parking, pedestrian and transit improvements will be included in development plans as the campus grows*



CUPE Recommendations

1. maintain current parking rates until TRU has established viable alternatives to parking
 - *new rate structure implemented, see Action B; alternative transportation options implemented and incentives offered, see Action C*
2. maintain current employee-specific parking spaces; the current parking plan should continue
 - *new lot system implemented, 70:30 student to staff ratio maintained, see Action A*
3. consider a progressive parking rate scale to assist CUPE employees in lower pay scales who already find it difficult to make ends meet
 - *new rate structure implemented, see Action B; alternative transportation options implemented and incentives offered, see Action C*
4. readdress the carpooling alternative and create a pass or numbering system to avoid the abuse of the carpool network
 - *carpool system replaced with alternative options, see Action C*
5. implement a guaranteed ride home plan as proposed by the Transportation Demand Management Strategy
 - *in the event of an emergency, TRU will reimburse employees who commute via transit for taxi fare*
6. implement TRU fleet cars as proposed by the Transportation Demand Management Strategy
 - *implemented January 2016*
7. create a shuttle service from off campus and one on campus for students and employees
 - *TRU will continue to work with the City of Kamloops and BC Transit to optimize transit services, see Action D*
8. use a portion of the Environmental Advisory Committee (EAC) money to fund a student project and feasibility study for the proposed parkade
 - *parkade studies will be part of future campus planning, see Action D*
9. preferably, build a parkade at an estimated cost of \$21 million dollars and charge a reasonable rate that would sustain the building and address the anticipated growth of the TRU campus by 2020
 - *parkade studies will be part of future campus planning, see Action D*



CHANGES TO TRU PARKING

Over the past six years TRU has reduced greenhouse gas (GHG) emissions by over 30 percent and is on track to reach a 45 percent reduction by 2018, well ahead of federal and provincial reduction timelines. This is just one of many achievements made possible by TRU's Campus Master Plan, which continues to evolve to meet the diverse needs of our expanding community sustainably—socially and economically as well as environmentally.

At TRU we are inspired by local acts that can advance global goals. This has informed our Strategic Priorities, and in particular, our desire to give every member of our community the power to make a difference in the world we live in, and the lives of people a world away.

Our commitment to make “Increasing Sustainability” a reality takes effort from us all.

To help transform TRU from a campus where single-occupancy vehicles dominate to a campus that is

pedestrian-oriented and supports a community that learns, works, plays and lives here, the Parking Appeal and Advisory Committee has made recommendations to the Vice-President Administration and Finance for parking changes.

Beginning Sept. 1, 2017, TRU will implement a revised parking lot system and parking rate structure, and provide incentives for TRU community members to use more sustainable transportation options, as follows:

Action A: To allocate existing parking spaces more equitably to reflect the ratio of students to employees on campus, parking lots dedicated to TRU employees (“staff lots”) will be converted into reserved “Premium” and “Gated Premium” lots, and permits for these lots will be allocated in a ratio of 70% student spaces to 30% employee spaces.

The parking lot system at TRU has remained the same since 2013, despite advancements within the campus planning framework of the TRU Campus Master Plan, Transportation Demand Management Strategy and Campus Strategic Sustainability Plan. Although TRU anticipated being in a position to make parking changes in 2015, uncertainty about the university village development project through the TRU Community Trust (TRUCT) delayed any

changes. When re-zoning was approved by the province in the spring of 2016 and work on TRUCT development started, the impacts to parking became clear, prompting a re-evaluation of the lot structure.

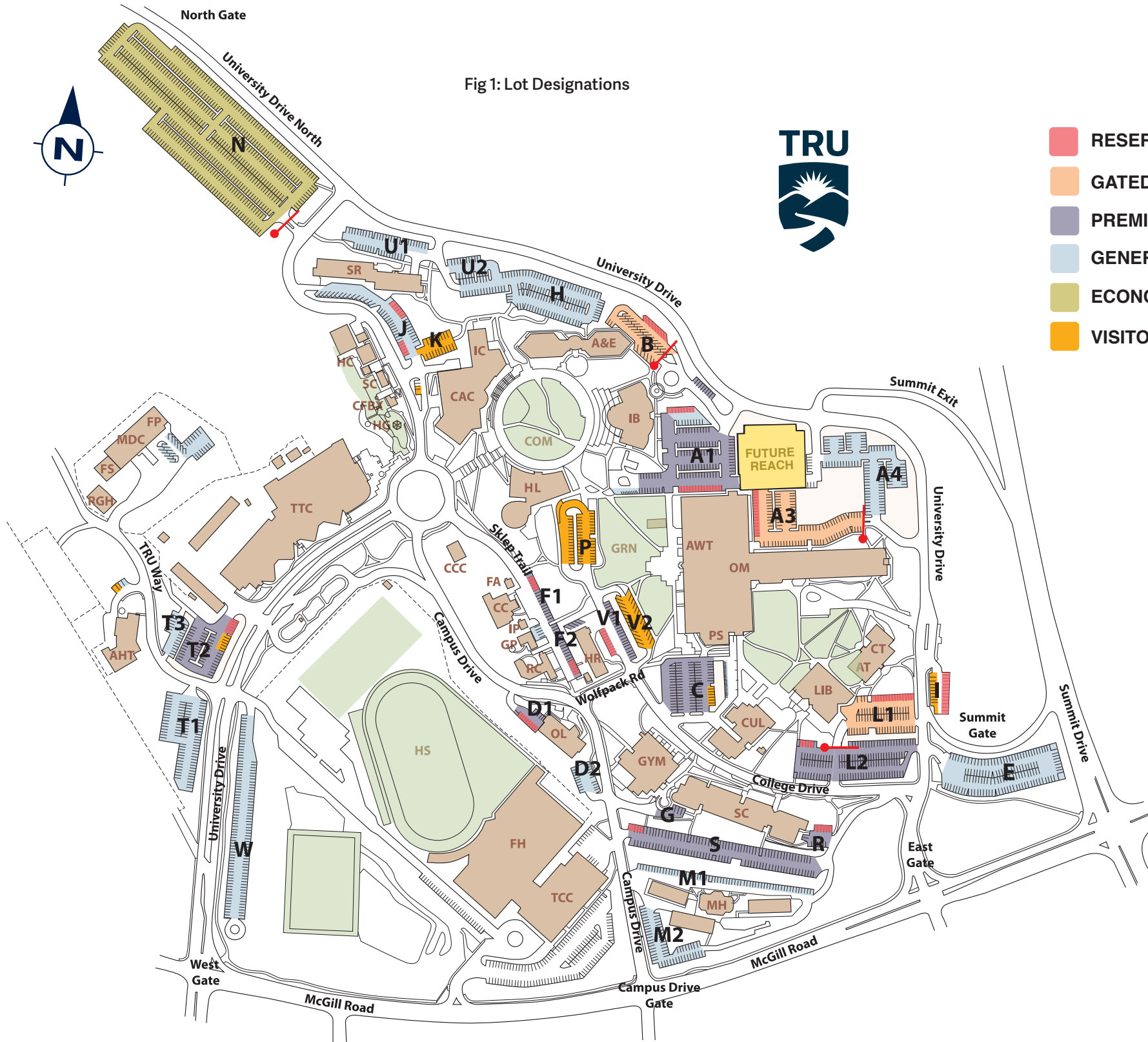
Based on TRUSU's recommendations and the Transportation Demand Management Strategy, a new parking lot system will be implemented as of Sept. 1, 2017, in the following five tiers: Economy,

General, Premium and Gated Premium, plus individual Reserved Stalls. Figure 1 illustrates the proposed changes to lot designations across campus.

Fig 1: Lot Designations



- RESERVED STALLS
- GATED PREMIUM
- PREMIUM
- GENERAL
- ECONOMY
- VISITOR





Twelve General lots and the Economy lot (Lot N), primarily on the campus perimeter, remain available to both students and faculty on a first-come, first-served basis at existing rates. Visitor parking remains at the current number of spaces. Reserved Stalls will still be available in various locations at increased annual-only rates (see section B for the new rate structure).

To encourage more members of the campus community to park in the under-utilized lots on the campus perimeter or to use alternate transportation options, the former employee-only (“staff”) lots—primarily located in the core of campus—will be designated in the new tiered lot system as Premium and Gated Premium lots, open to both employees and students at premium rates (see section B).

Parking in the Premium and Gated Premium lots will require a permit for a specific lot, for example Lot L2 – Premium, or Lot L1 – Gated Premium (see Fig. 1). To obtain a permit, students and employees will apply online by Aug. 1, 2017, indicating first and second lot choices.

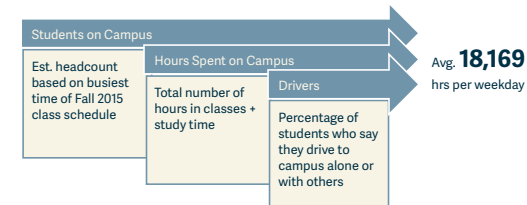
If a particular Premium or Gated Premium lot receives more applicants than it can accommodate, a lottery system will be used to randomly allocate the available number of permits to applicants. If applicants are unsuccessful in obtaining a permit in their first choice of Premium or Gated Premium lot, they will be allocated a permit for their second choice of lot or are placed in the lottery for the second choice as applicable. Remaining unsuccessful applicants may be offered a permit in other Premium or Gated Premium lots that still have available space; otherwise they will be added to a waiting list in the event spaces open up in their desired lot. Parking in General lots remains an option.

To open these lots to student access as recommended by TRUSU, allocation of permits in Premium and Gated Premium lots will be based on 70% of spaces allocated to students and 30% allocated to employees, maintaining the current 70:30 ratio of student to employee spaces as recommended by CUPE. This ratio will be evaluated after one year.

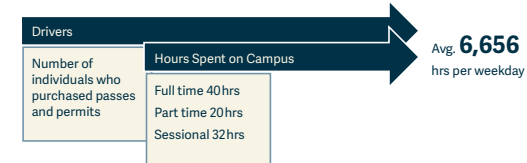
Figure 2 shows the current allocation and theoretical student and employee demand for parking on campus, based on the average hours of use per weekday.

Fig. 2: Student-Employee Ratio – Allocation of Parking

Student Demand for Parking



Employee Demand for Parking



Calculation Results

| | Theoretical Demand | | Current Allocation | |
|------------------|--------------------|------|--------------------|------|
| Students | 18,169 | 73% | 15,588 | 73% |
| Employees | 6,656 | 27% | 5,787 | 27% |
| | 24,825 | 100% | 21,375 | 100% |



Action B: To encourage greater use of lots outside of the campus core and offer more options in parking rates, the parking rate structure will be revised from three tiers to five: Economy, General, Premium and Gated Premium, plus individual Reserved Stalls.

In support of the Campus Master Plan, the Master Plan Transportation Report (MPTR) considered future transportation facilities including streets, parking, pedestrian routes, etc. The MPTR's review of existing conditions—including transportation, parking supply and rate structure comparisons with other institutions—found that parking is plentiful and comparatively inexpensive at TRU, with one of the lowest parking rate structures compared to other universities, suggesting opportunities to increase charges over time.

As shown in Figure 3, the current daily fee for general parking is \$5 per day and \$250 per semester, which is inexpensive compared to other parking within Kamloops (parking at city centre is \$5 to \$8 a day).

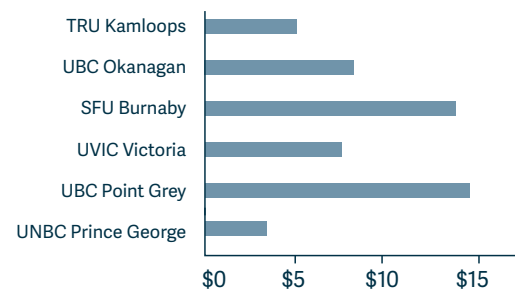
Figure 4, from the Bunt Report (2015), shows TRU's daily and semester parking rates are low compared to similar BC universities.

Fig. 3: 2016/17 Parking Rate Structure

| Lot Designation | One Semester | Two Semesters | Monthly Payroll Deduction | Annual Fee | Daily Fee | Half-Day Fee |
|-----------------|--------------|---------------|---------------------------|------------|-----------|--------------|
| Reserved Stall | | | \$87.50 | \$1,050 | | |
| General | \$250 | \$500 | \$62.50 | \$750 | \$5 | |
| Economy (Lot N) | \$200 | \$400 | \$50 | \$600 | \$4 | \$3 |

Fig. 4: Comparison of daily to semester parking rates (As of January 2017)

Daily Parking Charges



Semester Parking Charges

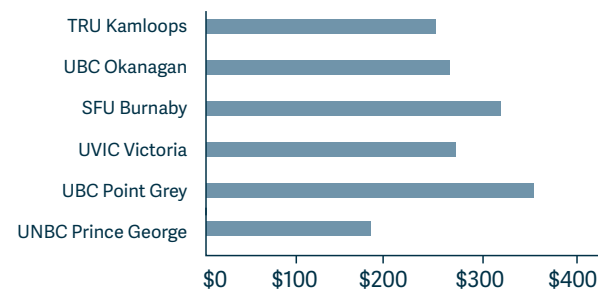




Figure 5 shows TRU has one of the lowest of FTE (full-time equivalent) student-to-parking space ratios compared to other universities.

One of the current challenges with managing parking demand is the lower cost of parking compared to that of transit.

Recent studies at TRU showed that 56% of students live within one transit route of campus, but ridership is low at only 14%. As shown in Figure 6, although TRU UPass transit costs are comparable to UBC Okanagan's, TRU ridership (transit use) is almost 50% lower, demonstrating the potential to increase TRU ridership.

To manage future parking demand, TRU chooses not to increase parking supply but rather to gradually increase parking cost, encouraging a shift away from single occupancy vehicles toward transit and other more sustainable transportation options.

Fig. 5: Comparison of FTE student-to-parking space ratios (November 2014)

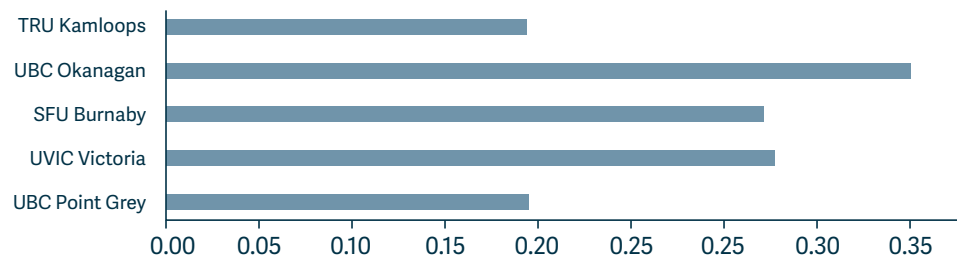
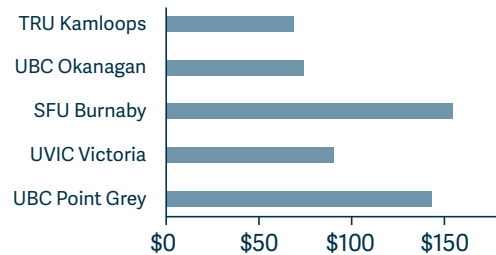
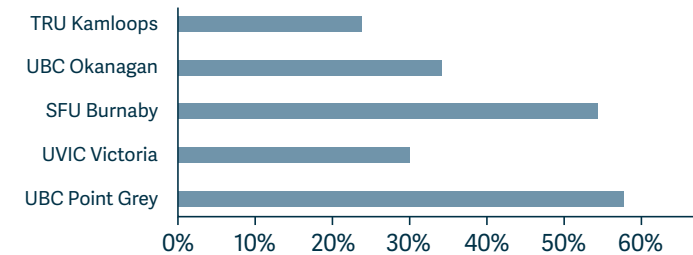


Fig. 6: Comparison of UPass costs to transit use (As of November 2014)

UPass Transit Cost (per semester)



Proportion with Ridership





Corresponding to the revised lot designations in Fig. 1 above, the revised five-tier parking rate structure—Economy, General, Premium, Gated Premium, and individual Reserved Stalls will be phased in gradually over the next three years, as shown in Figures 7, 8 and 9.

The Economy lot (Lot N) and 12 General lots remain available to both students and faculty on a firstcome, first-served basis. The Economy lot will also offer a half-day rate option.

The 11 Premium and 3 Gated Premium lots will offer reserved permits at two new rates. The rate for a Reserved Stall will increase and a 25% discount will be offered for electric vehicles.

Fig. 7: Parking Rates September 2017

| DESIGNATION | ONE SEMESTER | TWO SEMESTERS | MONTHLY PAYROLL | ANNUAL | DAILY RATE | HALF DAY RATE |
|---|--------------|---------------|-----------------|---------|------------|---------------|
| RESERVED (Specific Location) | | | \$95.83 | \$1,150 | | |
| PREMIUM (Reserved Specific Lot - Gated) | \$317 | \$634 | \$79 | \$950 | | |
| PREMIUM (Reserved Specific Lot) | \$283 | \$566 | \$71 | \$850 | | |
| GENERAL | \$250 | \$500 | \$62.50 | \$750 | \$5.00 | |
| ECONOMY | \$200 | \$400 | \$50 | \$600 | \$4.00 | \$3.00 |

Fig. 8: Parking Rates September 2018

| DESIGNATION | ONE SEMESTER | TWO SEMESTERS | MONTHLY PAYROLL | ANNUAL | DAILY RATE | HALF DAY RATE |
|---|--------------|---------------|-----------------|---------|------------|---------------|
| RESERVED (Specific Location) | | | \$102.08 | \$1,225 | | |
| PREMIUM (Reserved Specific Lot - Gated) | \$333 | \$666 | \$83.33 | \$1,000 | | |
| PREMIUM (Reserved Specific Lot) | \$300 | \$600 | \$75 | \$900 | | |
| GENERAL | \$266.67 | \$533.34 | 66.67 | \$800 | \$5.50 | |
| ECONOMY | \$216.67 | \$433.34 | \$54.17 | \$650 | \$4.50 | \$3.25 |

Fig. 9: Parking Rates September 2019

| DESIGNATION | ONE SEMESTER | TWO SEMESTERS | MONTHLY PAYROLL | ANNUAL | DAILY RATE | HALF DAY RATE |
|---|--------------|---------------|-----------------|---------|------------|---------------|
| RESERVED (Specific Location) | | | \$108.33 | \$1,300 | | |
| PREMIUM (Reserved Specific Lot - Gated) | \$350 | \$700 | \$87.50 | \$1050 | | |
| PREMIUM (Reserved Specific Lot) | \$316.67 | \$633.34 | \$79.17 | \$950 | | |
| GENERAL | \$283.33 | \$566.66 | \$70.83 | \$850 | \$6.00 | |
| ECONOMY | \$233.33 | \$466.66 | \$58.33 | \$700 | \$5.00 | \$3.50 |



Action C: To encourage more sustainable commuting and reward changes in travel behaviour, TRU's Rideshare program will offer sign-up incentives and implement a reward system, and the new Zipcar car-sharing program will provide a sustainable and convenient option for students, staff and faculty to access a vehicle for round-trip travel from campus for personal or work-related activities:

Decreasing the number of single occupancy vehicles (SOVs) parking on campus each weekday is the single biggest change we as a university community can make to significantly reduce our environmental impact. The CSSP reports that SOVs commuting to campus contribute to 60% of TRU's carbon monoxide emissions. Carbon monoxide has significant impacts on both air quality and climate change.

Unlike most pollutants, carbon monoxide can persist in the atmosphere for about a month and can be transported long distances. Its presence affects concentrations of other greenhouse gases including methane, tropospheric ozone and carbon dioxide.



Carpooling reduces the number of SOVs parking on campus, thereby reducing carbon monoxide emissions. Carpooling also shares the costs of driving, serves areas where transit service may be limited, and can reduce the need for a family to own a second car.

First launched in December 2015, **TRU's Rideshare** program uses the RideShark RideMatching System to enable students, faculty and staff to quickly and securely find carpool partners by matching home and work addresses to nearby commuters with similar schedules. Users are not obligated to use the service and may choose who to contact and what carpooling arrangements to make. Data is secured using the same technologies used by online banking.

To promote carpooling as a more sustainable commuting option, Rideshare will implement sign-up incentives and develop a reward system that allows participants to obtain points toward contest entries, purchases or milestones.

Implemented in January 2017, TRU's new **car-sharing program, Zipcar**, will offer students, faculty and staff a shared vehicle available for round-trip travel from campus for personal or work-related activities.

For an annual fee, Zipcar members can reserve a car online or via the mobile app for as little as an hour or as much as a week, paying a \$10 hourly or \$73 daily rate that includes insurance, a gas card and 200 kilometres per day. TRU currently has two Zipcar vehicles on campus, with the potential for the fleet to grow as demand increases.

When the program is fully subscribed, a fully-utilized shared Zipcar will eliminate 13 parking stalls, as students, faculty and staff are enabled to leave their cars at home and utilize car-sharing when they need to run errands or other travel off campus during the day. Zipcar users produce approximately 0.65 of a tonne of CO₂ per year, substantially lower than an average single-occupant vehicle driving 20,000 km each year, which emits over four tonnes of CO₂ per year according to Natural Resources Canada.

Sustainable cars have also been added to the TRU fleet, and the campus has 10 electric vehicle charging stations.



Action D: To continue to develop our campus sustainably over the next 15 years and cultivate a vibrant community that learns, works, plays and lives here, surface parking lots in the campus core will be replaced with academic, office, market residential and commercial use buildings to develop a wider variety of land uses on campus, increasing density and walkability.

The Parking Appeal and Advisory Committee's recommendations also took into consideration future demands on parking supply. The Campus Master Plan (section 1.4.5) identified that surface parking lots currently occupy a significant portion (17%) of the total developable area of campus, many of them occupying land within the campus core that will be needed for future campus expansion.

Commercial and residential market development initiatives in the core of the campus, implemented through the TRU Community Trust (TRUCT) and beginning this year with The Reach, will contribute to TRU's sustainability and our evolution to a compact, urban profile. As the addition of services, shops, public spaces and housing invite the TRU community to study, work, shop and live on campus, we will see a reduction in the demand for additional parking. And, as the demand for alternate modes of transportation conversely increases, we will also see an expansion of transit services in Kamloops, and TRU's Zipcar car-sharing program has the potential to expand to fill the needs of on-campus residents (see Action C). Short- and medium-term priorities as outlined in the City of Kamloops Transit Future Plan include adding or improving bus routes and transit circulation.

In the short term, however, parking supply will be affected when Phase 1 of construction of The Reach begins north of Old Main in Spring/Summer 2017 (see Fig. 10).

Fig. 10: TRUCT Construction of The Reach, Phase 1





Development of The Reach will result in the removal of 347 existing parking spaces in phases between spring 2017 and spring 2020, initially reducing the number of parking stalls and thereby increasing demand for spaces in the lots closest to the heart of campus.

However, guided by the Campus Master Plan, which calls for the same number of spaces in 30 years as there are today, an increase in parking stalls in other areas has been implemented to offset most of the removals expected to result from development of The Reach in the next three years. The expansion of Lot N by 150 spaces in 2011, and the re-allocation of 150 parking spaces around McGill On-Campus Housing as general parking when TRU purchased it in 2016 (Lots M1 and M2) added 300 spaces. This will yield a net loss to TRU's parking supply of only 47 parking spaces during initial TRUCT development.

As shown in Figure 11, the process of development and removal will occur in phases over the next 15 years.

The anticipated effect on parking supply of TRUCT developments and other future transportation demands will be managed sustainably by reducing the proportion of SOVs on campus, which is expected to result from not increasing parking supply to meet demand, and by increasing the use of alternative modes of transportation—such as the Rideshare and Zipcar car sharing programs, public transit and walking—as the campus transitions from a suburban to an urban form. Cycling as an alternative is expected to remain fairly limited because of the challenges of weather, topography and infrastructure (no cycling lanes).

In the phased approach, the removal of existing spaces will be balanced with the addition of spaces on campus streets, such as University Drive, until a parking structure becomes necessary. TRU will develop a long-term parking strategy which will include construction of a parkade facility.

TRU is committed to ensuring clear and frequent communications throughout the process and welcomes comments and questions at parking@tru.ca.

Fig. 11: Parking Supply and Phasing

| Phase | Years | Parking Spaces Removed | Parking Spacing Added | Total Parking Spaces |
|-------|-------|------------------------|---|----------------------|
| 1 | 0-3 | 347 | 150 Lot N (2011) 150 Lot M (2016) | 2312 |
| 2 | 3-5 | 160 | 100 on street | 2252 |
| 3 | 5-10 | 365 | 150 structured 150 on street | 2187 |
| 4 | 10-15 | 124 | 537 structured (Freightliner Property) | 2600 |