

## A REVIEW OF CALGARY TRANSIT PARK AND RIDE

---

### EXECUTIVE SUMMARY

The primary focus of this report is to address questions about the supply of park and ride facilities at CTrain stations. A policy approved in 1986 has been used to guide the planning and development of parking facilities for all current and future CTrain stations. Recent plans, including the Calgary Transportation Plan, RouteAhead and the Transportation Department's Consolidated Parking Policy Work Plan, have suggested that a revised policy should be crafted to reflect current circumstances.

In response, Administration has prepared the attached report "A Review of Calgary Transit Park and Ride" which provides an overview of park and ride history, benefits and some of the current management challenges, particularly those related to Transit Oriented Development (TOD) and the current reserved parking policy. This report recommends adopting an overall park and ride supply target with individual studies to be completed to determine optimal park and ride supply at each CTrain station. As well, the report recommends revisions to the current park and ride management policies.

### ADMINISTRATION RECOMMENDATIONS

That the SPC on Transportation and Transit recommends that Council direct Administration to:

1. Develop a general park and ride strategy for current and future CTrain stations with the goal of optimizing park and ride and TOD opportunities to achieve an overall target to serve approximately 15 percent of weekday peak period CTrain trips based on the park and ride planning criteria outlined in Attachment 1.
2. Explore land use policy provisions to enable shared use parking in the vicinity of CTrain stations and major bus terminals.
3. Explore additional funding for park and ride development and management using surplus revenues from other parking.
4. Transition towards a system of 100 percent monthly reserved parking with differential pricing based on demand and offer a system of daily reserved parking that utilizes vacant monthly reserved spaces.
5. Report back to the SPC on Transportation and Transit regarding progress on recommendations 1, 2, 3, and 4 no later than 2017 June.
6. Develop detailed parking plans to include timelines, phasing and cost estimates that reflect TOD planning for all current and future CTrain stations.
7. Report back to the SPC on Transportation and Transit with a park and ride plan for Anderson Station no later than 2016 September.

### RECOMMENDATION OF THE SPC ON TRANSPORTATION AND TRANSIT, DATED 2016 MAY 18:

---

That Council:

1. Develop a general park and ride strategy for current and future CTrain stations with the goal of optimizing park and ride and Transit Oriented Development (TOD) opportunities to achieve an overall target to serve approximately 15 percent of weekday peak period CTrain trips based on the park and ride planning criteria outlined in Attachment 1.

## A REVIEW OF CALGARY TRANSIT PARK AND RIDE

---

2. Enable shared use parking in the vicinity of CTrain stations and major bus **use** terminals **through Land Use and Policy provisions.**
3. Explore additional funding for park and ride development and management using surplus revenues from other parking.
4. Transition towards a system of 100 percent monthly reserved parking with differential pricing based on demand and offer a system of daily reserved parking that utilizes vacant monthly reserved spaces.
5. Report back to the SPC on Transportation and Transit regarding progress on recommendations 1, 2, 3, and 4 no later than 2017 June.
6. Develop detailed parking plans to include timelines, phasing and cost estimates that reflect TOD planning for all current and future CTrain stations.
7. **Identify how Calgary Transit could charge a higher fee for reserve parking to customers who live outside Calgary and report back in conjunction with Recommendation 5.**
8. Report back to the SPC on Transportation and Transit with a park and ride plan for Anderson Station no later than 2016 September.

### Oppositions to Recommendations:

Recommendation 1

Opposed: P. Demong

Recommendation 2

Opposed: A. Chabot, R. Jones

Recommendation 4

Opposed: A. Chabot, S. Chu, P. Demong

### **PREVIOUS COUNCIL DIRECTION/POLICY**

In 1986 Council approved the report OD86-47 which established policy guidelines for the provision of park and ride facilities at LRT stations. The Municipal Development Plan, Calgary Transportation Plan and RouteAhead approved by Council in 2009 and 2013, respectively, call for a review of the current park and ride policies.

### **BACKGROUND**

#### **CTrain Access Modes**

About 15 percent of CTrain customers utilize park and ride to access CTrain service as both drivers and vehicle passengers at stations outside of the downtown. The majority of customers

## A REVIEW OF CALGARY TRANSIT PARK AND RIDE

---

use connecting bus services, walking and cycling to access the stations. Park and ride customers value convenience, avoidance of parking costs at their destination, travel time savings and the ability to accomplish other trip purposes. The short comings of connecting bus services also influence the choice to use park and ride.

Table 1  
**CTrain Access Modes at Suburban Stations**

Access Mode	Percent*
Calgary Transit Bus	52%
Walk	31%
Vehicle Driver	11%
Vehicle Passenger	4%
Cycle	1%

### Current Park and Ride Supply

Park and ride for transit customers is provided in 33 parking facilities with nearly 17,500 spaces located at CTrain stations and several major bus stops. Eight of these lots are either provided by private land owners (5) or are facilities shared by Calgary Transit and other land holders (3). CTrain parking lots owned and operated by Calgary Transit make up about 70 percent of the parking supply with 13,664 spaces at 20 CTrain stations. Two CTrain stations provide structured parking (Canyon Meadows and 69 St SW) while the majority is in the form of surface parking. At 69 St Station, there is both structured and surface parking. A summary of park and ride lots available to Calgary Transit customers is provided in Table 2.

Table 2  
**Park and Ride Inventory**

Parking Type	Lots	Spaces	Acres
<b>CTrain</b> - Public - Surface	19	12,583	126.7
<b>CTrain</b> - Public - Structure	2	996	3.0
<b>CTrain</b> - Private - Surface	5	1,600	16.0
<b>Bus</b> - Public - Surface	4	1,339	13.4
<b>Bus</b> - Private / Shared - Surface	3	1,006	10.1
<b>Totals</b>	<b>33</b>	<b>17,524</b>	<b>169.2</b>

### History

Park and ride facilities have been provided for Calgary Transit customers to access higher order transit service since the mid 1970s when parking was provided for 'Blue Arrow' bus service customers at what is now Heritage Station. The number of park and ride lots was expanded as the Blue Arrow bus services were extended to northeast and northwest Calgary and these lots now serve CTrain customers. Park and ride was felt to be an important tool to attract customers to transit during an era when transit use was declining while auto use and traffic congestion was growing rapidly, particularly for downtown commuter travel. For the South and Northeast lines,

## **A REVIEW OF CALGARY TRANSIT PARK AND RIDE**

---

about 2,500 and 2,100 park and ride spaces were provided initially. For Northeast LRT, a considerable portion of this total was provided by the Marlborough and Sunridge malls. In 1986, following a series of reports, Council approved a policy guideline of providing parking for between 15 to 20 percent of customers accessing CTrain service. The policy also includes consideration for:

- providing a balance of CTrain access modes with consideration given to serving the largest possible market with an emphasis on attracting LRT trips via local feeder buses.
- attracting those who may not otherwise use transit.
- not placing a financial burden on the transit system.
- providing park and ride outside of a five kilometre radius of the downtown.
- determining the size of each lot based on the size of the station service area, capacity of adjacent roadways and the nature of the adjacent communities.

## **INVESTIGATION: ALTERNATIVES AND ANALYSIS**

### **Benefits of Park and Ride**

Park and ride provides an attractive option for those who require the convenience and travel time savings by using their car for a portion of their transit trip. Many park and ride users would be less likely to use transit service without this option since they need a car for a portion of their trip (e.g. drop children at daycare). Most park and ride customers are either travelling to the downtown or to post secondary schools so they enjoy a cost savings over parking at these locations as well as avoiding traffic congestion at or near their destinations. By intercepting these customers near the home origin of their trip, and assuming they would otherwise drive to their destination, park and ride replaces the equivalent of about 11 traffic lanes on approaches to the downtown as well as a considerable reduction in land required for downtown parking or parking at post-secondary schools.

### **Park and Ride Influence on Ridership**

In Attachment 1, Figure 2 shows that the ridership at each CTrain station has little relationship to the supply of park and ride. Ten stations with the highest weekday ridership have parking for an average of only seven percent of the customers boarding at these locations. Three of these stations have no park and ride. At three stations that each have over 1,000 parking spaces (Anderson, Crowfoot and Fish Creek Lacombe), about 30 percent of weekday customers use park and ride.

### **Park and Ride Customer Origins**

Appendix 3 in Attachment 1 shows the origins of reserved parking customers (current data is not available for all park and ride users due to restrictions on the use of vehicle registration data). It is clear that most park and ride lots mainly serve residents of communities in the immediate station service area. About ten percent of reserved parking customers live outside of Calgary with Crowfoot, Somerset Bridlewood and Fish Creek Lacombe having the highest use by out of town customers. Previous studies have found a similar range of about 10 to 15 percent of all park and ride users reside outside of Calgary.

### **Other Transit Systems**

## A REVIEW OF CALGARY TRANSIT PARK AND RIDE

Table 5, in Attachment 1, shows that Calgary Transit provides between two and 15 times more parking than other major Canadian Transit systems. These systems provide park and ride for the same reasons as Calgary transit and experience similar issues with managing the supply of parking in relation to customer demand and transit oriented development aspirations. These cities charge a fee for some or all of their parking. All Winnipeg Transit park and ride lots are provided and managed by the private sector as shared use parking.

### Park and Ride Costs

The cost of constructing and operating park and ride is not insignificant. Based on current industry experience in Calgary an approximate cost to construct a surface or structured parking space is approximately \$15,000 and \$50,000 respectively, while an average weekday operating cost is about \$3 for surface parking and \$8 in a parkade. Table 3 provides a comparison of the capital and operating costs to serve 550 transit customers wishing to access a CTrain station via a surface parking lot, a parkade, or feeder bus service. Five hundred parking stalls are required to serve 550 customers.

Table 3  
Comparison of Costs – Peak Bus Service vs Parking Options

	Bus Service*	Surface Parking	Parking Structure
<b>Customers Served</b>	550	550	550
<b>Weekday Transit Trips</b>	1,100	1,100	1,100
<b>Capital Cost</b>	\$1.4 million	\$7.0 million	\$25.0 to \$40 million
<b>Annual Operating Cost</b>	\$0.7 million	\$0.4 million	\$0.9 million

\* 40 foot buses

The capital cost of purchasing three buses is considerably lower than the costs associated with either parking option while surface parking has the lowest annual operating costs. However, the investment in a bus and providing increased bus service enables the transport of passengers to the station and also within the community. On bus routes serving Anderson Station it was found that during weekday morning and afternoon peak periods about 60 percent of customers on these routes are travelling to destinations within the community (e.g. schools, shopping, work) rather than to the CTrain station. Having customers access the CTrain via bus is also beneficial since it reduces the costs of accommodating local area traffic and lower green house gas emissions.

### TOD Considerations

Realizing the sustainability goals inherent in Calgary Municipal Development Plan (MDP) will require creating more compact communities and redevelopment of existing areas for higher density and more diversified uses to take advantage of high quality transit services. Eleven current CTrain stations are located within areas identified for higher density development. Seven of these stations have large surface park and ride lots that occupy about 70 acres of land

## **A REVIEW OF CALGARY TRANSIT PARK AND RIDE**

---

which is potentially valued at hundreds of millions of dollars (including property and business taxes) if these sites can be redeveloped for TOD over time. Other stations also have the long term potential for TOD but may have a lower development priority.

For TOD to occur, a strategy is required to address park and ride stalls that may be displaced during redevelopment. The strategy options include some combination of:

- Use of shared parking provided by private developers on the site.
- Retaining some surface parking at the station and reduce TOD potential.
- Construction of replacement parking (surface or parkade) at another suitable station on the line.
- Construction of parkade structures at the TOD station to accommodate all or a portion of the displaced parking.
- Enhancing feeder bus service to serve displaced parking customers.

There are capital, operating and opportunity costs associated with retaining significant amounts of parking, particularly single use parking structures, within a TOD. Large surface parking lots are not consistent with the goals of the MDP. Structured parking within the TOD allows parking to occupy a much smaller footprint which can be developed to include other uses as part of the structure. The dual or shared use of parking facilities may also be an option depending on the land use. However, there are significant costs associated with this type of combined structure so this may not be an ideal method to replace surface park and ride stalls in all cases. The related traffic congestion and impacts of providing park and ride within a higher density, mixed use environment may detract from the desired outcome for a walkable, pedestrian friendly area.

Opportunity costs of retaining park and ride include the lost value of potential land sales, property and business taxes. As well, TOD both generates and attracts transit ridership which can be more than the number of transit trips generated from a similar area of land devoted to parking<sup>1</sup>. Transit trips attracted by TOD often occupy lesser used CTrain capacity for travel opposite to the peak direction.

If park and ride is displaced by TOD, it may be possible to provide replacement park and ride capacity (surface or parkade) at other locations – either elsewhere near the station or at another suitable station on the line. Some combination of replacement parking and improved feeder bus services in combination with a TOD staging plan should also be explored. The cost of providing replacement parking can be funded from the proceeds of TOD or from other sources. To determine the best approach, a site specific, market based study is required for each station or groups of stations along each CTrain line.

### **Charging for Parking**

Calgary Transit has been charging a fee for some or all park and ride spaces either in the form of a daily fee (2009 to 2011) or a monthly reservation system (since 2011). The current monthly reservation fee (\$85) for CTrain parking generates about \$4 million annually to offset about 40

---

<sup>1</sup> “Transit’s Enemy: Cheap Parking”, J. Schrieber & J. Weiland, Nelson Nygard for Transport Chicago, 2011.

## **A REVIEW OF CALGARY TRANSIT PARK AND RIDE**

---

percent of parking lot operating costs. The reservation system also helps to manage demand for parking and provides about 33 percent of parking lot users the certainty and convenience of a guaranteed place to park. All CTrain parking become available free of charge at 10 a.m. on weekdays, and is free all day on weekends and holidays.

With these provisions, it is important to note that the majority of CTrain parking lots and most BRT lots are full to capacity by 10 a.m. on weekdays.

The current monthly reserved parking system allows up to 50 percent of CTrain parking spaces to be reserved and replaces the previous daily \$3 fee. Table 9 in Attachment 1 shows that the demand for reserved parking is highest at stations near the ends of the CTrain lines with a waiting list for parking at these stations that exceeds the total number of available reserved spaces in the system. Calgary Transit has not offered either differential pricing (based on demand) or daily parking fees, as recommended by Council in 2012<sup>2</sup>, due to increasing interest in reserved parking (now stabilized) and lack of suitable software or technology (now being explored).

### **Customer Experience**

Park and ride provides benefits (convenience, travel time and cost savings) for a limited number of transit customers. However, it is clearly not practical to provide parking for everyone who wants a parking space. No matter how much parking is provided it will not be enough to satisfy the current demand, particularly when it is free. Those who have reserved parking benefit from a guaranteed space that is priced lower (even with a transit fare) than parking at their destination. Many customers, for whom reserved parking is not an option, often experience the frustration of not being able to find a parking space since the free parking spaces fill up very early in the morning. Figure 3 in Attachment 1 shows how customer arrival times in the reserved parking areas are later and more spread out than those seeking a free space. This pattern reduces peak loading on CTrains and reflects what are likely the true travel times if reserved parking was available for all customers.

A number of surveys have been conducted to learn more about park and ride customers and these are summarized in Appendix 5 of Attachment 1. Common responses have included:

- a desire for better connecting bus service,
- more parking,
- improved parking maintenance,
- a fee to discourage use,
- desire for daily parking
- suggestions to charge out of town users a higher fee.

The key findings from the most recent customer survey regarding CTrain access modes are illustrated on Figure 4 of Attachment 1. This survey found that most customers are happy with the modes that they currently use to access CTrain but improved bus service to stations was the most common suggestion for investment and most likely to result in a shift away from private auto use.

### **Reserved Parking Issues**

---

<sup>2</sup> TT2012-03 Calgary Transit Reserved Parking Program Update

Approval: Logan, Malcolm concurs with this report. Author: McKendrick, Neil  
City Clerk's: M.Carlio

## **A REVIEW OF CALGARY TRANSIT PARK AND RIDE**

---

Currently, reserved parking is in high demand at stations near the end of each CTrain line with over 7,000 people on a waiting list. Reserved parking is in much lower demand closer to the downtown and at most Northeast stations. This pattern of demand reflects a declining travel time advantage of park and ride closer to the downtown and a higher quality of connecting bus services in these areas. It is clear that a differential pricing strategy based on demand for reserved spaces could make reserved parking in these lots more attractive.

Customers searching for free parking often complain about vacant spaces in the reserved areas since many reserved customers arrive much later in the morning. As well, up to 20 percent of customers with reserved parking do not travel every day so their reserved space remains vacant until 10 am. A more effective and customer focused way of managing reserved parking is required to ensure that parking supply is better able to satisfy various needs.

Calgary Transit is working with the Calgary Parking Authority (CPA) to improve the monthly reservation system including the ability to make unused reserved spaces available for daily reservations. CPA provides enforcement of reserved parking but the 10 a.m. cut off for reserved parking in combination with limited video enforcement equipment limits the effectiveness of this program. CPA has suggested either a move to 100 percent reserved parking or the physical separation of the reserved parking areas to allow the use of fixed video cameras. This would enable more effective and efficient enforcement. These changes would require an investment in infrastructure or technology.

In response to the issues and opportunities presented in the preceding section the following section discusses potential changes to the way park and ride facilities are planned and operated.

### **Criteria for Park and Ride Location and Supply**

CTrain and major bus services are operated in many environments including expressways and arterial streets, commercial/industrial areas and residential districts of varying density. The nature of adjacent areas and their ability to successfully interface with parking is a critical consideration when planning new park and ride lots or expanding existing parking facilities. This will be most important when planning park and ride in conjunction with TOD. Too much parking will negatively impact the economic opportunities, viability and liveability of these areas. Too little parking can restrict transit ridership and result in spill-over parking pressures. Therefore, it is important to strike a balance that optimizes land use at CTrain stations.

It is suggested that an overall system goal of providing parking for about 15 percent for the CTrain system customers (similar to today) be adopted. The purpose of the goal is to signal the approximate allocation of resources to accommodate this access mode. However, it is also felt that the optimal supply and form of parking (parkade or surface) be determined for each station location to optimize TOD and park and ride opportunities. To determine the ideal or maximum parking supply, a number of criteria are suggested in Attachment 1. These criteria include:

- station service area population,
- projected ridership,
- distance from the downtown,
- potential for TOD,
- availability of land,



## **A REVIEW OF CALGARY TRANSIT PARK AND RIDE**

---

- cost of parking,
- quality of connecting bus service,
- availability of shared parking opportunities,
- character of the adjacent area
- road network capacities.

It is suggested that these studies be conducted for groups of stations along each CTrain line where TOD is a priority (notably Anderson Station). Significant work has already been done related to Anderson Station and a report is nearing completion. It is anticipated that the remainder of these studies could be completed by late 2017.

### **Future Planning and Management**

Effective parking management is required to make parking available for those customers who require parking in order to use transit and to ensure that park and ride spaces are fully used. It is also important that the majority of parking operating costs be paid by users and so as not to reduce the ability of Calgary Transit to operate core bus and CTrain services. Finally, more effective parking management is required to eliminate the frustration and uncertainty experienced by many current customers who are unsuccessful when seeking a space to park.

It is suggested that free, scramble parking be reduced or eliminated and replaced with a requirement that all park and ride spaces be reserved on a monthly basis. Pricing of the reserved monthly parking would be based on demand with lower, nominal or free pricing in lots where demand for reserved parking is lower and higher pricing (to a set maximum) where demand is highest. Combined with this would be the introduction of a daily reservation system for parking spaces that are not used by monthly parkers on a day to day basis. Daily reserved parking could be available via smart phone, computer management system or on site pay machines. With the transition to such a system, no customer would leave home without knowing that they had a guaranteed place to park. This would greatly improve customer satisfaction and reduce spill over parking. Increased revenues would be used to more fully cover parking operating costs (including capital investments), fund parking management systems including improved way finding, lighting, and improved feeder bus services.

### **Other Initiatives**

Additional items to consider include:

- explore a more comprehensive approach to City of Calgary parking by using surplus funds generated from other parking to offset park and ride operations.
- examine possible land use amendments to optimize parking and enable shared parking use within station areas.

### **Stakeholder Engagement, Research and Communication**

Representatives from The Calgary Parking Authority, Real Estate and Development Services, Urban Strategies, and Transportation Planning provided input to this report. Most members of Council were engaged to seek input regarding park and ride. A CTrain customer survey with 5,500 respondents was conducted in 2015 November.

### **Strategic Alignment**

## **A REVIEW OF CALGARY TRANSIT PARK AND RIDE**

---

Park and ride is provided at many CTrain stations and major bus stops in accordance with a policy approved in 1986. The redevelopment of land currently used for park and ride at some CTrain stations is being planned in accordance with the strategies identified in the Calgary Municipal Development Plan (MDP) and Calgary Transportation Plan (CTP) for achieving more intensive use of lands served by the Primary Transit Network (PTN). The RouteAhead suggested that a review of park and ride policies be conducted. To address these plans, a strategy for replacing park and ride capacity that is displaced by TOD development is required.

### **Social, Environmental, Economic (External)**

#### **Social**

Transit service enables Calgarians to achieve mobility. Park and ride provides one means of access to CTrain and major bus services. For some customers, park and ride is the only viable means of gaining access to these services, particularly when attractive feeder bus service is not available. The cost of providing park and ride should not detract from the ability of low income customers to use park and ride or to adequately fund core transit services.

#### **Environmental**

Park and ride is a means of intercepting and shortening auto trips thereby reducing green house gas emissions. Car drivers and passengers are attracted to park and ride for many reasons, including convenience and lower cost than driving and parking at their destination. Park and ride reduces roadway infrastructure requirements particularly on approaches to the downtown. However, park and ride also invites auto use by those who could otherwise use feeder bus or other modes to access higher order CTrain and bus services.

#### **Economic**

Redevelopment of existing surface park and ride lots is a means of maximizing the economic potential of land located at CTrain stations.

### **Financial Capacity**

No impacts from this report.

### **Risk Assessment**

Many transit customers depend on park and ride as a means of accessing CTrain and major bus services. However, the supply and operation of park and ride must follow a balanced approach using appropriate criteria that recognizes the various costs and opportunities at each location. At risk are the goals of delivering attractive and affordable transit services and achieving the goals of the MDP and CTP by facilitating development of more intensive and comprehensive land use at locations that support higher order transit services. Investments have been made to expand CTrain capacity (4 car trains) and improvements for all access modes are required to fill the new capacity.

## **A REVIEW OF CALGARY TRANSIT PARK AND RIDE**

---

### **REASONS FOR RECOMMENDATION:**

The recommendations in this report will provide clarity on the principles of providing and managing current and future park and ride facilities in conjunction with TOD planning at some CTrain stations, beginning with Anderson Station. The report also recommends a revised park and ride management system more fully utilize existing spaces and to eliminate the uncertainty and frustration experienced by some park and ride customers.

### **ATTACHMENT**

1. A Review of Calgary Transit Park and Ride