

APPENDIX 4BB

**TRANSPORTATION
REPORT, CITY OF
CALGARY**



2026 Olympic Bid – Initial Assessment of Transportation System

Prepared by The City of Calgary Transportation Department

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Executive Summary

Calgary is well positioned, from a transportation perspective, to host the 2026 Olympic Winter Games. Investments in transportation infrastructure around the city have provided a more robust network than was in place when the city last hosted the games in 1988. Stoney Trail provides a rapid connection from the Airport to the mountains and Winsport facilities. The LRT system has been expanded significantly to serve many parts of the city. 4-car trains allow the transit system to move greater volumes of people. The Green Line will offer connections to both North and Southeast Calgary and increases the transit capacity at Stampede Park. The transit fleet is also now fully accessible for those with mobility challenges. The Trans-Canada Highway / Bowfort Road interchange will be in place, increasing the access capacity at Winsport. Because of these investments, there is minimal need for new capital investments to host the Olympic Games.

The main objectives for the transportation system during the Olympics is to ensure a safe, reliable and accessible system that contributes to a successful event while continuing to serve the daily needs of citizens and businesses. The City of Calgary's role in the Olympics is to ensure that the public transit system is well functioning, auto demand is sufficiently managed, and other options, such as walking and cycling, are facilitated. This can be accomplished through several strategies:

- Promoting telework and carpooling to reduce daily travel demand.
- More frequent and extended transit service
- Using the event tickets also as a transit ticket
- Establishing satellite parking locations and providing direct service to Winsport and Mountain Venues
- Adding additional transit service to Winsport from the Red and Blue LRT lines, and downtown
- An Olympic lane network via Stoney Trail, Bow Trail and 11/12 Avenues that could become a permanent HOV setup in the long term.
- Establishing an Olympic Transport Group within The City to oversee transportation planning and operations.



These strategies will help make travel convenient, reduce daily travel demand, and facilitate venue access.

The concentration of activities at Stampede Park is ideal, from an operational perspective. The City is very experienced with managing travel around Stampede Park for activities such as the Calgary Stampede and Calgary Flames games. The travel demand for Stampede Park is expected to be similar to a busy day at the Calgary Stampede. The main difference is that travel may be more “peaked” as people arrive for events, which will be more concentrated in the evenings than other parts of the day. An initial assessment is that the projected volumes of travellers can be accommodated with existing infrastructure at this location. Thoughtful scheduling of event times, enhanced transit frequencies and supportive travel reduction strategies will further help operations at this location. Although some area capital improvements may be desirable none are required for the games, with the exception of the Green Line LRT, which is assumed to be in place prior to the games.

At Winsport, the area in and around the facility is much more developed than it was in 1988. This will require travel to this facility mostly by public transit. The interchange at the Trans-Canada Highway will be the main access point for public transit. The interchange should be able to handle traffic volumes but traffic management will likely be necessary, particularly if Olympic Lanes are used leading up to this access point. A west access, planned as part of the West Ring Road construction, will also be necessary as it is expected non-spectator traffic will use this access point. While it is quite possible the West Ring Road may be in place by 2026 the Winsport west access road will need to be in place regardless. It is expected that the current, 2-lane design will be able to handle charter bus and vehicle volumes into the west-side of the park.

The existing interchange at Trans-Canada Highway and Valley Ridge Blvd would not function well serving the anticipated travel volumes. This interchange is planned to be reconstructed as part of the West Ring Road construction but will need to be constructed in advance if the West Ring Road is not in place by 2026. Traffic management will also be necessary at this location to ensure residential and commercial access is maintained, as this access point is the only access point for the communities of Valley Ridge and Crestmont. Access on the south side of Winsport (top of hill) will not be permitted. This will mitigate traffic and parking issues in the surrounding communities. Traffic and parking management will be needed in the communities and businesses immediately north of Winsport, and a closure of 83 ST NW in this location may be needed to manage traffic in the area.



The events planned at The University of Calgary can be accommodated using existing infrastructure with minimal operational impacts. This is predicated on the University being on an extended break which would make parking available and background traffic less than typical.

The total capital costs for transportation infrastructure at the venues would total \$83 million. The Valley Ridge Blvd interchange improvements (\$80 million) are likely to be paid for by the Provincial Government but there may be a need to front-end funds to accelerate this project if built ahead of the West Ring Road. The City of Calgary has previously agreed to pay the costs of the west access road (\$3 million). Thus, there should be no incremental capital costs from the Olympic games. Supplemental infrastructure, such as an Airport LRT connection, can be explored in more detail if the bid is to further progress.

Operational costs in Calgary are expected to be approximately \$24.0 million. The main component of this cost is the supplementary transit service (50 000 additional hours), charter transit services as well as traffic management operations.



Overall Transportation Network Strategies

The main objectives for the transportation system during the Olympics is to ensure a safe, reliable and accessible system that contributes to a successful event while continuing to serve the daily needs of citizens and businesses. The City of Calgary's role in the Olympics is to ensure that the public transit system is well functioning, auto demand is sufficiently managed, and other options, such as walking and cycling, are facilitated. It is expected that, apart from post-secondary travel, that background traffic volumes will be typical, with Olympic travel added on to the network. The need to prioritize the movement of athletes and Olympic officials to and from venues is an additional requirement of the transportation system. Easy movement of visitors to Calgary is also a priority. Finally, ensuring the system is fully accessible is critical to host both the Olympic and Paralympic games.

A mix of strategies to reduce travel, encourage use of alternate travel modes, and facilitating Olympic priority travel can keep the system functioning adequately and achieve the objectives of the transportation system. Many of the strategies align with The City of Calgary's goals in the Calgary Transportation Plan, so their use during the Olympics has potential for longer-term benefits.

Specific strategies for the Olympics

Linking Transit to Event Ticketing

Using the event ticket also as access to Calgary Transit was a successful strategy that was used in 1988 to promote transit use to the venues. Many subsequent Olympic games have also made use of this strategy (such as Vancouver in 2010). In addition to making transit easier to use, the event ticket approach reduces delay from the need to purchase tickets on site and is less confusing for visitors to Calgary.

Emphasizing Teleworking

Teleworking can be a valuable way to reduce the daily travel on the system for Calgarians that are still at work. This approach was used extensively by companies during the 2013 Flood event when the transportation system was significantly disrupted from damage. While people may be reluctant to move completely to telework full-time, the temporary nature of the Olympic event may provide impetus for those who have not tried teleworking (or have not been set up for teleworking) to try it out. The goal would be to encourage workers to keep up teleworking habits after the games, even if it is only occasional.

Enhanced Base Transit Service

The frequency of bus service would be increased on key routes to venues, as well as extending service end times to accommodate spectators returning home. The LRT will be operated at peak frequency throughout the Olympics, and 24 hour service would be provided on all lines. Key local bus routes would also have more frequent and extended, late-night service. Calgary Transit Access would also provide additional ridership to eligible customers with disabilities. Security at transit facilities would also be enhanced, and attendants would be stationed along the line to provide customer service and assist with fare payment.

Satellite Park and Ride Lots

To accommodate travel to Winsport and Mountain Venue facilities, two temporary park-and-ride lots are proposed for consideration. The first would be at McMahon Stadium (1650 stalls), and the second would be at Mount Royal College (1400 stalls). The objective of these locations would be to collect passengers and conduct initial security activities prior to shuttling them to the event locations. These locations have been considered as they are central, use existing parking facilities and have existing transit terminals, and are expected to be available since the post-secondary facilities will be on an extended reading break. It is expected that these sites can function with minimal traffic management needed. The site availability would need to be confirmed with both institutes – if not available, other sites would need to be examined, or temporary facilities would need to be constructed (for example, around the Bearspaw works yard).

Dedicated Transit Services

In addition to dedicated service from the satellite parking lots, routes connecting Crowfoot LRT, Westbrook LRT and the downtown to Winsport are proposed. These would provide a rapid link to the Winsport facility for spectators and workers.

Olympic Lane Network

The main intention of the Olympic Lane Network is to ensure that athletes and officials can travel from the athlete's village to the venues reliably and in a timely manner. Linking this network to The City's planned HOV network is valuable as it offers an opportunity to trial portions of the network. With the athlete's village planned for Stampede Park, the main destinations will be Winsport and the University of Calgary.



For Winsport, an Olympic Lane network that aligns with Calgary's future HOV network, is recommended to be set up as follows:

- Leaving downtown, using 11th and 12th Avenues SW
- Continuing west on Bow Trail SW until the West Ring Road
- On the West Ring Road, until the point of access (Likely the Valley Ridge Blvd interchange access).
- If the West Ring Road is not complete, Sarcee Trail could be used for Olympic lanes rather than the West Ring Road.

While the travel volumes to the University of Calgary will be much less than at Winsport, Olympic Lanes could be extended north at Bow Trail along Crowchild Trail until the University is reached.

Olympic Transport Group

Part of the success of the 1988 Olympic transportation system was the formation of an Olympic Transport Group, which was tasked with the planning, implementation and management of the public transportation system for the Olympics. This group was housed under The City of Calgary Transportation Department and lead by dedicated senior staff who were able to facilitate coordination of both internal and external parties to ensure the system operated successfully. In the event of a successful bid, The City would be able to assign resources to ensure planning and operational needs are addressed early on to ensure a successful Olympics. Reuse of this approach is recommended.



Supplemental Network Infrastructure

While the existing, broader transportation network should be able to handle the anticipated demand, additional infrastructure improvements may be desired to increase service across the system. The following improvements have been preliminarily identified and could be explored as part of further investigation in preparation of a bid.

Project	Description and benefits (relative to Olympic activities)	Cost Estimate
Airport LRT Connection	A direct LRT connection from the Calgary International Airport. Potential options currently under exploration include a service between the Green and Blue Line LRT, or a spur connection off either the Green Line or Blue Line LRT.	\$300-400 million (NE LRT connection) Other options TBD
Bow Trail Improvements	Widening Bow Trail from 5 to 6 Lanes (Additional EB Lane) between Sarcee Trail and 37 ST SW. This improvement would facilitate the Olympic Lanes Network and would facilitate the longer-term HOV network.	\$77 million

Venue Analysis

Stampede Park

Stampede Park is planned to be the epicentre of multiple events over the course of the Olympic Games. This means that there will be significant, ongoing travel demand to and from the site over the course of the games. Depending on the nature of scheduling, it is possible that several events may be beginning or ending at the same time, which could lead to high concentrations of travellers at peak times, particularly the end of the evening.

The biggest advantage of using Stampede Park is that The City regularly manages events such as the Calgary Stampede from this location. As such, procedures and practices to manage large volumes of passengers, provide sufficient transit and road services, and mitigate parking spillover are well established. The daily volumes in and out of the site during the Olympics will be similar to the busiest Stampede days (over 150,000 people) but will be potentially more peaked over the course of the day due to the events nature of the Olympic Games. The level of security at the Olympics is likely to be higher than at the Stampede and this could slow down entrance into the venue.

There will likely be a need for some local traffic management north of Stampede Park so this has been included as part of the costing at the end of the report.

At a Glance

Spectator and Workforce Travel (Includes 30% of Marketing Partner Travel)

Anticipated Peak Hour Demand	Travel Mode (%)	1988	2026 (Target)
Entering	LRT	49	56
30 000	Express Bus	7	0
Leaving	Charter Bus	16	16
34 000	Auto	25	23
	Walk/Bike/Taxi	3	5

Key Network Constraints and Assumptions

- The Stampede Park grounds will be fully utilized by the Olympic events and thus no parking will be available on-site for the public.
- The lands north of the Stampede will likely be more developed by 2026, reducing the available parking.

- The maximum throughput of each LRT line, per direction is 16 000 riders. This assumes 4-car trains at a 3-minute frequency.
- There will be lane closures reducing the capacity of northbound Macleod Trail adjacent to the Stampede
- 12th Avenue will be closed between Macleod Trail and the Elbow River.
- 11th Avenue will be closed between Olympic Way and the Elbow River. Local access between Macleod Trail and Olympic Way will be limited.

Approach to Travel Options

1988 Approach	2026 Approach	Difference
<p>Rely on the LRT as the primary method of travel to and from the park. This was done via the Red Line at Victoria Park and Erlton stations. The ‘C’ track was constructed to facilitate additional direct connections to the Blue Line.</p>	<p>Rely on the LRT as the primary method of travel to and from the park. The Green Line will provide additional LRT capacity above and beyond the Red Line.</p> <p>Implement a separate shuttle service to downtown directly to the Blue Line to reduce demand on the Red and Green Lines for transferring trips.</p>	<p>In 1988, the Saddledome and Corral were the only competition venues on site, so the demand was less significant than what is proposed for 2026.</p> <p>The capacity of the LRT to serve the demand will depend on the distribution of travel to different parts of the city. A more refined analysis will be needed at subsequent stages.</p>
<p>Use Express Buses from 3 city-wide parking lots to provide direct venue connections.</p>	<p>No express bus service planned</p>	<p>The LRT network, including the Green Line is much more extensive than was in place in 1988 (two of the three lots are now LRT stations).</p>
<p>Auto spectators could park in surrounding private parking, though this approach was not emphasized. No special measures to move auto traffic.</p>	<p>Auto spectators could park in surrounding private parking, though this approach would not be emphasized. No special measures to move auto traffic.</p> <p>The Blue Line shuttle could also facilitate downtown travel for those who have parked downtown.</p>	<p>The private parking supply in the CBD is around 49,000 spaces. Even though parking immediately adjacent to Stampede Park will be less, downtown parking could help alleviate congestion on transit.</p>
<p>Walking and Cycling had no particular emphasis</p>	<p>More emphasis on walking and cycling to Stampede Park</p>	<p>While walking and cycling will still be limited, there is an</p>

		<p>opportunity to increase the use of these options by leveraging improved infrastructure in the area, such as the Cycle Track network and CPR underpass improvements. Winter maintenance should be emphasized in these areas during the games.</p>
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Planned Area Infrastructure (not tied to the Olympic Bid)

Project	Description	Completion
Green Line LRT	A new LRT line from downtown to Stampede Park with other extents to be determined. The alignment will be through the Beltline community north of Stampede Park. It is anticipated that there will be two LRT stations on the Green Line in the vicinity of Stampede Park.	2025 (est)
9 Avenue (Inglewood) Bridge Replacement	Replacement of the existing 3-lane bridge with a new bridge. This would also include realignment of the 7 ST SE intersection to the west of the bridge.	2019
17 th Avenue SE extension into Stampede Park	This project would be funded by CMLC to provide at grade access for vehicles and pedestrians into Stampede Park	TBD

Critical Infrastructure

For the Stampede Park venue, there is no critical requirement for infrastructure. This assumes that the Green Line is in place. If the Green Line is not in place, other strategies will be necessary to handle the anticipated transit volumes.

Supplemental Infrastructure

While the venue may function without the following, the following infrastructure has the potential to improve the transportation system in the vicinity of the venue.

Project	Description and benefits (relative to Olympic activities)	Cost Estimate
LRT grade	Vertical separation of the LRT line around 25 Avenue to	\$94-\$130

<p>separation at 25 Avenue.</p>	<p>eliminate vehicle / LRT interaction. Concepts are still being explored with a report back to City Council Q1 2018. This option is being explored rather than constructing an interchange at Macleod Trail / 25 Avenue. Realignment of 25 Avenue could be part of the solution.</p>	<p>million</p>
<p>25 Avenue interchange at Blackfoot Trail</p>	<p>This would directly connect Blackfoot Trail to 25 Avenue SE and would include a grade separation across the CP rail line to the west. The main benefit of this connection is to facilitate the movement of buses in/out of Stampede Park and eliminate the rail crossing, which could be a reliability risk.</p>	<p>\$100 million or greater</p>



University of Calgary

The University of Calgary is anticipated to be the home of Speed Skating events. It is anticipated that an extended reading week will be in place during the Olympics. This will make parking capacity available for Olympic use.

The intensity of activity at the University will be much less than it was in 1988. McMahon stadium and Father David Bauer Arena are not anticipated to be venue locations. This largely makes the existing transportation system sufficient to handle the expected demand. No traffic management activities are expected for this venue, though an Olympic Lane network from Downtown could be provided if deemed necessary.

At a Glance

Spectator and Workforce Travel (Includes 30% of Marketing Partner Travel)

Anticipated Peak Hour Demand	Travel Mode (%)	2026 (Target)
Entering	LRT	50
3 500	Local Transit	7
Leaving	Auto	40
4 700	Walk/Bike/Taxi	3

Key Network Constraints and Assumptions

- The University will be on extended reading week so regular travel will be significantly reduced
- University parking will be available for events. The existing parking would have enough capacity to handle the demand.

Approach to Travel Options

1988 Approach	2026 Approach	Difference
Rely on the LRT as the primary method of travel for transit access. Supplement with local bus service.	Rely on the LRT as the primary method of travel to and from the park. Supplement with local bus service.	University was the terminus LRT station in 1988. Most of the NW feeder network would have provided direct service to the University – these routes now connect to the LRT further to the west, so

		LRT use will be relatively higher.
Make University parking lots available for spectator traffic	Make University parking lots available for spectator traffic	None

Planned Area Infrastructure (not tied to the Olympic Bid)

Project	Description	Completion
NW Hub Transit Project	New transit infrastructure to provide improved connections	TBD
North Crosstown BRT	A new BRT route with enhanced infrastructure connecting the University with NE Calgary via 16 Avenue N	2018
Crowchild Trail Short-Term Improvements	Enhancements to Crowchild Trail at the Bow River crossing and surrounding areas to add auto capacity.	2019

Critical Infrastructure

No Critical Infrastructure improvements have been identified for this facility

Supplemental Infrastructure

While the venue may function without the following, the following infrastructure has the potential to improve the transportation system in the vicinity of the venue.

Project	Description and benefits (relative to Olympic activities)	Cost Estimate
Crowchild Trail Medium and Long Term Improvements	Completion of the ultimate improvements to the Crowchild Trail Corridor. This would include grade separation of 24 th and 23 rd Avenues near the University.	\$1.55 billion



Winsport

Winsport will be home to several Olympic events. These include sliding activities (luge, skeleton, bobsleigh) as well as snowboarding and freestyle skiing (big air). Ski jumping is not expected to be held at Winsport; this should reduce the intensity of events at this venue.

The area surrounding Winsport is much different than it was in 1988. In 1988, most of the land around the venue was vacant. A 10,000 stall parking lot at the top of the hill was the main access for spectators, supplemented with express bus services. About 50% of the trips to the venue were by car. Parking on the Winsport site has also developed over time as several new buildings have been constructed over the years.

For the 2026 games, spectator access will be completely served by public transit. This will be a mix of dedicated express service from two satellite parking lots, enhanced existing transit services and temporary routes to Winsport from Crowfoot LRT, Westbrook LRT and downtown. The public transit access will be via the main entrance at Canada Olympic Drive. It may be desirable to also provide an express service for spectators from mountain locations to access Winsport. A shuttle from the Nakoda parking lot to Winsport could be explored.

Athletes, officials and other VIPs will need to use bespoke Games transportation systems (e.g. mix of buses and cars) that will use a separate, to-be-constructed access, on the west side of the park. Auto access will be limited to officials that have access to the west parking lot (825 stalls), with all others using charter bus services.

Traffic management will be needed at this location. Adequate function of both the Bowfort Road interchange and the Valley Ridge Blvd interchange will be needed and staff may be required to direct traffic. Parking management will likely be needed in the areas to the north (Greenbriar) and east (Medicine Hills) of the venue (both currently under development). 83 ST NW may need to be closed or made transit-only to adequately address traffic intrusion through the Bowness community.

At a Glance

Spectator and Workforce Travel (Includes 30% of Marketing Partner Travel)

Anticipated Peak Hour Demand (Spectator + Workforce Only)	Travel Mode (%)	1988	2026 (Target)
Entering	Express Bus	37	80
12 000	Charter Bus	13	15
Leaving	Auto	50	4

16 000	Walk/Bike/Taxi	0	1
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Key Network Constraints and Assumptions

- The West Ring Road could be in place, but this is not a network requirement for the venue to function adequately
- There will be no access of any sort to the south of the venue (top of the hill)
- Bus terminal space will need to be enhanced to handle the anticipated bus volumes. This terminal would be accessed from the Canada Olympic Drive entrance.

Approach to Travel Options

1988 Approach	2026 Approach	Difference
Construct a temporary, 10,000 stall parking site at the top of the hill for spectator parking. Use lane reversals on Old Banff Coach Road to facilitate peak travel.	Spectator parking will not be available. Spectators must use transit or other means of access to the venue.	There is no longer land to construct the parking facility that was in place in 1988 (is now the Cougar Ridge community).
Provide express bus service to the venue from satellite parking locations	Provide express bus service to the venue from satellite parking locations Enhance local transit service to the venue Establish a new Crowfoot-Westbrook LRT route	This strategy will be critical to sufficiently get spectators and workers into and out of the facility adequately.

Planned Area Infrastructure (not tied to the Olympic Bid)

Project	Description	Completion
West Ring Road	A new freeway between Glenmore Trail and Trans-Canada Highway. This link would complete the Calgary Ring Road. Currently, this link is expected to be constructed after the Southwest Ring Road but no timeline has been confirmed and funding is dependent on the Government of Alberta	TBD
Valley Ridge Blvd Interchange Upgrades	Redesign of the Valley Ridge Blvd / Trans-Canada Highway Interchange. This project will improve capacity and safety of the existing interchange. It is anticipated to be completed as part of the West Ring Road work	TBD

West Access from Winsport	A 2-lane access road to be constructed connecting Winsport to lands west of the West Ring Road. The main intention of the link is to maintain access to lands that would otherwise be isolated from Ring Road construction. The City of Calgary would fund this improvement at the time of Ring Road construction.	TBD
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Critical Infrastructure

The west access road and Valley Ridge Blvd interchange upgrades are critical infrastructure for the venue to function adequately. If the West Ring Road was not complete prior to the games, it would be necessary to advance these improvements. There may need to be front-ending of funding for these projects for this to occur. It is possible that there may be other options to connect temporarily to the ring road to provide direct access but these have not yet been explored.

Supplemental Infrastructure

With the planned infrastructure from the West Ring Road, there are no supplemental pieces of infrastructure identified in the area that would be needed.



Transportation Budget Requirements

The majority of transportation expenses for the 2026 Olympic Games would be operating costs for enhanced services for customers. The 1988 Olympic Games budget serves as a guide for this exercise. Fortunately, there are several costs in 1988 that are no longer necessary due to technological improvements (e.g. radio systems, telephone operators) or previous infrastructure investments (e.g. park and ride facilities). For this analysis, transportation operations at mountain venues have been excluded but charter service from Calgary to the mountains has been estimated based on the 1988 budget.

Operating Requirements

Item	Budget in 2017\$
Enhanced LRT Service (12,000 additional hrs)	5,100,000
Enhanced Bus Services by Calgary Transit (38,000 additional hrs) Includes: More frequent regular services, venue express bus service and new services to Winsport	5,700,000
Enhanced Calgary Transit Access Trips (20,000 additional trips)	600,000
Contract bus services by others to provide additional venue services (e.g. Mountain Venues)	5,800,000
City staff to conduct Olympic transportation planning (Olympic Transportation Group)	500,000
Customer service initiatives at park and ride locations (e.g. tows, battery boosts)	100,000
Parking attendants at MRU and UOC satellite lots	275,000
Advertising of Olympic public transit system services	715,000
Calgary Transit staff to provide extra customer service (web, phone, station attendants, park and ride, etc.)	1,000,000
Calgary Transit additional transit safety and security staffing	2,000,000
Calgary Transit contingency for unforeseen costs, event rescheduling, etc (10%)	1,440,000
Vehicle / equipment rentals	95,000
Traffic and parking management at/around Winsport	45,000
Local traffic management in Victoria Park	5,000
Signage and traffic management at satellite parking locations	45,000
Provision of Olympic Lanes	200,000
TOTAL	23,620,000