



Centre City Mobility Plan

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Part 1 – Introduction

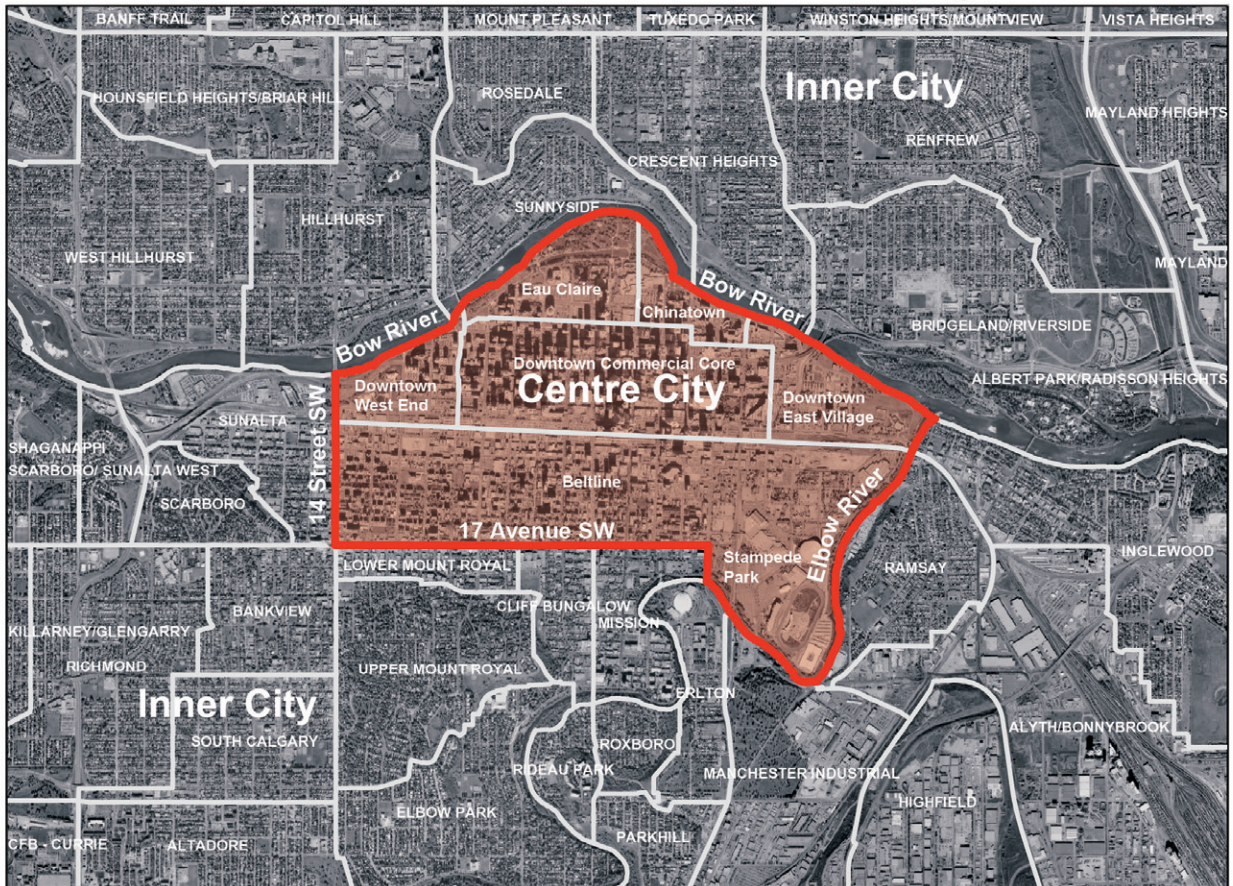
The objective of this plan is to provide a balanced and co-ordinated long-term plan that provides for pedestrians, cyclists, transit customers, goods movement and vehicles in the Centre City. The strategy is to establish a mobility network with recently approved policy, including the Centre City Plan (2007) and the Calgary Transportation Plan (2009), which replaced the Downtown Street Network Study (1987).

The Centre City Mobility Plan implements concepts from the Centre City Plan (CCP) and is one of the recommended actions from the CCP report, Section 6 - Movement and Access System. The action was

to “Develop a Centre City Transportation Plan to review existing policies and plans in order to support the vision of the Centre City Plan and implement the Green Transportation and Public Realm Hierarchy.” This included a review of the role and function of the rights-of-way within the Centre City. This Plan develops the vision in the Centre City Plan for the transportation network. It will provide guidance for land use/development applications and transportation corridor re-development in the Centre City.

Map 1

Centre City Plan Area



1.1 Background

For many years, The City of Calgary has placed emphasis on supporting alternative (to the single-occupant automobile) modes of travel to and from Calgary's Centre City and has been successful in achieving a higher than 45 per cent modal split to public transit. The Centre City is Calgary's most important economic generator and convergence point for Calgarians who use a variety of modes to travel to/from and within this destination. However, Centre City is constrained by very high density, relatively new development and a well established road network. These limitations provide challenges to dealing with the mobility of Calgarians in the downtown area.

Previous direction on the downtown street network was provided by the 1987 Downtown Street Network Study. Since then, many updated policies and plans have been prepared/created, and the 1987 Downtown Street Network Study no longer adequately reflects the recent policy direction for the Centre City.

The study area for the Centre City Mobility Plan is consistent with the 2007 Centre City Plan. The boundaries include the Elbow River to the east, the Bow River to the north, 14th Street to the west and 17th Avenue to the south. See Map 1 for study boundaries.

1.2 Scope

This Plan updates the street classifications for the Centre City and responds to the vision of the Centre City Plan for the transportation network. It also identifies the Pedestrian Network, the Bicycle Network and the Transit Network for the Centre City. It provides guiding principles for accommodating all travel modes in the Centre City. It does not alter the Bylaw setbacks and/or ultimate property lines. Wherever possible, existing curb lines will be maintained.

Preparation of the Plan has included a review of relevant plans and policies (see Sections 1.3, 2.1, and 2.2), a review of the role and function of all Centre City road rights-of-way, and a review and identification of existing infrastructure, property limits and other constraining factors.

1.3 Previous studies

Since 1987, the Downtown Street Network Plan has provided guidance for streets within the downtown. The 1987 Plan was the key reference document used to assess and approve development applications in the downtown, as they relate to establishing the curb line, pavement width, sidewalks and rights-of-way (ROW). The 1987 report classified most of the streets within the Centre City limits (those north of 12th Avenue) as primary, secondary or local roads, and included four associated corridor cross sections with design dimensions within rights-of-way. That study focused on the development of a preferred road and transit system and basic operation of the street systems, without specific emphasis on alternative modes of mobility aside from transit. Since the adoption of that study, there has been a greater emphasis on urban design and streetscape character of corridor land use. The information of the 1987 Plan is insufficient to properly plan for and accommodate development that delivers the enhanced urban design elements and associated multi-modal mobility features that are desired.



Part Two

Supporting policy

Part 2 – Supporting policy

2.1 Centre City Plan

The Centre City Plan, adopted by Council in 2007, identified fundamental principles relevant to travel modes in the Centre City. This includes the “Green Transportation and Public Realm Hierarchy and Design” (Section 7.7). The basis of this hierarchy, and subsequently one of the main goals of the Centre City Mobility Plan, is to improve facilities for pedestrians, cyclists and transit users.

The Centre City Plan also identified pedestrian, bicycle and transit networks for the Centre City. The Centre City Mobility Plan used these networks as a base and made adjustments based on further analysis, as well as reflecting the roadway classifications as defined in the Calgary Transportation Plan. These networks are shown in Figures 2, 3 and 4 beginning on page 21. The Centre City Plan continues to serve as the guiding document for urban design of the public realm in the Centre City.

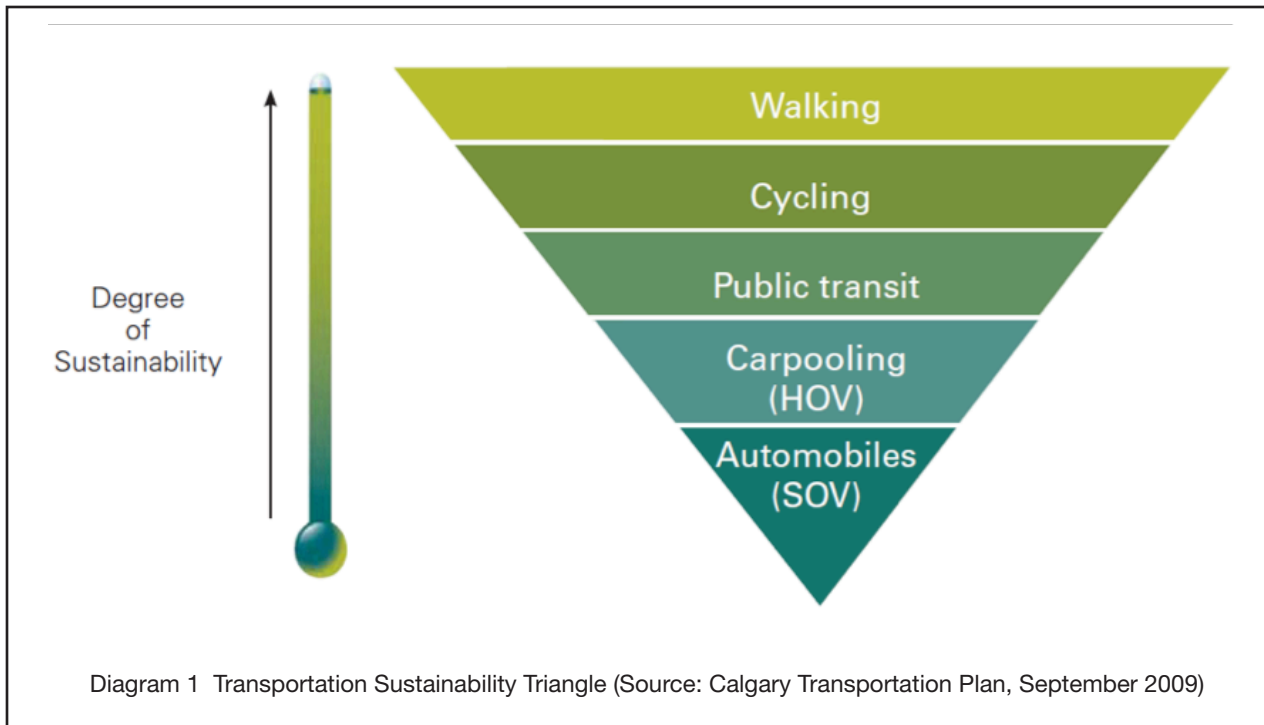


2.2 Calgary Transportation Plan

The Calgary Transportation Plan, adopted by Council in 2009, identified principles and policies that encourage placing a higher priority on more sustainable modes of travel and the needs of pedestrians and cyclists in activity centres, such as the Centre City. Refer to Diagram 1 for the Transportation Sustainability Triangle.

The Centre City Mobility Plan also reflects the goals, policies and objectives in the Calgary Transportation Plan (CTP), approved in 2009. The CTP goals, including “Enabling public transit, walking and cycling as the preferred mobility choices for more people” and “Advancing environmental sustainability,” are reflected in the Centre City Mobility Plan. Specific policies and associated objectives of CTP, e.g., Transportation Choice, Walking and Cycling, Transit, Complete Streets, Goods Movement, are also reflected in this Plan.

The street classifications used in the Centre City Mobility Plan are consistent with CTP and include arterials, urban boulevards and residential streets.





Part Three

Mobility networks

Part 3 – Mobility networks

3.1 Street network

The Centre City updated street classifications are shown in Figure 1 on page 20. The classifications provide a hierarchy of streets for Calgary's Centre City and reflect the street palette identified in the Calgary Transportation Plan. The three street classifications identified for the Centre City are arterials, urban boulevards and residential streets.

The Street Network shown in Figure 1 complements urban design guidelines that reflect the intended streetscape character defined in the Centre City Plan (indicated in Figure 6 on page 25) and replaces Map 1 in the Centre City Plan. The Centre City Plan, Map 1, will be amended to reflect this. While the street classifications described below define the function of

each street within the transportation network for all transportation modes and brings the classifications of the streets in the Centre City up to date with the Calgary Transportation Plan (2009), the urban design characteristics of each roadway are described and defined in the Centre City Plan, Section 7.7.1 (see Figure 7 for a schematic of this relationship). The Centre City Plan identified linkage types, i.e., streetscape character, for each street in the Centre City, as shown in Figure 6 on page 25. Table 1 below identifies each street by classification (arterial, urban boulevard, residential) and its corresponding linkage type/streetscape character. The Centre City Plan continues to serve as the guiding document for urban design of the public realm in the Centre City, and corridor design projects will refer to the principles outlined in Section 7.7.1 of the Centre City Plan.

Table 1

Street classification (Centre City Mobility Plan) – speaks to function of street	Linkage type/streetscape character (Centre City Plan) – speaks to urban design characteristics of street, refer to Centre City Plan Section 7.7.1 (2007)
Arterials	
4th Avenue, 5th Avenue, 6th Avenue	Commercial streets
9th Avenue (14th Street S.W. to 1st Street S.E.)	Boulevard
11th Avenue (14th Street S.W. to 2nd Street S.W.)	Commercial street
12th Avenue (14th Street S.W. to 2nd Street S.W.)	Commercial street
9th Street (4th Avenue S.W. to 7th Avenue S.W.)	Transit/residential streets
Urban boulevards	
Riverfront Avenue (Centre Street to 4th Street S.E.)	Green street
3rd Avenue (6th Street S.W. to 1st Street S.E.)	Residential street, commercial street
8th Avenue S.W. (11th Street to 3rd Street)	High street 2
9th Avenue S.E. (1st Street to Elbow River), 10th Avenue	Boulevard
11th Avenue (2nd Street S.W. to Olympic Way S.E.)	Commercial street
12th Avenue (2nd Street S.W. to Elbow River)	Commercial street, green street (east of MacLeod Trail)
17th Avenue	High street 1
14th Street	Boulevard
11th Street	Green street (4th Avenue to 13th Avenue), commercial street (south of 13th Avenue)
8th Street S.W. (4th Avenue to 17th Avenue)	Commercial street

5th Street S.W. (4th Avenue to 17th Avenue)	Commercial street (4th Avenue to 9th Avenue), residential street (south of 10th Avenue)
4th Street S.W. (4th Avenue to 17th Avenue)	Commercial street
2nd Street S.W. (4th Avenue to 9th Avenue)	Commercial street (4th Avenue to 7th Avenue), high street (7th Avenue to 9th Avenue)
1st Street S.W. (3rd Avenue to 17th Avenue)	Commercial street (4th Avenue to 8th Avenue), high street (8th Avenue to 17th Avenue)
Centre Street	Commercial street (north of 9th Avenue), green street (south of 10th Avenue)
1st Street S.E., MacLeod Trail S.E.	Boulevards
3rd Street S.E.	Commercial Street (north of 9th Avenue), residential street (south of 10th Avenue)
Olympic Way/4th Street S.E.	Commercial street (north of 6th Avenue), high street 1 (south of 6th Avenue)
Residential	
1st Street S.W. (north of 4th Avenue)	Residential streets
2nd Street S.W. (north of 4th Avenue, south of 10th Avenue)	
6th Street S.W. (north of 4th Avenue, south of 10th Avenue)	
7th Street S.W. (north of 4th Avenue, south of 10th Avenue)	
9th Street S.W. (south of 7th Avenue)	
10th Street S.W., 12th Street S.W., 13th Street S.W.	
5th Street S.E.	
6th Street S.E. (south of 10th Avenue)	
Eau Claire Avenue	
1st Avenue S.W., Daqing Avenue, 2nd Avenue S.W.	
3rd Avenue S.W. (8th Street to 6th Street)	
6th Avenue, 7th Avenue, 8th Avenue (east of 4th Street S.E)	
11th Avenue S.E. (east of Olympic Way)	
14th Avenue S., 15th Avenue S., 16th Avenue S.	
13th Avenue S.	Green streets
6th Street S.E. (north of 9th Avenue)	
Riverfront Avenue (west of Centre Street)	
8th Street S.W. (north of 4th Avenue)	Commercial streets

3.1.1 Arterial

An arterial provides a high quality environment for all modes of transportation, with varying degrees of interaction with adjacent land uses, and is composed of high volume/lower operating speed traffic movement. This street serves mixed land uses and gives highest priority to goods, vehicle and transit movement.

Arterials in the Centre City include Fourth Avenue, Fifth Avenue, Sixth Avenue and portions of Ninth Avenue, 11th Avenue, 12th Avenue and Ninth Street S.W. These roadways carry much of the transit, private vehicle and goods movement traffic in the Centre City, and this will continue to be the case. However, many of these routes also serve as pedestrian corridors, as defined in Figure 2, and need to provide quality facilities for pedestrians as well.

3.1.2 Urban boulevard

The urban boulevard standard gives the highest priority to walking, cycling and transit, yet accommodates reasonably high volumes of goods and vehicle traffic. Urban boulevards provide a higher degree of interaction with adjacent land uses than arterial streets. They are characterized by lower operating speeds, a mixture of land uses and balanced movement through areas by providing regular and convenient access to fronting properties.

Many of the north-south streets in the Centre City area are classified as urban boulevards in this Plan. While many of the streets designated as urban boulevards carry high volumes of traffic, they also serve as important pedestrian, bicycle and transit corridors.

3.1.3 Residential

This standard gives the highest priority to pedestrians, bicycles and local access for passenger vehicles. Land uses can include both commercial and residential developments, so access to fronting properties is the primary consideration. These streets generally have narrower rights-of-way than many boulevards and arterial streets within the Centre City.

The designated residential streets in the Centre City are mostly located south of 12th Avenue S., north of Fourth Avenue S. and in the East Village area.

3.1.4 Goods movement

The Calgary Transportation Plan recognizes the important economic role of goods movement and provides a safe, efficient and connected goods movement network that supports a variety of key locations throughout the city. Within the Centre City, this principle is also recognized. Appropriate goods movement facilities, allowing for safe and reliable transportation of goods, are provided as part of the street network. Access for commercial vehicle movements will continue to be accommodated within the Centre City.

3.1.5 Setbacks and rights-of-way

The Land Use Bylaw 1P2007 designates Bylaw/right-of-way setbacks required for several of the transportation corridors in the Centre City. This Plan worked within the existing road right-of-way and maintains the same Land Use Bylaw 1P2007 right-of-way setback requirements.

No adjustments to the Land Use Bylaw 1P2007 right-of-way setbacks are proposed as part of this plan.

Allocation of right-of-way space for different users will need to be balanced based on context and need. Many elements will be considered, including pedestrian facilities, bicycle facilities, transit, goods movement, vehicle travel, trees and on-street parking. Appropriate allocation for all users may require changes to the roadway space in some cases. However, technical criteria, including utility alignment requirements, minimum acceptable standard widths for shared lanes, minimum width for operation of current style buses, Fire and Emergency Medical Services (EMS) minimum width requirements, must be met.

No additional property/rights-of-way are required as a result of this plan.

3.1.6 Parking

The City of Calgary is currently developing a Downtown Parking Strategy. Overall parking plan will be guided by the Downtown Parking Strategy and is not included in this report.

3.2 Pedestrian Network

The Pedestrian Network is shown in Figure 2 on page 21. All streets in the Centre City provide pedestrian facilities and access (e.g., sidewalks), and pedestrian accommodation needs to be considered at every location in the Centre City. The pedestrian network identified in this Plan follows from the policies identified in the Centre City Plan, Section 6.1. The Centre City Plan, Section 6.1, listed ten policies relating to the sidewalks and pathways comprising the Pedestrian Network, including connectivity, high quality and consistent design, and consideration for elements like tree planting. Concept 21 will be amended in the Centre City Plan to reflect the updated Pedestrian Network.

The pedestrian corridors identified in the Pedestrian Network are defined as high quality routes that are interconnected, provide quality facilities for pedestrian users and provide accessibility among the different areas of the Centre City. Consideration must be made for the basic needs of all users, which include the connectivity and convenience of facilities, space to travel, routes free of obstructions, and the conveyance of a general character and feeling of security and safety.

3.2.1 Pedestrian facilities – sidewalks and boulevards

Sidewalks within the Centre City must provide a comfortable environment for pedestrians and be free of obstructions wherever possible. The City of Calgary's Pedestrian Policy and Needs Report outlines requirements for high quality pedestrian environments. The Centre City Mobility Plan will use the report as a guide in developing future pedestrian corridor improvements to augment the policies outlined in the Centre City Plan, while recognizing the inherent limitations of space when working in the Centre City environment.

Some key elements include:

- Maintaining minimum clear (unobstructed) and continuous sidewalk widths as per the Pedestrian Policy and Needs Report, particularly in areas near high-pedestrian generators, lower-vehicle volume streets and high-use transit corridors.

- The pedestrian movement/clear throughway zone will have the highest priority when assigning boulevard space.
- Maintaining maximum 7.5 m curb radii (6.0 m in residential-only areas), unless there is a demonstrated need to increase radii beyond the maximum.
- Public realm elements will have a strong influence on the character of the new Centre City and will function as primary elements of area linkages. City-identified components (plantings, street furniture, etc.), unique to various Centre City precincts, will be an integrated piece when issuing guidance to developers and in Centre City corridor improvement projects.

Appropriate priority must be established for maintenance, snow clearing and repairs to ensure the facilities remain available and usable.



3.3 Bicycle Network

The Bicycle Network is shown in Figure 3 on page 22. The bicycle network identified in this Plan also follows from the Centre City Plan, Section 6.2. However, adjustments were made following closer evaluation of the most suitable routes for bicycles. A bicycle network is important in further establishing bicycle travel as a viable mode of travel to/from and within the Centre City. Concept 23 will be amended in the Centre City Plan to reflect the updated Bicycle Network.

The routes identified define a connected bicycle network on selected streets in the Centre City. The bicycle network will include designated bicycle facilities and will use The City of Calgary's Bicycle Policy and Design Report as a guideline. Bicycle friendly designs include shared lanes, bicycle lanes and/or separated pathway facilities.

When developing new facilities, proper consideration for the basic needs of users must include space to ride, smooth surfaces clear of obstacles, connected cycling system, continuity, parking and other amenities at destinations, character and feeling of security and safety, and education and enforcement of operations and regulations. This would include planning for bike stations at strategic locations, as discussed in the Centre City Plan, Section 6.2.

As with pedestrian facilities, appropriate priority must be established for maintenance, snow clearing and repairs to ensure the facilities remain available and usable.



3.4 Transit Network

The Centre City Plan, section 6.3, outlined 11 Policies for the Transit Network in the Centre City. As time goes on, the Transit network, routes and operation are evolving. The Calgary Transportation Plan was developed after the Centre City Plan, and the resulting Transit Network as shown in Figure 4 on page 23 reflects the Downtown Transit Network identified in the CTP. Concept 24 will be amended in the Centre City Plan to reflect the updated Transit Network.

Transit is a vital travel mode for the Centre City. Current Calgary Transit service in Centre City transports over 78,000 people during a typical three-hour peak period on weekdays, on more than 500 buses and 138 CTrains. During a typical weekday peak hour period, over 200 buses per hour enter and travel through the Centre City. Current bus volumes on some links exceed 120 buses per hour. Over 45 percent of all downtown employees use transit to travel to and from their jobs, while other transit users travel through the downtown to reach destinations beyond the downtown.

In the future, in addition to West LRT, two more LRT lines are proposed to be constructed to serve Southeast and North Central Calgary with Centre City as the central hub (see Figure 5) on page 24.

To accommodate increasing demand and additional lines, two subway tunnels will be required: an Eighth Avenue subway constructed between Third Street E. and Ninth Street W., and a Second Street W. subway

between 10th Avenue and Riverfront Avenue under the CPR tracks. Appropriate space must be protected and accommodations considered with other developments to account for these future facilities.

In addition to adequate street space and capacity, it is also important that there is sufficient sidewalk space at bus stops to accommodate both boarding/alighting passengers and to allow pedestrians to travel freely through these zones within ample, wide pedestrian space, free of obstructions and with excellent connectivity for pedestrians to access transit services.

Additional bus routings will be required to disperse bus traffic while still serving key destinations in the heart of the downtown and Beltline areas. When the LRT network is expanded, it is expected that bus volumes may decrease to volumes similar to today (2009).

It is recognized that buses must share limited street capacity with autos and commercial vehicles. Therefore, while some transit priority measures may be appropriate to deal with specific locations where buses are delayed (HOV lanes) or give bus movements a higher degree of priority in general (Intermittent Bus Lanes), exclusive bus lanes are not thought to be appropriate in the Centre City, given the impact to all roadway users.