

## MACLEOD TRAIL CORRIDOR STUDY

---

### EXECUTIVE SUMMARY

The Macleod Trail Corridor Study was undertaken to develop an Urban Boulevard corridor plan that integrates high-density, mixed use urban development, includes high-quality urban design and green infrastructure and accommodates reasonably high volumes of vehicle traffic. This report outlines the recommendations of the corridor study completed by Transportation Planning for Macleod Trail and identifies right-of-way acquisition requirements for the North Section. A summary of the Urban Boulevard character and the key recommendations is included graphically in Attachment 1. A summary of the public engagement program undertaken as part of this study is included. Additional work undertaken by Administration to investigate the feasibility of the South LRT Bike Facility and opportunities for near-term improvements to pedestrian safety are also summarized.

Due to the length of the corridor, the study area was separated into two sections; the North (25 Avenue S to 67 Avenue S) and South (67 Avenue S to Anderson Road S). The recommendations for the North Section include maintaining six or eight lanes (as existing), enhancing the public realm via boulevards, widened sidewalks and multi-use space. The recommendation for the South Section include maintaining six or eight lanes (as existing), enhancing the public realm via multi-use pathways and to continue working with the Main Streets Initiative to review and refine possible Urban Boulevard concepts to integrate with planning and redevelopment opportunities.

The proposed improvements have been developed to support higher-density, mixed use redevelopment of the Macleod Trail corridor as well as to move workers and goods efficiently via the provision of increased mobility choices.

### ADMINISTRATION RECOMMENDATIONS

That the SPC on Transportation & Transit recommend that Council:

1. Adopt the following recommendations for the North Section of Macleod Trail:
  - a. Maintain the existing 6 (or 8) lanes of vehicular traffic.
  - b. Release lands protected for the planned interchange at 50 Avenue S.
  - c. Continue protecting lands required for the planned interchange at 25 Avenue S.
  - d. Adopt all remaining recommendations as outlined in the North Section Macleod Trail Corridor Study Final Report and summarized in Attachment 3, excepting those listed above in Recommendation 1.a, b, c.
  - e. Direct Administration to develop a land acquisition and protection strategy for the recommended 42m right-of-way that will enable the North Section Macleod Trail Corridor vision to be realized in the future, including a possible amendment of the Land Use Bylaw to accommodate the required bylaw setbacks.
2. Adopt the following recommendations for the South Section of Macleod Trail:
  - a. Maintain the existing 6 (or 8) lanes of vehicular traffic.
  - b. Maintain the existing right-of-way along the corridor.
  - c. Release lands protected for the planned interchange at Southland Drive.

## MACLEOD TRAIL CORRIDOR STUDY

---

- d. Continue protecting lands required for the grade-separation of the CP and LRT rail lines and Heritage Drive, and associated infrastructure on Macleod Trail.
  - e. Include a 3.5m multi-use pathway on both the east and west side of Macleod Trail as part of future redevelopment and corridor improvement work, as shown in Attachment 7.
  - f. Direct Administration to incorporate the 3.5m multi-use-pathways, as shown in Attachment 7, in coordination with the Pathway/Bikeway Implementation Plan.
3. Direct Administration to review and refine concepts for the South Section Macleod Trail Urban Boulevard in conjunction with the Main Streets Initiative.
  4. Direct Administration to incorporate the South LRT Bike Facility, as shown in Attachment 5, in coordination with the Pathway/Bikeway Implementation Plan.
  5. Direct Administration to continue to pursue opportunities to improve pedestrian safety along the Macleod Trail corridor as summarized within section 2 of Attachment 6 (the Identification of Pedestrian Safety Issues and Potential Mitigation Measures) in coordination with the Safety Initiatives capital program.

### **RECOMMENDATION OF THE SPC ON TRANSPORTATION AND TRANSIT, DATED 2015 MAY 20:**

---

That Council:

1. Adopt the following recommendations for the North Section of Macleod Trail:
  - a. Maintain the existing 6 (or 8) lanes of vehicular traffic.
  - b. Release lands protected for the planned interchange at 50 Avenue S.
  - c. Continue protecting lands required for the planned interchange at 25 Avenue S.
2. Adopt the following recommendations for the South Section of Macleod Trail:
  - a. Maintain the existing 6 (or 8) lanes of vehicular traffic.
  - b. Maintain the existing right-of-way along the corridor.
  - c. Release lands protected for the planned interchange at Southland Drive.
  - d. Continue protecting lands required for the grade-separation of the CP and LRT rail lines and Heritage Drive, and associated infrastructure on Macleod Trail.
  - e. Include a 3.5m multi-use pathway on both the east and west side of Macleod Trail as part of future redevelopment and corridor improvement work, as shown in Attachment 7.
  - f. Direct Administration to incorporate the 3.5m multi-use-pathways, as shown in Attachment 7, in coordination with the Pathway/Bikeway Implementation Plan.
3. Direct Administration to review and refine concepts for the South Section Macleod Trail Urban Boulevard in conjunction with the Main Streets Initiative.

## MACLEOD TRAIL CORRIDOR STUDY

---

4. Direct Administration to incorporate the South LRT Bike Facility, as shown in Attachment 5, in coordination with the Pathway/Bikeway Implementation Plan.
5. Direct Administration to continue to pursue opportunities to improve pedestrian safety along the Macleod Trail corridor as summarized within section 2 of Attachment 6 (the Identification of Pedestrian Safety Issues and Potential Mitigation Measures) in coordination with the Safety Initiatives capital program; and
6. **Direct Administration to bring forward a follow-up report which investigates alternative design solutions which provide necessary traffic capacity to support redevelopment in the vicinity while improving pedestrian access and safety, along with reducing or eliminating conflicts with the Light Rail Transit (LRT), and to return to the SPC on Transportation and Transit no later than Q2 2016 with design recommendations and potential amendments to the land protection at 25 Avenue S.**

### Oppositions to Recommendations 2 c. and 3:

Opposed: A. Chabot, P. Demong

### Opposition to Recommendations 4:

Opposed: S. Chu

### Opposition to Recommendations 5:

Opposed: P. Demong

Excerpt from the Minutes of the Regular Meeting of the SPC on Transportation and Transit held 2015 May 20:

---

### “FORWARD LOST MOTIONS

Pursuant to Section 155 (7)(a) and (b) of the Procedure Bylaw 44M2006, as amended, Councillor Pincott requested that the lost motions with respect to Report TT2015-0183 be forwarded to Council for information.”

“APPROVE, Moved by Councillor Pincott, that Administration Recommendation 1. d contained in Report TT2015-0183 be approved, as follows:

That the SPC on Transportation and Transit recommend that Council:

1. Adopt the following recommendations for the North Section of Macleod Trail:

**MACLEOD TRAIL CORRIDOR STUDY**

---

- d. Adopt all remaining recommendations as outlined in the North Section Macleod Trail Corridor Study Final Report and summarized in Attachment 3, excepting those listed above in Recommendation 1.a, b, c.

ROLL CALL VOTE:

For: B. Pincott, E. Woolley

Against: G-C. Carra, A. Chabot, S. Chu, P. Demong

MOTION LOST

APPROVE, Moved by Councillor Pincott, that Administration Recommendation 1. e contained in Report TT2015-0183 be approved, as follows:

That the SPC on Transportation and Transit recommend that Council:

1. Adopt the following recommendations for the North Section of Macleod Trail:

- e. Direct Administration to develop a land acquisition and protection strategy for the recommended 42m right-of-way that will enable the North Section Macleod Trail Corridor vision to be realized in the future, including a possible amendment of the Land Use Bylaw to accommodate the required bylaw setbacks.

ROLL CALL VOTE:

For: B. Pincott, E. Woolley

Against: G-C. Carra, A. Chabot, S. Chu, P. Demong

MOTION LOST”

**PREVIOUS COUNCIL DIRECTION / POLICY**

At the 2007 December 03 Combined Meeting of Council, Administration received Notice of Motion NM2007-40 which directed Administration to prepare a report to the Standing Policy Committee on Land Use, Planning and Transportation outlining costs and timing of a corridor (functional) study for the Macleod Trail Corridor from Anderson Road to 25 Avenue S.E.

At the 2008 December 08 Meeting of Council, Council received LPT2008-78 Report “Macleod Trail Corridor” and approved Administration’s recommendation to initiate Transportation Planning Studies for Macleod Trail from 25 Avenue S to the city limits subsequent to approval of the Calgary Transportation Plan (estimated Q4 2009 start).

## **MACLEOD TRAIL CORRIDOR STUDY**

---

At the 2014 October 10 Meeting of the Standing Policy Committee on Transportation and Transit, TT2014-0665 Report “Macleod Trail Corridor Study” was referred back to Administration for additional work related to the feasibility of the South LRT Service Road Bike Track and alternative opportunities for increasing pedestrian safety along Macleod Trail.

### **BACKGROUND**

The Calgary Transportation Plan (CTP), approved by Council in 2009, envisions Macleod Trail from 25 Avenue S.E. to Anderson Road redeveloping from a major street into an Urban Boulevard. The primary function of an Urban Boulevard is to accommodate all modes of transportation in a high density, moderate speed urban environment. It will focus on the pedestrian realm, while still accommodating Macleod Trail’s function as a primary commuter corridor from south central Calgary.

The Macleod Trail Corridor Study was initiated to examine how Macleod Trail could be transformed into an Urban Boulevard and to re-examine the previously planned transportation improvements within the context of the Urban Boulevard character.

Transportation Planning has examined the Macleod Trail corridor on many occasions. Previous studies have allowed Transportation Planning to protect right-of-way for significant transportation improvements along Macleod Trail at 25 Avenue S.E., 50 Avenue S.E., Glenmore Trail, Heritage Drive, Southland Drive and Anderson Road. While some of these improvements have been built, such as the Glenmore Trail and Anderson Road interchanges, none of the planned future improvements are within the current Investing in Mobility 10 year capital plan. The cost for the improvements that are still planned (interchanges at 25 Avenue, 50 Avenue, Heritage Drive and Southland Drive) are estimated from \$350 to \$400M.

### **INVESTIGATION: ALTERNATIVES AND ANALYSIS**

The intention of the Macleod Trail Corridor Study was to examine how Macleod Trail could be transformed into an Urban Boulevard in keeping with CTP’s vision and identify what would be physically required in order to achieve such a transformation. Looking 30 years into the future presents a much different picture of Macleod Trail than today, with the Municipal Development Plan’s (MDP) vision of redevelopment occurring to support mixed-use, higher density land uses and Activity Centres at strategic nodes along the corridor; the recommended corridor plans support this future Macleod Trail.

Daily traffic volumes are forecast to remain similar to today with the implementation of the Urban Boulevard Plan. Options that increased the vehicular capacity of the roadway (i.e. 8 lanes versus the current 6), or decreased the current vehicular capacity in an effort to reduce property impacts (i.e. 4 lanes versus the current 6) were examined. A balance was sought which allowed for an enhanced public realm, including walking and cycling facilities as well as improved building entry areas, while minimizing property impacts and maintaining the ‘character’ of an Urban Boulevard as envisioned in the CTP and MDP.

The Urban Boulevard character is a fluid notion that must be applied in a context-sensitive manner. Within the Macleod Trail context, the project team determined that the Urban Boulevard character must enhance the desirability of the corridor (e.g. walking between sites)

## MACLEOD TRAIL CORRIDOR STUDY

---

as well as support the interaction of the transportation elements of the corridor with the anticipated adjacent land uses (retail, commercial, etc.) and the communities. This precluded wide expanses of unbroken pavement which result in an inhospitable pedestrian environment and discourages permeability across the corridor.

### North Section Recommendations

Due to the varying environment and context along the length of the North Section of the corridor, the study examined three distinct segments. The recommendations for each are outlined below:

Cemetery Hill (25 Avenue to 34 Avenue S): Constrained right-of-way with no ability to acquire additional land results in a recommendation to maintain the existing cross-section through this segment, with aesthetic improvements being made to the roadway-cemetery boundary walls to provide a better transition into the Urban Boulevard to the south. It is recommended that the plan to grade-separate 25 Avenue S above the LRT line and Macleod Trail be maintained due to the interaction of the LRT tracks with the adjacent intersection and no viable alternative has yet been identified. At 34 Avenue S a new signalized all-turns intersection is proposed with the existing connection between Spiller Road and Macleod Trail/34 Avenue being closed. Cyclists and pedestrians are to be accommodated on Spiller Road between 34 Avenue and the Elbow River pathway. (See Figure ES.4 in Attachment 3).

Central (34 Avenue to 58 Avenue S): The Urban Boulevard cross-section for this segment would comprise three travel lanes in each direction with a raised median able to accommodate single left turn lanes and plantings. A wide sidewalk/multi-use pathway would be provided on each side of Macleod Trail, separated from the traffic lanes by a green boulevard. This cross-section requires approximately 12 m of additional right-of-way along the length of Macleod Trail within this 2.6 km long segment. The widening is proposed to take place predominantly on the east side between 34 Avenue and 50 Avenue and predominantly on the west side between 50 Avenue S and 58 Avenue S, due primarily to the availability of City-owned parcels and the redevelopment opportunities that would be available.

Property is required to allow for the Urban Boulevard widening of the North Section between 34 Avenue and 58 Avenue S as shown in Figures G.1 through G.3 of Attachment 4. The total area of land required from private (non-City) landowners is approximately 1.9 hectares (4.8 acres) along the 2.6 km length of the North – Central segment. This constitutes a strip of approximately 12 m along the length and assumes that only the land required for the widening would require acquisition. There may be instances where this purchase would render a parcel undevelopable and the entire parcel would require purchase. A land acquisition/parcel reconsolidation strategy is recommended to be developed in order to better assess these risks (Recommendation 3).

The removal of the planned interchange at Macleod Trail and 50 Avenue S from the long range plans is recommended. The interchange does not support the Urban Boulevard character and 50 Avenue is no longer an east-west expressway extending across the Elbow River to the west. It is also proposed that 4 Street W at 56 Avenue S be closed due to the sharp angle at which 4 Street intersects Macleod Trail (See Figures ES.5, ES.6, and ES.7 in Attachment 3).

## MACLEOD TRAIL CORRIDOR STUDY

---

Chinook (58 Avenue to 67 Avenue S): Sufficient right-of-way exists within this segment to maintain the existing 8-lane cross-section with single left turns and to provide separated two-way bikeways and wide sidewalks as well as green boulevard space on both sides of Macleod Trail. Two new pedestrian/cyclist bridges are proposed to improve crossing conditions over Glenmore Trail. The recommendations in this segment align with the Chinook Station TOD Plan and the 61 Avenue S concept plan. (See Figure ES.8 in Attachment 3).

### South Section Recommendations

The South Section has an existing right-of-way of approximately 60 m. This is sufficient to allow implementation of the Urban Boulevard as described for greenfield areas in the Complete Streets Guide, with boulevards, wide sidewalks and separate cycling facilities. As a first phase in the development of the Urban Boulevard, Transportation Planning is recommending that an initial 3.5m multi-use pathway be included on both the east and west sides of Macleod Trail, as some sections of the roadway have poor pedestrian facilities which need to be improved. In addition, Administration recommends that The City continue to explore potential Urban Boulevard concepts in conjunction with the work being undertaken by the Main Streets Initiative for Macleod Trail. The Main Streets Initiative's assessment of redevelopment opportunities and land use plans can inform the best use of the existing right-of-way to ensure integration of the public realm with adjacent land use planning.

Within this section, there are currently planned interchanges at Heritage Drive and at Southland Drive. It is recommended that plans for the grade separation of the Canadian Pacific Railway (CPR)/LRT tracks and Heritage Drive and associated infrastructure on Macleod Trail be maintained due to the proximity of the CPR/LRT tracks to the adjacent intersection. The removal of the planned interchange at Macleod Trail and Southland Drive from the long-range plans is recommended as the interchange does not support the character and vision of an Urban Boulevard.

### LRT Bike Facility Implementation Assessment

The potential for including a multi-use pathway along the LRT maintenance right-of-way between 61 Avenue and 42 Avenue S was examined (see Attachment 5). Administration will continue to explore opportunities to implement the South LRT Bike Facility in conjunction with the Pathway/Bikeway Implementation Plan (Recommendation 4). The right of way in question is owned by the CPR therefore The City cannot simply move to implementation.

### Macleod Trail Pedestrian Safety Opportunities

The City's Traffic Safety group examined the Macleod Trail corridor from 25 Avenue to Anderson Road to identify areas of concern for pedestrian safety. A collision analysis was conducted and potential situation-specific mitigation measures were identified for improving pedestrian safety (see Attachment 6). As part of this work, Administration has identified several opportunities to improve pedestrian safety in the short term. Some of these initiatives include revising signal controls to prohibit right turns on red, expanding the use of protected left turn only phase signals and revising right turn channelization where appropriate to reduce the conflicts between pedestrians and vehicles. Administration will continue working to cost-effectively improve pedestrian safety along the Macleod Trail corridor in coordination with the Pedestrian Strategy Implementation Plan (Recommendation 5).

## MACLEOD TRAIL CORRIDOR STUDY

---

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

An online survey was conducted at the beginning of the project (April 23 to May 4, 2012) which asked respondents to identify their top mobility concerns and the changes they would like to see on Macleod Trail in the future. Over 3,000 responses to this survey were received. The most common concern was traffic delays and the most commonly desired improvement was more trees and landscaping. For future alternative mode choice, there was a fairly even split between transit, cycling and walking.

The City hosted two initial open houses on June 14 and 19, 2012, at Chinook Mall and Southcentre Mall, respectively, to provide information on the study purpose, Urban Boulevards, responses from the online survey and to present design features under consideration and preliminary cross-section alternatives for the corridor. Attendance at the Chinook Mall and Southcentre Mall events were estimated at about 200 and 140 persons respectively. Of the 68 feedback forms received, the most common comments included support for the increased public realm and concerns over future traffic accommodation.

A stakeholder meeting was held for property and business owners along the corridor on October 23, 2012, at the Carriage House Inn. Over 550 invitations to the meeting were directly mailed to business and property owners along Macleod Trail. The intention of this event was to be able to address specific concerns of business/property owners related to the impacts of the Urban Boulevard concept; in particular, the purpose was to be able to address questions related to right-of-way requirements and potential impacts to business accesses with this specific group of stakeholders. Attendance at this event was minimal, with fewer than 10 attendees. No concerns were raised in the comments received.

The City hosted a final open house on October 25, 2012, at Chinook Mall to report back on what was heard from the online survey and the June open houses and to present the recommended corridor plans for Macleod Trail. The specific number of attendees was not captured, but 28 feedback forms were received. Most respondents understood how public input was considered and, where possible, incorporated into the proposed plans. Over 75% of respondents supported the vision of Macleod Trail developing over time into an Urban Boulevard in the future.

Subsequent to the original work completed by Transportation Planning on the Macleod Trail Corridor Study, the Main Streets Initiative hosted a visioning workshop for the Macleod Trail Corridor as part of Phase 1 of their engagement. This workshop was held on January 31, 2015 at the Carriage House Inn and supported by Transportation Planning. The purpose of the workshop was to provide attendees an opportunity to identify, at a high level, what they envision occurring on Macleod Trail from both a land use redevelopment and transportation perspective. There were approximately 25 attendees at the workshop. The most common issues identified were poor pedestrian amenities and access throughout the corridor, and pedestrian safety concerns due to relatively high vehicular speed on Macleod Trail. An information session was subsequently held on April 25, 2015 at the Days Inn to report back to the public on the Phase 1 findings.



## MACLEOD TRAIL CORRIDOR STUDY

---

### Strategic Alignment

This study aligns with multiple policies in the CTP, MDP and the 2020 Sustainability Direction including:

- CTP Goal #1: Align transportation planning and infrastructure investment with city and regional land use directions and implementation strategies.
- CTP Goal #2: Promote safety for all transportation system users.
- CTP Goal #3: Provide affordable mobility and universal access for all.
- CTP Goal #4: Enable public transit, walking and cycling as the preferred mobility choices for more people.
- MDP Policy 2.2 to shape a more compact urban form by facilitating the development and intensification of the inner city corridor of Macleod Trail through enhanced mobility options.
- Sustainability Principle for Land Use and Mobility #2: create walkable environments.
- Sustainability Principle for Land Use and Mobility #4: provide a variety of transportation options.
- Sustainability Principle for Land Use and Mobility #9: connect people, goods and services locally, regionally and globally.
- MDP Key Direction for Land Use and Mobility #5: increase mobility choices.
- MDP Key Direction for Land Use and Mobility #7: create Complete Streets.

### Social, Environmental, Economic (External)

This report has been reviewed for alignment with The City of Calgary's Triple Bottom Line (TBL) Policy Framework. The following implications were identified:

Social: Improvements to the corridor promote active living by providing infrastructure for pedestrians and cyclists. The proposed improvements have been developed to support transit and recommended land uses.

Environmental: Provisions for multi-use pathways along the corridor encourage alternate modes of transportation by providing a higher level of safety and comfort for cyclists and pedestrians. Green boulevard space has been incorporated along the corridor.

Economic (External): The proposed improvements have been developed to support higher-density, mixed use redevelopment of the Macleod Trail corridor as well as to move workers and goods efficiently via the provision of increased mobility choices.

### Financial Capacity

#### Current and Future Operating Budget:

At build out, operating costs will be higher than today given the additional infrastructure added to the network. Specific incremental costs have not been quantified. It is anticipated that the additional operating costs would be in modest increments and would be accommodated within annual budget adjustments.

## MACLEOD TRAIL CORRIDOR STUDY

---

### **Current and Future Capital Budget:**

This project is currently unfunded. A Class 4 cost estimate prepared as part of the corridor study estimates the construction cost for the North Section to be \$47.2M. This figure includes removal, new construction (i.e., walkways, cycling facilities and green spaces, etc.), illumination, signs and pavement markings, and new and relocated traffic signals. This figure excludes utility relocations and storm/sanitary costs as well as land acquisition costs.

Opportunity based land acquisition costs for the right-of-way required for the North Section are estimated to be \$20.6M. This figure assumes the purchase of required right-of-way occurs on an opportunity basis as redevelopment occurs and makes use of the bylaw setback mechanism. It is anticipated that this strategy could result in the acquisition of the required right-of-way taking a significant length of time to achieve for the entire 2.6 km length of the North (Central) segment. The cost of expediting the acquisition of the required right-of-way through outright as-is purchase could be exponentially higher, with estimates over \$100M.

### **Risk Assessment**

The corridor plans are necessary in order to achieve the Urban Boulevard vision of the CTP for Macleod Trail. Without the additional right-of-way recommended in the North Section, there is a risk that Macleod Trail will not transform into an Urban Boulevard and will remain the street that it is today. The primary challenge will be the assembly of the required right of way along the North Section.

### **REASONS FOR RECOMMENDATIONS:**

The transformation of Macleod Trail into an Urban Boulevard supports the desired long-term redevelopment of the corridor to provide a balance for all transportation modes and improve safety of all road users. The recommended plan aligns with citizens' vision for a better and more sustainable city, where they will live within walking or cycling distances to businesses and major activity centres, and have access to safe and convenient transportation options, including Macleod Trail itself and the South LRT line. The recommended plan identifies/confirms the width of the right-of-way for the future corridor which enables The City to move forward with land acquisition/protection strategy and redevelopment plans.

### **ATTACHMENTS:**

1. Summary Maps for North and South Macleod Trail Corridor Study Sections
2. Macleod Trail Corridor Study Information Brochure
3. North Section Macleod Trail Corridor Study Executive Summary
4. North Section Macleod Trail Right-of-Way Requirements
5. South LRT Bike Facility – Implementation Assessment
6. Macleod Trail Pedestrian Safety Opportunities
7. South Section Macleod Trail – Cross-sections