

SHAGANAPPI TRAIL CORRIDOR STUDY

EXECUTIVE SUMMARY

This report provides a summary of the Shaganappi Trail Corridor Study from north of 16 Avenue N to Stoney Trail N. The Study includes two components: a corridor study from north of 16 Avenue N to Crowchild Trail N and a High Occupancy Vehicle (HOV) implementation study from north of 16 Avenue N to Stoney Trail N. The study area is shown in Attachment 1.

The corridor study was warranted by the re-classification of Shaganappi Trail south of Crowchild Trail N from a Skeletal Road to an Arterial Street in the 2009 Calgary Transportation Plan (CTP). The study also complemented other planning initiatives such as the University of Calgary Master Plan, West Campus Master Plan, and South Shaganappi Communities Area Plan. The CTP identified Shaganappi Trail as a Primary HOV route, Primary Cycling route, and Primary Transit route. The purpose of the study was to confirm a long-term vision for the Shaganappi Trail corridor that consolidates all of these various plans and provides for all modes of transportation. The HOV implementation study was also conducted to identify the most appropriate type of HOV facility for Shaganappi Trail. Additional information about the goals, objectives and benefits of this study is included in Attachment 2.

During the study to identify the ultimate corridor plan, both the technical analysis and feedback provided through the public engagement program identified that interim intersection improvements at Shaganappi Trail and Varsity Drive N and Shaganappi Trail and Valiant Drive N should be investigated.

The cost of implementing the ultimate corridor plan from north of 16 Avenue N to Crowchild Trail N is estimated at \$73 Million (2014 dollars), while the cost of the interim improvements at Valiant Drive and Varsity Drive intersections are estimated at **\$1.2 Million** (2014 dollars). None of these projects are currently funded or scheduled.

ADMINISTRATION RECOMMENDATION(S)

That the SPC on Transportation and Transit recommends that Council:

1. Approve the Shaganappi Trail Corridor Study as summarized in Attachment 3 and Attachment 4;
2. Direct Administration to investigate the implementation of the interim intersection improvements at Shaganappi Trail and Varsity Drive N and Shaganappi Trail and Valiant Drive N as part of The City's optimization program; and
3. Direct Administration to work with residents of the various Voyageur Drive segments and the Varsity Community Association on the renaming of Voyageur Drive as part of the interim intersection improvement work noted in recommendation 2.

RECOMMENDATION OF THE SPC ON TRANSPORTATION AND TRANSIT, DATED 2015 JANUARY 21:

That the Administration Recommendations contained in **Corrected** Report TT2015-0099 be approved.

SHAGANAPPI TRAIL CORRIDOR STUDY

Opposition to Recommendations:

Recommendation 1:

Opposed: S. Chu, P. Demong, J. Magliocca

Recommendation 3:

Opposed: J. Magliocca

Excerpt from the Minutes of the Regular Meeting of the SPC on Transportation and Transit Held 2015 January 21:

“CLERICAL CORRECTION, Moved by Councillor Carra, that Pages 1 and 6 contained in Report TT2015-0099, be corrected prior to being forwarded to the 2015 February 09 Combined Meeting of Council, as follows:

- On Page 1 of 6, Executive Summary, fourth paragraph, by deleting the figure “\$1.4 Million” following the words “Valiant Drive and Varsity Drive intersections are estimated at”, and by substituting with the figure “\$1.2 Million”.
- On Page 6 of 6, Current and Future Capital Budget, by deleting the figure “\$1.4 Million” following the words “Valiant Drive N and Varsity Drive N intersections are estimated at”, and by substituting with the figure “\$1.2 Million”.

CARRIED”

PREVIOUS COUNCIL DIRECTION / POLICY

In September 2009, Council approved the CTP. Within the CTP, Shaganappi Trail south of Crowchild Trail N was reclassified from a Skeletal Road to an Arterial Street. This change removed the need to continue to design and protect Shaganappi Trail as a future freeway.

In April 2011, Council approved the South Shaganappi Communities Area Plan. This report recommended The City undertake a future corridor study for Shaganappi Trail as a result of the reclassification of Shaganappi Trail from a Skeletal Road to an Arterial Street.

BACKGROUND

The Shaganappi Trail (Sarcee Trail to Bow Trail) Functional Planning Study was prepared in 1970. Shaganappi Trail was classified as an Expressway in this study. Interchanges have previously been planned along the corridor to align with the Expressway classification.

Several plans have been completed along the corridor in the past 25 years. These include:

- Varsity Community Special Study (July 1989),
- Parkdale Special Planning Study (May 2004),
- Crowchild Phase 3 Policy Statement and Area Structure Plan (November 2006),
- Varsity Land Use Study (July 2007), and
- South Shaganappi Communities Area Plan (July 2011).

SHAGANAPPI TRAIL CORRIDOR STUDY

In addition, the West Campus Development Trust is working on the development of the West Campus site. As part of the South Shaganappi Communities Area Plan, "...a new all turns access from Shaganappi Trail to the West Campus lands, accommodating walking, cycling, and transit," was recommended.

The CTP reclassified Shaganappi Trail to an Arterial Street South of Crowchild Trail N, but retained Shaganappi Trail as a Skeletal Road from Crowchild Trail N to Stoney Trail N. The CTP also identified Shaganappi Trail as part of the Primary HOV Network, Primary Transit Network, and Primary Cycling Network.

To align the CTP and new land use planning initiatives, a long-term plan for the Shaganappi Trail corridor from 16 Avenue N to Stoney Trail is needed.

At the onset of the study, the corridor review included the complex 16 Avenue / Bowness Road NW interchange. This area was removed from this study, in consideration of the feedback from community members and recognition of the value of completing a separate study in the future.

INVESTIGATION: ALTERNATIVES AND ANALYSIS

The study reviewed the existing and future land uses as well as the existing and future traffic volumes and considered four possible options. Options included:

- retaining the existing 4 lanes (do nothing),
- widen for all users (6 lanes),
- widen for HOV users (6 lanes), and
- widen for all users and HOV users (8 lanes).

The "do nothing option" was shown to create over capacity conditions and impact all travel modes in the future especially transit service. The widen to 8 lanes option for both all users and HOV users did not provide relative benefit compared to 6 lanes in terms of operational improvements. The retain existing 4 lanes (do nothing) option and widen to 8 lanes option for both all users and HOV users (8 lanes) were therefore eliminated as options.

As such the two widening to 6 lanes options (with or without HOV lanes) were further developed and evaluated to assess the relative merits of each. The following two key characteristics were used to inform the recommendation:

- The option with the HOV lane that included carpool use was demonstrated to improve operations for all users, including vehicles in the non-HOV lanes, based on The City's 2039 transportation forecast.
- The HOV designation is supportive of the rapid transit corridor for Shaganappi Trail, as identified within RouteAhead as it provides a travel time advantage for transit service.

As such, the widening to 6 lanes with HOV lanes was recommended for this corridor, with the HOV lane recommended to accommodate both transit users and carpool.

Intersections within the corridor study area were then reviewed based on the 6 lanes with HOV lane configuration in order to improve capacity and accommodate all modes of traffic. The

SHAGANAPPI TRAIL CORRIDOR STUDY

recommended intersection configurations are included in Attachment 4. The intersections that were reviewed included the following:

- West Campus Way (a new intersection to West Campus Development)
- 32 Avenue NW
- Market Mall Access
- 40 Avenue NW
- Valiant Drive NW
- Varsity Drive NW
- Crowchild Trail NW

Developing alternatives through public engagement

The section of Shaganappi Trail within the Varsity community, between 40 Avenue N and Crowchild Trail N, was the most technically challenging due to the constrained right-of-way (ROW) limiting the space required to meet The City's overall mobility objectives. The physical constraints of the corridor became an opportunity for a highly integrated engagement program for this project.

Initially, five options were developed for the constrained section through Varsity. Two concepts (5 lanes with a lane reversal as well as widen to both the east and west sides) were removed from consideration as a result of public feedback through an open house in November 2012. The refined concepts were evaluated at community conversation sessions in April 2013. Public input helped prioritize the evaluation parameters, and broadly emphasized the importance of minimizing property impacts. Two additional concepts were eliminated from further analysis due to the need to acquire 22 properties in the widen to the west option and the need to acquire 25 properties in the widen to the east option. The remaining option looked to accommodate the needs of the corridor within the existing right-of-way as much as possible.

A concept with minimum property acquisition and revision of Voyageur Drive to one-way operation and two additional concepts with the removal of Voyageur Drive were discussed and evaluated with the public in November 2013. The option to retain Voyageur Drive received more support from the public and adjacent homeowners. Based on feedback received, this concept was further refined to address the issues and concerns raised by the public. The resulting recommended plan, as shown on Exhibit ES-1 to Exhibit ES-6 in Attachment 4 was reviewed with the adjacent homeowners in April 2014 and the public at a final open house in May 2014. General feedback from the above engagement sessions supported the recommended plan.

Through the public engagement process, the intersection of Shaganappi Trail and Varsity Drive N was identified as an area of concern for stakeholders and they requested that interim options be reviewed. The recommended interim improvements are shown on Exhibit ES-9 of Attachment 4.

As a result of refinements to the plan, no property acquisition is required to implement the recommendations of the Shaganappi Trail Corridor Study. A total of 13.3 hectares (33 acres) of potential surplus area previously protected for interchanges and road widening has been identified, as shown on Exhibit ES-10 to Exhibit ES-15 in Attachment 4. While the

SHAGANAPPI TRAIL CORRIDOR STUDY

recommendations within this corridor study have identified the preferred cross section and right-of-way needs, the design details and future storm water requirements have not been assessed as these additional elements are generally reviewed during detailed design studies that occur after the completion and acceptance of corridor studies. As such, it is recommended that these areas be studied in greater detail as part of a future detailed design study for Shaganappi Trail before The City divests or sells any surplus land in these areas.

Future implementation of the HOV lane on the Arterial section of Shaganappi Trail south of Crowchild Trail N will include designation of a HOV lane accessible to transit and carpools. HOV lanes have been recommended on the exterior (curb-side) lanes, which minimize turn conflicts and provides direct access to bus stops. Exterior HOV lanes are also recommended on Shaganappi Trail north of Crowchild Trail N, while it remains an interim at-grade facility with traffic signals. No funding is currently available to implement the HOV facility along the corridor. Implementation of HOV will be considered once the project is warranted and can be included within the budget.

In alignment with the 2009 CTP, the recommended plans accommodate all modes including bike lanes with connections to the existing pedestrian overpass, and exterior HOV lanes to accommodate carpools and BRT.

Stakeholder Engagement, Research and Communication

The Shaganappi Trail Corridor Study included extensive public engagement through all stages of the project. Each phase of engagement included multiple engagement opportunities for stakeholders, homeowners, and the general public. Numerous meetings were also held with the Varsity Community Association Civic Affairs Committee, to review matters of concern in the most constrained corridor sections. The engagement process evolved through the project in response to feedback, providing more engagement opportunities than had been planned at the outset. The overall engagement process is indicated in table below.

Phase	Purpose	Dates
1	Stakeholder introduction	July 2012
2	Public introduction and review of preliminary concepts	Oct – Nov 2012
3	Community conversations to review preliminary concepts	March – April 2013
4	Community conversations to review refined options	Oct – Nov 2013
5	Review recommendations with adjacent homeowners	Feb – April 2014
6	Open house to review recommended plan	May 2014

General feedback from the open house in May 2014 supported the recommended plan. Several letters of support for this project have been received for Administration. These letters are included as Attachment 5.

SHAGANAPPI TRAIL CORRIDOR STUDY

Strategic Alignment

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

- Transportation Goal #4: Enable public transit, walking and cycling as the preferred mobility choices for more people.
- RouteAhead principle: Match transit with land use: support activity centres and corridors, enhance Primary Transit Network connectivity, and support intensification of population and employment.
- MDP Policy 2.2 to shape a more compact urban form by facilitating the development at the West Campus Site and allows for greater mobility choices along Shaganappi Trail.
- 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.
- Key Direction for Land Use and Mobility #5: increase mobility choices.
- 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's Triple Bottom Line (TBL) Policy Framework. The following items are highlighted:

Social: The decision to eliminate options that require large areas of residential home acquisition preserves the fabric of the community and population to support local schools and cultural organizations. Accommodating active modes provides for the lowest cost travel option for area residents.

Environmental: Provisions for walking and cycling along the corridor encourages active modes of transportation by providing a higher level of safety and comfort for pedestrians and cyclists. Increased proportions of walking and cycling along the corridor have a correlative reduction in Green House Gas (GHG) emissions and noise. Green boulevard space has been incorporated along the corridor.

Economic (External): The proposed improvements have been developed to support transit and HOV and development at West Campus site to move workers and goods efficiently via the provision of increased mobility choices.

Financial Capacity

Current and Future Operating Budget:

The recommendation #2 of this report will require dedication of funded staff and consulting resources to complete the follow up functional studies. The operating budget for the proposed upgrades has not been quantified.

Current and Future Capital Budget:

There are no capital budget requests triggered by the recommendations of this Study. The Study provides order of magnitude (class 5) cost estimates for the interim and ultimate upgrades. The estimated cost of implementing the ultimate corridor plan from north of 16

SHAGANAPPI TRAIL CORRIDOR STUDY

Avenue N to Crowchild Trail is \$73 Million (2014 dollars), while the cost of the interim improvements at Valiant Drive N and Varsity Drive N intersections are estimated at **\$1.2 Million** (2014 dollars). None of these costs are included in the current 10-year Investing in Mobility Plan.

Risk Assessment

Without a current plan, there is a risk that Shaganappi Trail will not transform into a multi modal street with improved access as approved in the CTP. The 1970 Shaganappi Trail study recommended residential properties acquisition to the west side between Crowchild Trail and 40 Ave NW to accommodate the 6 lane expressway. With no property acquisitions in this study, home owners can have a level of certainty about their future without fearing the loss of their homes to accommodate the future Shaganappi Trail widening.

Cost estimates for the proposed upgrades are based on the prevailing land and construction costs. The cost estimates for ultimate horizon should be reviewed before including them in future Investing in Mobility plans.

REASON(S) FOR RECOMMENDATION(S):

A public engagement program was implemented in support of the study to incorporate stakeholder and citizen feedback into the development of the final recommendation for the corridor. Meetings were held with Varsity Community Association Civic Affairs Committee, homeowners, stakeholders, and general public before finalizing the details. The recommended plan aligns with the CTP's vision for the transformation of Shaganappi Trail. The recommended plan for interim and ultimate horizons meets the transportation needs of all modes along this corridor and improves access to adjacent lands.

ATTACHMENT(S)

1. Shaganappi Trail Corridor Study – Study Area
2. Shaganappi Trail Corridor Study Information Brochure
3. Shaganappi Trail Corridor Study Executive Summary - Report
4. Shaganappi Trail Corridor Study Executive Summary - Exhibits
5. Supporting letters from homeowners and stakeholders