

**Transportation Report to
SPC on Transportation and Transit
2018 July 19**

**ISC: UNRESTRICTED
TT2018-0822
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South Shaganappi Study Report

EXECUTIVE SUMMARY

This report provides a summary of the South Shaganappi Study which includes the 16 Avenue N and Shaganappi Trail interchange, the Shaganappi Trail and Memorial Drive intersection and Memorial Drive and Bowness Road interchange. The 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 primary focus of Corridor Studies is to generate concepts that can be potentially implemented in 20 to 30 years and beyond. Developing concepts for infrastructure ahead of time helps to ensure land is protected for future infrastructure if needed or releasing land if not required. Having an approved concept also helps to achieve a land use vision for the area that complements the transportation vision.

The South Shaganappi Study has incorporated public engagement as a critical part of the study, following the Corridor Study Policy approved by Council in 2014. Working with residents of adjacent communities, local community associations, and key stakeholders, the study team has developed short-term and long-term concept plans for transportation infrastructure in the study area.

Concepts including a do-nothing option, a tight diamond interchange, a hybrid version with signals, an east-west couplet configuration, and at-grade intersections were evaluated for the long-term scenario. The Tight Urban Diamond interchange emerged as the preferred concept based on stakeholder input, safety, access and connectivity, multi-modal transportation, efficient traffic flow, land enhancement and financial capacity. A Class 5 cost estimate of the preferred concept is approximately \$105 million dollars. The recommended long-term plan will accommodate all turns between 16 Avenue N and Shaganappi Trail at a single intersection unlike the existing infrastructure which utilizes ramps at Bowness Road to make movements from the west. The recommended long-term plan also enables multimodal connectivity and minimizes the land requirement for transportation. The timeline for implementation is beyond 30 years.

A recommended short-term plan will improve the multimodal transportation experience for Calgarians while balancing community priorities and addressing community concerns. The recommended short-term plan includes minor modifications and additions to the existing infrastructure. A Class 5 estimate of the recommended short-term plan is approximately \$3.8 Million dollars (2018). The recommended short-term plan can be implemented within the next 5 years as funding becomes available.

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ADMINISTRATION RECOMMENDATION:

That the SPC of Transportation and Transit recommends that council:

1. Approve the South Shaganappi Study report and the recommended short-term and long-term plans, as shown in Attachments 2 and 3.
2. Direct Administration to include the recommended short-term plan in the One Calgary Capital Budget process for the fall of 2018.

RECOMMENDATION OF THE SPC ON TRANSPORTATION AND TRANSIT, DATED 2018 JULY 20:

That Council:

That the SPC of Transportation and Transit recommends that Council:

1. Approve the South Shaganappi Study report and the recommended short-term and long-term plans, as shown in Attachments 2 and 3;
2. Direct Administration to include the recommended short-term plan in the One Calgary Capital Budget process for the fall of 2018;
3. **Direct that Administration proceed with short-term plan implementation only after the Bowness Rd NW (Montgomery) Main Street improvements are completed and, as per the Technical Report, long-term plan implementation only after the medium-term Crowchild Trail Study improvements are completed;**
4. **Direct Administration, at the detailed design stages, to give particular attention to reduced crossing distances, greater use of multi-use crossings, tightened turn radii, channelized turn removal, minimized lane widths, and general intersection safety improvements, where appropriate to Bowness Road; and**
5. **Direct Administration to pursue future transportation and planning studies identified in the Technical Report, as budgets and work plans allow, and as follows:**
 - a) **Corridor Study to recommend long term plans for 16 Ave NW from the west limits of the city to Banff Trail.**
 - b) **Transportation corridor study for Bowness Road/3 Ave/Parkdale Blvd between Shaganappi Trail and Crowchild Trail NW, with particular attention to improved seniors' mobility, intersection safety improvements, enhanced walking/cycling connections, channelized turn removal, minimized lane widths, efficient on-street parking management, and traffic calming.**
 - c) **Citywide High Occupancy Vehicle (HOV) Network Study to identify HOV routes and connections.**
 - d) **South Shaganappi planning study to develop a repurposing vision for the remnant land that is no longer required for transportation infrastructure, with particular attention to transit oriented development, mixed-use opportunities, parks/open space enhancements, active transportation improvements, and connecting adjacent communities through development.**

PREVIOUS COUNCIL DIRECTION / POLICY

On September 28, 2009, City Council approved a new Municipal Development Plan (MDP) and Calgary Transportation Plan (CTP) that were created through the Plan It Calgary process. Within the CTP, Shaganappi Trail south of Crowchild Trail N was reclassified from a Skeletal

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Road to an Arterial Street. The CTP also confirmed that the Bow River crossing of Shaganappi Trail was no longer part of the future transportation network.

On July 25, 2011, City Council approved the South Shaganappi Communities Area Plan (M2011-008). This report recommended The City undertake a future corridor study for Shaganappi Trail to assess opportunities for enhancing walking, cycling, transit, High Occupancy Vehicles (HOV), green infrastructure, and future land uses as a result of the reclassification of Shaganappi Trail from a Skeletal road to an Arterial street.

On July 28, 2014 City Council adopted the Transportation Corridor Study Policy (TT2014-0400). The Transportation Corridor Study Policy helps ensure that corridor studies are conducted in a consistent, open and transparent manner, and that citizens are engaged appropriately throughout a collaborative and iterative process.

On February 9, 2015, City Council approved the Shaganappi Trail Corridor Study (TT2015-0099). At the onset of the study, the corridor review included the 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. To achieve this, and to complete the vision for the entire corridor, the South Shaganappi Study was initiated in 2015.

BACKGROUND

The South Shaganappi Study was initiated in the summer of 2015 and established a clear process for working with a diverse range of community stakeholders to determine the best means of addressing the challenges and opportunities associated with the area. The study area includes the 16 Avenue N and Shaganappi Trail interchange, the Shaganappi Trail and Memorial Drive intersection and Memorial Drive and Bowness Road interchange. The scope of the study included developing short-term and long-term transportation plans for the study area. Both short-term improvements and long-term concepts were developed in collaboration with stakeholders. The CTP identified Shaganappi Trail and Bowness Road as part of the Primary Transit Network and Primary Cycling Network. The CTP also identified Bowness Road as a Regional Multi-Use Pathway Route and 16 Avenue as a Primary Goods Movement Corridor.

The recommended short-term and long-term plans accommodate all modes of transportation and align the study area with the CTP.

Study Process

The study was divided into three primary phases running from Fall 2015 to Spring 2018 (Attachment 1):

Phase 1 **Project Initiation and Definition** focused on introducing the project to stakeholders and defining goals and objectives. A Community Advisory Group was formally established that included representatives from adjacent community associations and key stakeholders. This phase provided an opportunity to voice concerns, values, issues, and expectations for the study area.

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Phase 2 **Concept Development and Analysis** focused on developing and evaluating short and long-term concepts for the study area. Workshops were held to generate ideas on potential improvements in the study area.

Phase 3 **Preferred Concept Selection** focused on selecting and refining the preferred short term and long-term concepts. Several opportunities were provided during this phase to gather feedback from all stakeholders. Concepts were further developed and finalized based on stakeholder feedback and detailed technical analysis.

INVESTIGATION: ALTERNATIVES AND ANALYSIS

The goals of the study were:

1. Review and recommend infrastructure that aligns the future corridor plans for Shaganappi Trail with the 2009 Calgary Transportation Plan (CTP), the Municipal Development Plan (MDP) and adjacent land uses.
2. Identify what land may no longer be required for transportation infrastructure.

Community Values and Project Objectives

Through the robust stakeholder engagement process, the following community values were heard:

- Enhance safety for those who use and/or live in the study area
- Enhance accessibility across and throughout the corridor, reconnecting the adjacent communities of Montgomery and Parkdale/Point McKay
- Accommodate all modes of transportation including walking, cycling, driving, HOV (High Occupancy Vehicles) and transit
- Move people and goods in an efficient way, providing continuous traffic flow and a reduction in greenhouse gas emissions
- Preserve and enhance land within the study area and identify where there are opportunities for land repurposing

These community values were incorporated as project objectives for the purposes of concept evaluation and selection. Two additional objectives were incorporated by the project team as follows:

- Reflect the values and priorities of the community in concept development
- Develop a cost-effective concept

Long-Term Concept Idea Generation Process

The project team worked closely with adjacent community stakeholders, the Community Advisory Group and public stakeholders through design workshops to generate ideas for how transportation infrastructure could be reimagined within the study area over the next 30 years. Attendees developed several ideas for potential design changes and improvements in the area. 21 different concepts emerged from these ideas. To further refine the concepts, common design elements that attendees hoped to see were identified and incorporated to meet the project objectives.

Preliminary Long-Term Concepts

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Incorporating the feedback from Calgarians, a total of 11 concepts, in addition to a do-nothing concept, were developed. The concepts were then evaluated against community values and objectives of the study. The four potential concepts listed below were advanced for feasibility review and evaluation along with the do-nothing concept:

1. At-Grade Intersections - This concept consists of new at-grade intersections on 16 Avenue at Bowness Road and Shaganappi Trail. All existing interchange ramps located at these junctions would be removed.
2. East-West Couplet - This concept consists of a reconfiguration of 16 Avenue into an east-west couplet with at-grade intersections at Bowness Road and Shaganappi Trail. Similar to concept 1, this concept would include closure of all existing interchange ramps, and the existing 16 Avenue roadway.
3. Hybrid - This concept realigns both Shaganappi Trail and Bowness Road, complete with new grade separated structures on 16 Avenue at Shaganappi Trail and Bowness Road. All existing interchange ramps would be closed, and a new two-way road connection would be constructed between 16 Avenue and Shaganappi Trail to provide all of the turning movements between Shaganappi Trail and 16 Avenue.
4. Tight Urban Diamond - This concept consists of a new Tight Urban Diamond Interchange providing all turn movements at the Shaganappi Trail and 16 Avenue intersection. The intersection of 16 Avenue and Bowness Road would be grade separated but no turning movements would be provided.
5. Do-Nothing - This concept retains all infrastructure within the Study Area as it currently exists.

Multiple Account Evaluation of Concepts

Each of the preliminary concepts were evaluated using the community values and project objectives described above. The results of the evaluation of preliminary concepts completed by Calgarians are shown in Figure 1. The Tight Urban Diamond interchange emerged as the preferred concept.

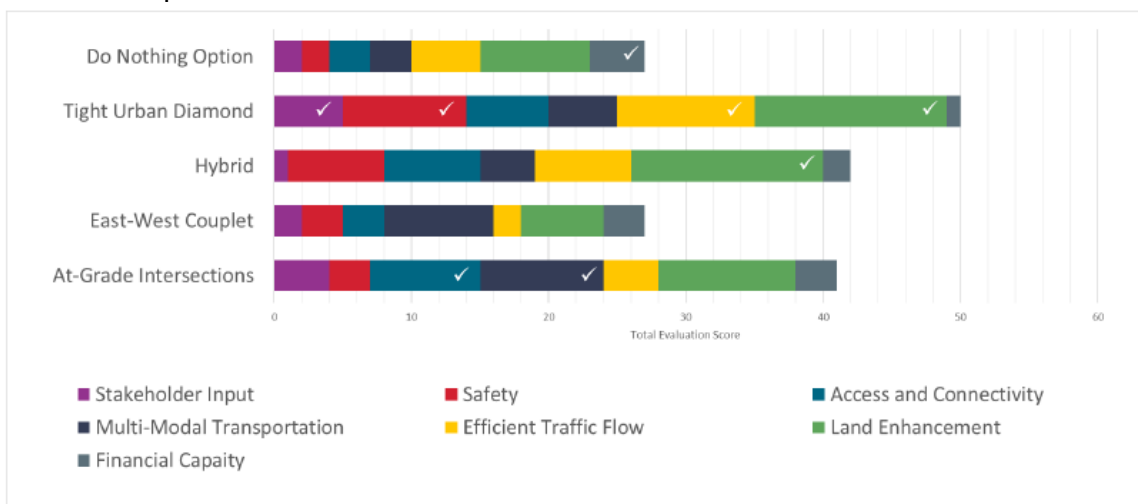


Figure 1: Multiple Account Evaluation of concepts

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Preferred Long-Term Concept

The tight urban diamond interchange concept is the preferred long-term concept for the South Shaganappi Area. A Class 5, high level cost estimate for implementation is approximately \$104,200,000. The South Shaganappi Study Preferred Long Term Concept (Attachment 2) includes the following benefits:

- The concept will accommodate all turns between 16 Avenue N and Shaganappi Trail at a single intersection unlike the existing infrastructure which utilizes ramps at Bowness Road to make movements from the west. Enhances bicycle and pedestrian mobility and transit connectivity in the study area
- Minimizes land requirement for transportation
- Encourages through traffic to stay on 16 Avenue N, while discouraging neighborhood cut-through traffic

Recommended Short-Term Plan

Incorporating feedback from the Community Advisory Group, residents in the area and Calgarians, a short-term concept plan (Attachment 3) was developed to enhance safety, and to address concerns that were heard such as difficulty in making turning movements within the existing infrastructure and limited pedestrian and bicycle connectivity. Short-term investments can be implemented within the next 5 years as funding becomes available. The plan includes improvements to existing infrastructure as summarized below along with a Class 5 cost estimate:

- Constructing a new ramp and acceleration lane from southbound Shaganappi Trail to eastbound 16 Avenue (\$1,200,000)
- Installing a new traffic signal and dual lane entrance ramp to control northbound Bowness Road to Westbound 16 Avenue (\$650,000)
- Introducing connectivity enhancements along Bowness Road for people who walk and cycle (\$1,600,000)
- Realigning the ramp from eastbound 16 Avenue to Southbound Bowness Road (\$400,000)

For more information, the South Shaganappi Study Final Report is located on the City's webpage and can be accessed using the link: www.calgary.ca/southshaganappi

Stakeholder Engagement, Research and Communication

A thorough and participatory approach, as recommended by the Corridor Study Policy, was taken to develop, evaluate, and recommend the preferred short-term and long-term concepts for the South Shaganappi Study Area.

Priority throughout the study was building relationships with stakeholders and developing trust with the public. Engagement opportunities sought input from a wide range of people including residents and businesses in adjacent and surrounding communities, those who work in and/or commute through the study area, community associations and planning committees, special interest groups, institutions, and the general public. Targeted engagement with community members was held first to enable discussions with community members and the project team in a forum focused on their unique needs.

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Throughout the study, the technical team was highly involved in the engagement process. Technical staff from a variety of backgrounds were on hand for all open house events to ensure stakeholders could ask questions and provide input about any aspect of the study. Technical staff also worked with stakeholders to help bring the community's ideas to life in design idea workshops. The core technical team was present at all engagement meetings and events to ensure stakeholder input was heard and brought back to the engineering table to directly inform design ideas and outcomes.

Communications

The communications strategy for the study focused on three main strategies:

1. Provide clear information about the study
2. Create a clear line of sight between public input and the outcomes of each phase
3. Widely promote public engagement opportunities

The engagement and communication activities undertaken as part of the project are summarized in Attachment 4 – South Shaganappi Study Engagement Summary Report.

Strategic Alignment

This study aligns with multiple policies in the CTP, Municipal Development Plan (MDP) and the 2020 Sustainability Direction including:

- CTP Goal 1: Align transportation goals 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 4: Transit, walking and cycling as preferred mobility choice for more people.
- MDP Policy 2.2.2.a: Increase development densities in proximity of Primary Transit.
- 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.

Social, Environmental, Economic (External)

This report and recommendations included in this report were reviewed for alignment with The City of Calgary's Triple Bottom Line (TBL) Policy Framework. The following implications were identified.

Social

Developing a new transportation vision for the study area resulted in identifying land that may no longer be required for transportation infrastructure. A land repurposing exercise of the remnant land should be undertaken to enable vitality and opportunities for better connected communities.

Environmental

The proposed plan reconfirms that the Shaganappi Trail crossing of the Bow River is no longer required, protecting the environment and aquatic life. The concept also provides facilities for active modes thus encouraging environmentally friendly modes of travel.

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Economic

The recommended short-term and long-term concepts support economic vitality and improve the movement of people, goods, and service in the area. The redevelopment of land no longer required to be protected for transportation infrastructure will support reinvestment in the adjacent communities.

Financial Capacity

Current and Future Operating Budget:

There are no immediate impacts to the current operating budget. Closer to the implementation of the plans in the future, any impacts to the operating budget will need to be identified.

Current and Future Capital Budget:

The short-term recommended plan, if approved will be included in One Calgary list of potential projects for funding.

Risk Assessment

If the short term recommended plan is not approved for funding during the One Calgary Budget Cycle for 2019-2022, there is a potential of losing community trust and support.

REASON(S) FOR RECOMMENDATION(S): The preferred concepts recommended in the Study for short-term and long-term implementation are a result of collaborative work between The City and Calgarians. The Study reinforces the importance and effectiveness of involving community and citizens in developing a vision for efficient and multimodal transportation infrastructure. The final recommendations align with the project's key objectives, incorporates feedback from citizens and are concepts that balance technical requirements with community priorities. The short-term investment plan will help improve safety, multimodal connectivity and traffic operations for all users. The long-term concepts help achieve flexible and sustainable infrastructure and provide certainty to residents in developing a new vision for complementing land use in the area.

ATTACHMENT(S)

1. Attachment 1 – South Shaganappi Study Executive Summary
2. Attachment 2 – South Shaganappi Study Preferred Long-Term Concept
3. Attachment 3 – South Shaganappi Study Recommended Short-Term Plan
4. Attachment 4 – South Shaganappi Study Engagement Summary Report