Evaluation Criteria

Detailed Evaluation Criteria

Community Well-being
A safe and socially inclusive service that improves access to key community destinations and provides transportation choices for Calgarians.

Transportation
A high priority transit service that attracts transit use, walking & cycling as preferred mobility choices for Calgarians. An integrated service that improves customer experience, meets future demand and strengthens the regional & local transit networks.

Sustainable Environment
A service that reduces greenhouse gases and minimizes impact to the existing natural environment.

Stakeholders
A service that reflects the values and priorities of communities.

Financial Capacity
An affordable and cost effective service. Costs are achievable, sustainable in the long term and provide good value for money.

Urban & Neighbourhood Development
A service that supports current and future land use, development along the corridor, and integrates with neighbouring communities.

Feasibility & Deliverability
A service that can be constructed and operated without significant technical issues or constraints.

Evaluation Community Well-being

Goal

A safe and socially inclusive service that improves access to key community destinations and provides transportation choices for Calgarians.

Evaluation Metrics

+ Community Cohesion

Consideration of opportunities for integrating stations with existing neighbourhoods while minimizing visual and physical barriers.

+ Impact to Recreational Uses

Consideration of potential construction impacts on community events, festivals and amenities.

+ Safety, Security & Emergency Access

Consideration of perceived safety and security of the LRT service, including how emergency services could access different parts of the system.

+ Accessibility

Consideration of service that would be accessible to all users.

Results

Key Outcomes

12 Avenue S Surface option scored the highest due to:

- Existing road network provides good station connections east of 4 Street S.E.
- Generally higher levels of street activity along 12 Avenue S improves perception of safety

10 Avenue S Surface + Tunnel option scored the lowest due to:

- Fewer station connections result in longer walking distance east of 4 Street S.E.
- Generally lower levels of street activity along 10 Avenue S decreases perception of safety

Evaluation Financial Capacity

Goal

An affordable and cost-effective service. Costs are achievable, sustainable in the long term and provide good value for money.

Evaluation Metrics

+ Capital Cost

Consideration of the anticipated costs to construct the LRT infrastructure.

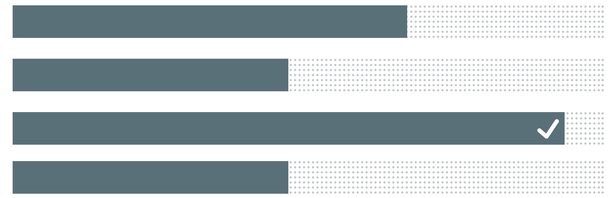
+ Land Impact

The amount of land required to be purchased to accommodate the LRT infrastructure.

+ Operating & Maintenance Cost

High-level consideration of the overall costs to operate and maintain the infrastructure.

Results



Key Outcomes

12 Avenue S Surface option scored the highest due to:

- Lowest relative cost
- Anticipated lower future maintenance costs

10 Avenue S Surface + Tunnel option scored the lowest due to:

- Highest relative cost
- Anticipated highest future maintenance costs

Evaluation Transportation

Goal

A high-priority transit service that attracts transit use, walking and cycling as preferred mobility choices for Calgarians. An integrated service that improves customer experience, meets future demand and strengthens the regional & local transit networks.

Evaluation Metrics

+ Ride Time for LRT

Evaluation of factors that could influence travel times for transit customers.

+ Transportation Network Reliability

Consideration of impacts to special events access and the overall transportation network.

+ Integration of Existing & Future Transit Service and Customers

Opportunities to strengthen regional and local transit networks by providing convenient connections to existing and planned routes.

+ LRT Service Reliability

Evaluation of factors that could influence the reliability of the LRT service, such as interaction with vehicle traffic, pedestrian crossings, or incidents that can disrupt transit service.

+ Catchment Area

Consideration of providing new transit service in the Beltline.

+ Complete Streets: Multi-modes, Connectivity & Accessibility

Opportunities to align with transportation policy documents by supporting active transportation such as cycling or pedestrian facilities along the route.

Results

Key Outcomes

10 Avenue S Tunnel and 12 Avenue S Tunnel ranked highly due to:

- Improved LRT reliability
- Fewer potential conflict points with vehicles, pedestrians and cyclists
- Lower impact on existing road network

10 Avenue S Surface and 12 Avenue S Surface options ranked lower due to:

- Slower LRT operations
- More potential for conflict points with vehicles, pedestrians and cyclists
- Disruption to existing traffic patterns
- Least amount of space available for public realm improvements

Evaluation Urban & Neighbourhood Development

Goal

A service that supports current and future land use, development along the corridor, and integrates with neighbouring communities.

Evaluation Metrics

+ Transit Oriented Development Potential

Consideration of how well station locations and the route alignment could integrate into existing land uses and provide opportunities for future development.

+ Streetscape & Public Realm

Evaluation of potential ways to improve the street environment and create high quality public spaces

+ Impact on Parking

Consideration of parking availability and access.

+ Urban Vision

Consideration of opportunities to provide for place making.

Results

Key Outcomes

The 12 Avenue S Tunnel + Surface option ranked highest due to:

- Greater near-term development potential
- Better integration of stations with urban realm
- Higher potential to preserve on-street parking and near-term place-making

The 10 Avenue S Surface option ranked lowest due to:

- Reduction in on-street parking
- Limited opportunity for near-term place-making and urban realm integration

Evaluation Sustainable Environment

Goal

A service that promotes sustainable development by reducing greenhouse gases and minimizes impact to the existing natural environment.

Evaluation Metrics

+ **Impact on Existing Natural Environment**
Consideration of the impact on biodiversity and natural environment, both during and after construction.

+ **Environmental Soil Conditions & Contamination**
Consideration of the number of contaminated sites that may be disturbed during construction.

+ **Adaptability to Extreme Climate Conditions**
Consideration of the ability of each option to adapt to extreme weather conditions and climate changes.

+ **Noise & Vibration Impacts**
Consideration of noise and vibration impacts on residents and businesses in the area during LRT operations.

Results

Key Outcomes

All options have the same Elbow River crossing, so all options ranked similarly.

12 Avenue S Tunnel + Surface scored somewhat lower due to:

- Tunnel portal proximity to Elbow River requiring additional mitigation

Evaluation Feasibility & Deliverability

Goal

A service that can be constructed and operated without significant technical issues or constraints..

Evaluation Metrics

+ Constructability

Consideration of technical constraints such as existing utilities, ground conditions, system wide challenges, and the schedule risk related to each.

+ Construction Impacts

Consideration of traffic impacts and disruption to the surrounding community during construction activities.

+ Impacts to Residences & Businesses

Consideration of impacts to neighbourhoods, business operations, and traffic flow during construction.

+ Archaeological & Heritage Impacts

Consideration of potential impacts on land or buildings with historical or architectural significance.

Results

Key Outcomes

The 10 Avenue S Tunnel + Surface option was highly ranked due to:

- Minimal impact to adjacent properties
- Minimal impact to heritage sites

The 10 Avenue S Surface option received a lower ranking due to:

- Greater disruption to heritage sites
- Lands along corridor present risk to project schedule

The 12 Avenue S Surface option also received a lower ranking due to greater disruption to adjacent properties.

Evaluation Stakeholders

Goal

A service that reflects the values and priorities of communities.

Evaluation Metrics

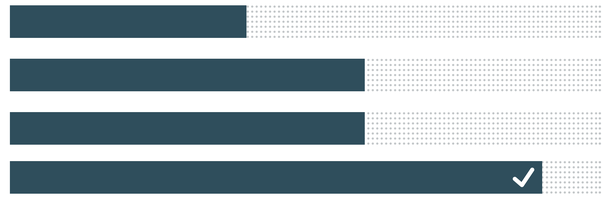
+ Public Acceptability

Consideration of public input gathered on the Beltline options between December 2015 and October 2016 about community and business priorities and values.

+ Alignment with City of Calgary Plans & Policies

Alignment with existing policy documents intended to shape the future of Calgary including the Municipal Development Plan (MDP), Calgary Transportation Plan (CTP), Complete Streets, and Build Calgary.

Results



Key Outcomes

Engagement done in 2016 indicated that the public and stakeholders prefer:

- The 12 Avenue S corridor over the 10 Avenue S corridor due to its greater potential for integration within the Beltline community
- The 12 Avenue S Tunnel + Surface option due to its lesser impact to area traffic

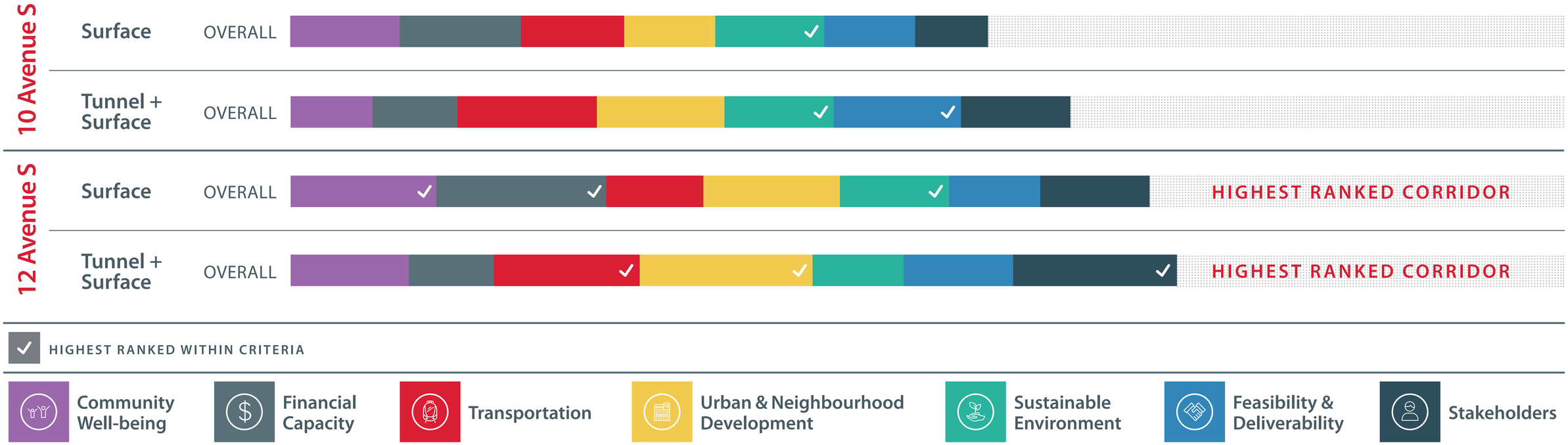
All options were designed to align with current City of Calgary plans and policies.

Evaluation Key outcomes

The **10 Avenue S Tunnel + Surface**, 1**2 Avenue S Tunnel + Surface**, and **12 Avenue S Surface** options received similar overall rankings.

The results of the detailed evaluation process, including stakeholder and public input, indicate that 12 Avenue S is the preferred corridor.

Overall Rankings



The project team will carry both 12 Avenue S options forward for further evaluation.

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