

Yellowhead Trail - 149 Street Interchange Concept Plan

Public Project Update

Recommendation:

That the July 10, 2013, Transportation Services report CR_370, be received for information.

Report Summary

This report provides information on the Yellowhead Trail and 149 Street interchange.

Previous Council/Committee Action

At the June 26, 2013, Transportation Committee meeting, the following motion was passed:

That Administration provide an additional report on the Yellowhead Trail - 149 Street Interchange Concept Plan for the public segment of the July 10, 2013, Transportation Committee meeting.

Report

Background

At the October 9, 2012, Transportation and Infrastructure Committee meeting, Transportation Services report 2012TS2330 was received for information. This report outlined the proposed staging of Yellowhead Trail improvements to move toward free-flow operations on Yellowhead Trail.

The Yellowhead Trail Strategic Plan was completed by Transportation Services in July 2012. It outlined the long-term plan for Yellowhead Trail to become a freeway. To accomplish this objective, a

number of capital projects will need to be undertaken by the City to progress toward ultimate free-flow operation on Yellowhead Trail.

The recommended staging for Yellowhead Trail is identified in the following five major stages:

1. Stage 1 includes intersection and access modifications near 89 Street and 66 Street. Concept plans for these are complete, but funding is currently not available to proceed with these projects.
2. Stage 2 represents an interchange at 149 Street.
3. Stage 3 represents an interchange at 127 Street.
4. Stage 4 represents an interchange at 121 Street.
5. Stage 5 represents interchange modifications at Wayne Gretzky Drive/Fort Road.

Planning work for the interchange at 149 Street (Stage 2) began in May 2012. This report provides a project update.

Project Update

As part of the concept planning work, a number of options were considered to provide free-flow conditions along Yellowhead Trail between St. Albert Trail and 156 Street. Options that have been presented to external businesses and stakeholders include:

- the removal of the traffic signals at 142 Street and 149 Street
- various treatments for the rail spur crossing Yellowhead Trail west of 142 Street (i.e. removal; grade separation; etc.)

- various means of addressing the CN main line crossing of 149 Street north of Yellowhead Trail

The following three basic configuration types were considered:

- Full or Partial Interchange: These configurations would grade-separate Yellowhead Trail from 149 Street and provide some or all turning movements between the two roadways.
- Flyover: These configurations would eliminate turning movements from the intersection of Yellowhead Trail and 149 Street but would maintain a continuous connection of 149 Street over or under Yellowhead Trail.
- At-grade Intersection with Access Control: These options would discontinue 149 Street through-traffic and provide limited connections to 149 Street from Yellowhead Trail in order to achieve free-flow traffic on Yellowhead Trail.

Following comprehensive technical analysis and public involvement, including a number of meetings with an external stakeholder group, the following two strategies have been advanced for further consideration:

- Strategy A: Partial interchange at 149 Street with full grade-separation at CN mainline. (Attachment 1)
- Strategy B: Right-in, Right-out access to Yellowhead Trail using one-way service roads and an at-grade rail crossing of the CN mainline. (Attachment 2)

Both strategies were modeled to evaluate network operations and identify improvements needed to the surrounding road network. Both strategies have the ability to accommodate long-term traffic growth while providing free-flow operation on Yellowhead Trail. In either strategy, network improvements will be required to accommodate changes in travel patterns. Strategy A requires a number of improvements to surrounding intersections, while Strategy B requires more improvements to parallel roads.

Costs for these options differ substantially, primarily based on differences in land and structural requirements:

- Strategy A (partial interchange) involves the construction of an interchange at Yellowhead Trail/149 Street, in addition to a grade separation of the railway mainline. It also requires significant acquisition of entire parcels of land, in addition to some partial acquisitions.
- Strategy B (one-way service roads) does not involve a structure at Yellowhead Trail/149 Street and does not involve a grade separation of the railway main line. It requires less full acquisition and more partial acquisitions.
- In all cases where land is taken in full, there may be opportunities to surplus this land after construction is complete as a means of recovering some of these costs.

The following describes the approximate cost estimates for each strategy to the

level of detail available to Administration at this time. Land acquisition and associated damages contribute significantly to the overall estimated costs; however, much more investigation and work is needed for each potential parcel impacted before the concept plan is completed.

Strategy A - Estimated costs (2013 dollars) associated with Strategy A as follows:

- \$305 million to \$370 million
- Rail Spur Grade Separation: \$100 million to \$135 million
- Estimated Overall Cost = \$405 million to \$505 million

Strategy B - Estimated costs (2013 dollars) associated with Strategy B as follows:

- \$170 million to \$215 million
- Rail Spur Grade Separation: \$160 million to \$195 million
- Estimated Overall Cost: \$330 million to \$415 million

While two different strategies have been brought forward for discussion, the Project Team's preference is Strategy B due to the reduced impact on adjacent properties and lower estimated overall cost. This same sentiment has been generally expressed by the external stakeholder group.

Spur Line Grade Separation

The above noted costs assume that a grade separation is constructed for the CN Rail spur crossing on Yellowhead Trail west of 142 Street. The railway spur line must be addressed in any Strategy, through grade separation, removal for parcels currently using the

spur line. Alternatives that do not require grade separation of the railway spur lines have the potential for significant cost savings. Discussions are currently underway with CN Rail.

To date, the following three options for the spur line crossing of Yellowhead Trail have been identified and are being reviewed in collaboration with CN Rail:

1. Grade-separate the spur line at Yellowhead Trail by depressing the freeway under the spur line.
2. Close the crossing and purchase the eight properties that currently have permission from CN to use the rail spur. This option has the benefit of probable cost recovery through land resales.
3. Close the crossing and develop alternative rail service to the eight properties that currently have permission from CN to use the rail spur.

Administration's preference is to proceed with removal of the rail spur line crossing of Yellowhead Trail. This rail crossing currently serves two trains per day on average and it is expected to remain unchanged in the future.

Next Steps

The next steps in this planning study include:

- Refine the preferred option based on input from Committee and additional technical analysis.
- Hold a public open house to present the final recommendation in the fall of 2013.
- Return to Transportation Committee with the final

recommended concept plan for approval early in 2014.

Policy

- *The Way We Move*
- *The Way We Prosper*

Corporate Outcomes

- Goods and services move efficiently through the city.
- The transportation system is integrated, safe, and gives citizens choice to their mode of movement.
- The impact of City operations on air, land and water systems is minimized.

Public Consultation

To date, the public involvement process completed as part of the interchange planning has included a number of events and totals over 400 hours of public input as follows:

- A public open house was held in June 2012, to announce initiation of the planning study. 53 people attended.
- Eleven profiling interviews were held with key stakeholders/groups.
- A stakeholder group comprised of approximately 30 participants representing 15 area businesses and special interest groups was assembled to provide focused input through a number of different project workshops. A total of five separate 3-hour workshops were held with the stakeholder group.
- Approximately 35 different options were developed, each

with a variety of access options. The stakeholder group and Project Team developed evaluation criteria and relative weighting.

- Following thorough discussions with stakeholders and the Project Team, and technical refinement of options, two different strategies were developed and are being carried forward.
- Feedback throughout the planning study included a focus on impact to business (access, visibility, and impacts during construction), impact on nearby communities and impact of surrounding road network. These themes carried through the general public, stakeholder group and internal City staff.

Budget/Financial Implications

There currently is no funding in place for the design or land acquisition for this project. Administration will develop a Project Profile for this project for Council's consideration as part of the 2015 - 2018 Capital Priorities plan.

Attachments

1. Strategy A
2. Strategy B

Others Reviewing this Report

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Corporate Services