Agenda – Executive Policy Committee – June 18, 2024

Report – Standing Policy Committee on Public Works – June 11, 2024

Moved by Councillor

That Rule 10(3) of The Procedure By-law No. 50/2007 be suspended in order that the following item, which was received less than four business days preceding the committee meeting, be considered by Committee.

Item No. 2 Preliminary Design Study – Route 90 Improvements – Taylor Avenue to Ness Avenue

STANDING COMMITTEE RECOMMENDATION:

On June 11, 2024, the Standing Policy Committee on Public Works concurred in the recommendation of the Winnipeg Public Service and submitted the following to Council:

1. That the Preliminary Design as presented be accepted and that the project be referred to the 2025 Investment Planning process.

2. That, subject to Recommendation 1, the Public Service proceed with an independent value for money assessment for evaluating business case and alternative project delivery methods.

3. That the Proper Officers of the City be authorized to do all things necessary to implement the intent of the foregoing.

Agenda – Executive Policy Committee – June 18, 2024

Report – Standing Policy Committee on Public Works – June 11, 2024

DECISION MAKING HISTORY:

STANDING COMMITTEE RECOMMENDATION:

On June 11, 2024, the Standing Policy Committee on Public Works concurred in the recommendation of the Winnipeg Public Service and submitted the matter to the Executive Policy Committee and Council.

The following persons submitted communications with respect to the matter:

- Tsz Wah Yan
- Jamit Dhaliwal
- Ezra Lazar
- Jasper Arthur
- William Bonness
- Deborah Zanke
- Dustin Sharrow
- Cyrille Durand
- Jeffrey Hodgins
- Jason Ward
- Ellen Warkentin
- Hal Loewen
- Max Schreckenbach
- Dennis Cunningham
- Carly Edmundson
- Mel Marginet
- David Linton
- Tyler Crichton
- Kele Schreckenbach
- Phanie Koncan

ADMINISTRATIVE REPORT

Title: Preliminary Design Study – Route 90 Improvements – Taylor Avenue to Ness Avenue

Critical Path: Standing Policy Committee on Public Works – Executive Policy Committee – Council

AUTHORIZATION

Author	Department Head	CFO	CAO
B. Neirinck, P. Eng.	J. Berezowsky	C. Kloepfer	M. Jack

EXECUTIVE SUMMARY

Route 90 is a vital transportation corridor, linking major residential, employment, and commercial areas in the southwest and northwest quadrants of the city. It is one of only two north-south routes that span the entire city. The corridor requires upgrades to address current and future traffic volumes, new development and future redevelopment, as well as the needs of pedestrians, cyclists, and transit users.

This report summarizes the results of the preliminary design study for Route 90 improvements between Taylor Avenue and Ness Avenue. It includes a benefit-cost analysis and recommended next steps.

The preliminary design addresses both current and future traffic volumes and meets the project's objective to:

- Renew and improve existing infrastructure;
- Safely and efficiently move people and goods;
- Connect the residential areas east and west of the Route 90 corridor;
- Support social interaction, healthy lives, economic stability, and growth; and
- Provide accessible, connected transportation options for people of all ages and abilities.
- Coordinate sewer separation work within the right-of-way.

This report also outlines how the project could be integrated into the Trade Corridor Routes – Planning and Design budget line approved in the 2023 Capital Budget. This allocates $2.8 million to support post-preliminary design work for priority transportation network improvements. If the recommended design is approved and ultimately advances to construction, the City would be required to acquire or expropriate approximately 78 private properties.

Based on a 2024-2031 implementation timeline, the Class 3 Estimate for improving Route 90 from Taylor Avenue to Ness Avenue is $586.1M plus an additional $150.6M in construction period interest. This estimate assumes project is solely funded by the City using debt. Should alternate and external funding sources become available, the debt financing charges would be proportionally reduced.

The project and its associated costs can be broken down into three major components:

- Bridge rehabilitation and road renewal – 42 percent of estimated costs;
- Road widening and capacity improvements – 36 percent of estimated costs; and
- Sewer upgrades and drainage improvements – 22 percent of estimated cost.

If the project is not approved in 2024 for further study and construction, the Class 3 estimate would require updating to account for construction inflation; this is currently projected to be three percent annually. If next steps were deferred beyond five years, major rehabilitation of the bridges would be required in the interim to maintain the existing river crossings.

The benefit-cost analysis, which focuses strictly on the benefits and costs of road widening and capacity improvements, indicates that over a 25-year benefiting period:

- Widening the facility has a positive net present value of $20.5 million;
- A positive benefit-to-cost ratio of 1.17; and
- An internal rate of return of 1.4%

A significant share of these benefits can be attributed to short-term mitigated construction delays during bridge rehabilitation and road renewal that can only occur if an additional lane is added in both directions.

Advancing the design through the trade corridor routes program would include an independent value for money assessment for evaluating the business case, alternative project delivery (i.e. procurement) methods, including gauging construction market capacity, capability, and readiness.

RECOMMENDATIONS

1. That the Preliminary Design as presented be accepted and that the project be referred to the 2025 Investment Planning process.

2. That, subject to Recommendation 1, the Public Service proceed with an independent value for money assessment for evaluating business case and alternative project delivery methods.

3. That the proper officers of the City be authorized to do all things necessary to implement the intent of the foregoing.

REASON FOR THE REPORT

On March 25, 2015, City Council adopted the Kenaston Boulevard Widening as a priority project to pursue inter-governmental funding.

The 2017 Capital Budget adopted on December 13, 2016 included $3,245,000 (St. James Bridge South Bound) and the 2019 Capital Budget adopted on March 20, 2019 included $2,163,000 (renamed Kenaston/Route90 Widening and St. James Bridges formerly St. James Bridge South Bound) for a total project budget of $5,408,000. The study was subsequently renamed the Route 90 Improvement Project – Taylor Avenue to Ness Avenue.

IMPLICATIONS OF THE RECOMMENDATIONS

Approval of the recommended preliminary design and referral to the budget process would allow the Public Service to move forward next steps including undertaking a value for money analysis to review various project delivery options including but not limited to Design-Bid-Build, (Progressive) Design-Build, P3, and Construction Management.

If Council does not concur with the recommendations of this report and further action on the Route 90 Improvements project was deferred beyond five years, major rehabilitation of the bridges would be required in the interim to maintain the existing river crossings.

HISTORY/DISCUSSION

1.0 Background

The 2011 Transportation Master Plan (TMP) identified Route 90 Improvements – Taylor Avenue to Ness Avenue as a short-term priority (by 2016). An update to the TMP is underway which will review the timeframe for the Route 90 Improvements, however this project is expected to remain a short-term priority.

Route 90 is a vital transportation corridor through the City of Winnipeg, linking major residential, employment, and commercial areas in the southwest and northwest quadrants of the city. The corridor needs to be upgraded to address current and future traffic volumes, new development and future redevelopment, and the needs of pedestrians, cyclists, and transit users.

Route 90 is currently three lanes in each direction both north and south of the study area, but only two lanes in the study area. When planning the road network, we generally consider providing six lanes (three in each direction) once daily traffic volumes reach 35,000 vehicles per day on a given street. This threshold has been reached and far exceeded, with current weekday traffic volumes at 79,000 per day on the St. James Bridges and more than 40,000 per day on Route 90 between Taylor Avenue and Ness Avenue. These numbers result in bottlenecks and traffic delays, which in turn cause more idling and increased greenhouse gas emissions. Improving Route 90 to a continuous three lanes in each direction would help accommodate current and future traffic volumes, greatly improve traffic flow, and reduce idling.

2.0 Study Findings and Recommended Design

The preliminary design study was completed by WSP Canada Group Ltd. (“WSP”). The WSP Preliminary Design Report Executive Summary is attached as Appendix A with representative plan drawings in Appendix B.

2.1 Key Design Considerations

The Route 90 Improvements Study considered a number of key design considerations, as summarized in Table 1 below.

Table 1: Key design considerations

Issue	Design Considerations
Lack of vehicular traffic capacity	The proposed design includes changes to signal timings and adding lanes at intersections to improve traffic flow. We are also proposing to close a number of non-signalized intersections on Route 90 between Willow Avenue and the Assiniboine River due to limited visibility, safety concerns, and considerations around connecting local streets and lanes to a major roadway. Eliminating the bottleneck between Taylor Avenue and Ness Avenue would allow more traffic to pass more freely. Providing six lanes along with improved transit stops and active transportation pathways is a practical balance to accommodate current and forecasted (to 2041) traffic volumes.
Lack of adequate active transportation and Transit infrastructure	The proposed design includes dedicated multiuse paths on each side of Route 90. The paths would provide a connection to surrounding neighbourhoods, the larger active transportation network, and major recreational sites like Fort Whyte Alive and Assiniboine Park. Half-signals at regular intervals along the corridor would provide users a safe way to cross Route 90. Proposed transit improvements include transit priority signals, improved bus stop platforms, and passenger shelters.
Need to minimize property acquisitions and impacts	The proposed design minimizes the number of permanent takings required. Earlier design iterations considered a westerly alignment to reduce private property takings, however this was not possible due to property acquisition limitations.
Need to accommodate future development of Naawi-Oodena	The increased vehicular capacity, improved Transit service, and enhanced active transportation connections will accommodate the proposed development. The project team has been working with Indigenous rightsholders to ensure the proposed design takes into consideration future development and land use in this area.
Need to comply with Provincial Legislation concerning combined sewers	The City cannot add runoff from additional impervious areas to existing combined sewers. The proposed design will therefore need to provide sewer separation, which has the additional benefit of advancing work in the Doncaster and Ash Combined Sewer Districts as per the CSO Master Plan sooner and at a lower cost.
Need to reconfigure and extend the service life of the Assiniboine River bridges and Portage Avenue Interchange	The bridges require rehabilitation to last another 75 years. Improving safety requires them to be reconfigured. The proposed modifications of the Assiniboine River crossing and the Portage Avenue Interchange will achieve the project goals of improving the level of service for all modes of travel, while preserving and extending the useful life of the existing bridge structures in a fiscally responsible manner.
Need for road renewal	The existing roads pavement structure is in very poor condition and requires reconstruction.

2.2 Public Engagement

Feedback received over three phases of public engagement ensured the study was grounded in the perspectives of community members, landowners, and stakeholders. At each phase in the process, the design was refined based on the input received. Details of Phase 1 and Phase 2 public engagement are available at winnipeg.ca/route90.

The third and final phase of public engagement was open from May 5 to June 2, 2023. During this phase, the preliminary design was presented, and the public was invited to provide comments on how it would change their experience with the area.
Phase three public engagement opportunities included:

- Affected landowner meetings
- Stakeholder meetings
- A survey (self-selected participation)
- An open house

The public engagement summary report for the final phase of engagement is provided in Appendix C.

2.3 Property Acquisition Summary

A total of 78 private properties, 50 DND-owned properties and 14 City-owned properties were identified for full or partial takings in order to accommodate the project alignment.

The City will attempt to acquire as many properties as possible prior to project commencement (subject to available funding), but it is highly likely that expropriation will be required to assemble all the land required for the project in a timely manner. Acquisitions through purchase or expropriation typically must be completed within two years of project approval and it is possible that settlements could take several years to complete. It is noted that land cannot be expropriated from higher levels of government, so it is critical that certain acquisitions are complete prior to commencement of construction.

2.4 Estimated Project Cost

The Class 3 Estimate for Route 90 Improvements – Taylor Avenue to Ness Avenue is $586.1M (current dollars), plus an additional $150.6M in construction period interest assuming the project is solely funded by the City using debt. The identification of alternate funding sources will reduce these financing amounts.

The current cost estimate reflects 2023 construction market conditions and assumes project commencement in 2024, with an expected project completion of 2031. The estimate assumes a traditional design-bid-build procurement method. If project approval is deferred, construction inflation will result in an increase in the estimated cost, which is currently projected to be 3% annually. Additionally, if the project is deferred beyond approximately 5 years, major rehabilitation of both bridges over the Assiniboine River will be required to preserve and extend their useful life.

The project costs can be approximately apportioned into three major project elements:

- 42% - Bridge rehabilitation and road renewal;
- 36% - Widening and capacity improvements; and
- 22% - Sewer upgrades and drainage improvements.

3.0 Benefit-Cost Analysis

The Public Service has completed an economic evaluation of the proposed improvements using a Benefit-Cost Analysis (BCA) approach. Please refer to Appendix D for the full report. BCA is a process that identifies and quantifies the expected benefits of an investment and compares it to expected costs. It is important to note that benefit-cost analysis is only one tool that can be used to analyze infrastructure investment. Other tools can provide better insight to the project's broader impact.

For this project, the incremental benefits of widening Route 90 to three lanes in each direction were compared against the incremental costs to construct and maintain the improvements. It is important to note that only the widening component of the Route 90 Improvements project was considered in the benefit-cost analysis. This is because it is the only component considered optional while other components such as bridge rehabilitation and road renewal are not considered optional investments for the City over the short term.

Further, regardless if Route 90 is widened or reconstructed, the project presents a significant sewer separation opportunity. Failure to coordinate the sewer and roadworks will result in significant future disruption and rework within the Kenaston Boulevard right-of-way. For this reason, sewer separation work is not considered to be an incremental cost associated with roadway widening.

Forgoing bridge rehabilitation and road renewal would result in the eventual decommissioning of Route 90 within the study area thereby eliminating a section of the trade corridor and a major river crossing on the west side of Winnipeg.

Given this, the total incremental costs of widening are determined to be $119.5 million (measured in 2023 discounted dollars). Refer to Table 2 which describes how the incremental cost of widening used in the BCA analysis is determined.

Table 2: Determination of the incremental costs for widening used in the BCA analysis

Item	Amount ($ Millions)
Total Route 90 Improvements Cost (Nominal Dollars)	$586.1
Less: Cost Escalation (2024 to 2031)	-$64.5
Total Route 90 Improvements Cost (2023 Dollars)	$521.6
Less: Rehabilitation & Drainage Improvement Costs	-$286.2
Less: Contingency & Administrative Cost	-$71.5
Gross Route 90 Widening Cost (2023 Dollars)	**$163.8**
Less: NPV Discounting	-$22.6
Less: Facility Residual Net Present Value after 25 Years	-$22.1
Add: NPV of Incremental Maintenance over 25 Years	$0.5
Net Route 90 Widening Cost	**$119.5**

The findings indicate that the total incremental benefits of widening are worth $140.0 million (also measured in 2023 discounted dollars). This results in a positive net present value of $20.5 million over the 2024-to-2054 time horizon. This represents a benefit-cost ratio of 1.17 and an internal rate of return of 1.4%. In other words, for every dollar invested, one dollar and seventeen cents in benefits are returned to the public from the widening of Route 90 within the study area.

The $140.0 million in benefits to the public from widening are broken down into the following categories:

1. Mitigated Construction Delays worth $57.8 million: a third lane will enable Route 90 to be maintained at two lanes during rehabilitation. Without a third lane, Route 90 will need to be reduced to one lane in either direction for two construction seasons, costing the public 4.6 million hours of their time.
2. Vehicle Travel Time Savings worth $48.5 million: adding a third lane is estimated to provide 7.0 million hours of time savings over 25 years to the public.
3. Vehicle Fuel Consumption Savings worth $15.2 million: a more efficient design is estimated to save the public 21.9 million litres of fuel consumption over 25 years.
4. Emissions reduction worth $12.6 million: the reduction in fuel consumption is expected to result in a reduction in CO2, CH4, and N2O emissions over 25 years, as per Government of Canada Social Cost of Greenhouse Gas Estimates.
5. Safety Benefits worth $4.4 million: a safer facility is expected to result in a net reduction of 450 collisions over 25 years despite inducing additional traffic to use the improved facility.
6. Pedestrian Travel Time Savings worth $1.4 million: the addition of signalized intersections is expected to reduce pedestrian travel times in the area by 250,000 hours over 25 years.
7. Municipal Revenue: there is no additional municipal revenue expected from this project.

It should be cautioned that a substantial portion (41%) of this project's benefits is driven by mitigated construction delays in 2028 and 2029. This is only a temporary benefit and if excluded, the benefit-cost ratio falls to 0.69, indicating the long-term benefits are below total costs. This is explained by high construction costs and marginal time savings associated with

the improved facility once it is operational which is typical of all transportation infrastructure. At minimum a 77% increase in average travel times in a three-lane scenario is required to increase the benefit-cost ratio to 1.00 if mitigated construction delay benefits are excluded from the analysis.

Further, economic benefit-cost analysis is most useful when using it to prioritize a list of capital projects competing for the same basket of limited funding, and it is only one of many methods that can be used to examine the value of a policy, program, or project. As this is the first and only major transportation investment analyzed by the public service, the metrics provided have limited use for comparing or prioritizing this project versus other infrastructure projects.

Benefit-cost analysis is an economic/quantitative tool which has limitations. Such a tool is one of many possible lenses from which to assess the merits of a particular infrastructure investment. Benefit-cost analysis does not analyze qualitative aspects of a project (where applicable) such as traffic redistribution, reliability, and equity. For example,

- The improvements will increase the traffic capacity of this segment of Route 90, relieving nearby local and regional streets of a portion of their traffic volume, thereby improving traffic flow, safety, and livability on these streets.
- The improvements will enhance the travel time reliability for vehicles and transit. For example, a stalled vehicle blocking a lane would now reduce traffic capacity by 33%, rather than 50%. Thus, users can be more confident in the accuracy of their predicted travel times when using Route 90.
- The improvements include dedicated multi-use paths for walking and biking, and accessibility and transit improvements. This will make Route 90 more safe, equitable and accessible for all users seeking alternative modes of transport.

Benefit-cost analysis also relies heavily on fixed economic and financial assumptions. As such, it may be inappropriate to base a go/no-go decision for a particular project solely based off the BCA result.

Please note that the benefit-cost analysis (BCA) is different from an economic impact analysis (EIA). An economic impact analysis (EIA) is a calculation that estimates the impact that constructing the infrastructure asset will have on the economy in terms of gross domestic product (GDP), jobs, and tax revenue arising solely from construction activities. An EIA will be performed on this project if/when a formal funding request is submitted to council in a future administrative report.

4.0 Next Steps

The 2023 Capital Budget adopted by Council on March 22, 2023, includes $2,800,000.00 for the Trade Route Corridors – Planning and Design program.

Subject to Council approving the report recommendations, the next step would be to issue an RFP to undertake an independent value for money assessment for evaluating the business case and alternative project delivery (i.e. procurement) methods for this project. Project delivery methods that could be considered include traditional design/bid/build, public private partnership, (Progressive) design/build and/or construction management delivery methods.

In parallel, the Public Service will be reviewing funding source options.

FINANCIAL IMPACT

Financial Impact Statement Date: May 1, 2024

Project Name:

Preliminary Design Study - Route 90 Improvements - Taylor to Ness Avenue

COMMENTS:

There are no financial impacts associated with the approval of the recommendations of this report.

Recommendation 1

As identified in this report, the estimated cost of this project is $736.7 million, comprised of construction cost of $586.1 million (Class 3 estimate) plus construction period interest of $150.6 million, These costs are subject to change mainly due to construction schedule, market rates and project delivery method. For clarity, the funding to pursue this project is not in place and the project cannot proceed without both funding and authorization from Council. There is no immediate cost associated with approval of the Preliminary Design.

Recommendation 2

There is sufficient funding in the 2023 Trade Route Corridors P&D capital project (project #1803000123) to engage an independent Value for Money assessment. The intent of the recommendation is to obtain concurrence with moving forward with this activity. The financial impact will not occur until a contract is awarded in accordance with the City's Purchasing Policy.

J. Ruby, 2024-05-02
J. Ruby CPA, CA
Manager of Finance & Administration

CONSULTATION

This Report has been prepared in consultation with:

- Legal Services (as to Legal issues)
- Planning Property and Development Department (as to property acquisition issues)
- Chief Administrative Office – Economic Development and Policy (as to economic analysis)
- Water and Waste Department

OURWINNIPEG POLICY ALIGNMENT

This report aligns with OurWinnipeg 2045 and Complete Communities Direction Strategy 2.0 (CCDS 2.0) in the following ways:

- OurWinnipeg 2045
    - *Policy 2.6 Integrated Regional Planning.* The Route 90 Improvements are based on a collaborative and integrated solution to sustainable transportation system connectivity and efficiency on a regional scale.
    - *Policy 2.9 Reduce Road Congestion*. The Route 90 Improvements will enhance Active Transportation and Transit infrastructure, providing viable alternatives to the automobile, helping reduce current and future road congestion.
    - *City Building Objective 2 – Integrate resilient land use, transportation and infrastructure planning, and investments.* The Route 90 Improvements support sustainable transportation options and municipal infrastructure capacity for the movement of people and goods.
- CCDS 2.0 - Urban Structure Supports, *G2 Strategic Infrastructure and Resources – Major Roadways Goal 6 – limit potential impact on neighbourhoods from major roadways while allowing major roadways to function efficiently for their intended use*. The proposed design minimizes the impact on neighborhoods to the extent possible while improving the ability for Route 90 to function for its intended use.

The 2011 Transportation Master Plan (TMP) identified Route 90 Improvements – Taylor Avenue to Ness Avenue as a short-term priority (by 2016).

This report is recommending that the decision on when to refer the Route 90 Improvements Project to the Capital Budget Process, be determined after the Transportation Master Plan has been updated and adopted by Council.

WINNIPEG CLIMATE ACTION PLAN ALIGNMENT

This project aligns with the following policies from Winnipeg Climate Action Plan:

- *Policy #3.1, Increase Use and Efficiency of Public Transit Systems.* New Transit stops will accommodate articulating buses and enhance connections for riders.
- *Policy #3.4, Increase Active Transportation Rates*. New active transportation paths will fill gaps in the pedestrian and cycling network, and support sustainable transportation options.

- *Policy #3.5, Reduce Traffic Congestion*. Synchronizing traffic signals and efficient intersection design will reduce congestion and stop-and-go traffic.

WINNIPEG POVERTY REDUCTION STRATEGY ALIGNMENT

This project aligns with the following policies from Winnipeg Poverty Reduction Strategy:

- *Goal 5 – Transportation System Equity is Enhanced*. People living in poverty often travel daily to various locations to access services that help meet their basic needs. The proposed design features significant improvements for low cost alternative modes of travel, including walking, biking and Transit.

SUBMITTED BY

Department: Public Works
Division: Engineering
Prepared by: Cam Ward, P.Eng.
Date: May 2, 2024
File No: 17-G-04

Attachments:
Appendix A – WSP Executive Summary

Appendix B – Drawings

Appendix C – Phase 3 Public Engagement Summary Report

Appendix D – Benefit Cost Analysis Report