

**Agenda – Standing Policy Committee on Infrastructure Renewal and Public Works –
June 9, 2020**

REPORTS

**Item No. 12 Pedestrian Crossing Control Treatments for 2020 Traffic Engineering
Improvement Program Budget**

WINNIPEG PUBLIC SERVICE RECOMMENDATION:

1. That a pedestrian corridor be installed on King Edward Street at the intersection of Coatstone Drive.
2. That a pedestrian corridor be installed on Corydon Avenue at the intersection of Lanark Street.
3. That a rectangular rapid flashing beacon be installed on Aldgate Road at the intersection of Highbury Road.
4. That a rectangular rapid flashing beacon be installed on Bison Drive at the multi-use path between Bridge Lake Drive and Appleford Gate.
5. That the Proper Officers of the City to do all things necessary to implement the intent of the foregoing.

**Agenda – Standing Policy Committee on Infrastructure Renewal and Public Works –
June 9, 2020**

DECISION MAKING HISTORY:

STANDING COMMITTEE RECOMMENDATION:

On April 21, 2020, the Standing Policy Committee on Infrastructure Renewal and Public Works concurred in the recommendation of the City Centre Community Committee and directed the Winnipeg Public Service to conduct a traffic study to determine if an overhead flashing beacon system is warranted at the pedestrian corridor at the intersection of Corydon Avenue and Lanark Street and report back to the Standing Committee at its November 3, 2020 meeting.

COMMUNITY COMMITTEE RECOMMENDATION:

On March 3, 2020, the City Centre Community Committee passed the following motion:

WHEREAS traffic has increased along Corydon Avenue;

AND WHEREAS residents need to safely cross Corydon Avenue to access the Sir John Franklin Site of the Corydon Community Centre;

AND WHEREAS children need to be able to safely cross Corydon Avenue to reach J.B Mitchell School, St. John Brebuf School, and Carpathia School;

AND WHEREAS development and roadwork has substantially increased along Corydon Avenue east of Kenaston Boulevard;

AND WHEREAS the existing pedestrian crosswalk at Lanark Street and Corydon Avenue may now require upgrades due to the changed conditions;

THEREFORE BE IT RESOLVED that the Standing Policy Committee on Infrastructure Renewal and Public Works be requested to direct the Winnipeg Public Service to conduct a traffic study to determine if an overhead flashing beacon system is warranted at the pedestrian corridor at the intersection of Corydon Avenue and Lanark Street.

ADMINISTRATIVE REPORT

Title: Pedestrian Crossing Control Treatments for 2020 Traffic Engineering Improvement Program Budget

Critical Path: Standing Policy Committee on Infrastructure Renewal and Public Works

AUTHORIZATION

| Author | Department Head | CFO | CAO |
|-------------------|-----------------|----------------------------|-------------------------|
| D. Patman, P. Eng | J. Berezowsky | P. Olafson, Interim CFO | M. Ruta, Interim CAO |

EXECUTIVE SUMMARY

This report identifies four locations where pedestrian crossing control treatments are proposed as part of the 2020 Transportation Engineering Improvement Program (TEIP). The treatments are warranted based on the guidance provided in the Transportation Association of Canada's *Pedestrian Crossing Control Guide*.

The recommended treatment at King Edward Street and Coatstone Drive is a pedestrian corridor and the estimated capital cost is \$105,000. The combined estimated annual maintenance and operating cost associated with this treatment is \$2,500.

The recommended treatment at Corydon Avenue and Lanark Street is a pedestrian corridor and the estimated capital cost is \$115,000. The combined estimated annual maintenance and operating cost associated with this treatment is \$2,500.

The recommended treatment at Aldgate Road and Highbury Road is a rectangular rapid flashing beacon (RRFB) and the estimated capital cost is \$25,000. The combined estimated annual maintenance and operating cost associated with this treatment is \$2,500.

The recommended treatment for the multi-use path across Bison Drive between Bridge Lake Drive and Appleford Gate is an RRFB and the estimated capital cost is \$35,000. The combined estimated annual maintenance and operating cost associated with this treatment is \$2,500.

RECOMMENDATIONS

1. That a pedestrian corridor be installed on King Edward Street at the intersection of Coatstone Drive.
2. That a pedestrian corridor be installed on Corydon Avenue at the intersection of Lanark Street.
3. That a rectangular rapid flashing beacon be installed on Aldgate Road at the intersection of Highbury Road.
4. That a rectangular rapid flashing beacon be installed on Bison Drive at the multi-use path between Bridge Lake Drive and Appleford Gate.

5. That the proper officers of the City to do all things necessary to implement the intent of the foregoing.

REASON FOR THE REPORT

As the City's Traffic Authority, the Standing Policy Committee on Infrastructure Renewal and Public Works must approve installation of traffic control signals and activated pedestrian crossing control treatments. This report presents four locations where the Winnipeg Public Service has determined that activated pedestrian crossing control treatments are warranted.

On April 21, 2020, the SPC IRPW concurred in the recommendation of the City Centre Community Committee and directed the Winnipeg Public Service to conduct a traffic study to determine if an overhead flashing beacon system is warranted at the pedestrian corridor at the intersection of Corydon Avenue and Lanark Street and report back to the Standing Committee at its November 3, 2020 meeting.

IMPLICATIONS OF THE RECOMMENDATIONS

The combined estimated capital cost of \$290,000 associated with the pedestrian crossing control treatments at the locations described will be funded by the 2020 Traffic Engineering Improvements – Various Locations budget. The 2020 Capital Budget adopted by Council on March 20, 2020, includes funding for 2020 Traffic Engineering Improvements – Various Locations in the amount of \$1,900,000.

The combined estimated annual maintenance and operating cost of \$10,000 associated with the pedestrian crossing control treatments at the locations described will be funded by the Public Works Department Transportation Division Operating Budget.

HISTORY/DISCUSSION

PEDESTRIAN CROSSING CONTROL WARRANT

In recommending the installation of new pedestrian crossing control, the Winnipeg Public Service follows the guidance provided in the Transportation Association of Canada's (TAC) *Pedestrian Crossing Control Guide*. The *Pedestrian Crossing Control Guide* presents a set of principles to guide professionals during the decision-making process associated with the provision of pedestrian crossing control. The warrant for a treatment system is based on factors that include pedestrian volume at the crossing location, vehicular traffic volume, proximity to other traffic control devices, and route connectivity requirements. The City considers that a warrant is fulfilled when the following two criteria from the *Pedestrian Crossing Control Guide* are met:

1. Average hourly pedestrian volume in terms of Equivalent Adult Units (EAUs) is greater or equal to 15 per hour over a minimum seven-hour continuous period and Average Daily Traffic (ADT) is greater or equal to 1,500 vehicles per day. EAUs account for age and differences in physical ability. For example, an able-bodied adult is considered as 1.0 EAU, an unaccompanied child (estimated age ≤ 12 years) is considered as 2.0 EAUs, a senior citizen (estimated age >65 years) is considered as 1.5 EAUs, and an individual of any age with a physical impairment crossing is considered as 2.0 EAUs.

2. The proposed crossing location is at a minimum distance from the nearest form of traffic control, typically between 100 metres and 200 metres for a particular location. This may vary based on a location's individual traffic characteristics and engineering judgment.

If pedestrian crossing control is warranted, the guideline's "Decision Support Tool – Treatment Selection Matrix" recommends a treatment based on the Average Daily Traffic (ADT) volumes, speed limit, and roadway cross section.

KING EDWARD STREET AND COATSTONE DRIVE

The study area and proposed pedestrian crossing location on King Edward Street is illustrated in Figure 1. King Edward Street south of Jefferson Avenue is a non-regional collector street. The École Waterford Springs School is a new K-8 school which is scheduled to open in fall 2020. The catchment area for the school includes the residential development on the west side of King Edward Street. Students from this development will need to cross King Edward Street to travel to/from school and there is not currently a controlled pedestrian crossing location within a reasonable walking distance. Based on the need to provide system connectivity and considerations for linking land uses (as outlined in the TAC Pedestrian Crossing Control Guide) a new controlled pedestrian crossing location along this segment of King Edward Street is desirable.



Figure 1: King Edward Street at Coatstone Drive Study Area (iView 2018 airphoto)

The TAC guideline's "Decision Support Tool – Treatment Selection Matrix" recommends a crossing control treatment based on the following factors: ADT volumes, speed limit, and roadway cross section. King Edward Street has a two-lane undivided cross-section. Based on an expansion factor applied to a 2018 turning movement count, the daily traffic volume on this segment of King Edward Street is approximately 5,400 vehicles per day. It is expected that this traffic volume will significantly increase once the school opens and as development in the area continues. The posted speed limit has recently been changed from 70 km/h to 60 km/h. The recommended *minimum* treatment across King Edward Street would be an enhanced signed

and marked crosswalk. However, enhanced signed and marked crosswalks are not a common treatment in Winnipeg; the width of the crossing (approximately 11 metres including lanes and gravel shoulders), school area location, likelihood for significant increase in future traffic volumes, and likelihood for higher vehicle speeds than the posted speed limit (the speed limit was just recently reduced from 70 km/h to 60 km/h) all support a higher order treatment. An RRFB was considered for this location but since this is a new treatment in Winnipeg and based on the above considerations (primarily potential for higher speeds and school children users) it was deemed appropriate to recommend a pedestrian corridor. The pedestrian corridor should be installed on the north side of the intersection.

The estimated capital cost for installation is \$105,000. The combined estimated annual maintenance and operating cost associated with this treatment is \$2,500.

CORYDON AVENUE AT LANARK STREET

On April 21, 2020, the SPC IRPW concurred in the recommendation of the City Centre Community Committee and directed the Winnipeg Public Service to conduct a traffic study to determine if an overhead flashing beacon system is warranted at the pedestrian corridor at the intersection of Corydon Avenue and Lanark Street and report back to the Standing Committee at its November 3, 2020 meeting. For clarification purposes, Pedestrian Corridor is another term commonly used to describe the overhead flashing beacon treatment system and a pedestrian crosswalk with side-mounted signs currently exists at the intersection of Corydon Avenue and Lanark Street.

The study area surrounding the Corydon Avenue and Lanark Street intersection is shown in Figure 2. On the western leg of the intersection there is currently a school crosswalk with side mounted signs and ladder style crosswalk pavement markings across Corydon Avenue. The nearest controlled crossing to the west is a pedestrian corridor at Carpathia Avenue (approximately 470 metres). The nearest controlled crossing to the east is a pedestrian corridor at Brock Street (approximately 660 metres). There is another pedestrian corridor farther east at Elm Street.

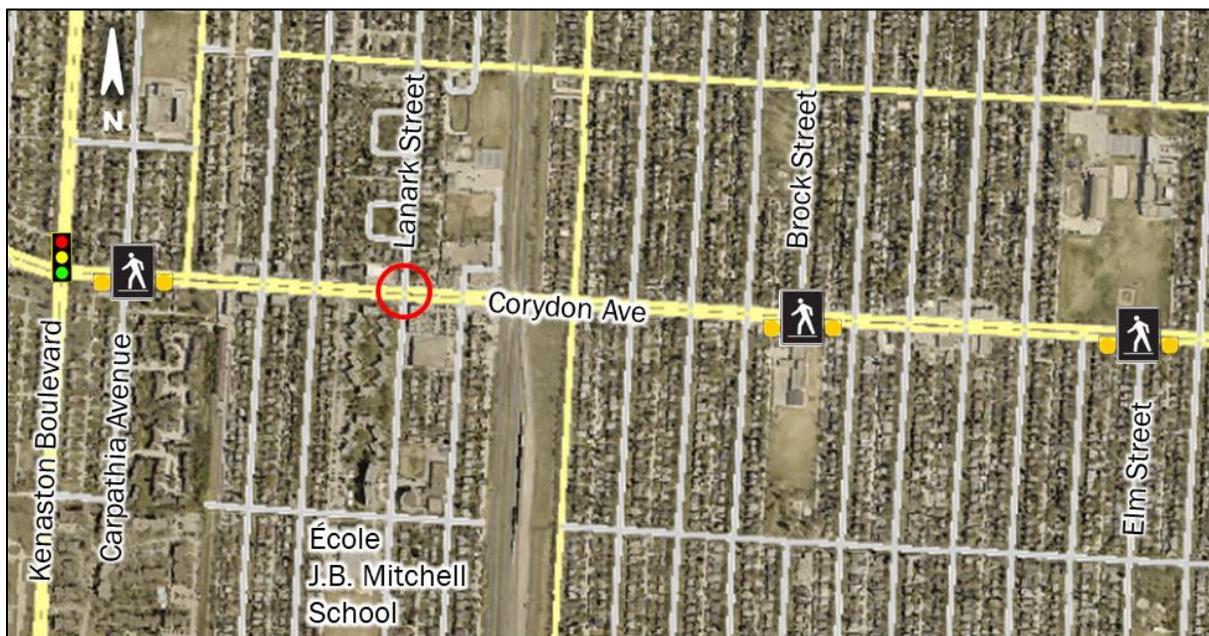


Figure 2: Corydon Avenue at Lanark Street Study Area (iView 2018 airphoto)

The crosswalk provides connectivity between the residential neighbourhoods to the north and south of Corydon Avenue. It is also the primary crossing location for students living north of Corydon Avenue to access the J.B. Mitchell School (K-6 school age enrollment). Based on the need to provide system connectivity and considerations for linking land uses (as outlined in the TAC Pedestrian Crossing Control Guide) pedestrian crossing control at this location is warranted.

Corydon Avenue has a four-lane divided cross-section. The Average Weekday Daily Traffic volume is approximately 15,900 vehicles per day and the regulatory speed limit is 50 km/h. Based on the guideline's "Decision Support Tool – Treatment Selection Matrix", the recommended pedestrian crossing control treatment for Corydon Avenue is an RRFB. However, existing pedestrian crossing treatments along the Corydon Avenue corridor should also be considered; there are pedestrian corridors installed at the nearby intersections with Carpathia Avenue, Brock Street, and Elm Street. Since motorists encounter these intersections in short succession, it would be beneficial from a motorist familiarity and expectation perspective to continue to provide consistent treatments along this corridor. The recommended treatment is a pedestrian corridor installed on the west side of the intersection.

The estimated capital cost for installation is \$115,000. The combined estimated annual maintenance and operating cost associated with this treatment is \$2,500.

ALDGATE ROAD AT Highbury Road

On May 2, 2019, the SPC IRPW concurred in the recommendation of the Riel Community Committee and directed the Winnipeg Public Service to conduct a traffic study to determine if a crosswalk on Aldgate Road at Highbury Road is warranted, and report back to the Standing Committee. This location is illustrated in Figure 3.

On April 21, 2020, the SPC IRPW received as information a report from the Winnipeg Public Service stating that an RRFB pedestrian crossing control treatment system at this location would be placed on the priority list for installation through the TEIP subject to available budget. Funding through the TEIP for this location is now recommended.

The estimated capital cost for installation is \$25,000. The combined estimated annual maintenance and operating cost associated with this treatment is \$2,500.

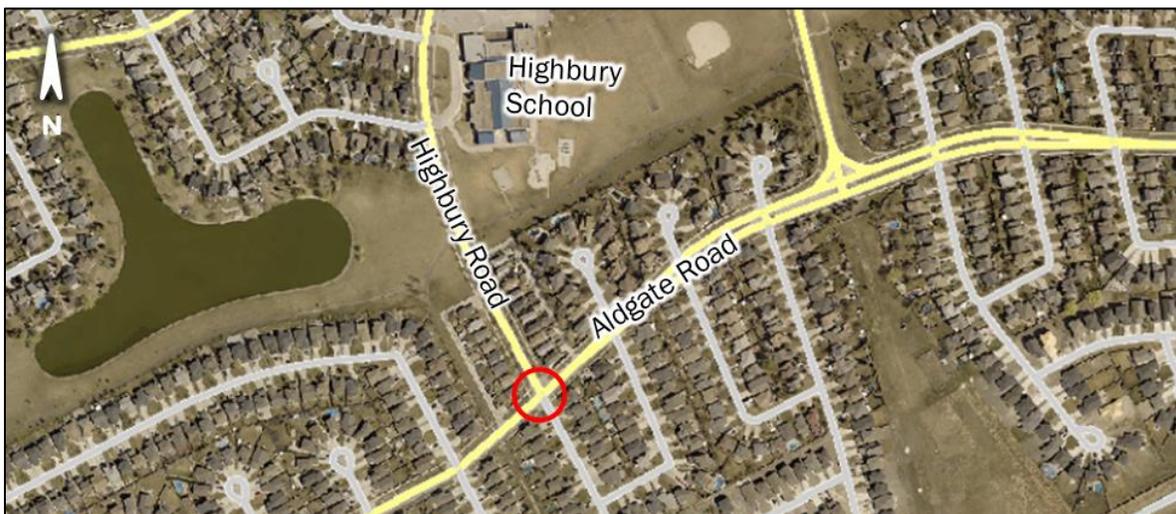


Figure 3: Aldgate Road at Highbury Road Study Area (iView 2018 airphoto)

MULTI-USE PATH CROSSWALK ON BISON DRIVE BETWEEN BRIDGE LAKE DRIVE AND APPLEFORD GATE

On November 20, 2018, the SPC IRPW concurred in the recommendation of the Riel Community Committee and directed the Winnipeg Public Service to report back on recommendations, associated costs and an estimated timeline to construct an improved and safer cycling and pedestrian connection between the two transportation corridors from the neighbourhoods of Bridgwater Lakes and Bridgwater Trails, which crosses Bison Drive between Appleford Gate and Bridge Lake Drive. This location is illustrated in Figure 4.

On April 21, 2020, the SPC IRPW received as information a report from the Winnipeg Public Service stating that an RRFB pedestrian crossing control treatment system at this location would be placed on the priority list for installation through the TEIP subject to available budget. Funding through the TEIP for this location is now recommended.

The estimated capital cost for installation is \$35,000. The combined estimated annual maintenance and operating cost associated with this treatment is \$2,500.

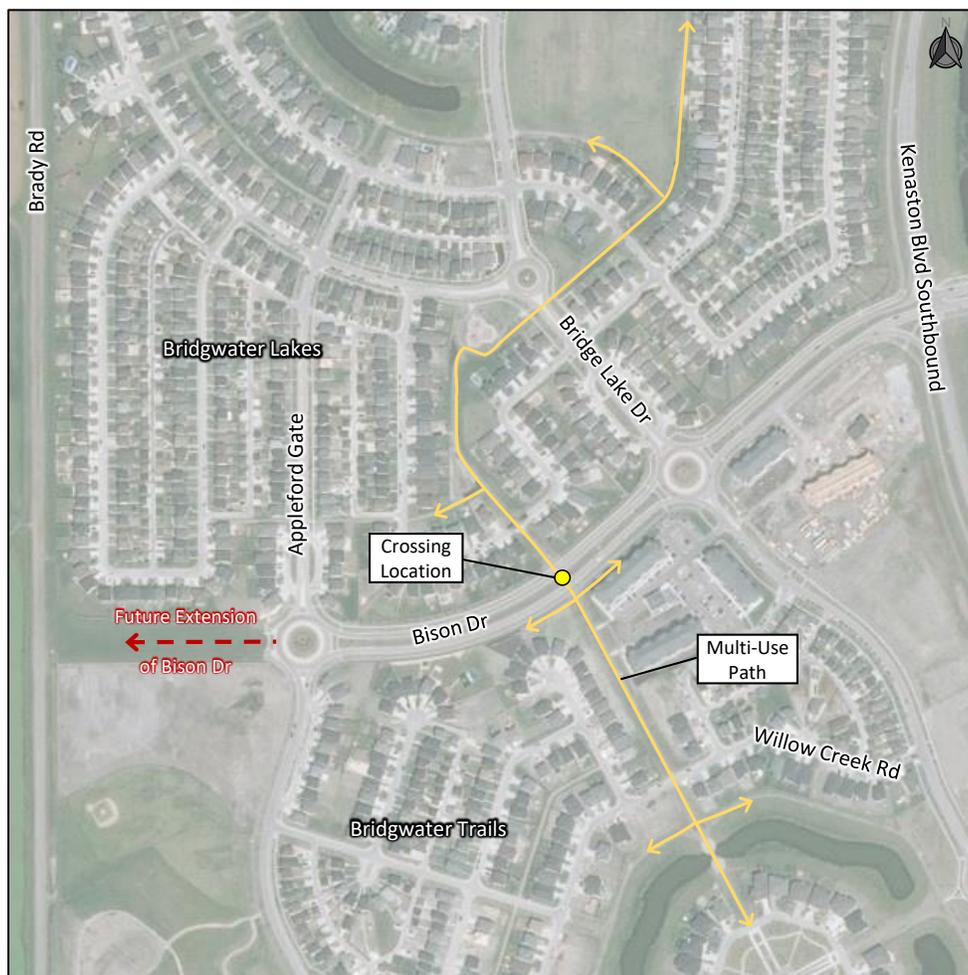


Figure 4: Multi-Use Path Crossing on Bison Drive between Bridge Lake Drive and Appleford Gate

FINANCIAL IMPACT

Financial Impact Statement

Date: May 11, 2020

Project Name: **First Year of Program** **2020**
Pedestrian Crossing Control Treatments for 2020 Traffic Engineering Improvement Program Budget

| | <u>2020</u> | <u>2021</u> | <u>2022</u> | <u>2023</u> | <u>2024</u> |
|--|-------------|-------------|-------------|-------------|-------------|
| Capital | | | | | |
| Capital Expenditures Required | \$ 293,300 | \$ - | \$ - | \$ - | \$ - |
| Less: Existing Budgeted Costs | 293,300 | - | - | - | - |
| Additional Capital Budget Required | \$ - | \$ - | \$ - | \$ - | \$ - |
| Funding Sources: | | | | | |
| Debt - Internal | \$ - | \$ - | \$ - | \$ - | \$ - |
| External | - | - | - | - | - |
| Grants (Identify) | - | - | - | - | - |
| Reserves, Equity, Surplus, Other | - | - | - | - | - |
| Total Funding | \$ - | \$ - | \$ - | \$ - | \$ - |
| Total Additional Capital Budget Required | \$ - | | | | |
| Total Additional Debt Required | \$ - | | | | |
| Current Expenditures/Revenues | | | | | |
| Direct Costs | \$ - | \$ 10,000 | \$ 10,000 | \$ 10,000 | \$ 10,000 |
| Less: Incremental Revenue/Recovery | 13,300 | - | - | - | - |
| Net Cost/(Benefit) | \$ (13,300) | \$ 10,000 | \$ 10,000 | \$ 10,000 | \$ 10,000 |
| Less: Existing Budget Amounts | (13,300) | 10,000 | 10,000 | 10,000 | 10,000 |
| Net Budget Adjustment Required | \$ - | \$ - | \$ - | \$ - | \$ - |

Additional Comments: The total estimated cost of \$293,300 will be funded by the 2020 Traffic Engineering Improvement Program, (Public Works Capital Project #1831000220 - Signal & Pedestrian Corridor). Direct costs of \$10,000 per year are the combined annual maintenance and operating costs which will be funded by the Public Works Department Transportation Division operating budget. Incremental Revenue/Recovery represents the Departmental Engineering and Corporate Interest overheads.

"Original signed by J. Peters, CPA, CGA"
 J. Peters, CPA, CGA
 Acting Manager of Finance & Administration

CONSULTATION

This Report has been prepared in consultation with: N/A

OURWINNIPEG POLICY ALIGNMENT

The Sustainable Transportation Direction Strategy developed as part of OurWinnipeg forms the policy framework for the Transportation Master Plan (TMP). Sustainable Transportation identified a vision and five Key Strategic Goals which are critical to achieving a balanced and sustainable transportation system for Winnipeg. These goals form the basis for the TMP and the directions and strategies contained within it:

1. A transportation system that is dynamically integrated with land use;
2. A transportation system that supports active, accessible and healthy lifestyle options;
3. A safe, efficient and equitable transportation system for people, goods and services;
4. Transportation infrastructure that is well maintained
5. A transportation system that is financially sustainable

The recommendations within this report are consistent with the Key Strategic Goals.

WINNIPEG CLIMATE ACTION PLAN ALIGNMENT

N/A

SUBMITTED BY

Department: Public Works
Division: Transportation
Prepared by: Keenan Patmore, M.Sc., P.Eng., Regional Traffic Engineer
Date: May 11, 2020