

Rectangular Rapid Flashing Beacon Pilot Project - Update

ISSUE

The Administration has completed the pilot project for Rectangular Rapid Flashing Beacon pedestrian devices and is providing a summary report.

BACKGROUND

The following inquiry was made by Councillor Z. Jeffries at the meeting of City Council held on August 18, 2016:

“Would administration please report on the possibility of using RRFBs (Rectangular Rapid Flashing Beacons) as a pedestrian crossing device, even on a pilot basis in Saskatoon?”

City Council, at its Regular Business Meeting held on December 12, 2016, considered the Inquiry – Councillor Z. Jeffries (August 18, 2016) Use of RRFB’s (Rapid Rectangular Flashing Beacons) as Pedestrian Crossing Device report and resolved:

“That the Administration be directed to bring forward a report by April 2017 outlining funding options for implementation of a pilot project for Rapid Rectangular Flashing Beacons.”

City Council, at its Regular Business Meeting held on May 23, 2017, considered the Traffic Safety Review Program – 2017 Budget Adjustment report and resolved, in part:

“1. That the amount of \$100,000 be approved for Capital Project #2446 – Pedestrian Crossing improvements from the Traffic Safety Reserve.”

RRFBs were installed at the following five locations in June 2018:

1. Clarence Avenue and Glasgow Street
2. Millar Avenue and 43rd Street
3. Taylor Street and Weyakwin Drive
4. Lowe Road – south of Atton Crescent; and
5. Spadina Crescent and 33rd Street

CURRENT STATUS

The RRFB pilot project reviewed driver yield compliance after the devices were installed. The pilot project installation was also used to understand which locations would be appropriate for the installation of an RRFB.

The pilot project framework identified that expanded use of RRFBs would depend on the pilot project outcome and the publication of national guidelines for their use.

In 2018, the Transportation Association of Canada published an updated Pedestrian Crossing Control Guide (PCGG) which includes criteria for the use of RRFBs and

established criteria for selecting the appropriate pedestrian crossing device. Council Policy C07-018, Traffic Control at Pedestrian Crossings was updated in September 2018 to incorporate the process outlined in the most recent edition of the PCCG.

DISCUSSION/ANALYSIS

Details for the selected RRFB pilot project locations are outlined below:

Location	# of Lanes Per Direction	# of Lanes Total	Raised Refuge	Pedestrian Volume (EAUs)*	Distance from Nearest Traffic Control (m)	Average Daily Traffic (vpd)	Posted Speed Limit (kph)
Clarence Avenue and Glasgow Street	2	4	No	7	250	18,800	50
Millar Avenue and 43 rd Street	2	4	No	5	270	12,900	50
Taylor Street and Weyakwin Drive	4 (WB) 2 (EB)	6	No	3	520	8,300	50
Low Road (south of Atton Crescent)	1	2	Yes	3	1,350	5,600	50
Spadina Crescent and 33 rd Street	2	4	No	22	25	6,600	50

* EAUs (i.e. Equivalent Adult Units) accounts for pedestrian age and physical ability of at risk pedestrians Adults 1.0 EAUs; Children 2.0 EAUs; Older pedestrians 1.5 EAUs; Pedestrians with impairment 2.0 EAUs

Follow-up traffic counts and site observations were completed in June 2019 during peak weekday traffic hours (7:00 a.m. to 9:00 a.m.; 11:30 a.m. to 1:30 p.m.; and 3:00 p.m. to 5:00 p.m.). Findings are as follows:

- Full driver compliance was noted at all locations when the RRFBs were activated during observation periods.
- The majority of pedestrians were pushing the button to cross the street safely with the device actuated at most pilot locations, except for Low Road.
- At Millar Avenue and 43rd Street, there are no existing sidewalk connections reducing the overall use of the device compared to other locations; however, this location could provide a connection to a future potential pedestrian crossing of the CN rail tracks between 43rd Street and Assiniboine Drive.
- There were mostly cyclists crossing at the Low Road (south of Atton Crescent) location and the majority of them did not use the push button.

According to the PCCG, for locations that warrant a pedestrian crossing, the appropriate pedestrian device is selected based on the following criteria:

- Average daily traffic;
- Posted speed limit;
- Number of lanes for the crossing (include turning lanes and parking lanes); and
- Presence of a pedestrian refuge.

The appropriate device type for the pilot project locations based on the PCCG treatment selection matrix are outlined in the following table:

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Location	Average Daily Traffic (vpd)	# of Lanes	Pedestrian Refuge Present	Device Recommended According to TAC
Clarence Avenue and Glasgow Street	18,800	2 lanes per direction	None	Pedestrian Actuated Signal
Millar Avenue and 43 rd Street	12,900	2 lanes per direction	None	Active Pedestrian Corridor
Taylor Street and Weyakwin Drive	8,300	WB - 2 travel lanes, 1 turning lane and 1 parking lane EB – 2 travel lanes	None	Pedestrian Actuated Signal
Lowe Road (south of Atton Crescent)	5,600	1 travel lane per direction	4.4 m median island	Standard Crosswalk
Spadina Crescent and 33 rd Street	6,600	2 lanes per direction	Channelized right turn island does not provide pedestrian refuge between the directions of travel	RRFB

NEXT STEPS

Based on the results of the pilot project and study, RRFBs will remain at Spadina Crescent and 33rd Street as this location meets Transportation Association of Canada requirements.

RRFBs will be replaced with overhead pedestrian devices at the following locations:

1. Clarence Avenue and Glasgow Street (Pedestrian Actuated Signal) – Due to the high volume of traffic, this location is not suitable for an RRFB according to the PCCG.
2. Millar Avenue and 43rd Street (Active Pedestrian Corridor) – Due to the high volume of traffic, this location is not suitable for an RRFB according to the PCCG. In addition, some citizens have expressed concerns with the visibility of the crosswalk and RRFB device at this location. With the horizontal curve in the roadway and the amount of truck traffic on Millar Avenue, an Active Pedestrian Corridor would be more appropriate to ensure adequate visibility and further enhance safety at this location.
3. Taylor Street and Weyakwin Drive (Pedestrian Actuated Signal) – According to the PCCG, crossings with four lanes or less are most appropriate for an RRFB. Due to the number of lanes for this crossing (including parking lanes and turning lanes), this location should be upgraded to a pedestrian actuated signal to ensure that pedestrians are adequately protected for the entire crossing distance.

The RRFB device at the Lowe Road (south of Atton Crescent) location will be removed in spring of 2020. A standard crosswalk is appropriate for this location according to the PCCG. As observed during the pilot project, the majority of users did not activate the push button to cross. The existing zebra crosswalk will remain. The device will be stored until an appropriate alternate location can be identified.

As Transportation Association of Canada has published industry standard guidelines for the installation of RRFBs, the Administration has been recommending (typically through the Neighbourhood Traffic Review process) and installing these type of devices since 2018. For example, RRFBs have been installed at the McOrmond Drive/College Drive interchange, eastbound to the northbound loop ramp. RRFBs are planned for the following locations:

- 14th Street and Spinks Drive/Carleton Drive
- Balfour Street and Harrington Street
- Arlington Avenue and Porter Street
- 115th Street and Kellough Road
- Spadina Crescent and Pembina Avenue
- Lorne Avenue and Isabella Street
- 25th Street and Pacific Avenue

IMPLICATIONS

Funding to upgrade the pedestrian devices at the Clarence Avenue/Glasgow Street, Millar Avenue/43rd Street, and Taylor Street/Weyakwin Drive intersections will be requested for Capital Project #2290 – Traffic Control Systems through the 2020/2021 Business Plan and Budget deliberations.

The approximate cost for an Active Pedestrian Corridor is \$40,000; and for a Pedestrian Actuated Signal is \$100,000.

There are no legal, social, or environmental implications.

Report Approval

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