Minutes – Standing Policy Committee on Infrastructure Renewal and Public Works – February 5, 2019

REPORTS

Item No. 14 **Traffic Study – Eastbound and Westbound Burrows Avenue at McPhillips Street (Point Douglas Ward)**

STANDING COMMITTEE RECOMMENDATION:

The Standing Policy Committee on Infrastructure Renewal and Public Works laid the matter over for 120 days to allow the Winnipeg Public Service to conduct public consultation and report back to the Standing Committee on the feasibility of installing left turn signals on Burrows Avenue at McPhillips Street.

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DECISION MAKING HISTORY:

Moved by Councillor Santos,

That the matter be laid over for 120 days to allow the Winnipeg Public Service to conduct public consultation and report back to the Standing Policy Committee on Infrastructure Renewal and Public Works.

Carried

STANDING COMMITTEE RECOMMENDATION:

On November 20, 2018, the Standing Policy Committee on Infrastructure Renewal and Public Works granted an extension of time to its February 5, 2019 meeting for the Winnipeg Public Service to report back on the matter.

On May 29, 2018, the Standing Policy Committee on Infrastructure Renewal and Public Works concurred in the recommendation of the Lord Selkirk-West Kildonan Community Committee and directed the Winnipeg Public Service to conduct a traffic study at the intersection of Burrows Avenue and McPhillips Street to determine the feasibility of installing left turn signals on Burrows Avenue at McPhillips Street.

COMMUNITY COMMITTEE RECOMMENDATION:

On May 15, 2018, the Lord Selkirk-West Kildonan Community Committee passed the following motion:

WHEREAS there is a lot of traffic Eastbound and Westbound at the intersection of Burrows Avenue at McPhillips Street during rush hour, attempting to turn north and south onto McPhillips Street;

AND WHEREAS there is currently no left turn signalization Eastbound or Westbound on Burrows Avenue at McPhillips Street;

AND WHEREAS there is a desire to install a left turn signal light for both Eastbound and Westbound on Burrows Avenue at McPhillips Street to facilitate the timely movement of traffic at this intersection;

DECISION MAKING HISTORY (continued):

COMMUNITY COMMITTEE RECOMMENDATION (continued):

THEREFORE BE IT RESOLVED that the Lord Selkirk-West Kildonan Community Committee recommends to the Standing Policy Committee on Infrastructure Renewal and Public Works that the Winnipeg Public Service be instructed to conduct a traffic study at the intersection of Burrows Avenue and McPhillips Street to determine the feasibility of installing left turn signals on Burrows Avenue at McPhillips Street, and report back within 90 days to the Standing Policy Committee on Infrastructure Renewal and Public Works.

ADMINISTRATIVE REPORT

Title: Traffic Study – Eastbound and Westbound Burrows Avenue at McPhillips Street

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

AUTHORIZATION

Author	Department Head	CFO	CAO
D. Patman, P.Eng.	J. Berezowsky	N/A	D. McNeil

EXECUTIVE SUMMARY

An analysis was completed of the eastbound and westbound left turns from Burrows Avenue at McPhillips Street in accordance with City's guidelines for protected left turn phases. Left turn signal phases are not recommended at this time due to geometric constraints as well as the probability of increasing cut through traffic for the neighbourhood west of McPhillips Street.

RECOMMENDATIONS

That this report be received as information.

REASON FOR THE REPORT

On May 29, 2018; The Standing Policy Committee on Infrastructure Renewal and Public Works concurred in the recommendation of the Lord Selkirk-West Kildonan Community Committee and directed the Winnipeg Public Service to conduct a traffic study at the intersection of Burrows Avenue and McPhillips Street to determine the feasibility of installing left turn signals on Burrows Avenue at McPhillips Street, and report back to the Standing Committee within 90 days.

IMPLICATIONS OF THE RECOMMENDATIONS

There are no implications as a result of this recommendation.

HISTORY/DISCUSSION

CURRENT TRAFFIC CHARACTERISTICS

McPhillips Street in the vicinity of Burrows Avenue is: a six-lane divided roadway, a Regional Street, a Full Time Truck Route, and a Transit Route; with an Average Weekday Daily Traffic (AWDT) volume of approximately 36,500 vehicles, and a speed limit of 60 km/h.

Burrows Avenue in the vicinity of McPhillips Street is: a two-lane divided residential-collector roadway and a Transit Route (west of Phillips Street); with an AWDT volume of approximately 10,700 & 7,800 vehicles, to the west and east of McPhillips Street, respectively; and a speed limit of 50 km/h. It should be noted that although parking is accommodated due to the lane width, it is technically a single lane due to the absence of dashed white longitudinal lines.

The traffic control signals are interconnected with the adjacent traffic control signals on this segment of McPhillips Street, and a 100-140 second (depending on time of day plan) cycle length allows efficient signal coordination along this route (cycle length is the length of time required to go through all of the signal phases once).

LEFT TURN PHASE – WARRANT CRITERIA

Motorists may turn left on a green ball signal indication at signalized intersections after yielding the right-of-way to opposing vehicular and pedestrian traffic. Under certain conditions, an additional conflict-free left turn phase (green arrow) may be provided. The Winnipeg Public Service has a Technical Guideline and Practice it uses for guidance for consideration of implementing a left turn phase, developed from the Manual of Uniform Traffic Control Devices for Canada (MUTCDC); a national guideline.

Adding a separate left turn arrow phase generally results in an increase of overall average delay and reduces the total intersection vehicular capacity because the time for the left turn arrow phase must be taken from other movements at the intersection, or added to the total cycle length. Therefore, to benefit from a left turn phase, the left turn vehicular volume must represent a significant portion of the total intersection volume and experience delays in excess of one signal cycle on a regular basis. Gaps in the opposing traffic flow and/or the amber clearance phase generally accommodates at least two left turning vehicles per signal cycle, or 60 vehicles per hour based on the cycle length of 120 seconds.

To warrant installation of a separate left turn phase at either of these intersections, the primary criterion of the Technical Guideline and Practice must be fulfilled: the left turn demand must exceed two vehicles per signal cycle (60 vehicles per hour) for at least four hours of a typical weekday. If the primary criterion is fulfilled, the applicable secondary criteria are then considered:

1. More than 25% of the left-turning volume must be delayed by more than one signal cycle during the highest hour during the peak traffic period;
2. More than 12 collisions involving left-turning motorists (same approach) for the most recent three year reporting period;
3. The average number of left turns during the intergreen (amber and red signal display, does not include vehicles which are established in the intersection and complete the turn on the intergreen) exceeds 2.0 PCUs (Passenger Car Units).

Adding a left turn phase is undesirable under any of the following circumstances:

1. There is insufficient green time within the current cycle length to allow a left turn phase;
2. The left turn phase will encourage neighbourhood traffic infiltration;
3. The left turn phase will increase stops and delays significantly.

LEFT TURN PHASE – EASTBOUND AND WESTBOUND BURROWS AVENUE AT MCPHILLIPS STREET

An intersection turning movement manual vehicle count was conducted at the intersection in June 2018, and a summary of the AM Peak Hour (between 07:00-09:00) and PM Peak Hour (between 15:30-17:30) is provided below:

Time	NORTHBOUND ON				SOUTHBOUND ON				EASTBOUND ON				WESTBOUND ON				
Start	MCPHILLIPS ST				MCPHILLIPS ST				BURROWS AVE				BURROWS AVE				TOTAL
Time Ending	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
AM Peak	AM Peak Hour (between 7:00 and 9:00), based on total volume, is from: 7:45 - 8:45																
Hour		64	657	15		30	1,057	67		68	206	125		20	286	39	2,634
AM Peak	AM Peak Period is from: 7:00 - 9:00																
Period		130	1,287	25		71	2,090	138	1	121	376	221		38	530	75	5,103
PM Peak	PM Peak Hour (between 15:30 and 17:30), based on total volume, is from: 15:45 - 16:45																
Hour	1	92	1,220	24		49	939	95	1	82	323	81		18	329	67	3,321
PM Peak	PM Peak Period is from: 15:30 - 17:30																
Period	1	179	2,423	55	1	103	1,915	168	1	177	638	163		40	603	147	6,614

During the four hours of the AM and PM Peak Periods (07:00-09:00 & 15:30-17:30), the westbound left turn demand averages 0.76 vehicles per signal cycle. With average left turn demand being less than 2.0 vehicles per cycle, the City's primary criterion for a westbound left turn phase is not met.

During the four hours of the AM and PM Peak Periods (07:00-09:00 & 15:30-17:30), the eastbound left turn demand averages 2.90 vehicles per signal cycle. With average left turn demand being greater than 2.0 vehicles per cycle, the City's primary criterion for an eastbound left turn phase is met.

As the primary criterion for consideration of an eastbound left turn phase was satisfied, a cycle-by-cycle observation was undertaken during the PM peak period, for the eastbound left turn movement to determine if more than 25% of the left-turning volume was delayed by more than one signal cycle (refer to 1. of the secondary criteria listed above). During the observation, eastbound queuing was noted to be greater due to the fact all eastbound (left, thru, right) traffic operates in a single lane. This in conjunction to on-street parking up to the bus stop (approximately 40m from McPhillips Street) increases queue length. Removal of on-street parking is not expected to be well received by the affected fronting residents. In addition, removal of on-street parking may draw additional cut through traffic to Burrows Avenue; this would also be an undesirable effect. To adequately accommodate a left turn phase for eastbound traffic at Burrows, a left turn storage lane, right turn lane designation and/or other geometric improvements would be required. Again, this is not desirable due to potentially increasing cut through traffic on Burrows Avenue. There are currently no plans to re-align the intersection of Burrows Avenue and McPhillips Street.

A review of the reported collision data within the most recent reporting period indicates that the correctable collision configurations involving the eastbound and westbound left turns are not over represented such that a left turn phase would be a viable collision counter-measure (refer to #2 of the secondary criteria listed above).

Based on the above, eastbound and westbound protected left turn phases are not recommended at this time.

FINANCIAL IMPACT

Financial Impact Statement **Date:** December 12, 2018

Project Name:
Traffic Study – Eastbound and Westbound Burrows Avenue at McPhillips Street

COMMENTS:

There is no financial impact associated with the recommendation of this report.

"Original signed by J. Ruby, CPA, CA"
J. Ruby CPA, CA
Manager of Finance & Administration

CONSULTATION

This Report has been prepared in consultation with: n/a

OURWINNIPEG POLICY ALIGNMENT

The recommendation of this report is aligned with the key strategic goal of a safe, efficient and equitable transportation system for people, goods and services in the Sustainable Transportation Direction Strategy that supports OurWinnipeg.

SUBMITTED BY

Department: Public Works
Division: Transportation
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C. Flather M.Sc., P.Eng., Traffic Management Engineer
Date: December 19, 2018