

**Agenda – Standing Policy Committee on Infrastructure Renewal and Public Works –
February 27, 2018**

REPORTS

**Item No. 17 Traffic Study – Speed Limit on Waverley Street, from Bishop
Grandin Boulevard to Sandusky Drive**

WINNIPEG PUBLIC SERVICE RECOMMENDATION:

1. That there be no speed reductions on Waverley Street, from Bishop Grandin Boulevard to Sandusky Drive at this time.

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DECISION MAKING HISTORY:

STANDING COMMITTEE RECOMMENDATION:

On October 31, 2017, the Standing Policy Committee on Infrastructure Renewal and Public Works concurred in the recommendation of the Riel Community Committee and directed the Winnipeg Public Service to conduct a traffic study on the speed limit on Waverley Street, from Bishop Grandin Boulevard to Sandusky Drive, to determine if a speed reduction should occur, and report back to its meeting in March 2018.

COMMUNITY COMMITTEE RECOMMENDATION:

On October 2, 2017, the Riel Community Committee passed the following motion:

WHEREAS increased traffic volume with rapid population growth in Waverley West is changing traffic flows;

THEREFORE BE IT RESOLVED that the Standing Policy Committee on Infrastructure Renewal and Public Works direct the Winnipeg Public Service to conduct a traffic study on the speed limit on Waverley Street, from Bishop Grandin Boulevard to Sandusky Drive, to determine if a speed reduction should occur.

ADMINISTRATIVE REPORT

Title: Traffic Study – Speed Limit on Waverley Street, from Bishop Grandin Boulevard to Sandusky Drive

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

AUTHORIZATION

Author	Department Head	CFO	CAO
B. Neirinck, P. Eng. A/Manager of Transportation	J. Berezowsky Acting Director of Public Works	N/A	D. McNeil

EXECUTIVE SUMMARY

A speed study on Waverley Street was undertaken in the Fall of 2017. Based on this speed data and future plans for Waverley Street, it is recommended that there be no changes to the speed limit on Waverley Street at this time. The traffic characteristics on Waverley Street will be monitored as development occurs in the vicinity, as additional growth is still expected in Waverley West.

RECOMMENDATIONS

1. That there be no speed reductions on Waverley Street, from Bishop Grandin Boulevard to Sandusky Drive at this time.

REASON FOR THE REPORT

On October 31, 2017; the Standing Policy Committee on Infrastructure Renewal and Public Works concurred in the recommendation of the Riel Community Committee and directed the Winnipeg Public Service to conduct a traffic study on the speed limit on Waverley Street, from Bishop Grandin Boulevard to Sandusky Drive, to determine if a speed reduction should occur, and report back to its meeting in March 2018.

IMPLICATIONS OF THE RECOMMENDATIONS

The recommendation is consistent with the accepted practices used to establish speed limits (refer to Appendix A: Speed Limit Setting Criteria for information).

HISTORY/DISCUSSION

CURRENT TRAFFIC CHARACTERISTICS

Waverley Street between Bishop Grandin Boulevard and Bison Drive is a four-lane divided Regional Street with a speed limit of 80 km/h; with an Average Weekday Daily Traffic (AWDT)

volume of approximately 25,000 vehicles. Waverley Street between Bison Drive and a point 340m North of Sandusky Drive is a four-lane divided Regional Street with a speed limit of 70 km/h (the speed limit is 60km/h South of a point 340m North of Sandusky Drive to Kenaston Boulevard); with an AWDT volume of approximately 10,000 vehicles. It is noted that traffic volumes have decreased since Waverley Street (north) was disconnected from the Perimeter Highway, and the Kenaston Boulevard extension has been utilized as a thoroughfare to the Perimeter Highway.

There are traffic control signals on Waverley Street at Bishop Grandin Boulevard, Arbour Meadow Gate / Lake Crest Road, Bison Drive, and Sandusky Drive / John Angus Drive. There are two-way stop controlled intersections at Cadboro Road (opposite side of Bison Drive), and Lee Boulevard.

SPEED LIMIT REVIEW

The Public Works Department’s recommendation for speed limits is based on a number of elements including the adjacent land use; access to the roadway; reported collision history; roadway design; and the measured 85th percentile speed of traffic on the street, being the speed at or below which 85% of motorists operate their vehicle, provided that the collision rate is within acceptable limits. Such a criterion recognizes that the majority of motorists operate their vehicle in a reasonable and prudent manner with due consideration for conditions encountered. Establishing speed limits in this manner has proven to be effective in that it accommodates traffic in a safe and orderly way and enables the Police to focus their enforcement resources toward the 15% of drivers who operate at excessive speeds (refer to Appendix ‘A’: Speed Limit Setting Criteria for information).

The 15km/h pace is a measure of speed dispersion (the spread in vehicle speeds). The speed distribution contains approximately 70% of the vehicles within the pace and with approximately 15% of vehicles below or above the limits of the pace speed. In most cases, the upper limit of the pace speed is approximately the 85th percentile speed. As shown below, the upper limit of the pace speed is approximately that of the 85th percentile speed.

A speed study on Waverley Street was undertaken in the Fall of 2017 and recorded the following 85th percentile speeds and 15km/h pace shown below:

Location on Waverley Street (Speed Limit)	Pneumatic Tube Study	
	85th Percentile Speed (Combined)	15km/h Pace
Approx. 250m South of Bishop Grandin Boulevard (80km/h)	80km/h NB 79km/h SB (79km/h)	70-84km/h NB 65-79km/h SB (66-80km/h)
Approx. 120m South of Arbour Meadow Gate – NB Approx. 50m South of Cadboro Road – SB (80km/h)	69km/h NB 72km/h SB (N/A)	54-68km/h NB 60-74km/h SB (N/A)
Approx. 400m North of Lee Boulevard (70km/h)	78km/h NB 80km/h SB (N/A)	65-79km/h NB 70-84km/h SB (N/A)
Approx. 200m South of Lee Boulevard (70km/h)	75km/h NB 74km/h SB (75km/h)	62-76km/h NB 60-74km/h SB (61-75km/h)

The results are generally consistent with the existing posted speed limits.

It is noted that the lower southbound speed recorded near Cadboro Road may have been influenced by the proximity of the Cadboro Road intersection and roadway characteristics (single lane added on the right) to bypass the Bison Drive intersection. The lower northbound speed recorded near Arbour Meadow Gate may have been influenced by the proximity of the turning lanes and decelerating traffic, or accelerating traffic which was stopped at the Bison Drive intersection.

The higher speeds recorded north of Lee Boulevard may be attributed to the roadway characteristics (straight and open section with no approaches), and the fact the speed limit had already been lowered from 80km/h in 2009 in relation to construction of Waverley West. This observation is consistent with research that indicates operating speeds are determined in part by the roadway environment and not exclusively by posted speed limit signs. This may change as additional development occurs in Waverley West.

Further evaluation of the existing posted speed limits was completed using the Transportation Association of Canada's (TAC) Canadian Guidelines for Establishing Posted Speed Limits which is a risk-based assessment that considers elements such as roadway geometry, pedestrian & cyclist exposure, roadside hazards, and number of intersections (public roads and private approaches) to assess the appropriate posted speed limit.

The evaluation indicates that the section of Waverley Street between Bishop Grandin Boulevard and Bison Drive has a recommended speed limit of 70km/h as determined by road characteristics; and the section of Waverley Street between Bison Drive and a point 340m North of Sandusky Drive has a recommended speed limit of 70km/h as determined by road characteristics.

The reason Waverley Street between Bishop Grandin Boulevard and Bison Drive has a recommended speed limit of 70km/h (based on TAC Guidelines) is because of the limited pedestrian and cyclist facilities on this section of Waverley Street.

On December 13, 2017; Council adopted the 2018 Pedestrian and Cycling Program – Action Plan. This includes preliminary design funding for a bicycle corridor on Waverley Street from John Angus Drive to Victor Lewis Drive in 2019. This is also identified as a priority project if further funding opportunities arise.

Based on this speed data and future plans for Waverley Street, it is recommended that there be no changes to the speed limit on Waverley Street at this time. The traffic characteristics on Waverley Street will be monitored as development occurs in the vicinity, as additional growth is still expected in Waverley West.

FINANCIAL IMPACT

Financial Impact Statement

Date: [January 19, 2018](#)

Project Name:
**Traffic Study – Speed Limit on Waverley Street, from Bishop
Grandin Boulevard to Sandusky Drive**

COMMENTS:

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

"Original 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 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.

SUBMITTED BY

Department: Public Works
Division: Transportation
Prepared by: T. Jangula, C.E.T., Traffic Analyst
Date: January 18, 2018
File No: R-12

Attachments: Appendix 'A': Speed Limit Setting Criteria

APPENDIX 'A': SPEED LIMIT SETTING CRITERIA

SPEED LIMIT SETTING

Speed limits on the highways of Manitoba, including in the City of Winnipeg, are set by The Highway Traffic Board of Manitoba which is appointed by the Provincial Government.

When a speed limit change on a City street has been requested or a speed limit is proposed on a newly constructed street, it is the practice of the Public Works Department to provide the Standing Policy Committee on Infrastructure Renewal and Public Works, being the City's Traffic Authority, comprised of a Committee of elected officials appointed by Council, with an evaluation of such a request/proposal, including the results of a speed study on the street and a comparison of the collision rate thereon with other streets of similar characteristics, and an assessment of the traffic operating conditions on a newly constructed street. With such information, the Committee is better informed to decide whether the Public Works Department should be authorized to apply to The Highway Traffic Board of Manitoba for the requested speed limit change or for a proposed speed limit on a newly constructed street.

The Public Works Department's recommendation to the Standing Policy Committee on Infrastructure Renewal and Public Works for speed limits is based primarily on the measured 85th percentile speed of traffic on the street, being the speed at or below which 85% of motorists operate their vehicle, provided that the collision rate is within acceptable limits. Such a criterion recognizes that the majority of motorists operate their vehicle in a reasonable and prudent manner with due consideration for conditions encountered, including activity into and out of intersecting public streets and approaches, as well as the presence of pedestrians and bicyclists on or near the roadway. The methodology is described below.

BACKGROUND INFORMATION ON SETTING SPEED LIMITS¹

Generally, traffic laws that reflect the behavior of the majority of motorists are found to be successful, while laws that arbitrarily restrict the majority of motorists encourage violations, lack public support and usually fail to bring about desirable changes in driving behavior. This is particularly true when it comes to establishing speed limits.

Speed limits are based on several fundamental concepts deeply rooted within the system of government and law:

- a. driving behavior is an extension of social attitude and the majority of drivers respond in a safe and reasonable manner as demonstrated by consistently favorable driving records;
- b. the normally careful and competent actions of a reasonable person should be considered appropriate;
- c. laws are established for the protection of the public and the regulation of unreasonable behavior on the part of individuals; and
- d. laws cannot be effectively enforced without the consent and voluntary compliance of the public majority.

¹ (Excerpt from "Speed Zoning Information A Case of Majority Rule (within the United States)". Institute of Transportation Engineers)

One important objective in setting a speed limit is to inform drivers of a reasonable and safe maximum speed under normal driving conditions. When less than ideal conditions exist, a driver must adjust vehicle speed accordingly as required by provisions of the Manitoba Highway Traffic Act.

It is a long accepted North American practice to recommend and establish speed limits based on the 85th percentile speed, being the speed at or below which 85% of motorists travel, in conjunction with a detailed engineering analysis of other factors such as collision information. Circumstances such as curves on the road, visibility restrictions, pedestrian and parking activity, and adjacent land uses (e.g., schools, shopping centres, etc.) are factors that determine the speed at which the vast majority of motorists elect to operate their vehicle. A speed limit established on such a basis is also referred to as a "credible speed limit" in that the speed limit matches the image that is inspired by the roadway environment and the traffic operating circumstances encountered. Features of the driving environment that are relevant to a "credible speed limit" include the roadway width, the number of lanes, lane lining and marking, the presence of adjacent buildings, as well as trees, utility poles and furniture in the boulevard. Long, straight, wide sections of roadways with a smooth surface in an open clear road environment tend to lend themselves to a higher operating speed than is the case where such features are not present.

Establishing speed limits in this manner has proven to be effective in that it accommodates traffic in a safe and orderly way and enables the Police to focus their enforcement resources toward the 15% of drivers who operate at excessive speeds. Such a criterion recognizes that the majority of motorists operate their vehicle in a reasonable and prudent manner with due consideration for conditions encountered, including activity into and out of intersecting public streets and approaches as well as the presence of pedestrians and bicyclists on or near the roadway. By setting speed limits using the 85th percentile speed, the range of speeds is lessened, providing a more uniform flow of traffic. Studies have shown that:

- more collisions occur when the speeds of vehicles are varied with extremely high or low speeds encountered²;
- setting speed limits lower than that considered reasonable to the majority of drivers encourages disrespect of speed limits in general;
- posted speed limits which are set higher or lower than that dictated by roadway and traffic conditions are ignored by the majority of motorists; and that
- when speed limits are raised or lowered, there is very little impact on motorists' actual speeds.

Safe, "credible speed limits" can be expected to enhance motorists' compliance to the speed limit, which in turn can result in a reduction in collisions than would otherwise be the case. If a speed limit is not credible, motorists will be inclined to elect to drive at a speed that they perceive to be realistic. If speed limits are perceived as being incredible too frequently, it will challenge the public's trust in the speed limit system generally. A speed limit can be incredible because the speed limit is either perceived as being too low or as being too high.

HIGHWAY TRAFFIC BOARD APPROVAL

The Highway Traffic Board considers an application for a speed limit change at a public meeting, the place, date and time of which is advertised in the newspaper. The Board

² "U.S. DOT Publication No. FHWA-RD-98-154", 1998

considers the evidence submitted by the applicant; which, in the case of The City of Winnipeg, is the Public Works Department, as well as any public submission either in person or in writing. The applicant is informed of the Board's decision in due course.

The methodology and the process that the Public Works Department follows as described above ensures that, to the greatest extent feasible, consistency is attained in establishing speed limits on our streets.