ADMINISTRATIVE REPORT

Title: Traffic Study – Wilkes Avenue and Elmhurst Road

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

AUTHORIZATION

Author	Department Head	CFO	CAO
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EXECUTIVE SUMMARY

A signal at Wilkes Avenue and Elmhurst Road is warranted but cannot be adopted due to the following conditions:

1. On December 13, 2017, Council adopted that the city will not approve or engage any major capital infrastructure planning within the Wilkes Avenue to William R. Clement Parkway Extension area until a new Precinct Plan is adopted by Council and that Council through the OurWinnipeg review shall rank the prioritization of the South Wilkes Precinct as part of the OurWinnipeg and Complete Communities review. At the time of this report, these are both outstanding.

2. The needed geometric changes to this intersection, both horizontally and vertically, have been investigated at a preliminary level (limited in part due to the December 13, 2017 Council restrictions on further study in the area). A class 5 cost estimate indicated that this project would cost $2.5 million plus real estate acquisition and moving Hydro transmission lines and possibly Hydro towers.

3. The installation of a signal at Wilkes Avenue and Elmhurst Road would likely increase the traffic volume on Elmhurst Road. The increased volume would likely trigger the need for traffic calming measures for Elmhurst Road as well as a possible signal at Elmhurst Road and Grant Avenue, expanding the scope of this project.

The Public Service will continue to monitor the intersection and will revisit the matter once the new Precinct Plan and OurWinnipeg have been approved by Council.

RECOMMENDATIONS

1. That this report be received as information.

REASON FOR THE REPORT

On February 5, 2019, the Standing Policy Committee on Infrastructure Renewal and Public Works concurred in the recommendation of the Assiniboia Community Committee and directed the Winnipeg Public Service to conduct a traffic study to address safety concerns at the intersection

of Wilkes Avenue and Elmhurst Road, and report back to the Standing Committee within 180 days.

IMPLICATIONS OF THE RECOMMENDATIONS

There are no implications as a result of the recommendations.

HISTORY/DISCUSSION

BACKGROUND INFORMATION

On December 13, 2017, Council concurred in the recommendation of the Executive Policy Committee and adopted the following:

1. That the October 31, 2017, recommendation of the Standing Policy Committee on Infrastructure Renewal and Public Works regarding the Wilkes Avenue Alignment to William R. Clement Parkway Extension be received as information.

2. That all existing planning, land use documents, by-laws, permitting processes and transportation plans that are consistent with the area shall remain in place regarding development and transportation of the South Wilkes Area.

3. That the William R. Clement Parkway as configured in the Transportation Master Plan be allowed to continue, but such extension and any planning and design of a future roadway for the east/west connection of the William R. Clement Parkway extension project must follow and be included in the Precinct Plan for the South Wilkes area.

4. That the City will not approve or engage any major capital infrastructure planning in these areas until a new Precinct Plan is adopted by Council.

5. That the development of the Precinct shall include the residents of the South Wilkes Area, and be consistent with the new communities development strategy policy related to the development of Precinct Plans alongside the existing community, without disrupting the quality and character of the existing developed areas.

6. That Council through the OurWinnipeg review shall rank the prioritization of the South Wilkes Precinct as part of the OurWinnipeg and Complete Communities review.

7. That the costs for the development of the Precinct Plan be recovered from future large development in the Area subsequent to the completion of the Precinct Plan.

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

As of July 18, 2019 (date of report writing), a new Precinct Plan, as mentioned in (3) above, has not been written or approved by Council. Also, as of July 18, 2019, an updated version of OurWinnipeg is still a work in progress, as mentioned in (6) above.

With the above direction in mind, the Winnipeg Public Service has assessed the intersection of Wilkes Avenue and Elmhurst Road for signalization, as well as other potential solutions to improve road safety.

WILKES AVENUE AND ELMHURST ROAD – CURRENT TRAFFIC CHARACTERISTICS

Wilkes Avenue in the vicinity of Elmhurst Road is a two-lane, undivided roadway, a regional street, and a full-time truck route (Route 145) (see Figure 1).

The Average Weekday Daily Traffic (AWDT) volume on this section of Wilkes Avenue is approximately 8,200, increasing to 13,200 vehicles (west and east of Elmhurst Road, respectively). The speed limit on this section of Wilkes Avenue is 80 km/h.

The CNR Mainline / Rivers Subdivision rail corridor runs parallel just to the north of the Wilkes Avenue right-of-way.

The intersection is two-way stop controlled (southbound on Elmhurst Road and northbound on the private approach); Wilkes Avenue traffic has the right-of-way. When traveling westbound there is a short section of paved shoulder which functions as a de-facto deceleration lane for westbound right turning traffic. Due to railway traffic there are often westbound right turning vehicles queued beyond the length of the de-facto deceleration lane. Eastbound left traffic volumes are lower. Eastbound through traffic has been observed bypassing queued traffic on the gravel shoulder.

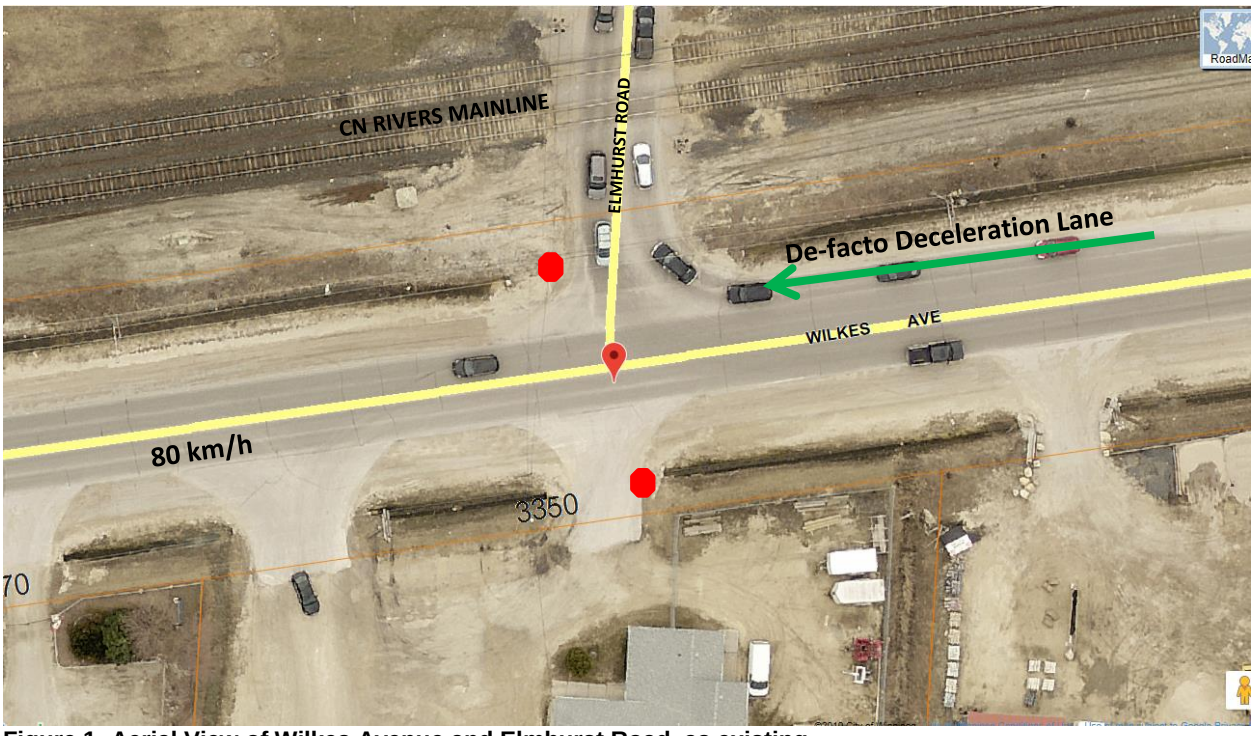

Figure 1: Aerial View of Wilkes Avenue and Elmhurst Road, as existing.
Photo courtesy of iView, City of Winnipeg.

TRAFFIC CONTROL SIGNALS – WARRANT

In recommending the installation of new traffic control signals, the Winnipeg Public Service follows the installation warrant criteria contained in the *Manual of Uniform Traffic Control Devices for Canada*, a national standard which is based upon the conflicting pedestrian and vehicular volumes for the busiest six hours during a typical weekday.

The minimum cross street volume threshold for consideration of traffic control signals is 75 vehicles per hour (excluding right turns) for at least six hours of the day. Generally, traffic control signals are recommended when the conflicting traffic volumes for the busiest six hours of a typical weekday produce a signal warrant of 100 and fulfill the minimum cross street volume criterion to ensure that traffic signal control is an appropriate consideration throughout the day.

The most recent traffic count indicated the signal warrant was 95, and the 75 vehicle per hour cross street volume threshold was fulfilled.

As the most recent traffic count was from late 2017, it follows that traffic growth due to development in the area (such as Ridgewood South farther west, commercial development in the Sterling Lyon Parkway / Kenaston Boulevard area) would result in an increased volume on Wilkes Avenue meeting the signal warrant of 100. Engineering judgement can be applied and the signal warrant can be presumed to be satisfied based on traffic volumes.

IMPLEMENTATION ANALYSIS

Intersection Geometry – Necessary Upgrades

Installation of traffic control signals is not recommended with the current two-lane undivided roadway geometry.

In order to meet design standards, engineering best practices, operate effectively and reduce future throwaway costs, the Wilkes Avenue roadway would need to be upgraded. The improvements required include widening a portion of Wilkes Avenue from west of Liberty Street to east of Loudoun Road, construction of a median with turn lanes and a true westbound deceleration lane. This would require property acquisition in order to maintain ditch drainage and safe side slopes.

Due to the proximity of the CNR tracks to the north, railway preemption and a pre-signal would also be required on Elmhurst Road (a similar system is in place at Shaftesbury Boulevard to the north of Wilkes Avenue). Due to the abrupt gradients over the railway tracks and short distance to the roadway, it would also be necessary to re-grade Elmhurst Road, Wilkes Avenue, and the CNR tracks.

Construction work in the vicinity of the intersection would also need to accommodate the Wilkes Avenue water feeder main; an important piece of City infrastructure.

As shown in Figure 2, property acquisition would be required to upgrade the intersection.

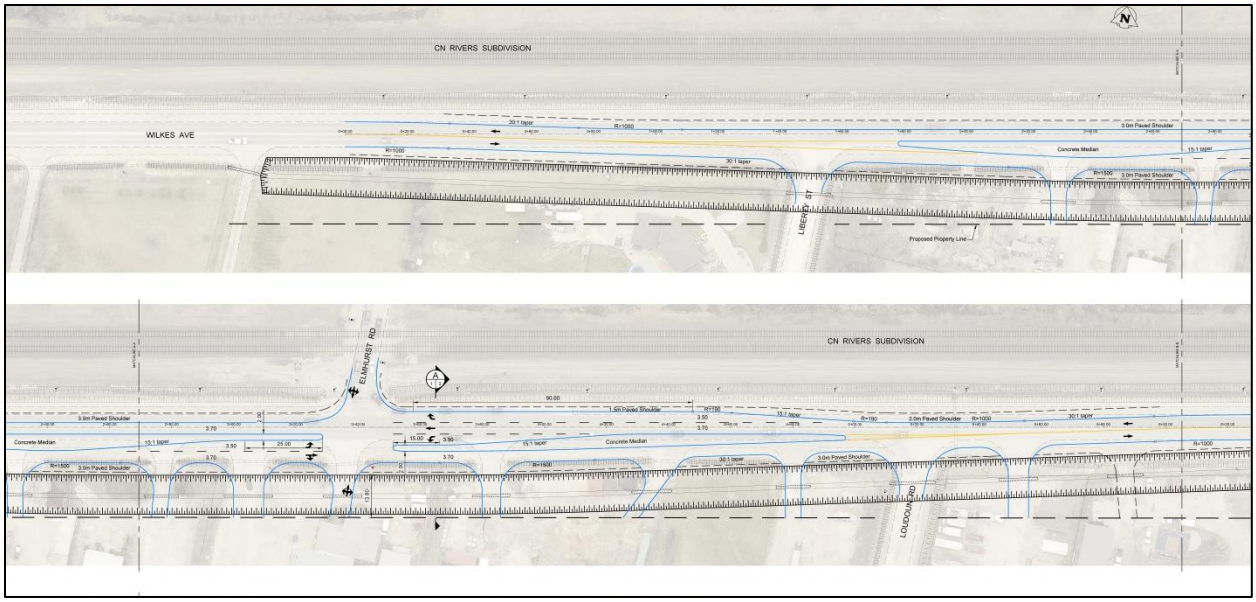

Figure 2: Aerial Drawing of Wilkes Avenue and Elmhurst Road, as existing with needed geometric improvements needed laid over top.

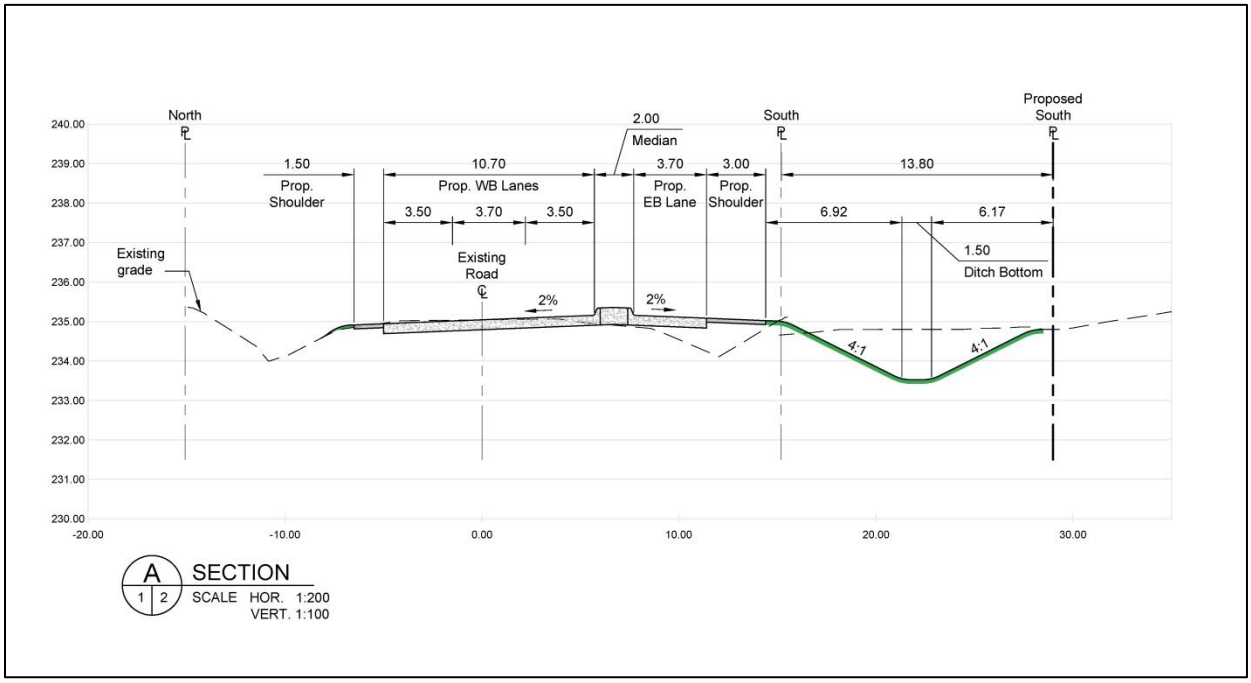

Figure 3: Cross Section of Wilkes Avenue at Elmhurst Road – dashed line indicates existing grade, green line indicates required grade.

(The following necessary geometric changes, both horizontally and vertically have been studied at a preliminary level so as not to conflict with the direction of the December 13, 2017 Council minutes.)

The traffic signals at this location would cost a minimum of $300,000; the signals would need to include battery back-up and interconnection with the rail crossing signals.

A class 5 cost estimate indicated the intersection improvements at approximately $2.5 million in addition to the signal, plus there would be significant additional costs of land acquisition of 14 meters of ROW (a complete hydraulic analysis would need to be conducted) and movement of Hydro infrastructure (possibly a combination of both transmission poles and the larger towers).

A project of this scope would require capital funding.

In addition, an installation of a signal at Wilkes Avenue and Elmhurst Road would likely increase the traffic volume on Elmhurst Road. The increased volume would likely result in traffic calming measures needed for Elmhurst Road, as well as a possible signal at Elmhurst Road and Grant Avenue.

An alternative, which would not require property acquisition, would be to construct an urban cross-section along Wilkes Avenue (i.e. land drainage sewer instead of ditch). This has not been designed or cost estimated as the original long-term plan was for a major roadway farther south.

A previous alternative explored in 2009, shown in Figure 4, included a westbound right deceleration lane and an eastbound through bypass lane. It is possible that this could decrease road safety, and would also encounter many of the same design constraints mentioned above. As many years have elapsed since this option was initially contemplated, the Winnipeg Public Service no longer supports this option, as the solution is costly while only a short-to-medium term solution.

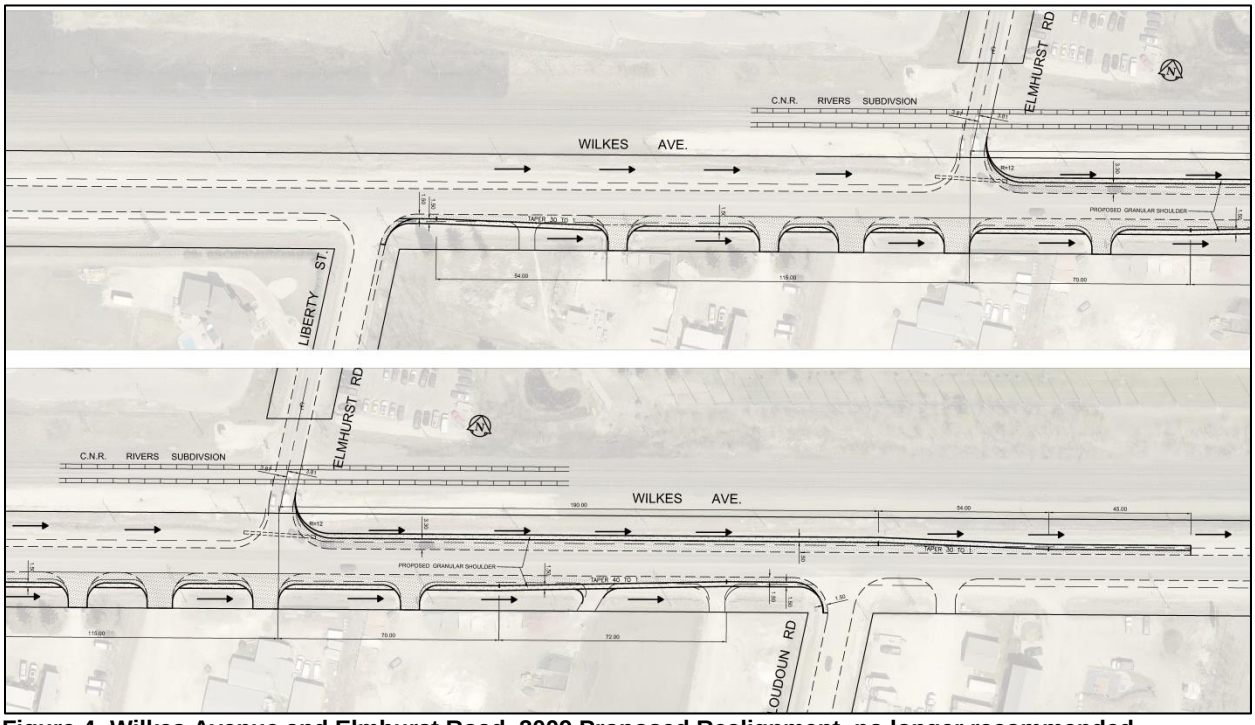

Figure 4: Wilkes Avenue and Elmhurst Road, 2009 Proposed Realignment, no longer recommended.

Traffic Speed

A speed study was undertaken in 2018 along Wilkes Avenue to assess corridor safety, specifically at Charleswood Road at Wilkes Avenue. Measured operating speeds, 85th percentile were measured just west and just east of Elmhurst Road.

- Immediately west of Elmhurst Road the 85th percentile speed was 83 km/h.
- Immediately east of Elmhurst Road the 85th percentile speed was 89 km/h.

Changing the posted speed limit without changing the traffic operating conditions or roadway would not be expected to result in a change in observed speeds without constant enforcement.

The Winnipeg Public Service plans to do a comprehensive study of the speed limit on Wilkes Avenue once the updated speed limit guidelines are prepared as a part of *Bill 14: The Traffic and Transportation Modernization Act (TTMA) - Speed Limit By-law and Changes to the Highway Traffic Act* recommendations from the July 18, 2019 Council meeting. Due to the development farther west by Charleswood Road, Wilkes Avenue would be reviewed in its entirety.

Other Options

Restricting eastbound and westbound left turns would preclude queueing on Wilkes Avenue, but is not expected to be respected as the only other intersections which provide northward access are over a kilometer away (Charleswood Road and Shaftesbury Boulevard). Driver expectation would be that no turning would take place in this area; if turns were attempted illegally, this activity would result in the potential for rear-end and side-swipe collisions. At the current posted speed of 80 km/h, this would present a significant safety risk.

Note that in 2007, double solid yellow (no passing) longitudinal pavement markings were installed on Wilkes Avenue from Loudoun Road to Liberty Street to prohibit motor vehicles from passing on this section of Wilkes Avenue. This method was ineffective.

IN CLOSING

For the reasons above, the Winnipeg Public Service, as directed by the Standing Policy Committee on Infrastructure Renewal and Public Works does not plan to proceed with signal installation until a Precinct Plan and OurWinnipeg are ready. As noted above, there is a significant scope of work necessary to signalize the intersection.

Once these documents are ready, this project can then be ranked against other capital projects.

FINANCIAL IMPACT

Financial Impact Statement

Date: August 13, 2019

Project Name:

Traffic Study – Wilkes Avenue and Elmhurst Road

COMMENTS:

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

"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 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

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Date: August 14, 2019