STAFF REPORT

TO	Infrastructure, Development and Enterprise Committee
SERVICE AREA	Infrastructure, Development and Enterprise
DATE	June 2, 2015
SUBJECT	**Speedvale Avenue East from Manhattan Court to Woolwich Street – Road Design**
REPORT NUMBER	

EXECUTIVE SUMMARY

PURPOSE OF REPORT

The purpose of this report is to obtain Committee/Council authorization for the design of Speedvale Avenue from Manhattan Court to Woolwich Street.

KEY FINDINGS

- Speedvale Avenue between Riverview Drive and Manhattan Court is a narrow four lane road section that does not meet current standards for the vehicle lane widths, underground infrastructure is old and in need of replacement and the Water and Wastewater Servicing Master Plan recommends the continuation of a water transmission main along this corridor.
- The existing bridge over the Speed River is in poor condition, does not have bicycle lanes and the sidewalks are narrow.
- A preliminary design of a four lane road with bicycle lanes and sidewalks on both sides of the street was completed by the City's consultant that would have represented significant property impacts to the adjacent land owners along Speedvale Avenue.
- City staff directed the City's consultant to develop two additional preliminary designs to reduce the impacts to adjacent properties and a total of three design options were presented at a Public Information Centre (PIC) in February 13, 2014.
- A second PIC was held on April 9, 2014 where a preferred option based on public and stakeholder comments was identified as follows:
  - construction of a four lane road with bike lanes on both sides of the road from Woolwich Street to Riverview Drive;
  - construction of a four lane road with no bicycle lanes from Riverview Drive to Manhattan Court;
  - implementation of a bicycle route from Speedvale Avenue between the TransCanada Trail on the west side of the Speed River and Stevenson Street to Earl Street and Emma Street;

- construction of a pedestrian bridge to connect the TransCanada Trail/Earl Street to Emma Street as part of the Guelph Trail Master Plan and would be a subject to an Environmental Assessment;
- construction of underground hydro on the north side of Speedvale Avenue from Gladstone Avenue to Riverside Park.

- It is anticipated that detailed design will be completed in 2015 with property acquisition and utility relocations in 2016. Construction is planned to commence in 2017 and be completed in stages over two or three years to 2020.

FINANCIAL IMPLICATIONS

Following the approval of the recommended design concept, the project budget will be reviewed and an estimated total project budget will be developed. Funding for the project will be from various accounts in the tax supported Capital Budget (road and stormwater) and non-tax supported Capital Budget (water and wastewater) including development charges funding (transmission watermain).

ACTION REQUIRED

Approve the report entitled "Speedvale Avenue East from Manhattan Court to Woolwich Street – Road Design" and the staff recommendations made therein.

RECOMMENDATION

1. That the report from Infrastructure, Development and Enterprise entitled "Speedvale Avenue East from Manhattan Court to Woolwich Street – Road Design", dated June 2, 2015, be received.

2. That an exemption from the 2009 Bike Policy and 2013 Cycling Master Plan be provided to permit the reconstruction of Speedvale Avenue East from Manhattan Court to Woolwich Street without bicycle lanes, as outlined in this Report.

3. That staff be directed to commence an Environmental Assessment for a pedestrian bridge across the Speed River from the west end of Emma Street to the east end of Earl Street.

BACKGROUND

The existing Speedvale Avenue East between Manhattan Court and Woolwich Street is a four lane arterial road in a right of way (ROW) that varies in width between 20 metres and 30 metres. The Official Plan identifies that this section of road should have a 30 metre ROW. The existing average lane width on Speedvale Avenue East between Riverview Drive and Manhattan Court is approximately 2.9 metres. The current guidelines from the Transportation Association of Canada (TAC) recommend a

minimum lane width of 3.25 metres. The existing section of Speedvale Avenue East between Riverview Drive and Manhattan Court includes 1.2 metre sidewalks on both sides of the street and no bicycle lanes. The existing infrastructure under the road was constructed in approximately 1950 and is in need of replacement and upgrading. As well, the installation of a transmission watermain is required in accordance with the approved Water and Wastewater Master Plans (December 2008.)

The existing bridge over the Speed River was constructed in 1950 and widened in 1974. Minor rehabilitation work was performed in 2012 to ensure that the bridge would remain functional until the proposed replacement. The existing bridge does not have bicycle lanes and the sidewalks are only 1.2 metre in width.

During the past four years, Speedvale Avenue East has been reconstructed from Watson Parkway to Manhattan Court. Between Eramosa Road and Manhattan Court, Speedvale Avenue reconstruction included four vehicle lanes, bicycle lanes on both sides of the road and 1.5m sidewalks. The Speedvale Avenue East section from Manhattan Court to Woolwich Street is a continuation of the reconstruction work. In 2013, AMEC Earth & Environmental was retained to design the section of Speedvale from Manhattan Court to Woolwich Street.

REPORT

The road reconstruction on Speedvale Avenue is proposed due to replacement and upgrade requirements for the water and sewer system as well as the deteriorated condition of the existing bridge at the Speed River which requires replacement. The installation or replacement of the underground sewer and water pipes will require a complete reconstruction of the road surface. Since the existing road lane widths do not meet current standards and the road reconstruction will require the installation of bicycle lanes in accordance with the 2009 Bike Policy and the 2013 Cycling Master Plan, various options for reconstructing the road to current standards have been evaluated.

A preliminary design of a four lane road with bicycle lanes and sidewalks on both sides of the street was initially prepared by AMEC. Although the Class Environmental Assessment (EA) for this design is considered a Schedule A+, meaning it is preapproved with public notification only, the preliminary design would have represented significant property impacts to the adjacent land owners along Speedvale Avenue. Therefore, it was concluded that there should be public consultation with respect to the design of Speedvale Avenue East and two additional preliminary designs for the section of Speedvale from Manhattan Court to Woolwich Street were developed. The three options were presented at a Public Information Centre (PIC) held on February 13, 2014. The options were as follows:

1. The construction of two lanes in each direction, bicycle lanes on both sides of the road, and the relocation of the sidewalk and hydro poles. This option

would have significant property impacts as between 3m and 5m of property would be require on either side of Speedvale Avenue.

2. The construction of two lanes in each direction, no bicycle lanes on the road, and the relocation of the sidewalk and hydro poles. This option would have some property impacts as between 3m and 5m of property would be require on either side of Speedvale Avenue.
3. The construction of one lane in each direction and a centre turn lane, bicycle lanes on both sides of the road, and the potential for a minor adjustment/relocation of the sidewalk and hydro poles. This option would result in no property impacts, but will have significant traffic flow impacts.

Residents were encouraged to forward comments regarding the three options to project staff. In total, 63 residents signed in to the PIC and a number of comments were received at PIC #1 with the preferences for the project options as follows:

Option 1: Four lane cross section with Bicycle Lanes	17
Option 2: Four lane cross section	60
Option 3: Three lane cross section with Bicycle Lanes	45

Discussion of Alternatives

Option 1

Option 1 includes four vehicle lanes, bicycle lanes and sidewalks on both sides of Speedvale Avenue. Left turn lanes would be installed at Delhi St. and Metcalfe St. The bridge at the Speed River would be replaced with a four lane structure that includes bicycle lanes and wider sidewalks. The Guelph Hydro lines on both the north and south sides of the street would be relocated and remain above ground. The property impacts for this option were significant with a requirement of 5m on the north side of the road and 3m on the south side of the road. The property impacts would result in significant social impacts to existing residents and businesses. As well, this option represents the most expensive alternative. For these reasons, this option was not recommended.

Option 2

Option 2 includes four vehicle lanes and sidewalks on both sides of Speedvale Avenue. No bicycle lanes would be installed. Left turn lanes would be installed at Delhi St. and Metcalfe St. The bridge at the Speed River would be replaced with a four lane structure that includes wider sidewalks. The Guelph Hydro lines on both the north and south sides of the street would be relocated and remain above ground. The property impacts for this option were significant with a requirement of 5m on the north side of the road and 3m on the south side of the road. The property requirements for this option are the same as option 1 due to the space required for the Hydro relocations. The property impacts for this option would result in significant social impacts to existing residents and businesses as well, this option is slightly less expensive than Option 1 due to the narrower road and bridge. For these reasons, this option was not recommended.

Option 3

Option 3 involves three vehicle lanes, bicycle lanes and sidewalks on both sides of Speedvale Avenue. The three vehicle lanes include one through lane in each direction and a continuous centre turn lane. The centre turn lane would become a left turn lane at Delhi St. and at Metcalfe St. The bridge at the Speed River would be replaced with a three lane structure that includes bicycle lanes and wider sidewalks. The Guelph Hydro lines on both the north and south sides of the street would not be relocated; however, Guelph Hydro may replace their plant. Hydro lines would remain above ground. The property impacts for this option were negligible. This option represents the least expensive alternative; however this option results in significant traffic impacts.

Based upon the three lane section, the maximum traffic volume on Speedvale Avenue occurs during the afternoon rush hour in the eastbound direction. The 2013 traffic volume was 1,059 vehicles per hour (vph) and the traffic model projects that the volume will grow to 1,292 vph by 2023. The maximum traffic volume for the westbound direction was in the morning rush hour and the 2013 traffic volume was 866 vehicles per hour (vph) and the traffic model projects that the volume will grow to 1,057 vph by 2023.

The estimated length of the traffic queue on Speedvale Avenue based upon the three lane section option was also analysed. In the eastbound direction on Speedvale Avenue, the traffic queue would extend from Delhi Street 330m toward Woolwich Street based upon 2013 traffic volumes. This would extend past the existing fire station at the corner of Riverview Drive and Speedvale Avenue. In 2023, the traffic queue would extend 630m which would be to the west side of the Woolwich Street/Speedvale Avenue intersection. Both the existing and future queue lengths would cause significant operational issues for Emergency Services in their ability to respond to emergencies east of the fire station. The future queue length would also cause operational problems at the intersection at Woolwich Street/Speedvale Avenue as the queue on Speedvale Avenue would extend past the intersection. Also, the proposed design would include the installation underground

utilities to allow for the future traffic signals at Metcalfe Street. If traffic signals were installed at Metcalfe Street, there would be similar queuing (as compared with the queuing at Delhi Street) occurring at this location. Upon review, the three lane option was not recommended due to the anticipated traffic congestion and operational issues for Emergency Services.

Recommended Option

Based on feedback from the first PIC and the evaluation of options (refer to Attachment 1), the recommended option is a combination of Options 1 and 2. Option 1 is recommended from Woolwich Street to Riverview Drive and Option 2 is recommended from Riverview Drive to Manhattan Court. This approach includes four vehicle lanes and sidewalks on both sides of Speedvale Avenue. Bicycle lanes would be installed from Woolwich St. to Riverside Park only. Left turn lanes would be installed at Delhi St. and Metcalfe St. The bridge at the Speed River would be replaced with a four lane structure that includes bicycle lanes and wider sidewalks. The Guelph Hydro lines on both the north and south sides of the street would be relocated. Further, to minimize property requirements on the north side of Speedvale Avenue, the hydro lines on the north side would be placed underground. The property impacts for this option would require a 1m widening across the south side of the street and widening on the north side at Delhi St. to allow for the installation of left turn lanes.

While this approach is not consistent with the City's Cycling Master Plan and the Bike Policy (2009) since it does not include bicycle lanes between Riverview Drive and Manhattan Court, the bicycle route would be relocated from Speedvale Avenue between the TransCanada Trail on the west side of the Speed River and Stevenson Street to Earl Street and Emma Street. This would require the construction of a pedestrian bridge to connect the TransCanada Trail/Earl Street to Emma Street. The recommended option including this alternative bicycle rout is shown on Attachment 2.

This recommended approach will reduce the impact on the socio-economic environment as compared with either options 1 or 2, and represents approximately a 10% reduction in cost compared with options 1 or 2. This approach also minimizes the property requirements and maintains the vehicle traffic flow. Bicycle traffic would have the option of riding on Speedvale Avenue with traffic or detouring onto Emma Street. For these reasons, this option is being recommended by City staff.

A second PIC was held on April 9, 2014 to present the recommended option.

Construction Timing

It is anticipated that the negotiations for the required property will be completed by the spring of 2016. Non City utility relocations (Guelph Hydro, Bell and Rogers) will occur between the spring 2016 and spring 2017. Construction would be completed in two or three phases depending on the availability of funding with the first phase of construction anticipated to occur in 2017.

Staff will be holding a construction open house to advise the public of the detailed design prior to each phase of construction.

Bridge Underpass

During the second PIC consultation, there was significant discussion regarding the opportunity for trail access below the bridge. While the bridge reconstruction requires review through the Municipal Class Environmental Assessment (EA) since it is a water crossing, the trail underpass is not subject to the EA process and would be considered at the Detail Design stage following completion of the EA.

Further, the matter of a trail underpass at this location is subject to the following resolution passed by Council on February 23, 2015:

> That the Trail Master Plan be reconsidered to include the underpass at the new Speedvale Avenue bridge over the Speed River be referred to the Public Services Committee for consideration.

CORPORATE STRATEGIC PLAN

3.1 Ensure a well-designed, safe, inclusive, appealing and sustainable City.

FINANCIAL IMPLICATIONS

Following the approval of the recommended design concept, the project budget will be reviewed and an estimated total project budget will be developed. Funding for the project will be from various accounts in the tax supported Capital Budget (road and stormwater) and non-tax supported Capital Budget (water and wastewater) including development charges funding (transmission watermain).

DEPARTMENTAL CONSULTATIONS

The three options and the recommended option for Speedvale Avenue have been circulated to various city departments for review and comment including Parks and Recreation, Operations, Emergency Services and Transit.

COMMUNICATIONS

Notices for the Speedvale Avenue PIC #1 and #2 were published in the City Pages of the Guelph Tribune, advertised on signs along Speedvale Avenue and notices were delivered to residents and property owners along Speedvale Avenue. The information presented at each PIC was also available on the City web page.

ATTACHMENTS

Attachment 1 - Evaluation of Alternatives
Attachment 2 - Speedvale Avenue Reconstruction – Recommended Option

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City of Guelph: Speedvale Avenue – Manhattan Court to Woolwich Street

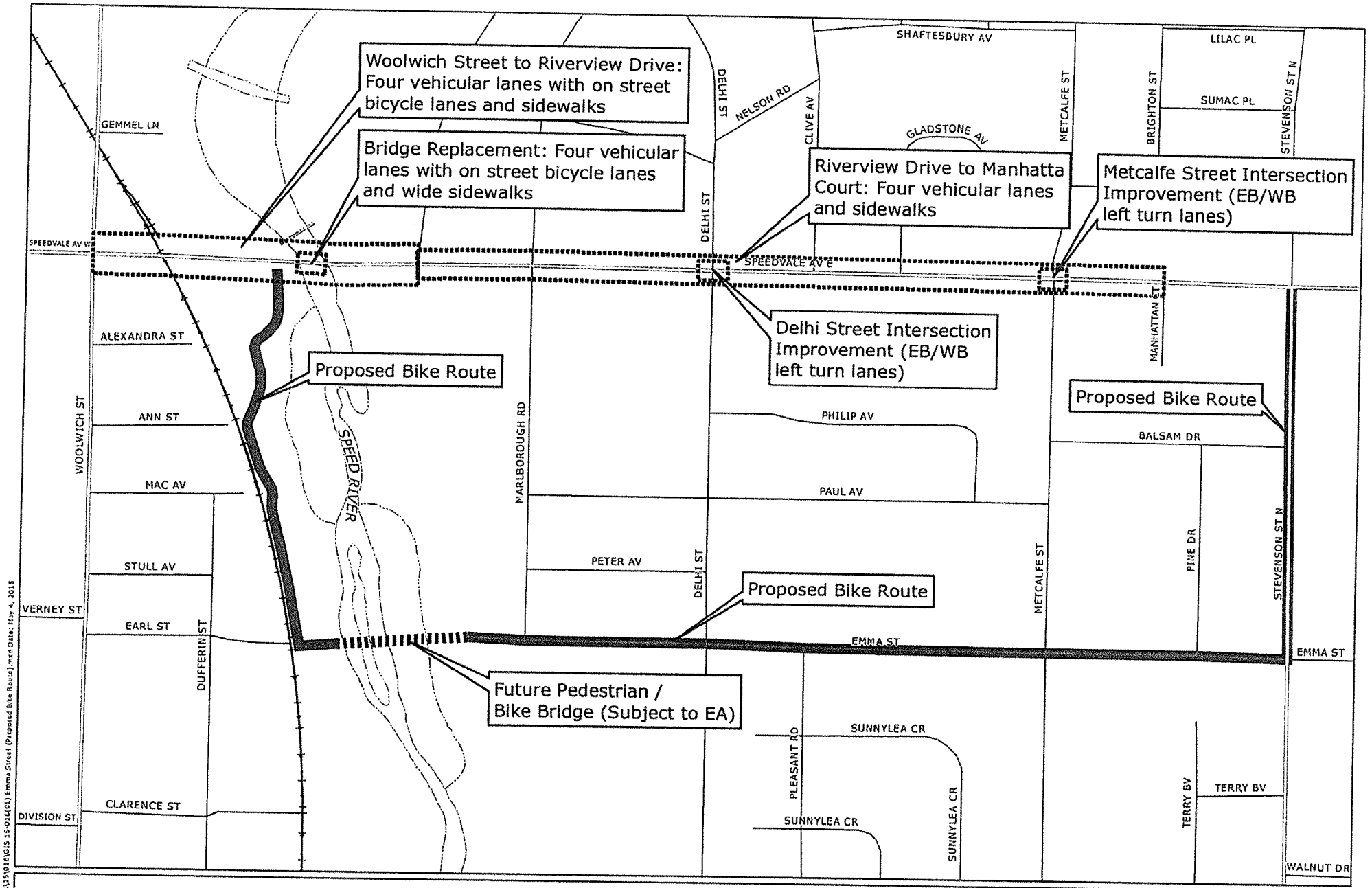
Evaluation Matrix for Right of Way Alternatives

Category	Criteria	Option 1 – Four lane cross section with Bicycle Lanes	Option 2 – Four lane cross section	Option 3 – Three lane cross section with Bicycle Lanes	Recommended Option – Four lane cross section with partial Bicycle Lanes
Natural Environment	Terrestrial Features	Includes the widest asphalt surface and largest impacts to private property.	Includes 4 lanes of asphalt surface and largest impacts to private property.	Includes 3 lanes of asphalt surface and maintains the road at the current width. This will have the least impacts on private property.	Includes 4 lanes of asphalt surface and impacts to private property will be greater than Option 3 but less than Options 1 & 2..
Socio-Economic Environment	Noise	All Options will have similar noise impacts	All Options will have similar noise impacts	All Options will have similar noise impacts	All Options will have similar noise impacts
	Accessibility to Properties	Property will be accessed off a 4 lane arterial road. There will be difficulties during entry and egress of driveways.	Property will be accessed off a 4 lane arterial road. There will be difficulties during entry and egress of driveways	Property will be accessed off a 3 lane arterial road. There will be difficulties during entry and egress of driveways. Traffic queuing may cause additional difficulties.	Property will be accessed off a 4 lane arterial road. There will be difficulties during entry and egress of driveways
	Capital and Operating Costs	Capital Construction costs are similar for all options. Higher utility relocation costs and highest property acquisition costs.	Capital Construction costs are similar for all options. Higher utility relocation costs and highest property acquisition costs	Capital Construction costs are similar for all options. Lowest utility relocation costs and lowest property acquisition costs	Capital Construction costs are similar for all options. Highest utility relocation cost and higher than Option 3 property acquisition costs
	Construction Disruptions	Road construction will be similar to all options. Will also include relocation of private utilities.	Road construction will be similar to all options. Will also include relocation of private utilities.	This Option includes a minimal amount of private utility relocations. Road construction will be similar to all options.	Road construction will be similar to all options. Will also include relocation of private utilities.
Engineering Factors	Safety	Provides sufficient lanes for the vehicles and bicycles.	Provides sufficient lanes for the vehicles. Bicycle traffic rerouted to Emma St.	Provides sufficient lanes for the bicycles. Queuing in the vehicle lanes will cause operational difficulties for Emergency	Provides sufficient lanes for the vehicles. Bicycle traffic rerouted to Emma St..

City of Guelph: Speedvale Avenue – Manhattan Court to Woolwich Street

Evaluation Matrix for Right of Way Alternatives

				Services.	
	Constructability	Requires private utility relocations to be complete prior to phased road construction	Requires private utility relocations to be complete prior to phased road construction	Road construction to be completed in phases.	Requires private utility relocations to be complete prior to phased road construction
	Traffic Management	Provides sufficient capacity for current and future vehicle and cycling traffic	Provides sufficient capacity for current and future vehicle traffic. Bicycle traffic diverted to Emma Street	Provides sufficient capacity for bicycle traffic. Projections for current and future queue lengths along Speedvale at Delhi are excessive and will cause operational issues for Emergency Services	Provides sufficient capacity for current and future vehicle traffic. Bicycle traffic diverted to Emma Street
	Utility Conflicts	Private utilities will require relocation, Hydro to remain overhead on both sides of the street	Private utilities will require relocation, Hydro to remain overhead on both sides of the street	Minimal private utility relocation.	Private utilities will require relocation, Hydro to remain overhead on south side of the street and underground on the north side of the street
	Active Transportation (Cycling)	On street bike lanes are provided	No bike lanes	On street bike lanes are provided	Bike lanes from Woolwich to Riverside Park, no bike lanes from Riverside Park to Stevenson
Other	**Compatibility with City Plans and Policies**	Complies with existing City Plans and Policies	Does not comply with the Cycling Master Plan or Bike Policy, exemption would be required	Does not meet needs of the arterial road network	Does not comply with the Cycling Master Plan or Bike Policy, exemption would be required
Financial	**Estimated Cost**	$14,350,000.00	$14,200,000.00	$9,150,000.00	$12,700,000.00



Attachment 2
Speedvale Avenue Reconstruction
Recommended Option

City of Guelph
Making a Difference

I:\gis_staging\Engineering\GIS Requests\15\GIS 15-016(G1) Emma Street (Proposed Bike Route).mxd Date: May 4, 2015