

STAFF REPORT



TO Infrastructure, Development and Enterprise Committee

SERVICE AREA Infrastructure, Development and Enterprise

DATE July 7, 2015

**SUBJECT Supplementary Report for 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 provide additional information regarding the design options for Speedvale Avenue from Manhattan Court to Woolwich Street and obtain authorization to proceed with the recommended option.

KEY FINDINGS

- Staff recommend that the road design for Speedvale Avenue retain the existing four lanes of traffic and sidewalks on both sides of the road for the entire length, with the addition of bike lanes on either side of the road from Woolwich Street to Riverview Drive;
- In the absence of bike lanes between Riverview Drive and Manhattan Court, it is recommended that an alternate east-west route be provided along Emma Street, including a pedestrian bridge crossing at the Speed River;
- In addition, staff will explore opportunities to increase the curb lane width on Speedvale Avenue to create a wider shared lane for cyclists and vehicles during the detailed design phase;
- This recommendation represents a balanced and affordable approach in that it meets the intent of the Cycling Master Plan by providing a safe east-west route on an alternate road while minimizing social impacts and construction costs;
- The three lane road option (road diet) for Speedvale is not recommended due to the negative impact this option would have on Emergency Services response times, Guelph Transit service levels, and traffic flow.

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. The preliminary cost estimates based on conceptual designs for the various options evaluated range from approximately \$9,150,000 to \$15,884,000. Capital funding for the project will be requested through the 2016 budget process from

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tax-supported accounts for road, storm and bridge work (65%), non-tax supported accounts for water and wastewater work (15%), and development charges accounts for the transmission watermain (20%).

ACTION REQUIRED

Approve the report entitled "Supplementary Report for 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 "Supplementary Report for Speedvale Avenue East from Manhattan Court to Woolwich Street – Road Design", dated July 7, 2015, be received.
2. That the 2009 Bike Policy and 2013 Cycling Master Plan be amended to re-route the bike lanes identified for Speedvale Avenue from Manhattan Court to Woolwich Street to an alternate location on Emma Street such that Speedvale Avenue is reconstructed in accordance with the Recommended Option to retain the existing four lanes of traffic and sidewalks on both sides of the road.
3. That funding for the reconstruction of Speedvale Avenue East from Manhattan Court to Woolwich Street be referred to the 2016 budget process for consideration.

BACKGROUND

At the June 2, 2015 meeting of IDE Committee, the report "Speedvale Avenue East from Manhattan Court to Woolwich Street – Road Design" (Attachment 1) was considered. The following two staff recommendations were approved and carried forward to the June 25, 2015 Council meeting:

- 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.
- 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.

However, no action was taken on the following recommendation:

- 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.

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At the June 25, 2015 meeting of Council, the report and recommendations contained therein were referred back to the IDE Committee for further consideration.

The purpose of this report is to provide supplemental information requested by both Committee and Council regarding the design options for Speedvale Avenue from Manhattan Court to Woolwich Street and to obtain Committee/Council authorization to proceed with the recommended option.

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Additional Information Requested by IDE Committee:

At the June 2, 2015 meeting of IDE Committee, the report "Speedvale Avenue East from Manhattan Court to Woolwich Street - Road Design" was considered and additional information was requested. The following describes three specific requests of IDE Committee for information.

- The cost and logistics of doing a pilot road diet on Speedvale for three to six months was requested. An estimated cost of \$50,000 for the pilot project was identified and detail are provided in Attachment 2. Given that the Speedvale Avenue reconstruction project is required to replace and upgrade underground infrastructure, this approach presents significant concern as it will further delay the infrastructure work since the road configuration concept must be decided prior to proceeding with the detailed design.
- Committee members also requested information regarding the volume decrease through a modal shift to transit that would be required to bring volumes to an acceptable level for a three lane cross section. As noted in Attachment 2, improvements in transit opportunities over time along this corridor may induce a modal shift. However, it is not expected to be substantial enough to meet the traffic volume decrease required to support a three lane cross section option. Both the existing and future traffic volumes on Speedvale Avenue warrant a four lane cross-section.
- Cost estimates and impacts were requested for an additional option consisting of Option 1 (four lanes of traffic, sidewalks and bike lanes) if hydro were buried on both sides of the road and lane widths decreased. The estimated cost is the highest of all options at \$15,844,000.00 as detailed in Appendix 2. Therefore, this option is not recommended.

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Response to Council Discussion Regarding Road Diet Option:

During the June 25, 2015 meeting of Council, there was significant discussion regarding the Option 3. This option is commonly referred to as a “road diet” since the existing four lanes of vehicular traffic (two lanes in either direction) would be reduced to one lane in each direction and a centre turn lane, with bicycle lanes on both sides of the road. As noted in the original report, this option was evaluated but not recommended by staff for several reasons including impacts on traffic flow, transit service, and emergency service.

While staff have fully supported the implementation of road diets in other locations within the City, this location is different in several respects including high existing traffic volumes, close proximity of Emergency Services and a hospital, and the potential for a transit priority corridor.

Traffic Flow:

The existing and future traffic volumes for Speedvale would result in congestion and operational impacts not experienced in other locations. The following table demonstrates that traffic volumes are considerably lower for other locations where the road diet option has been recommended by staff as compared to Speedvale Avenue.

Weekday Peak Hour Peak Direction Traffic Volumes (vph)

Road Name	Road Segment	Year	AM Peak Hour	PM Peak Hour
Speedvale	Woolwich-Manhattan	2015	910	1200
		2031	1120	1240
Willow	Edinburgh-Applewood	2015	520	710
		2031	950	1030
College	Edinburgh-Janefield	2015	630	650
		2031	570	550
Downey	Niska to Teal	2015	760	600
		2031	590	700
Silvercreek	Speedvale-Willow	2015	380	780
		2031	610	900
Stevenson	Speedvale-Eramosa	2015	450	520
		2031	470	520

Note:

The traffic forecast for 2031 has taken into account future roadway improvements including interchanges along Hanlon Expressway.

The one lane traffic capacity for arterial roads such as Speedvale Avenue is 900 vehicles per hour which is equivalent to 15 vehicles per minute. However, the existing peak hour traffic volumes are found to be up to 1,200 vehicles per hour on Speedvale Avenue. Therefore, implementation of a road diet under existing conditions is not appropriate.

It is also noted that a road diet to implement cycling lanes on Woodlawn Road between Victoria Road and the Speed River bridge was recently implemented. This is a parallel route north of Speedvale Avenue and, with limited arterial route options to cross the Speed River, allowing for adequate traffic flow on Speedvale Avenue is further warranted.

Transit Impacts:

Guelph Transit staff have reviewed the road diet option and advise that the restriction of all traffic, including buses, will have an immediate and negative impact on the level of service for transit.

Currently, Guelph Transit is considering improved transit coverage that would fill gaps in transit service on Speedvale Avenue and work towards increasing transit use. However, the additional congestion resulting from a reduction to one lane in either direction would impede the ability of Guelph Transit to provide a level of transit service that would attract new passengers and improve the transit mode share along Speedvale Avenue.

Longer term, the ongoing Guelph Transit Priority Project is considering a priority corridor that would make a bidirectional loop on Woodlawn Road and Speedvale Avenue with a focus on expediting east-west buses through key intersections and an overlay of limited-stop transit service. However, if Speedvale Avenue is restricted to one lane in each direction, these potential service improvements would need to be re-visited.

Emergency Services:

Emergency Services (EMS) staff have also expressed significant concern regarding the road diet option. Guelph Fire Station #2 is located within the project limits on Speedvale Avenue at Riverview Drive. In addition, Guelph General Hospital is located on Delhi Street, immediately south of the projects limits. EMS staff note that congestion is currently experienced on Speedvale Avenue during peak periods causing delay for emergency vehicles. A reduction in capacity by reducing the existing number of lanes is expected to extend the periods of congestion and negatively affect emergency response times. Therefore, the current four lane configuration that allows traffic to move through the area faster thereby reducing the length of the overall congested periods is required from an emergency response perspective.

Recommended Option:

Notwithstanding the additional feedback received at the June 25, 2015 Council meeting, staff recommend that the road design for Speedvale Avenue retain the existing four lanes of traffic and sidewalks on both sides of the road for the entire length, with the addition of bike lanes on either side of the road from Woolwich Street to Riverview Dr. In the absence of bike lanes between Riverview Drive and Manhattan Court, it is recommended that an alternate east-west route be provided along Emma Street including a pedestrian bridge crossing at the Speed River. As well, though the detailed design phase, staff explore opportunities to increase the curb lane width on Speedvale Avenue to create a wider shared lane for cyclists and vehicles.

This recommendation represents a balanced and affordable approach in that it meets the intent of the Cycling Master Plan by providing a safe route on an alternate road while minimizing social impacts and construction costs.

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. The preliminary cost estimates based on conceptual designs for the various options evaluated range from approximately \$9,150,000 to \$15,884,000. Capital funding for the project will be requested through the 2016 budget process from tax-supported accounts for road, storm and bridge work (65%), non-tax supported accounts for water and wastewater work (15%), and development charges accounts for the transmission watermain (20%).

DEPARTMENTAL CONSULTATIONS

This report has been circulated for review and comment to Emergency Services and Guelph Transit.

COMMUNICATIONS

N/A

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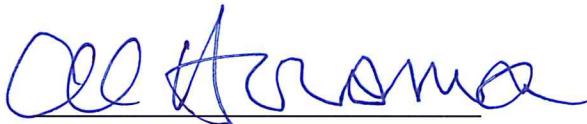
ATTACHMENTS

- Attachment 1 - Report to IDE dated June 2, 2015 entitled "Speedvale Avenue East from Manhattan Court to Woolwich Street – Road Design"
Attachment 2 - Information provided to Council following June 2, 2015 IDE Committee Meeting



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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;

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- 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

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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

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

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.

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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

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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 route 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.

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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.

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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

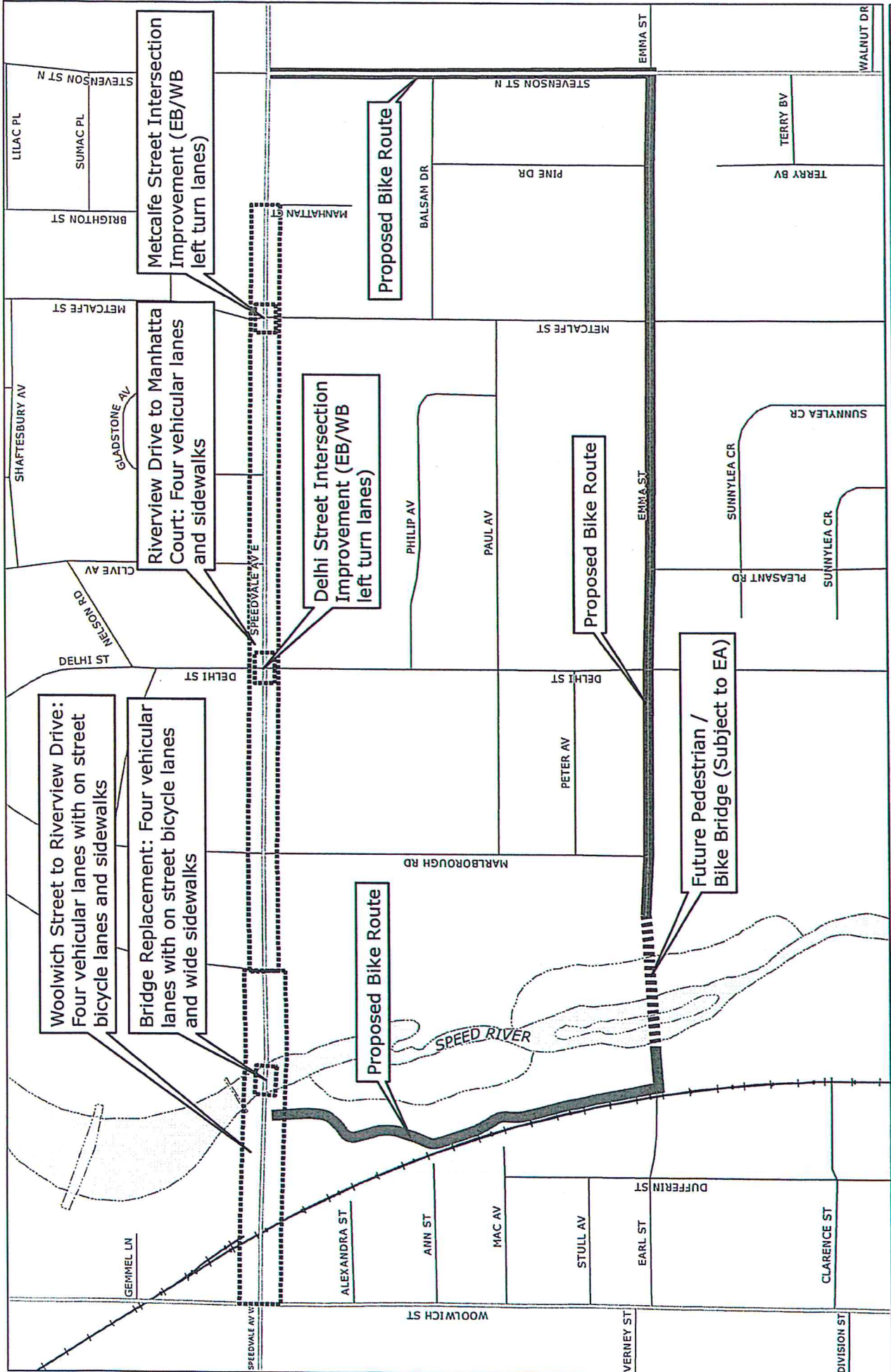
Evaluation Matrix for Right of Way Alternatives

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 maintains the road at the current width. This will have the least impacts on 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
Socio-Economic Environment	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
Socio-Economic Environment	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
Engineering Factors	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	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 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	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	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 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



Woolwich Street to Riverview Drive:
Four vehicular lanes with on street
bicycle lanes and sidewalks

Bridge Replacement: Four vehicular
lanes with on street bicycle lanes
and wide sidewalks

Metcalfe Street Intersection
Improvement (EB/WB
left turn lanes)

Riverview Drive to Manhatta
Court: Four vehicular lanes
and sidewalks

Delhi Street Intersection
Improvement (EB/WB
left turn lanes)

Proposed Bike Route

Proposed Bike Route

Proposed Bike Route

Future Pedestrian /
Bike Bridge (Subject to EA)

Attachment 2 Speedvale Avenue Reconstruction Recommended Option



June 17, 2015

Additional information requested for June 2, 2015 IDE Committee Report: Speedvale Avenue East from Manhattan Court to Woolwich Street – Road Design

In response to discussion at the June 2, 2015 IDE Committee meeting, the following information is provided:

1) The cost and logistics of doing a pilot road diet (ie. Re-paint, re-sign, etc. the existing road with 3 lanes and bike lanes) for a few months

- Estimated cost would be \$50,000.00
- Estimated time to implement revised temporary lane markings is three to five working days
- Anticipated work required would include installation of advance signage and signs in pilot area, removal of existing lane markings, new temporary lane markings including bicycle symbols, modifications to traffic signals
- Extensive communications program to advise travelling public of pilot project changes and opportunity to provide feedback on pilot project
- Monitoring, analysis and reporting back to committee and council on pilot road diet traffic operations (eg. public feedback, congestion, travel times, etc.)
- If pilot is not deemed successful, removal and remarking of pavement to current four lane cross section until reconstruction of roadway occurs

2) Information regarding the transit priority study and how it fits with the various options including the volume decrease (modal shift to transit) needed to bring volumes to an acceptable level for a three lane cross section

- Staff reviewed 2031 traffic scenarios with the assumption of a mature transit mode share that was developed for the "Transit Growth Strategy and Plan Study" and the following are the findings:
 - The mature transit mode share can only be achieved by a very successful public transit system with a 15% overall internal mode share and 12 % external mode share
 - The existing peak hour traffic volumes are found to be up to 1,200 vehicles per hour in the peak direction. The industry standard for one lane traffic capacity for arterial roads such as Speedvale Avenue is 900 vehicles per hour. This is equivalent to 15 vehicles per minute

- By 2031 under the four lane cross-section scenario, the peak hour peak directional traffic volumes will continue to grow up to 1,240 vehicles per hour
- By 2031 under the three lane cross-section scenario, some traffic will use alternative routes but the peak hour peak directional traffic volumes on Speedvale Avenue will be up to 1,010 which is over the one lane traffic capacity
- In summary, the existing and future traffic volumes on Speedvale Avenue warrant a four lane cross-section. Additional comments on transit impacts are as follows:
 - It is expected that improvements in transit operations along this corridor in the long term may induce a modal shift, however it is not anticipated to be sufficient to meet the traffic volume decrease required to support a three lane cross section option
 - In order to achieve the modal shift required, a community environment/framework where the use of single passenger vehicles becomes an undesirable option would need to be created

3) Cost estimates and impacts for modified Option 1 with buried hydro on both sides and also decrease lane width.

- Estimated cost: \$15,844,000.00
 - This is a net increase of approximately \$1.5M over the original Option 1 primarily due to the burying hydro partially and offset by lessened costs for the reduced lane width
- Underground hydro estimated cost: \$2,775,000.00
 - Underground hydro costs are significantly higher for this option since, in addition to hydro being relocated underground on both sides of Speedvale, the local hydro distribution to each property will also need to be relocated underground
- Property acquisition estimated cost: \$3,404,000.00
 - Property Requirement North Side: 1 to 5 metres plus transformer pad locations
 - Number of Properties Affected North Side: 16
 - Property Requirement South Side: 1 to 3 metres plus transformer pad locations
 - Number of Properties affected South Side: 24
 - Transformer pad locations will need to be included in the design for underground hydro which will result in property impacts and will be determined at detailed design stage.
- Attached are preliminary estimate and property impact summary tables

Speedvale Avenue Preliminary Estimate

17-Jun-15

	Option 1	Option 2	Option 3	Recommended	June 2 IDE Committee Option Review Request (Option 1 with underground hydro and minimum lane widths)
ROAD RECONSTRUCTION					
SUB-TOTAL ROAD CONSTRUCTION	\$4,083,000	\$3,956,000	\$3,831,000	\$4,019,000	\$4,083,000
SPEEDVALE BRIDGE	\$2,350,000.00	\$2,350,000.00	\$2,350,000.00	\$2,350,000.00	\$2,350,000.00
PEDESTRIAN BRIDGE AT EMMA/EARL	\$1,130,000.00	\$1,130,000.00	\$1,130,000.00	\$1,130,000.00	\$1,130,000.00
SUB - TOTAL CONSTRUCTION	\$7,563,000.00	\$7,436,000.00	\$7,311,000.00	\$7,499,000.00	\$7,563,000.00
PROPERTY ACQUISITION	\$4,538,000.00	\$4,538,000.00	\$0.00	\$2,269,000.00	\$3,404,000.00
HYDRO RELOCATION	\$250,000.00	\$250,000.00	\$0.00	\$925,000.00	\$2,775,000.00
STREET LIGHTING	\$100,000.00	\$100,000.00	\$0.00	\$125,000.00	\$250,000.00
ENGINEERING	\$1,135,000.00	\$1,116,000.00	\$1,097,000.00	\$1,125,000.00	\$1,135,000.00
CONTINGENCY	\$757,000.00	\$744,000.00	\$731,000.00	\$750,000.00	\$757,000.00
TOTAL	\$14,343,000.00	\$14,184,000.00	\$9,139,000.00	\$12,693,000.00	\$15,884,000.00

See details and descriptions on next page

Option 1 included 3m of property across the south side of Speedvale and 5m across the north side of Speedvale. The hydro would be above ground in both cases. Bike lanes would be included and left turn lanes added at Delhi and Metcalfe. Traffic signals would be replaced at Delhi, Metcalfe would not receive traffic signals. 1.5m Sidewalks would be replaced on both sides of Speedvale. Traffic lanes would be 3.35m wide.

Option 2 included 3m of property across the south side of Speedvale and 5m across the north side of Speedvale. The hydro would be above ground in both cases. Bike lanes would not be included in this option. Left turn lanes would be added at Delhi and Metcalfe. Traffic signals would be replaced at Delhi, Metcalfe would not receive traffic signals. 1.5m Sidewalks would be replaced on both sides of Speedvale. Traffic lanes would be 3.35m wide.

Option 3 was the 3 lane option and it would not require any property as the road would fit within the existing curb alignment. This option would include bike lanes. Sidewalk would be replaced on both sides of Speedvale. Traffic lanes would be 3.35m wide. Hydro would not need to be replaced or relocated.

Recommended Option was the combination of 1 & 2 that was used to generate the real estate cost estimate for land + expropriation value. It included 1m of property across the south side of Speedvale and a widening at Delhi on the north side to allow the installation of left turn lanes. require any property as the road would fit within the existing curb alignment. Bike lanes would be added from Woolwich to Riverside Park. No bike lanes east of Riverside Park. Sidewalks would be added on both sides of the street. Traffic lanes would be 3.35m wide. Hydro would be overhead on the south side and underground on the north side.

The June 2 IDE Committee Option Review Request (Option 1 with underground hydro and minimum lane widths) includes underground hydro on both sides of Speedvale. Underground hydro costs are higher for this option since in addition to hydro being relocated underground on both sides of Speedvale, the local hydro distribution to each property will also need to be relocated underground. Transformer pad locations will also need to be included in the design for underground hydro which will result in property impacts to be determined at detailed design stage. The property cost was estimated based on Option 1 and the Recommended Option costs.

Speedvale Avenue East Reconstruction – Property Impact Summary

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

Option Description and Property Impacts	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	Option to be reviewed following June 2 IDE Committee – Option 1 with underground hydro and minimum lane widths
Property Requirement North Side	5 metres	5 metres	0	1.5 to 5 metres	1 to 5 metres plus transformer pad locations
Number of Properties Affected North Side	16	16	0	4 located at Delhi intersection	16
Property Requirement South Side	3 metres	3 metres	0	3 metres	1 to 3 metres plus transformer pad locations
Number of Properties affected South Side	24	24	0	23	24

- Property impacts are based on preliminary design and estimates