PUBLIC AGENDA
STANDING POLICY COMMITTEE
ON TRANSPORTATION

Tuesday, January 31, 2017, 2:00 p.m.

Council Chamber, City Hall

Committee Members:

Councillor R. Donauer, Chair, Councillor Z. Jeffries, Vice-Chair, Councillor C. Block, Councillor S. Gersher, Councillor A. Iwanchuk, His Worship Mayor C. Clark (Ex-Officio)

Pages

1. CALL TO ORDER

2. CONFIRMATION OF AGENDA

Recommendation

That the agenda be confirmed as presented.

3. DECLARATION OF CONFLICT OF INTEREST

4. ADOPTION OF MINUTES

Recommendation

That the minutes of regular meeting of the Standing Policy Committee on Transportation held on January 10, 2017 be adopted.

5. UNFINISHED BUSINESS

6. COMMUNICATIONS (requiring the direction of the Committee)

6.1 Delegated Authority Matters

6.1.1 Request for Sole Concessionaire Rights - Downtown Saskatoon 2nd Avenue Sidewalk Sale, July 6-8, 2017 [File No. CK 205-1] 4 - 4

Attached is a letter from Tannis Miller, Marketing & Communications Coordinator, Downtown Saskatoon dated January 13, 2017.

Recommendation

That permission be granted to Downtown Saskatoon to be the sole agent for the allocation of vending and concession locations at the 2nd Avenue Sidewalk Sale, July 6-8, 2017.

6.1.2 Issues Regarding Taxi Industry [File No. CK 307-1] 5 - 6

Attached is a letter from Malik Umar Draz, President, United Steelworkers Local 2014 dated January 20, 2017.

Recommendation

That the information be received.

6.2 Matters Requiring Direction

6.3 Requests to Speak (new matters)

7. REPORTS FROM ADMINISTRATION

7.1 Delegated Authority Matters

7.2 Matters Requiring Direction

7.2.1 Transit BlockBuster Module - Sole Source [Files CK 261-1, x7300-1 and TR 7300-1] 7 - 9

Recommendation

That the Standing Policy Committee on Transportation recommend to City Council:

1. That the Administration prepare a sole source to Trapeze Software Incorporated for the upgrade to Trapeze BlockBuster for a total cost of $109,735.00 (excluding applicable taxes); and
2. That Purchasing Services issue the appropriate purchase order.

205-1

DTN YXE
DOWNTOWN SASKATOON

January 13, 2017

City Clerk's Office
City of Saskatoon
222 3rd Avenue North
Saskatoon SK S7K 0J5

Re: Downtown Saskatoon 2ND AVE Sidewalk Sale | Request for Sole Concession

To His Worship & Members of City Council,

From Thursday, July 6 to Saturday, July 8, 2017, Downtown Saskatoon will host 2ND AVE Sidewalk Sale, for which we request permission to be the sole agents for the allocation of vending and concession locations. This will ensure that our licensed vendors and businesses are not compromised. As usual, the event will be held within 2nd Ave from 20th to 23rd Sts E, and 21st St E from 1st to 2nd Ave S.

We will also follow up with Parks & Rec for the request of additionally required civic services. If there are any questions regarding this request, please contact us.

Kind regards,

Tannis Miller | Marketing & Communications Coordinator
Downtown Saskatoon

307-1

UNITED STEELWORKERS
UNITY AND STRENGTH FOR WORKERS

LOCAL 2014 District 3
Stephen Hunt, District Director
Mike Pulak, Staff Rep. Saskatoon

January 20, 2017

Chairman Transportation Committee
City of Saskatoon
222-3rd Avenue North
Saskatoon, Sk.
S7K 0J5

Subject: Issues Regarding Taxi Industry

Dear Sir/Madam:

I am writing this letter to draw your attention to our members concerns in the Taxi Industry, which are regulated by the City of Saskatoon Bylaws and Regulations.

A recent event in Regina where cab driver Iqbal Singh was stabbed multiple times and severely injured while he was on the job has heightened anxiety about driver safety. He is still in a rehabilitation centre and may never fully recover. Because of this incident and many others, cab drivers are scared. They have many concerns about their safety and questions about the insurance coverage provided by SGI.

I would like to bring your attention to our members concerns:

1. There should be an open and frank discussion regarding the installation of safety shields in cabs to protect the drivers and the public.

2. Drivers should be covered by SGI and should also be covered by City Bylaws. If no Bylaw exists which cover the drivers in case of assaults there should be open discussions how the City help ensure drivers and the public are protected in case of physical assault while they are on the job.

3. A discussion on the ability to charge passenger a cleaning fee for bodily fluids (vomit, etc.) discharged in the cab. This Bylaw exists in other cities in Canada.

4. Recently the City of Saskatoon issued tickets to our members for not accepting wheelchair trips which we believe is quite unfair. We believe the City of Saskatoon should review the Bylaws covering wheelchair trips. There are many technicalities and administrative issues which need to be resolved or clarified before tickets are issued.

5. All existing wheelchair licences which were issued to companies for a temporary term of five (5) year period are coming up for renewal. We believe those wheelchair licences should be allotted to drivers instead of companies. The company shouldn't be charging administration fees on wheelchair licences which were given free to companies.

...2

6. Black cars are being operated in the City of Saskatoon. We believe that these Black cars are being operated just like a taxi business, taxi drivers have a lot of questions about the Black cars and I would like to point out a few of them:

   - What is minimum fare by the hour (as it's common to charge by hourly rate in other provinces of Canada)?

   - If its limo service, can they pick up flag customers and is there any minimum service fee to use a Black car? Can these Black cars charge same taxi rate set by city of Saskatoon?

   - If they take only pre booked trips, how long before the trip should be booked prior to being dispatched or served and who verifies those bookings?

   - Can Black cars or Limo service pick up the School boards fares , Can Black cars take charge accounts customers (i-e Senior Homes ,etc.) as these accounts customers used to be transported by city of Saskatoon taxis and can they charge limo rates to these accounts or those trips are being charged according to taxi meters?

   We believe that Black cars are taking taxi business and they should be monitored by the City of Saskatoon and if they are violating any bylaws they should be dealt with accordingly.

7. Police response to cab driver calls needs to be improved. Training sessions should be arranged by the City Police for existing and new drivers free of charge.

8. Access to the airport shouldn't be restricted to only one Company.

9. We believe there should be a taxi commission to deal with this Industry.

Many of the above mentioned issues have been dealt with in other municipal jurisdictions and we would like to look at them and ensure we are operating under best practises.

Best Regards,

M. Umar Draz

Malik Umar Draz
President United Steel Worker Local 2014

cc: Honorable Mayor Charlie Clark, City of Saskatoon.
All respected City Councillors
Mike Pulak/Leslie McNabb Staff Reps. United Steelworkers

Transit BlockBuster Module – Sole Source

Recommendation
That the Standing Policy Committee on Transportation recommend to City Council:
1. That the Administration prepare a sole source to Trapeze Software Incorporated for the upgrade to Trapeze BlockBuster for a total cost of $109,735.00 (excluding applicable taxes); and
2. That Purchasing Services issue the appropriate purchase order.

Topic and Purpose
The purpose of this report is to obtain City Council approval to award a sole source contract to Trapeze Software Incorporated to upgrade Saskatoon Transit's current run-cutting tool for fixed-route scheduling.

Report Highlights
1. Trapeze supplies Saskatoon Transit with a suite of products to deliver scheduling, run-cutting, bidding, dispatch, payroll and ITS.
2. The Trapeze suite of products is fully integrated, facilitating a seamless flow of data through many operational components.
3. This advanced run-cutting tool for fixed-route scheduling is integrated with Transit's existing FX scheduling product and is expected to generate efficiencies and cost savings.
4. In November 2016, Saskatoon Transit purchased a 90-day license and installation services from Trapeze to utilize the BlockBuster run-cutter for the initial service delivery from the Civic Operations Centre.
5. The installed BlockBuster software temporary licensing will be replaced by full licensing upon approval of the upgrade defined herein.

Strategic Goals
This report supports the long-term strategy of significantly increasing transit ridership by establishing transit as a viable option for transportation under the Strategic Goal of Moving Around.

The report also supports the long-term strategy of leveraging technology and emerging trends to reach our goals, serve citizens and connect meaningfully with our stakeholders under the Strategic Goal of Continuous Improvement.

Background
Saskatoon Transit currently employs Trapeze FX to produce schedules and run-cuts. The FX run-cutter is a legacy Trapeze product purchased in 2006 and no longer meets the requirements of Transit's focus on providing efficient, reliable service. While the FX run-cutter is fully supported by the Vendor, Saskatoon Transit is one of only 5 Transit

agencies in North America still using the product. Most other Trapeze users have upgraded to Trapeze BlockBuster.

BlockBuster will easily fit into our current system, as it is fully supported by the vendor and is in use with over 125 other transit properties in North America.

Report

Advantages of Sole Sourcing to Trapeze

- Trapeze BlockBuster will provide seamless integration of the run-cutting module with other downstream Trapeze components using the generated run data.
- The BlockBuster run-cutter is successfully used by over 125 Trapeze supported Transit agencies.
- Transit properties using the BlockBuster run-cutter have, on average, experienced a 1.5% reduction in operator costs.
- By sole sourcing to Trapeze, significant efficiencies could be gained in run-cutting transit service.
- The BlockBuster software has already been installed on Saskatoon Transit servers, and upon the purchase of a full license, implementation and user training, the product will be fully functional.

Potential Efficiencies and Cost Savings

Trapeze BlockBuster uses powerful algorithms to generate the most cost-effective operator assignment scenarios. The algorithm takes all costs into consideration including rates of pay and variable overheads, allowing the tool to determine the optimum number of required operators. Scenarios can be generated by inserting, user defined, Union Agreement rules, business rules and service restrictions. User defined run types and percentage rules enable users to pre-set minimum and maximum targets (# of 10 hours runs, # of extras, etc.). All results are returned in dollars and cents for easy assessment of cost impacts.

It is estimated, by product demonstration with actual Saskatoon Transit data that annual cost savings are expected to be between $115,000 and $350,000. This savings will help enable Transit to meet its 2017 continuous improvement targets.

Financial Implications

The cost of full licencing, training and implementation of BlockBuster in early 2017 is $109,735. There is sufficient funding available in Capital Project No. 2541 - CY-Growth Plan to Half a Million Implementation from PTIF funding.

The annual maintenance fee to support BlockBuster is $11,217.00. This would be reduced by the current run-cutter maintenance portion ($4,100.00) which is included in the overall Scheduling and Run-Cutting Module. The remaining $7,117.00 would be funded through the operating budget.

Other Considerations/Implications

There are no options, public and/or stakeholder involvement, communications, policy, environmental, privacy, or CPTED implications or considerations.

Due Date for Follow-up and/or Project Completion

A follow-up report is not required.

Public Notice

Public Notice, pursuant to Section 3 of Policy No. C01-021, Public Notice Policy, is not required.

Report Approval

Written by:	Harold Matthies, Transit IT Coordinator
Reviewed by:	James McDonald, Director of Saskatoon Transit
Approved by:	Jeff Jorgenson, General Manager, Transportation and Utilities Department

TRANS HM – Transit HM – Transit BlockBuster Module – Sole Source

Traffic Noise Sound Attenuation Policy

Recommendation
That the Standing Policy Committee on Transportation recommend to City Council:
That the policy pertaining to Traffic Noise Sound Attenuation program be approved.

Topic and Purpose
The purpose of this report is to obtain City Council approval of the policy to define the Traffic Noise Sound Attenuation (TNSA) program.

Report Highlights
A policy has been developed that defines the TNSA program, specifically providing details on assessment criteria, noise impact assessments, noise monitoring, noise barriers, and the monitoring of potential TNSA projects.

Strategic Goal
This report supports the Strategic Goal of Moving Around and Quality of Life by providing TNSA measures to help maintain the quality of the outdoor amenity space in residential areas located adjacent to high volume roadways.

Background
City Council, at its Preliminary Business Plan and Budget Meeting held November 30, 2016 and December 1, 2016 resolved:

"1. That the Administration proceed with preparing a Council Policy based on the Traffic Noise Sound Attenuation policy framework provided in this report;
2. That the recommended Traffic Noise Sound Attenuation monitoring program be included in the Council Policy."

Report
The policy (Attachment 1) defines the TNSA program, specifically providing details on assessment criteria, noise impact assessments, noise monitoring, noise barriers, and the monitoring of potential projects.

The Traffic Noise Sound Attenuation – Policy Framework report (Attachment 2) went to the SPC on Transportation on November 14, 2016.

Options to the Recommendation
City Council could add, remove, or change any portion of the proposed policy.

Other Considerations/Implications

There are no public and/or stakeholder involvement, communication, financial, environmental, privacy, or CPTED considerations or implications.

Due Date for Follow-up and/or Project Completion

If approved, the policy will be published on the City website.

Public Notice

Public Notice pursuant to Section 3 of Policy No. C01-021, Public Notice Policy, is not required.

Attachments

1. Traffic Noise Attenuation Policy
2. Traffic Noise Sound Attenuation – Policy Framework Report

Report Approval

Written by:	Jay Magus, Engineering Manager, Transportation
Reviewed by:	Angela Gardiner, Director of Transportation
Approved by:	Jeff Jorgenson, General Manager, Transportation & Utilities Department

TRANS JM – Traffic Noise Sound Attenuation – Policy.docx

CITY OF SASKATOON COUNCIL POLICY

NUMBER
CO

POLICY TITLE *Traffic Noise Sound Attenuation*	ADOPTED BY: *City Council*	EFFECTIVE DATE
		UPDATED TO
ORIGIN/AUTHORITY	CITY FILE NO. *CK – 375-02* *TS – 375-02*	PAGE NUMBER *1 of 4*

1. PURPOSE

To define the traffic noise sound attenuation program, specifically details on: assessment criteria; noise impact assessments; noise monitoring; noise barriers; and the monitoring of potential traffic noise sound attenuation projects.

2. DEFINITIONS

2.1 A-Weighted Sound Level – A-weighted sound level is measured on a sound level meter, using a setting that emphasizes the middle frequency components similar to response of the human ear. The A-weighted sound level is found to correlate well with subjective assessments of the annoying or disturbing effect of sounds.

2.2 Arterial Road - A road primarily for through traffic.

2.3 Attenuation – A reduction in sound level in travelling from a source to a receiving point.

2.4 Barrier – A solid physical obstruction between the roadway and the observer, which interrupts the line of sight between them. Barriers can take the form of walls, berms, or buildings.

2.5 Berm (Earth Berm) – A mound of earth that interrupts the line of sight between the noise source and the receiving point, thus acting as a barrier.

2.6 Day-Night Average Sound Level (L_{dn}) – Day-night sound level in dBA is derived by performing a logarithmic average of the time varying sound energy equivalent over the daytime (L_{eq}Day) with the time varying sound energy equivalent over the night time (L_{eq}Night) and adding a 10 decibel "penalty" to the L_{eq}Night.

2.7 dBA – The decibel (dB) sound pressure level filtered through the A-weighting filtering network to approximate human hearing response at low intensities.

2.8 Decibel (dB) – One tenth of a Bel. Sound is measured in decibels. The zero on the decibel scale is based on the lowest sound level that the healthy, unimpaired human ear can detect. Decibels are not linear units, rather they are expressed using a base-10 logarithmic scale. An increase of 10 decibels represents 10- times the acoustical energy. An increase of 20 decibels represents 100- times the acoustical energy.

2.9 Freeways / Expressways – Roads that accommodate heavy volumes of traffic moving at high speeds under free-flow conditions.

2.10 Noise Monitor – A self-contained sound level meter installed in a weather protective case that can measure environmental noise levels for extended periods of time. Typically, the sound level meter is installed in a case while the microphone is mounted to a tripod and outdoor windscreen and rain protection hood.

3. POLICY

Traffic Noise Sound Attenuation criteria:

3.1 Assessment:

a) Decibel Scale and Weighting – dBA (A-weighted decibel sound level)

b) Threshold (Timeframe and Value) – L_{dn} 65 dBA (logarithmic average conducted over an entire 24-hour period with a 10 dBA penalty to the monitored or modeled noise during the night-time period.)

c) Measurement Location – Receptor in defined outdoor rear amenity space, 5 m from the adjacent property line 1.5 m elevation, 3 m from any obstructions (i.e. a shed).

d) Applicability – Applicable to single family residential land use, and townhouse type (maximum of two storeys) multi-family land use.

e) Mitigation Responsibility – Developers are responsible for traffic noise mitigation in new developments. The City is responsible for new and upgraded transportation areas, as well as, retrofit areas that are technically, economically, and administratively feasible.

3.2 Noise Impact Assessments:

a) Applicability – Required for new developments adjacent to existing transportation corridors; new/upgraded transportation corridors adjacent to existing developments and retrofit projects for existing transportation corridors.

b) Methods and Software – A traffic noise impact assessment must be carried out by a qualified and experienced Acoustical Engineer.

3.3 Noise Monitoring:

a) Measurement Rationale – Pre-project noise monitoring is recommended for upgraded transportation corridors as well as new development. Post-project noise monitoring may be conducted on a case-by-case basis.

3.4 Noise Barriers:

a) Maintenance for barriers (walls and/or earth berms) on private property is the responsibility of the property owner while maintenance for barriers on public property is the City's responsibility.

b) Target noise attenuation is 5 dBA where possible but the performance for noise barriers for new/upgraded/retrofit projects should be assessed on a case-by-case basis. The minimum attenuation for retrofit projects is 3 dBA.

3.5 Monitoring of potential Traffic Noise Sound Attenuation projects:

a) A monitoring list of potential projects is maintained by the Administration.

b) The monitoring list includes locations that meet the following criteria:

i) Adjacent to existing arterial roads or freeways / expressways.

ii) Average daily traffic levels greater than 20,000 vehicles per day on the adjacent arterials roads or freeways / expressways.

iii) Locations that have sound attenuation, or where sound attenuation is not economically or physically feasible, are excluded from the monitoring list.

c) Traffic noise measurements will be completed every three years.

4. RESPONSIBILITIES

4.1 The General Manager, Transportation & Utilities Department shall be responsible for administering and recommending updates to this policy.

4.2 City Council shall be responsible for approving any updates to this policy, and may initiate changes as they see fit.

Attachment 2

Traffic Noise Sound Attenuation – Policy Framework

Recommendation

That the Standing Policy Committee on Transportation recommend to City Council:

1. That the Administration proceed with preparing a Council Policy based on the Traffic Noise Sound Attenuation policy framework provided in this report;
2. That the recommended Traffic Noise Sound Attenuation monitoring program be included in the Council Policy; and
3. That this report be considered during the 2017 Business Plan and Budget deliberations.

Topic and Purpose

This report provides an update on the Traffic Noise Sound Attenuation (TNSA) program, including a policy framework for the program and updated sound measurements.

Report Highlights

1. A TNSA Policy Review and Development document was prepared.
2. Traffic Noise Attenuation policies of twelve jurisdictions were reviewed.
3. A review of the best practices for noise mitigation and technologies employed in other municipalities is provided.
4. Several key components that are requirements in a traffic noise policy and the recommendations for each component are provided.
5. A recommended TNSA monitoring program is provided.

Strategic Goal

This report supports the Strategic Goal of Moving Around and Quality of Life by providing TNSA to help maintain the quality of the outdoor amenity space in residential areas located adjacent to high volume roadways.

Background

In 2013, a report was submitted to City Council during the 2014 Budget Deliberations and approved the construction of nine sound attenuation projects in Capital Project #1522 – Traffic Noise Sound Attenuation. The funds were to be borrowed and repaid over a 10-year period to complete these projects. City Council also requested a revised policy before additional locations on the priority list are funded and that the priority list be updated based on this policy.

During consideration of the Capital Project #1522 – Traffic Noise Sound Attenuation report, the Standing Policy Committee on Transportation, at its meeting held on July 19, 2016, resolved:

> "That the matter be referred to the Administration to provide an update report regarding policy and standards prior to a report being submitted to the 2017 Business Plan and Budget deliberations."

Report

Scope of Policy Review

In 2016, the City of Saskatoon retained aci Acoustical Consultants Inc., a firm that specializes in acoustical engineering, to assist in the development of a Traffic Noise Attenuation Policy as follows:

- Conduct a peer review of traffic noise policies within other Canadian Jurisdictions.
- Summarize the current best practices in the field of noise attenuation engineering, including types of construction (i.e. types of materials used in walls).
- Summarize and highlight consistencies and inconsistencies, emerging technologies, and trends in policies and bylaws. This information is needed in order to determine how many other jurisdictions are facing similar sound attenuation demands and the approaches they are using in terms of policy, bylaws, and technology.
- Provide a framework and technical information pertaining to a City Policy for Traffic Noise Attenuation, along with options and potential implications related to the allowable maximum sound levels.

The complete Traffic Noise Attenuation Policy Review and Development document prepared by aci Acoustical Consultants Inc. is included as Attachment 1.

Other Cities' Policies and Practices

The following 12 policies were reviewed: City of Saskatoon (historical); City of Regina; City of Edmonton; City of Calgary; City of St. Albert; Strathcona County; City of Leduc; Fort McMurray; City of Red Deer; Alberta Transportation; BC Ministry of Transportation and Infrastructure; and Ontario Ministry of the Environment and Climate Change. A summary of the reviewed traffic noise sound attenuation policies is provided in Attachment 2.

Review of Currently Practiced Noise Mitigation

Highlights from the best practices for noise mitigation and technologies used in other municipalities are provided below:

1. Appropriate Neighbourhood Planning:
   Provide commercial development directly abutting the major transportation corridor and residential land use further into the neighbourhood; use natural buffers such as storm water management facilities, parks, and natural areas; designate heavy truck routes and bus routes away from residential developments.
2. Enforcement and Education:
   An education and enforcement program of local bylaws is critical to reducing traffic noise as standard noise barriers will not reduce the annoyance of excessively loud vehicles.
3. Barriers (Earth Berm/Noise Walls) can be used in combination:
   a. Earth Berms are equivalent to noise walls in noise mitigation but require more land than walls, maintenance of vegetation and may introduce drainage issues.

b. Noise Walls have factors for wall design to be considered: geometry, mass, reflection, gaps, access, and security.

4. Pavement/Tires:
Largest contributor to traffic noise is vehicle tires interacting with the road at speeds above 40 to 50 kph. Low environment noise tires are not known to be commercially available, and a municipality may not have jurisdiction over the use of vehicle tires.

5. Vegetation:
Largest level of public misconception is vegetation, as in reality vegetation typically provides an insignificant level of sound attenuation.

Traffic Noise Policy Framework

Several key components are requirements in a traffic noise policy. The recommendations for each component are as follows:

Component	Item	Details
Assessment Criteria	Decibel Scale and Weighting	dBA (A-weighted decibel sound level.)
	Threshold (Timeframe and Value)	Ldn 65 dBA (logarithmic average conducted over an entire 24-hour period with a 10 dBA penalty to the monitored or modeled noise during the night-time period.)
	Measurement Location	Receptor in defined outdoor rear amenity space, 5 m from the adjacent property line, 1.5 m elevation, 3 m from any obstructions (i.e. a shed). Applicable to single family residential land use, and townhouse type (maximum of two storeys) multi-family land use.
	Maximum Allowable Sound Level	The maximum overall sound threshold is Ldn 65 dBA
	Applicability	Residential areas only are considered for traffic noise mitigation.
	Mitigation Responsibility	Developers are responsible for traffic noise mitigation in new developments. The City is responsible for new and upgraded transportation areas, as well as, retrofit areas that are technically, economically, and administratively feasible.
Noise Impact Assessments	Applicability	Required for new developments adjacent to existing transportation corridors; new/upgraded transportation corridors adjacent to existing developments and retrofit projects for existing transportation corridors.
	Methods and Software	Use the 400,000 population horizon as the future planning horizon. See details in Attachment 1.
	Report Information	See details in Attachment 1.
Noise Monitoring	Measurement Rationale	Pre-project noise monitoring is recommended for upgraded transportation corridors as well as new development. Post-project noise monitoring may be conducted on a case-by-case basis.
	Measurement Location	See details in Attachment 1.
	Measurement Equipment	See details in Attachment 1.
Measurement Conditions	Duration and settings, weather conditions, traffic conditions, isolation conditions, noise monitoring report information – See details in Attachment 1	
Noise Barriers	Maintenance for barriers (walls and/or earth berms) on private property should be the responsibility of the property owner while maintenance for barriers on public property should be the City's responsibility. Minimum recommended noise attenuation should be a goal of 5 dBA where possible but the performance for noise barriers for new/upgraded/retrofit projects should be assessed on a case-by-case basis. The absolute minimum attenuation for retrofit projects should be 3 dBA.	

TNSA Program

Currently the Administration conducts noise measurements for residents on a first come, first served basis. In 2014, 17 noise measurements were completed and in 2015 30 were completed. The estimated cost for testing averages $20,000 per year, and of the noise measurements conducted, 90% measured under 65 dBA as the property did not back a transportation corridor. This method of addressing noise concerns has not identified any new potential TNSA projects outside of the current monitoring list.

The Administration recommends a revised approach to monitoring the potential TNSA locations that will yield useful and timely information and be more cost effective.

The Administration has developed a list of potential future sound wall projects by removing projects that are either constructed, currently being constructed, planned on being constructed with approved funding, or locations where TNSA is not feasible. Only locations adjacent to arterial roads or freeways/expressways, with average daily traffic levels greater than 20,000 vehicles per day, are included as traffic noise results from higher traffic volumes. The Administration will add potential TNSA locations for consideration by monitoring when traffic volumes over 20,000 vehicles per day are measured. The resultant recommended TNSA monitoring list is in Attachment 3.

Noise measurements will be completed every three years beginning in 2019 to quantify changes in traffic patterns as traffic volumes will shift once the North Commuter Parkway opens in the fall of 2018. The results will be submitted through a report to City Council. Large capital projects, such as interchanges, would include a review of requirements for traffic noise attenuation on a case-by-case basis, and would be outside the three-year cycle.

Other Considerations/Implications

There are no options, public and/or stakeholder involvement, communication, policy, financial, environmental, privacy, or CPTED considerations or implications.

Due Date for Follow-up and/or Project Completion

The Administration will prepare a Council Policy based on the framework outlined in this report for presentation to the SPC on Transportation in early 2017.

Public Notice

Public Notice pursuant to Section 3 of Policy No. C01-021, Public Notice Policy, is not required.

Attachments

1. Traffic Noise Attenuation Policy Review and Development, aci Acoustical Consultants Inc., November 1, 2016
2. Table 2.1 Summary of Reviewed Traffic Noise Attenuation Policies
3. Recommended Traffic Noise Sound Attenuation Monitoring List

Report Approval

Written by:	Jay Magus, Engineering Section Manager, Transportation
Reviewed by:	Angela Gardiner, Director of Transportation
Approved by:	Jeff Jorgenson, General Manager, Transportation & Utilities Department

TRANS JM – Traffic Noise Sound Attenuation – Policy Framework.docx

Neighbourhood Traffic Management – Feedback on Vertical Traffic Calming Devices

Recommendation
That the report of the General Manager, Transportation & Utilities Department dated January 31, 2017, be forwarded to City Council for information.

Topic and Purpose
This report provides information on the feedback from internal agencies such as Saskatoon Transit, Roadways & Operations, Saskatoon Police Service, Saskatoon Fire Department, and MD Ambulance on the possibility of using vertical devices, such as speed humps, as traffic calming measures.

Report Highlights
Input from Saskatoon Transit, Roadways & Operations, Saskatoon Police Service, Saskatoon Fire Department, and MD Ambulance does not support the use of vertical devices for traffic calming.

Strategic Goal
This report supports the Strategic Goal of Moving Around by providing a plan to guide the installation of traffic calming devices and pedestrian safety enhancements to improve the safety of pedestrians, motorists, and cyclists.

Background
At its meeting held on June 27, 2016, City Council considered the Neighbourhood Traffic Management – Revised Guidelines and Tools report, and resolved, in part:

> "2. That the Administration report, with feedback from Transit, Emergency Services, Public Works and contractors, about the possibility of expanding the use of speed humps and raised crosswalks as traffic calming measures in residential areas."

Report
The City of Saskatoon (City) Neighbourhood Traffic Management Guidelines and Tools manual lists seven vertical deflection devices potentially used for traffic calming. These devices include:

- raised crosswalks,
- textured crosswalks,
- raised intersections,
- speed humps,
- speed table,
- speed kidney; and
- speed cushions.

Concerns regarding the use of vertical deflection relate to noise and vibration to adjacent properties, reduction in response times for emergency services and impact to snow maintenance.

Stakeholders including Saskatoon Transit, Roadways & Operations, Saskatoon Police Service, Saskatoon Fire Department, and MD Ambulance provided comments on the impact the different vertical traffic calming devices have on their operations. A summary of the comments is provided below. Further comments are found in Attachment 1.

Device	Agency		
	Opposed	Not Opposed	Unsure
Raised Crosswalk	Saskatoon Transit Roadways & Operations Saskatoon Fire Department MD Ambulance	Saskatoon Police Service	
Textured Crosswalk	Roadways & Operations Saskatoon Police Service	Saskatoon Transit Saskatoon Fire Department MD Ambulance	
Raised Intersection	Saskatoon Transit Roadways & Operations Saskatoon Police Service Saskatoon Fire Department MD Ambulance		
Speed Humps	Saskatoon Transit Saskatoon Fire Department MD Ambulance	Roadways & Operations Saskatoon Police Service	
Speed Table	Saskatoon Transit Saskatoon Fire Department	Roadways & Operations Saskatoon Police Service MD Ambulance	
Speed Kidney	Saskatoon Transit	Saskatoon Police Service	Roadways & Operations Saskatoon Fire Department MD Ambulance
Speed Cushion	Saskatoon Transit Roadways & Operations	Saskatoon Police Service MD Ambulance	Saskatoon Fire Department

In addition to the stakeholders identified above, the Administration contacted other municipalities to discuss their use of vertical deflection devices. Of those municipalities that currently use vertical deflection devices, the majority are used only on local residential roadways where emergency response concerns would be limited.

Based on the feedback received from the stakeholders and other municipalities, the use of vertical deflection devices as a traffic calming measure is only recommended on local residential roadways when certain conditions are met, including demonstrated speed issues and where there is strong community support.

The majority of speed concerns identified through Neighbourhood Traffic Reviews are on collector roadways which support Transit and emergency response. Speed concerns on collector roadways are more appropriately addressed through the use of horizontal deflections (curb extensions and centre medians) to reduce the width of the roadway, speed radar boards to address perception of speeds, and enforcement as required.

Public and/or Stakeholder Involvement

All five stakeholders (Saskatoon Transit, Roadways & Operations, Saskatoon Police Service, Saskatoon Fire Department, and MD Ambulance) were contacted by letter August 9, 2016, for feedback.

Other Considerations/Implications

There are no options, communications, policy, financial, environmental, privacy, or CPTED considerations or implications.

Due Date for Follow-up and/or Project Completion

None required.

Public Notice

Public Notice, pursuant to Section 3 of Policy No. C01-021, Public Notice Policy, is not required.

Attachment

1. City of Saskatoon – Transportation Division – Survey Results Vertical Deflections

Report Approval

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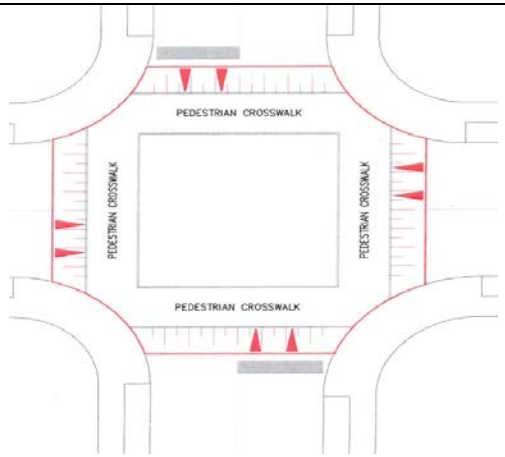
TRANS SM – Neighbourhood Traffic Mgt - Vertical Traffic Calming Devices

City of Saskatoon – Transportation Division –Survey Results
Vertical Deflections

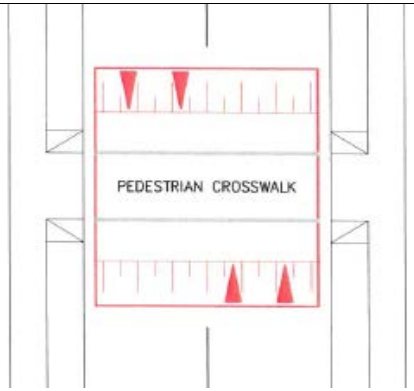
What is a Vertical Deflection?

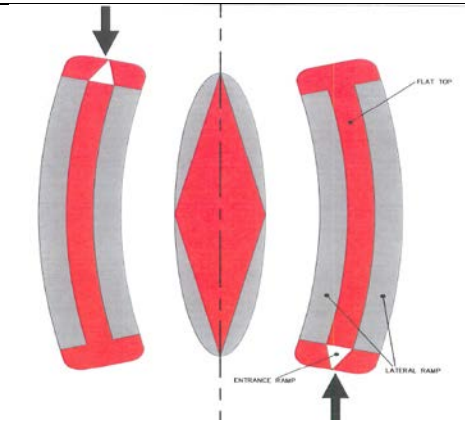
A vertical deflection measures creates a vertical motion in a motor vehicle when driven over. Vertical deflections are commonly not recommended on a street where there is a transit route or emergency access. Saskatoon Transit**,** Roadways and Operations**,** Saskatoon Police Service, Saskatoon Fire Department, and MD Ambulance were asked to provide comments and indicate if they agree or disagree with the use of each device and an explanation why. The table below lists the seven devices that may be used by the City of Saskatoon to reduce speeds and summarizes the comments from the various stakeholders.

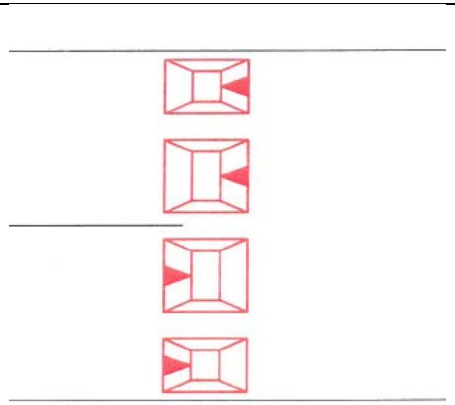
Device	Description	Picture	Comments
Raised Crosswalk	Marked pedestrian crosswalk at an intersection or mid-block location constructed at a higher elevation than the adjacent roadway. Saskatoon has raised crosswalks on Wilson Crescent		**Saskatoon Transit– Disagree** As Transit moves towards a more accessible fleet with low floor buses, vertical deflections may cause damage to buses and premature wearing. **Roadways and Operations –Disagree** May cause damage to snow removal equipment if covered in snow and not visible. Reduces effectiveness of snow removal and sweeping. **Saskatoon Police Service –Agree** Drastically decrease the number of pedestrian collisions. Useful in residential areas as drivers would be forced to slow down. May decrease the sensitivity of drivers if they were to be utilized in all school zones. None of the vehicles in the police fleet would be seriously affected by these devices. Could provide issues with responding to call of an emergency nature. Would upset the balance of a vehicle travelling at higher than average speeds. The risk of losing control of vehicle is possible. **Saskatoon Fire Department-Disagree** Will cause delays with response times, possible vehicle damage or premature wearing. Possibility of crew injury when an obstacle is overlooked during an emergency response, especially during winter months when covered in snow and attention is focused on traffic and pedestrians during a response. **MD Ambulance – Disagree** Prefer to avoid.

Textured crosswalk	A crosswalk enhanced with pattern brick or stone pavers instead of traditional paint or road markings. Saskatoon has textured crosswalks along Centennial Drive and Stonebridge Blvd		**Saskatoon Transit – Agree** Example on Centennial Drive works great. **Roadways and Operations –Disagree** Salt applications and grader operation make this a costly option due to replacement. Potential for uneven settlement. **Saskatoon Police Service-Disagree** Increases the visual appeal of the neighbourhood. A minor change in surface texture will not change the habits of drivers. Once drivers are used to the texture on the road and know that it won't affect their drive or vehicle, they will barely even notice it is there. **Saskatoon Fire Department-Agree** Will not affect response times at all and would not be a concern for damage to the vehicles or crews. **MD Ambulance – Agree** Prefer textured crosswalks.
Raised Intersection	Includes crosswalks which are constructed at a higher elevation than the adjacent roadways. It consists of a flat raised area covering the entire intersection, with ramps on all approaches and often brick or other textured materials on the flat section. Saskatoon has a raised intersection in front of the Bessborough Hotel		**Saskatoon Transit – Disagree** As Transit moves towards a more accessible fleet with low floor buses, vertical deflections may cause damage to buses and premature wearing. **Roadways and Operations-Disagree** May cause damage to snow removal equipment if covered in snow and not visible. Reduces effectiveness of snow removal and sweeping. **Saskatoon Police Service-Agree** May drastically decrease the number of pedestrian collisions. Useful in residential areas as drivers would be forced to slow down. May decrease the sensitivity of drivers if they were to be utilized in all school zones. None of the vehicles in the police fleet would be seriously affected by these devices. Could provide issues with responding to call of an emergency nature. Would upset the balance of a vehicle travelling at higher than average speeds. The risk of losing control of vehicle is possible. **Saskatoon Fire Department-Disagree** Will cause delays with response times, possible vehicle damage or premature wearing. Possibility of crew injury when an obstacle is overlooked during an emergency response, especially during winter months when covered in snow and attention is focused on traffic and pedestrians during a response. **MD- Ambulance-Disagree** Prefer to avoid

Speed Hump	A raised area of roadway that deflects both the wheels and frame of a traversing vehicle. Saskatoon has speed humps along 37th Street.		**Saskatoon Transit – Disagree** As Transit moves towards a more accessible fleet with low floor buses, vertical deflections may cause damage to buses and premature wearing. **Roadways and Operations-Disagree** May cause damage to snow removal equipment if covered in snow and not visible. Reduces effectiveness of snow removal and sweeping. **Saskatoon Police Service-Agree** Effective at reducing speeds, but may result in higher speeds in between humps. None of the current vehicles in the police fleet would be seriously affected by these devices. **Saskatoon Fire Department-Disagree** Will cause delays with response times, possible vehicle damage or premature wearing. Possibility of crew injury when an obstacle is overlooked during an emergency response, especially during winter months when covered in snow and attention is focused on traffic and pedestrians during a response. **MD- Ambulance - Disagree** Prefer to avoid

Speed Table	Often referred to as flat top hump, is designed as a long speed hump with a flat section in the middle. Generally long enough for the entire wheelbase of a passenger car to rest on top. Speed table is smoother than on larger vehicles such as fire trucks and often preferred by fire trucks		**Saskatoon Transit – Disagree** As Transit moves towards a more accessible fleet with low floor buses, vertical deflections may cause damage to buses and premature wearing. **Roadways and Operations - Disagree** May cause damage to snow removal equipment if covered in snow and not visible. Reduces effectiveness of snow removal and sweeping **Saskatoon Police Service - Agree** May drastically decrease the number of pedestrian collisions. Useful in residential areas as drivers would be forced to slow down. May decrease the sensitivity of drivers if they were to be utilized in all school zones. None of the vehicles in the police fleet would be seriously affected by these devices. Could provide issues with responding to call of an emergency nature. Would upset the balance of a vehicle travelling at higher than average speeds. The risk of losing control of vehicle is possible. **Saskatoon Fire Department - Disagree** Will cause delays with response times, possible vehicle damage or premature wearing. Possibility of crew injury when an obstacle is overlooked during an emergency response, especially during winter months when covered in snow and attention is focused on traffic and pedestrians during a response. **MD- Ambulance -Agree**

Speed Kidney	Composed of a main speed hump and a complementary speed hump disposed on the same cross-section. It does not occupy the entire street cross-section because it is located on the center of the lane. The main speed humps effective widths is narrow enough so wider vehicles, such as emergency vehicles, trucks, or buses, could follow a straight path straddling the main speed hump.		**Saskatoon Transit – Disagree** As Transit moves towards a more accessible fleet with low floor buses, vertical deflections may cause damage to buses and premature wearing. **Roadways and Operations- Unsure** Snow removal and sweeping between the devices ineffective with existing equipment and would need to be completed manually, significantly increasing time and resources required. May result in damage to snow removal equipment if covered in snow and not visible **Saskatoon Police Service- Agree** As far as emergency service response is concerned, do not see any issues with these. **Saskatoon Fire Department- Unsure** Highly skeptical regarding claims that our apparatus will be able to straddle the barriers as most of our vehicles have “belly pans” which provide heat to keep the pumps from freezing in the winter. There are several sizes of apparatus and making a straddle type barrier that would work for all of them may not be possible. **MD –Ambulance - Unsure** Not familiar with speed kidney

Speed Cushion	Designed as several small speed humps installed across the width of the road with spaces between them. The wider axle of emergency vehicles such as fire trucks and ambulances allows them to straddle the cushions without slowing down or increasing response times.		**Saskatoon Transit – Disagree** As Transit moves towards a more accessible fleet with low floor buses, vertical deflections may cause damage to buses and premature wearing. **Roadways and Operations – Disagree** Snow removal and sweeping between the devices ineffective with existing equipment and would need to be completed manually, significantly increasing time and resources required. May result in damage to snow removal equipment if covered in snow and not visible. **Saskatoon Police Service – Agree** As far as emergency service response is concerned, do not see any issues with these. May be effective but traffic may try to avoid the bumps and may steer into either oncoming traffic or towards the sidewalks. Useful for traffic entering school zones to remind drivers of the zone**.** **Saskatoon Fire Department - Unsure** Highly skeptical regarding claims that our apparatus will be able to straddle the barriers as most of our vehicles have "belly pans" which provide heat to keep the pumps from freezing in the winter. There are several sizes of apparatus and making a straddle type barrier that would work for all of them may not be possible. **MD – Ambulance -Agree** Prefer