

<p>2. BUILDING BETTER AND SMARTER SUBURBS AND INFRASTRUCTURE STANDARDS REVIEW: ARTERIAL ROAD CROSS-SECTIONS</p> <p>BÂTIR DES BANLIEUES MEILLEURES ET PLUS INTELLIGENTES ET EXAMEN DES NORMES D'INFRASTRUCTURE : COUPES TRANSVERSALES DES ARTÈRES</p>
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COMMITTEE RECOMMENDATION

That Council approve the Arterial Road Cross-Sections in Document 1.

RECOMMANDATION DU COMITÉ

Que le Conseil approuve les Coupes transversales des artères présentées dans le document 1.

DOCUMENTATION/DOCUMENTATION

1. Director's report, Economic Development and Long Range Planning, dated 12 October 2017 (ACS2017-PIE-EDP-0041)

Rapport du Directeur, Planification, infrastructure et développement économique daté le 12 octobre 2017 (ACS2017-PIE-EDP-0041)
2. Extract of draft Minutes, Planning Committee, 24 October 2017

Extrait de l'ébauche du procès-verbal, Comité de l'urbanisme, le 24 octobre 2017

**Report to
Rapport au:**

**Planning Committee
Comité de l'urbanisme
24 October 2017 / 24 octobre 2017**

**and Council
et au Conseil
8 November 2017 / 8 novembre 2017**

**Submitted on October 12, 2017
Soumis le 12 octobre 2017**

**Submitted by
Soumis par:**

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Ward: CITY WIDE / À L'ÉCHELLE DE LA VILLE File Number: ASC2017-PIE-EDP-0041

**SUBJECT: Building Better and Smarter Suburbs and Infrastructure Standards
Review: Arterial Road Cross-Sections**

**OBJET: Bâtir des banlieues meilleures et plus intelligentes et Examen des
normes d'infrastructure : Coupes transversales des artères**

REPORT RECOMMENDATION

**That Planning Committee recommend that Council approve the Arterial Road
Cross-Sections in Document 1.**

RECOMMANDATION DU RAPPORT

Que le Comité de l'urbanisme recommande au Conseil d'approuver les Coupes transversales des artères présentées dans le document 1.

BACKGROUND

In March 2015, Planning Committee approved the [Building Better and Smarter Suburbs: Strategic Directions and Action Plan \(BBSS report\)](#) that speaks to the challenge of supporting increased densities in new greenfield suburban neighbourhoods while at the same time striving to improve the quality of place and quality of life for its future residents.

The BBSS report serves as a framework document that provides strategic direction for City staff and itself is not a policy document. Following directions in the BBSS report, City staff set up an Ottawa Arterial Road Cross-Section working group to review existing arterial road cross-sections. The objective of the review was to recommend options to modify urban arterial roads in a way that is economical, practical, functional, and effective while corresponding with contemporary design best practices.

The working group comprised of City staff from Public Works and Environmental Services, Planning, Infrastructure and Economic Development, and Transportation Services, in addition to a representative from the development industry and one from a local transportation planning and engineering consulting firm.

The review by the working group had regard for the [Regional Road Corridor Design Guidelines \(2000\)](#). The group recognized that the guidelines are 16 years old and that in some instances, they may not reflect the contemporary vision for arterial roads in Ottawa, such as the concept of Complete Streets. Furthermore, the working group was cognizant of the impact of any changes to Arterial Road Cross-Sections on the City's long-term operation and maintenance costs. The current standard for an arterial road cross-section, based on the Regional Road Corridor Design Guidelines, can be viewed under item 1 in Document 1: Arterial Road Cross-Sections.

The Regional Road Corridor Design Guidelines is a comprehensive document that provides various cross-sections and includes recommendations for adjacent lands, including street furniture, lighting, and snow management. As a result, the Arterial Road cross-sections as presented in this report are intended to be supplemental to the Regional Road Corridor Design Guidelines, providing more up-to-date guidance on specific road design matters such as cycling facilities and medians.

The proposed Arterial Road cross-sections in Document 1 are part of a series of BBSS initiatives aimed at improving streets in new subdivisions. Other ongoing or forthcoming BBSS initiatives include an update to the existing 16.5 metre and 18 metre local road cross-sections, the potential introduction of new local road cross-sections, and a review of existing collector road cross-sections. An update to the Urban Design Guidelines for Greenfield Neighbourhoods is another initiative and it will include new guidance for street network design and traffic calming.

DISCUSSION

As part of the Ottawa Arterial Road Cross-Section Review, two specific areas stood out as having the greatest potential for revisions that would satisfy the working group's objective: cycling facilities and the application of medians. The review took into consideration that the City is moving towards implementing its Complete Streets policy while also looking at street design through the lens of Multi Modal Level of Service which is the level of service for pedestrians, cyclists and vehicles. Consideration was also given that, at the same time, the City is looking at opportunities to reduce the cost of implementing arterial roads that serve new communities.

Cycling Facilities on Arterial Roads

The working group looked at how to best provide cycling facilities and whether it is still appropriate to continue to provide on-road painted bike lanes along arterial roads. After reviewing the application of various cycling facilities, the working group recommends the use of cycle tracks instead of on-road bike lanes on urban arterials. Cycle tracks provide a higher level of cycling comfort and safety, and can be delivered more cost effectively than on-road bike lanes. However, using multi-use pathways may be appropriate under certain circumstances such as in areas where there is low pedestrian demand, along natural and open space areas, or where there are constraints to the width of the right-of-way.

Application of Medians on Arterial Roads

Medians are implemented in a roadway corridor with a wide range of varied functions including separating opposing traffic, creating space for left turn movements and providing refuge to pedestrians. For the application of medians along arterial roads, the working group recommends that medians are not necessarily required along all arterial roads in developing community contexts. For new arterial roads posted 70km/h or less, medians are not necessary unless there are area-specific traffic safety considerations, regardless of the number of travel lanes. Where there will be a high frequency of

adjacent private approaches served by the arterial road, medians may be required to intercept left-turn movements. However, for multi-lane arterials with a posted speed limit at or above 80km/h a median is recommended, and in locations where there is a regular occurrence of left turn lanes, a 1.5-metre-wide raised median is recommended. In cases where the arterial right-of-way is narrowed as a result of removing a median, the right-of-way would be widened at intersections to accommodate additional space requirements such as separated left and or right turning movements. The right-of-way would also be widened at roundabouts identified in planning and transportation studies.

Proposed Cross-Sections

The Ottawa Arterial Road Cross-Section working group determined a preferred cross section which employs cycle tracks located in the boulevard area delivered in tandem with a concrete sidewalk. A 2.0-metre grass delineator is illustrated in this option to separate the cycle track from the sidewalk. Please refer to item 2 – Separated Cycle Tracks/Sidewalks in Document 1: Arterial Road Cross-Sections. However, in a more constrained environment, other options can be used that combine cycle tracks and sidewalks. Please refer to item 3 – Combined Cycle Tracks/Sidewalks and item 4 - Cycle Tracks, Narrow Boulevard also in Document 1.

A cross-section that employs a multi-use pathway was also developed by the working group. This cross-section should be limited to areas that have minimal adjacent land use density. In such settings, pedestrians and cyclists would be comfortable sharing the pathway, assuming low to moderate volume of pedestrians and cyclists. This application lends itself to either a rural or transitioning urban context, such as through the Greenbelt. Please refer to Document 1, item 5 – Multi-Use Pathway.

A cross-section that features dedicated median bus lanes to support bus rapid transit (BRT) was also developed specifically for transit corridors. The BRT lanes provide separation of transit from other traffic, improving transit travel lanes and offering a reliable service that is less susceptible to traffic delays or congestion. The right-of-way would be widened to accommodate intersections and platforms and shelters at transit stops. Please refer to Document 1, item 6 – BRT Lanes, Single Median, Combined Cycle Tracks/Sidewalks and item 7 - BRT Lanes, Double Medians, Separated Cycle Track, On-Street Parking.

The suite of new developed cross-sections requires less right-of-way width, at least for mid-block segments of arterial roads in growth areas, than has historically been required by the City. The reduced right of way width required for these new cross-

sections allows for more land to be developed. It is estimated that reducing the width of arterial roads on average by 5 metres would result in land efficiencies that corresponds approximately to a yield of 17 to 20 residential units per linear kilometer.

Cost Savings

Individual costing templates were developed for each of the road cross-section scenarios that would be encountered based on the [2013 Transportation Master Plan's \(TMP\) Ultimate Plan](#), referred to as "Benchmarks". For each Benchmark, typical cross-sections were developed, conforming to City of Ottawa standards from year 2000 that included on-road cycling facilities and medians. However, when applying the recommended Ottawa Arterial Road Cross-Sections to the same benchmark projects identified in the TMP Affordable Plan up to 2031, there was a potential development charge cost savings of \$1.77 million for implementing cycle tracks instead of on road bike facilities and a savings of \$10.285 million in median costs. These saving were first reported in the May 9, 2017 [Building Better Smarter Suburbs- Infrastructure Standards Review Update Report \(ACS2017-PIE-PS-0069\)](#).

The proposed arterial road cross-sections correspond with contemporary design best practices and are considered to be economical, practical, functional and effective. Additionally, they align with the concept of complete streets and the implementation of such cross-sections will benefit residents, the City of Ottawa, and the development industry.

RURAL IMPLICATIONS

These proposed Arterial Road Cross-Sections are intended for the Urban Area and Villages and are not applicable to the General Rural Area.

CONSULTATION

Ottawa Arterial Road Cross Section Working Group

The Ottawa Arterial Road Cross-Section Working Group, which included City representatives from Public Works and Environmental Services, Planning, Infrastructure and Economic Development, and Transportation Services, in addition to representatives from the development industry met a number of times to develop the recommended arterial road cross-sections. Members of the working group support the proposed recommendations and believe that these are economical, practical, functional, and effective while corresponding with contemporary design best practices.

COMMENTS BY THE WARD COUNCILLORS

This is a City-wide report – not applicable.

LEGAL IMPLICATIONS

There are no legal impediments to the adoption of the recommendation of this report.

RISK MANAGEMENT IMPLICATIONS

There are no risks implications associated to this report.

FINANCIAL IMPLICATIONS

With the approval of the recommendation in this report budgets will be developed using the approved Arterial Road Guidelines

ACCESSIBILITY IMPACTS

There are no impacts to accessibility associated with this report.

TERM OF COUNCIL PRIORITIES

This project addresses the following Term of Council Priorities:

Transportation and Mobility, Planning and Decision Making in addition to Financial Sustainability.

SUPPORTING DOCUMENTATION

Document 1 Arterial Road Cross-Sections (distributed previously and held on file)

DISPOSITION

Following approval by City Council, City of Ottawa staff will use the Arterial Road Cross-Sections in Document 1 as a supplemental companion document to the existing Regional Road Corridor Design Guidelines.