

## For Information Only

### Infrastructure Services Department Capital Budget Allocation

Presented To: Operations Committee

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### Recommendation

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## Background

At the August 10, 2015 Operations Committee Meeting, the Committee debated and deferred a motion with respect to the possible reallocation of the Roads Capital Budget to focus on arterial roads. This report outlines the existing capital budget allocation for Infrastructure Services which includes the Roads and Transportation Services Division, Environmental Services Division and Water/Wastewater Services Division. This report will be supplemented with a presentation to the Operations Committee to provide additional information on the current and projected condition of Infrastructure Services assets with current and proposed budget allocations.

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## Roads and Transportation Services Budget Allocation

In November of 2004, Council approved a budget allocation formula for Capital Road construction and rehabilitation projects. The allocations were adopted for different types of road classifications and other project categories in the Capital Roads Program. Council revised the budget allocation for the 2015 capital budget to provide for a new Cycling Infrastructure category. The following table indicates the percentage distribution approved by Council in 2004 and the revision to the allocation for the 2015 budget:

Project Category	2004 Guideline Percentage	2015 Guideline Percentage
Major Roads: Arterials and Collectors	30	30

Minor Roads: Local Streets and Sidewalks	20	20
New Roads/Road Widenings	20	18.5
Bridge Rehabilitation	15	15
Storm Water Systems	5	5
Consulting Engineer Services, Design and Supervision	5	5
Traffic Signals; New and Upgrades	1	1
Miscellaneous (Street Lighting, Crack Sealing, Contingency, etc.)	4	4
Cycling Infrastructure (excluding cycling infrastructure constructed with Roads Projects)	0	1.5
<b>Total</b>	<b>100</b>	<b>100</b>

The road improvement projects represent 68.5% of the budget and are divided into three categories which are described in the following table:

Project Category	Major Roads: Arterials and Collectors (30%)	Minor Roads: Local Streets and Sidewalks (20%)	New Roads and Road Widenings (18.5%)
Road Description	<p>Arterials: roads connect communities, 5,000 to 50,000 vehicles per day, traffic movement is major consideration</p> <p>Collectors: roads connect neighbourhoods to other neighbourhoods and to arterials, 1,000 to 12,000 vehicles per day, traffic movement and land access of equal importance</p>	<p>Locals: roads connect properties within a neighbourhood and connect to collectors, less than 1,000 vehicles per day, traffic movement is secondary consideration, land access is primary function</p>	<p>Arterials and Collectors (see Major Roads)</p>
CGS examples	<p>Arterials: MR80, MR15, MR55, Lasalle Blvd., Kingsway, Regent Street</p> <p>Collectors: Algonquin Rd, Lansing Avenue, Errington Ave., Belisle Drive</p>	<p>Locals: Muriel Crescent (South End), Mona Avenue (Chelmsford), Francis Street (Hanmer), Catherine Drive (Garson)</p>	<p>Arterials and Collectors: Moonlight Avenue installation of curbs and sidewalk, Lasalle / Notre Dame intersection improvements, MR 15 / MR 80 intersection improvements</p>

Typical Construction Projects	Asphalt overlay, resurfacing, rehabilitation, reconstruction without expansion.	Asphalt overlay, resurfacing, rehabilitation, reconstruction without expansion.	Expansion Projects which include widening and/or urbanization (ditches to curbs) of existing roads, and construction of new roads.
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The percentages are used as a guideline in the preparation of the five (5) year Capital Roads Program. Specific priorities or other opportunities (for example Federal, Provincial or private funding) may require that the percentages vary from year to year.

The criteria for selecting Roads projects for major roads and minor roads are developed through the determination of an Overall Condition Index (OCI) of the existing asset. The criteria for selecting new roads and road widening projects are selected as recommended in the Transportation Master Plan and as determined by other opportunities (i.e. external funding).

The following criteria are used to develop the OCI.

Overall Condition Index Criteria		Points
a)	Pavement Condition Index (PCI) Rating/Cost Benefit: Roads are physically examined for structural condition, truck traffic, traffic volumes and drainage. Pavement Asset Management Software (Deighton) generates recommended rehabilitation strategies and costs by road classification using established budget scenarios.	30
b)	Safety: Proposed project will address safety concern.	25
c)	Coordination with Water/Wastewater Projects: Where water/wastewater construction or rehabilitation is required, the road with be restored/upgraded if warranted.	20
d)	Economic Development Opportunity: Site Specific in conjunction with proposed development (commercial, industrial, institutional or residential).	15
e)	Environmental and Traffic Congestion: It has been demonstrated that reducing bottlenecks and idling can reduce carbon monoxide and carbon dioxide between 50% and 80%.	10

Councillors are asked to provide the Roads and Transportation Division with a ranking of 10 Local roads. The ranking the Councillor's provide are input into the Local Road database within the Economic Development Opportunity category. This ranking influences 15% of the point total for the calculation of the Overall Condition Index.

## Water / Wastewater Services Budget Allocation

The Water / Wastewater Services Division capital budget allocations have been historically governed by regulatory requirements, using a due diligence approach to meet the requirements of the Statutory Standard of Care. The water / wastewater capital envelopes are each divided into three main categories (listed

below) with annual Council approval of the relative budget allocations:

### **Water Envelope:**

Project Category
Water Distribution (watermains)
Water Plants
Waterworks – Strategic Objectives

### **Wastewater Envelope:**

Project Category
Wastewater Collection (sanitary sewers)
Wastewater Plants
Wastewater – Strategic Objectives

Due to regulatory requirements, the water / wastewater plants capital budget envelopes have historically been allocated the greater proportion of available capital funds. More recently however, the pipe infrastructure has become a higher priority given the increasing average age and number of pipe failures. Moving forward, as the regulatory requirements for the water / wastewater plants are being met, the allocation of budget toward pipe infrastructure will increase, with the goal of at least 60% of the budget allocated to watermain and sanitary sewer projects and the remainder to plants and strategic objectives.

For the purpose of this report, with the objective to correlate the water / wastewater capital budget allocations to the roads budget allocations, the detailed prioritization criteria for the watermain and sanitary sewer system projects is provided by the following:

- A) Condition: watermain condition considers break history, pipe age, material, diameter and consequence of breaks; sanitary sewer condition considers the results of video investigations and pipe material.
- B) Capacity / Security of Supply: fire flows and pressures are analyzed to identify opportunities for looping or upsizing existing watermains, to improve the security of supply in existing areas or anticipated future developments.
- C) Coordination with Roads Projects; when a roads project is identified, the above criteria are reviewed to determine if the associated pipe projects are required. Watermain and sanitary sewer projects, where possible, will be re-prioritized to accommodate the roads project schedule. Coordinating the watermain and sanitary sewer projects with roads projects is particularly challenging, as the roads priorities listing (including arterials / collectors / locals) is typically substantially more comprehensive than what the watermain and sanitary sewer projects funding provides.

For both watermains and sanitary sewers, the project sub-categories are replacement and rehabilitation,

with rehabilitation utilizing trenchless technologies for extending the expected life of the existing pipes. Rehabilitation of the pipe infrastructure is considered in coordination with roads resurfacing projects or for a pipe priority project, when the existing pipe sizing is appropriate. In the cases where roads reconstruction is anticipated or when the pipes need to be upsized, replacement is the preferred option. The budget allocations for each of these sub-categories is dependent upon a variety of factors.

Based on an overall prioritization of all water / wastewater capital projects, only those projects which fall within the available capital envelope will proceed, leaving the remaining projects “unfunded”.

## **Environmental Services Budget Allocation**

Environmental Services maintains three operating landfill & waste diversion sites, one small vehicle transfer station & waste diversion site, two closed landfills, three closed hauled sewage sites, 13 residential waste transfer depots, one material recycling facility, one household hazardous waste depot, one administrative office/depot and six weigh scales.

The allocation of capital funds within the Environmental Services Division is typically based on the following:

- A) meeting existing or new regulatory requirements;
- B) maintaining existing, new or closed sites, site components or equipment in a good and safe state of repair;
- C) purchasing properties for solid waste purposes;
- D) funding structural/safety reviews and strategic studies

## **Summary**

The Infrastructure Services Department currently allocates their budget using Council approved guidelines or regulatory requirements, and best practices for asset management applicable to the individual Division.