

Branch — Transportation Operations

Introduction

Transportation Operations enables the effective operation of the existing transportation network. It ensures that thousands of pedestrians, motorists and cyclists can move safely and efficiently in the city. Branch activities support a wide range of services including operating the traffic signal network, snow and ice control, maintaining streetlighting and performing roadway maintenance.

Roadway Maintenance

Roadway Maintenance works to preserve and increase the service life of our roadway assets. This group is responsible for spring clean-up and the street cleaning campaign, as well as providing roadway infrastructure maintenance and repairs such as pothole filling, patch paving, and sidewalk repair. The group is also responsible for microsurfacing roadways as part of neighbourhood renewal program.



Snow and Ice Control

Transportation Operations is committed to providing effective snow and ice control that make it possible for all modes; pedestrians, bicyclists, transit users, automobiles and goods movement vehicles to commute and travel safely in all seasons. A priority system is applied to roadways and sidewalks in order to keep traffic flowing smoothly during any given snow event. This group is also responsible for managing snow storage and sand recycling facilities.

Engineering Services

The Engineering Services section provides engineering expertise in several specialized areas to support all City departments as well as other municipalities and external agencies such as EPCOR. The section's areas of expertise include geotechnical and environmental engineering, landslide and erosion repair, and materials engineering.

This group provides construction materials research and testing, construction quality assurance, pavement structural design and analysis and construction survey services. Environmental management programs include noise and vibration monitoring, contaminated site remediation, monitoring and reporting of meltwater from snow storage facilities and the aggregate recycling program.



Traffic Operations

Traffic Operations designs and manages Edmonton's traffic signals and streetlights to optimize traffic flow for all road users with emphasis on transit and goods movement. The group manages maintenance of signals, signage and streetlight infrastructure in coordination with EPCOR. The Traffic Management Centre operates traffic signals, traffic cameras, message signs, and other technology to move traffic safely and efficiently through the City.

Traffic operations manages traffic control and traffic bylaws. This group is responsible for traffic signing and on-street traffic control including temporary approvals and detours for construction projects or special events. Traffic Control also manages on-street parking, parking meters and the bylaws regarding parking, traffic and speed.



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Proposed 2014 Budget – Branch Summary (\$000)

| | 2012 Actual | 2013 Budget | 2014 Budget | \$ Change '13-'14 | % Change '13-'14 |
|--|-------------------|-------------------|-------------------|-------------------------|------------------------|
| Revenue & Transfers | | | | | |
| User Fees, Fines, Permits, etc. | \$ 9,350 | \$ 6,599 | \$ 6,599 | \$ - | - |
| Parking Meters | 6,361 | 7,218 | 6,868 | (350) | (4.8) |
| Grants | 2,785 | - | - | - | - |
| Transfer from Reserves | - | - | - | - | - |
| Total Revenue & Transfers | 18,496 | 13,817 | 13,467 | (350) | (2.5) |
| Expenditure & Transfers | | | | | |
| Personnel | 69,408 | 74,163 | 75,354 | 1,191 | 1.6 |
| Materials, Goods & Supplies | 34,892 | 32,988 | 32,867 | (121) | (0.4) |
| External Services | 36,682 | 33,171 | 34,682 | 1,511 | 4.6 |
| Fleet Services | 26,127 | 27,740 | 29,162 | 1,422 | 5.1 |
| Intra-municipal Services | 2,077 | 2,808 | 2,496 | (312) | (11.1) |
| Utilities & Other Charges | 11,331 | 12,105 | 12,560 | 455 | 3.8 |
| Transfer to Reserves | 655 | 550 | 1,375 | 825 | 150.0 |
| Subtotal | 181,172 | 183,525 | 188,496 | 4,971 | 2.7 |
| Intra-municipal Recoveries | (39,071) | (34,605) | (36,689) | (2,084) | 6.0 |
| Total Expenditure & Transfers | 142,101 | 148,920 | 151,807 | 2,887 | 1.9 |
| Net Operating Requirement | \$ 123,605 | \$ 135,103 | \$ 138,340 | \$ 3,237 | 2.4 |
| Full-time Equivalents | 793.1 | 853.8 | 853.8 | - | |

Budget Changes for 2014 (\$000)

Revenue & Transfers - Changes

User Fees, Fines, Permits, etc. \$(350)

A \$350 reduction in parking meter revenue is due to a change in GST legislation whereby parking meter revenue now requires GST remittance

Expenditures & Transfers - Changes

Personnel \$1,191

Movement towards job rate and changes in benefits for \$1,191.

Materials, Goods & Supplies \$(121)

An increase of \$496 is for hired equipment in Roadway Maintenance program. A decrease of \$490 is due to curb ramp program and auxiliary structures (replacement of wooden stairs in River Valley) being completed and no longer to be recovered from capital. The remaining decrease of \$127 is primarily due to a reduction in costs for furniture, office machinery and desktop support.

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External Services \$1,511

An increase of \$1,100 for the plastics paving contract will be recovered from capital. An increase of \$312 is for contracting roadway sand waste disposal due to capacity limitations at the Waste Management Center landfill. An increase of \$144 is for the inventory growth from contributed assets impacting streetlight and signals maintenance. The remaining decrease of \$45 is for various cost reductions.

Fleet Services \$1,422

There is an increase of \$288 for future replacement of the fleet and an increase of \$797 for maintaining the fleet. An increase of \$337 is attributed to a fuel cost increase. The major cost driver is inflation and increased fleet usage.

Intra-municipal Services \$(312)

A decrease of \$312 is due to the Waste Management Center's review of accepting roadway sand waste due to landfill capacity limitations.

Utilities & Other Charges \$455

An increase of \$207 is due to changes in utility rates. An increase of \$197 is for the inventory growth from contributed assets impacting streetlight and signals maintenance. The remaining \$51 is primarily due to higher insurance claim costs related to System Damages to assets such as light posts and traffic signs.

Transfer to Reserves \$825

There is an increase of \$825 in transfer to Aggregate Reserve due to rate increases for asphalt and sand products in order to fund the replacement of aging aggregate plant equipment.

Intra-municipal Recoveries \$(2,084)

An increase in recoveries for capital work of \$1,100 for the plastics paving contract, \$993 for grind & overlay and detour work, and \$750 for testing on soil, concrete, asphalt and aggregate products. A reduction in recoveries from capital of \$490 is for the curb ramp program and auxiliary structures completion. The remaining decrease of \$269 is for changes in various intra-municipal recoveries.

Full-time Equivalents - Changes

There is no FTE change for the 2014 proposed budget.

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Proposed 2014 Budget – Program Summary

Program Name - Roadway Maintenance

Link to 10-Year Strategic Goals



Results to be Achieved

Maintenance of the transportation system means keeping roads, sidewalks and public spaces in good repair, clean and free from litter. A transportation system that is well-maintained in all seasons promotes economic vitality and a positive city image.

Cost Drivers

- Increasing roadway inventory
- Decreasing roadway condition
- Severity of winter season affecting spring roadway cleaning and pothole maintenance

Service Standards

Roadways are cleaned in adherence to Roadway Cleaning Policy C550 which sets spring and summer roadway cleaning standards. The Risk-Based Infrastructure Management System (RIMS) assesses asset deterioration and uses a risk based approach to allocate the available infrastructure funding to the growing renewal needs. The Roadway Maintenance group strives to manage the roads, sidewalks and active mode infrastructure to minimize total life cycle costs, yet sustain levels of service and safety.

| Resources (\$000) | 2012 Actual | 2012 Budget | 2013 Budget | 2014 Budget |
|-------------------------------------|----------------|----------------|----------------|----------------|
| Revenue & Transfers | \$ 5,900 | \$ 5,502 | \$ 2,387 | \$ 2,387 |
| Expenditure & Transfers | 64,816 | 67,305 | 66,513 | 66,579 |
| Subtotal | 58,916 | 61,803 | 64,126 | 64,192 |
| Intra-municipal Recoveries | (9,529) | (6,077) | (6,908) | (7,053) |
| Net Operating Requirement | \$ 49,387 | \$ 55,726 | \$ 57,218 | \$ 57,139 |
| Management | | 1.0 | 1.0 | 1.0 |
| Professional/Technical/Union Exempt | | 14.7 | 15.0 | 15.0 |
| Union | | 260.0 | 300.7 | 300.7 |
| Temporary | | 29.3 | 29.2 | 29.2 |
| Full - Time Equivalents | | 305.0 | 345.9 | 345.9 |

2013 Services

- Executed the spring street sweeping campaign between April 22 until June 17
- Recovered two thirds of the applied winter abrasive material during street sweeping program to recycle for future winter season use
- Completed repairs and maintenance to roadways and roadway infrastructure to maintain safe conditions and preserve the asset value of the roadway network
- Filled over 600,000 potholes
- Microsurfaced roadways in Athelon and Rideau Park to increase service life of infrastructure

Changes in Services for 2014

- Maintain current levels of service on the growing roadway and active transportation network with no increase in resources through ongoing efficiency reviews.
- Microsurface roadways in Killarney and York to increase service life of infrastructure

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Proposed 2014 Budget – Program Summary

Program Name - Snow and Ice Control

Link to 10-Year Strategic Goals



Results to be Achieved

The Snow and Ice Control program ensures that the transportation network is maintained to allow all users to travel safely during the winter season. Effective snow and ice control minimizes economic loss to the community, protects the environment and facilitates the movement of emergency vehicles.

Cost Drivers

- Changes to the service standards
- Increases to the roadway inventory
- Fluctuations in winter conditions

Service Standards

Services are delivered in accordance with the Snow and Ice Control Policy C409G. Freeways and major roadways are sanded regularly and plowed within 36 hours of a snowfall. Collectors and major transit routes are sanded regularly and plowed within 48 hours. Local roadways are bladed to a level snowpack starting within 48 hours and completed within 5 days.

| Resources (\$000) | 2012 Actual | 2012 Budget | 2013 Budget | 2014 Budget |
|---------------------------------------|----------------|----------------|----------------|----------------|
| Revenue & Transfers | \$ 104 | \$ 13 | \$ 13 | \$ 13 |
| Expenditure & Transfers | 55,599 | 53,526 | 53,548 | 55,016 |
| Subtotal | 55,495 | 53,513 | 53,535 | 55,003 |
| Intra-municipal Recoveries | (2,969) | (3,843) | (1,669) | (1,779) |
| Net Operating Requirement | \$ 52,526 | \$ 49,670 | \$ 51,866 | \$ 53,224 |
| Management * | | - | - | - |
| Professional/Technical/Union Exempt * | | - | - | - |
| Union | | 174.5 | 174.3 | 174.3 |
| Temporary | | 30.0 | 27.0 | 27.0 |
| Full - Time Equivalents | | 204.5 | 201.3 | 201.3 |

2013 Services

- Managed snow and ice program as per the Snow and Ice Control Policy C409G
- Sanded roadways as per service standard
- Plowed roadways as per service standard
- Bladed all residential roadways within 5 days to a 5 cm snow pack
- Plowed snow from shared use paths and sidewalks adjacent to City owned land within 48 hours
- Removed snow as required from roadways according to priority
- Reused sand recovered during spring street sweeping campaign
- Managed 5 snow storage sites

Changes in Services for 2014

- Maintain current levels of service on the growing roadway and active transportation network

* Note: Management and Professional/Technical/Union Exempt FTEs for Snow and Ice Control are included in Roadway Maintenance

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Proposed 2014 Budget – Program Summary

Program Name - Engineering Services

[Link to 10-Year Strategic Goals](#)



Results to be Achieved

Engineering Services provides geo-environmental and pavement engineering, construction materials testing and research, geomatic services and aggregate materials processing services. This work is done primarily to support Transportation's roadway construction and maintenance programs, but is also routinely performed for other civic departments.

Cost Drivers

- Increases in the number and scale of capital roadway construction and maintenance programs
- Increases in the number and complexity of private development applications
- Increases in the quantity of city infrastructure requiring protection, maintenance or construction

Service Standards

This group ensures that the materials and construction techniques being delivered to the City meet contractual requirements and that civic, provincial and federal regulations and environmental management standards are achieved. The group is responsible for the production of low cost and high quality recycled aggregate products for use on City roadway construction and maintenance projects.

| Resources (\$000) | 2012 Actual | 2012 Budget | 2013 Budget | 2014 Budget |
|-------------------------------------|----------------|----------------|----------------|----------------|
| Revenue & Transfers | \$ 1,333 | \$ 552 | \$ 567 | \$ 567 |
| Expenditure & Transfers | 9,663 | 10,506 | 10,620 | 11,674 |
| Subtotal | 8,330 | 9,954 | 10,053 | 11,107 |
| Intra-municipal Recoveries | (7,332) | (7,952) | (8,135) | (8,953) |
| Net Operating Requirement | \$ 998 | \$ 2,002 | \$ 1,918 | \$ 2,154 |
| Management | | 2.0 | 2.0 | 2.0 |
| Professional/Technical/Union Exempt | | 15.0 | 15.0 | 15.0 |
| Union | | 61.2 | 69.0 | 69.0 |
| Temporary | | 12.1 | 12.2 | 12.2 |
| Full - Time Equivalents | | 90.3 | 98.2 | 98.2 |

2013 Services

- Provided field and laboratory testing for quality assurance of the construction materials and techniques
- Provided pavement engineering design and roadway rehabilitation expertise
- Provided construction surveying and geomatic services for Transportation Services
- Provided environmental engineering and contaminated site remediation expertise
- Monitored melt water discharges and groundwater related to the City's snow storage facilities
- Provided monitoring for vibrations, noise, groundwater and slope movement instrumentation
- Managed two major landslide repair projects for Transportation Services and Community Services
- Managed the Aggregate Materials Processing Program

Changes in Services for 2014

- No changes in services are planned for 2014

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Proposed 2014 Budget – Program Summary

Program Name - Traffic Operations

Link to 10-Year Strategic Goals



Results to be Achieved

Traffic Operations provides the services that allow for the safe and efficient direction of all roadway users. The program provides traffic control management, right-of-way management, streetlight and signal maintenance, road and base mapping, road markings, on-street parking, as well as development and compliance of the City's traffic bylaws.

Cost Drivers

- Contract costs with EPCOR
- Inventory and condition of traffic signals, signs, pavement markings and street lights
- City land development, demand for underground locates, construction industry trends and utility rates

Service Standards

Traffic Operations ensures the safe and efficient operation of streetlights, signs, traffic signals, on-street parking meters, and citywide pavement markings. Adherence to the Street Lighting Renewal Policy C564 provides safe levels of residential lighting while minimizing light pollution, power consumption and greenhouse gas generation. This group ensures traffic infrastructure is implemented and maintained to civic, provincial and federal standards and regulations.

| Resources (\$000) | 2012 Actual | 2012 Budget | 2013 Budget | 2014 Budget |
|-------------------------------------|----------------|----------------|----------------|----------------|
| Revenue & Transfers | \$ 11,159 | \$ 10,394 | \$ 10,850 | \$ 10,500 |
| Expenditure & Transfers | 51,094 | 49,671 | 52,844 | 55,227 |
| Subtotal | 39,935 | 39,277 | 41,994 | 44,727 |
| Intra-municipal Recoveries | (19,241) | (16,010) | (17,893) | (18,904) |
| Net Operating Requirement | \$ 20,694 | \$ 23,267 | \$ 24,101 | \$ 25,823 |
| Management | | 4.0 | 4.0 | 4.0 |
| Professional/Technical/Union Exempt | | 40.0 | 40.0 | 40.0 |
| Union | | 140.1 | 155.1 | 155.1 |
| Temporary | | 9.2 | 9.3 | 9.3 |
| Full - Time Equivalents | | 193.3 | 208.4 | 208.4 |

2013 Services

- Operated and maintained over 99,000 streetlights, 140,000 signs, 1,100 traffic signals and 3,300 on-street parking meters
- Assessed and optimized the roadway networks traffic signal timings to accommodate all modes
- Installed, operated, managed and maintained traffic signals, traffic signs, markings and streetlight infrastructure to City standards
- Managed traffic routes and volumes for temporary traffic disruptions and special events with signs, detours, barricades and signal timings to promote efficient flow of vehicles, pedestrians and transit
- Provided on-street parking meters and residential parking programs
- Installed LED streetlights to promote environmental stewardship and energy cost savings

Changes in Services for 2014

- Manage GeoEdmonton partnership alliance
- Implement Light Efficient Community Policy
- Enhance parking services citywide
- Continue to provide current services on the increasing inventory of roadway streetlights, signs and signals

Branch — Transportation Operations

Program - Traffic Operations

FUNDED

Streetlight Signals Inventory Growth - Impact of Contributed Assets

Results to be Achieved

Well-designed and well-maintained signals infrastructure provides personal safety for residents as well as traffic safety and efficiency for motorists. This package promotes effective mobility, improved livability, and financial sustainability through well-maintained assets.

Description

This service package identifies the additional resources required to maintain the inventory increases to the traffic signal system. Traffic signals require surveillance and periodic maintenance to ensure they operate properly 24 hours a day. An additional 17 signals have been added to the City's inventory as a result of residential and commercial developments. The City's signal maintenance and repair program is currently a contracted service performed by EPCOR under the Transportation Electrical Services Agreement.

Background

The City of Edmonton continues to grow and expand with the development of new neighbourhoods and commercial developments. Additional traffic signals are required to control and maintain the flow of traffic in new developments. The signals are provided by private developers and then transferred to the City to operate and maintain.

Options

This service package allows for inventory growth while maintaining the current service level. The service is currently a contracted service performed by EPCOR.

Implications of Not Funding

Traffic signals control the flow of traffic and are considered a high priority for repair (24 hr response and repair). Adequate resources are required to ensure that traffic signals are maintained regularly and repaired immediately for efficient traffic flow in and around the City. Not funding the program will increase the risk of not having adequate resources to maintain signals effectively and efficiently.

| Incremental (\$000) | 2014 | | | | 2015 | | | | 2016 | | | |
|------------------------|--------|-----|-----|------|------|-----|-----|------|------|-----|-----|------|
| | Exp | Rev | Net | FTEs | Exp | Rev | Net | FTEs | Exp | Rev | Net | FTEs |
| New Budget | \$ 237 | - | 237 | - | \$ 5 | - | 5 | - | \$ 5 | - | 5 | - |
| Annualization | - | - | - | - | - | - | - | - | - | - | - | - |
| Total | \$ 237 | - | 237 | - | \$ 5 | - | 5 | - | \$ 5 | - | 5 | - |

Branch — Transportation Operations

Program - Traffic Operations

FUNDED

Streetlight Maintenance Inventory Growth - Impact of Contributed Assets

Results to be Achieved

Well-designed and well-maintained street light infrastructure provides personal safety for residents as well as traffic safety and efficiency for motorists. This package promotes effective mobility, improved livability, and financial sustainability through well-maintained assets.

Description

This service package identifies the additional resources required to maintain a sustainable streetlight system. An additional 1000+ streetlights have been added to the City's inventory as a result of residential and commercial developments.

Background

The City of Edmonton continues to grow and expand with the development of new neighbourhoods and commercial developments. Private developers install new streetlighting in new neighbourhoods in accordance to the City's standards and specifications. A new neighbourhood will have approximately 200 streetlights, which are then added to the City's maintenance and repair programs.

Options

This service package allows for inventory growth while maintaining the current service level. The City's streetlight maintenance and repair program is currently a contracted service performed by EPCOR under the Transportation Electrical Services Agreement.

Implications of Not Funding

Not funding this service package would result in reduced levels of service. Funding is necessary to operate and maintain assets to maximize asset life, mitigate risks of failure, and maintain traffic and pedestrian safety.

| incremental (\$000) | 2014 | | | | 2015 | | | | 2016 | | | |
|------------------------|--------|-----|-----|------|------|-----|-----|------|------|-----|-----|------|
| | Exp | Rev | Net | FTEs | Exp | Rev | Net | FTEs | Exp | Rev | Net | FTEs |
| New Budget | \$ 104 | - | 104 | - | \$ 2 | - | 2 | - | \$ 2 | - | 2 | - |
| Annualization | - | - | - | - | - | - | - | - | - | - | - | - |
| Total | \$ 104 | - | 104 | - | \$ 2 | - | 2 | - | \$ 2 | - | 2 | - |