Item 6.1

## PUBLIC WORKS 2020 OPERATING BUDGET

General Issues Committee January 28, 2020

### **OVERVIEW**

# Public Works contributes towards the City of Hamilton's vision to be the best place to raise a child and age successfully.

The Public Works Department supports the City's vision by providing high quality cost conscious public services that contribute to a healthy, safe and prosperous community, in a sustainable manner. The department brings the City's vision and mission to life through its core services including corporate facility management, infrastructure rehabilitation, roads operations, parks and green space maintenance, transit, and waste management which are essential to the lives of residents and visitors to the City.

Public Works provides services that are central to the lives of Hamiltonians.



PUBLIC WORKS 2020 OPERATING BUDGET JANUARY 28, 2020

### **SERVICES AND SUB-SERVICES**

#### Cemeteries

- Active Cemetery Management
- Dormant Cemetery Management
- Active Cemeteries Support Services

#### **Corporate Security**

#### **Energy Initiatives**

- Energy Engineering Services
- Utilities

#### **Engineering Services**

- Asset Management
- Construction Services
- Corridor Services
- Design Services
- Survey and Technical Services
- Waterfront Development Initiative

#### **Facilities Management**

- Accommodations
- Capital Planning and Project Management
- Facilities Operations and Maintenance
- Energy Engineering Services
- Facilities Planning and Business Support
- Stadium Operations

#### **Fleet Services Management**

- Capital Planning and Contract Management
- Fleet Maintenance
- Materials, Fuel and Systems Management
- Regulatory Compliance and Driver Training

#### Forestry

- Tree Maintenance
- Tree Planting
- Tree Maintenance and Planting Support Services

#### **Horticultural Programs**

- Beautification
- Beautification Support Services

#### Parks and Open Space Access

- Parks Maintenance
- Planning, Design, Development and Acquisition
- Natural Open Spaces
- Parks and Natural Open Space Support Services

#### **Public Transportation**

- Conventional Public Transit
- Rapid Transit
- Specialized Public Transit

#### **Roadway Maintenance**

- Right of Way Infrastructure Maintenance Support Services
- Right of Way Infrastructure Repairs and Maintenance
- Business Initiatives

#### Transportation Operations

- Traffic Engineering and Road Safety
- Traffic Signals, Traffic Signs and Traffic Pavement Markings

#### **Solid Waste Management**

- Cleanliness Services
- Organic Waste Collection
- Leaf and Yard Waste Collection Services
- Recycling Collection
- Bulk Waste Collection Services
- Garbage Collection
- Community Recycling Centres & Waste Transfer Facilities
- Organic Waste Processing
- Recycling Processing
- Landfill Operation
- Closed Landfill Monitoring
- Solid Waste Support Services

#### **Storm Water Management**

- Infrastructure Maintenance
- Storm Water Collection
- Storm Water Support Services
- Storm Water Treatment

#### Water Supply and Distribution

- Water Distribution
- Water Supply
- · Water Support Services

#### Wastewater Collection and Treatment

- Wastewater Collection
- Wastewater Support Services
- Wastewater Treatment



### **BUDGET SCHEDULE: HAMILTON WATER & TRANSIT**

Water – Rate Budget

**Capital Budget** 

#### **Transit Day**

#### **Public Works**

- Energy, Fleet & Facilities
- Engineering Services
- Environmental Services
- Transportation Operations & Maintenance

November 25, 2019

November 29, 2019

January 24, 2020

January 28, 2020



# 2019 Highlights Public Works





### **STRATEGIC PLAN**

## **띌PRIORITIES**



#### COMMUNITY ENGAGEMENT & PARTICIPATION

Hamilton has an open, transparent and accessible approach to City government that engages with and empowers all citizens to be involved in their community.



#### ECONOMIC PROSPERITY & GROWTH

Hamilton has a prosperous and diverse local economy where people have opportunities to grow and develop.



#### HEALTHY & SAFE COMMUNITIES

Hamilton is a safe and supportive city where people are active, healthy, and have a high quality of life.

#### CLEAN & GREEN

Hamilton is environmentally sustainable with a healthy balance of natural and urban spaces.



#### BUILT ENVIRONMENT & INFRASTRUCTURE

Hamilton is supported by state of the art infrastructure, transportation options, buildings and public spaces that create a dynamic City.

#### CULTURE & DIVERSITY

Hamilton is a thriving, vibrant place for arts, culture, and heritage where diversity and inclusivity are embraced and celebrated.



#### OUR PEOPLE & PERFORMANCE

Hamiltonians have a high level of trust and confidence in their City government.





# Clean & Green 2019 Highlights







### **CLEAN & GREEN 2019 HIGHLIGHTS**



Hamilton



### **CLEAN & GREEN 2019 HIGHLIGHTS**

vehicles downsized

169 vehicles replaced with lower tailpipe emissions

6.5% reduction in energy consumption



since 2017

new solar pedestrian crossovers



new solar School Zone flashing beacons



2.5 km of new bike paths

220,000 Plants Grown Beautified **325** floral traffic islands roundabouts 133perennial medians 94 civic buildings 739 hanging baskets 570 planters





### **CLEAN & GREEN 2019 HIGHLIGHTS**

#### **Parks and Cemeteries**

- 12 pollinator gardens/sites recognized
- Protocol developed with Social Navigator team for the safe and ethical approach to handling homeless camps in City parks

#### Waste Programs

- Program change for green bin organics and yard waste to improve processing capacity
- Recycling program changes to reduce contamination

#### Energy

 LED lighting projects at arenas and recreation centres



York Blvd. Pollinator Garden Photo credit: Hamilton Naturalists' Club



Yard waste collection





# Built Environment & Infrastructure 2019 Highlights







#### **Road Right-of-Way Infrastructure**



\$74 Million

Infrastructure Inspections 123 km Mainline sewers 123 km Watermains 20,000 Catch basins inspected & cleaned

#### Infrastructure Rehabilitation





274.9 lane Roads paved



**10.5** €

Roads with crack sealing

**88.1** lane Rural roads resurfaced

Resurfaced cycle track lanes





Watermains



#### **Asset Management**

Strategic Asset Management Policy

#### **Major Right-of-Way Projects**

- Red Hill Valley Parkway resurfacing
- Arvin Avenue
- Cannon Street
- Locke Street
- Governors Road
- Parkdale Avenue
- Wilson Street (Ancaster)
- Neighbourhood resurfacing: Balfour, Buchanan, MacNab St., Mountview



**Red Hill Valley Parkway** 



Locke Street

13







Arvin Ave.



Cannon St.



Parkdale Ave.



Rymal Rd.



Wilson St. (Ancaster)



Shorewall Reconstruction 14





#### Facilities

- \$24.2 M capital delivery for facilities (within Public Works budget)
- Major projects in 2019:
  - Grightmire Arena
  - Norman Pinky Lewis Recreation Centre
  - Hamilton Public Library window replacement
  - Locke Street Library
  - Bus port
  - 703 Highway 8 (new yard)
- Master Office Space Management Plan approval of downtown office accommodations
- Space management solutions for Public Works Yards



**Grightmire Arena** 



Norman Pinky Lewis Recreation Centre







Locke St Library



**Bus Port** 



703 Hwy 8 (new yard)



Hamilton Public Library



Hamilton Convention Centre



500 MacNab St. – City Housing Hamilton 16





#### **Disaster Mitigation and Adaptation Fund**

- Shoreline protection
- Combined sewer outfall backflow valves

#### Waterfront Development:

- Pier 8 construction
- Macassa Bay

#### Landscape Architecture:

- 13.2 hectares of new parkland
- 24 park and trail construction projects
- John Rebecca Park, Bookjans Park, Churchill Park Rain Gardens, Crown Point Parkette, Shaver Estates Trail, Tiffany Hills Park



**Pier 8 Development** 



Shaver Estates Trail 17







**Bruce Park Spray Pad** 



**Churchill Park Rain Gardens** 



**Crown Point Parkette** 



John Rebecca Park



East Mountain Trail Loop



Tiffany Hills Park 18



# Healthy & Safe Communities 2019 Highlights



PUBLIC WORKS 2020 OPERATING BUDGET JANUARY 28, 2020



Flamilton

**JANUARY 28, 2020** 

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### HEALTHY & SAFE COMMUNITIES 2019 HIGHLIGHTS

#### Security

- Corporate Security Office growth
- Development of security policies
- New security features at City Hall
- New trespassing by-law (corporate owned properties)

#### **Road and Traffic Safety**

- Vision Zero Action Plan
  - 20% decrease in injury collisions since 2016
- Neighbourhood Speed Reduction Program
- RHVP & LINC safety enhancements
- Rural intersection stop bar compliance audit
- Railway crossing safety audit and action plan



#### **Neighbourhood Speed Reductions**





# Our People & Performance 2019 Highlights







### OUR PEOPLE & PERFORMANCE 2019 HIGHLIGHTS

#### **CVOR rating improvements**

• Driver training, new reporting guidelines, collision toolkit

#### **Technology improvements**

- GIS mobile applications
- Fleet dash cam

### **Our People Survey**

- Implementation of action plans
- 187 actions in Public Works

#### Leadership development

- Cutting Edge of Leadership program
- Green Belt training



**Driver Trainer Simulator** 



NAOSH Health & Safety Week 23

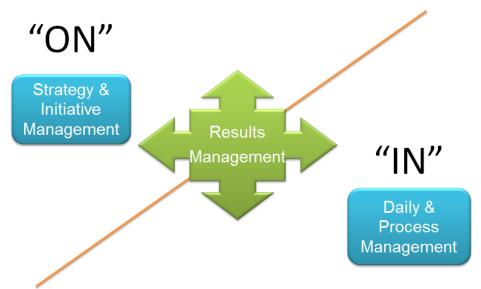




### OUR PEOPLE & PERFORMANCE 2019 HIGHLIGHTS

#### Working on the business

- Business acumen/change management response to loss of corporate knowledge with staff departures (retirements, job changes)
- Process Standardization
  - (e.g. *Construction Act* Prompt Payment)
- Divisional/Sectional Annual Reports
- Developmental Senior Project Manager roles across divisions
- Divisional leadership programs









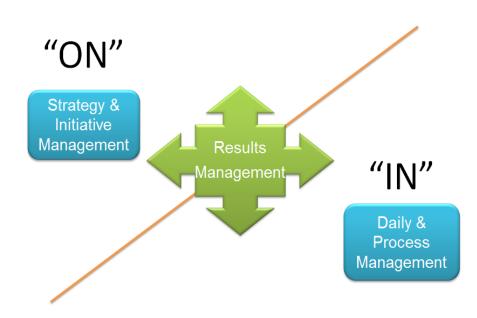
### OUR PEOPLE & PERFORMANCE 2019 HIGHLIGHTS

#### **Departmental Strategic Planning**

- Strategic framework/DLT mandate
- Quality management
- Workforce planning
- Common objectives for 2020-2023
- Balanced Scorecard/PW Analytics

#### **Project Management Standardization**

- Approach aligned to project management body of knowledge
- Standard project charter and other templates for improved project performance and reporting





## Community Engagement & Participation 2019 Highlights





### COMMUNITY ENGAGEMENT & PARTICIPATION 2019 HIGHLIGHTS

### **Community Outreach**

- Increased outreach with the public and community groups on major infrastructure projects
- Communications for Red Hill Valley Parkway resurfacing project, LINC maintenance weekends, and Locke Street reconstruction

### **Community Participation**

- Community input in play structure design
- More than 22,000 registered participants for Team Up to Clean Up events
- \$51K traffic island sponsorship



#### Spring 2019 RHVP Construction



Team Up to Clean Up



## Economic Prosperity & Growth 2019 Highlights







### **ECONOMIC PROSPERITY & GROWTH**

#### **Open for Business**

- Major Telco installation in progress
- Established the Bell Special Project team

#### Revenues

- Hamilton Forge Soccer at Tim Hortons Field
- Film shoots and leasing opportunities

#### **Hamilton Youth in Construction**

• Four classes graduated to date

### 2019 HIGHLIGHTS



**Telco Roll Out** 



While touring @LiunaCanada @Local837 I got to meet apprentices from the Hamilton Youth in Construction program. This initiative empowers and educates at-risk youth in the Hamilton area. Keep up the great work. We thank you and salute you! #WorkSafeON #SkilledTrade





# Culture & Diversity 2019 Highlights







### **CULTURE & DIVERSITY 2019 HIGHLIGHTS**

- \$300k funding received for Inch Park redesign for Challenger Baseball
- Cemeteries consideration for cultural needs
- Installation of temporary commissioned artwork as vinyl wraps on 37 traffic signal and electrical boxes in Downtown Hamilton

#### **City Facilities**

- Accessibility is broadening to inclusivity
- Delivering projects that support culture, e.g. Development of the Ancaster Memorial Arts & Culture Centre



Inch Park – Challenger Baseball



Design by Charlit Floriano Photo credit: Jocelyn Reynolds 31



# Continuous Improvement 2019 Highlights





### CONTINUOUS IMPROVEMENT 2019 HIGHLIGHTS





PUBLIC WORKS 2020 OPERATING BUDGET JANUARY 28, 2020

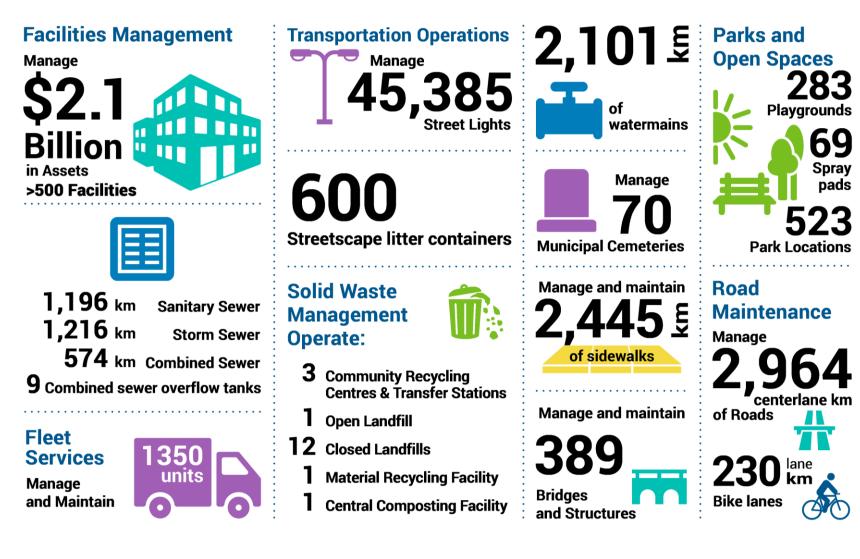
# **Metrics** Public Works



PUBLIC WORKS 2020 OPERATING BUDGET JANUARY 28, 2020



### **ASSET METRICS**





PUBLIC WORKS 2020 OPERATING BUDGET JANUARY 28, 2020

### **PERFORMANCE METRICS**

**215,000** § of roadway patrolled for deficiencies **Traffic signs** 3500 repaired/replaced

395 metres of trails constructed

25,000 **Pothole sites** repaired



**5.649**<sup>§</sup>

**Electricity produced** 

1250 Internments at **Hamilton Cemeteries**  Solid Waste Management

Manage 213,400 of residential waste

Over **27** Million Waste Pickups per year

54,803

Visitors to the new **Gage Park Tropical** Greenhouse

Winter **Operations** Maintain Lane km of Road

#### Natural Open Space & Parkland

Manage



3,804

Play structure 36 inspections

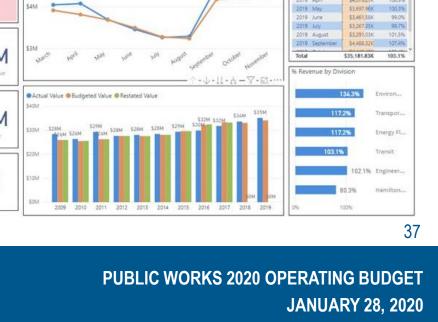


### **PERFORMANCE METRICS**

#### Web Analytics Tool

- Web-based tool allows staff to monitor performance in realtime
- Helps to demonstrate compliance, achieve efficiency and improve consistency







#### Public Works Balanced Scorecard For 2019

#### Reported By: Mckinnon, Daniel Stephen (GM Public Works)

Hamilton

Year of: 2019

#### Data for the Calendar Month of: December

Division: PublicWorksAdmin

Section: ALL	- Carlin - C										Variance Th	reshold: 5 %
											Printed Date:	09-Jan-2020
Priority	Division	Metric Name	Metric Description (Metric ID)	YE Target	Month Target	Month Actual	YTD Target	YTD Actual	Health Indicator	Trend To Target	Comments	
Division: PublicWorksAd	min											
Section: Admin												
Reported by: Mckinnor	n,Daniel Stephen (GM Pub	olic Works)										
Category: Customer												
Built Environment & Infrastructure	PublicWorksAdmin	Transit - Cancelled service	Number of hours cancelled service (39)	5,784	482	31.92	5,784	62.25	•	*	Transit Metric ID 1925	
Healthy & Safe Communities	PublicWorksAdmin	Small drinking water systems/wells	Number of adverse conditions from 50 wells tested (1089)	0	0	0	0	5	•	⇒	EFFM Metric ID 11	
Healthy & Safe Communities	PublicWorksAdmin	Water - Safe drinking water	Maintain zero confirmed adverse water quality incidents (AWQIs) (1090)	0	0	1	0	3	•	*	HW Metric ID 1677	
Healthy & Safe Communities	PublicWorksAdmin	Waste - Missed collections	Number of missed collections per 10,000 pickups (no bulk) (1111)	48	4	2.69	48	42.81	-	~	ES Metric ID 1390	
Healthy & Safe Communities	PublicWorksAdmin	Total Water Quality Complaints	Number of Water Quality Complaints (3982)	0	0	27	0	468	•		HW Metric ID 1706	
Category: Financial												
Economic Prosperity & Growth	PublicWorksAdmin	Revenue Generation (Fees and General)	Revenue (% of Plan) (13)	100	100		100	96.32	2	*	Data from PW analytics/FMW	
Economic Prosperity & Growth	PublicWorksAdmin	Budget Expense	Expenses (% of Plan) (14)	100	100		100	94.01	•	*		
Economic Prosperity & Growth	PublicWorksAdmin	Overtime Spending (Salary)	\$ Overtime as a % of Gross Salary (15)	194	2.05		1.94	2.4	•	*		
Economic Prosperity & Growth	PublicWorksAdmin	Overtime Spending (Wage)	\$ Overtime as a % of Gross Wages (16)	5.48	7.62	22.26	5.48	10.62	•	*		
Economic Prosperity & Growth	PublicWorksAdmin	Standby Trouble Callout	% of Plan (17)	100	100	112.7	100	100.65	•	~		
Economic Prosperity & Growth	PublicWorksAdmin	Overtime Bank Paid	% of Plan (18)	100	100	960.2	100	438.37	•	*		
Category: Process & C	ompliance											
Our People & Performance	PublicWorksAdmin	Continuous Improvement: Initiatives	Number of completed Continuous Improvement ProjectsIInitiatives (76)	60	10	2	60	77	•	<b>`</b>	PW CI Folder	
Our People & Performance	PublicWorksAdmin	Continuous Improvement: Shine Audit Scores	Average of Shine Audit scores where implemented (%) (77)	80.95	75	84	80.95	87.66	•	*	Data source: Avg. of EFFM, Trans	t, HW & ES
Our People & Performance	PublicWorksAdmin	Resource Levels - Vacancy Fill Rate	Number of vacancies open >16 wks from when position became vacant (78)	600	50		600				2019 data is currently unavailable.	
Our People & Performance	PublicWorksAdmin	Performance to Purchasing Policies	Total number of Policy 19 occurances (79)	12	1		12	12	•		Through Nancy	
Built Environment & Infrastructure	PublicWorksAdmin	Emergency water response repairs	Repairs to watermainstwater service complete <2 days (%) (1091)	100	100	100	100	95.42	2	<b>→</b>	HW Metric ID 2766	
Built Environment & Infrastructure	PublicWorksAdmin	Emergency sewer lateral repair	Repairs complete < 4 days (%) (1092)	100	100	0	100	33.33	•	<b>→</b>	HW Metric ID 1698	
Clean & Green	PublicWorksAdmin	WWTP Regulatory Compliance	Number of instances effluent not compliant with regulatory standards [limit/daily loading] for Woodward	0	0	0	0	0	•	<b>→</b>	HW Metric ID 2849	
Clean & Green	PublicWorksAdmin	Spills response	% of spills responded on time (1094)	85	85		85	93.3	•		HW Metric ID 94	
Built Environment & Infrastructure	PublicWorksAdmin	Facilities Management	% Regulatory orders responded by due date (1101)	100	100		100	97.27	2		EFFM Metric ID 63 & 2802	
Built Environment & Infrastructure	PublicWorksAdmin	Fleet Services	% Regulatory orders responded by due date (1102)	100	100	100	100	100	•	<b>→</b>	EFFM Metric ID 64	
Clean & Green	PublicWorksAdmin	Forestry - Tree Canopy	Plant 7000 trees (Number) (1103)	6,400	0	0	6,400	7,259	•	<b>→</b>	ES Metric ID 1466	
Healthy & Safe Communities	PublicWorksAdmin	Waste - Glanbrook Landfill Waste to Soil ratio	Glanbrook Landfill Ratio of waste to soil to be 7:1 (1105)	5.63	5.5		5.63	6.06	•		ES Metric ID 1580	
Community Engagement & Participation	PublicWorksAdmin	Play structures safety inspections	Maintain 75% or greater for inspected play sites (1106)	75	75	100	75	100	•	<b>→</b>	ES Metric ID 1377	
Economic Prosperity & Growth	PublicWorksAdmin	Cemeteries - Pre-need sales	Amount of pre need sales -Goal is to increase sales by 10% annually (1109)	1,320,000	190,000	212,674.22	1,320,000	1,154,659.76	•	*	ES Metric ID 1530	00
Clean & Green	PublicWorksAdmin	Forestry - Tree trimming by grid	Tree trimming per crew per day (cm/crew/day) (1110)	4,680	390	369	4,680	4,163	•	*	ES Metric ID 1487	- 38
Clean & Green	PublicWorksAdmin	Parks - Trash can processing	4040 trash cans emptied per week in summer and 1389 trash cans emptied per week in winter (Number) [4066]	128,400	6,400	2,635	128,400	132,265	•	۲.	ES (Metric ID 1393, 1439, 1361 & 128	2)



## LOOK AHEAD METRICS

#### **Performance Metrics**

- Enhancing web based performance monitoring tool
- Web-based analytics tool
- Review and optimize performance metrics
- Development of data trends and insights
- Ensure that customer and vendor management metrics are identified and monitored effectively





PUBLIC WORKS 2020 Operating Budget Presentation

### **METRICS – KEY PERFORMANCE INDICATORS**

Objective	Metric	Target	YTD	Health
Water - Safe drinking water	Maintain zero confirmed adverse water quality incidents (AWQIs)	0	0	R
Greenhouse Gas Emissions	% Greenhouse Gas emission reduction (from 2005 baseline)	-20%	-38%	R
Play Structure Safety Inspections	Maintain >75% inspected play sites as per regulation	75%	100%	R

40



### **METRICS – KEY PERFORMANCE INDICATORS**

Objective	Metric	Target	YTD	Health
Water – Emergency Response	Water main/water service repair within 2 days	100%	94%	
Development Application Response	# of applications processed within PED timeline	990	820	
Waste Diverted from Landfill	% Diversion	65%	40%	



# Trends & Issues 2020-2023 Public Works



#### **Right-of-Way Capital Program Delivery**

- Revised roads budget achieves re-investment rate of 1.1%
  - Below the recommended 2%-3% target
- Complete Streets design & construction of multi-modal transportation systems
- Higher risk and complex projects (i.e. escarpment, tunneling, etc.)
- Road condition project to determine current Overall Condition Index and Level of Service – update in 2020



Escarpment Bin Wall damage



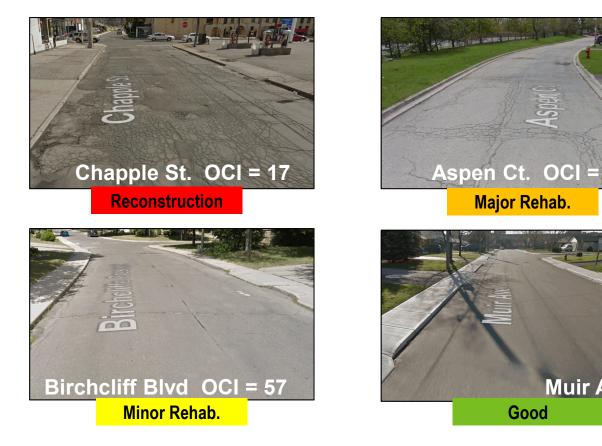
**Multi-modal transportation** 



### **OVERALL CONDITION INDEX (OCI) RESULTS**

38

Muir Ave O



Overall network average OCI is 62 (Good)\*

\*From 2015 pavement condition assessment

#### **Overall Condition Index**

0-30%	30-45%	45-60%	>60%	
Reconstruction	Major Rehab.	Minor Rehab.	Good	



### **FACILITY CONDITION INDEX (FCI) RATINGS**



Overall FCI across 500+ facilities is 9.5% (Fair)

45



0-5%	5-10%	10-30%	>30%
Good	Fair	Poor	Critical



### Climate Change

- Building resiliency and taking action to mitigate and adapt to climate change
- Key areas: water quality, flood mitigation, greenhouse gas reduction, invasive species
- Public Works plays a major role in the City's Corporate Climate Change goals
- Prioritizing actions
  - Corporate Energy Policy and energy projects
  - Focus on green fleet/equipment
  - Support active and sustainable travel
  - Resiliency planning to promote climate focused approach



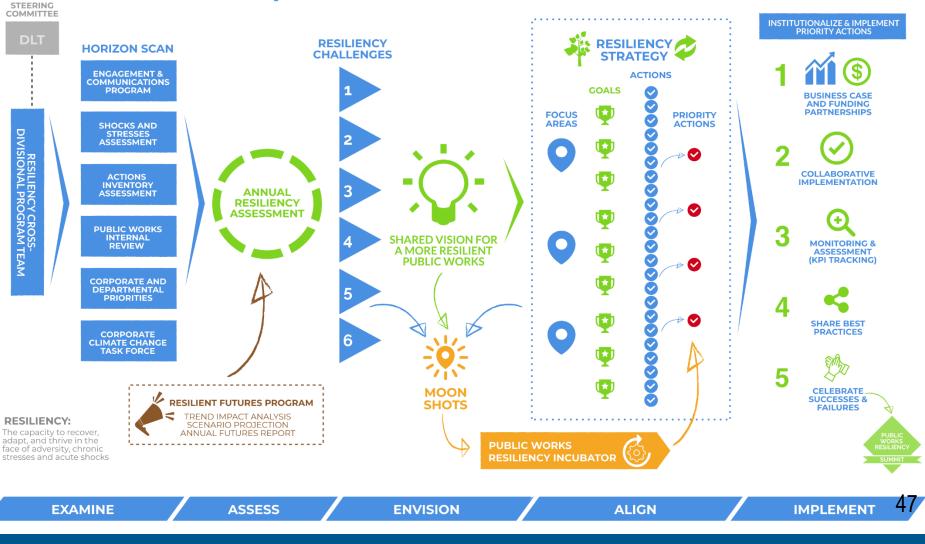
Solar panels-Wentworth Operations Centre



Compressed Natural Gas (CNG) Bus







📕 Hamilton

#### **Urgent Request/Emergency Response**

- Public Works is highly reactive to urgent requests and emergencies
- This reduces capacity to manage planned activities.
- Response to extreme weather events can result in unexpected budget deficits.
- Examples:
  - Escarpment slope failures (Hwy 8, McNeilly)
  - Liquid asphalt spill on Red Hill Valley Parkway
  - Significant storm response (downed trees, flooding, etc.)



Hwy 8 Dundas Escarpment Failure



Storm Damage



#### Forestry

- Extreme weather events and climate change affect tree health
- Urban intensification and urban sprawl reduce existing tree canopy and limit potential planting sites for new trees

Current tree canopy is approx. 21.2%

- Capital Block Funding has been static or declining over the last 10 years
- Program Initiatives:
  - Pest and disease monitoring, risk assessment and mitigation
  - Process improvements to monitor and increase health/survival of new trees
  - Implement field based technology
- An estimated 80,000 trees need to be planted annually over 40 years to meet the 30% canopy coverage target (3.2 million trees)



#### **Contract Renewals**

Contract	Timing	Budget	Impact	
Transfer Station / Community Recycling Centres	March 2020		\$1.39 M	
Landfill / Leaf & Yard Processing	March 2020	1	\$0.97 M	
Materials Recycling Facility	April 2020		\$1.55 M	Salt Storage
Waste Collections	2021	1	Expected	Can You Green four Routies
Central Composting Facility	2021		Expected	
Winter Control	Fall 2020		\$250,000	
Salt procurement	2020	1	\$1.50 M	Waste Collections 50
				00



#### Workforce Management

- Difficulty with filling skilled roles
- Creating a healthy, engaged and supportive workplace will attract and retain knowledgeable staff
- Plan for the departure of long standing and knowledgeable employees

### Technology

 Must leverage technology and innovation to improve the delivery of projects and services



LIDAR Technology (Hwy 8 & Brock Rd) 51



#### Legislation

Changes to federal and provincial legislation have an associated impact on how the City delivers services:

- Bill 6 *Infrastructure for Jobs & Prosperity Act, 2015* requirements for a strategic asset management plan
- Bill 47 *Making Ontario Open for Business Act, 2018* impacts minimum wage standards, work scheduling, personal emergency leave
- Bill 66 *Restoring Ontario's Competitiveness Act, 2019* declared municipalities as "nonconstruction employers"
- Bill 108 *More Homes, More Choice Act, 2019* changed the structure of development charges and parkland acquisition
- Bill 142 *Construction Act, 2019* liens, prompt payment, payment disputes
- Bill 151 *Waste-Free Ontario Act, 2016* increasing waste diversion and building a circular economy

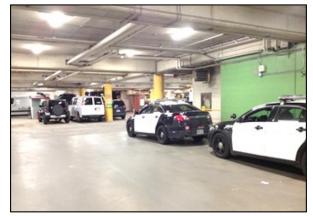


#### **Energy & Fuel Markets**

- Electricity, diesel, gasoline and natural gas energy markets remain volatile and are impacted by factors such as global markets, supply and demand.
- Energy projects can lead to future savings
- Electricity incentives ending in 2020

#### **Lease Contracts & Accommodations**

 Master Accommodation Plan to consider expiring leases for office accommodations between 2020 to 2021.



**LED Lighting Retrofit** 







### Growth

- There is currently no mechanism to identify operating impacts from growth related activities in departmental budgets
- Budgetary constraints make it a challenge to accommodate these growth impacts
- Development application approvals
- Intensification challenges for Public Works



**City Growth** 



Waterfront Servicing Project



# Major Initiatives 2020 Public Works







### **Corporate Plan Initiatives**

- Climate change strategic plan
- Enterprise Asset Management System (EAM)
- Asset management strategic planning process
- Continuous improvement priorities
- **Quality Management System**
- Standard project management practices
- "Our People Survey" action plans



#### **Right-of-Way projects**

- Rymal Road
- Regional Road 56
- Neighbourhood resurfacing: Westdale, Homeside, Kentley

### **Facility projects**

- Beverley Community Centre (HWDSB) (Fall)
- Lister Annex Offices (Spring)
- First Ontario Centre vertical transportation system (Summer)
- Macassa & Wentworth Lodges Roof Replacement (Fall/Winter)



#### **Beverley Community Centre - Construction**



**Lister Annex** 



#### **Transportation Operations & Maintenance:**

- Development of the RHVP / LINC Operational Strategy
- Vision Zero Initiatives:
  - Neighbourhood Speed Reduction Program
  - Automated Speed Enforcement

#### Space management solutions

- Office leases
- New developments
- Yard rationalization

### Energy

• 5-Year review of the Corporate Energy Policy in 2020



Neighbourhood Speed Reductions



Expiring Office Leases: City Centre 58



#### Waste Programs

- Solid Waste Management Master Plan review
- Waste collection contract award
- Transition operating contracts for the waste management facilities including Transfer Stations, Community Recycling Centres, and Landfill

#### **Other Major Initiatives**

- Biosolids
- Year 8 of the 10-Year Emerald Ash Borer Management Plan
- Year 5 of 10-Year Transit Strategy
- Our People Survey action implementation and launch of new OPS Survey (2020-2023)



Mountain Community Recycling Centre



Emerald Ash Borer Tree Damage



### **Enterprise Asset Management (EAM)**

- Significant opportunity for improved asset management and higher quality service delivery
- Business case focused on redesigning EAM practices and processes with associated system workflows
- 11+ software systems in Public Works cost \$1.06M annually
- Opportunity to reduce costs and align with IT strategy
- Goal to increase discipline and efficiency, enable mobility, promote engagement and community self-service and allow for open data





### **Quality Management System (QMS)**

- The PWQMS seeks to meet the minimum standards as prescribed by ISO 9001:2015
- The system will support delivering services according to detailed policies, procedures and methods
- Quality Resource Centre provides staff access to controlled policies and procedures
- Cross-functional collaboration in the review and development of a PWQMS Policy, Health & Safety and operational procedures
- Assessment of record control methodology to ensure compliance





# Major Initiatives 2021 – 2023 Public Works







### **Corporate Plan Initiatives**

Climate change workplan

Implementation of EAM System

Asset Management Plan (O. Reg 588/17)

Investment in transportation systems

Project management best practices

Our People & Performance Plan





#### **Right-of-Way Infrastructure**

- Explore technology applications to address the need for more cost effective road rehabilitation strategies
- Implementation of the strategic road safety strategy that focuses on Vision Zero and the Complete Livable Better Streets principles
- Identifying the reconstruction requirements for the LINC
- Investigate infrastructure requirements for autonomous vehicles



**Road Rehabilitation** 



**Cycling Infrastructure** 



#### **Major Right-of-Way Projects**

- Stone Church Road feeder-main
- Rymal Road
- Nebo Road

#### Transit

 Continue with the implementation of the 10-Year Transit Strategy with a focus on modal split and growth

#### Waste

 Continue to monitor, participate in and prepare for the potential transition of the Blue Box Program to comply with the Waste-Free Ontario Act (Bill 151)



New Bus Port at Mountain Transit Centre



Waste Collection



#### Facilities

- 2021 Grey Cup at Tim Hortons Field
- Collaboration with HWDSB on Greensville Library and Community Centre (2021)
- Ancaster Arts Centre (2022)
- Stadium Precinct Park Facilities (2022)
- Riverdale Community Hub (2023)
- Sir Wilfred Laurier Gymnasium Expansion (2023)
- Parkdale Pool (2021)
- Valley Park Community Centre (2021)
- Transit Maintenance and Storage Facility
- Woodward Wastewater Treatment Plant Upgrades



**Future Ancaster Arts Centre** 



Future Riverdale Community Hub

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- Develop asset management plans for core assets and green infrastructure to comply with the *Infrastructure for Jobs and Prosperity Act* (Bill 6)
- Undertake projects for parks Waterfront Trail redevelopment, shoreline protection and erosion control
- Participate in the evolution of the Hamilton Harbour Remedial Action Plan (HHRAP)
- Ongoing City projects related to the Waterfront Development



Waterfront Shore Wall Construction

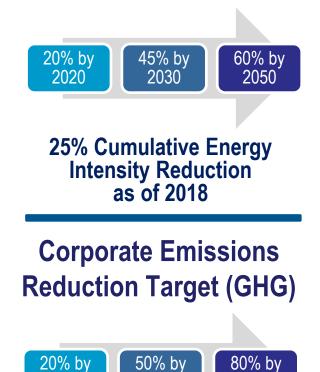




### **Energy Initiatives**

- Energy Policy last updated in 2014 review ongoing in 2020
- Steps to advance toward our energy targets
  - 1) Improving efficiency
  - 2) Renewable energy
  - 3) Carbon credits
- Upcoming energy projects: Westmount Solar Thermal, Norman Pinky Lewis Passive Solar Wall, LED lighting upgrades at City Hall, various libraries and recreation centres

#### **Corporate Energy Reduction Targets**



2030

2050

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PUBLIC WORKS 2020 OPERATING BUDGET JANUARY 28, 2020

2020

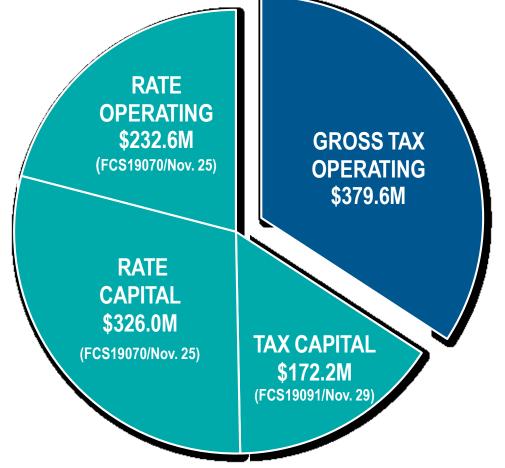
# 2020 PRELIMINARY TAX OPERATING BUDGET

# Public Works Department



### **2020 GROSS BUDGET**

# 2020 Gross Capital and Operating Budgets **\$1.110 billion**

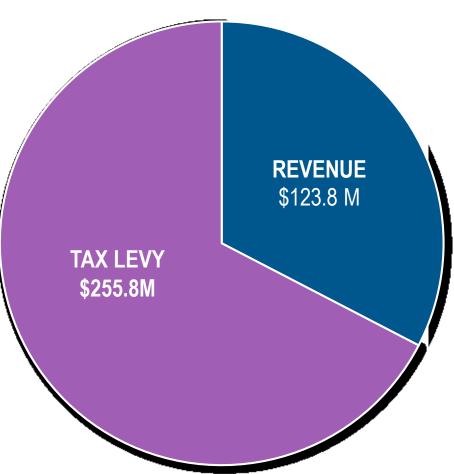




PUBLIC WORKS 2020 OPERATING BUDGET JANUARY 28, 2020

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# Gross Expenditures \$379.6 million



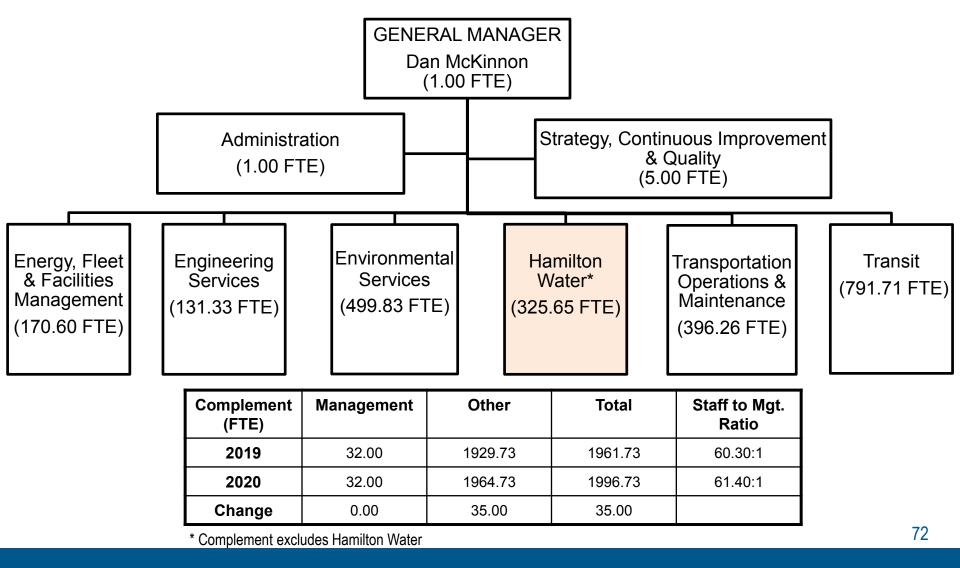


PUBLIC WORKS 2020 OPERATING BUDGET JANUARY 28, 2020

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### **GROSS TAX OPERATING BUDGET**

### **ORGANIZATIONAL CHART**





### **2020 OPERATING BUDGET BY DIVISION**

#### Public Works - Tax

-2020 vs 2019 Net Change-

	2019	2020	2020	\$	%
	Restated	Preliminary	Preliminary		
	Net	Gross	Net		
PW-General Administration	874,810	903,540	903,540	28,730	3.3%
Energy Fleet and Facilities	8,718,820	19,433,110	9,297,360	578,540	6.6%
Engineering Services	-	20,572,580	-	-	-
Environmental Services	79,243,370	104,040,500	82,794,430	3,551,060	4.5%
Transit	74,298,880	141,439,580	81,395,710	7,096,830	9.6%
Transportation Operations & Maintenance	78,920,680	93,190,760	81,440,570	2,519,890	3.2%
Total Public Works - Tax	242,056,560	379,580,070	255,831,610	13,775,050	5.7%
Amendments - January 17, 2020 Budget GIC				(740,350)	(0.3%)
Total Public Works - Tax Less Amendments				13,034,700	5.4%

- Note: Recycling revenues has a \$2.4 M pressure as a result of a world-wide collapse of mixed fiber commodities
- This risk has been mitigated in 2020 by a budgeted transfer from reserve



### EFFORTS TO REDUCE BUDGET IMPACT HIGHLIGHTS

Transfer Station / Community Recycling Centres – New Contract	\$ 1,392,730
Reduced Energy Costs LED Streetlighting	\$426,000
Continued Conversion Diesel Transit Fleet to Natural Gas	\$390,000
Right Sizing Budget	\$ 1,109,400

#### Amendments – January 17, 2020 Budget GIC:

PW Portion: Fuel rate update (diesel & unleaded)	\$ 195,350
Environmental Services: Contractual savings at landfill	\$75,000
Environmental Services: Contractual savings from diversion	\$370,000
Environmental Services: Increased minimum vehicle fee to \$10 at Transfer Station / Community Recycling Centres (APPROVED)	\$ 100,000



PUBLIC WORKS 2020 OPERATING BUDGET JANUARY 28, 2020

### **2020 KEY COST DRIVERS**

#### TOTAL 2020 PRELIMINARY NET LEVY INCREASE

#### **Departmental Key Drivers**

10 Year Strategy (Net) Year 5 of 10	\$688,220	0.3%
PRESTO Operating Agreement	\$875,000	0.4%
Transit Fleet Reserve Year 8 of 8	\$628,000	0.3%
DARTS Ridership Growth	\$2,664,130	1.1%
Without Key Transit Drivers		3.4%
Road Salt Contract (New Contract)	\$1,500,000	0.6%
Materials Recycling Facility (New Contract)	\$1,551,570	0.6%
Waste Collection (Change in Leaf & Yard Program)	\$316,000	0.1%
Leaf & Yard Disposal (New Contract)	\$506,970	0.2%
Glanbrook Site Operations (New Contract)	\$458,620	0.2%
Without Key Transit Drivers + New Contracts		1.6%
New Vacant School Properties	\$240,440	0.1%
Security (PW17083)	\$134,530	0.1%
Insurance Premiums (Direct Charges)	\$1,130,350	0.5%
NET LEVY EXCLUDE ALL KEY COST DRIVERS		1.0%
	PRESTO Operating Agreement Transit Fleet Reserve Year 8 of 8 DARTS Ridership Growth Without Key Transit Drivers Road Salt Contract (New Contract) Materials Recycling Facility (New Contract) Maste Collection (Change in Leaf & Yard Program) Leaf & Yard Disposal (New Contract) Glanbrook Site Operations (New Contract) Without Key Transit Drivers + New Contracts New Vacant School Properties Security (PW17083) Insurance Premiums (Direct Charges)	PRESTO Operating Agreement\$875,000Transit Fleet Reserve Year 8 of 8\$628,000DARTS Ridership Growth\$2,664,130Without Key Transit Drivers\$Road Salt Contract (New Contract)\$1,500,000Materials Recycling Facility (New Contract)\$1,51,570Waste Collection (Change in Leaf & Yard Program)\$316,000Leaf & Yard Disposal (New Contract)\$506,970Glanbrook Site Operations (New Contract)\$506,970Without Key Transit Drivers + New Contracts\$240,440New Vacant School Properties\$240,440Security (PW17083)\$134,530Insurance Premiums (Direct Charges)\$1,130,350



**PUBLIC WORKS 2020 OPERATING BUDGET JANUARY 28, 2020** 

### **HISTORICAL BUDGET INCREASES**

		2017 Ap	proved	2018 Approved		2019 Approved	
		\$ Change from 2016	% Change from 2016	\$ Change from 2017	% Change from 2017	\$ Change from 2018	% Change from 2018
	Total Net Levy Increase	5,002,510	2.2%	8,486,320	3.8%	11,163,190	4.8%
	Key Drivers:						
F	10 Year Strategy (Net)	361,000	0.2%	2,188,000	1.0%	1,784,000	0.8%
TRANSIT	PRESTO Operating Agreement			356,000	0.2%	642,000	0.3%
RA	Transit Fleet Reserve	577,000	0.3%			616,000	0.3%
F	DARTS Ridership Growth			1,680,000	0.8%	4,284,000	1.9%
EFFM	Tim Hortons Field	1,593,000	0.7%				
	Levy Exclude Key Drivers	2,471,510	1.1%	4,262,320	1.9%	3,837,190	1.6%
	Guideline		2.00%		1.50%		1.50%



### **2020 BUSINESS CASES**

Service/ Program	Description	Gross \$(000's)	Net \$(000's)	FTE Impact
Transportation Operations & Maintenance	Bring Inspectors In-House (savings to contractual services)	\$285	(\$89)	4.4
	Assistant Stadium Technicians needed to handle addition of Forge FC Soccer games (fully offset by additional revenue)	\$140	\$0	2.3
DEPARTMENT T	OTAL	\$425	(\$89)	6.7



### **MULTI-YEAR OUTLOOK**

	Preliminary			Multi-Year O	utlook		
	2020	2021		2022		2023	
	Budget \$	Budget \$	% Change from 2020	Budget \$	% Change from 2021	Budget \$	% Change from 2022
Public Works (Excludes Key Transit Drivers)	250,976,260	262,387,710	2.6%	273,587,151	1.6%	283,074,463	1.4%
Key Transit Drivers:							
DARTS Ridership Growth	2,664,130	1,720,000		1,820,000		1,950,000	
Annual 10 Year Strategy (Net)	688,220	3,154,000		3,315,000		3,085,000	
PRESTO Maintenance Agreement	875,000	1,722,000		189,000		208,000	
Transit Fleet Reserve	628,000	207,000		230,000		253,000	
Total Public Works - Tax	255,831,610	269,190,710	5.2%	279,141,151	3.7%	288,570,463	3.4%

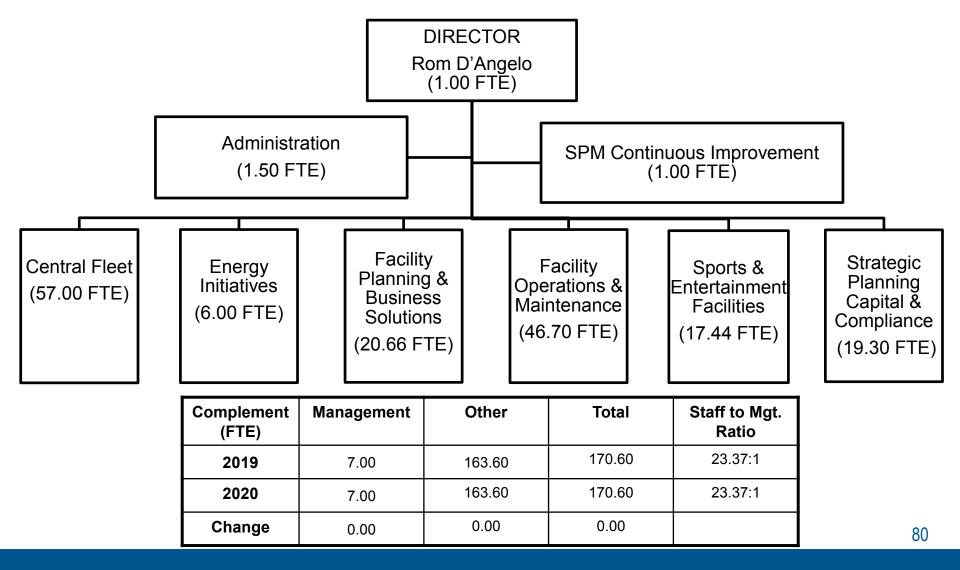


# 2020 PRELIMINARY TAX OPERATING BUDGET- Divisions



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### ENERGY, FLEET & FACILITIES MANAGEMENT





### 2020 OPERATING BUDGET ENERGY FI FET & FACIL ITIES

#### **Energy Fleet and Facilities**

#### -2020 vs 2019 Net Change-

	2019	2020	2020	\$	%
	Restated	Preliminary	Preliminary		
	Net	Gross	Net		
Fleet Services	170,550	2,024,220	25,530	(145,020)	(85.0%)
Corporate Facility Ops & Tech	1,359,670	3,312,360	1,905,120	545,450	40.1%
Facilities Planning and Business Solutions	681,610	1,651,190	895,470	213,860	31.4%
Community Facility Ops & Tech Serv	3,164,410	3,258,090	3,258,090	93,680	3.0%
Sports & Entertainment Facilities	3,002,660	5,979,730	2,907,610	(95,050)	(3.2%)
Director EFF	305,310	327,550	305,750	440	0.1%
Energy Initiatives	36,120	818,550	-	(36,120)	(100.0%)
Strategic Plan & Capital Compliance	(1,510)	2,061,420	(210)	1,300	(86.1%)
Total Energy Fleet and Facilities	8,718,820	19,433,110	9,297,360	578,540	6.6%

#### Amendments - January 17, 2020 Budget GIC:

Reduction to Fuel Assumptions (diesel & unleaded)	(14,450)	
Total Energy Fleet and Facilities Less Amendments	564,090	6.5%

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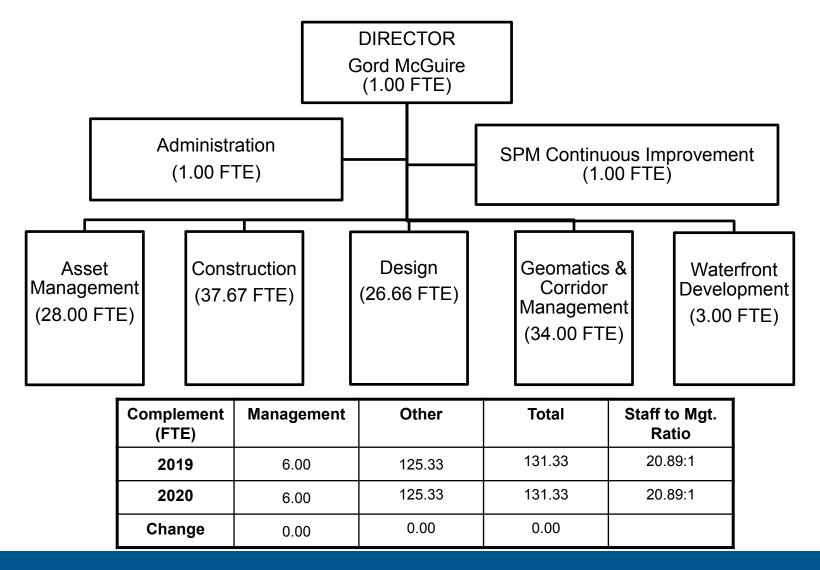


### 2020 BUDGET DRIVERS ENERGY, FLEET & FACILITIES

ltem	Cost (\$000)
Hold Vacant Properties (Mainly due to King George & Mountain Schools)	\$240
Increase in Security costs (PW17083)	\$135
Employee Related Costs	\$203



### **ENGINEERING SERVICES**





### 2020 OPERATING BUDGET ENGINEERING SERVICES

#### **Engineering Services**

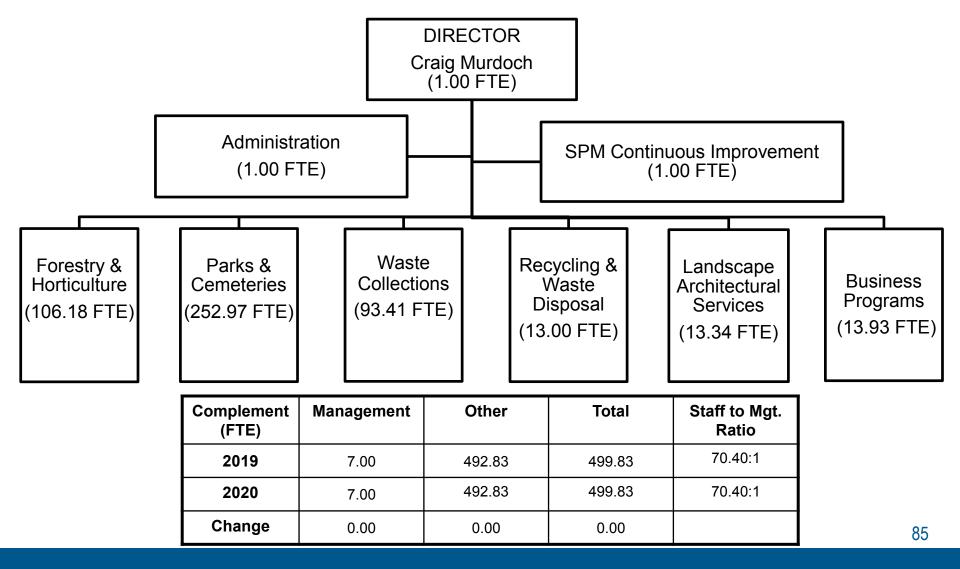
-2020 vs 2019 Net Change-

	2019	2020	2020	\$	%
	Restated	Preliminary	Preliminary		
	Net	Gross	Net		
Asset Management	-	3,474,180	-	-	0.0%
Construction	-	4,690,090	-	-	0.0%
Design Services	-	3,001,480	-	-	0.0%
Director of Engineering Services	-	1,681,310	-	-	0.0%
Geomatics and Corridor Management	-	6,992,680	-	-	0.0%
Waterfront Development	-	732,840	-	-	0.0%
Total Engineering Services	-	20,572,580	-	-	-

Costs are mainly recovered from Capital



### **ENVIRONMENTAL SERVICES**





### 2020 OPERATING BUDGET ERVICES

#### **Environmental Services**

-20201	vs 2019	Net C	hange-
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	2019	2020	2020	\$	%
	Restated	Preliminary	Preliminary		
	Net	Gross	Net		
Recycling & Waste Disposal	6,906,870	22,961,590	7,816,720	909,850	13.2%
Waste Collections	31,889,180	32,866,100	32,823,100	933,920	2.9%
Business Programs	2,076,090	2,281,510	2,166,850	90,760	4.4%
Director Environmental Services *	(701,070)	(701,070)	(701,070)	-	-
Forestry & Horticulture	12,941,860	14,609,580	13,221,460	279,600	2.2%
Landscape & Architectural Services	98,710	2,004,300	102,630	3,920	4.0%
Parks & Cemeteries	26,031,730	30,018,490	27,364,740	1,333,010	5.1%
Total Environmental Services	79,243,370	104,040,500	82,794,430	3,551,060	4.5%
Amendments - January 17, 2020 Budget	GIC:				
Fuel rate update (diesel & unleaded)				(28,700)	
Contractual savings at landfill				(75,000)	
Contractual savings from diversion				(370,000)	
Increased minimum vehicle fee to \$10 at Tra	ansfer Station/Communi	ty Recycling Centr	es (APPROVED)	(100,000)	
Total Environmental Services Less Ame	ndments			2,977,360	3.8%
Exclude Key Drivers:					
New Contract Pressures				(2,517,160)	
				460,200	0.6%

- Note: Recycling revenues has a \$2.4 M pressure as a result of a world-wide collapse of mixed fiber commodities
- This risk has been mitigated in 2020 by a budgeted transfer from reserve
- \* Includes divisional gapping target of \$701 K



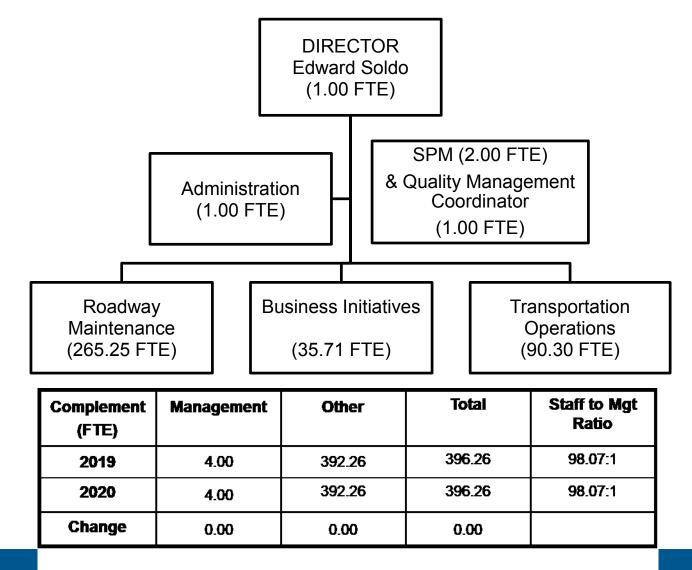
### 2020 BUDGET DRIVERS ENVIRONMENTAL SERVICES

ltem	Cost (\$000)
New Contract - Pressures	\$2,517
New Contract – Savings (Transfer Station and Community Recycling Centers)	(\$1,393)
Waste Collection (Change in Leaf & Yard program)	\$316
Central Composting Facility (Change in Leaf & Yard program)	(\$259)
Employee Related Costs	\$767
Water Utility	\$507
Blue Box Recycling Collection	\$247
Fleet Reserve Contribution	\$340
In Year Approval	\$126

- Note: Recycling revenues has a \$2.4 M pressure as a result of a world-wide collapse of mixed fiber commodities
- This risk has been mitigated in 2020 by a budgeted transfer from reserve



### **TRANSPORTATION OPERATIONS & MAINTENANCE**





JANUARY 28, 2020

### 2020 OPERATING BUDGET TRANSPORTATION OPERATIONS & MAINTENANCE

#### **Transportation Operations & Maintenance**

#### -2020 vs 2019 Not Change-

	2019	2020	2020	\$	%
	Restated	Preliminary	Preliminary		
	Net	Gross	Net		
Roadway Maintenance	62,229,330	65,724,580	63,936,340	1,707,010	2.7%
Director – Trans Ops & Mtce *	(629,950)	(629,950)	(629,950)	-	-
Transportation Operations	13,753,490	24,235,020	14,372,510	619,020	4.5%
Business Initiatives	3,567,810	3,861,110	3,761,670	193,860	5.4%
Total Transportation Operations & Maintenance	78,920,680	93,190,760	81,440,570	2,519,890	3.2%
Reduction to Fuel Assumptions (diesel & unleaded) Total Transportation Operations & Maintenance I	ess Amendm	ents		(37,000) <b>2,482,890</b>	3.1%
· · ·				_,,	
Exclude Key Drivers:					
Road Salt Contract (New)				(1,500,000)	
Insurance Premiums (Direct Charges)				(576,000)	
· · · · ·					
				406,890	0.5%



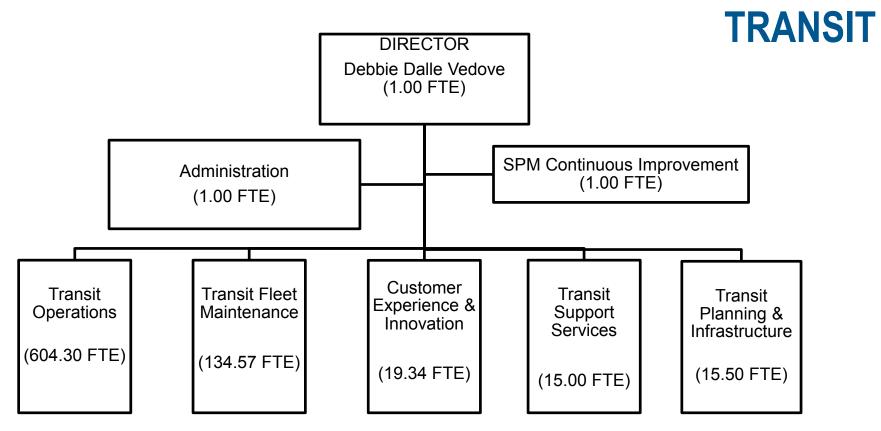
PUBLIC WORKS 2020 OPERATING BUDGET JANUARY 28, 2020

### 2020 BUDGET DRIVERS TRANSPORTATION OPERATIONS & MAINTENANCE

ltem	Cost (\$000)
Road Salt – New Contract	\$1,500
Fleet Reserve Contribution	\$668
Insurance Premiums (Direct Charges)	\$576
Fuel	\$379
Employee Related Expenses	\$180
Right Sizing Budget	(\$531)
Savings in Energy / Streetlighing Costs	(\$426)







Complement (FTE)	Management	Other	Total	Staff to Mgt Ratio
2019	6.00	750.71	756.71	125.12:1
2020	6.00	785.71	791.71	130.95:1
Change	0.00	35.00	35.00	





### 2020 OPERATING BUDGET ANSIT

#### Transit

Hamilton

#### -2020 vs 2019 Net Change-

	2019 Restated Net	ted Preliminary Preliminary	2020	\$	%
			Preliminary		
			Net		
Customer Experience and Innovation	3,541,660	5,537,410	4,187,210	645,550	18.2%
Transit Planning and Infrastructure	23,490,180	27,536,190	26,190,090	2,699,910	11.5%
Support Services	2,105,120	2,130,050	2,129,050	23,930	1.1%
Director of Transit	124,890	134,200	134,200	9,310	7.5%
Financial Charges & General Revenue	(33,597,270)	15,708,680	(34,527,690)	(930,420)	2.8%
Operations HSR	46,980,520	57,671,540	50,771,180	3,790,660	8.1%
Transit Fleet	31,653,780	32,721,510	32,511,670	857,890	2.7%
Total Transit	74,298,880	141,439,580	81,395,710	7,096,830	9.6%
Amendments - January 17, 2020 Budget G	IC:				
				(115,200)	
Reduction to Fuel Assumptions (diesel & unle				(115,200) <b>6,981,630</b>	9.4%
Reduction to Fuel Assumptions (diesel & unle Total Transit Less Amendments				. ,	9.4%
Reduction to Fuel Assumptions (diesel & unle Total Transit Less Amendments Exclude Key Drivers:				6,981,630	9.4%
Reduction to Fuel Assumptions (diesel & unle Total Transit Less Amendments Exclude Key Drivers: DARTS Ridership Growth				<b>6,981,630</b> (2,664,130)	9.4%
Reduction to Fuel Assumptions (diesel & unle <b>Total Transit Less Amendments</b> <b>Exclude Key Drivers:</b> DARTS Ridership Growth Annual 10 Year Strategy (Net) Year 5				<b>6,981,630</b> (2,664,130) (688,000)	9.4%
Reduction to Fuel Assumptions (diesel & unle Total Transit Less Amendments Exclude Key Drivers: DARTS Ridership Growth Annual 10 Year Strategy (Net) Year 5 PRESTO Maintenance Agreement				<b>6,981,630</b> (2,664,130) (688,000) (875,000)	9.4%
Amendments - January 17, 2020 Budget G Reduction to Fuel Assumptions (diesel & unle Total Transit Less Amendments Exclude Key Drivers: DARTS Ridership Growth Annual 10 Year Strategy (Net) Year 5 PRESTO Maintenance Agreement Transit Fleet Reserve Year 8 of 8 Insurance Premiums (Direct Charge)				<b>6,981,630</b> (2,664,130) (688,000)	9.4%



### 2020 BUDGET DRIVERS TRANSIT

ltem	Cost (\$000)
DARTS Ridership Growth	\$2,664
Employee Related Costs	\$1,396
PRESTO Operating Agreement	\$875
Year 5 of 10 Year Strategy (Net)	\$688
Fleet Reserve Contribution: Year 8 of 8 loss of OBRP Funding	\$628
Insurance Premiums (Direct Charges)	\$424
Conversion Diesel Transit Fleet to Natural Gas	(\$390)







## THANK YOU