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.
## 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

<table>
<thead>
<tr>
<th>Service</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water – Rate Budget</td>
<td>November 25, 2019</td>
</tr>
<tr>
<td>Capital Budget</td>
<td>November 29, 2019</td>
</tr>
<tr>
<td>Transit Day</td>
<td>January 24, 2020</td>
</tr>
<tr>
<td>Public Works</td>
<td>January 28, 2020</td>
</tr>
<tr>
<td>• Energy, Fleet &amp; Facilities</td>
<td></td>
</tr>
<tr>
<td>• Engineering Services</td>
<td></td>
</tr>
<tr>
<td>• Environmental Services</td>
<td></td>
</tr>
<tr>
<td>• Transportation Operations &amp; Maintenance</td>
<td></td>
</tr>
</tbody>
</table>
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

34 vehicles downsized
169 vehicles replaced with lower tailpipe emissions

6.5% reduction in energy consumption since 2017

6 new solar pedestrian crossovers
3 new solar School Zone flashing beacons

2.5 km of new bike paths

220,000 Plants Grown

Beautified
325 floral traffic islands
70 roundabouts
133 perennial 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
BUILT ENVIRONMENT & INFRASTRUCTURE
2019 HIGHLIGHTS

Road Right-of-Way Infrastructure

30 Projects
Worth
$74 Million

Infrastructure Inspections

123 km Mainline sewers
7 km Watermains

123 km Sewer laterals
20,000 Catch basins inspected & cleaned

Infrastructure Rehabilitation

11 km Sewers
274.9 lane km Roads paved
88.1 lane km Rural roads resurfaced

5.5 km Watermains
10.5 km Roads with crack sealing
5.0 km Resurfaced cycle track lanes
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
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
BUILT ENVIRONMENT & INFRASTRUCTURE
2019 HIGHLIGHTS

Locke St Library
Bus Port
703 Hwy 8 (new yard)

Hamilton Public Library
Hamilton Convention Centre
500 MacNab St. – City Housing Hamilton
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
BUILT ENVIRONMENT & INFRASTRUCTURE
2019 HIGHLIGHTS

Bruce Park Spray Pad
Churchill Park Rain Gardens
Crown Point Parkette
John Rebecca Park
East Mountain Trail Loop
Tiffany Hills Park
Healthy & Safe Communities 2019 Highlights
HEALTHY & SAFE COMMUNITIES
2019 HIGHLIGHTS

15 Neighbourhoods added to Vision Zero speed reduction program

25

650

88

20,114

9

1500

10

Repainted

7,200

2,200

1,024

JANUARY 28, 2020
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
Pedestrian Safety
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
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
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
Economic Prosperity & Growth
2019 Highlights
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
$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
Continuous Improvement
2019 Highlights
CONTINUOUS IMPROVEMENT
2019 HIGHLIGHTS

Ideas Generated
- Since Program Inception: 399
- Since Program Inception: 94

Projects Started
- Since Program Inception: 289
- Since Program Inception: 133

Projects Completed
- Since Program Inception: 171
- Since Program Inception: 78

Kaizen Events
- Since Program Inception: 35
- Since Program Inception: 13

Recovered Capacity
- Since Program Inception: $2.05 M
- Since Program Inception: $634k

Cost Reduction
- Since Program Inception: $1.73 M
- Since Program Inception: $719k

Cross-Dep. / Cross Div. Collaboration
- Since Program Inception: 20

Staff Involvement
- Since Program Inception: 630

Green Belts Trained
- Since Program Inception: 29
- Since Program Inception: 15
Facilities Management
- Manage $2.1 Billion in Assets
- >500 Facilities
- 1,196 km Sanitary Sewer
- 1,216 km Storm Sewer
- 574 km Combined Sewer
- 9 Combined sewer overflow tanks

Transportation Operations
- Manage 45,385 Street Lights
- 600 Streetscape litter containers

Solid Waste Management
- Operate:
  - 3 Community Recycling Centres & Transfer Stations
  - 1 Open Landfill
  - 12 Closed Landfills
  - 1 Material Recycling Facility
  - 1 Central Composting Facility

Parks and Open Spaces
- 2,101 km of water mains
- 70 Municipal Cemeteries
- 283 Playgrounds
- 69 Spray pads
- 523 Park Locations

Road Maintenance
- Manage 2,964 centre lane km of Roads
- Manage and maintain 389 Bridges and Structures
- 230 lane km Bike lanes

Fleet Services
- Manage and Maintain 1,350 units
PERFORMANCE METRICS

215,000 km of roadway patrolled for deficiencies
3500 Traffic signs repaired/replaced
395 metres of trails constructed
25,000 Pothole sites repaired

5,649 MWH Electricity produced
1250 Internments at Hamilton Cemeteries
Solid Waste Management
Manage 213,400 tonnes of residential waste
Over 27 Million Waste Pickups per year

54,803 Visitors to the new Gage Park Tropical Greenhouse
Winter Operations
Maintain 6,492 Lane km of Road
Natural Open Space & Parkland
Manage 24,082 hectares
3,804 Play structure inspections

PUBLIC WORKS 2020 OPERATING BUDGET
JANUARY 28, 2020
Web Analytics Tool
- Web-based tool allows staff to monitor performance in real-time
- Helps to demonstrate compliance, achieve efficiency and improve consistency
### Public Works Balanced Scorecard For 2019

**Reported By:** McKinney, Daniel Stephen (GM Public Works)

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

**Year of 2019 Variance Threshold: 5%**

**Printed Date: 09-Jan-2020**

<table>
<thead>
<tr>
<th>Priority</th>
<th>Division</th>
<th>Metric Name</th>
<th>Metric Description (Metric ID)</th>
<th>YE Target</th>
<th>Month Target</th>
<th>Month Actual</th>
<th>YTD Target</th>
<th>YTD Actual</th>
<th>Health Indicator</th>
<th>Trend To Target</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Built Environment &amp; Infrastructure</strong></td>
<td>PublicWorksAdmin</td>
<td>Transit - Cancelled service</td>
<td>Number of hours cancelled service (28)</td>
<td>5,784</td>
<td>482</td>
<td>213.2</td>
<td>5,784</td>
<td>52.3</td>
<td>△</td>
<td>▶</td>
<td>▶</td>
</tr>
<tr>
<td><strong>Healthy &amp; Safe Communities</strong></td>
<td>PublicWorksAdmin</td>
<td>Small drinking water systems/wells</td>
<td>Number of adverse conditions from SC systems tested (1999)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>△</td>
<td>▶</td>
<td>▶</td>
</tr>
<tr>
<td><strong>Healthy &amp; Safe Communities</strong></td>
<td>PublicWorksAdmin</td>
<td>Water - Safe drinking water</td>
<td>Maintain zero confirmed adverse water quality incidents (AVQIs) (2000)</td>
<td>41</td>
<td>4</td>
<td>2.63</td>
<td>48</td>
<td>42.39</td>
<td>△</td>
<td>▶</td>
<td>▶</td>
</tr>
<tr>
<td><strong>Healthy &amp; Safe Communities</strong></td>
<td>PublicWorksAdmin</td>
<td>Waste - Missed collections</td>
<td>Number of missed collections per 10,000 pickups (no bulk) (1111)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>△</td>
<td>▶</td>
<td>▶</td>
</tr>
<tr>
<td><strong>Healthy &amp; Safe Communities</strong></td>
<td>PublicWorksAdmin</td>
<td>Total Water Quality Complaints</td>
<td>Number of Water Quality Complaints (3362)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>448</td>
<td>448</td>
<td>△</td>
<td>▶</td>
<td>▶</td>
</tr>
</tbody>
</table>

**Category: Financial**

| Economic Prosperity & Growth | PublicWorksAdmin | Revenue Generation (Fees and General) | Revenue (% of Plan) (13) | 100 | 100 | 5.1 | 100 | 96.2 | △ | ▶ | ▶ |
| Economic Prosperity & Growth | PublicWorksAdmin | Budget Expense | Expenses (% of Plan) (14) | 100 | 100 | 71.3 | 100 | 94.0 | △ | ▶ | ▶ |
| Economic Prosperity & Growth | PublicWorksAdmin | Overtime Spending (Salary) | $ Overtime as a % of Gross Salaries (15) | 1.94 | 2.15 | 3.88 | 114 | 2.4 | △ | ▶ | ▶ |
| Economic Prosperity & Growth | PublicWorksAdmin | Overtime Spending (Wages) | $ Overtime as a % of Gross Wages (16) | 5.47 | 7.62 | 22.20 | 5.46 | 10.32 | △ | ▶ | ▶ |
| Economic Prosperity & Growth | PublicWorksAdmin | Standby Trouble Callout | % of Plan (17) | 100 | 100 | 112.7 | 100 | 100.55 | △ | ▶ | ▶ |
| Economic Prosperity & Growth | PublicWorksAdmin | Overtime Bank Paid | % of Plan (18) | 100 | 100 | 96.2 | 100 | 90.37 | △ | ▶ | ▶ |

**Category: Process & Compliance**

| Our People & Performance | PublicWorksAdmin | Continuous Improvement: Initiatives | Number of completed Continuous Improvement Processes (1114) | 60 | 10 | 60 | 72 | △ | ▶ | ▶ |
| Our People & Performance | PublicWorksAdmin | Continuous Improvement: Shire Audit Scores | Average of Shire Audit scores where implemented (%) (12) | 80.96 | 79 | 84 | 80.95 | 87.35 | △ | ▶ | ▶ |
| Our People & Performance | PublicWorksAdmin | Resource Levels - Vacancy/Fill Rate | Number of vacancies open x16 weeks from when position vacated (78) | 600 | 58 | 620 | 78 | 100.0 | △ | ▶ | ▶ |
| Our People & Performance | PublicWorksAdmin | Performance to Purchasing Prices | Total number of Policy 11.0 occurrences (79) | 12 | 12 | 12 | 12 | 12 | △ | ▶ | ▶ |
| Built Environment & Infrastructure | PublicWorksAdmin | Emergency Water response repairs | Repairs to water mains as service complete < 2 days (%) (1809) | 100 | 100 | 100 | 100 | 100 | △ | ▶ | ▶ |
| Built Environment & Infrastructure | PublicWorksAdmin | Emergency Sewer lateral repair | Repairs complete < 4 days (%) (1095) | 100 | 100 | 100 | 100 | 100 | △ | ▶ | ▶ |
| Clean & Green | PublicWorksAdmin | Wa/TTP Regulatory Compliance | Number of instances of non-compliance with regulatory standards (limit daily loading for Woodward) (1254) | 0 | 0 | 0 | 0 | 0 | △ | ▶ | ▶ |
| Clean & Green | PublicWorksAdmin | Spills response | % of spills responded on site (%) (1254) | 90 | 90 | 90 | 90 | 90 | △ | ▶ | ▶ |
| Clean & Green | PublicWorksAdmin | Facilities Management | % of Regulatory orders responded by due dates(1119) | 100 | 100 | 100 | 100 | 100 | △ | ▶ | ▶ |
| Clean & Green | PublicWorksAdmin | Fleet Services | % of Regulatory orders responded by due dates (1112) | 100 | 100 | 100 | 100 | 100 | △ | ▶ | ▶ |
| Clean & Green | PublicWorksAdmin | Forestry - Tree Canopy | Plant 3000 trees (Number (1103)) | 6,400 | 0 | 0 | 6,400 | 7,259 | △ | ▶ | ▶ |
| Clean & Green | PublicWorksAdmin | Waste - Landfill Nutrient loss to soil ratio | Landfill Nutrient loss of waste to soil to be at 71% (1103) | 5.54 | 5.54 | 5.54 | 5.54 | 5.36 | △ | ▶ | ▶ |
| Healthy & Safe Communities | PublicWorksAdmin | Community Engagement & Participation | Maintain 75% or greater for inspected play sites (1106) | 75 | 75 | 75 | 75 | 75 | △ | ▶ | ▶ |
| Economic Prosperity & Growth | PublicWorksAdmin | Economic Prosperity & Growth | % of pre-received sales Goal is to increase sales by 15% annually (1119) | 1,320,000 | 190,000 | 222,874 | 322,000 | 224,321 | △ | ▶ | ▶ |
| Clean & Green | PublicWorksAdmin | Forestry - Tree trimming by grid | Tree trimming per crew per day (1111) | 4,687 | 390 | 390 | 4,687 | 4,163 | △ | ▶ | ▶ |
| Clean & Green | PublicWorksAdmin | Parks - Trash can processing | 100 trash cans emptied per week in summer and 139 trash cans emptied per week in winter (Number (4164)) | 120,400 | 6,400 | 2,635 | 120,400 | 132,295 | △ | ▶ | ▶ |
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
## METRICS – KEY PERFORMANCE INDICATORS

<table>
<thead>
<tr>
<th>Objective</th>
<th>Metric</th>
<th>Target</th>
<th>YTD</th>
<th>Health</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water - Safe drinking water</td>
<td>Maintain zero confirmed adverse water quality incidents (AWQIs)</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Greenhouse Gas Emissions</td>
<td>% Greenhouse Gas emission reduction (from 2005 baseline)</td>
<td>-20%</td>
<td>-38%</td>
<td></td>
</tr>
<tr>
<td>Play Structure Safety Inspections</td>
<td>Maintain &gt;75% inspected play sites as per regulation</td>
<td>75%</td>
<td>100%</td>
<td></td>
</tr>
</tbody>
</table>
# METRICS – KEY PERFORMANCE INDICATORS

<table>
<thead>
<tr>
<th>Objective</th>
<th>Metric</th>
<th>Target</th>
<th>YTD</th>
<th>Health</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water – Emergency Response</td>
<td>Water main/water service repair within 2 days</td>
<td>100%</td>
<td>94%</td>
<td></td>
</tr>
<tr>
<td>Development Application Response</td>
<td># of applications processed within PED timeline</td>
<td>990</td>
<td>820</td>
<td></td>
</tr>
<tr>
<td>Waste Diverted from Landfill</td>
<td>% Diversion</td>
<td>65%</td>
<td>40%</td>
<td></td>
</tr>
</tbody>
</table>
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
OVERALL CONDITION INDEX (OCI) RESULTS

Overall network average OCI is 62 (Good)*

*From 2015 pavement condition assessment

<table>
<thead>
<tr>
<th>Overall Condition Index</th>
<th>0-30%</th>
<th>30-45%</th>
<th>45-60%</th>
<th>&gt;60%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reconstruction</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Major Rehab.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Minor Rehab.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Good</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
FACILITY CONDITION INDEX (FCI) RATINGS

Greensville Hall
FCI est. > 65%

Tapleytown Yard
FCI = 41%

Normanhurst Community Centre
FCI = 28%

Greensville Hall
FCI est. > 65%

Tapleytown Yard
FCI = 41%

Normanhurst Community Centre
FCI = 28%

Hill Park Recreation Centre
FCI = 21%

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

Facility Condition Index

<table>
<thead>
<tr>
<th></th>
<th>0-5%</th>
<th>5-10%</th>
<th>10-30%</th>
<th>&gt;30%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Condition</td>
<td>Good</td>
<td>Fair</td>
<td>Poor</td>
<td>Critical</td>
</tr>
</tbody>
</table>
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
  o Corporate Energy Policy and energy projects
  o Focus on green fleet/equipment
  o Support active and sustainable travel
  o Resiliency planning to promote climate focused approach
CLIMATE RESILIENCE PROGRAM

RESILIENCY
The capacity to recover, adapt, and thrive in the face of adversity, chronic stresses and acute shocks.

RESILIENT FUTURES PROGRAM
TREND IMPACT ANALYSIS
SCENARIO PROJECTION
ANNUAL FUTURES REPORT

ANNUAL RESILIENCE ASSESSMENT

HORIZON SCAN
- ENGAGEMENT & COMMUNICATIONS PROGRAM
- SHOCKS AND STRESSES ASSESSMENT
- ACTIONS INVENTORY ASSESSMENT
- PUBLIC WORKS INTERNAL REVIEW
- CORPORATE AND DEPARTMENTAL PRIORITIES
- CORPORATE CLIMATE CHANGE TASK FORCE

RESILIENCY CHALLENGES
1
2
3
4
5
6

PUBLIC WORKS 2020 OPERATING BUDGET
JANUARY 28, 2020

EXAMINE
ASSESS
ENVISION
ALIGN
IMPLEMENT

PUBLIC WORKS RESILIENCE INCUBATOR

INSTITUTIONALIZE & IMPLEMENT PRIORITY ACTIONS

1
BUSINESS CASE AND FUNDING PARTNERSHIPS
2
COLLABORATIVE IMPLEMENTATION
3
MONITORING & ASSESSMENT (KPI TRACKING)
4
SHARE BEST PRACTICES
5
CELEBRATE SUCCSSES & FAILURES

MOON SHOTS

SHARED VISION FOR A MORE RESILIENT PUBLIC WORKS

REASILICENCY STRATEGY
- GOALS
- ACTIONS
- PRIORITY ACTIONS

FOCUS AREAS

PUBLIC WORKS SUMMIT
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.)
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
- 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)
# TRENDS AND ISSUES 2020 – 2023

## Contract Renewals

<table>
<thead>
<tr>
<th>Contract</th>
<th>Timing</th>
<th>Budget Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transfer Station / Community Recycling Centres</td>
<td>March 2020</td>
<td>$1.39 M</td>
</tr>
<tr>
<td>Landfill / Leaf &amp; Yard Processing</td>
<td>March 2020</td>
<td>$0.97 M</td>
</tr>
<tr>
<td>Materials Recycling Facility</td>
<td>April 2020</td>
<td>$1.55 M</td>
</tr>
<tr>
<td>Waste Collections</td>
<td>2021</td>
<td>Expected</td>
</tr>
<tr>
<td>Central Composting Facility</td>
<td>2021</td>
<td>Expected</td>
</tr>
<tr>
<td>Winter Control</td>
<td>Fall 2020</td>
<td>$250,000</td>
</tr>
<tr>
<td>Salt procurement</td>
<td>2020</td>
<td>$1.50 M</td>
</tr>
</tbody>
</table>

**Salt Storage**

**Waste Collections**

PUBLIC WORKS 2020 OPERATING BUDGET
JANUARY 28, 2020
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)
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 “non-construction 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.
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
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
MAJOR INITIATIVES 2020

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)
MAJOR INITIATIVES 2020

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
MAJOR INITIATIVES 2020

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)
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
Major Initiatives 2020

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
Corporate Energy Policy implementation
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
MAJOR INITIATIVES 2021 – 2023

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)
MAJOR INITIATIVES 2021 – 2023

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
MAJOR INITIATIVES 2021 – 2023

- 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
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

25% Cumulative Energy Intensity Reduction as of 2018

Corporate Emissions Reduction Target (GHG)
2020 Gross Capital and Operating Budgets

$1.110 billion

- **Gross Tax Operating**: $379.6M (FCS19070/Nov. 25)
- **Rate Operating**: $232.6M (FCS19070/Nov. 25)
- **Rate Capital**: $326.0M (FCS19070/Nov. 25)
- **Tax Capital**: $172.2M (FCS19091/Nov. 29)
GROSS TAX OPERATING BUDGET

Gross Expenditures
$379.6 million

- TAX LEVY $255.8M
- REVENUE $123.8 M
ORGANIZATIONAL CHART

GENERAL MANAGER
Dan McKinnon
(1.00 FTE)

Administration
(1.00 FTE)

Strategy, Continuous Improvement & Quality
(5.00 FTE)

Energy, Fleet & Facilities Management
(170.60 FTE)

Engineering Services
(131.33 FTE)

Environmental Services
(499.83 FTE)

Hamilton Water*
(325.65 FTE)

Transportation Operations & Maintenance
(396.26 FTE)

Transit
(791.71 FTE)

<table>
<thead>
<tr>
<th>Complement (FTE)</th>
<th>Management</th>
<th>Other</th>
<th>Total</th>
<th>Staff to Mgt. Ratio</th>
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<tbody>
<tr>
<td>2019</td>
<td>32.00</td>
<td>1929.73</td>
<td>1961.73</td>
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<td>32.00</td>
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<td>35.00</td>
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</table>

* Complement excludes Hamilton Water
### Public Works - Tax

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<th></th>
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<tbody>
<tr>
<td>PW-General Administration</td>
<td>874,810</td>
<td>903,540</td>
<td>903,540</td>
<td>28,730</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>3.3%</td>
</tr>
<tr>
<td>Energy Fleet and Facilities</td>
<td>8,718,820</td>
<td>19,433,110</td>
<td>9,297,360</td>
<td>578,540</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>6.6%</td>
</tr>
<tr>
<td>Engineering Services</td>
<td></td>
<td>20,572,580</td>
<td>-</td>
<td>-</td>
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<tr>
<td>Environmental Services</td>
<td>79,243,370</td>
<td>104,040,500</td>
<td>82,794,430</td>
<td>3,551,060</td>
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<td></td>
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<td>4.5%</td>
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<tr>
<td>Transit</td>
<td>74,298,880</td>
<td>141,439,580</td>
<td>81,395,710</td>
<td>7,096,830</td>
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<tr>
<td>Transportation Operations &amp; Maintenance</td>
<td>78,920,680</td>
<td>93,190,760</td>
<td>81,440,570</td>
<td>2,519,890</td>
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<td></td>
<td></td>
<td></td>
<td>3.2%</td>
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<tr>
<td><strong>Total Public Works - Tax</strong></td>
<td><strong>242,056,560</strong></td>
<td><strong>379,580,070</strong></td>
<td><strong>255,831,610</strong></td>
<td><strong>13,775,050</strong></td>
</tr>
<tr>
<td><strong>-2020 vs 2019 Net Change</strong></td>
<td><strong>(740,350)</strong></td>
<td><strong>(0.3%)</strong></td>
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</tr>
</tbody>
</table>

Amendments - January 17, 2020 Budget GIC

| Amendments - January 17, 2020 Budget GIC | (740,350) | (0.3%) |

Total Public Works - Tax Less Amendments

| 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

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
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</thead>
<tbody>
<tr>
<td>Reduced Energy Costs LED Streetlighting</td>
<td>$426,000</td>
</tr>
<tr>
<td>Continued Conversion Diesel Transit Fleet to Natural Gas</td>
<td>$390,000</td>
</tr>
<tr>
<td>Transfer Station / Community Recycling Centres – New Contract</td>
<td>$1,392,730</td>
</tr>
<tr>
<td>Right Sizing Budget</td>
<td>$1,109,400</td>
</tr>
<tr>
<td><strong>Amendments – January 17, 2020 Budget GIC:</strong></td>
<td></td>
</tr>
<tr>
<td>PW Portion: Fuel rate update (diesel &amp; unleaded)</td>
<td>$195,350</td>
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<tr>
<td>Environmental Services: Contractual savings at landfill</td>
<td>$75,000</td>
</tr>
<tr>
<td>Environmental Services: Contractual savings from diversion</td>
<td>$370,000</td>
</tr>
<tr>
<td>Environmental Services: Increased minimum vehicle fee to $10 at Transfer Station / Community Recycling Centres (APPROVED)</td>
<td>$100,000</td>
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</tbody>
</table>
# 2020 Key Cost Drivers

## Total 2020 Preliminary Net Levy Increase 5.4%

### Departmental Key Drivers

<table>
<thead>
<tr>
<th>Department</th>
<th>Cost Driver Description</th>
<th>Cost</th>
<th>Increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>TRANSIT</td>
<td>10 Year Strategy (Net) Year 5 of 10</td>
<td>$688,220</td>
<td>0.3%</td>
</tr>
<tr>
<td></td>
<td>PRESTO Operating Agreement</td>
<td>$875,000</td>
<td>0.4%</td>
</tr>
<tr>
<td></td>
<td>Transit Fleet Reserve Year 8 of 8</td>
<td>$628,000</td>
<td>0.3%</td>
</tr>
<tr>
<td></td>
<td>DARTS Ridership Growth</td>
<td>$2,664,130</td>
<td>1.1%</td>
</tr>
<tr>
<td>TOM</td>
<td>Without Key Transit Drivers</td>
<td></td>
<td>3.4%</td>
</tr>
<tr>
<td></td>
<td>Road Salt Contract (New Contract)</td>
<td>$1,500,000</td>
<td>0.6%</td>
</tr>
<tr>
<td>ENVIRO</td>
<td>Materials Recycling Facility (New Contract)</td>
<td>$1,551,570</td>
<td>0.6%</td>
</tr>
<tr>
<td></td>
<td>Waste Collection (Change in Leaf &amp; Yard Program)</td>
<td>$316,000</td>
<td>0.1%</td>
</tr>
<tr>
<td></td>
<td>Leaf &amp; Yard Disposal (New Contract)</td>
<td>$506,970</td>
<td>0.2%</td>
</tr>
<tr>
<td></td>
<td>Glanbrook Site Operations (New Contract)</td>
<td>$458,620</td>
<td>0.2%</td>
</tr>
<tr>
<td>EFFM</td>
<td>Without Key Transit Drivers + New Contracts</td>
<td></td>
<td>1.6%</td>
</tr>
<tr>
<td></td>
<td>New Vacant School Properties</td>
<td>$240,440</td>
<td>0.1%</td>
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<tr>
<td></td>
<td>Security (PW17083)</td>
<td>$134,530</td>
<td>0.1%</td>
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<td></td>
<td>Insurance Premiums (Direct Charges)</td>
<td>$1,130,350</td>
<td>0.5%</td>
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</table>

### Without Key Transit Drivers + New Contracts

<table>
<thead>
<tr>
<th>Department</th>
<th>Cost Driver Description</th>
<th>Cost</th>
<th>Increase</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>NET LEVY EXCLUDE ALL KEY COST DRIVERS</td>
<td>$1,130,350</td>
<td>1.0%</td>
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PUBLIC WORKS 2020 OPERATING BUDGET
JANUARY 28, 2020
# Historical Budget Increases

<table>
<thead>
<tr>
<th></th>
<th>2017 Approved</th>
<th></th>
<th>2018 Approved</th>
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<th>2019 Approved</th>
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<tbody>
<tr>
<td></td>
<td>$ Change from 2016</td>
<td>% Change from 2016</td>
<td>$ Change from 2017</td>
<td>% Change from 2017</td>
<td>$ Change from 2018</td>
<td>% Change from 2018</td>
</tr>
<tr>
<td><strong>Total Net Levy Increase</strong></td>
<td>5,002,510</td>
<td>2.2%</td>
<td>8,486,320</td>
<td>3.8%</td>
<td>11,163,190</td>
<td>4.8%</td>
</tr>
<tr>
<td><strong>Key Drivers:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10 Year Strategy (Net)</td>
<td>361,000</td>
<td>0.2%</td>
<td>2,188,000</td>
<td>1.0%</td>
<td>1,784,000</td>
<td>0.8%</td>
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<tr>
<td>PRESTO Operating Agreement</td>
<td></td>
<td></td>
<td>356,000</td>
<td>0.2%</td>
<td>642,000</td>
<td>0.3%</td>
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<tr>
<td>Transit Fleet Reserve</td>
<td>577,000</td>
<td>0.3%</td>
<td>1,680,000</td>
<td>0.8%</td>
<td>616,000</td>
<td>0.3%</td>
</tr>
<tr>
<td>DARTS Ridership Growth</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>EFFM</td>
<td>1,593,000</td>
<td>0.7%</td>
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</tr>
<tr>
<td><strong>Levy Exclude Key Drivers</strong></td>
<td>2,471,510</td>
<td>1.1%</td>
<td>4,262,320</td>
<td>1.9%</td>
<td>3,837,190</td>
<td>1.6%</td>
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<tr>
<td><strong>Guideline</strong></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>2.00%</td>
<td></td>
<td>1.50%</td>
<td></td>
<td>1.50%</td>
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</table>

*Source: Public Works 2020 Operating Budget, January 28, 2020*
## 2020 BUSINESS CASES

<table>
<thead>
<tr>
<th>Service/Program</th>
<th>Description</th>
<th>Gross $(000's)</th>
<th>Net $(000's)</th>
<th>FTE Impact</th>
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</thead>
<tbody>
<tr>
<td>Transportation Operations &amp; Maintenance</td>
<td>Bring Inspectors In-House (savings to contractual services)</td>
<td>$285</td>
<td>($89)</td>
<td>4.4</td>
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<tr>
<td>Tim Hortons Field</td>
<td>Assistant Stadium Technicians needed to handle addition of Forge FC Soccer games (fully offset by additional revenue)</td>
<td>$140</td>
<td>$0</td>
<td>2.3</td>
</tr>
<tr>
<td><strong>DEPARTMENT TOTAL</strong></td>
<td></td>
<td><strong>$425</strong></td>
<td><strong>($89)</strong></td>
<td><strong>6.7</strong></td>
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<tr>
<td></td>
<td>2020</td>
<td>2021</td>
<td>% Change from 2020</td>
<td>2022</td>
</tr>
<tr>
<td>------------------</td>
<td>------------</td>
<td>------------</td>
<td>-------------------</td>
<td>------------</td>
</tr>
<tr>
<td><strong>Public Works</strong></td>
<td>250,976,260</td>
<td>262,387,710</td>
<td>2.6%</td>
<td>273,587,151</td>
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<tr>
<td>(Excludes Key Transit Drivers)</td>
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</tr>
<tr>
<td><strong>Key Transit Drivers:</strong></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DARTS Ridership Growth</td>
<td>2,664,130</td>
<td>1,720,000</td>
<td></td>
<td>1,820,000</td>
</tr>
<tr>
<td>Annual 10 Year Strategy (Net)</td>
<td>688,220</td>
<td>3,154,000</td>
<td></td>
<td>3,315,000</td>
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<tr>
<td>PRESTO Maintenance Agreement</td>
<td>875,000</td>
<td>1,722,000</td>
<td></td>
<td>189,000</td>
</tr>
<tr>
<td>Transit Fleet Reserve</td>
<td>628,000</td>
<td>207,000</td>
<td></td>
<td>230,000</td>
</tr>
<tr>
<td><strong>Total Public Works - Tax</strong></td>
<td>255,831,610</td>
<td>269,190,710</td>
<td>5.2%</td>
<td>279,141,151</td>
</tr>
</tbody>
</table>
ENERGY, FLEET & FACILITIES MANAGEMENT

DIRECTOR
Rom D'Angelo
(1.00 FTE)

Administration
(1.50 FTE)

SPM Continuous Improvement
(1.00 FTE)

Central Fleet
(57.00 FTE)

Energy Initiatives
(6.00 FTE)

Facility Planning & Business Solutions
(20.66 FTE)

Facility Operations & Maintenance
(46.70 FTE)

Sports & Entertainment Facilities
(17.44 FTE)

Strategic Planning Capital & Compliance
(19.30 FTE)

<table>
<thead>
<tr>
<th>Complement (FTE)</th>
<th>Management</th>
<th>Other</th>
<th>Total</th>
<th>Staff to Mgt. Ratio</th>
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<tr>
<td>2019</td>
<td>7.00</td>
<td>163.60</td>
<td>170.60</td>
<td>23.37:1</td>
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<tr>
<td>2020</td>
<td>7.00</td>
<td>163.60</td>
<td>170.60</td>
<td>23.37:1</td>
</tr>
<tr>
<td>Change</td>
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<td>0.00</td>
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## 2020 OPERATING BUDGET

### ENERGY, FLEET & FACILITIES

#### Energy Fleet and Facilities

<table>
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<tr>
<th>Service Name</th>
<th>2019 Restated Net</th>
<th>2020 Preliminary Gross</th>
<th>2020 Preliminary Net</th>
<th>$</th>
<th>%</th>
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<tbody>
<tr>
<td>Fleet Services</td>
<td>170,550</td>
<td>2,024,220</td>
<td>25,530</td>
<td>(145,020)</td>
<td>(85.0%)</td>
</tr>
<tr>
<td>Corporate Facility Ops &amp; Tech</td>
<td>1,359,670</td>
<td>3,312,360</td>
<td>1,905,120</td>
<td>545,450</td>
<td>40.1%</td>
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<tr>
<td>Facilities Planning and Business Solutions</td>
<td>681,610</td>
<td>1,651,190</td>
<td>895,470</td>
<td>213,860</td>
<td>31.4%</td>
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<tr>
<td>Community Facility Ops &amp; Tech Serv</td>
<td>3,164,410</td>
<td>3,258,090</td>
<td>3,258,090</td>
<td>93,680</td>
<td>3.0%</td>
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<tr>
<td>Sports &amp; Entertainment Facilities</td>
<td>3,002,660</td>
<td>5,979,730</td>
<td>2,907,610</td>
<td>(95,050)</td>
<td>(3.2%)</td>
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<tr>
<td>Director EFF</td>
<td>305,310</td>
<td>327,550</td>
<td>305,750</td>
<td>440</td>
<td>0.1%</td>
</tr>
<tr>
<td>Energy Initiatives</td>
<td>36,120</td>
<td>818,550</td>
<td>-</td>
<td>(36,120)</td>
<td>(100.0%)</td>
</tr>
<tr>
<td>Strategic Plan &amp; Capital Compliance</td>
<td>(1,510)</td>
<td>2,061,420</td>
<td>(210)</td>
<td>1,300</td>
<td>(86.1%)</td>
</tr>
</tbody>
</table>

**Total Energy Fleet and Facilities**

|                                                               | 2019 Restated Net | 2020 Preliminary Gross | 2020 Preliminary Net | $       | %     |
|                                                               | 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%  |
## 2020 Budget Drivers

### Energy, Fleet & Facilities

<table>
<thead>
<tr>
<th>Item</th>
<th>Cost ($000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hold Vacant Properties (Mainly due to King George &amp; Mountain Schools)</td>
<td>$240</td>
</tr>
<tr>
<td>Increase in Security costs (PW17083)</td>
<td>$135</td>
</tr>
<tr>
<td>Employee Related Costs</td>
<td>$203</td>
</tr>
</tbody>
</table>
ENGINEERING SERVICES

DIRECTOR
Gord McGuire (1.00 FTE)

Administration
(1.00 FTE)

SPM Continuous Improvement
(1.00 FTE)

Asset Management
(28.00 FTE)

Construction
(37.67 FTE)

Design
(26.66 FTE)

Geomatics & Corridor Management
(34.00 FTE)

Waterfront Development
(3.00 FTE)

<table>
<thead>
<tr>
<th>Complement (FTE)</th>
<th>Management</th>
<th>Other</th>
<th>Total</th>
<th>Staff to Mgt. Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019</td>
<td>6.00</td>
<td>125.33</td>
<td>131.33</td>
<td>20.89:1</td>
</tr>
<tr>
<td>2020</td>
<td>6.00</td>
<td>125.33</td>
<td>131.33</td>
<td>20.89:1</td>
</tr>
<tr>
<td>Change</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td></td>
</tr>
</tbody>
</table>
### Engineering Services

<table>
<thead>
<tr>
<th></th>
<th>2019 Restated Net</th>
<th>2020 Preliminary Gross</th>
<th>2020 Preliminary Net</th>
<th>$</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asset Management</td>
<td>-</td>
<td>3,474,180</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Construction</td>
<td>-</td>
<td>4,690,090</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Design Services</td>
<td>-</td>
<td>3,001,480</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Director of Engineering Services</td>
<td>-</td>
<td>1,681,310</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Geomatics and Corridor Management</td>
<td>-</td>
<td>6,992,680</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Waterfront Development</td>
<td>-</td>
<td>732,840</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Total Engineering Services</strong></td>
<td>-</td>
<td>20,572,580</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

- Costs are mainly recovered from Capital
ENVIRONMENTAL SERVICES

DIRECTOR
Craig Murdoch
(1.00 FTE)

Administration
(1.00 FTE)

SPM Continuous Improvement
(1.00 FTE)

Forestry & Horticulture
(106.18 FTE)

Parks & Cemeteries
(252.97 FTE)

Waste Collections
(93.41 FTE)

Recycling & Waste Disposal
(13.00 FTE)

Landscape Architectural Services
(13.34 FTE)

Business Programs
(13.93 FTE)

<table>
<thead>
<tr>
<th>Complement (FTE)</th>
<th>Management</th>
<th>Other</th>
<th>Total</th>
<th>Staff to Mgt. Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019</td>
<td>7.00</td>
<td>492.83</td>
<td>499.83</td>
<td>70.40:1</td>
</tr>
<tr>
<td>2020</td>
<td>7.00</td>
<td>492.83</td>
<td>499.83</td>
<td>70.40:1</td>
</tr>
<tr>
<td>Change</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td></td>
</tr>
</tbody>
</table>
Environmental Services

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Restated Net</td>
<td>Gross</td>
<td>Net</td>
</tr>
<tr>
<td>Recycling &amp; Waste Disposal</td>
<td>6,906,870</td>
<td>22,961,590</td>
<td>7,816,720</td>
</tr>
<tr>
<td>Waste Collections</td>
<td>31,889,180</td>
<td>32,866,100</td>
<td>32,823,100</td>
</tr>
<tr>
<td>Business Programs</td>
<td>2,076,090</td>
<td>2,281,510</td>
<td>2,166,850</td>
</tr>
<tr>
<td>Director Environmental Services *</td>
<td>(701,070)</td>
<td>(701,070)</td>
<td>(701,070)</td>
</tr>
<tr>
<td>Forestry &amp; Horticulture</td>
<td>12,941,860</td>
<td>14,609,580</td>
<td>13,221,460</td>
</tr>
<tr>
<td>Landscape &amp; Architectural Services</td>
<td>98,710</td>
<td>2,004,300</td>
<td>102,630</td>
</tr>
<tr>
<td>Parks &amp; Cemeteries</td>
<td>26,031,730</td>
<td>30,018,490</td>
<td>27,364,740</td>
</tr>
<tr>
<td>Total Environmental Services</td>
<td>79,243,370</td>
<td>104,040,500</td>
<td>82,794,430</td>
</tr>
</tbody>
</table>

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 Transfer Station/Community Recycling Centres (APPROVED) | (100,000)

Total Environmental Services Less Amendments | 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

<table>
<thead>
<tr>
<th>Item</th>
<th>Cost ($000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Contract - Pressures</td>
<td>$2,517</td>
</tr>
<tr>
<td>New Contract – Savings (Transfer Station and Community Recycling Centers)</td>
<td>($1,393)</td>
</tr>
<tr>
<td>Waste Collection (Change in Leaf &amp; Yard program)</td>
<td>$316</td>
</tr>
<tr>
<td>Central Composting Facility (Change in Leaf &amp; Yard program)</td>
<td>($259)</td>
</tr>
<tr>
<td>Employee Related Costs</td>
<td>$767</td>
</tr>
<tr>
<td>Water Utility</td>
<td>$507</td>
</tr>
<tr>
<td>Blue Box Recycling Collection</td>
<td>$247</td>
</tr>
<tr>
<td>Fleet Reserve Contribution</td>
<td>$340</td>
</tr>
<tr>
<td>In Year Approval</td>
<td>$126</td>
</tr>
</tbody>
</table>

- 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

DIRECTOR
Edward Soldo
(1.00 FTE)

Administration
(1.00 FTE)

SPM (2.00 FTE)
& Quality Management Coordinator
(1.00 FTE)

Roadway Maintenance
(265.25 FTE)

Business Initiatives
(35.71 FTE)

Transportation Operations
(90.30 FTE)

<table>
<thead>
<tr>
<th>Complement (FTE)</th>
<th>Management</th>
<th>Other</th>
<th>Total</th>
<th>Staff to Mgt Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019</td>
<td>4.00</td>
<td>392.26</td>
<td>396.26</td>
<td>98.07:1</td>
</tr>
<tr>
<td>2020</td>
<td>4.00</td>
<td>392.26</td>
<td>396.26</td>
<td>98.07:1</td>
</tr>
<tr>
<td>Change</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td></td>
</tr>
</tbody>
</table>
**Transportation Operations & Maintenance**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Roadway Maintenance</td>
<td>62,229,330</td>
<td>65,724,580</td>
<td>63,936,340</td>
<td>1,707,010</td>
<td>2.7%</td>
<td></td>
</tr>
<tr>
<td>Director – Trans Ops &amp; Mtce *</td>
<td>(629,950)</td>
<td>(629,950)</td>
<td>(629,950)</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Transportation Operations</td>
<td>13,753,490</td>
<td>24,235,020</td>
<td>14,372,510</td>
<td>619,020</td>
<td>4.5%</td>
<td></td>
</tr>
<tr>
<td>Business Initiatives</td>
<td>3,567,810</td>
<td>3,861,110</td>
<td>3,761,670</td>
<td>193,860</td>
<td>5.4%</td>
<td></td>
</tr>
<tr>
<td><strong>Total Transportation Operations &amp; Maintenance</strong></td>
<td><strong>78,920,680</strong></td>
<td><strong>93,190,760</strong></td>
<td><strong>81,440,570</strong></td>
<td><strong>2,519,890</strong></td>
<td><strong>3.2%</strong></td>
<td></td>
</tr>
</tbody>
</table>

**Amendments - January 17, 2020 Budget GIC:**
Reduction to Fuel Assumptions (diesel & unleaded)  
(37,000)  

**Total Transportation Operations & Maintenance Less Amendments**  
2,482,890  
3.1%

**Exclude Key Drivers:**
Road Salt Contract (New)  
(1,500,000)  
Insurance Premiums (Direct Charges)  
(576,000)  

406,890  
0.5%

* Includes divisional gapping target of $630 K
## 2020 BUDGET DRIVERS

### TRANSPORTATION OPERATIONS & MAINTENANCE

<table>
<thead>
<tr>
<th>Item</th>
<th>Cost ($000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Road Salt – New Contract</td>
<td>$1,500</td>
</tr>
<tr>
<td>Fleet Reserve Contribution</td>
<td>$668</td>
</tr>
<tr>
<td>Insurance Premiums (Direct Charges)</td>
<td>$576</td>
</tr>
<tr>
<td>Fuel</td>
<td>$379</td>
</tr>
<tr>
<td>Employee Related Expenses</td>
<td>$180</td>
</tr>
<tr>
<td>Right Sizing Budget</td>
<td>($531)</td>
</tr>
<tr>
<td>Savings in Energy / Streetlighting Costs</td>
<td>($426)</td>
</tr>
</tbody>
</table>
# TRANSIT

## TRANSIT DIRECTOR
Debbie Dalle Vedove (1.00 FTE)

### Administration (1.00 FTE)

- Transit Operations (604.30 FTE)
- Transit Fleet Maintenance (134.57 FTE)
- Customer Experience & Innovation (19.34 FTE)
- Transit Support Services (15.00 FTE)
- Transit Planning & Infrastructure (15.50 FTE)

### SPM Continuous Improvement (1.00 FTE)

### Complement (FTE) Management Other Total Staff to Mgt Ratio

<table>
<thead>
<tr>
<th>Year</th>
<th>FTE</th>
<th>Management</th>
<th>Other</th>
<th>Total</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019</td>
<td>6.00</td>
<td>750.71</td>
<td>756.71</td>
<td>125.12:1</td>
<td></td>
</tr>
<tr>
<td>2020</td>
<td>6.00</td>
<td>785.71</td>
<td>791.71</td>
<td>130.95:1</td>
<td></td>
</tr>
<tr>
<td>Change</td>
<td>0.00</td>
<td>35.00</td>
<td>35.00</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Transit

<table>
<thead>
<tr>
<th></th>
<th>2019 Restated Net</th>
<th>2020 Preliminary Gross</th>
<th>2020 Preliminary Net</th>
<th>$</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer Experience and Innovation</td>
<td>3,541,660</td>
<td>5,537,410</td>
<td>4,187,210</td>
<td>645,550</td>
<td>18.2%</td>
</tr>
<tr>
<td>Transit Planning and Infrastructure</td>
<td>23,490,180</td>
<td>27,536,190</td>
<td>26,190,090</td>
<td>2,699,910</td>
<td>11.5%</td>
</tr>
<tr>
<td>Support Services</td>
<td>2,105,120</td>
<td>2,130,050</td>
<td>2,129,050</td>
<td>23,930</td>
<td>1.1%</td>
</tr>
<tr>
<td>Director of Transit</td>
<td>124,890</td>
<td>134,200</td>
<td>134,200</td>
<td>9,310</td>
<td>7.5%</td>
</tr>
<tr>
<td>Financial Charges &amp; General Revenue</td>
<td>(33,597,270)</td>
<td>15,708,680</td>
<td>(34,527,690)</td>
<td>(930,420)</td>
<td>2.8%</td>
</tr>
<tr>
<td>Operations HSR</td>
<td>46,980,520</td>
<td>57,671,540</td>
<td>50,771,180</td>
<td>3,790,660</td>
<td>8.1%</td>
</tr>
<tr>
<td>Transit Fleet</td>
<td>31,653,780</td>
<td>32,721,510</td>
<td>32,511,670</td>
<td>857,890</td>
<td>2.7%</td>
</tr>
<tr>
<td>Total Transit</td>
<td>74,298,880</td>
<td>141,439,580</td>
<td>81,395,710</td>
<td>7,096,830</td>
<td>9.6%</td>
</tr>
</tbody>
</table>

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

| Reduction to Fuel Assumptions (diesel & unleaded) | (115,200) |

**Total Transit Less Amendments**

| 6,981,630 | 9.4% |

**Exclude Key Drivers:**

- DARTS Ridership Growth: (2,664,130)
- Annual 10 Year Strategy (Net) Year 5: (688,000)
- PRESTO Maintenance Agreement: (875,000)
- Transit Fleet Reserve Year 8 of 8: (628,450)
- Insurance Premiums (Direct Charge): (424,000)

| 1,702,050 | 2.3% |
## 2020 Budget Drivers Transit

<table>
<thead>
<tr>
<th>Item</th>
<th>Cost ($000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DARTS Ridership Growth</td>
<td>$2,664</td>
</tr>
<tr>
<td>Employee Related Costs</td>
<td>$1,396</td>
</tr>
<tr>
<td>PRESTO Operating Agreement</td>
<td>$875</td>
</tr>
<tr>
<td>Year 5 of 10 Year Strategy (Net)</td>
<td>$688</td>
</tr>
<tr>
<td>Fleet Reserve Contribution: Year 8 of 8 loss of OBRP Funding</td>
<td>$628</td>
</tr>
<tr>
<td>Insurance Premiums (Direct Charges)</td>
<td>$424</td>
</tr>
<tr>
<td>Conversion Diesel Transit Fleet to Natural Gas</td>
<td>($390)</td>
</tr>
</tbody>
</table>
THANK YOU