



Hamilton

PUBLIC WORKS

2021 OPERATING BUDGET

General Issues Committee
January 27, 2021

DEPARTMENT 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.

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

November 23, 2020

Capital Budget

November 27, 2020

Transit Day

January 22, 2021

Public Works

January 27, 2021

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

2020 Highlights Public Works



OUR PRIORITIES



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.

TERM OF COUNCIL PRIORITIES (2018 – 2022)

- Climate Change
- Multi-Modal Transportation
- Homelessness & Affordable Housing
- Integrated Growth & Development
- Fiscal Health & Financial Management
- Equity, Diversity & Inclusion
- Trust & Confidence in City Government
- A Healthy, Respectful & Supportive Workplace



COVID-19 Highlights

Public Works



COVID-19 HIGHLIGHTS

Emergency Response & Support

- Widespread facility closures
- Supply distribution warehouse
- Emergency overflow shelter at FirstOntario Centre
- Dave Andreychuk Arena drive-through testing centre



Supply distribution warehouse



Municipal Facilities Closed



Drive-Through Testing Centre



First Ontario Centre Shelter

COVID-19 HIGHLIGHTS

Emergency Response & Support

- Significant impacts to Transit
- Closures – facilities, escarpment stairs, play structures, etc.
- Signage, barriers, caution tape, etc.
- Enhanced cleaning and disinfecting
- Modifications in municipal buildings



Additional cleaning on HSR vehicles



Closed Playground Structures



Enhanced cleaning and disinfecting



Barriers on the Escarpment Stairs

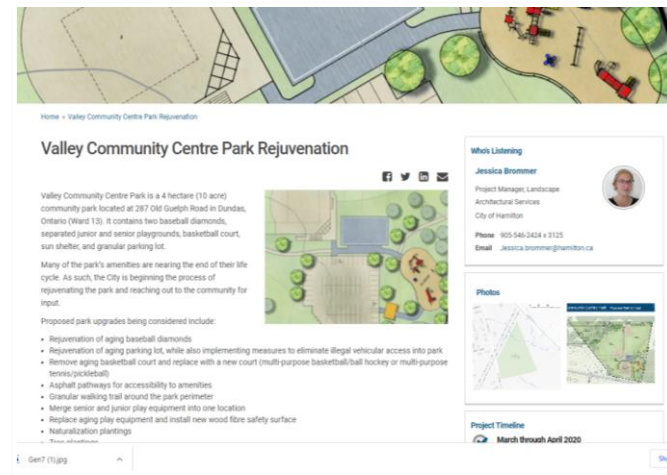
COVID-19 HIGHLIGHTS

Delivering Services

- Continued delivering our services
 - Minor disruption to leaf and yard waste collection
 - Transit impacts to ridership/revenues
 - Some construction projects on hold
- New health and safety measures
- Implementing virtual / online options
- Technology and dashboards
- Changes to public consultation
- Cross training for essential services
- Remote workforce



Increased reliance on technology



Virtual Public Consultation

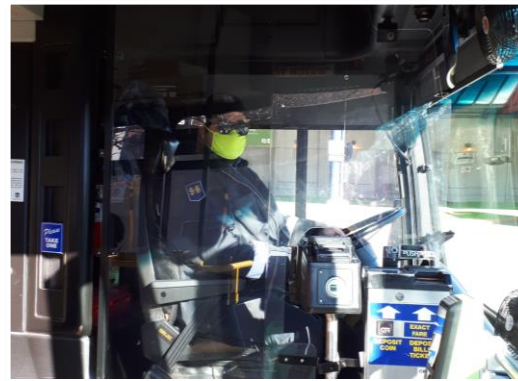
COVID-19 HIGHLIGHTS

Evolving Our Operations

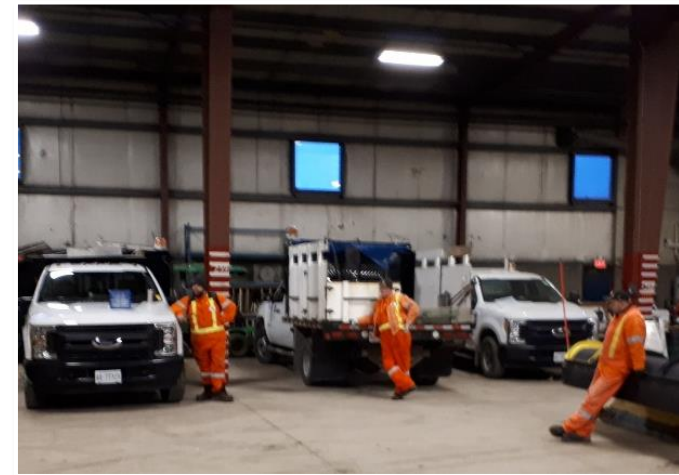
- Strong focus on health and safety measures
- Enhanced PPE for safer operations (bioshields and face coverings)
- Reliance on Quality Management System
- Continued facility modifications
- Remote work collaboration



Increased PPE for waste collectors



HSR – Driver's Bioshield



Physical distancing at a safety talk¹²


Clean & Green 2020 Highlights





CLEAN & GREEN 2020 HIGHLIGHTS

LED Technology  **35%**
Annual electricity costs for street lighting since 2014

80% of Emerald Ash Borer Program Complete 

6 Electric Vehicles **PILOT** 

8.5 lane km of new bike paths  **240%** 

Beautified 

268,410 Plants Grown 

325 Floral Traffic Islands 

133 Perennial Medians 

79 Civic Buildings 

691 Hanging Baskets 

12,040 Trees Planted 



CLEAN & GREEN 2020 HIGHLIGHTS

0.2%


39.8%

**Residential Waste
Diversion Achieved**

3.6%


**142,000
Landfill Tonnes**
Residential garbage
and residue from
processing facility

6.4%


**15,000
Tonnes**
Green Cart
materials

6.6%


**39,200
Recycling Tonnes**
Materials sent to end
markets from Blue Box
program and Community
Recycling Centres

7.7%


**26,400
Tonnes**
Leaf and
Yard Waste





CLEAN & GREEN 2020 HIGHLIGHTS

Waste Highlights

- New Equipment for Downtown Cleanliness Program
- Materials Recycling Facility Lighting Upgrade

Construction Highlights

- 500 MacNab Passive House (CityHousing Hamilton) under construction
- Valley Park Library LEED under construction
- Completion of the Biosolids Management Facility



New Equipment for Downtown Cleanliness



Biosolids Management Facility 16

COVID-19 HIGHLIGHTS

CLEAN & GREEN

- Transit
- Parks and trails
- Play structures
- Waste collection
- Cemeteries
- Horticulture



PLAY STRUCTURES CLOSED

Playground structures are closed until further notice.
Residents are welcome to enjoy park greenspaces in small groups while observing physical distancing practice.
Park equipment and play structures are not sanitized.



hamilton.ca/coronavirus



CUSTOMERS ARE REQUIRED TO WEAR A NON-MEDICAL MASK ON TRANSIT.

hamilton.ca/masks



- 

1 Before putting it on, wash your hands and place hair away from your face.
- 

2 Place the covering over your nose and mouth, making sure there are no gaps and it fits snugly.
- 

3 Avoid touching your face or mask while wearing it. Do not leave the mask on your neck, forehead or hanging from your ear.
- 

4 Change the face covering as soon as it gets soiled or damp.
- 

5 Remove it without touching the outside of the mask.
- 

6 Throw out your disposable, non-medical mask in a garbage waste container, once you depart the bus.

COVID-19 HIGHLIGHTS

Mobility Recovery Plan

- Collaborative initiative between PED and PW
- Focus on enhancing availability of sustainable transportation modes and supporting COVID-19 recovery
- Opportunity to advance and expedite cycling projects identified in the Transportation Master Plan
- Enhanced and added new cycling facilities
- Concrete cycling curbs
- Bike scale hazard markers



CLEAN & GREEN



Bike scale hazard markers



Concrete cycling curbs

Built Environment & Infrastructure 2020 Highlights



19



BUILT ENVIRONMENT & INFRASTRUCTURE 2020 HIGHLIGHTS

Road Right-of-Way Infrastructure

26 Projects  **10%**
\$76.3 Million  **4.2%**



Infrastructure Rehabilitation







  **37.6%**
6.86 km
Sewer Rehab



  **27.4%**
81.84 lane km
Rural Road Resurfacing

Infrastructure Inspections




 **10.5%**

110 km
Mainline Sewers

 **14%**

6 km
Watermains

 **10%**

22,000
Catch Basins
Inspected and cleaned

  **9%**
6 km
Watermain Rehab

 **NEW**
5.5 lane km
existing bicycle lanes with
modified buffers/ barriers


100 km
Roads Rehabilitated

 **NEW**
136
Street Light Poles Replaced



BUILT ENVIRONMENT & INFRASTRUCTURE

2020 HIGHLIGHTS

Asset Management

- Strategic Asset Management Plan

Major Right-of-Way Projects

- Claremont Access
- Locke Street Reconstruction (Project of the Year)
- Rymal Road
- Birch Avenue
- Highway 8
- Queen Street South Two-Way Conversion
- Victoria Street Two-Way Conversion
- North Service Road
- LINC Rehabilitation

Programs

- Street lighting pole replacement program
- Asphalt quality testing and compliance



Queen St Two-Way Conversion



Highway 8 Dundas 21



BUILT ENVIRONMENT & INFRASTRUCTURE 2020 HIGHLIGHTS



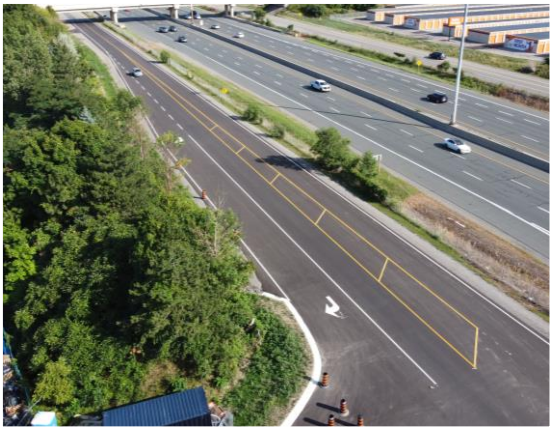
Claremont Access



Keddy Access Trail



Rymal Road



North Service Road



Queen St Conversion



Highway 8 Dundas



BUILT ENVIRONMENT & INFRASTRUCTURE 2020 HIGHLIGHTS

Facilities

- \$55.5M capital delivery for facilities
(value of work delivered in 2020 for various clients)
 - 5 Year Average: \$50.1M, 174 capital projects annually

Major Projects in 2020

- Valley Park Recreation Centre – Fall 2021
- Ancaster Arts Centre – Winter 2021
- 500 MacNab St – Passive House – Spring 2021
- Police Investigative Services Division –September 2020
- Lister Annex – Late 2020
- 100 King Street West Office Space – Spring 2021



100 King St W Office Space



500 MacNab St – CityHousing 23

BUILT ENVIRONMENT & INFRASTRUCTURE 2020 HIGHLIGHTS

Facilities Funding Streams: 2020

BLOCK FUNDING	FACILITY RESERVES	DC FUNDED	SPECIAL*	OTHER CLIENTS	NOT IN PORTFOLIO
<ul style="list-style-type: none"> Corporate facilities Recreation facilities Long Term Care Facilities Entertainment facilities 	<ul style="list-style-type: none"> Libraries Stoney Creek City Hall 	<ul style="list-style-type: none"> New Development Recreation Corporate Facilities (Ancaster Arts Centre) New Development Libraries 	<ul style="list-style-type: none"> Ancaster Arts Centre Downtown Accommodation Lister Annex Transit (ICIP) 	<ul style="list-style-type: none"> City Housing Police Services 	<ul style="list-style-type: none"> Heritage Facilities Airport CV - VanWagners Beach Wild Water Works

*Council approved and/or funding from other levels of government



BUILT ENVIRONMENT & INFRASTRUCTURE 2020 HIGHLIGHTS



Valley Park Recreation Centre



Ancaster Arts Centre



500 MacNab St N



Police Investigative Services



ListerAnnex



100 King St W 25



BUILT ENVIRONMENT & INFRASTRUCTURE 2020 HIGHLIGHTS

Disaster Mitigation Adaptation Fund

- Shoreline Protection
- Combined sewer outfall backflow valves
- Fifty Road Parkette completed

New & Enhanced Parks

- Waterford Park
- Red Hill Park
- Spencer Creek Estates
- Alexander Park
- Ridgemount Park
- Century Street Parkette
- Waterford Park (spray pad)



Visit by Minister McKenna



Spencer Creek Estates 26



BUILT ENVIRONMENT & INFRASTRUCTURE 2020 HIGHLIGHTS



Corktown Park



Captain Cornelius Park



Bobby Kerr Park



Rockview Park



Alexander Park



Churchill Park

27

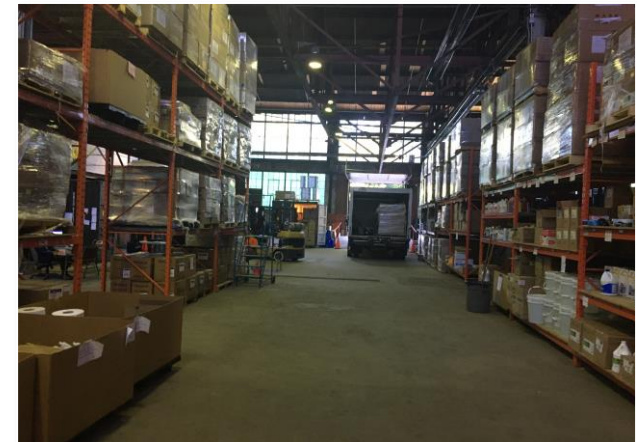
COVID-19 HIGHLIGHTS

BUILT ENVIRONMENT & INFRASTRUCTURE

- Construction project delays
- Supply chain delays
- Modifications in municipal buildings
- Temporary facilities support
 - Supply distribution warehouse
 - Emergency overflow shelter at FirstOntario Centre
 - Dave Andreychuk Arena drive-through testing centre



Plexiglass Shields



Supply distribution warehouse 28

Healthy & Safe Communities

2020 Highlights





HEALTHY & SAFE COMMUNITIES 2020 HIGHLIGHTS



54 Neighbourhoods ↑ 260%
added to Vision Zero speed
reduction program



450
Traffic signal timing
adjustments
completed

25,060 ↑ 24.6%
Traffic sign
inspections

78 ↓ 11.2%
Speed cushions installed

Repainted

↓ 48% **3,726 km**
of roadway
lane markings

16 ↑ 77.8%
Traffic signal
installations

1,025 ↑ 55%
Turn arrow
markings replaced

601 ↓ 59%
Reflective markers installed
(on the LINC and RHVP)

↓ 23.9% **1,673**
crosswalks
repainted



3 Streets covered
to 2-way



HEALTHY & SAFE COMMUNITIES 2020 HIGHLIGHTS

Security

- Security measures in City Hall Forecourt including installation of camera

Road and Traffic Safety

- Modernization of Street Lighting Maintenance
- Vision Zero Action Plan:
 - 12 Community Safety Zones Implemented
 - Continued community education campaigns

Overall, the Vision Zero Road Safety Program has resulted in 24 percent reduction in injury collisions over the last five years.



Red Light Cameras

HEALTHY & SAFE COMMUNITIES

2020 HIGHLIGHTS

Automated Speed Enforcement

- ASE pilot program in 16 locations over one year
- 20,000+ tickets issued in the first two months of operation
- Showing speed reduction of approx. 5km/h at the locations



Automated Speed Enforcement

Red Light Cameras

- Program running for 20 years
- 33 full-time camera sites
- Average 21,000 tickets annually
- 53% reduction in right-angle collisions at these locations
- 69% reduction in injury/fatal collisions at these locations



Red Light Cameras

Our People & Performance 2020 Highlights



COVID-19 HIGHLIGHTS

OUR PEOPLE & PERFORMANCE

- Many essential workers in Public Works
- Adapted to change and uncertainty
- Increased health and safety measures
- Staffing pressures on levels of service and delivery
- Redeployment and remote work
- Mental health and resiliency resources



Frontline Public Works



Frontline Public Works



Frontline HSR



OUR PEOPLE & PERFORMANCE 2020 HIGHLIGHTS

CVOR rating improvements

- Upgraded safety rating issued by MTO
- Significant drop in accumulated points

Technology improvements

- Enhancements to online services
- Increased use of dashboards



Driver Training Simulator



Bell Utility Project



OUR PEOPLE & PERFORMANCE 2020 HIGHLIGHTS

Leadership development

- Programs suspended due to COVID-19
- PM Standardization Training
- Virtual Training

Our People Survey

- Implementation of action plans
- 188 actions in Public Works



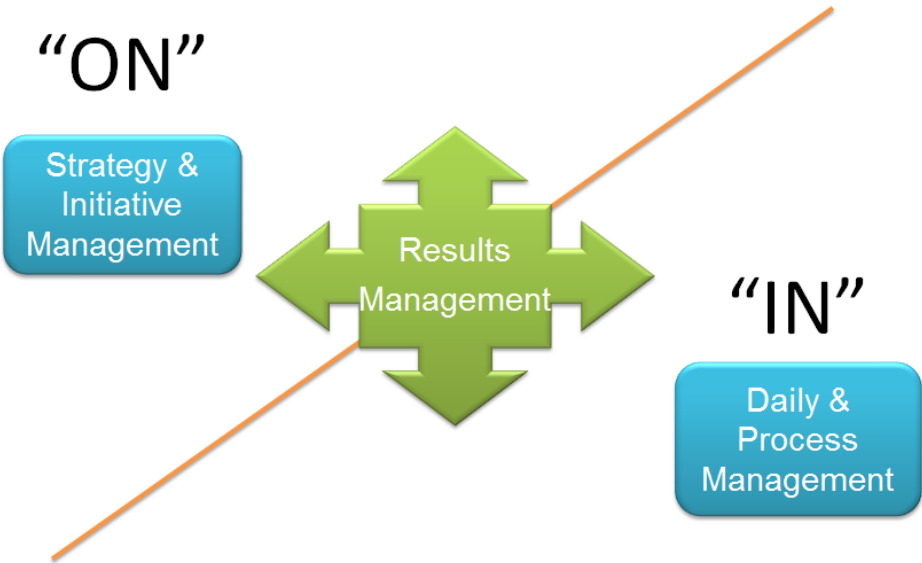
Leadership Development Courses 2019/2020



OUR PEOPLE & PERFORMANCE 2020 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





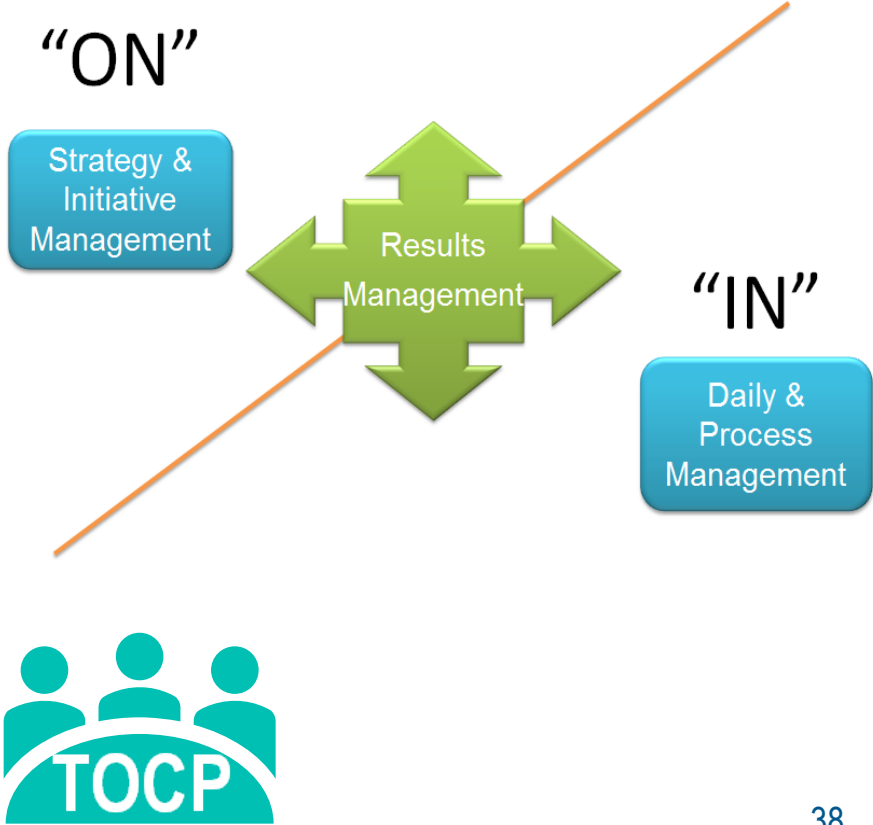
OUR PEOPLE & PERFORMANCE 2020 HIGHLIGHTS

Departmental Strategic Planning

- Strategic framework/DLT mandate
- Quality management
- Workforce planning
- Common objectives for 2021-2024
- Balanced Scorecard/PW Analytics

Project Management Standardization

- Standard project charter and other templates for improved project performance and reporting across PW
- Phase 1 completed in 2020
- 35 Managers and 22 SPM's trained
- Phase 2 beginning in 2021



Community Engagement & Participation 2020 Highlights

ALL THIS TRASH

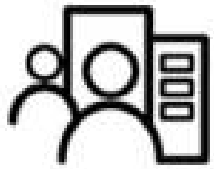
- was picked up by -
Volunteers TODAY -

From Liuna Station
to Wilson between
10am - NOON! 😊❤️

is a collective we CAN
make a difference!

BE THE CHANGE!





COMMUNITY ENGAGEMENT & PARTICIPATION 2020 HIGHLIGHTS

- 26 Team Up to Clean Up Events
- 280 White Trillium Awards issued
- \$44,500 Traffic Island Sponsorship received
- HSR
 - (Re)envision engagement events
 - Online Accessibility Event
- Engage Hamilton: PW projects
 - Albion Falls
 - Valley Community Centre Park
 - Sidewalk Snow Clearing
- Water education resources online
- COVID-19 Town Halls



Team Up to Clean Up

Economic Prosperity & Growth 2020 Highlights





ECONOMIC PROSPERITY & GROWTH

2020 HIGHLIGHTS

Open for Business

- Bell Project – utility servicing
 - 210 kms of fibre optics installed
- AEGD Project
 - Upgrading 3 pumping stations
 - 16 RFTs for construction and equipment purchases
- Waterfront Development
 - Shorewall and wastewater pumping station complete, site servicing (Brownie Award)
 - Promenade Park/Copps Pier construction continues through 2021
- Hamilton Youth in Construction
 - 9 youth in the fall 2020 program
 - Classes transitioned virtual due to COVID-19



AEGD English church pumping station



Hamilton Youth in Construction 2020 42



ECONOMIC PROSPERITY & GROWTH

2020 HIGHLIGHTS



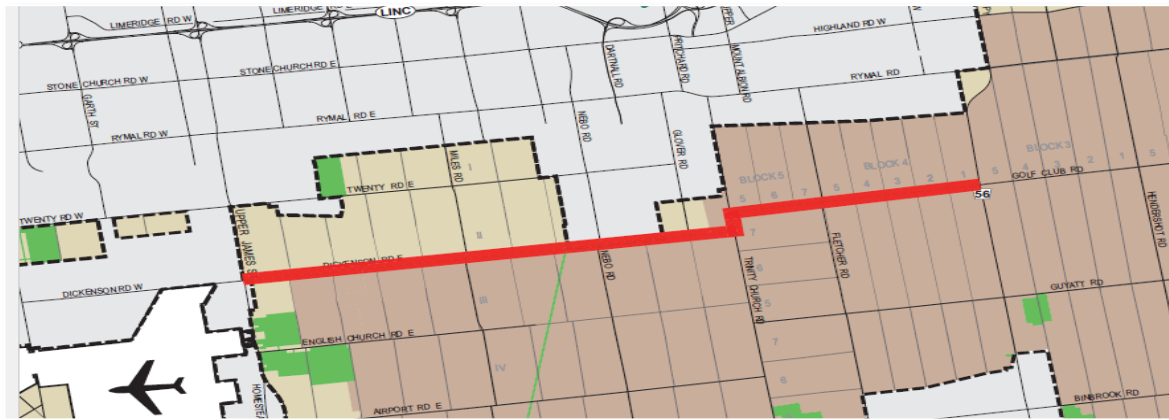
Pier 8 Wastewater Pumping Station



Pier 8 Shorewall Reconstruction



Pier 8 Shorewall



AEGD – Dickenson Road Sanitary Sewer Design



Pier 7 and 8 servicing

Culture & Diversity 2020 Highlights



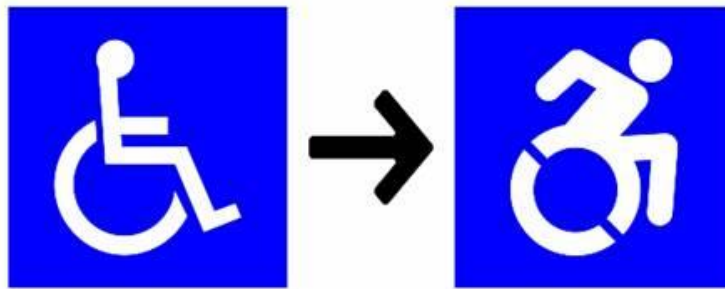


CULTURE & DIVERSITY 2020 HIGHLIGHTS

- Wheelchair swing at Gage Park
- Accessibility “mobi-mat” at the beach strip
- Additional accessible parking spaces and improved locations
- Dynamic symbol update



Accessibility “Mobi-mat”



Dynamic Symbol updates



Wheelchair swing at Gage Park



CULTURE & DIVERSITY 2020 HIGHLIGHTS

- Tenant Waste Guide available in 10 languages
- Hamilton Urban Precinct Entertainment Group awarded the contract to deliver entertainment, culture, and renewed vitality to Hamilton's downtown core
- Ancaster Memorial Arts Centre
- Cemeteries meeting cultural needs



Ancaster Memorial Arts Centre



Tenant Waste Guide

Quality Management

2020 Highlights

QUALITY



47

PUBLIC WORKS QUALITY MANAGEMENT SYSTEM



QUALITY MANAGEMENT SYSTEM PRINCIPLES

In Public Works, we are dedicated to providing services that bring our city to life.

SERVE our community with a commitment to meet or exceed approved service levels and regulatory requirements.

ENGAGE with those we serve.

RESPECT and protect public health, private and municipal property and the environment.

VALUE and safeguard high levels of trust and confidence.

IMPLEMENT safe and accessible infrastructure to enable efficient travel and support active lifestyles.

COMMUNICATE with transparency and integrity.

EVOLVE the organization through Performance Measurement and Continuous Improvement.



Hamilton

The **PWQMS** seeks to meet the minimum standards as prescribed in ISO 9001:2015.

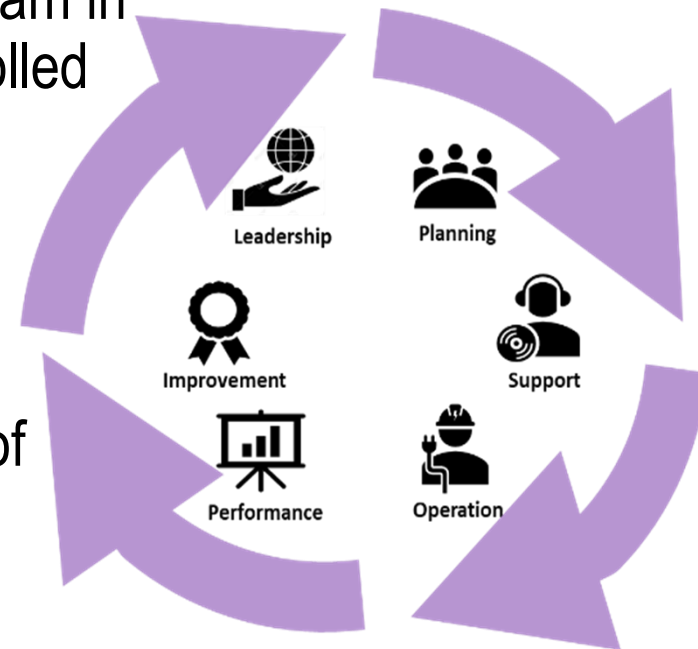
In 2020, a main highlight was the announcement of the **PWQMS Principles** showing our objectives and commitment towards providing quality services to citizens.



PUBLIC WORKS QUALITY MANAGEMENT SYSTEM

2020 Highlights

- Release of the PWQMS Operational Standard that identifies the requirements to plan, implement and control our operations
- Support the Corporate Pandemic Response team in the development and release of over 30 controlled documents
- Deliver training on Documents and Record Management practices
- Improve engagement and cross-functional collaboration in the development and release of Departmental operational and Health & Safety procedures





PUBLIC WORKS QUALITY MANAGEMENT SYSTEM

2020 Highlights

- ***Departmental Training Framework*** - develop a procedure to ensure staff are trained on new and updated departmental procedures
- ***Internal Audit Program*** – create and launch a Public Works Internal Audit program to ensure policies and procedures are being followed
- ***PW QMS Non-Conformance Process*** – gather and consolidate requirements for the development of a non-conformance standard

Continuous Improvement 2020 Highlights

STRATEGY

LEADERSHIP

**CONTINUOUS
IMPROVEMENT**

PROCESS
PLANNING

CONTINUOUS IMPROVEMENT 2020 HIGHLIGHTS

Ideas Generated



414 Since Program Inception

Projects Started



393 Since Program Inception

Projects Completed



271 Since Program Inception

Kaizen Events



35 Since Program Inception

Recovered Capacity



\$3,694k Since Program Inception

Cost Reduction



\$1,457k Since Program Inception

Cross - Dep / Cross Div. Collaboration



Staff Involvement



Green Belts Trained





Metrics Public Works

ASSET METRICS

Facilities Management



Manage
\$2.1 Billion
 in assets
 >500 Facilities

Transportation Operations



Manage
45,385 Street lights

Road Maintenance

Manage

 **6,492 lane km** of roads

 **231.3 km** bike lanes

 **2,445 km** sidewalks

Fleet Services **1,350 Units**
 Manage and Maintain 

Bridges & Structures

Manage and Maintain **399** 

Parks and Open Spaces



228 Playgrounds
68 Spray Pads
525 Park Locations

Litter Containers

600+
 Streetscape litter containers



Cemeteries

Manage **69** Municipal Cemeteries



Solid Waste Management



Operate:

- 3** Community Recycling Centres & Transfer Stations
- 1** Open Landfill
- 12** Closed Landfills
- 1** Material Recycling Facility
- 1** Central Composting Facility

Sewers and Watermains



1,202 km Sanitary Sewer
1,231 km Storm Sewer
571 km Combined Sewer
9 Combined sewer overflow tanks

2,110 km Watermains 

PERFORMANCE METRICS

Winter Operations

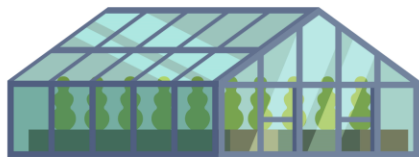
Manage **0%**
6,492
 lane km
 of road



Electricity produced

24,316 MWH
 Woodward & Glanbrook






22,109
 Visitors to the
 new Gage Park
 Tropical Greenhouse



60%

Road Maintenance

109,960km
 of roadway patrolled
 for deficiencies



3,902
 Traffic sign
 repaired/replaced




11.5%

31,878
 Pothole sites
 repaired




27%

Cemeteries

1,187 Internments at
 Hamilton Cemeteries




5%

Natural Open Space & Parkland



Manage **24,086**
 hectares



.02%

Play structure
 inspections **2,646**



30%

935 metres
 of trails constructed



136%

Solid Waste Management

0%
 Over **27 Million**
 Waste pickups per year



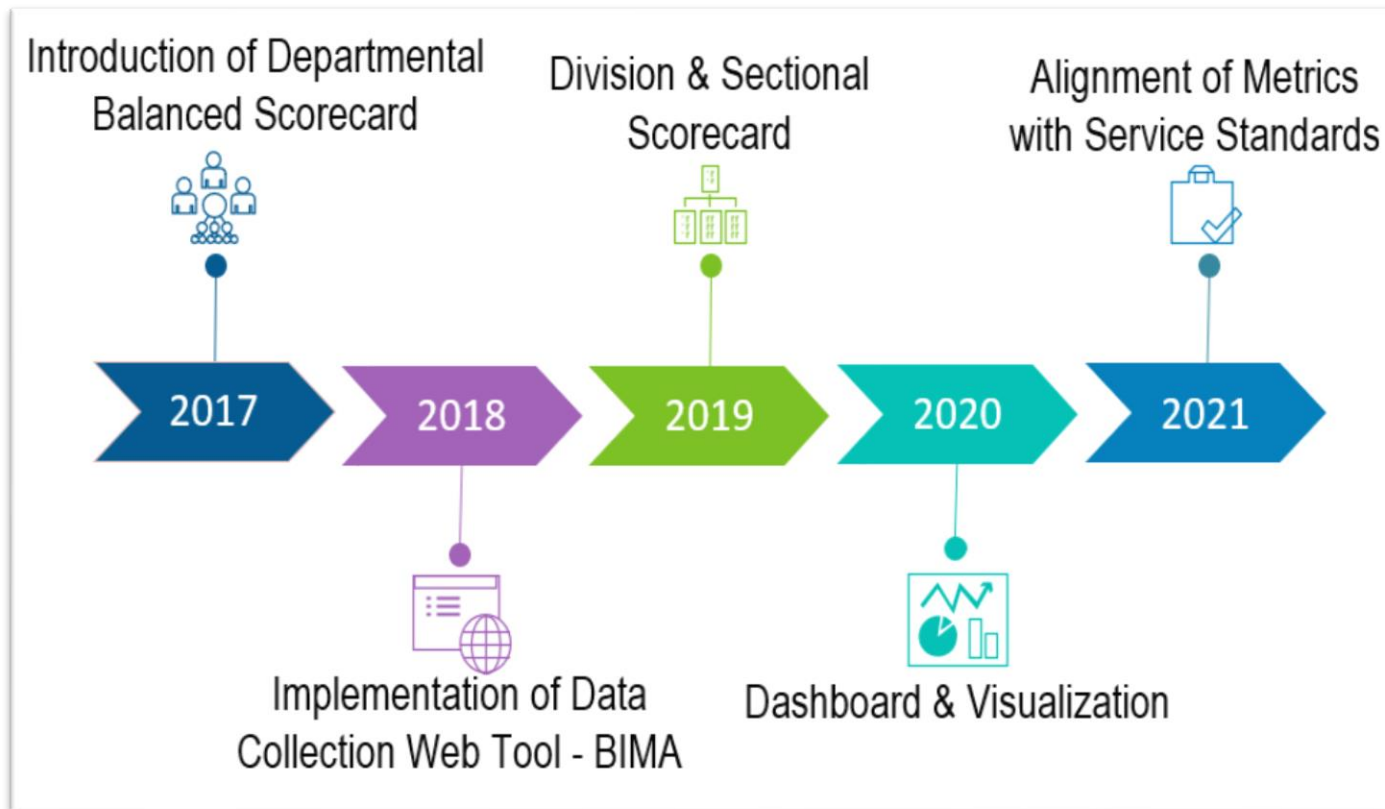
4%
222,600 tonnes
 of residential waste




PERFORMANCE MEASUREMENT PROGRAM

Program Objectives

- Show strategic and operational goals are met
- Enforce accountability on performance
- Continuously improve efficiency / effectiveness of services



PERFORMANCE MEASUREMENT PROGRAM

Departmental web-based analytics tool allows staff to monitor performance in real-time to demonstrate compliance, achieve efficiency and continuously improve consistency. Snapshot of dashboard data as of Dec 2020



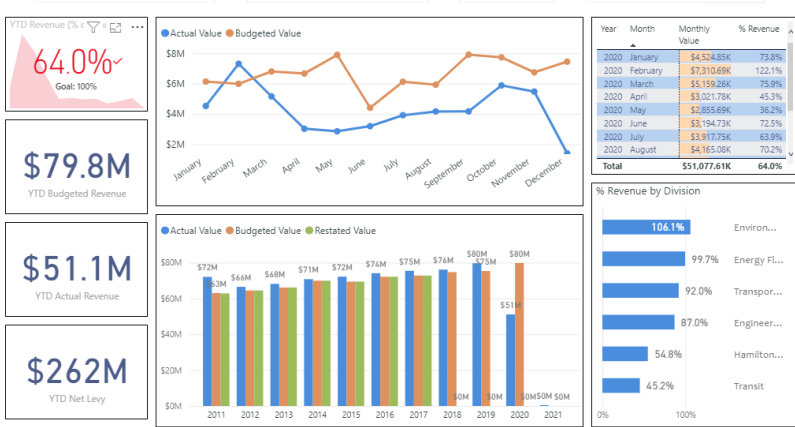
Public Works Analytics Centre

Division: All | Section: All | Year: 2020

The source of this data is from PeopleSoft Financials and FMW. The data is scheduled to refresh everyday at 6:30 am.



Public Works Revenue (Fees & General) - 2020



PW Process & Compliance KPI







Section	Metric Description	% Variance	Actual Value	Target Value	Trend
Admin	Number of completed Continuous Improvement Projects/Initiatives	▲ +87.5%	90.00	48.00	
	Total number of Policy 19 occurrences	● -75.0%	3.00	12.00	
BusinessPrograms	Sponsorship for Hamilton in Bloom (2020 \$51,220)	● -13.1%	44,500.00	51,221.00	
Compliance&Regulati...	(% within 1hr) Achieve response to spill incident site within 1 hr of activation	▲ +5.8%	89.91	85.00	
FacilityOps&MtceCorp...	% Regulatory Orders responded to by required date - Community	● -3.5%	96.50	100.00	

PERFORMANCE MEASUREMENT PROGRAM

HIGH-PERFORMING KPIs

As of December, 2020

Objective	Metric	Target	YTD	Health
Waste – Missed Collection	Number of missed collections per 10,000 pickups (no bulk)	4	3	
Play Structure Safety Inspections	Maintain >75% inspected play sites as per regulation	75%	100%	
Safety - CVOR	Average CVOR	49.9%	47.3%	
Purchasing Policies	Total number of Policy 19 Occurrences	12	3	

PERFORMANCE MEASUREMENT PROGRAM

OPPORTUNITIES FOR IMPROVEMENT KPIs



As of December 2020

Objective	Metric	Target	YTD	Health
Cemeteries – Pre-need sales	Amount of pre need sales	\$1,372,000	\$1,162,717	
Water – Safe drinking water	Maintain zero confirmed adverse water quality incidents	0	12	
Transit – Cancelled Service	Number of hours of cancelled services due to no operator available	0	8	

Trends & Issues 2021-2024

Public Works



TRENDS AND ISSUES 2021 – 2024

COVID-19

- Ongoing impacts on operations

Right-of-Way Capital Program Delivery

- Revised roads budget achieves re-investment rate of 1.09%
 - Below the FCM recommended 2%-3% target
- MECP Changes – system wide ECA
- Excess Soils O.Reg 406-19
- Complete Streets – design and construction of multi-modal transportation systems
- Higher risk and complex projects (e.g. escarpment, tunneling, etc.)



Upper Centennial Parkway Trunk Sewer Project



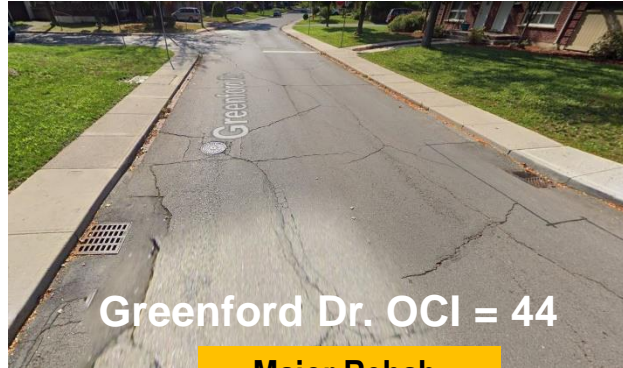
Multi-modal transportation

OVERALL CONDITION INDEX (OCI) RESULTS



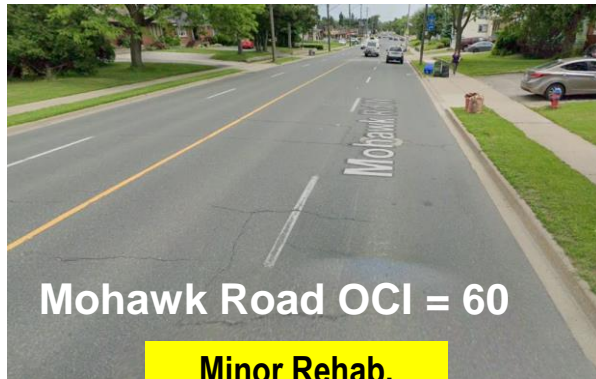
Marion Ave S OCI = 28

Reconstruction



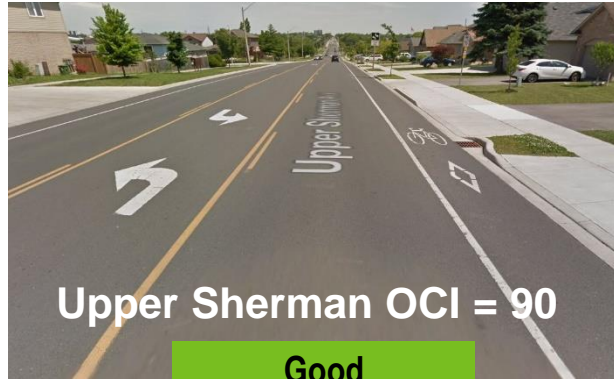
Greenford Dr. OCI = 44

Major Rehab.



Mohawk Road OCI = 60

Minor Rehab.



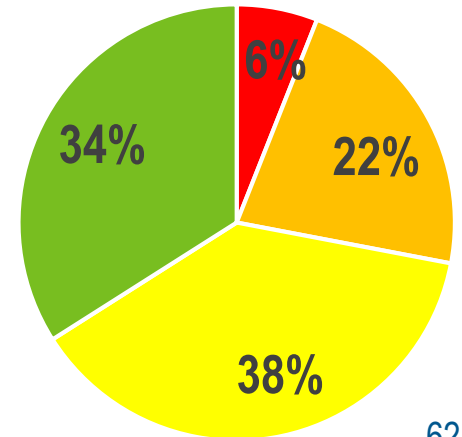
Upper Sherman OCI = 90

Good

Overall network average OCI is 63 (Minor Rehab.)*

*From 2019 pavement condition assessment

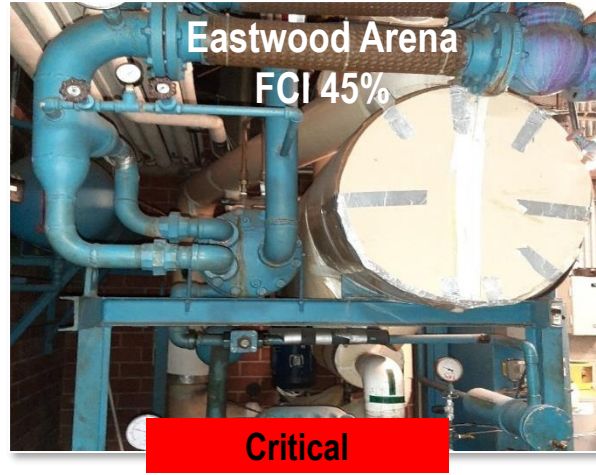
Breakdown Across Full Network



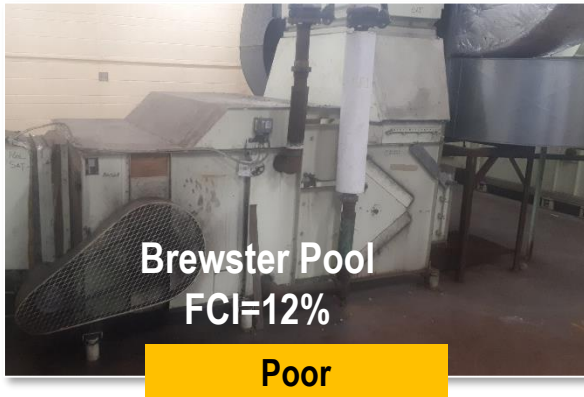
Overall Condition Index

0-40	40-55	55-70	>70
Reconstruction	Major Rehab.	Minor Rehab.	Good

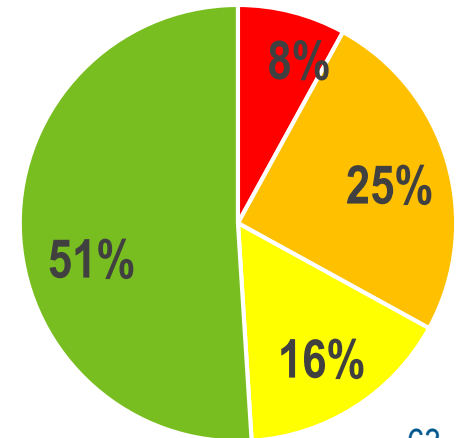
FACILITY CONDITION INDEX (FCI) RATINGS



**Overall FCI
across 500+
facilities is
8.73% (Fair)**



**Breakdown Across
All Facilities**



Facility Condition Index

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

TRENDS AND ISSUES 2021 – 2024

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
 - Resiliency program development to support a climate prioritized approach
 - Climate inventory for baseline application
 - Focus on green fleet/equipment



Solar panels-Wentworth Operations Centre



Compressed Natural Gas (CNG) Bus



CLIMATE RESILIENCY PROGRAM >>> PUBLIC WORKS

STEERING COMMITTEE

DLT

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 CROSS-DIVISIONAL PROGRAM TEAM



RESILIENCY CHALLENGES

- 1
- 2
- 3
- 4
- 5
- 6



SHARED VISION FOR A MORE RESILIENT PUBLIC WORKS



MOON SHOTS

PUBLIC WORKS RESILIENCY 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 SUCCESSSES & FAILURES



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



TRENDS AND ISSUES 2021 – 2024

Urgent Requests & 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.



Hwy 8 Dundas Escarpment Failure

Examples:

- Escarpment slope failures (Hwy 8, McNeilly)
- Significant storm response (downed trees, flooding)



Storm Damage



Hwy 8 Dundas Escarpment Repair

TRENDS AND ISSUES 2021 – 2024

Forestry

- Demand for continued focus on technology and integration into daily operations
- Limited locations for new trees to be planted
- Storm damage response and costs:
 - Climate emergency
 - Increase intensity / frequency
- Continue to identify emerging threats to urban canopy and develop a management plan:
 - Oak Wilt Disease
 - Gypsy Moth (*Lymantria dispar*)
 - Asian Longhorned Beetle
 - Beech Bark Disease





Current tree canopy is approx. 21.2%



Forestry: Storm Clean Up

TRENDS AND ISSUES 2021 – 2024

Contract Renewals

Contract	Timing	Budget Impact
Transfer Station / Community Recycling Centres	March 2020	 \$1,542,960
Curbside Waste Collection	March 2021	 \$2,936,820
Organic Processing	March 2021	 \$899,000
Recycling Processing	March 2021	 \$598,000

TRENDS AND ISSUES 2021 – 2024

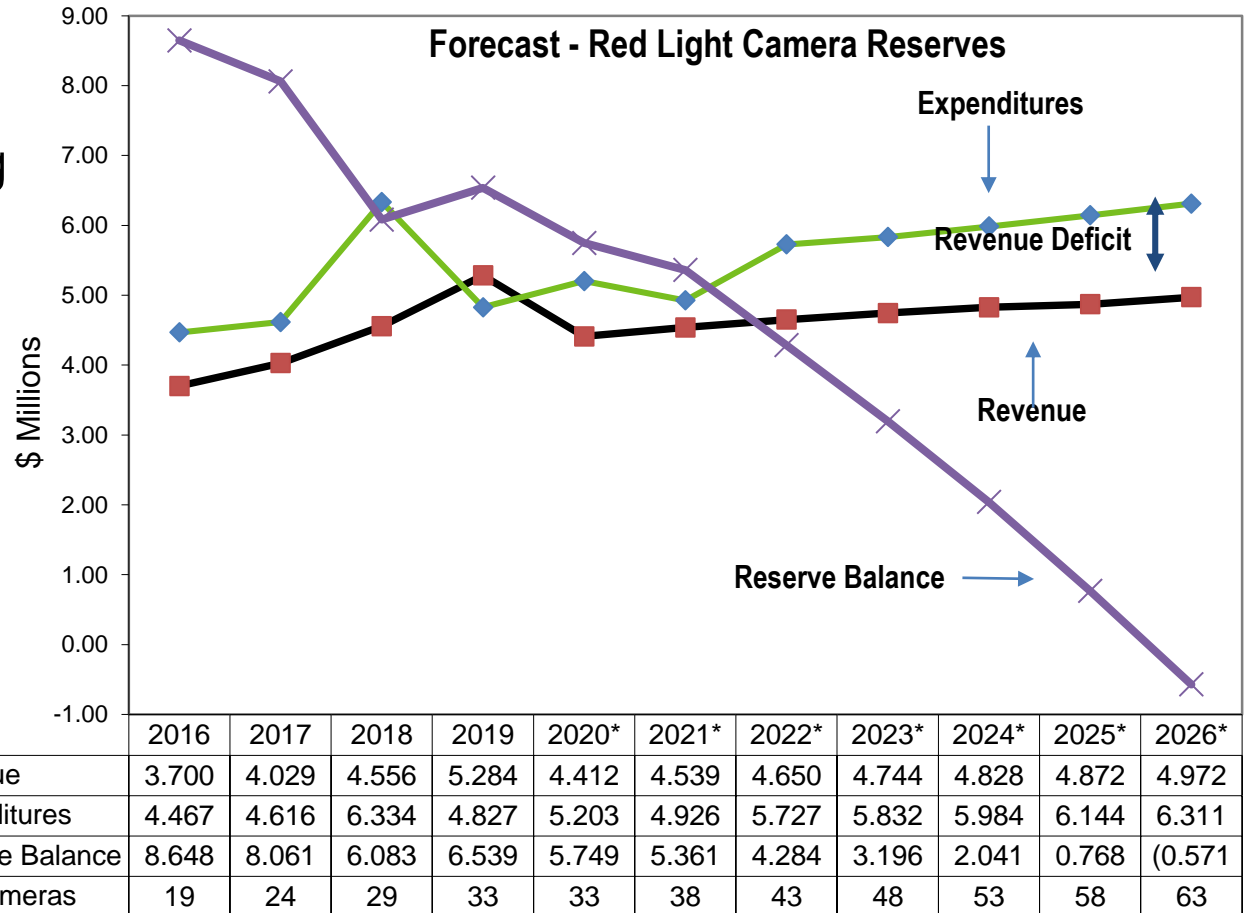
Automated Speed Enforcement & Red Light Camera Offences

- ASE violations are currently processed in the provincial offences court system, which administers offences under the Provincial Offences Act (POA).
- The City is working with partner municipalities to have the Provincial government to transfer both the ASE and RLC violations to be processed under the Administrative Monetary Penalty (AMP) system
 - This would allow the programs to be more efficient and effective manner, and would reduce the significant workload in the POA system.
- The influx of tickets related to ASE and RLC has resulted in the need to hire 3 to 4 additional staff in POA and legal to deal with the processing of tickets.

TRENDS AND ISSUES 2021 – 2024

Red Light Camera Reserve

- The forecasted expenditures are outpacing the forecasted revenues.
- The projected ending reserve balance in 2025 is \$770K with an estimated reserve shortfall of approximately \$570K in 2026 with a remaining shortfall in 2027 of \$840K.



* Denotes forecast 70

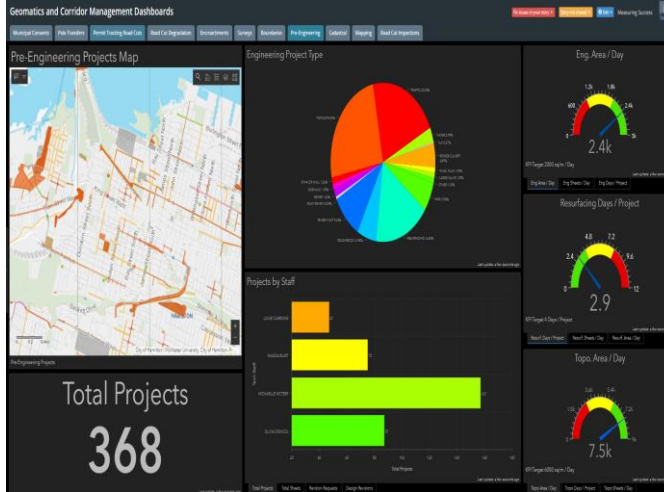
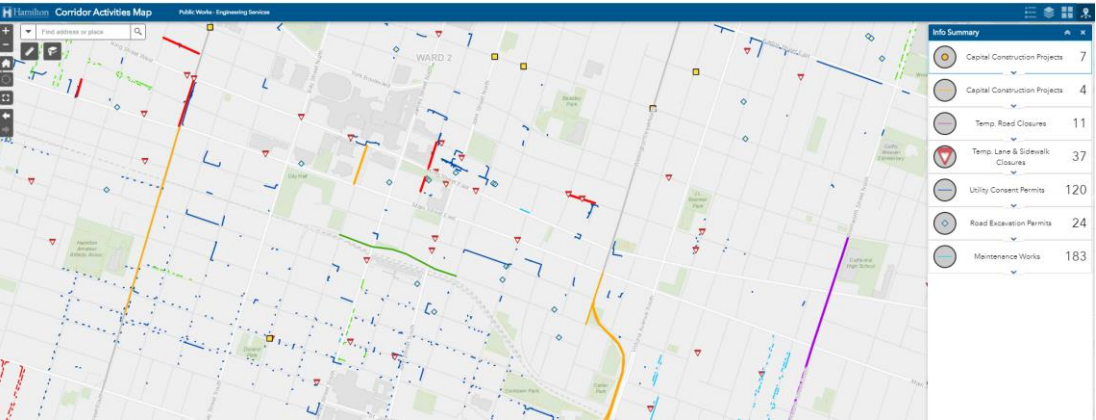
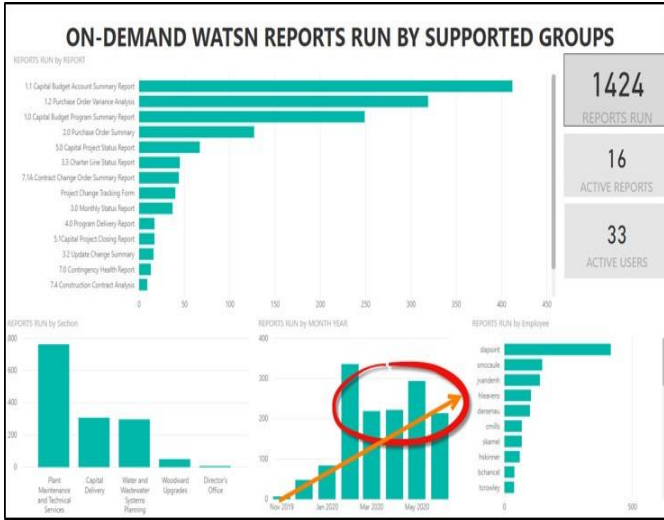
TRENDS AND ISSUES 2021 – 2024

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



TRENDS AND ISSUES 2021 – 2024

Legislation

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

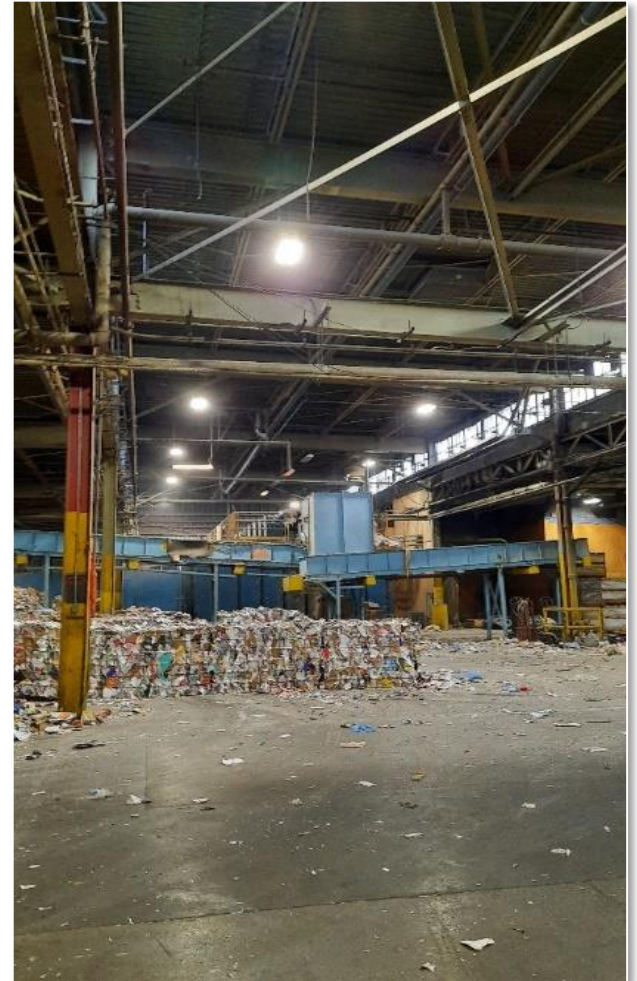
- Bill 6 *Infrastructure for Jobs & Prosperity Act, 2015* – requirements for a strategic asset management plan
- Bill 47 *Making Ontario Open for Business Act, 2018* - impacts minimum wage standards, work scheduling, personal emergency leave
- Bill 66 *Restoring Ontario’s Competitiveness Act, 2019* – 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

On Site and Excess Soil Management - Ontario Regulation 406/19 made under the Environmental Protection Act – requires testing, approvals, quantifying, tracking and reporting excess soil and management
- Bill 151 *Waste-Free Ontario Act, 2016* – increasing waste diversion and building a circular economy

TRENDS AND ISSUES 2021 – 2024

Energy & Fuel Markets

- Global adjustment benefit
- Aging fuel sites
- Electricity, diesel, gasoline and natural gas energy markets remain volatile and are impacted by factors such as global markets, supply and demand and regulatory
- Projects and programs that support climate change initiatives
- Emphasis on climate change and emissions reduction



Materials Recycling Facility
Lighting Upgrade

73

TRENDS AND ISSUES 2021 – 2024

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



SIDEWALK PROGRAM

Definitions: Minimum Maintenance Standards (MMS)

MMS Deficiency:

- A surface discontinuity on or within a sidewalk that exceeds two centimeters
- Any vertical discontinuity that creates a step formation at any joint or crack in the surface of the sidewalk

City Requirements for MMS deficiency:

- Reasonable measures to protect users of the sidewalk from the discontinuity, include making permanent or temporary repairs (asphalt, grinding, concrete), alerting users' attention to the discontinuity or preventing access to the area of discontinuity



Trip Hazard Deflection



Root Damage Deflection



Trip hazard



Uneven Surface Deflection 75

SIDEWALK PROGRAM

Definitions: Minimum Maintenance Standards (MMS)

NON MMS Deficiency:

- Vertical deflections less than 2 cm, concrete spalling, cracking, improper crossfall and asphalt patches on concrete.

City Requirements for NON MMS deficiency:

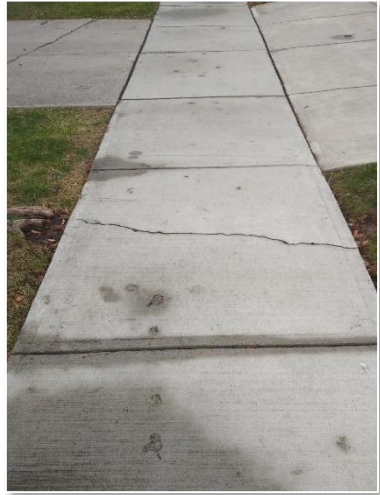
- Reasonable measures to identify deficiency



Asphalt Repair



Concrete Spalling



Crack



Non MMS Deflection

SIDEWALK PROGRAM

Based on annual inspection of 2,445 kms of sidewalks:

Reported deficiencies City wide in 2019:

- **4,146** MMS deficiencies
- **136,224** Non MMS deficiencies

Cost to repair all
deficiencies in one year
would be \$44M
= Funding gap of \$38M



2019 SIDEWALK PROGRAM

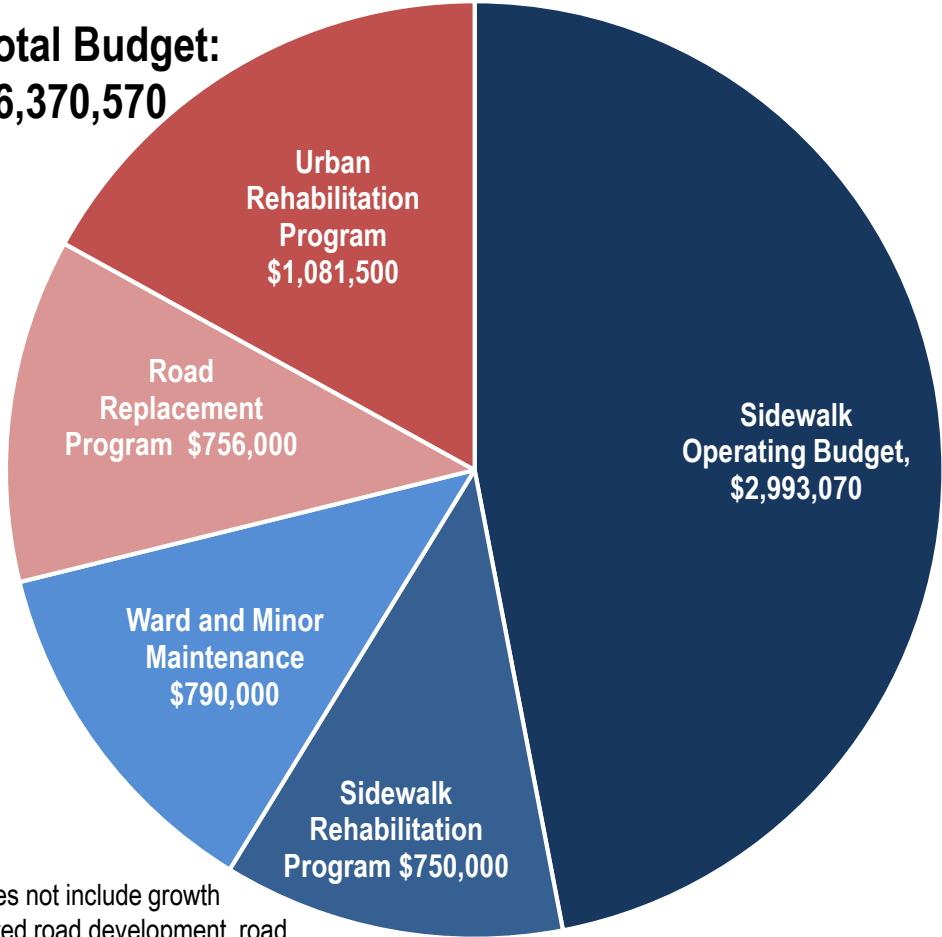
	A	B	C	D	E	F	G	H
	Division	Program Area	2019 Budget	2019 Funding Source	Completed By Contractors	Completed by City Staff	Estimated # of km's in 2019	Estimated % of Network in 2019
1	Transportation, Operations and Maintenance	Sidewalk Programs Operating Budget	\$2,993,070	Operating Levy	\$562,310	\$2,430,760	18.7	0.8%
		Sidewalk Rehabilitation Program	\$750,000	Capital Levy	\$750,000	\$0		
		Ward and Minor Maintenance	\$790,000	Ward & Minor Maintenance	\$790,000	\$0		
Transportation, Operations and Maintenance SUBTOTAL:							18.7	0.8%
2	Engineering Services	Road Replacement Program	\$756,000	Ward & Minor Maint: \$185,000 Gas Tax: \$571,000	\$756,000	\$0	7.2	0.3%
3		Rural Rehabilitation Program	\$0	N/A	\$0	\$0	0.0	0.0%
4		Urban Rehabilitation Program	\$1,081,500	Gas Tax	\$1,081,500	\$0	10.3	0.4%
Engineering Services SUBTOTAL:							17.5	0.7%
GRAND TOTAL							36.2	1.5%
5	Engineering Services	Road Cuts Program	\$887,119	100% recovered from permit taker	\$887,119	\$0	6.1	0.2%

*Does not include growth related road development or the new sidewalk program (PED)

2019 SIDEWALK PROGRAM

Sidewalk Program Areas: 2019*

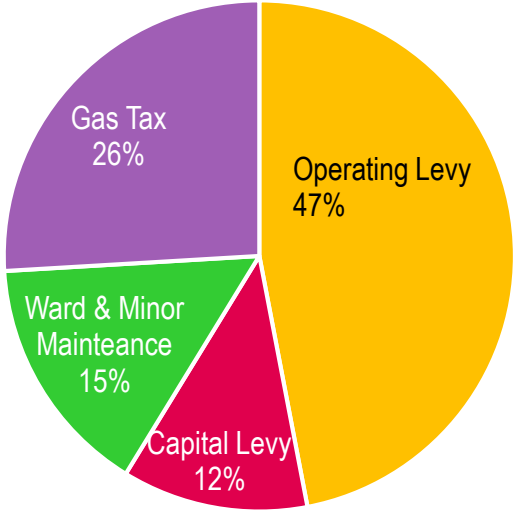
Total Budget:
\$6,370,570



Quick Stats:

- 1.5% of network addressed in 2019
- 62% of sidewalk work completed by **contractors** (38% by city staff)
- Of maintenance work (**BLUE** program areas)
 - 54% for sidewalks; 46% is for **other repairs** (curb damage, driveway repairs, resetting catch basins, asphalt patching)

Sidewalk Funding Sources: 2019*



*Does not include growth related road development, road cuts (100% cost recovery) or new sidewalk program (PED).

Looking Ahead 2021

Public Works



LOOKING AHEAD 2021

Right-of-Way projects

- Rymal Road/Regional Road 56 Construction
- Rymal Road EA – Upper James to Dartnall
- Neighbourhood resurfacing: Ancaster Heights (Lime Kiln North), Central, McQuesten West, Battlefield, Greenford, Vincent, Bonnington, Southham

Facility projects

- Solar thermal pilot at Westmount Rec Centre
- Passive House (500 MacNab St. N.)
- Recreation Indoor/Outdoor Study
- Roof Management
- Valley Park Substantial Performance
- EFFM portfolio adds Police Forensics facility & 4 stations
- LED lighting upgrades

Development of Core Asset Management Plans



Police Forensics Building



500 MacNab Passive House

LOOKING AHEAD 2021

Transportation Operations Initiatives

- Implementation of the RHVP / LINC Operational Plan
- Connected Autonomous Vehicle Test Track
- Railway Regulation Safety Improvements
- Vision Zero initiatives

Space Management Solutions

- Master Office Space Management Plan – Ontario Works, Public Health, Public Works, Corporate Services & Human Resources
- Yards Review & Space Optimization

Horticulture

- Upgrades of horticultural infrastructure (i.e. irrigation)
- Enhanced programming for the Tropical Greenhouse



Neighbourhood Speed Reductions



Horticulture Programs

LOOKING AHEAD 2021

Waste Programs

- New waste collection service contract
- Route optimization review implementation
- New waste collection packers
- Preparing for future growth (curbside collection and downtown cleanliness)
- Solutions for mobility and geotagging of assets



Waste collection packer

Other Major Initiatives

- Year 9 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 (2021-2024)



Large Scale Tree Planting



Quality Management System (QMS)

- **Departmental Training Framework** - develop a procedure to ensure staff are trained on new and updated departmental procedures
- **Internal Audit Program** – create and launch a Public Works Internal Audit program to ensure policies and procedures are being followed
- **PW QMS Non-Conformance Process** – gather and consolidate requirements for the development of a non-conformance standard

Looking Ahead 2022 – 2024

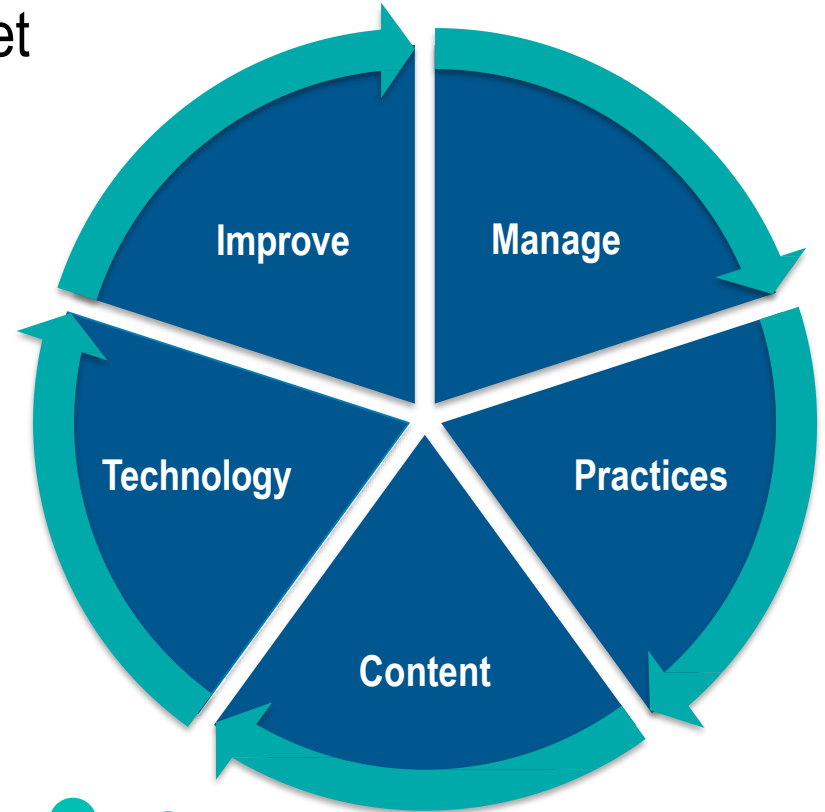
Public Works



LOOKING AHEAD 2022-2024

Enterprise Asset Management (EAM)

- Significant opportunity for improved asset management and higher quality service delivery with less cost
- Business case focused on redesigning EAM practices and processes with associated system workflows
- 11+ software systems in Public Works cost \$1.06M annually
- Project approved by Council Q1 2020; Contract signed Q3 2020.
- Discovery phase in progress until Q2 2021 followed by full implementation



Enterprise Asset
Management

LOOKING AHEAD 2022 – 2024

Right-of-Way Infrastructure

- Explore technology applications to address the need for more cost effective road rehabilitation strategies
- New roads data tied to asphalt performance
- Improved roads deterioration curves
- Large scale LIDAR usage
- Identifying the reconstruction requirements for the LINC



Improved use of technology

Roadway Safety

- Implementation of the strategic road safety strategy that focuses on Vision Zero and the Complete Livable Better Streets principles
- Investigate infrastructure requirements for autonomous vehicles



Road Rehabilitation

LOOKING AHEAD 2022 – 2024

Major Right-of-Way Projects

- Stone Church Road – feeder watermain
- Rymal Road
- Waterdown East-West Bypass
- Nebo Road
- Claremont steel facing wall removals (bin walls)
- Claremont downbound resurfacing (with bin walls)



Claremont access bin walls

Transit

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

Waste

- Prepare for the transition of the Blue Box Program to comply with the Waste-Free Ontario Act (Bill 151)
- Focus on green fleet/equipment initiatives



Waste Collection

LOOKING AHEAD 2022 – 2024

Facilities

- Sir Wilfred Laurier Gymnasium – 2023
- Transit Maintenance Storage Facility construction phase (pending funding)
- Riverdale Community Hub – 2023
- Stadium Precinct Park – 2023

Other Major Initiatives

- Electric bus strategy development and pilot
- Woodward Wastewater Treatment Plant upgrades
- Dundas Wastewater Treatment Plant upgrades



Future Riverdale Community Hub



Rendering of Transit Maintenance
Storage Facility

89

LOOKING AHEAD 2022 – 2024

- Develop Asset Management Plans for core assets and green infrastructure to comply with the *Infrastructure for Jobs and Prosperity Act* (O.Reg. 588/17)
- 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



Waterfront Trail damage

LOOKING AHEAD 2022 – 2024

Energy and Emission Initiatives

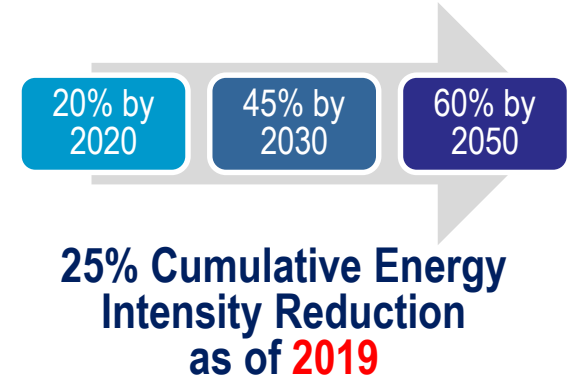
- Implement revised Corporate Energy Policy
- Steps to advance toward our energy targets
 - 1) Improving efficiency
 - 2) Renewable energy
 - 3) Carbon credits

Upcoming Initiatives:

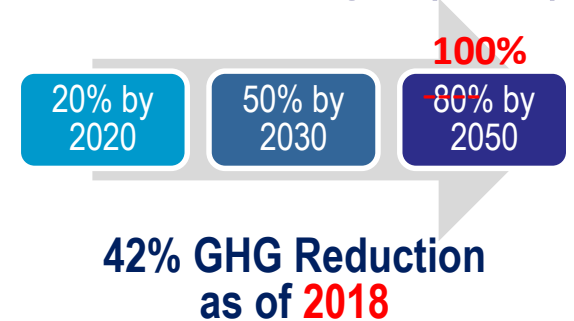
- Implementing Community Energy and Emissions Plan pathway recommendations (community and Public Works actions)
- Development of City Wide RNG Strategy
- Assess HRP long term renewable energy strategy



Corporate Energy Reduction Targets



Corporate Emissions Reduction Target (GHG)



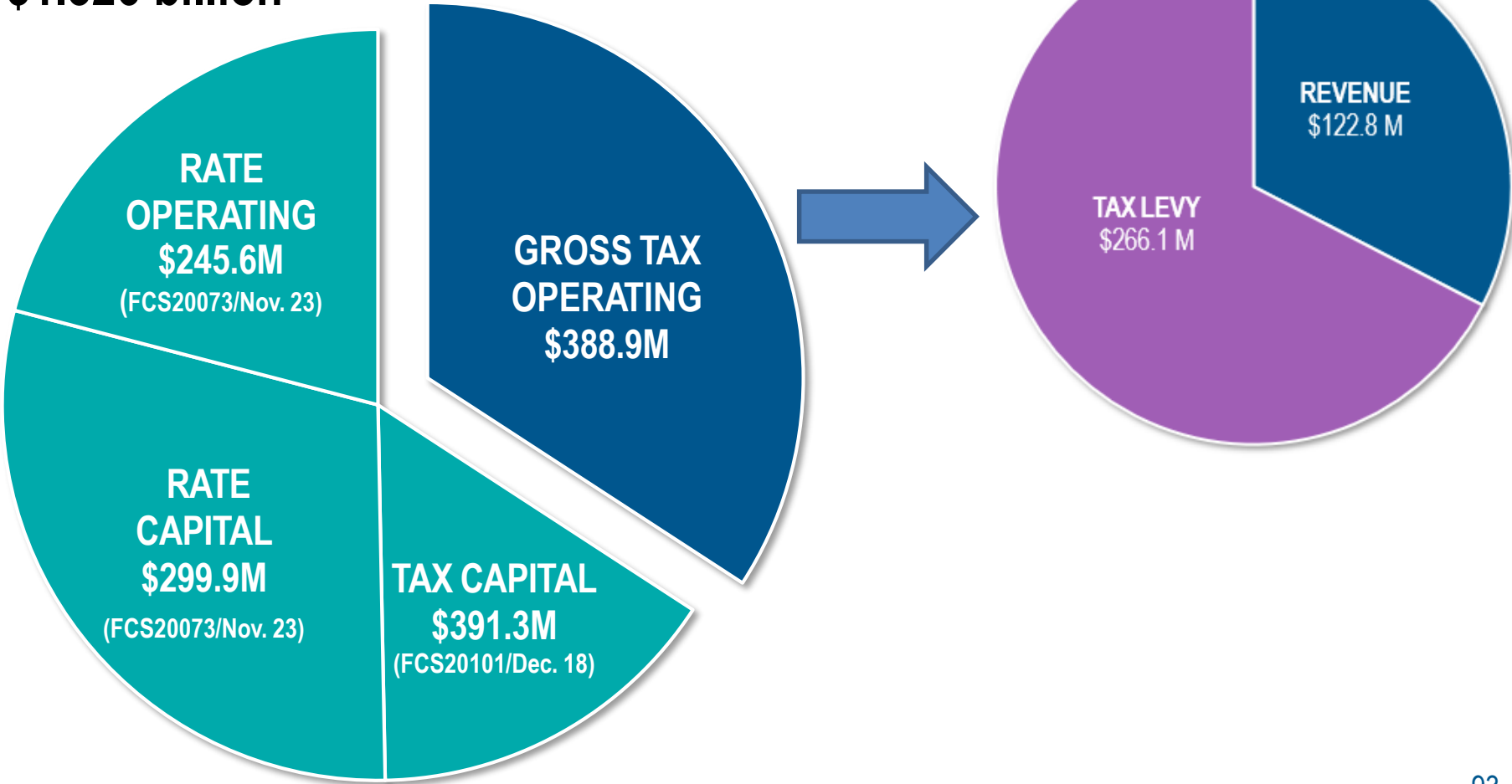
2021 PRELIMINARY TAX OPERATING BUDGET

Public Works Department

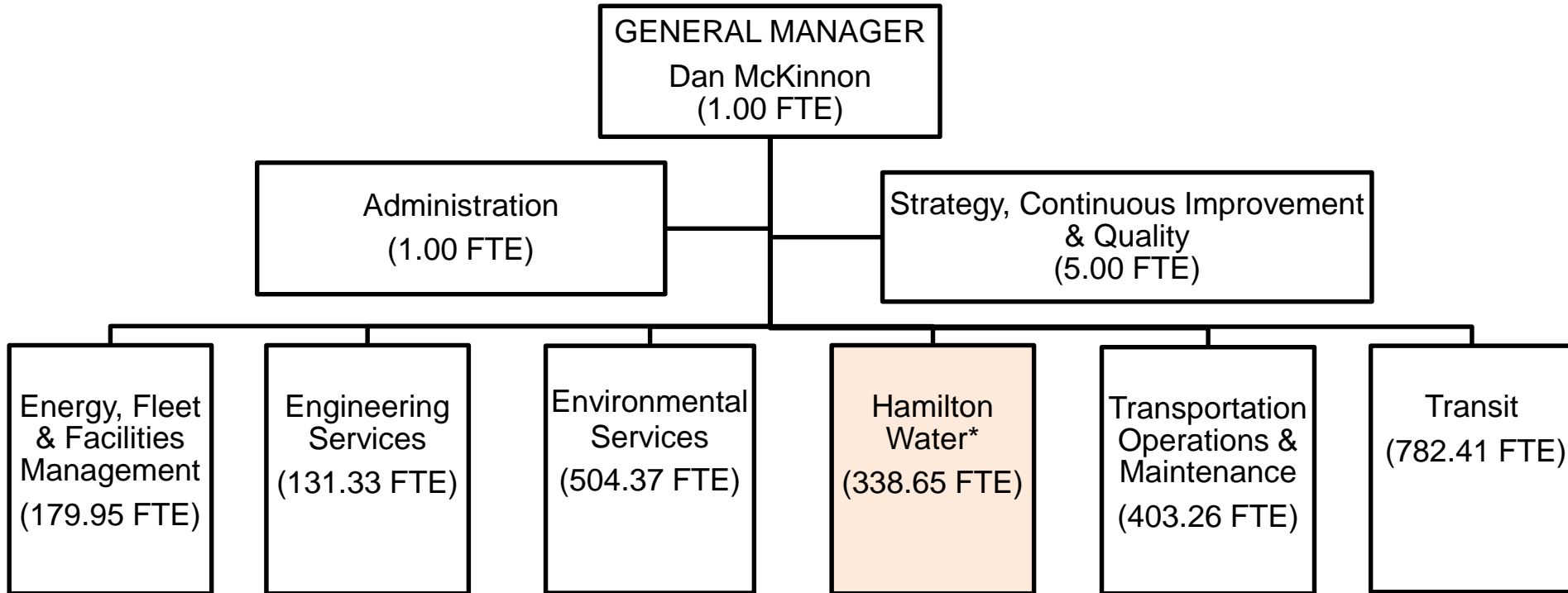
92

2021 GROSS BUDGET

2021 Gross Capital and Operating Budgets
\$1.326 billion



ORGANIZATIONAL CHART



Complement (FTE)	Management	Other	Total	Staff to Mgt. Ratio
2020	32.00	1982.16	2014.16	61.94:1
2021	32.00	1976.32	2008.32	61.76:1
Change	0.00	(5.84)	(5.84)	

* Complement excludes Hamilton Water

2021 OPERATING BUDGET BY DIVISION

	2020 Restated Net	2021 Preliminary Gross	2021 Preliminary Net	-2021 vs 2020 Net Change-	
				\$	%
PW-General Administration	709,400	724,880	724,880	15,480	2.2%
Energy Fleet and Facilities	12,778,750	23,386,380	13,207,430	428,680	3.4%
Engineering Services	-	21,243,920	-	-	0.0%
Environmental Services	82,909,900	107,926,830	88,355,900	5,446,000	6.6%
Transit	78,066,940	141,518,570	80,754,700	2,687,760	3.4%
Transportation Operations & Maintenance	82,247,280	94,087,530	83,077,280	830,000	1.0%
Total Public Works - Tax	256,712,270	388,888,110	266,120,190	9,407,920	3.7%
Amendment - Environmental Services: Blue Box Municipal Funding Allocation				(1,389,850)	(0.6%)
Total Public Works - Tax Less Amendments				8,018,070	3.1%

2021 KEY BUDGET DRIVERS

TOTAL PRELIMINARY NET LEVY INCREASE

\$8,018,070 3.1%

ENVIRONMENTAL SERVICES	Curbside Waste Collection Contract - New	\$2,936,820	1.1%
	Organics Processing Contract - New	\$899,210	0.4%
	Recycling Processing Contract	\$598,280	0.2%
	Recycling Program Revenue Pressure	\$1,491,690	0.6%
	Transfer Station / Community Recycling Centres Contract	(\$1,542,960)	(0.6%)
	Increased Blue Box Municipal Funding Allocation	(\$1,389,850)	(0.5%)
TRANSIT	Reductions to Underperforming Routes (PW20015) (ERC \$857K & Vehicle \$103K)	(\$960,230)	(0.4%)
	Contribution to Reserve to fund PRESTO commissions that will be incurred when ridership recovers	\$1,341,000	0.5%
	Elimination of Paper Fare Media (\$366K) & PRESTO Device Refresh (\$200K)	(\$565,500)	(0.2%)
	Transit Fleet Reserve Inflationary Increase	\$ 207,470	0.1%
TOLL	Reduced Energy Costs LED Streetlighting	(\$183,000)	(0.1%)
ALL PW	Employee Related Costs (Net) - Excludes ERC related to Underperforming Routes	\$4,585,750	1.8%
	Insurance and Vehicle Insurance Charges	\$486,540	0.2%
	Computer Hardware Lease Charges - New Subscription based	\$208,420	0.1%
	Fuel – Diesel & Unleaded (Rate decrease from 1.04/L Diesel and 1.10/L Unleaded to 1.00/L for both)	(\$890,510)	(0.3%)
	Right Sizing Budget	(\$410,440)	(0.2%)

() Denotes budget savings

96

HISTORICAL BUDGET INCREASES

2018 Approved		2019 Approved		2020 Approved		2021 Preliminary	
\$ Change from 2017	% Change from 2017	\$ Change from 2018	% Change from 2018	\$ Change from 2019	% Change from 2019	\$ Change from 2020	% Change from 2020

Total Net Levy Increase 8,486,320 3.8% 11,163,190 4.8% 9,988,320 4.1% 8,018,070 3.1%

Key Drivers:

TRANSIT	10 Year Transit Strategy (Net)	2,188,000	1.0%	1,784,000	0.8%	-	-	-	-
	PRESTO Operating Agreement	356,000	0.2%	642,000	0.3%	1,243,000	0.5%	1,341,000	0.5%
	Transit Fleet Reserve	-	-	616,000	0.3%	628,000	0.3%	207,470	0.1%
	DARTS Ridership Growth	1,680,000	0.8%	4,284,000	1.9%	2,664,000	1.1%	-	-
ENVS	Curbside Waste Collection Contract - New							2,936,820	1.1%
	Organics Processing Contract - New							899,210	0.4%
What the Net Levy would be excluding Key Drivers		4,262,320	1.9%	3,837,190	1.6%	3,531,320	1.4%	2,633,570	1.0%

MULTI-YEAR OUTLOOK

Multi-Year Outlook					
2022		2023		2024	
Budget \$	% Change from 2021	Budget \$	% Change from 2022	Budget \$	% Change from 2023
Total Public Works - Tax Net Levy					
279,928,580	5.2%	291,192,200	4.0%	302,933,390	4.0%

Key Transit Drivers:

DARTS Ridership Growth	1,720,000	1,820,000	1,950,000
10 Year Transit Strategy (Net)	4,144,000	3,315,000	3,085,000
PRESTO Maintenance Agreement	380,560	189,230	207,630
Transit Fleet Reserve Inflationary Increase	229,800	252,800	276,490

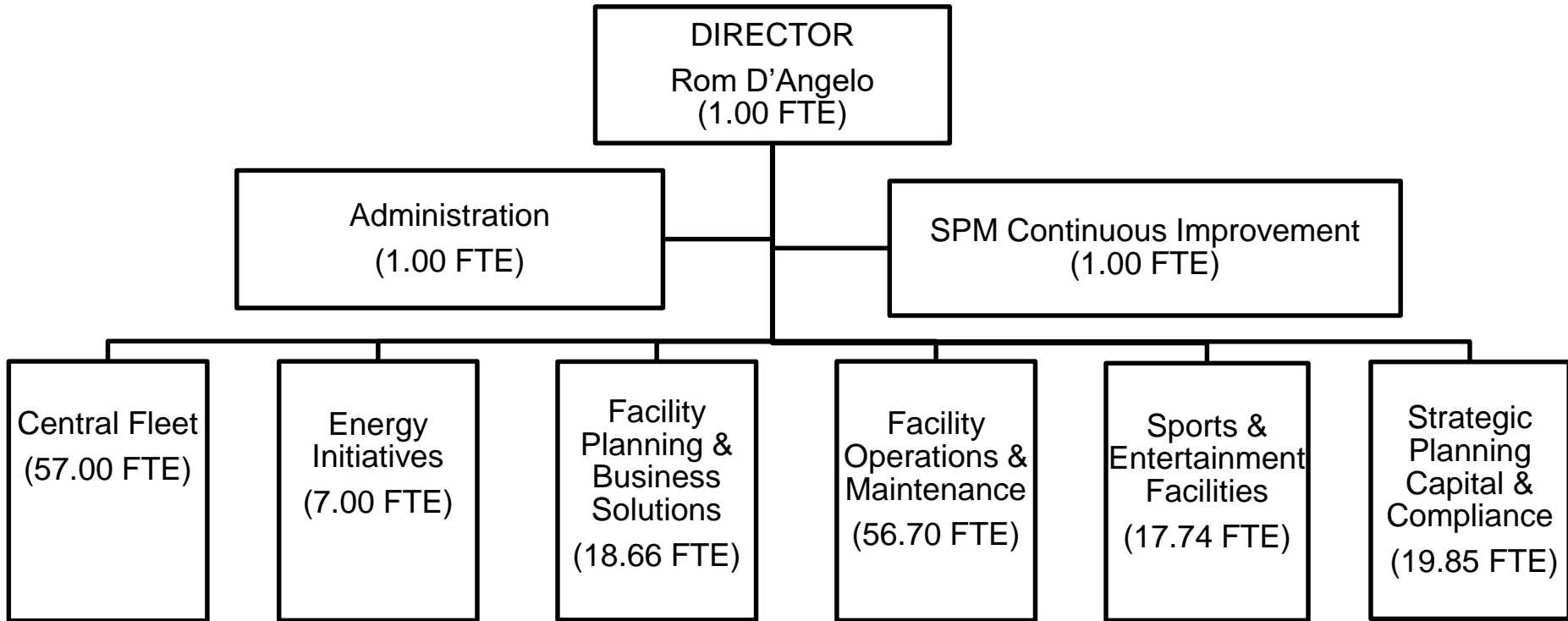
Key Environmental Services Drivers:

Various Contractual Agreements	2,562,790	1,123,390	966,230
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2021 PRELIMINARY TAX OPERATING BUDGET: Divisions



ENERGY, FLEET & FACILITIES MANAGEMENT



Complement (FTE)	Management	Other	Total	Staff to Mgt. Ratio
2020	7.00	172.95	179.95	24.71:1
2021	7.00	172.95	179.95	24.71:1
Change	0.00	0.00	0.00	

2021 OPERATING BUDGET ENERGY, FLEET & FACILITIES

Energy Fleet and Facilities

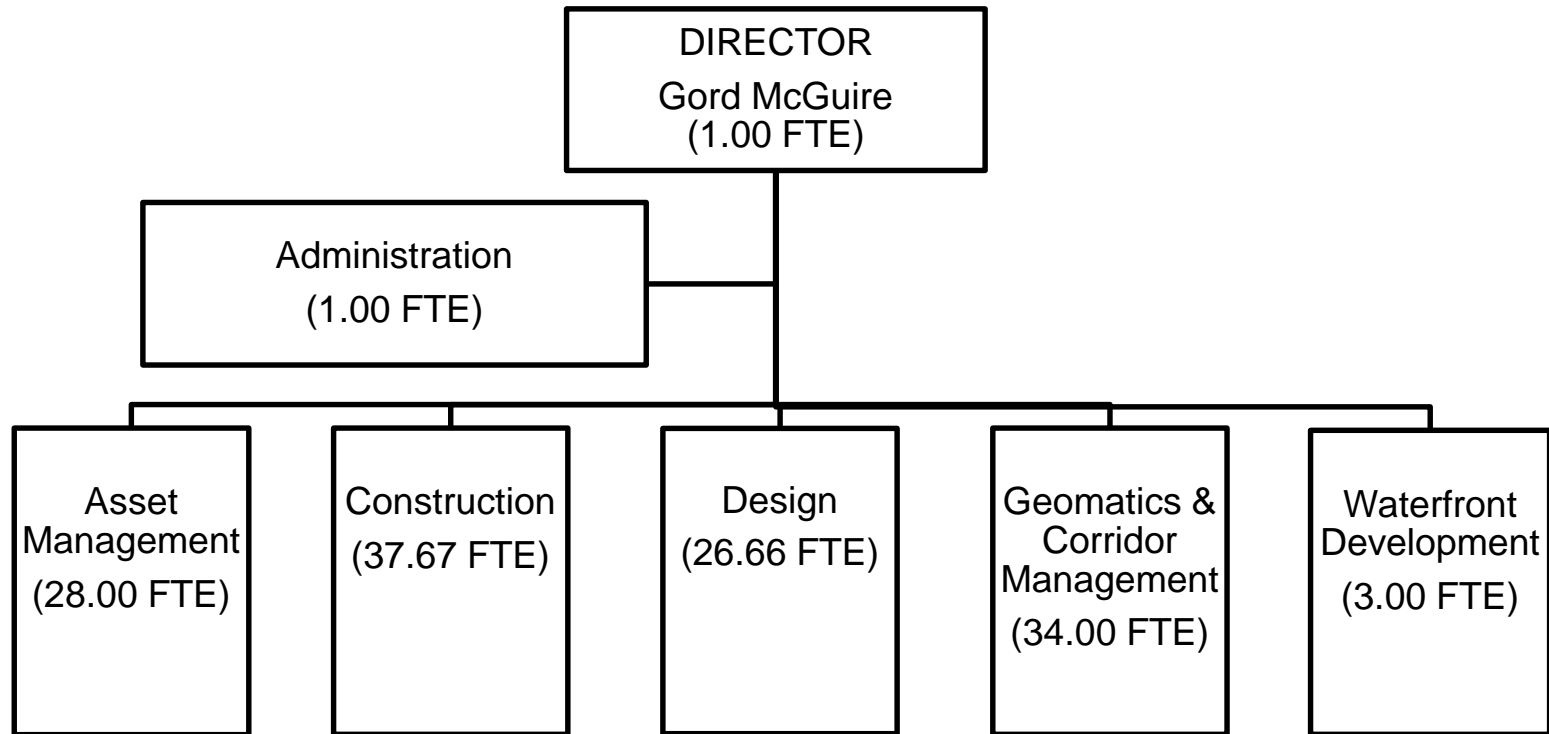
-2021 vs 2020 Net Change-

	2020 Restated Net	2021 Preliminary Gross	2021 Preliminary Net	\$	%
Fleet Services	30,990	1,488,390	62,630	31,640	102.1%
Corporate Facility Ops & Tech	2,187,480	3,371,850	1,940,150	(247,330)	(11.3%)
Facilities Planning and Business Solutions	801,460	1,628,130	942,270	140,810	17.6%
Community Facility Ops & Tech Serv	6,527,270	6,609,990	6,609,990	82,720	1.3%
Sports & Entertainment Facilities	2,907,000	6,329,710	3,097,410	190,410	6.6%
Director EFF	307,220	335,370	312,540	5,320	1.7%
Energy Initiatives	3,290	950,320	-	(3,290)	(100.0%)
Strategic Plan & Capital Compliance	14,040	2,672,620	242,440	228,400	1,626.8%
Total Energy Fleet and Facilities	12,778,750	23,386,380	13,207,430	428,680	3.4%

2021 ENERGY, FLEET & FACILITIES MANAGEMENT BUDGET DRIVERS

Item	Impact (\$000)
Contractual Pressures	\$233
Employee Related Costs (Net)	\$164
Fuel – Diesel & Unleaded	(\$111)
Insurance and Vehicle Insurance Charges	(\$43)

ENGINEERING SERVICES



Complement (FTE)	Management	Other	Total	Staff to Mgt. Ratio
2020	6.00	125.33	131.33	20.89:1
2021	6.00	125.33	131.33	20.89:1
Change	0.00	0.00	0.00	

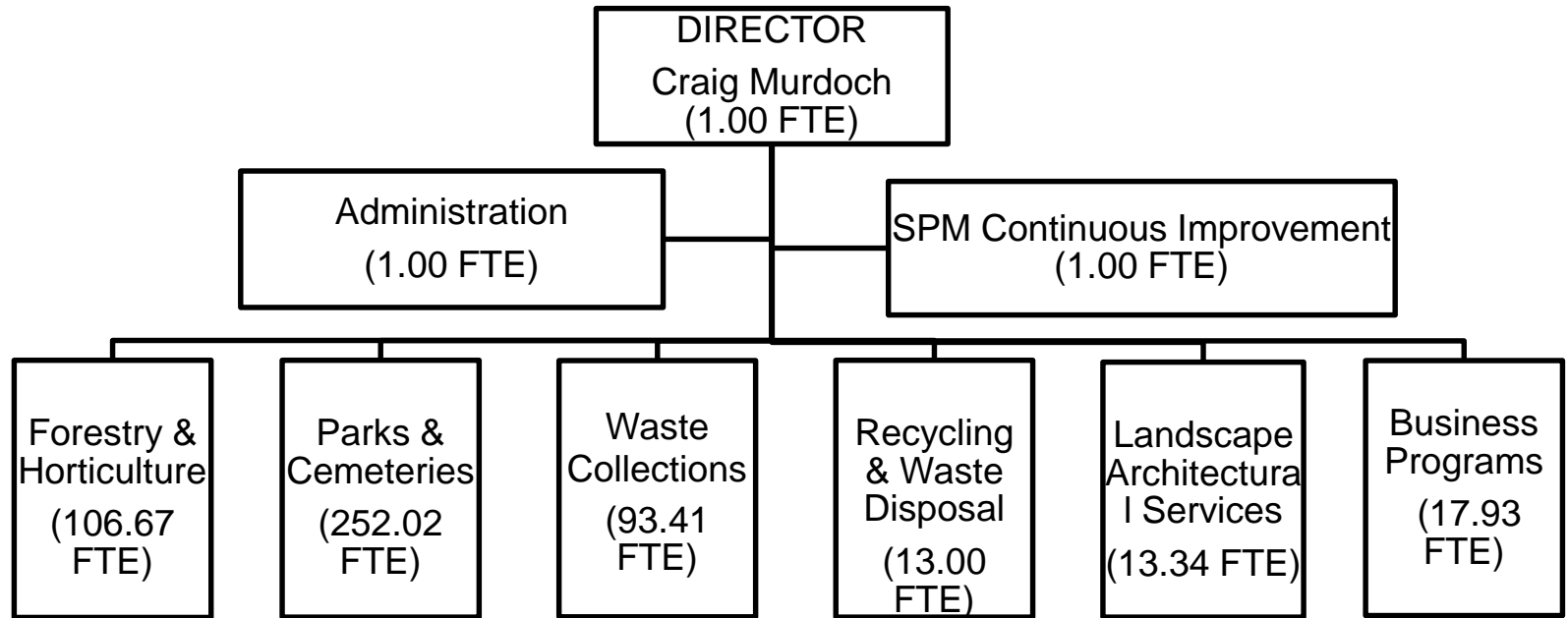
2021 OPERATING BUDGET ENGINEERING SERVICES

Engineering Services

	2020 Restated Net	2021 Preliminary Gross	2021 Preliminary Net	-2021 vs 2020 Net Change-	
				\$	%
Asset Management	-	3,555,150	-	-	0.0%
Construction	-	4,838,800	-	-	0.0%
Design Services	-	3,070,970	-	-	0.0%
Director of Engineering Services	-	2,014,590	-	-	0.0%
Geomatics and Corridor Management	-	7,082,980	-	-	0.0%
Waterfront Development	-	681,430	-	-	0.0%
Total Engineering Services	-	21,243,920	-	-	0.0%

- Costs are mainly recovered from capital

ENVIRONMENTAL SERVICES



Complement (FTE)	Management	Other	Total	Staff to Mgt. Ratio
2020	7.00	497.21	504.21	71.03:1
2021	7.00	497.37	504.37	71.05:1
Change	0.00	0.16	0.16*	

* Increase of 0.16 FTE for the floral beautification of traffic islands and medians (approved under Public Works Committee Report 20-007)

2021 OPERATING BUDGET ENVIRONMENTAL SERVICES

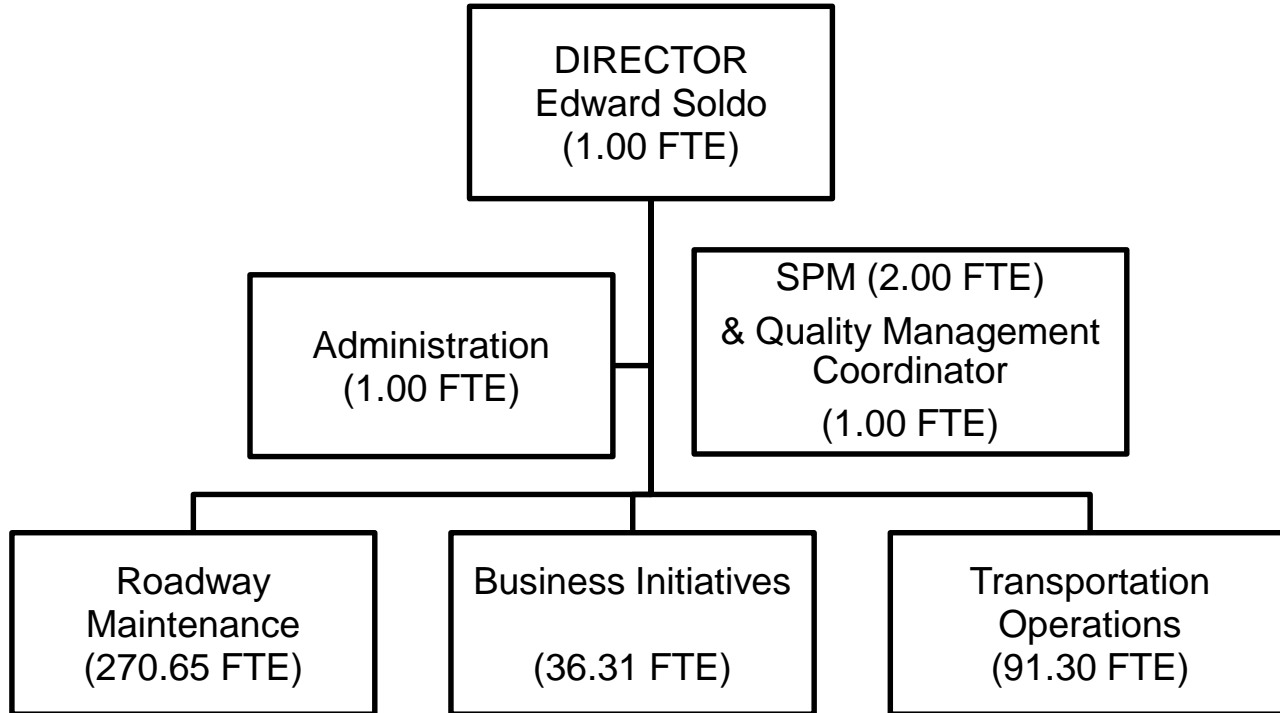
Environmental Services

	-2021 vs 2020 Net Change-				
	2020 Restated Net	2021 Preliminary Gross	2021 Preliminary Net	\$	%
Recycling & Waste Disposal	7,282,090	21,736,110	8,343,560	1,061,470	14.6%
Waste Collections	32,884,030	36,136,670	36,094,670	3,210,640	9.8%
Business Programs	2,173,310	2,470,940	2,353,990	180,680	8.3%
Director Environ Services	(699,450)	(701,070)	(701,070)	(1,620)	0.2%
Forestry & Horticulture	13,366,270	15,046,150	13,658,030	291,760	2.2%
Landscape & Architectural Serv	109,740	2,079,200	104,050	(5,690)	(5.2%)
Parks & Cemeteries	27,793,910	31,158,830	28,502,670	708,760	2.6%
Total Environmental Services	82,909,900	107,926,830	88,355,900	5,446,000	6.6%
Amendment - Blue Box Municipal Funding Allocation				(1,389,850)	(1.7%)
Total Environmental Services - Tax Less Amendments				4,056,150	4.9%

2021 ENVIRONMENTAL SERVICES BUDGET DRIVERS

Item	Impact (\$000)
Curbside Waste Collection Contract	\$2,937
Recycling Program Revenue Pressure	\$1,492
Employee Related Costs (Net)	\$1,049
Organics Processing Contract	\$899
Recycling Processing Contract	\$598
Insurance and Vehicle Insurance Charges	\$222
Transfer Station / Community Recycling Centres Contract	(\$1,543)
Increased Blue Box Municipal Funding Allocation	(\$1,390)
Right Sizing Budget	(\$355)
Fuel – Diesel & Unleaded	(\$153)

TRANSPORTATION OPERATIONS & MAINTENANCE



Complement (FTE)	Management	Other	Total	Staff to Mgt. Ratio
2020	4.00	399.26	403.26	99.82:1
2021	4.00	399.26	403.26	99.82:1
Change	0.00	0.00	0.00	

2021 OPERATING BUDGET

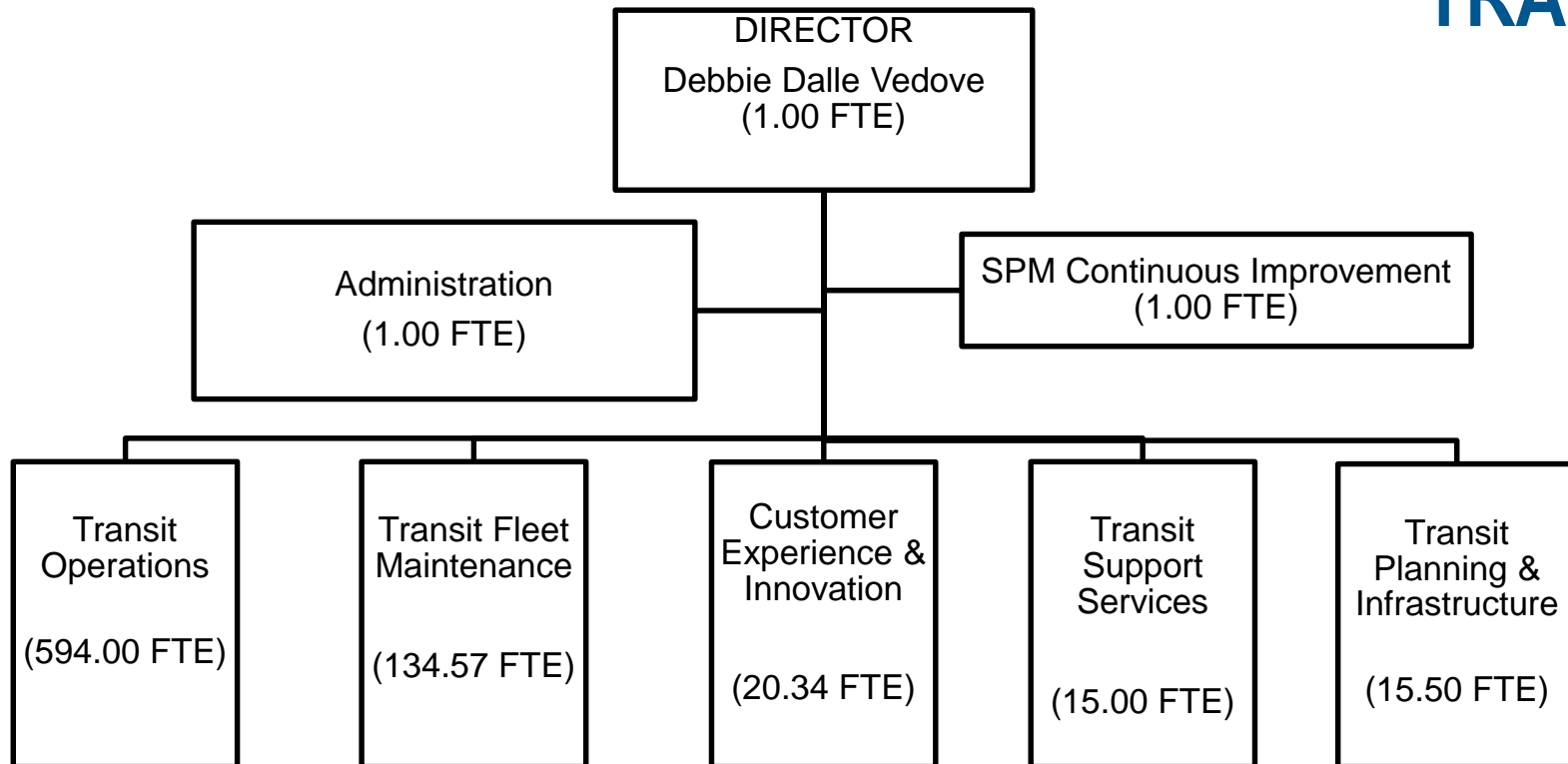
TRANSPORTATION OPERATIONS & MAINTENANCE

Transportation Operations & Maintenance

	-2021 vs 2020 Net Change-				
	2020	2021	2021	\$	%
	Restated Net	Preliminary Gross	Preliminary Net		
Roadway Maintenance	63,159,250	65,876,140	63,672,100	512,850	0.8%
Director – Trans Ops & Mtce	(627,440)	(624,700)	(624,700)	2,740	(0.4%)
Transportation Operations	15,710,570	24,621,970	15,875,160	164,590	1.0%
Business Initiatives	4,004,900	4,214,120	4,154,720	149,820	3.7%
Total Transportation Operations & Maintenance	82,247,280	94,087,530	83,077,280	830,000	1.0%

2021 TRANSPORTATION OPERATIONS & MAINTENANCE BUDGET DRIVERS

Item	Impact (\$000)
Employee Related Costs (Net)	\$898
Insurance and Vehicle Insurance Charges	\$266
Fuel – Diesel & Unleaded	(\$226)
Savings in Energy / Streetlighting Costs	(\$183)
Right Sizing Budget	(\$55)



Complement (FTE)	Management	Other	Total	Staff to Mgt Ratio
2020	6.00	782.41	788.41	130.40:1
2021	6.00	776.41	782.41	129.40:1
Change	0.00	(6.00)	(6.00)*	

* Decrease of 6 FTE due to underperforming routes (approved under report PW20015)

2021 OPERATING BUDGET TRANSIT

Transit

-2021 vs 2020 Net Change-

	2020 Restated Net	2021 Preliminary Gross	2021 Preliminary Net	\$	%
Customer Experience and Innovation	25,947,090	28,470,780	26,044,480	97,390	0.4%
Transit Planning and Infrastructure	2,964,980	3,030,870	3,030,870	65,890	2.2%
Support Services	2,098,650	1,802,990	1,801,990	(296,660)	(14.1%)
Director of Transit	127,110	140,730	140,730	13,620	10.7%
Financial Charges & General Revenue	(35,618,720)	17,669,230	(33,557,140)	2,061,580	(5.8%)
Operations HSR	50,439,060	58,255,830	51,355,470	916,410	1.8%
Transit Fleet	32,108,770	32,148,140	31,938,300	(170,470)	(0.5%)
Total Transit	78,066,940	141,518,570	80,754,700	2,687,760	3.4%

2021 TRANSIT BUDGET DRIVERS

Item	Impact (\$000)
Employee Related Costs (Net) – Excludes Underperforming Routes	\$2,382
Reductions to Underperforming Routes (PW20015) (Employee related costs \$857K & Vehicle \$103K)	(\$960)
Contribution to Reserve to fund PRESTO commissions that will be incurred when ridership recovers	\$1,341
Elimination of Paper Fare Media (\$366K) & PRESTO Device Refresh (\$200K)	(\$566)
Transit Fleet Reserve Inflationary Increase	\$207
Fuel – Diesel & Unleaded	(\$395)



Hamilton

THANK YOU