



Town of Caledon Operations Service Plan – **Council Workshop**

September 6, 2023
Council Chambers

6311 Old Church Rd, Caledon East, ON L7C 1J6

Today's Workshop Agenda



PROJECT OVERVIEW



EXECUTIVE SUMMARY



BENCHMARKING AND
DESIRED FUTURE STATE



OPPORTUNITY
ANALYSIS



COST
BENEFITS/RISKS OF
IMPLEMENTING THE
OPPORTUNITIES



IMPLEMENTATION PLAN

Project Overview

Objective

Develop Operations Service Plan that is:

- Suitable – Meet community needs, and as it grows
- Effective – Deliver quality services
- Efficient – Use resources efficiently (people, space, equipment, technology)

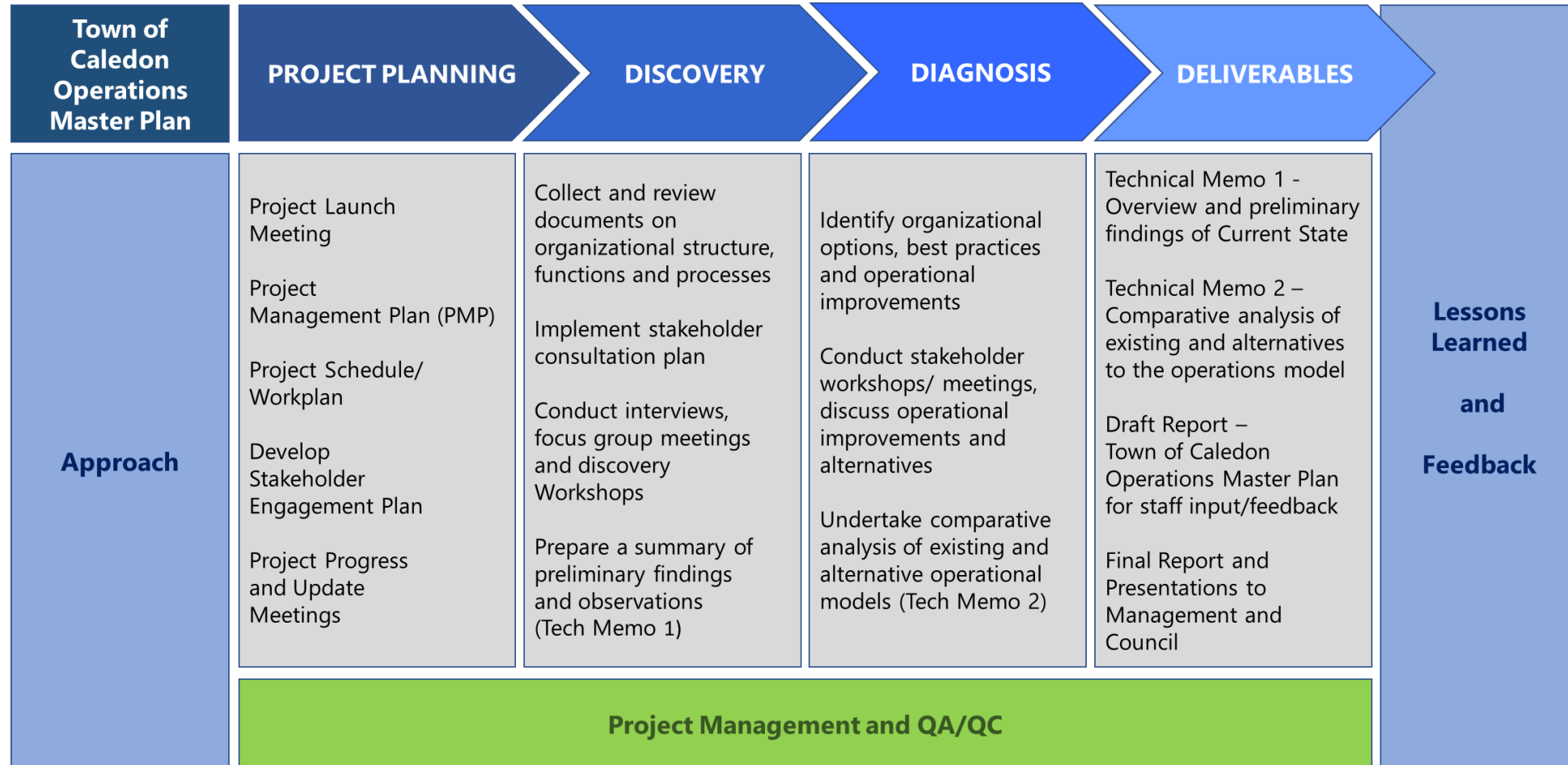
Scope

- Roads
- Fleet
- Forestry
- Parks
- Operations Administration

Action

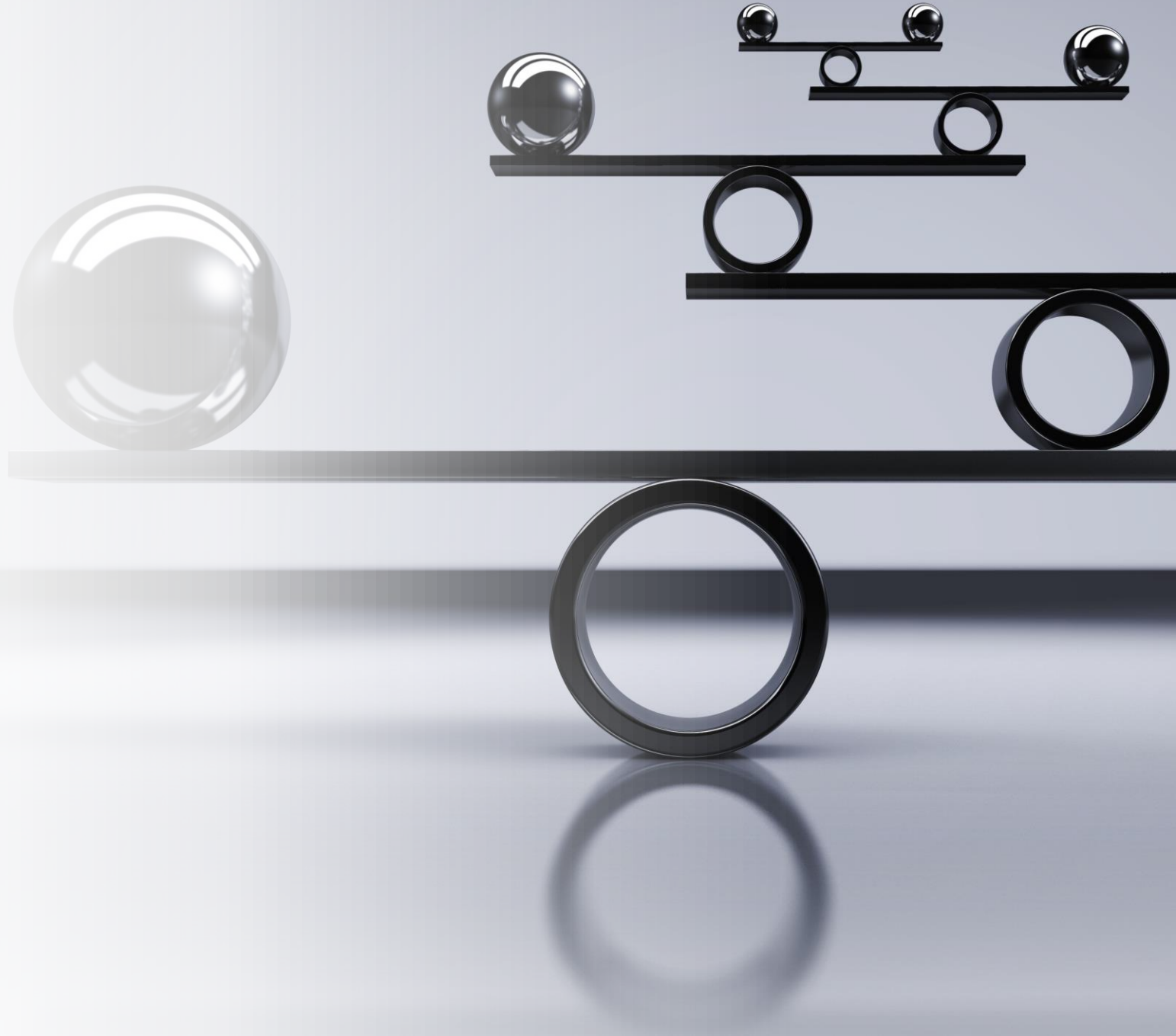
- Define current & future state – levels of service
- Identify needs to deliver the LOS – current and future – people, process, technology, space
- Recommendations:
 - Enhanced level of service and cost implications
 - Financial requirements
 - Scatterplot (ease of implementation vs expected benefits)

Proposed Project Approach





Executive Summary



Strengths

- Staff are engaged and invested
- Leadership team is invested and cooperative
- Asset management baseline is established
- Impact of growth is monitored
- Responsive and positive customer service culture
- There is a practical understanding of the objectives of the Operations Department
- Staff technical knowledge and awareness is strong and evident

Weaknesses (or Limitations)

- Inconsistent reporting relationships & span of control
- Training is not consistently planned, documented, or evaluated
- Overall service levels are not clearly defined or documented
- Technology is not fully utilized - systems exist for the recording of data but useful measurement and monitoring is not consistently occurring
- Operational impacts within asset management not considered
- Operational procedures and guidance materials have information gaps and lack consistent document control
- No operational risk inventory or documented controls
- Staffing Resources are stretched and not set up for GROWTH

Desired Future State (DFS) Model



Customers & Services

- Customer satisfaction & Stakeholder relationship management
- Defined Service Levels



Operations & Processes

- Efficiency and Effectiveness
- Day to Day Operations



Technology & Information

- Data, Information, Knowledge, Decisions
- Technology Solutions
- Document & records control



People & Culture

- Structure, Training, Compensation
- Communication, Teamwork, engagement
- Leadership



Finances & Assets

- Infrastructure and Assets
- Financial and Commercial Management



Strategy & Tracking

- Mission, Vision and Priorities
- Key Performance Indicators
- Risk Management
- Continual improvement

- MVU identified >100 opportunities in our review
- To guide the Town towards its desired future state
- We scored each opportunity in collaboration with staff
- We defined 33 priority opportunities across all model categories

Net Benefits
Potential for \$1.62 M
Annual Operating Efficiencies

Growth Model

INPUTS

RESIDENTIAL MODEL		
Proposed new development:	INPUT: Proposed additional road length (m)	INPUT: Proposed area to be developed (ha)
	6200	50

EMPLOYMENT LAND MODEL		
Proposed new development:	INPUT: Proposed additional road length (m)	INPUT: Proposed area to be developed (ha)
	1883	2

OUTPUTS

RESIDENTIAL MODEL			
Corresponding new infrastructure to assume:	Road (m)	--	5,119
	Road lanes (m)	--	9,672
	Storm main (m)	--	5,119
	Sidewalk (m)	--	16,258
	Streetlights	--	190
	Curb & gutter (m)	--	16,258
	Storm pond area (m2)	--	103,228
	Street trees	--	813
Additional staff and equipment needs	+ FTE (roads + parks)	1.4	4.1
	+ Plow units (roads)	0.1	0.4
	+ Plow units (sidewalk)	0.6	1.2
	+ Annual operating cost	\$28,560	\$61,824.73
EMPLOYMENT LAND MODEL			
Corresponding new infrastructure to assume:	Road (m)	--	75
	Road lanes (m)	--	151
	Storm main (m)	2,136	5,999
	Sidewalk (m)	3,766	16,258
	Streetlights (#)	49	190
	Curb & gutter (m)	3,766	16,258
	Storm pond area (m2)	84,254	103,228
	Street trees	188	813
Additional staff and equipment needs	+ FTE (roads + parks)	1.4	4.1
	+ Plow units (roads)	0.1	0.4
	+ Plow units (sidewalk)	0.6	1.2
	+ Annual operating cost	\$28,560	\$61,824.73
TOTAL			
Corresponding new infrastructure to assume:	Road (m)	8,129	8,129
	Road lanes (m)	15,566	15,566
	Storm main (m)	5,999	5,999
	Sidewalk (m)	16,258	16,258
	Streetlights (#)	190	190
	Curb & gutter (m)	16,258	16,258
	Storm pond area (m2)	103,228	103,228
	Street trees	813	813
Additional staff and equipment needs	+ FTE (roads + parks)	4.1	4.1
	+ Plow units (roads)	0.4	0.4
	+ Plow units (sidewalk)	1.2	1.2
	+ Annual operating cost	\$61,824.73	\$61,824.73

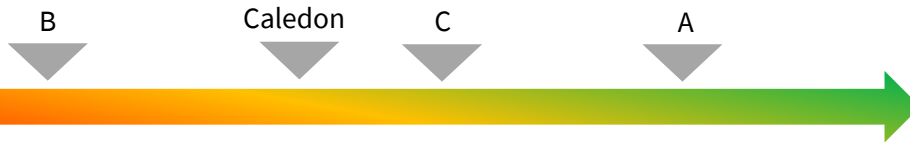
The image is a composite. On the left, a close-up of a human eye is shown, with a digital overlay consisting of concentric circles, dashed lines, and hexagonal shapes. The eye's iris is replaced by a digital globe. On the right, a futuristic, semi-transparent interface is visible, featuring various panels with graphs, data readouts, and control buttons. The interface has a dark, industrial aesthetic with orange and white highlights. The overall theme is technological and futuristic.

Current State, Benchmarking and Desired Future State

Comparator Municipalities

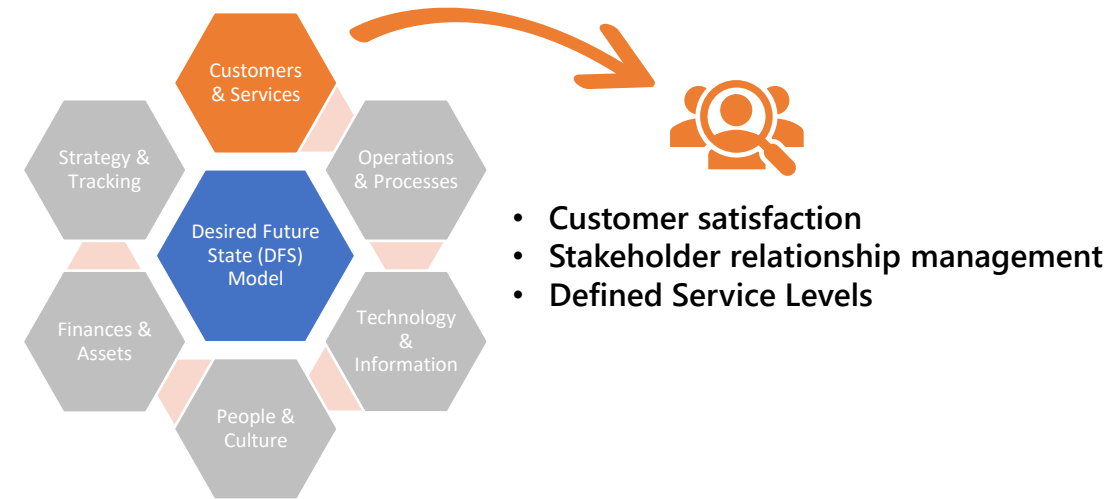
Municipality	Upper Tier	Population	Expected Growth	Area (km2)	Characteristics	Roads (Total Lane km) (Various type)	Bridges and Culverts (No.)	SWM Facilities (No.)
Town of Caledon	Peel Region	76,581	2031 112,000 (people) 52,000 (jobs) 2051 300,000 (people) 92,000 (jobs)	688	One large urban centre (Bolton) and Village of Caledon East, several smaller hamlets	831	78	Sewer 179km Ponds 55
Municipality of Clarington	Durham Region	105,000	2031 Urban 124,685 Rural 15,655 Total 140,340 Employment 38,420	610	4 urban centres – Courtice, Bowmanville, Newcastle and Orono 14 Hamlets	899	272	Ponds 38 Sewer 260 MH 4072 CB 6378 Structures 184 OGS 13
King Township	York Region	25,400 (people) 9640 (jobs)	2031 34,900 (people) 11,900 (jobs)	330	3 villages – King City, Nobleton, Schomberg Countryside	490	78	Not known
Town of Fort Erie	Niagara Region	30,710	2041 43,940 (people) 17,240 (jobs)	168	5 Hamlets – Bridgeburg, Ridgeway, Crystal Beach, Stevensville and Douglastown	423	179	123km sewer 2093 MHs

Customers and Services



Caledon Current State

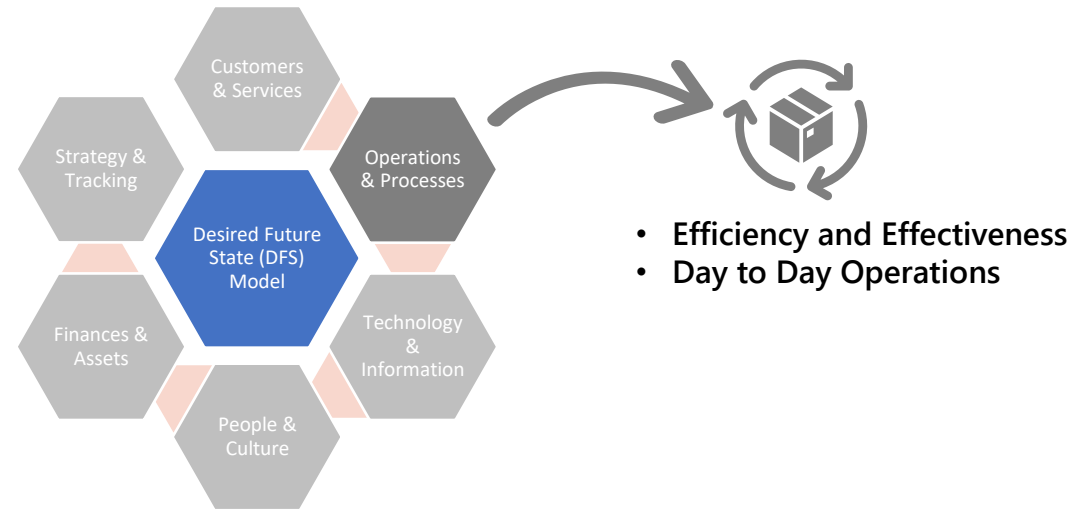
- Service Levels known, but some are ad hoc or reactionary, not approved by Council
- Customer contacts mostly centralized but not always tracked in Citywide – after hours calls taken by Peel
- Service levels not clearly communicated online
- Service offerings mostly in person or information relayed via phone – digital offerings minimal
- Customer satisfaction not regularly carried out or tracked
- Internal stakeholder meetings held regularly, external stakeholder meetings more adhoc



Ideal Future State

- Service levels defined, approved by Council and communicated to staff
- All customer contacts are centralized and documented accordingly
- Information regarding services clear and well communicated to the public via numerous platforms (website, tax fliers, etc.)
- Omni channel service offerings (same services offered online, over the phone and in person)
- Bi-annual customer satisfaction surveys
- Regular meetings with key stakeholders – internal and external (i.e. Peel, MTO, Engineering, etc.)

Operations & Processes



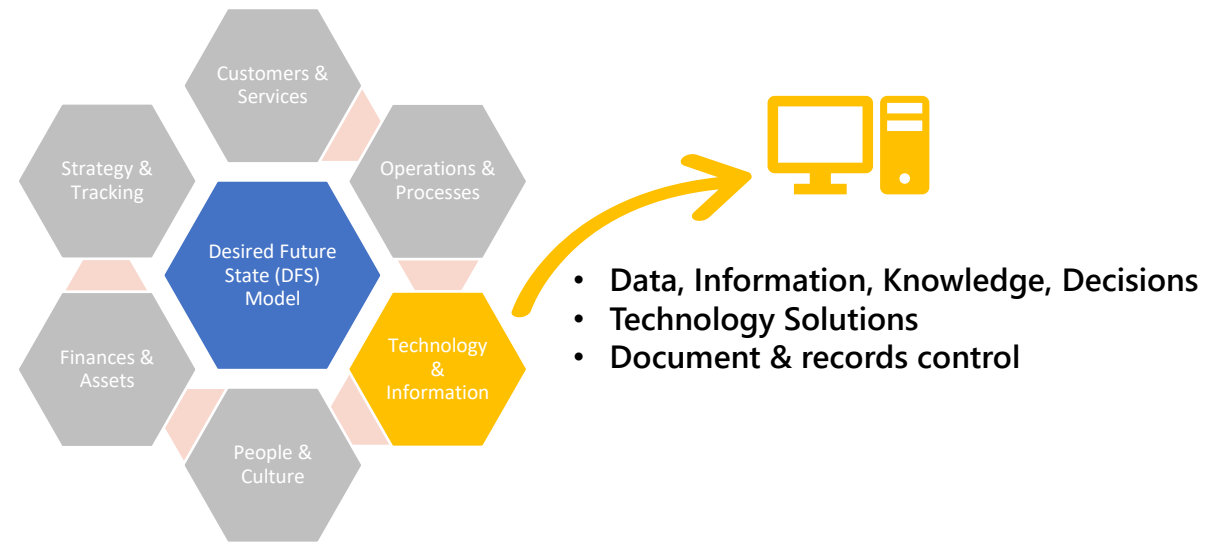
Caledon Current State

- Many SOPs written with excellent content, but no document control and not clearly communicated to staff
- Patrol routes and winter plowing routes not digital and not always followed by operators
- Lack of inventory control systems and tracking
- Process for when to contract out not clearly defined
- Tree inventory not comprehensive
- Work orders and patrol sheets not digital
- Responsibility for traffic signs, line painting and signals not clearly defined between Operations and Engineering
- Stormwater asset inspections not regularly carried out and maintenance of ponds is ad hoc
- Yard placement and equipment storage (i.e. satellite yards) not fully explored

Ideal Future State

- One clearly defined set of SOPs, communicated and maintained
- Patrol routes for MMS and winter operations clearly defined, digitized and followed
- Inventory control system implemented, and material tracked against work orders
- Clear guidelines and processes developed for when to use internal staff and when to contract out
- Accurate and comprehensive tree inventory established
- Work orders and patrol documentation digitized and tracked against standards and completion
- Clear roles and responsibilities around signs, line painting and traffic management
- Inspection and maintenance of stormwater assets (ponds, pipes, CBs, etc.) carried out on a regular basis
- Efficient placement of yards and equipment storage to minimize travel

Technology and Information



B C Caledon A

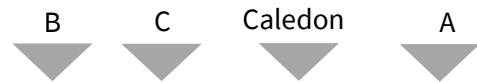
Caledon Current State

- Data, Information and records management ad hoc
- AVL installed but data not fully analyzed
- Road Patrol done with human vision and inputted manually
- Work orders and customer responses on paper and inputted manually into Citywide/EMDECS
- Patrolling and plowing maps on paper
- Sporadic asset inventories
- Many redundant/repetitive codes in Citywide and EMDECS data framework still needing work
- Very little operational and customer service digitization

Ideal Future State

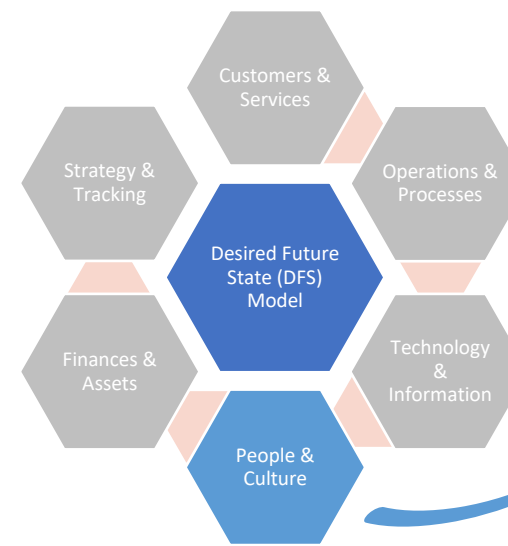
- Systems for tracking data, information and records control fully implemented
- AVL fully implemented and utilized to its potential
- Artificial Intelligence (AI) systems used for road patrol and digital logbooks
- Tablets/Toughbook used in the field by staff for workorders, customer service and time entry
- All routing maps digitized on GIS for ease of manipulation
- Full asset inventories documented and up to date
- EMDECS and Citywide fully implemented and codes reduced/cleaned
- Operations and customer service digitization

People and Culture



Caledon Current State

- Structure does not follow organization design principles (legacy reporting structures)
- Good health & safety training offered but tracked manually, technical training (HEO, Roads School, Arborist, etc.) more ad hoc
- Leadership training by request and budget
- No formal succession planning in place
- Communication with staff not occurring regularly, as well many staff do not have email or access to computer
- No stand-by pay for operators in the winter
- Staff engagement survey carried out 2 years ago
- No formal recruitment and retention strategy

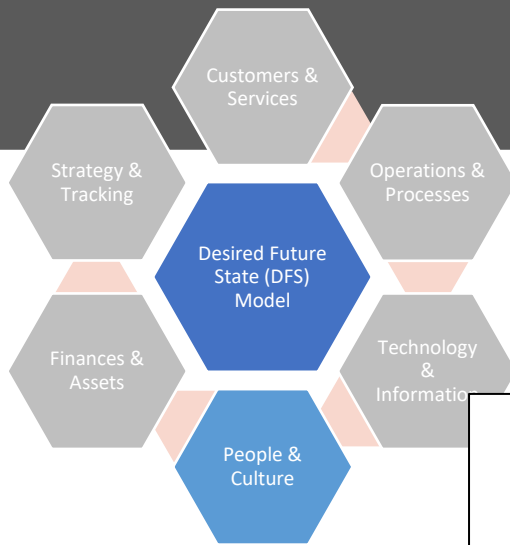


- Structure, Training, Compensation
- Communication, Teamwork, engagement
- Leadership

Ideal Future State

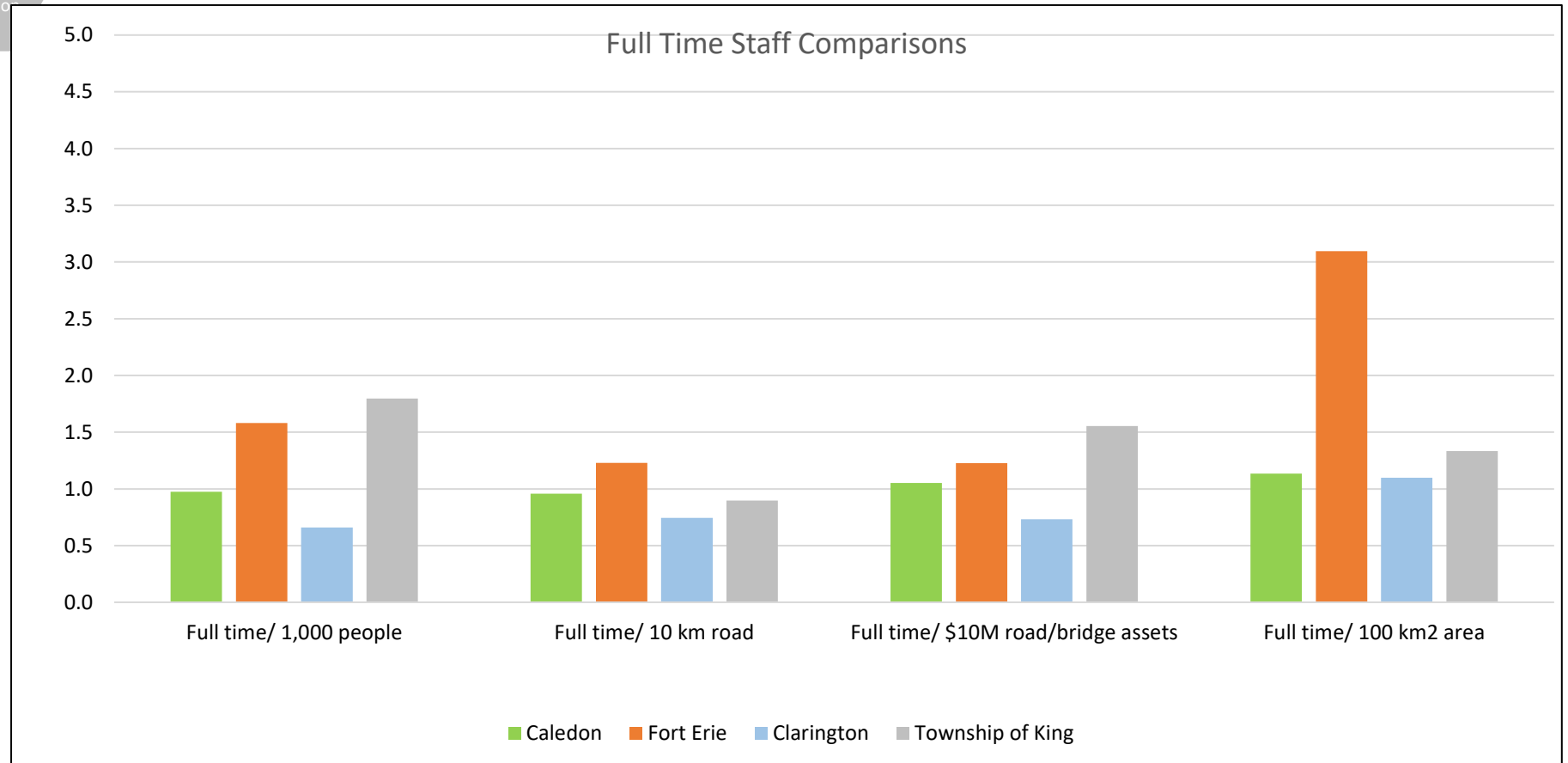
- Appropriate structure with sustainable span of control and reporting relationships
- Technical and health & safety training for frontline staff developed, offered and tracked digitally
- Leadership training for supervisory staff and above
- Succession planning program in place with mentoring and critical roles identified
- Ongoing and regular communication with staff
- Appropriate compensation and stand-by pay for staff and supervisors
- Regular staff culture and engagement surveys and follow up on results
- Comprehensive recruitment and retention strategies

People and Culture



People & Culture

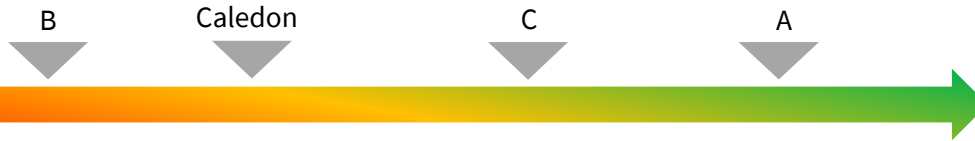
- Structure, Training, Compensation
- Communication, Teamwork, engagement
- Leadership



Finances and Assets



- Infrastructure and Assets
- Financial and Commercial Management



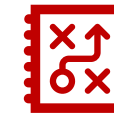
Caledon Current State

- Operations is running 'thin' on resources in relation to infrastructure needs, legislative and growth
- Asset Management plan exist for core assets; however, many areas have data gaps and high-level estimates for future infrastructure needs
- Long term funding strategy does not fully address infrastructure deficit in the near or long term
- Operations budget is reasonably tracked
- Capital impact to operating budget is not included annually in the operating budget impacts
- There are appropriate controls in place for purchasing and operating but not for inventory

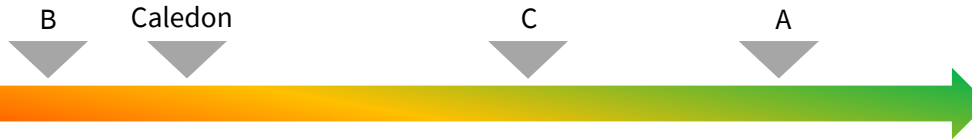
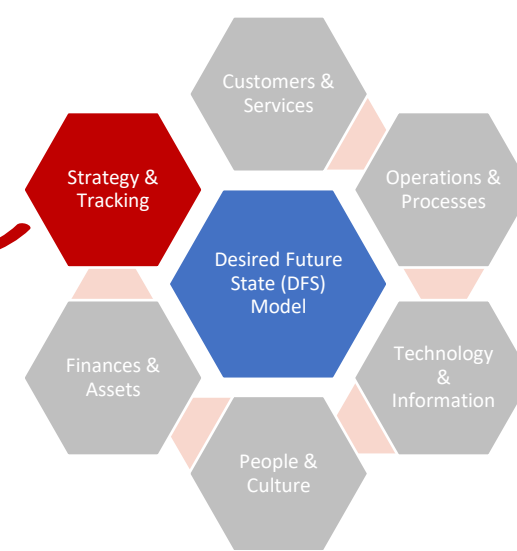
Ideal Future State

- Appropriately funded and resourced operations
- Comprehensive Asset Management Plan (AMP) for both core and non-core assets
- Long term funding strategy to address infrastructure needs and/or deficits
- Capital budget is 85% to 90% spent annually
- Accurate and well tracked operations budget
- Capital impact to operating reported and included annually in the budget
- Appropriate controls in place for purchasing, inventory and operating expenditures

Strategy and Tracking



- Mission, Vision and Priorities
- Key Performance Indicators
- Risk Management
- Continual improvement



Caledon Current State

- Mission, Vision and Values exist corporately
- Priorities have been established by the Operations management team
- Key Performance Indicators have not been established and are not tracked or reported on
- Some ad hoc risk assessments have been completed but not formally documented or action plans put in place to address or reduce risk
- Continuous improvement initiatives are carried out in an informal approach

Ideal Future State

- Mission, Vision and Values documented and communicated to staff and the public
- Priorities identified and a clear work plan exist, with appropriate resources to achieve them
- Key Performance Indicators (KPIs) are established, tracked and reported on to ensure progress toward achieving the priorities
- Risk assessments are completed and incorporated into the priorities
- Continual improvement processes are in place to mitigate risk and realize efficiencies

Opportunity Analysis



Scoring the Opportunities

- MVU identified >100 opportunities in our review
- To guide the Town towards its desired future state
- We scored each opportunity in collaboration with staff
- We defined 33 priority opportunities across all model categories

**All opportunities identified have merit and
could be considered**

Scoring Criteria

1.Ease of Implementation

Score	Highly Positive / Advantageous	Moderately Positive	Somewhat Positive/ Neutral
	3	2	1
Ease of Implementation			
Ease of implementation/ change	Relatively simple, smaller process or procedural changes, less formalities or legal requirements	Moderate changes, changes require consultation with some stakeholders	Difficult, changes required across the organization, formal planning required, require consultation with many stakeholders
Time to implement	Prompt, swift change within one to two quarters	Moderate timing, within one year	Extended timing, at least one or more years
Costs to implement	Low operating and/or capital costs to implement, no debt incurred	Moderate costs to implement, some debt incurred	Higher costs to implement, likely that significant debt may be incurred or long term costs

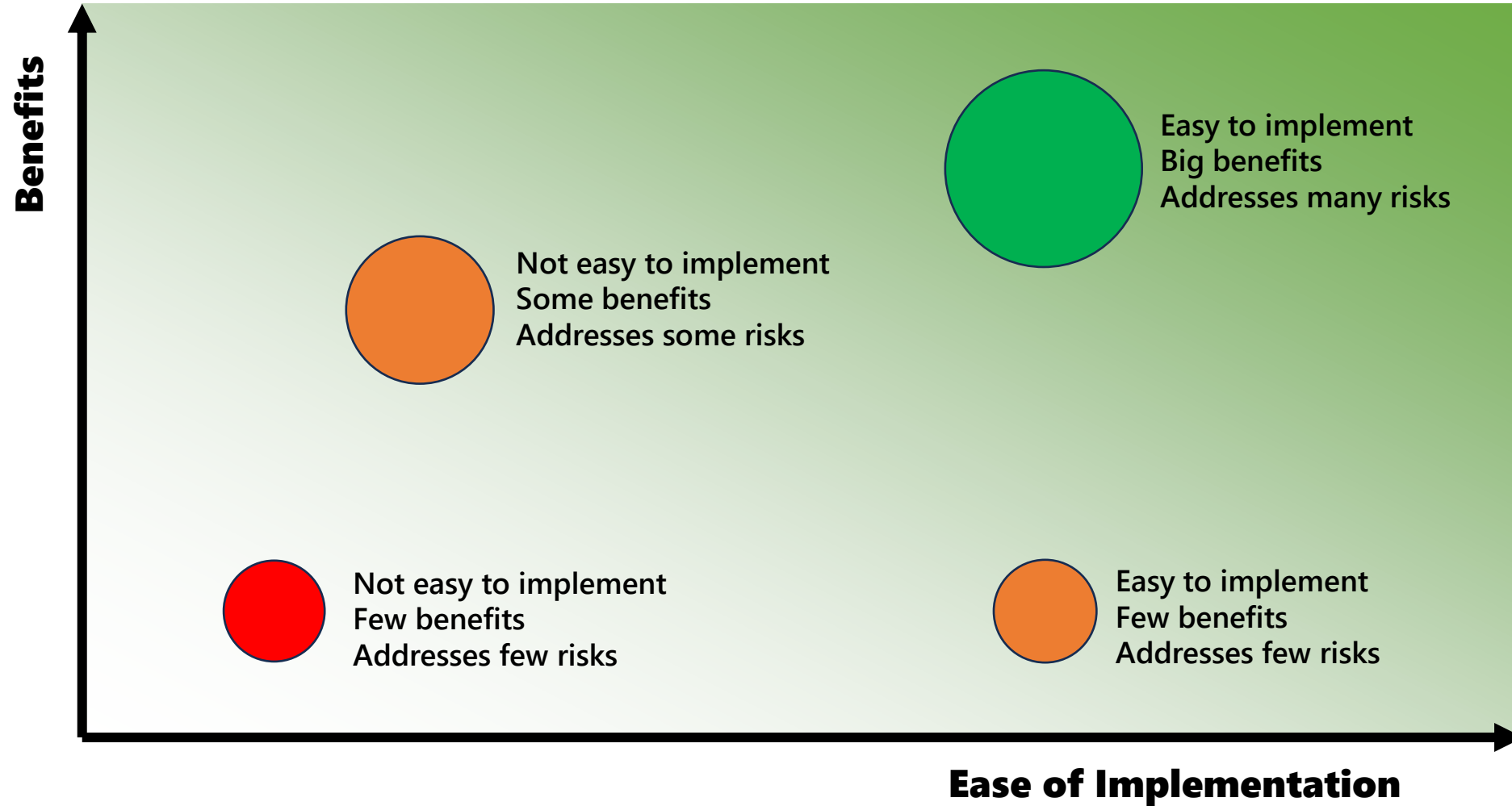
2.Benefits

Benefits			
Cost Savings	Substantial, repeatable cost savings expected	Moderate cost savings expected	Minor/No cost savings expected
Customer Experience	Customers will experience enhanced service or improved value for money	Customers may experience service improvements or more value for money	Customers likely will not experience improvements
Service Levels	Service levels will be improved and aligned across all municipalities	Service levels may be improved in some municipalities	No service levels improvements are expected

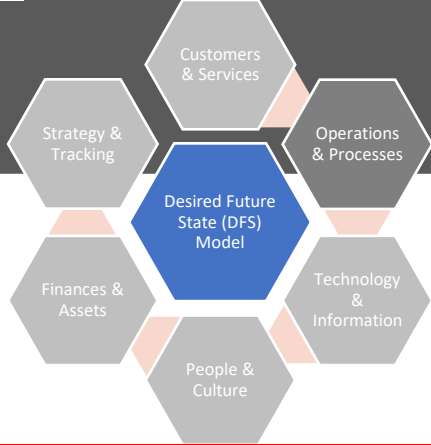
3.Types of Risk Addressed

Public Health	Public Safety	Regulatory Compliance	Environmental	Private Property	Financial	Service to the Customer	Organizational Reputation
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Plotting the Opportunities



Operations and Processes



Operations & Processes

- Efficiency and Effectiveness
- Day to Day Operations

Q1 Augment Repair of Fire Vehicles with Additional Contract Resources

Q2 Establish & implement a storm water ponds maintenance program

Q3 Implement pre-wetting for salt distribution

Q4 Augment winter operations standby or on-duty for peak periods & overnight

Q5 Develop a Tree Management Program for removal of dead trees and tree planting

Q6 Clarify line painting and sign responsibilities with Engineering

Q7 Outsource winter maintenance for facilities and Fire parking lots

Q8 Develop a process to control documents and records

Q9 Develop and implement consistent SOPs including change management

Q10 Develop an Invasive Species Management Program

Q11 Develop inventory control or stores for Fleet and yards

Q12 Clearly define road patrol duties and routes

Q13 Explore cost-benefit of outsourcing select services

Q14 Update engineering and urban design standards

Q15 Develop a Playground Inspection and Repair Program

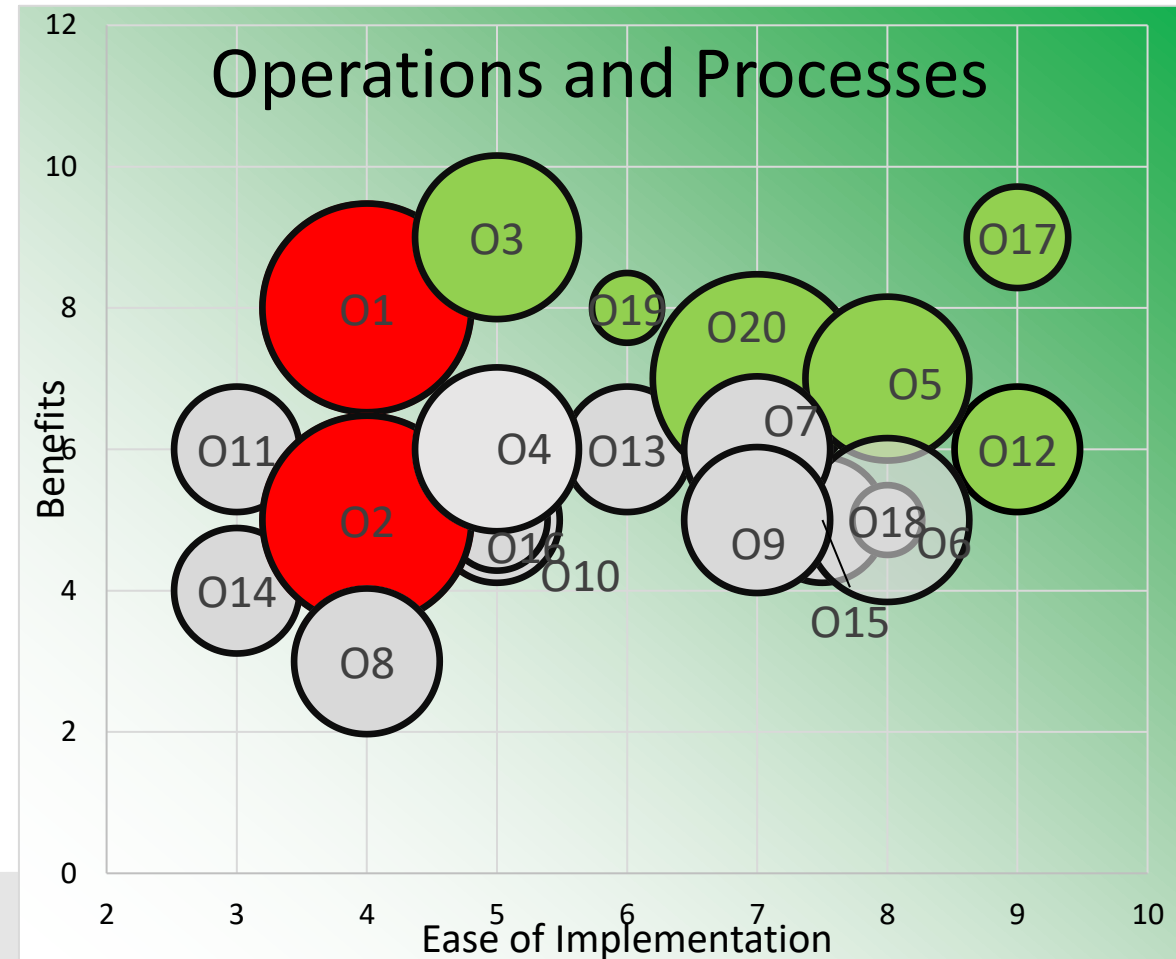
Q16 Integrate pre & post inspections into catchbasin cleanouts

Q17 Optimize winter plowing routes and digitize route mapping

Q18 Develop a horticulture strategy

Q19 Establish satellite locations for equipment storage

Q20 Develop a Proactive Roadside Ditching Program



Costs, Benefits & Risks of Implementing Opportunities





Customers and Service

Prioritized Opportunity	Code	Ongoing Operating Cost	One Time Capital Cost	Operating Savings or Cost Avoidance	One Time Capital Savings	General Benefits & Risks Addressed	Status
Define Service Levels and have them approved by Council	C 2					- Clearly defined baseline for communication, budgeting, and risk decisions	
Enhance snow fence program	C 4	\$51,000		\$50,000		- Liability risk related to road conditions from drifted snow significantly reduced	
Implement QR codes on garbage cans in parks and trails	C 5		\$20,000	\$50,000		- Service level improvement to the customer - Improved park cleanliness - Customer satisfaction improvements	



Operations and Processes

Prioritized Opportunity	Code	Ongoing Operating Cost	One Time Capital Cost	Operating Savings or Cost Avoidance	One Time Capital Savings	General Benefits & Risks Addressed	Status
Augment Repair of Fire Vehicles with Additional Contract Resources	O 1	\$300,000	\$200,000	\$200,000		- Reduced liability with fire fleet maintenance and down time for equipment. Once new fleet facility is built this operating funding could come in-house with 2 additional mechanics	Some Fire Fleet already outsourced
Establish & implement a storm water ponds maintenance program	O 2	\$120,000				- Reduced compliance risk - Enhanced awareness of asset inventory, condition, performance - Improved accuracy in budgeting & longterm forecast	Already initiated by staff
Implement pre-wetting for salt distribution	O 3	\$2,000	\$200,000	\$200,000		- 30% reduction in salt going to the watershed. - Salt can be used at lower temperature. - Risks include added equipment and maintenance. - Reduced risk to public with faster better adhering salt	
Develop a Tree Management Program for tree planting & removal	O 5		\$600,000	\$100,000		- Reduced risk in removing high-liability dead trees, improved service for other tree issues	Mostly carried out in-house
Clearly define road patrol duties and optimize routes	O 12			\$10,000		- Liability risk related to MMS may be reduced - Optimized routing for patrols may find efficiencies to free up patrol time for other related duties	Initiated through this project
Optimize winter plowing routes and digitize route mapping	O 17			\$105,664		- Using optimized plowing routes ensure routes are followed consistently, reliably, and in accordance with MMS - Fewer missed areas or delays, consistent level of service, consistency in route coverage regardless of driver	Initiated through this project
Establish satellite locations for equipment storage at other Town facilities	O 19		\$100,000	\$72,800		Eliminate 30m drive time each way by having a satellite facility in mobilizing for certain parks work	Staff already do some of this
Develop a Proactive Roadside Ditching Program	O 20	\$150,000		\$100,000		- Reduced flooding and complaints of standing water - Improved drainage and impact on road surface - Less reactionary work performed	



Technology and Information

Prioritized Opportunity	Code	Ongoing Operating Cost	One Time Capital Cost	Operating Savings or Cost Avoidance	One Time Capital Savings	General Benefits & Risks Addressed	Status
Implement AI for MMS Road Patrol (IRIS)	T 2		\$50,000	\$100,000		<ul style="list-style-type: none"> - Creates work orders automatically and requires less input from Patroller - Liability risk related to MMS may be reduced - Reduced liability due to human error and missed deficiencies 	Staff have initiated
Enter all requests in Citywide, including Council and ad hoc	T 5			\$10,000		Improved customer service and call tracking	
Establish GIS model for all snow plow routes and MMS routes	T 7	\$100,000				<ul style="list-style-type: none"> - Liability risk related to MMS may be reduced - Enhanced planning of operations, coverage - Improved mapping for operators 	Developed as part of this assignment
Improve use of AVL data for reporting and analysis for improvements	T 9	\$2,000		\$52,832		<ul style="list-style-type: none"> - Liability risk related to MMS may be reduced - Enhanced awareness of operations, coverage - Data-based metrics for reporting, trending, monitoring of fleet performance, operational efficiencies, winter maintenance 	
Complete Fleet EMDECS transition and data entry with students	T 10	\$40,000		\$100,000		<ul style="list-style-type: none"> - Improved data & increased visibility into data and ability to analyze/trend - Found efficiencies in efforts completing the paperwork - Reduced errors in re-entry of repeat data 	Staff well under way in completing



People and Culture

Prioritized Opportunity	Code	Ongoing Operating Cost	One Time Capital Cost	Operating Savings or Cost Avoidance	One Time Capital Savings	General Benefits & Risks Addressed	Status
Develop a succession plan and look at ways to attract employees	P 1	\$45,000				<ul style="list-style-type: none"> - Increased staff morale, better response to vacancies - Staff feel they have a path to progress in the Town 	
Initiate an apprentice program for mechanics	P 2	\$140,000		\$162,500		<ul style="list-style-type: none"> - Enhanced succession planning with internal training - Use of apprentices to carry out less critical tasks or to assist mechanics with heavy equipment tasks that take 2 individuals 	
Implement an alternate work week	P 3			\$367,500		<ul style="list-style-type: none"> - Reduced shut down and re-mobilization costs to travel to yards for lunch - Better optics to the public having sites or equipment in unattended - Better work life balance for staff and increased morale 	
Refine organizational structure based on optimized organization principles	P 5					<ul style="list-style-type: none"> - Good management principles - All of the costs related to these business cases will fall into this strategy 	Org structure as part of this assignment
Maintain afternoon shift only for winter (also Operations)	P 7			\$100,000		<ul style="list-style-type: none"> - Increased efficiency due to limited work available in the evenings - Safer for staff to complete many tasks during daylight hours - Supervisor on afternoons can cover and float for vacation, training and take on special projects 	Staff already considering
Assign User ID and email to all Frontline staff	P 17					<ul style="list-style-type: none"> - Will improve communication and access for frontline staff - Will improve morale 	



Finances and Assets

Prioritized Opportunity	Code	Ongoing Operating Cost	One Time Capital Cost	Operating Savings or Cost Avoidance	One Time Capital Savings	General Benefits & Risks Addressed	Status
Accelerate LED retrofit to save energy costs	F 1			\$28,120		<ul style="list-style-type: none"> - 30% reduction in energy consumption and costs - Reduced GHG footprint 	Staff have started
Upgrade/expand fleet facilities	F 3		\$10,000,000	\$611,026		<ul style="list-style-type: none"> - Modernized operations, increased morale - Enhanced efficiencies and ability to plan, stock, sequence work estimate 3-5% efficiency gained - Reduced risk with lower downtime/increased in-service, reduced backlog, reduced outsourced work - Enhanced ability to wash fleet especially salt removal in winter months 	
Define & budget growth projections for new staff & equipment	F 7					<ul style="list-style-type: none"> - Model built as part of this assignment - Enhanced awareness of asset needs in the short and long term to improve financial sustainability and level of service consistency - More accurate budgeting and long term forecasting 	Model provided as part of this project - initiated
Review and re-allocate unspent capital on priority areas	F 8					<ul style="list-style-type: none"> - Good business practice, capital funds available for other priorities - Some programs underspent and WIP stretching over numerous years with little spending 	More rigor reqd
Develop a more proactive and planned approach to roads lifecycle strategies of assets	F 9		\$500,000 approximate \$50 to 75K annually	\$150,000	\$800,000	<p>Roads strategy/study incorporates long term total lifecycle costing for roads state-of-good-repair strategies, including consideration of operating impacts, rather than only consideration of construction costs.</p> <p>E.g. Renewing gravel roads with tar and chip may reduce lifecycle costs. Cost to tar and chip gravel road, which lasts approx. 6 years, has lower overall lifecycle cost when cost to maintain gravel roads is considered (regular grading, re-gravelling, dust control). Also, need for expensive grader fleet is reduced, staff hours to conduct gravel road maintenance in summer is reduced, and winter road maintenance is simplified since roads can be maintained with tandem plow.</p>	
Formalize a storm sewer inspection and cleaning program	F 10	\$250,000		\$40,000		<ul style="list-style-type: none"> - Compliance to new CLI ECA Requirements - Reduces risk of damage to private & public property from flooding - Can build date to measure developer performance 	
Streamline use of data inventory and condition data	F 13			\$50,000		<ul style="list-style-type: none"> - Enhanced awareness of asset performance in the short and long term to improve financial sustainability and level of service consistency - More accurate budgeting and long term forecasting 	



Strategy and Tracking

Prioritized Opportunity	Code	Ongoing Operating Cost	One Time Capital Cost	Operating Savings or Cost Avoidance	One Time Capital Savings	General Benefits & Risks Addressed	Status
Develop Operational Policy defined LOS and Objectives for each Service Area	S 1					<ul style="list-style-type: none">- Communication and training for staff simplified and standardized- Communication to Council and to the public is clearer	
Develop Departmental Mission and Vision	S 3					<ul style="list-style-type: none">- Good management practice- Allows management to focus on emerging issues and revisit departmental direction annually- Reduces adhoc project requests	
Develop KPIs to track progress towards goals	S 4					<ul style="list-style-type: none">- Good management practice- Set KPIs and track progress to determine if course corrections are warranted	
Overall fleet end to end management review & strategy	S 7		\$200,000	\$162,565		<ul style="list-style-type: none">- Improved efficiencies and safety- More sustainable funding- Reduced risks and down time, loss prevention of parts	One element of this opport initiated

Overall Potential Efficiencies

Investment Required

\$1.20 M Operating

\$11.17 M One-Time Capital

Net Benefits
\$1.62 M
Annual Operating
Efficiencies

Reduced risks related to:

- Compliance & Liability
- Public Health & Safety
- Reputation
- Customer Service
- Financial
- Environment & Private Property

Savings

\$2.82 M Operating

\$0.8 M Capital

An aerial photograph of a sprawling urban landscape, likely Shanghai, China. The foreground and middle ground are filled with a dense collection of high-rise buildings, including residential towers and commercial skyscrapers. A prominent green park area with a circular feature is visible in the lower center. The background shows a hazy horizon with more distant skyscrapers under a cloudy sky. The text "Implications of Growth" is overlaid in the center in a large, white, bold font.

Implications of Growth

Growth Model

INPUTS

RESIDENTIAL MODEL		
Proposed new development:	INPUT: Proposed additional road length (m)	INPUT: Proposed area to be developed (ha)
	6200	50

EMPLOYMENT LAND MODEL		
Proposed new development:	INPUT: Proposed additional road length (m)	INPUT: Proposed area to be developed (ha)
	1883	2

OUTPUTS

RESIDENTIAL MODEL			
Corresponding new infrastructure to assume:	Road (m)	--	5,119
	Road lanes (m)	--	9,672
	Storm main (m)	--	5,119
	Sidewalk (m)	--	16,258
	Streetlights	--	190
	Curb & gutter (m)	--	16,258
	Storm pond area (m2)	--	103,228
	Street trees	--	813
Additional staff and equipment needs	+ FTE (roads + parks)	--	4.1
	+ Plow units (roads)	--	0.4
	+ Plow units (sidewalk)	--	1.2
	+ Annual operating cost	--	\$61,824.73

EMPLOYMENT LAND MODEL			
Corresponding new infrastructure to assume:	Road (m)	--	75
	Road lanes (m)	--	151
	Storm main (m)	2,136	
	Sidewalk (m)	3,766	
	Streetlights (#)	49	
	Curb & gutter (m)	3,766	
	Storm pond area (m2)	84,254	
	Street trees	188	
Additional staff and equipment needs	Park grass area - sports (acres)	19	
	Park grass area - sports (m2)	77,067	
	+ FTE (roads + parks)	1.4	
	+ Plow units (roads)	0.1	
	+ Plow units (sidewalk)	0.6	
	+ Mowers	0.5	
	+ Annual operating cost	\$28,560	

TOTAL		
Corresponding new infrastructure to assume:	Road (m)	8,129
	Road lanes (m)	15,566
	Storm main (m)	5,999
	Sidewalk (m)	16,258
	Streetlights (#)	190
	Curb & gutter (m)	16,258
	Storm pond area (m2)	103,228
	Street trees	813
Additional staff and equipment needs	Park grass area - sports (acres)	69
	Park grass area - sports (m2)	278,028
	+ FTE (roads + parks)	4.1
	+ Plow units (roads)	0.4
	+ Plow units (sidewalk)	1.2
	+ Mowers	1.7
	+ Annual operating cost	\$61,824.73

Growth Modelling Example

EXAMPLE: For a typical subdivision with 3.1 km of new road...

(Similar to Fernbrook (Anthem) Homes - Snellview Blvd, Prince Philip Court, Sleepy Meadow Drive etc)

Town Would Assume These Assets



3.1 km
road



1.9 km
storm
main



6.1 km
sidewalk



6.1 km
curb &
gutter



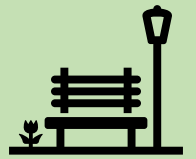
70
streetlights



9400 m²
storm pond



308
street trees



25 acres
Park/open
space/blvds

+ Staffing Needs



1.4 Roads/Parks FTEs

+ Equipment Needs



0.6 mowers



0.1 road plows



0.3 trackless sidewalk plows

+ Additional Operating Budget (not including staffing)

\$16,631

A close-up, monochromatic image of a stopwatch. The main dial is in the foreground, showing numbers 35, 40, 45, and 50. A smaller sub-dial is visible in the center, with numbers 20, 30, 40, and 50. The text "Implementation Schedule" is overlaid in white, bold, sans-serif font across the center of the image.

Implementation Schedule

- Indicates general start dates and potential duration of the opportunities
- Full schedule (including duration estimates) to be provided in final report

Category		Cost to Implement	Year 1		Year 2		Year 3	
			Q1/Q2	Q3/Q4	Q1/Q2	Q3/Q4	Q1/Q2	Q3/Q4
Customers & Service	C 2	Define Service Levels and have them approved by Council						
Customers & Service	C 4	Enhance snow fence program						
Customers & Service	C 5	Implement QR codes on garbage cans in parks and trails						
Finances & Assets	F 1	Accelerate LED retrofit to save energy costs						
Finances & Assets	F 3	Upgrade/expand fleet facilities						
Finances & Assets	F 7	Define & budget growth projections for new staff & equipment						
Finances & Assets	F 8	Review and re-allocate unspent capital on priority areas						
Finances & Assets	F 9	Develop a more proactive and planned approach to roads lifecycle strategies of assets						
Finances & Assets	F 10	Formalize a storm sewer inspection and cleaning program						
Finances & Assets	F 13	Streamline use of data inventory and condition data						
Operations & Processes	O 1	Enhance fleet repair with increased outsourcing for Fire Fleet						
Operations & Processes	O 2	Establish & implement a storm water ponds maintenance program						
Operations & Processes	O 3	Implement pre-wetting for salt distribution						
Operations & Processes	O 5	Develop a Tree Management Program for tree planting & removal						
Operations & Processes	O 12	Clearly define road patrol duties and optimize routes						
Operations & Processes	O 17	Optimize winter plowing routes and digitize route mapping						
Operations & Processes	O 19	Establish satellite locations for equipment storage at other Town facilities						
Operations & Processes	O 20	Develop a Proactive Roadside Ditching Program						
People & Culture	P 1	Develop a succession plan and look at ways to attract employees						
People & Culture	P 2	Initiate an apprentice program for mechanics						
People & Culture	P 3	Implement an alternate work week						
People & Culture	P 5	Refine organizational structure based on optimized organization principles						
People & Culture	P 7	Maintain afternoon shift only for winter (also Operations)						
People & Culture	P 17	Assign Used ID and email to all Frontline staff						
Strategy & Tracking	S 1	Develop Operational Policy defined LOS and Objectives for each Service Area						
Strategy & Tracking	S 3	Develop Departmental Mission and Vision						
Strategy & Tracking	S 4	Develop KPIs to track progress towards goals						
Strategy & Tracking	S 7	Overall fleet end to end management review & strategy						
Technology & Information	T 2	Implement AI for MMS Road Patrol (IRIS)						
Technology & Information	T 5	Enter all requests in Citywide, including Council and ad hoc						
Technology & Information	T 7	Establish GIS model for all snow plow routes and MMS routes						
Technology & Information	T 9	Improve use of AVL data for reporting and analysis for improvements						
Technology & Information	T 10	Complete Fleet EMDECS transition and data entry with students						

What's Next



Incorporate your feedback from today's workshop into the report



Finalize costing and implementation plan with Operations Management



Produce Draft Final Report



Submit Final Report for approval