



**Joint Water & Wastewater
Service Delivery Review
Overview**

June 22, 2022

Oxford County Council Meeting

Agenda

BACKGROUND/METHODOLOGY

CURRENT STATE

MODEL COMPARISONS

RECOMMENDATION

Project Background

- Oxford County holds exclusive municipal authority and responsibility for all water and wastewater services under the *Municipal Act, 2001*
- Water distribution (WD) and wastewater collection (WWC) systems are owned by Oxford County
- Oxford County operates all of its WDs and WWCs except in Woodstock and Tillsonburg which are operated and maintained under service provider contract agreements with the County

Project Background

- Oxford Council Report CS 2021-14 (Mar 2021):
 - Authorization to pursue Municipal Modernization Program funding for joint WD & WWC Service Delivery Review (SDR)
- Joint SDR MMAH Funding Approval (Jun 2021)
- Joint SDR Request-for-Proposal Terms of Reference (Jul 2021)
- Joint SDR RFP Award (Sep 2021)
- Joint SDR Final Technical Memorandums to Municipalities (Mar 22, 2022)
- Joint SDR Final Information Report to County Council (Mar 23, 2022)
- Joint SDR Final Information Report to Area Municipalities (Mar 28, 2022)
- Council Delegations: Tillsonburg (Mar 28, 2022) & Woodstock (Apr 11, 2022)

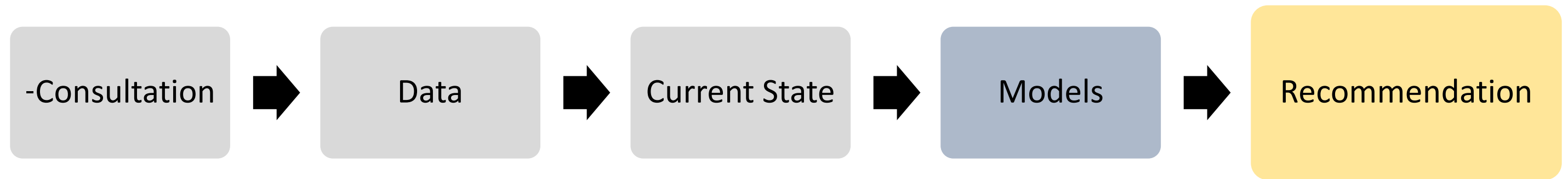
Project Objective

**To systematically determine
the most appropriate and cost-effective way
to provide water distribution & wastewater collection services
while maintaining or improving service levels.**

Project Scope

- Assess water distribution and wastewater collection systems operations & maintenance current state (Status quo)
- Develop and analyze 3 alternative service delivery concepts
- Identify any potential enhancements to current state (Status quo+)
- Treatment systems and responsibilities were considered but not carried forward as an alternative service delivery concept:
 - Reduced economies of scale, Increased service triplication of service
 - Treatment Operators availability, training, licensing
 - Treatment Operators not dedicated to one plant or municipality
 - Adds overall **risk** involved in managing treatment systems
 - High complexities to segregate out treatment systems

Project Approach



- Consultation through a series of workshops with 3 municipalities – October through January
- Workshops were attended by senior PW staff including Directors, Managers, Supervisors from 3 municipalities
- Data analysis of current state, model comparisons – Fall/winter 21/22
- Series of technical memos distributed through 3 municipalities and iterative drafts based on feedback
- Delivery of final report – in time to meet provincial MMAH funding deadline
- Presentation and follow-up ancillary meeting with CAOs - feedback
- Presentation to Tillsonburg Council, Woodstock Council – feedback
- Presentation of report highlights today, including clarifications based on Tillsonburg & Woodstock Council Report feedback

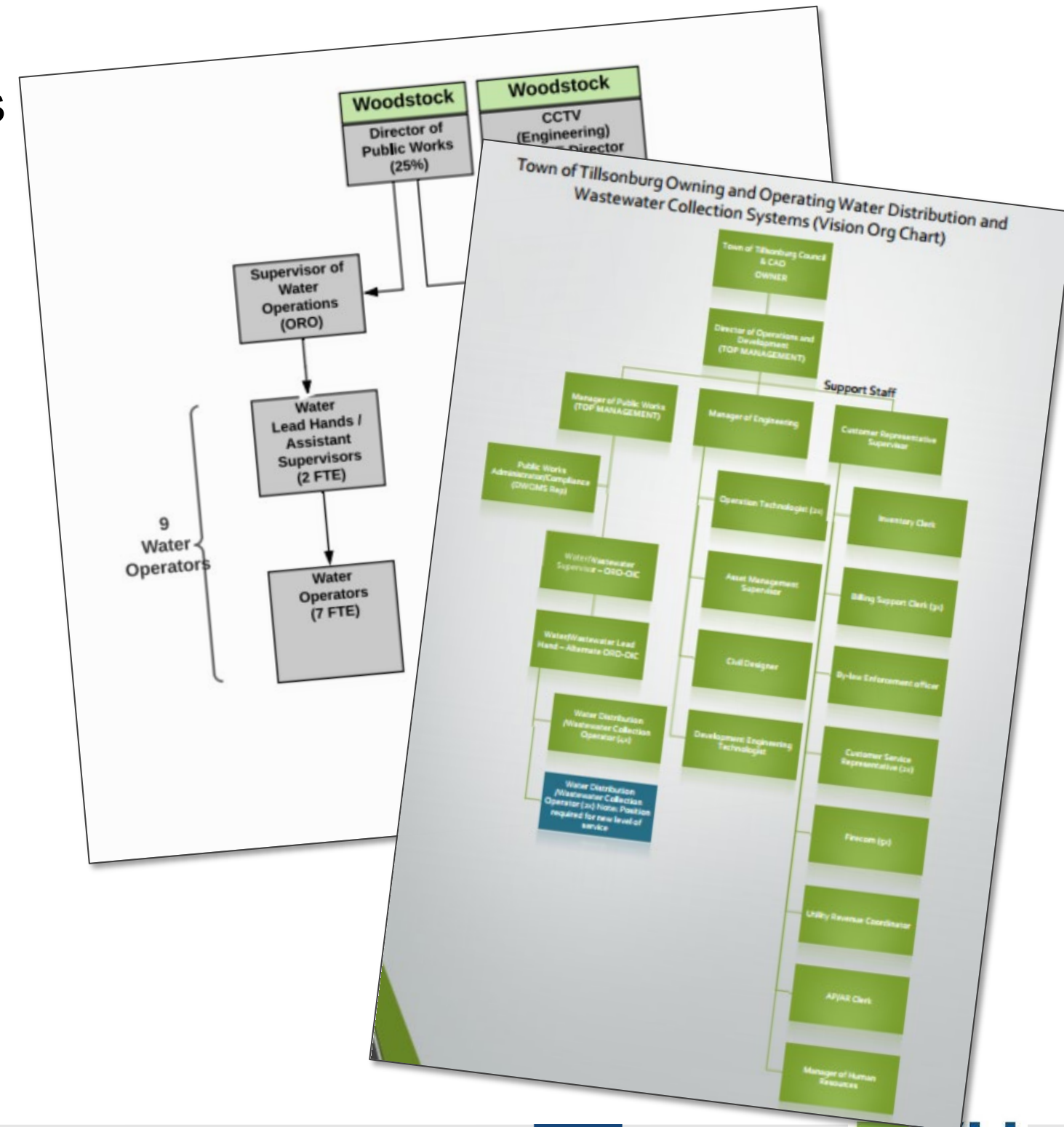
Services Provided

- Reviewed key functions in each system
- Owner and Operating authority responsibilities

Category	Function	Collection System		
		Tillsonburg	Woodstock	Oxford
	By-law Enforcement	Tillsonburg	Woodstock	Oxford
	Climate Change Adaptation	Oxford	Oxford	Oxford
	Biosolids Land Application	Oxford	Oxford	Oxford
	Environmental Compliance Approval Mgmt	Oxford	Oxford	Oxford
	Emergency Mgmt	Tillsonburg	Woodstock	Oxford
Operation, Maintenance & Monitoring	Break Repair	Tillsonburg	Woodstock	Oxford
	Inspection Support	Tillsonburg	Woodstock	Oxford
	Sewer Flushing (non CCTV)	Tillsonburg	Woodstock	Oxford
	CCTV Inspection	Tillsonburg	Woodstock	Oxford
	Maintenance Hole Inspection	Tillsonburg	Woodstock	Oxford
	Grinder Pump Inspection & Maintenance	Oxford	Oxford	Oxford
	Septic Tank Inspection	n/app	Oxford	Oxford
	Effluent Quality Management	Oxford	Oxford	Oxford
	SCADA	Oxford	Oxford	Oxford
	Other O&M of Main & Forcemain	Tillsonburg	--	Oxford
Planning	Master planning & Class EAs	Oxford	Oxford	Oxford
	Asset Management	Oxford	Oxford	Oxford
	Rate Studies	Oxford	Oxford	Oxford
	Secondary Plan / Functional Servicing Reporting	Oxford	Oxford	Oxford
	Long-term Budget Forecasting	Oxford	Oxford	Oxford

Current Staffing

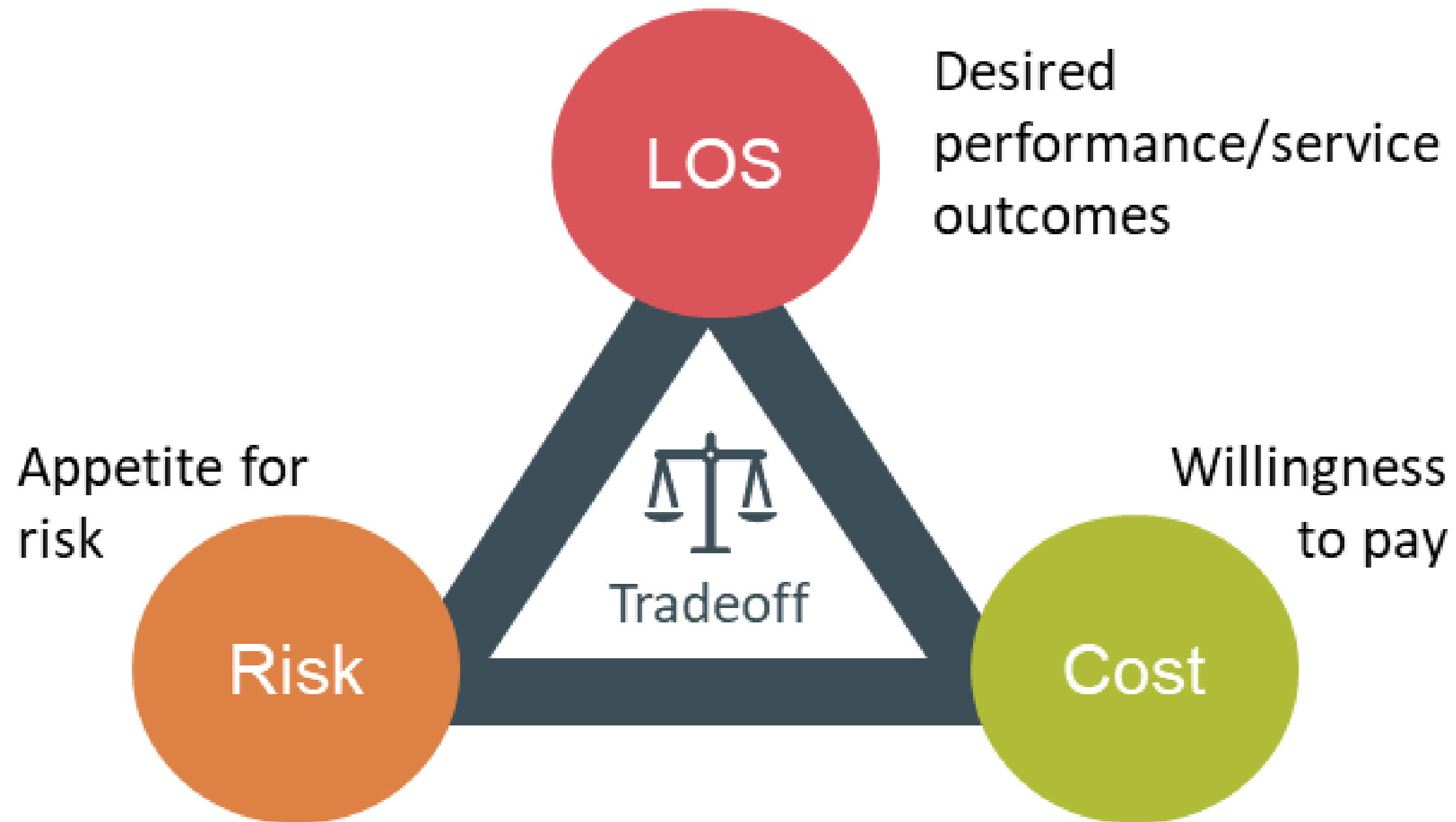
- How the municipalities deliver the services provided
- Reviewed current staffing:
 - OAs provided current organizational charts
 - Tillsonburg & Woodstock provided future vision org chart for Model B
 - Oxford provided future vision org chart for Model A
 - We also projected future staffing needs for Model A & B, assuming current staff are fully utilized
 - Based on estimated level of effort required



Levels of Service

- Service to the community – **Safe – Reliable - Sustainable**
- How to show these commitments are met – using key performance indicators
- Measurable targets identified:
 - Based on industry best management practices
 - Focus on technical operability of system & asset preventative maintenance
 - Optimized to asset life, cost, benefit, risk

Balance of Risk-Level of Service-Cost



Levels of Service

Commitment	Target Indicator (annual)	Current Performance (2020)		
		Oxford	Tillsonburg	Woodstock
Safe	Zero Ministry non-compliances, orders			
	Zero DWQMS external non-conformances			
	Zero precautionary boil water advisories			
	Zero adverse water quality incidents			
Reliable	100% of critical valves cycled			
	25% of non-critical valves cycled			Plus
	100% of hydrants flushed			
	20% of all hydrants flow tested	Plus		
	7% of sewers inspected with CCTV			
	20% of sewers flushed		Plus	
	20% of maintenance holes inspected	Plus		Plus
Sustainable	Financial metrics - Costs per km and per customer account			

Plus indicates an area where more effort is being exerted than the target (costs) – note annual fluctuation

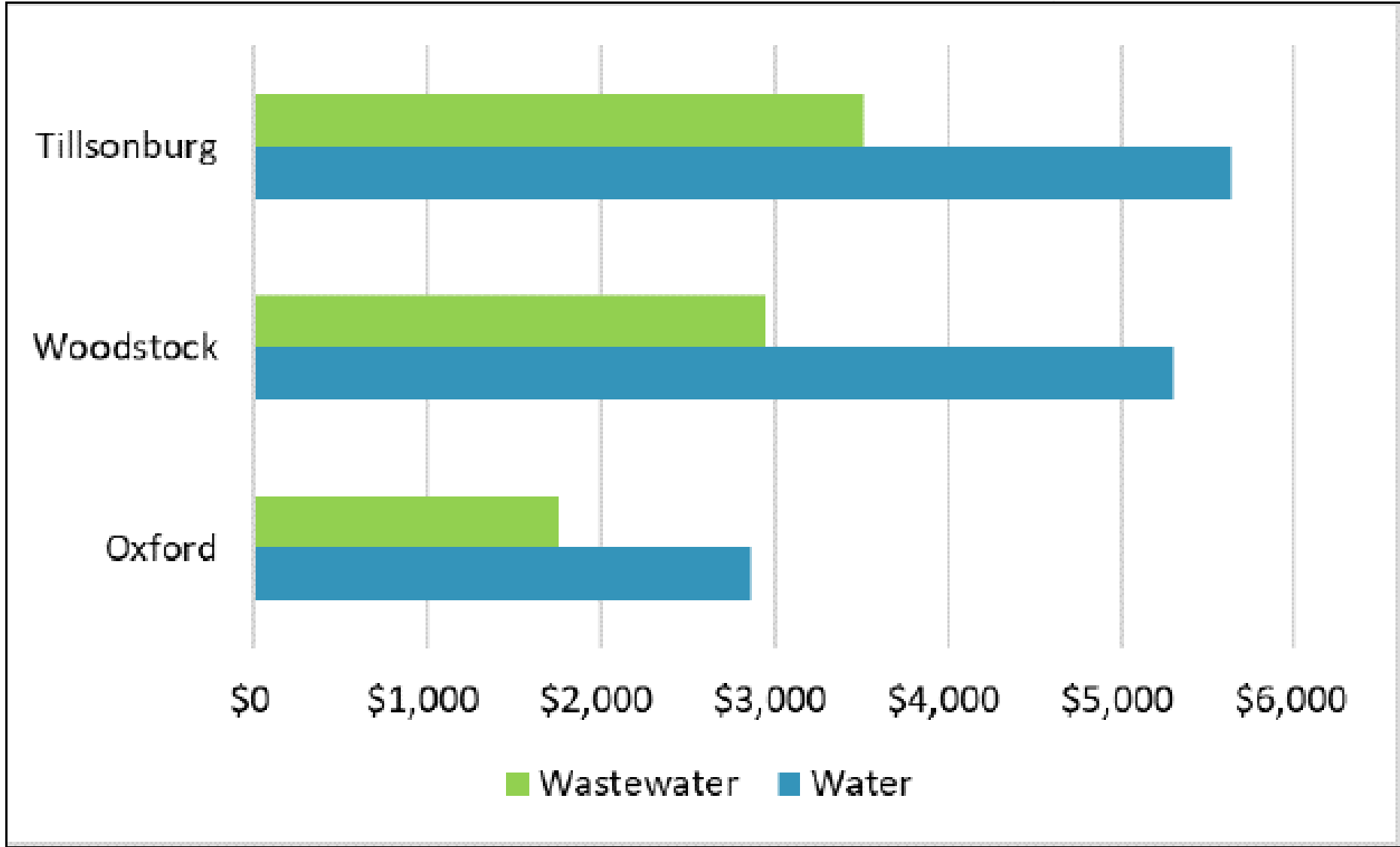
Red/orange indicate areas where opportunity to optimize, reduce risk, or reduce cost may be found

Focus on Maintenance Standards

Item	Action	Minimum Frequency	Reference
Critical Valves	Valve Exercising	Annually	AWWA G200, AWWA M44
Non-Critical Valves	Valve Exercising	25% Annually (4-year cycle)	AWWA G200, AWWA M44
Shut-Off Notice	Shut-Off Service to Property	One Billing Cycle	Consistent with most municipal practices
Hydrant	Flushing	Annually	AWWA G200, AWWA M17, NFPA 291 Section 4.13.2
Hydrant	Flow Testing	20% Annually (5-year Cycle)	AWWA G200, AWWA M17, NFPA 291 Section 4.13.2
Sewer	CCTV Inspection	7% Annually (15-year Cycle)	WEF, OCMBP, ASCE, 1998
Sewer	Flushing	20% Annually (5-year Cycle)	WEF, OCMBP, ASCE, 1998
Maintenance Hole	Inspections	20% Annually (5-year cycle)	WEF, OCMBP, ASCE, 1998

Current State

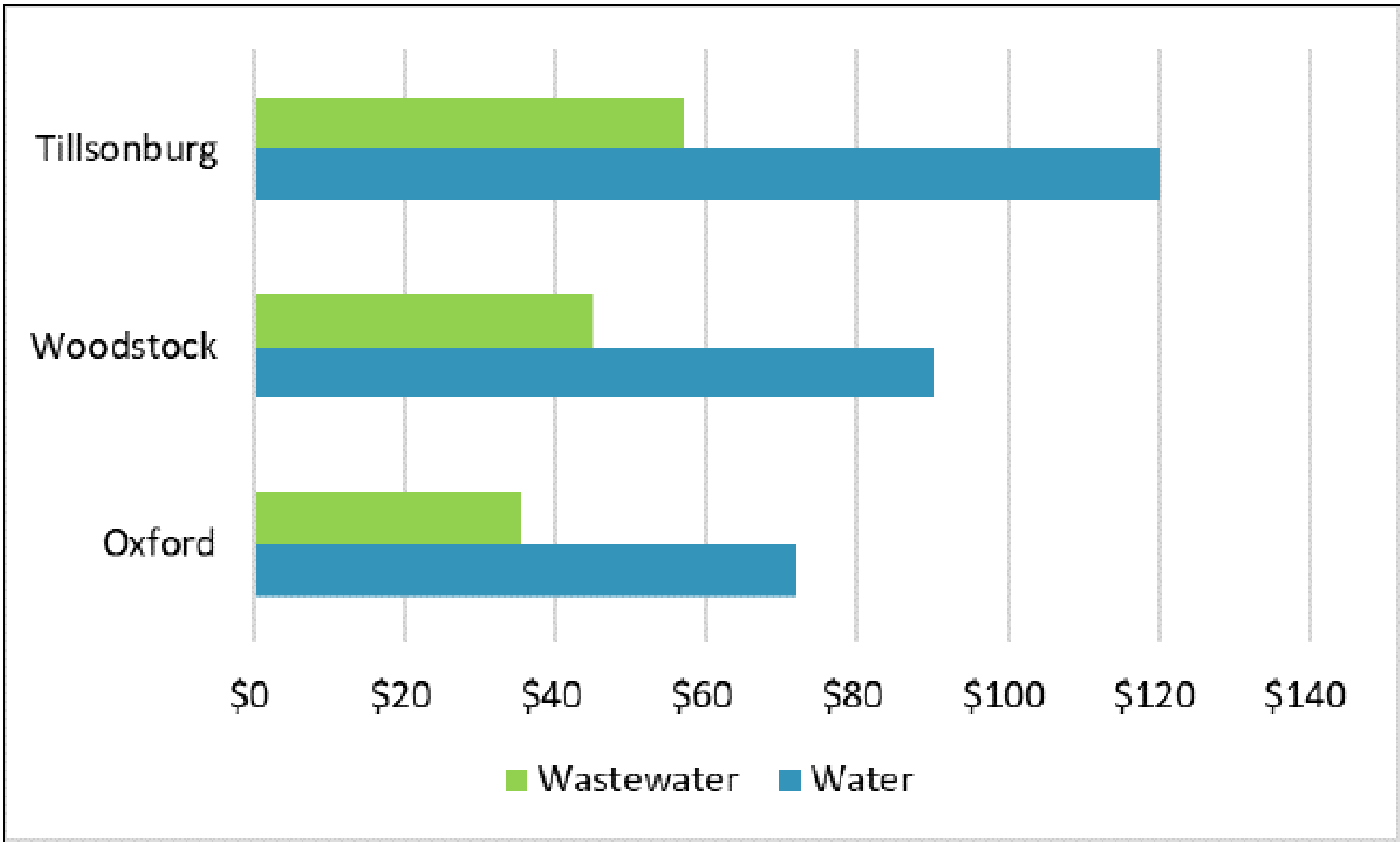
Operating Cost/km of WD and WWC System



- These were used to establish a baseline and understand current state
- **These were not used for financial evaluation of models**

Current State

Operating Cost of WD and WWC per customer



- These were used to establish a baseline and understand current state
- **These were not used for financial evaluation of models**

Models

Model A

- Oxford operates all WDs & WWCs

Model B

- WD & WWC assets transferred to Woodstock & Tillsonburg

Model C

- External agency operates all WDs & WWCs

Each municipality tracked and accounted for costs differently

The consulting team normalized the data to account for these differences, and reflect only core activities common to all operating authorities.

Model Comparison

Model A

- Aligns service and asset maintenance accountability with responsibility
- Have experience operating other WD and WWC
- More appropriate supervisory span of control and licensed operator cross system redundancy
- Levels of service aligned with industry standards
- Economies of scale in admin and overhead
- DWQMS, GIS, CCTV not carried out in triplicate
- Redundancy and reduced risk in ORO and OIC roles
- Enhanced control over cost recovery and integration of asset management
- Equally good customer service
- Reallocation of 16.0 FTEs from Area Municipalities to County (facilitate local system knowledge)
- Transition Plan required

Model Comparison

Model B

- Aligns service and asset maintenance accountability with responsibility
- Have experience operating the WD and WWC
- Equally good customer service
- Levels of service may differ across the municipalities
- Loss of economies of scale in admin and overhead
- DWQMS, GIS, CCTV carried out in triplicate
- Addition of 4.0 FTEs operators, 4.0 FTEs technical staff resources and new fleet costs to take on new responsibilities as “Owner”
- Numerous further studies required
- Highest one-time capital costs \$575,000 to \$825,000

Model Comparison

Model C

- Have experience operating other WD and WWC
- Allows for transfer of some risk and responsibility
- Profit motive may have negative impact on assets
- Detailed operating contract lengthy RFP process
- Will need an extensive transition plan
- Changes in legislation will likely cause extras
- Most disruptive to staff
- Loss of knowledge in operating WD and WWC

Model Comparison

Status Quo Plus

- Service and asset maintenance accountability not aligned with responsibility
- Presented Industry Best Practices without changing current service delivery model. Proposes:
 - Addition of 4.0 FTEs operators and new fleet costs
 - County-wide user pay backflow program
 - Alignment of service levels to industry standards
 - Participation for joint procurement
 - Consistent cost recovery application
- Governance challenges would need to be addressed along with contract re-negotiations
- Status quo plus involves continued risk – current challenging issues may not be resolved

Model Comparisons

Costing Models

Status Quo (baseline)	\$	5,673,185
Model A	\$	4,666,059
Model B	\$	6,161,004
Model C	\$	6,524,163
Status Quo - Plus	\$	5,702,035

Compared to Status Quo, Model A equates to an estimated annual **savings of \$1,007,126, or 18% reduction** in the operating cost.

Compared to Status Quo, Model B equates to an estimated annual **increase of \$487,819 or 9% increase** in total operating costs.

Compared to Status Quo, Model C equates to an estimated annual **increase of \$850,978. or 10% increase** in total operating costs

Industry Best Management Practice Opportunities

Backflow as a User Fee

Service Levels Alignment to Standards

Inflow and Infiltration Studies

Joint Procurement

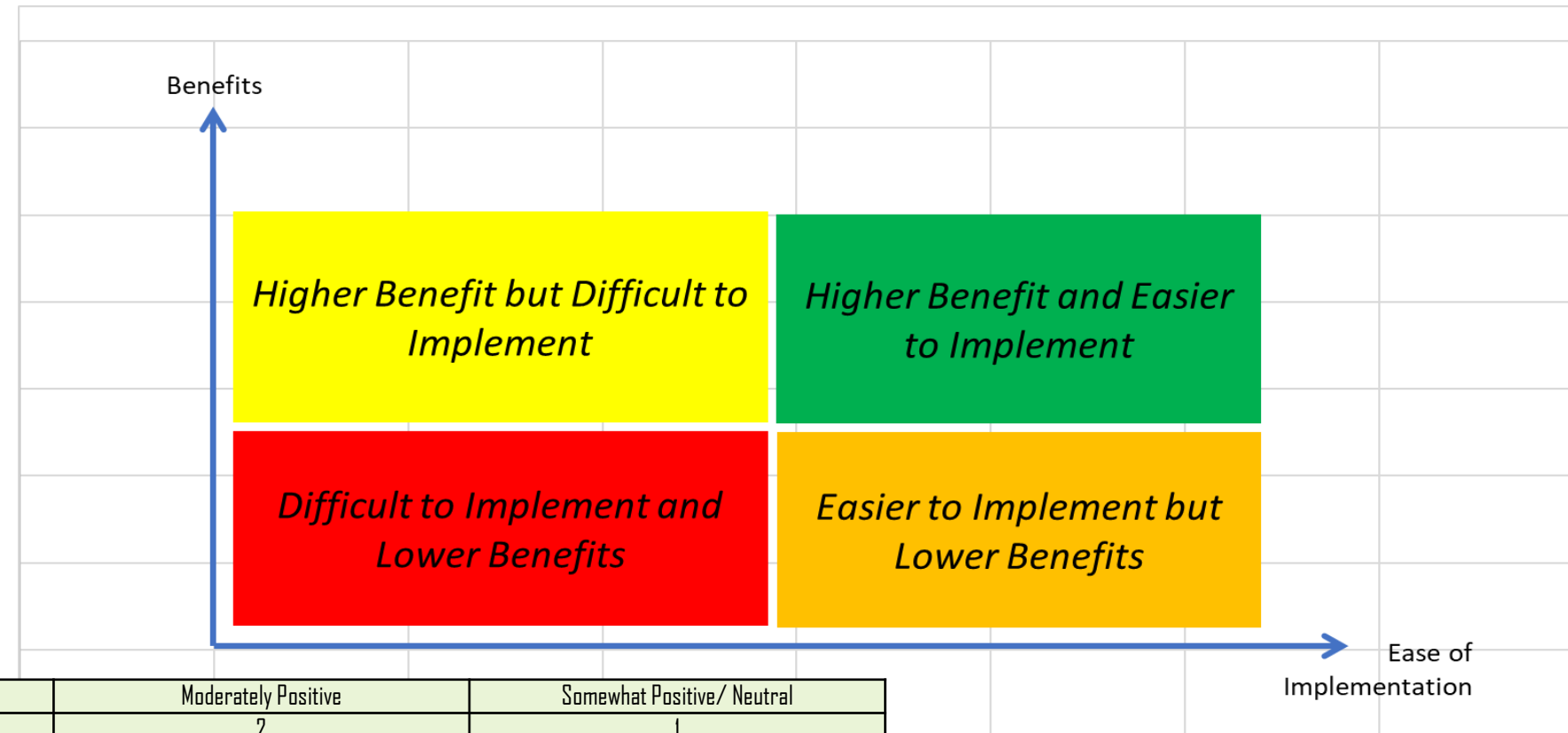
Full Cost Recovery

Collapsing W and WW Reserves

Streamlining Responsibilities in ROW Capital Coordination

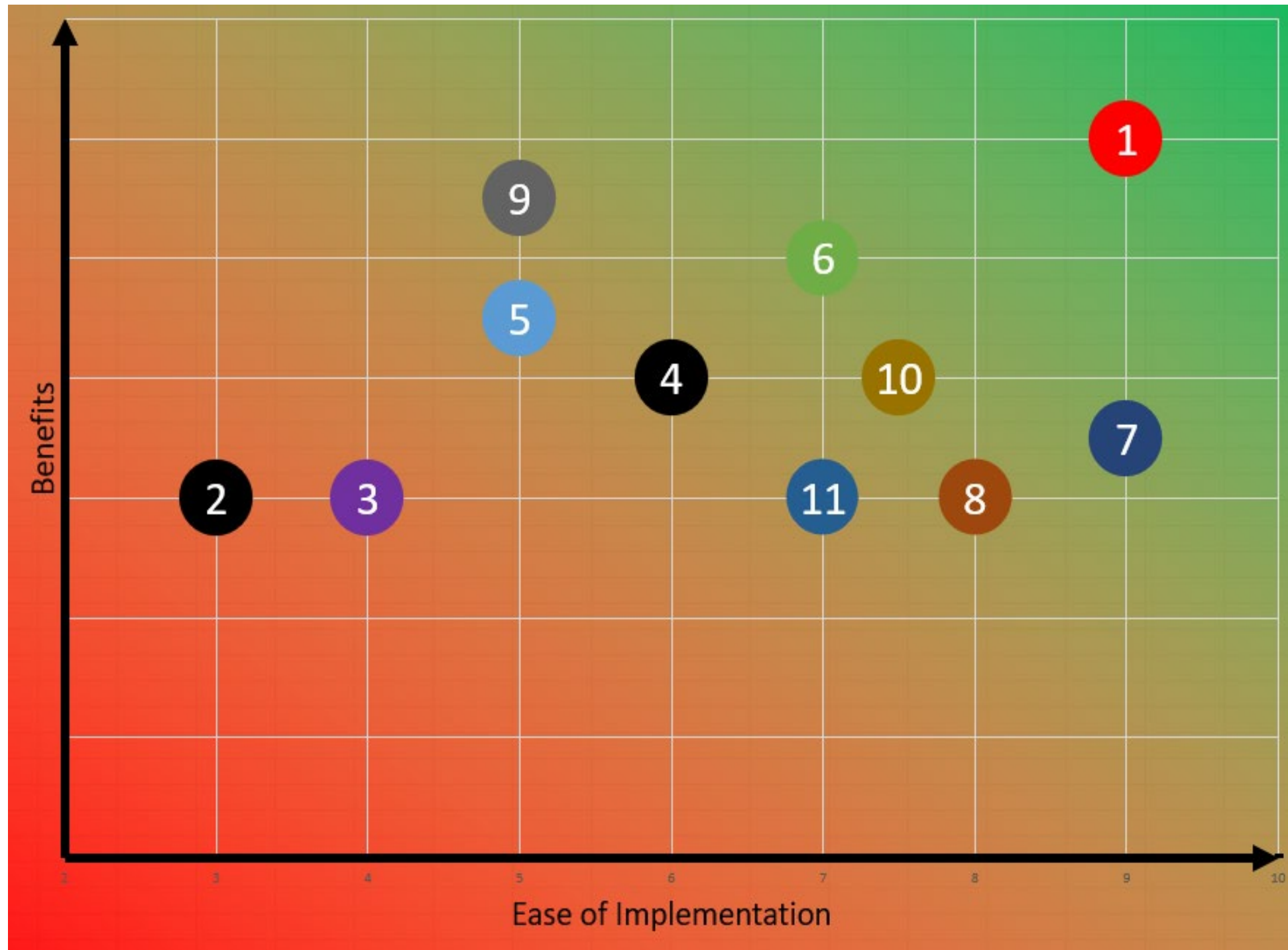
Ease of Implementation and Benefits

Framework



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
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

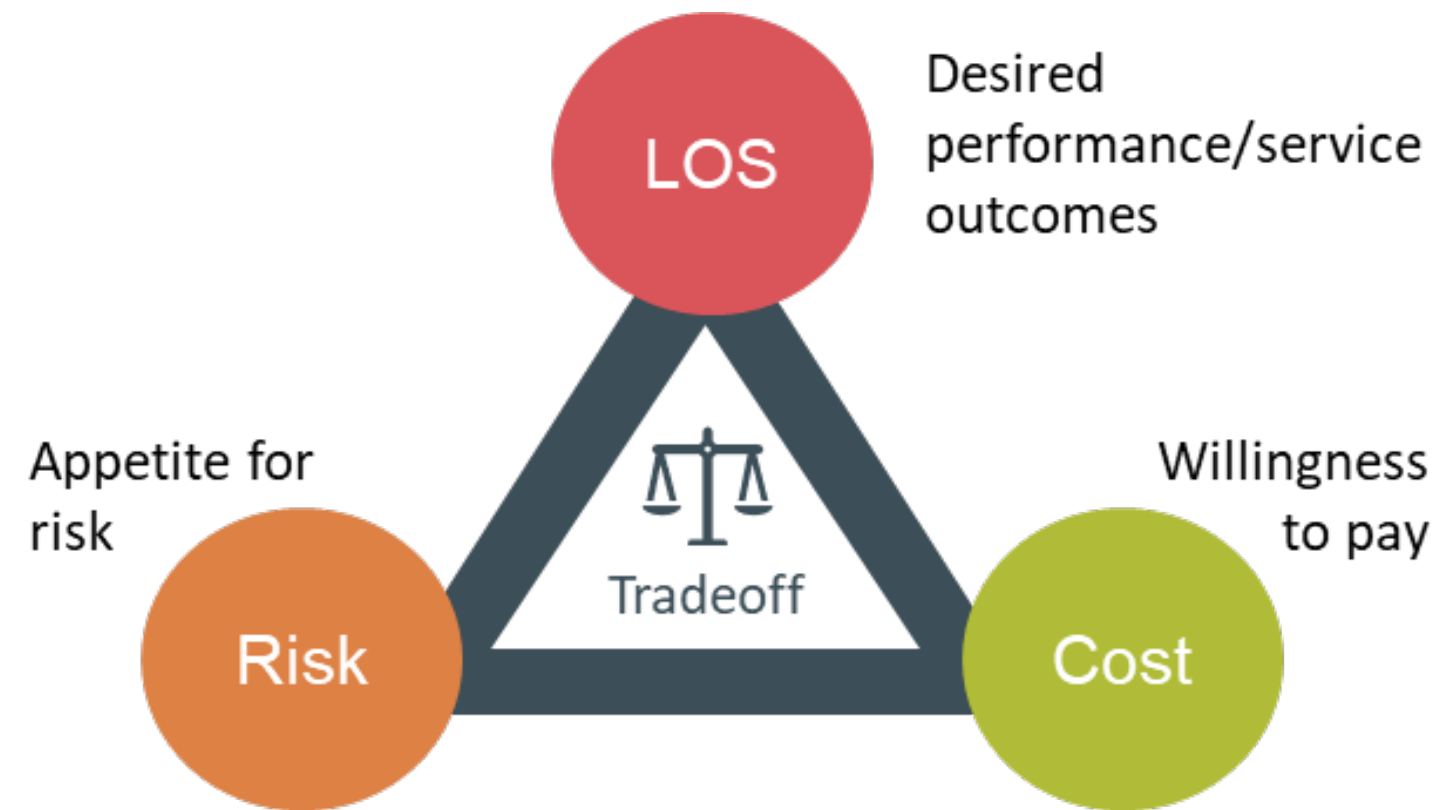
Ease of Implementation and Benefits



1	Model A
2	Model B
3	Model C
4	Status Quo Plus
5	User Pay Backflow
6	Standard Service Levels
7	Joint Procurement
8	Collapsing W and WW Reserves
9	Capital Coordination in the ROW
10	Inflow & Infiltration Studies
11	Cost Recovery

Recommendation

Recommend an alternative service delivery model which most optimally balances water and wastewater systems operational levels of service, cost and risk.

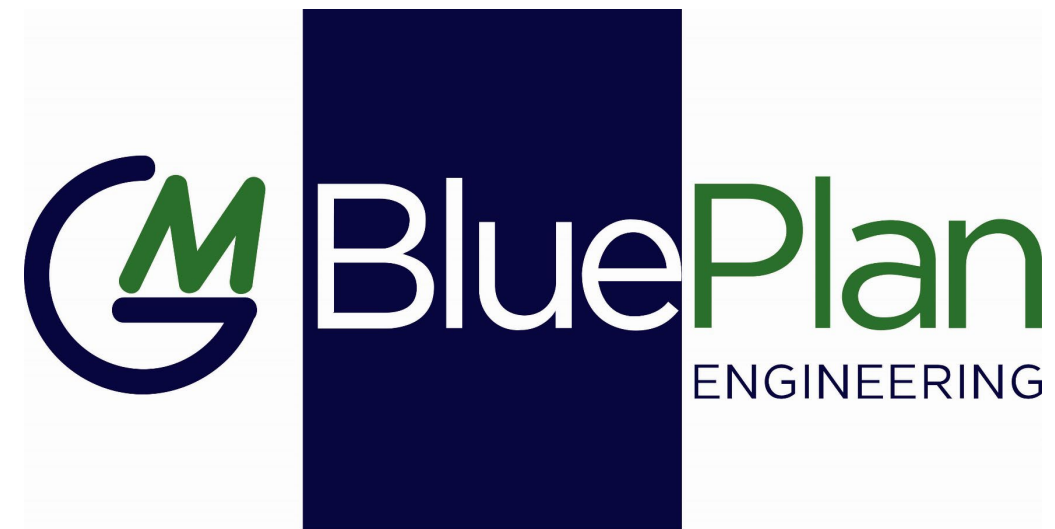


Recommendations from GM BluePlan Report

Model A offers the most advantages and least number of disadvantages and risks to the County and its citizens. It is recommended that Model A be further pursued as the preferred model to deliver water distribution and wastewater collection services in Oxford County.

Model A involves the County of Oxford assuming full Operating Authority responsibility for the WDs and WWCs in Tillsonburg and Woodstock and continuing as WD and WWC Operating Authority for all of the other area municipalities.

The County continues to own all of its assets in this regard and contractual agreements with the Town of Tillsonburg and City of Woodstock would not be renewed.



Thank you

