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Stormwater Rate Financing in Canada How to Make it Work

TRIECA 2017

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March 22, 2017

Introductions & Welcome

1. Background
2. Rate Financing Process
3. Hurdles and intro to Panel Session
4. Q &A Open Discussion

Municipal Stormwater Management Program



Work Order Review

Work Order

Id: 47023 Priority: 7 Locates: ☐ Status: CLOSED

Utility: STORM DRAINAGE Chargeable: ☐

Structure Type: STORM CHANNEL Assigned To: DAN DYCHUCK

Activity: RD330 WATER COURSE CLEAN'G-DEB Approved By: DAN DYCHUCK

Category: ☐ Accident? ☐

Business Unit: EPRS Account: 824458

Location

Site: SCHNIEDER CREEK Dist:

Address: Street: DOON VILLAGE RD

Cross Street: City: KITCHENER

Description:

Project

Id: 171 Special Instruction/Comments: CREEK RE-ALIGNMENT-BIO-ENGINEERING

Type: WINTER WORKS PROJECT

Desc: SCHNEIDER CREEK BIO-ENGINEERING

Review Project.. Work Order Links..

Date/Time (DD-MMM-YY)

Initiated	31-DEC-99	Closed	20-FEB-01
Planned - Start	31-DEC-99	Completed	
Schedule - Start	31-DEC-99	Completed	
Work - Start	31-DEC-99	Completed	04-MAY-00

Estimates

Production	100.00	M
Person Hours	120.00	
Work Hours	8.00	

Review History.. Log Memo.. Print Report.. Resources..

Response Times.. Extra Info.. Structures..

Close

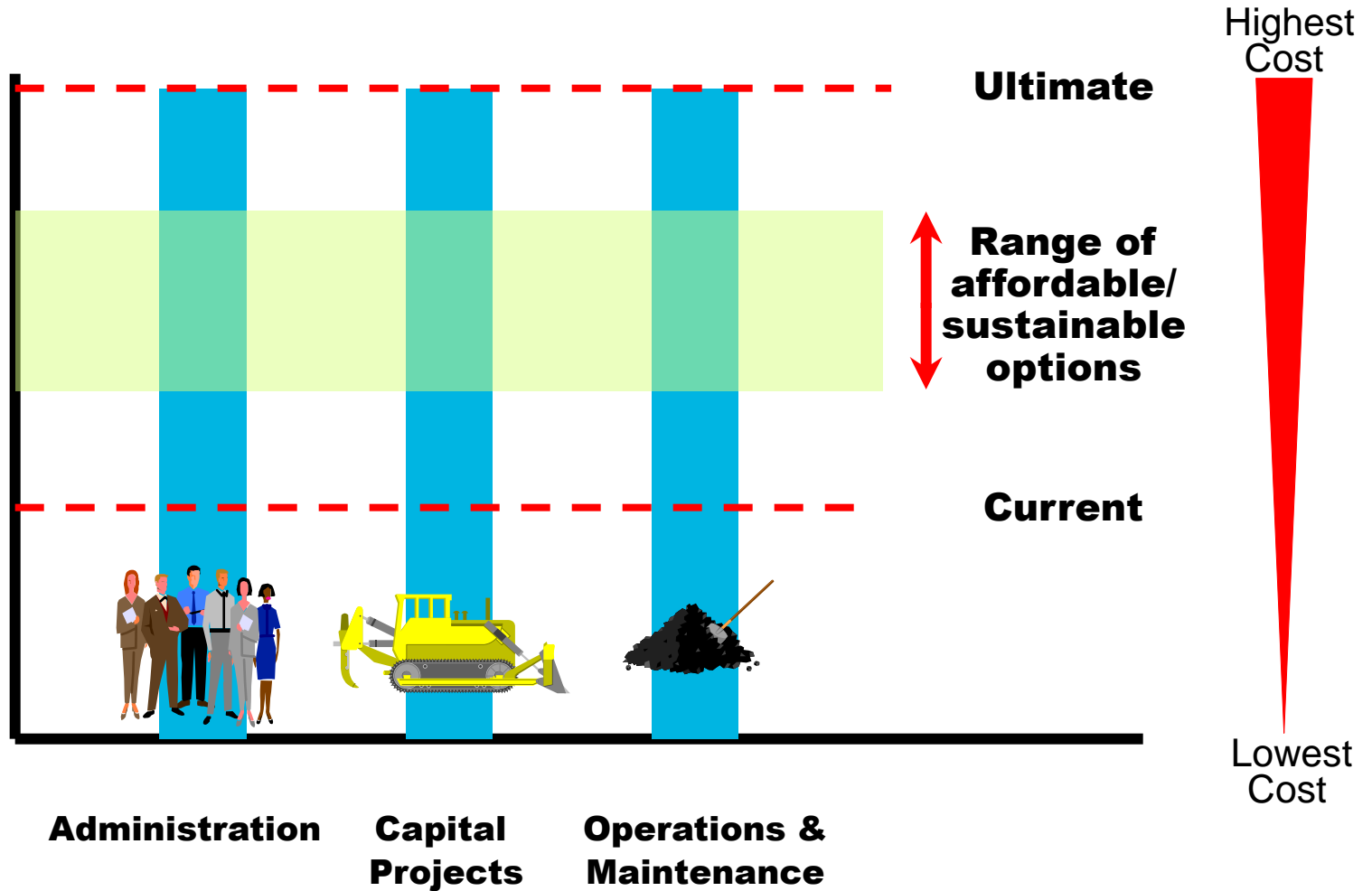
Operations and Maintenance



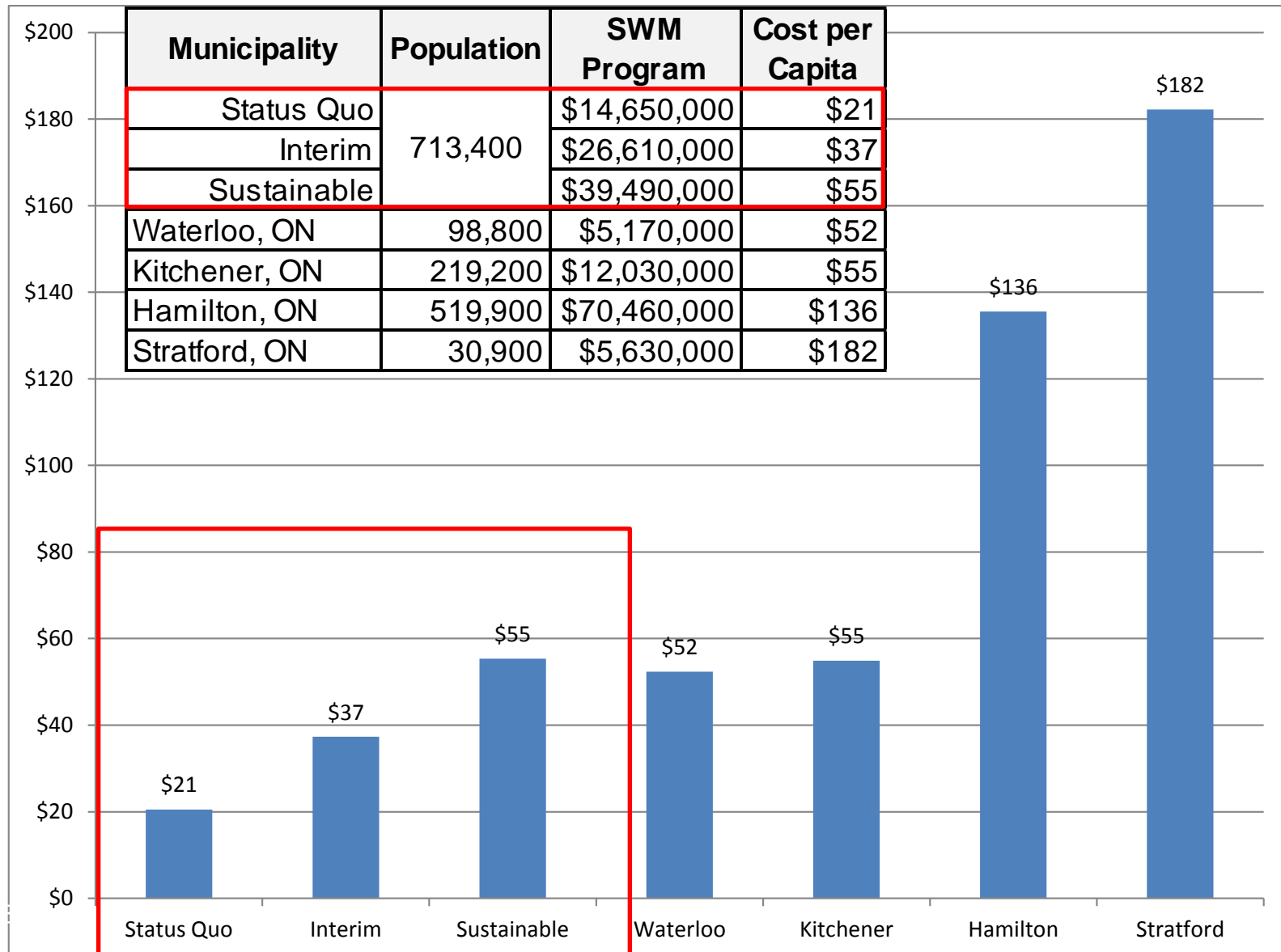
Typical Issues

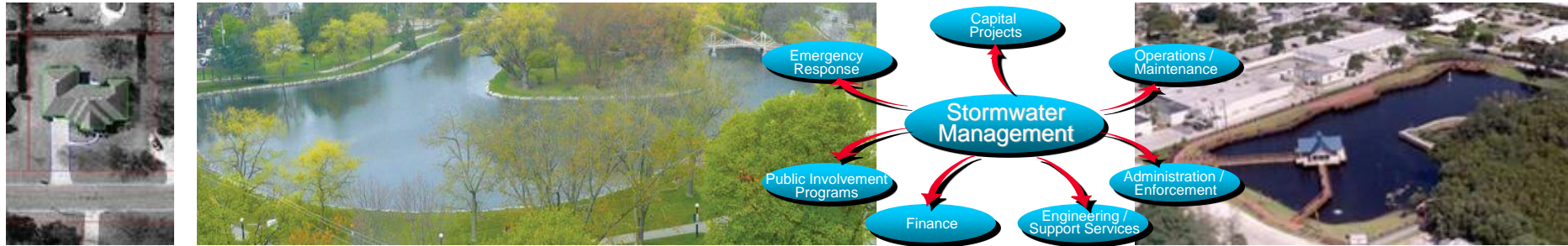
- The general public typically has limited knowledge and appreciation of what the City does to manage stormwater runoff, especially:
 1. How much money is spent on the stormwater management program
 2. How the program is financed
- Issue 1: Level of Service
 - Higher levels needed to better plan, build, maintain/operate & renew assets
 - That is, more money needs to be spent!
- Issue 2: Allocation of Charges
 - Dedicated & sustainable revenue is required to support all program needs
 - Allocation should be fair & equitable (same charge basis for all properties)
 - Offer incentive opportunities to reduce runoff and pollutant discharge

Level of Service



Comparison to Ontario Municipalities (Recommended Service Level per Capita)





FINANCING MECHANISMS USED IN NORTH AMERICA

Stormwater Funding Categories

- Taxes: mandatory levies that are not related to any specific benefit or government service (i.e., general services for the public good)
- Fees: payments made to offset the cost of a specific service and payable by those people who benefit from the service (i.e., a “rational nexus” must be demonstrated)
- Special levies that have specific designations and limitations for usage
- Other means: e.g., public-private partnerships, long-term debt-financing strategies, federal or provincial economic stimulus grants for infrastructure investment
- Any combination of the above

Stormwater User Fees

- Progression of public utilities
 - Once funded from general tax support...
 - ... then shifted to enterprise fund
- Charges derived on a fairness and equity basis
 - Water – Volume used
 - Wastewater – Volume generated
 - Solid Waste – Volume/Weight generated
 - Stormwater – Runoff contribution

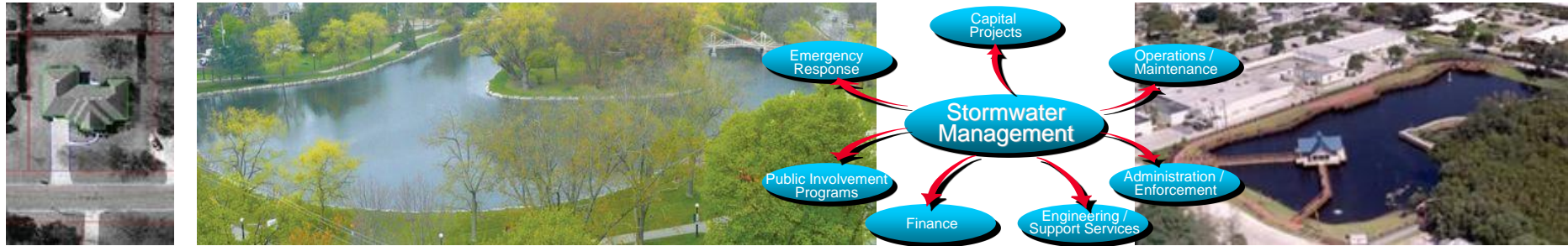
Impervious Area Based Stormwater Rate

- Charge based on impervious area measurements:
 - Rooftops
 - Driveways
 - Parking areas
 - Patios
 - Sidewalks
- Fair and equitable basis for user fee
 - Based on property's contribution of runoff volume and pollutant loading
 - Not assessed value, frontage, zoning type, lot size, number of water meters, number of parking spaces, etc...



Stormwater User Fee Funding

	Pros	Cons
User-Fee Funding (e.g., Stormwater Rate based on impervious area)	<ul style="list-style-type: none">• Dedicated and stable funding source for all program activities (i.e., sustainable)• Fair and equitable fee based on runoff contribution (assessed to all private and publicly-owned properties in the same manner)• With a credit program, provides an incentive for property owners to reduce stormwater runoff and pollutant discharge• Mechanism to ensure privately owned stormwater facilities are maintained	<ul style="list-style-type: none">• Additional implementation costs (rate study, database management, billing and customer service*)• Possibility that a new fee may not be well received by the public <p>*Note: Potential to administer stormwater rate through other existing billing systems (e.g., hydro, water/ sewer, etc.).</p>



RATE FINANCING DETAILS

Stormwater Rate Calculation

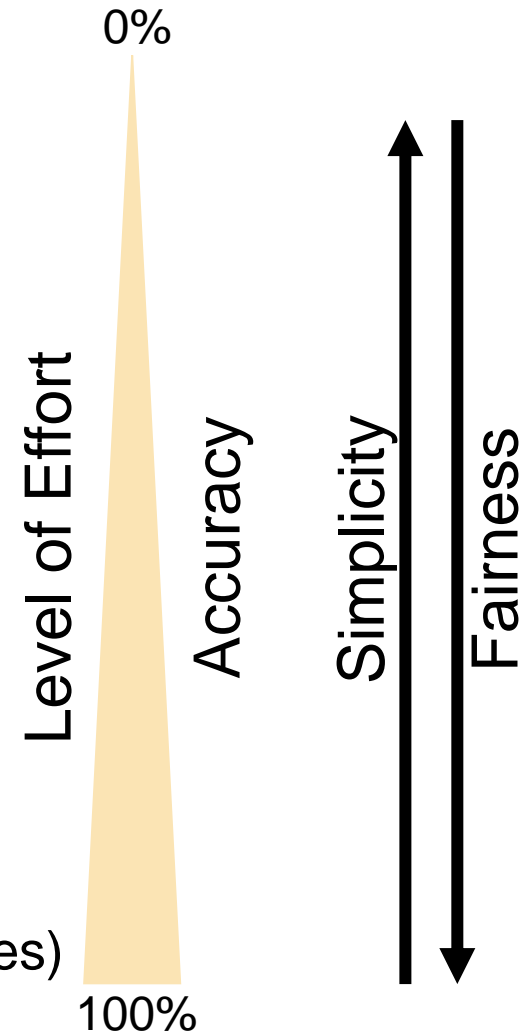
$$\text{Charge} = \frac{\text{\$Expense}}{\text{Units}} = \text{\$/Month/Unit}$$

$$\text{Units (ERU)} = \text{Dwelling Units} + \frac{\text{Non Residential Impervious Area}}{\text{m}^2 / \text{ERU}}$$

ERU = Equivalent Residential Unit

Common Billing Unit Methodologies

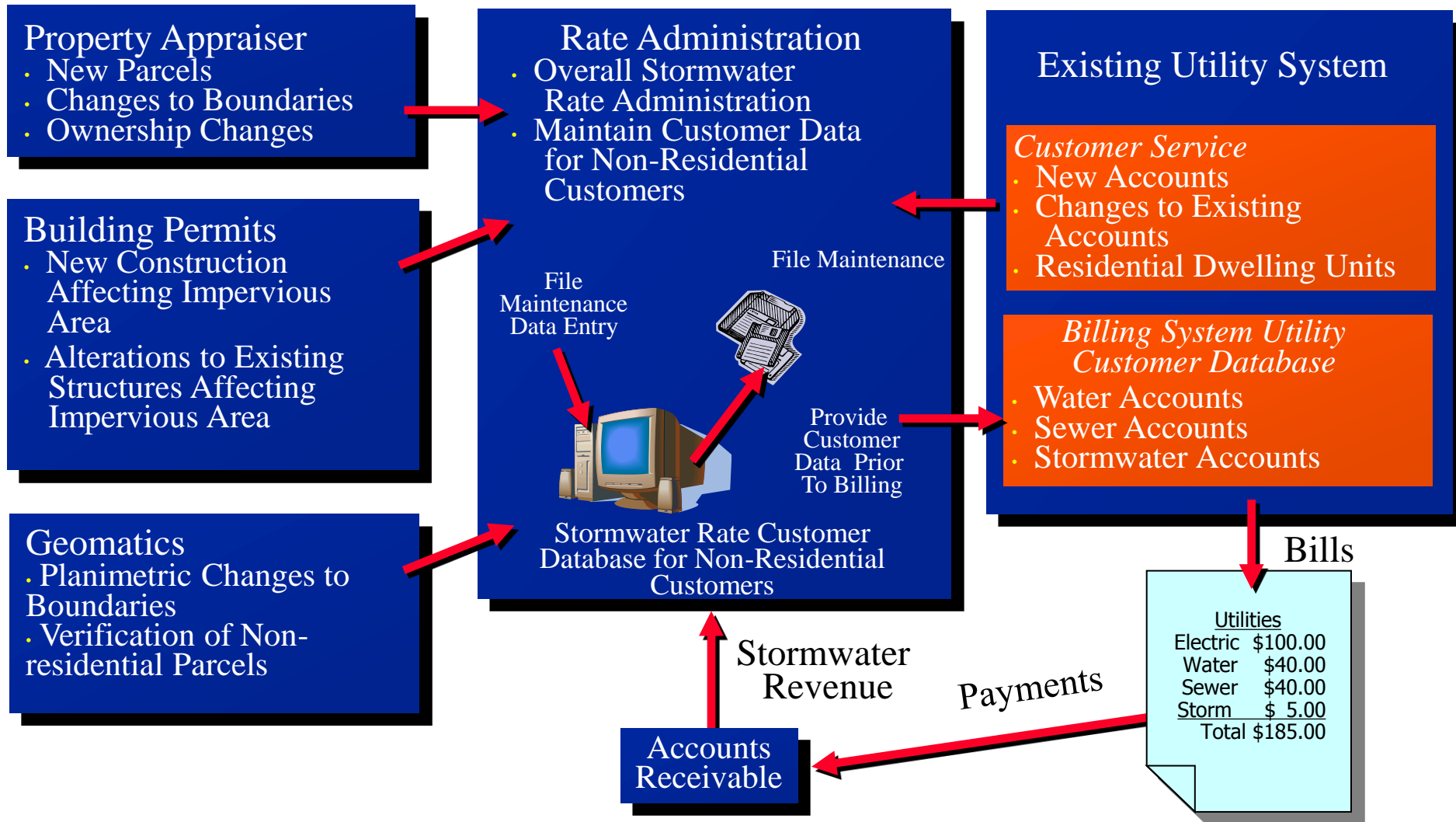
- Flat Fee
- Tiered Flat Fee
- Runoff Coefficient
- Intensity of Development Factor
- Residential Base Rate
 - Equivalent Residential Unit (ERU)
 - Single Family Unit (SFU)
- Tiered Residential Base Rate
- Level-of-Service / Geography Base Rate
- Annual Impervious Area Measurements (all properties)



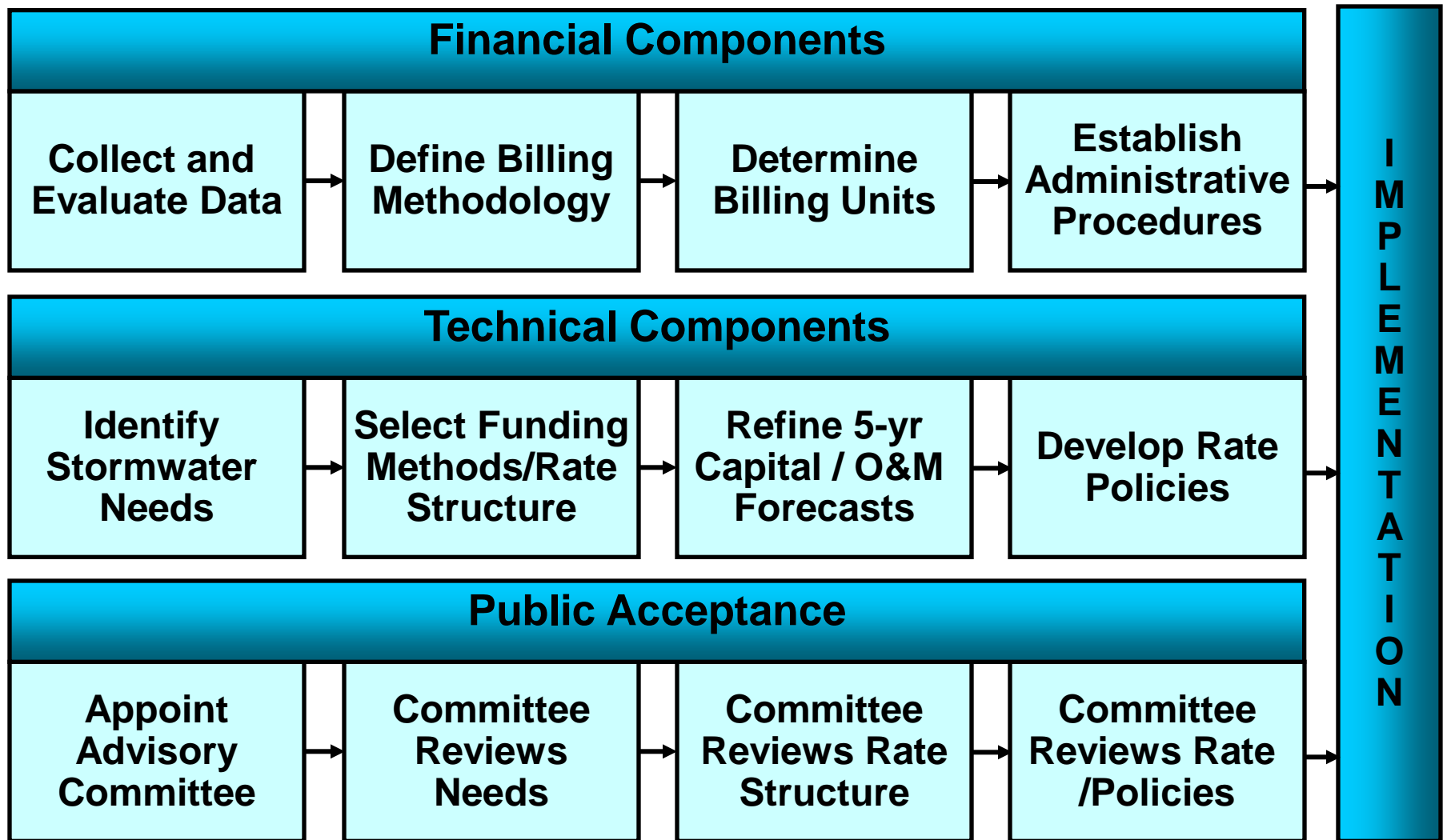
Stormwater User Fees in Canada

Municipality	Fee Type	Start	Details (as of October 2014)
Nova Scotia			
Halifax	Variable Rate	2013	Stormwater Rate, Res'l \$2.78/mo, Non-Res'l charge \$0.0124/mo per m2 of impervious area measured through satellite imagery (replaced combined water/sewer rate).
Ontario			
London	Tiered Flat Fee	1996	Storm Drainage Charge, if land area <=0.4 ha: Res'l \$13.78/mo, Comm'l Ind'l \$14.78/mo, Inst'l \$13.66/mo, if land area >0.4 ha: Ind'l \$112.68/mo/ha, Res'l Inst'l Comm'l \$75.12/mo/ha.
Aurora	Tiered Flat Fee	1998	Storm Sewer Charge, Res'l \$4.78/mo, Comm'l/Ind'l \$62.96/mo per water meter.
St. Thomas	Tiered Flat Fee	2000	Storm Drainage Rate, Res'l \$7.39/mo, Comm'l/Ind'l \$7.39/mo or \$102.06/ha/mo if land area >0.18 ha.
Kitchener	Variable Rate	2011	Stormwater Utility, Average Single-Family Detached Home \$10.17/mo (see rate schedule for other property types). www.kitchener.ca/en/livinginkitchener/stormwater_utility.asp
Waterloo	Variable Rate	2011	Stormwater Rate, Average Single-Family Detached Home \$5.39/mo (see rate schedule for other property types). www.waterloo.ca/en/living/utilityprogram.asp
Richmond Hill	Tiered Flat Fee	2013	Stormwater Management Rate, Res'l \$3.97/mo, Non-Res'l & Multi-Res'l or building with water meter \$11.53/mo.
Saskatchewan			
Regina	Tiered Flat Fee	2001	Based on property size in 2,000 m2 increments, typical Res'l \$13.20/mo.
Saskatoon	Variable Rate	2012	Storm Water Utility, Res'l \$4.40/mo, non-residential = \$4.40/mo per 265m2 of impervious area with 2014 rate cap = \$176/mo (replaced Flat Fee that had been implemented in 2002).
Alberta			
Calgary	Flat Fee	1994	Storm Drainage Service Charge, \$9.20/mo (per water meter) to fund selected capital projects.
Edmonton	Variable Rate	2003	Land Drainage Utility based on intensity of development factor. Typical Res'l = \$7.00/mo.
St. Albert	Tiered Flat Fee	2003	Stormwater Rate, Res'l \$15.72/mo, Condo \$10.86/mo, Non-Res'l \$42.24/mo.
Strathcona County	Flat Fee (two communities)	2007	Storm Sewer Operations charge, Res'l \$2.00/mo and \$9.65/mo in two communities.
British Columbia			
Pitt Meadows	Tiered Flat Fee	2009	Drainage levy (combined with tax funding), Res'l \$6.50/mo.
Richmond	Tiered Flat Fee	n/a	Flood Control & Drainage Charge, typical Res'l = \$10.80/mo.
West Vancouver	Tiered Flat Fee	n/a	Drainage levy, Res'l \$12.82/mo.
Surrey	Tiered Flat Fee/ Parcel	n/a	Implemented as a parcel tax and used for flood control measures, Res'l \$16.75/mo, Non-Res'l \$18.67/mo (note tax levy in the Surrey Dyking District in 1913 was \$0.91 per acre).
White Rock	Tiered Flat Fee/ Parcel	n/a	Implemented as a parcel tax with formula based on intensity of development factor, typical Res'l \$19.00/mo.
Langley	Parcel Tax	n/a	Implemented as a parcel tax, applied as mill rate.

Stormwater Rate – Billing System



Stormwater Financing Study Process



It's Only a Few Dollars per Month, How Hard Can it Be?



Kitchener Record, editorial cartoon (7-Apr-2006)

How to Make it Work

Hurdles, Perils and Pitfalls

- Need two Champions – staff and council.
- Look to the future during feasibility.
- How will the bills get out?
- Need cooperation between departments.
- Need an effective SWAC.
- Who handles the press?
- Who will handle the calls?
- You will have policy decisions (by-law).

- Do you charge school boards or churches for their runoff contributions?
- Any other exemptions?
- Do you award credits for stormwater facilities that were required at the time of development?
- How do you handle permeable pavement (i.e., do you remove the impervious area from the base charge calculation and/or give the property owner a credit)?
- How do you handle gravel parking lots?



Thank You!

March 22, 2017

AECOM

STORMWATER RATE IMPLEMENTATION

Facilitators:



Ray Tufgar
AECOM



Michael Gregory
Computational Hydraulics Int.

Panelists:



Dr. Victoria Kramkowski
City of Mississauga



Todd Chapman
City of Waterloo



Arun Hinupar
City of Guelph



Robert Muir
City of Markham



Matt Wilson
City of Kitchener