

This presentation premiered at WaterSmart Innovations

watersmartinnovations.com





A case Study in Proactive Resource Management through DMA-DMZ

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AMR

- Mobile (*Drive-by*) Meter Data Collection

DMA/DMZ

- District Metered Areas / Zones

3G
Interpreter™

- A SMART INNOVATION - Universal AMR Register with DIALOG 3G® Technology





3G Interpreter™





City of Ottawa

- ✱ 806,000 Customers
- ✱ 202,500 Water Meters
- ✱ Average Annual Household Bill: \$610
- ✱ Annual Utility Revenue: \$207M (Water/Sewer)



Parliament Hill



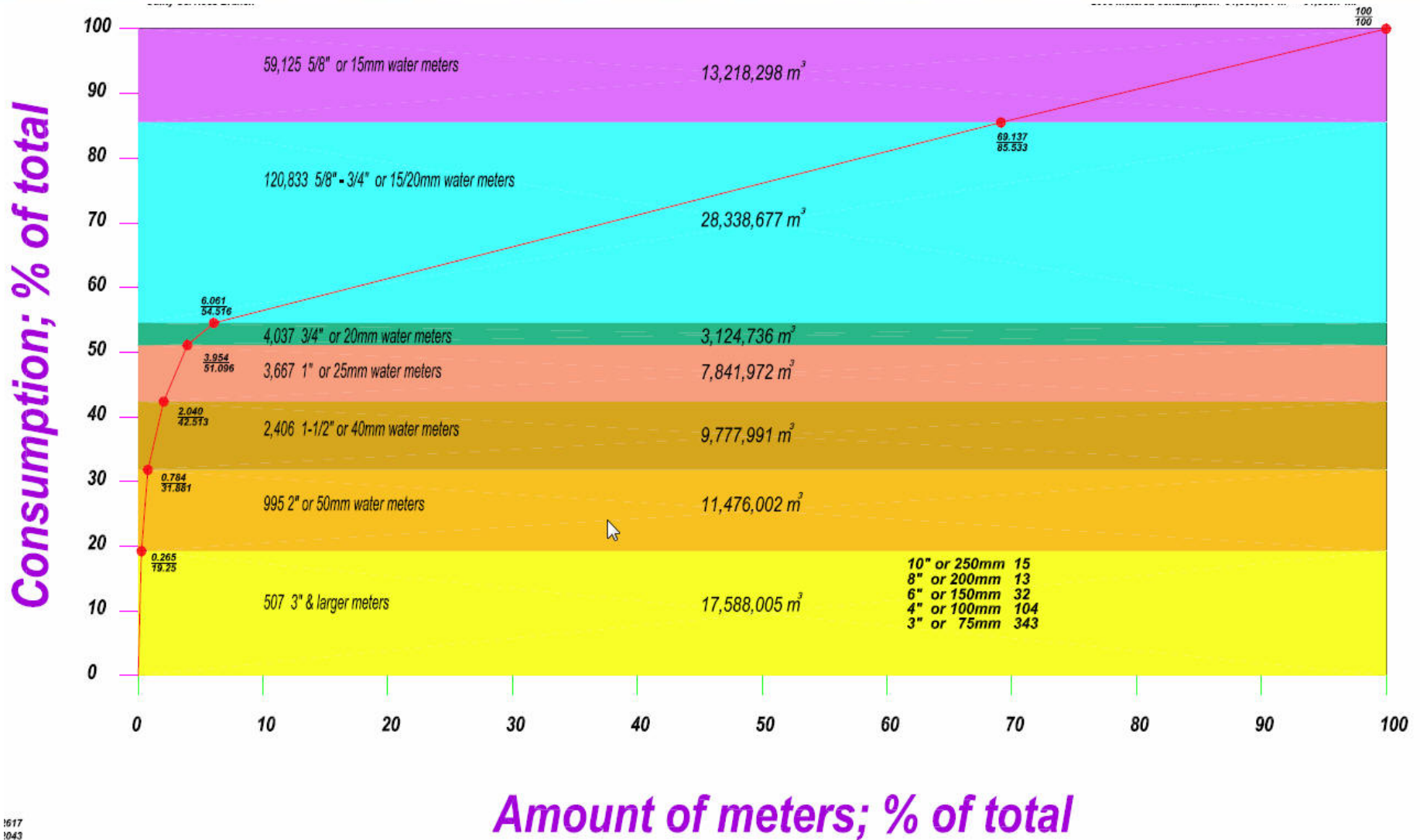
City Hall



You are here



2006 Billed Meter Consumption

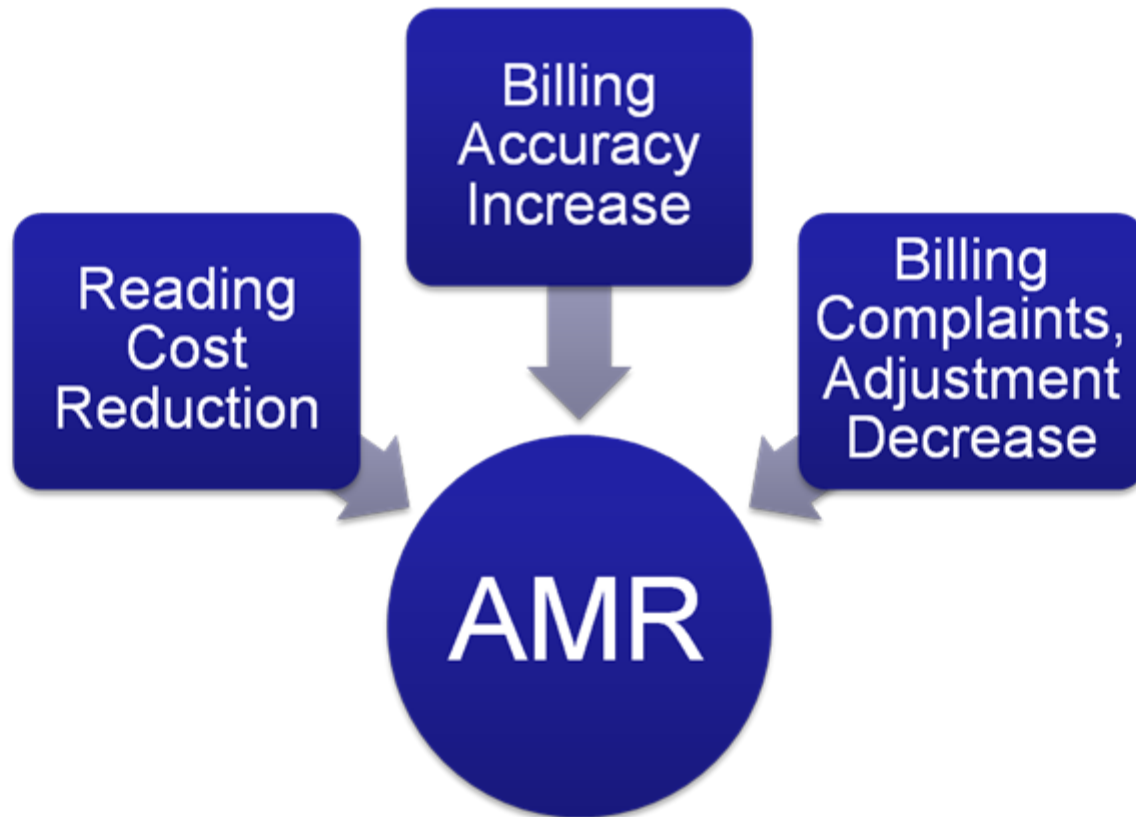




Business Drivers

OLD SCHOOL:

AMR = less meter readers = reduction in cost





The Million Dollar Meter Read

Meter Read

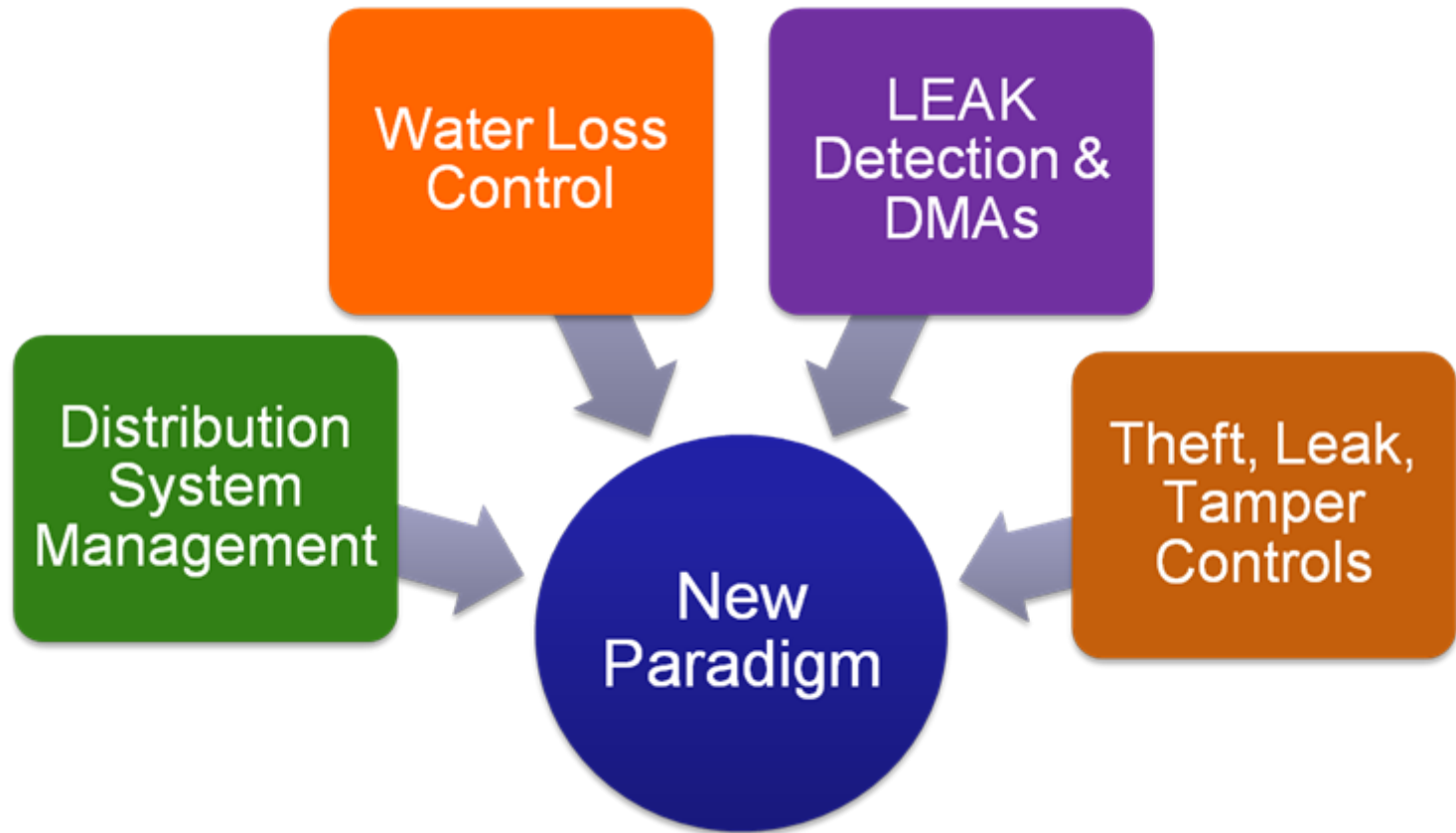
Operational
Efficiency

**WHAT OTHER
VALUE CAN WE
GENERATE
FROM THIS
INVESTMENT?**



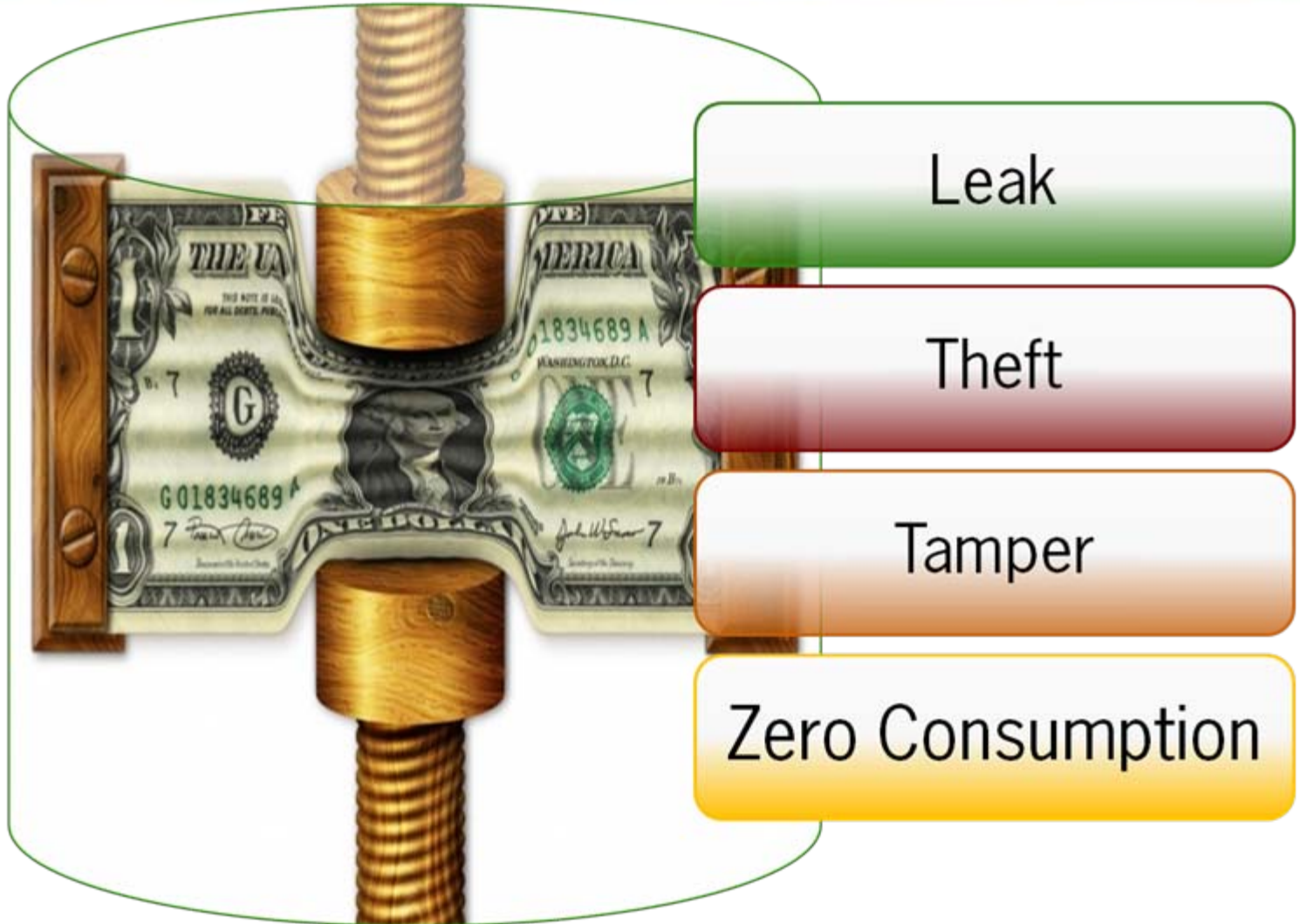
Getting SMART

**Can we “SMART METER” the SUPPLY SLIDE
To Effect DEMAND SIDE MANAGEMENT?**



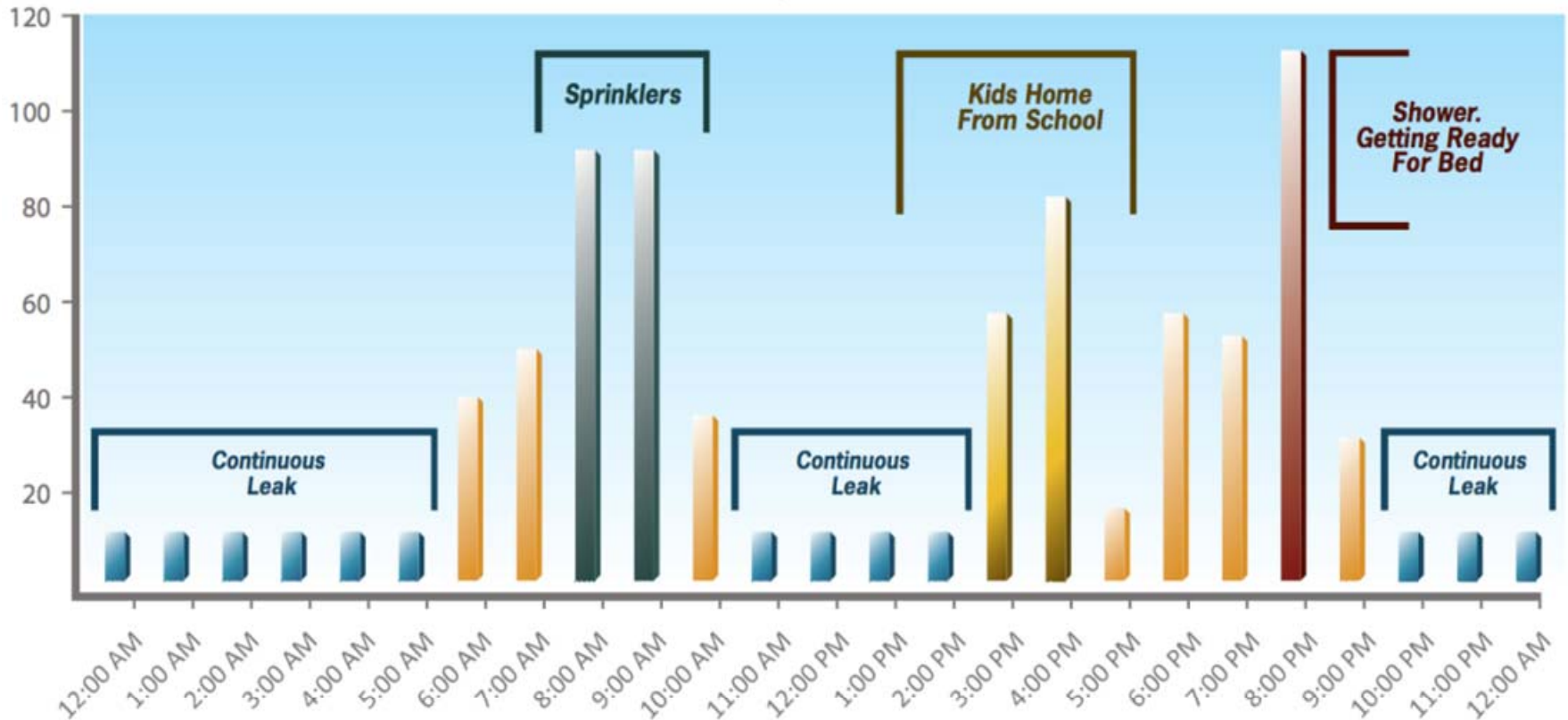


Revenue Impact Alerts™





Customer Service Smart Tools



- 4,000 Read Data Logging
- Scalable Data Resolution
- Customer Service Evidence

- Data Redundancy for multiple read platforms



AMR and DMAs

What is a District Metered Area?

District Volume

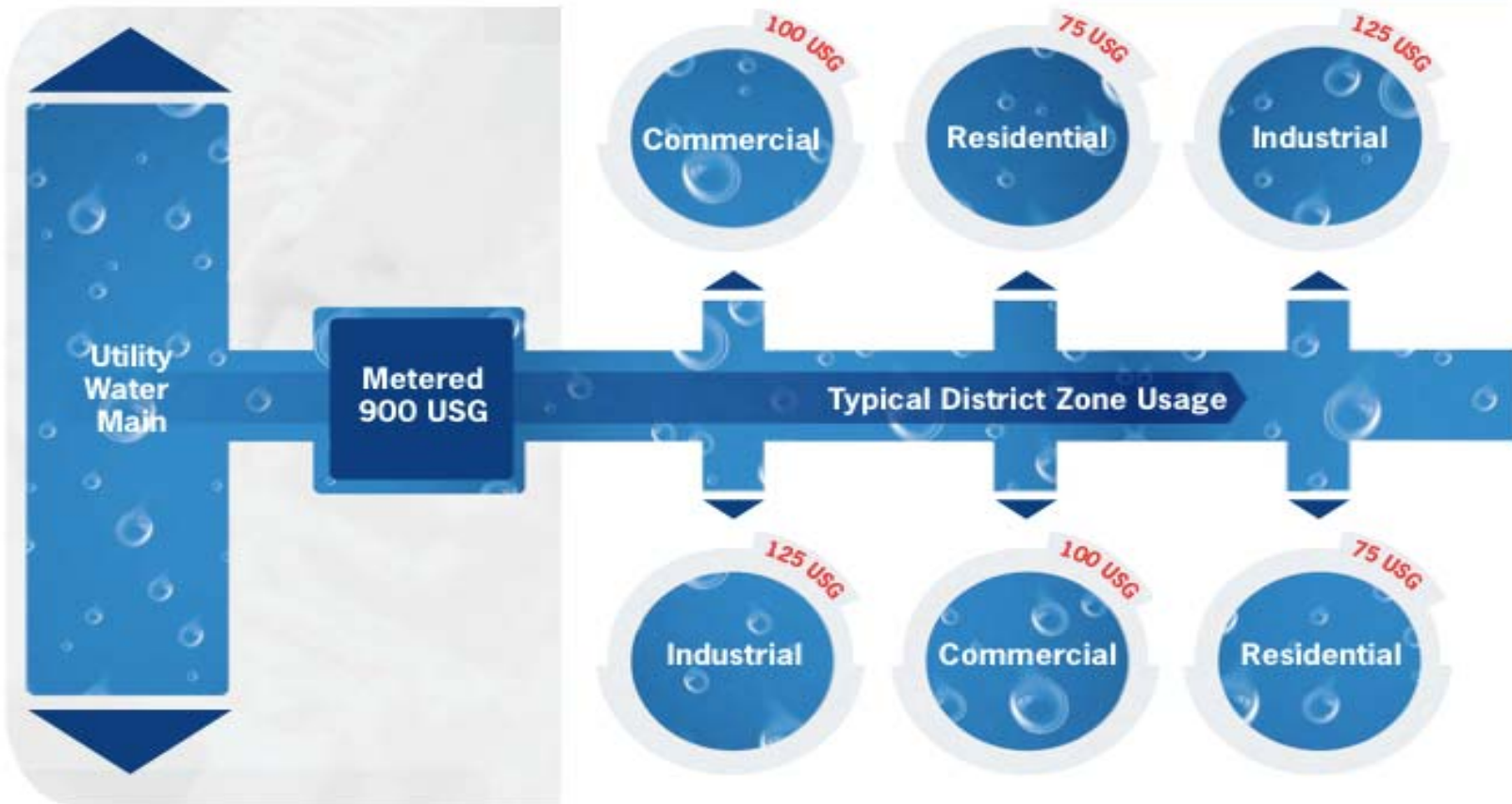
- Consumption Volume
- = Leakage

Simple
concept!



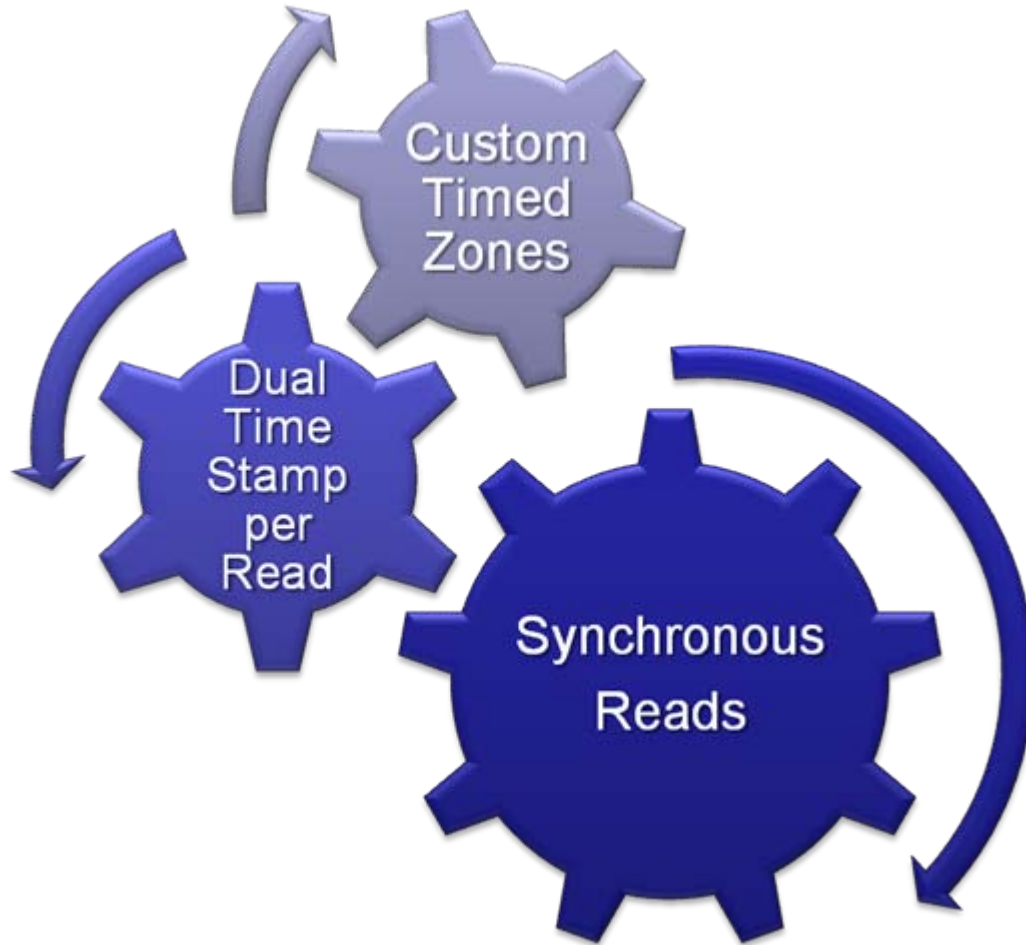


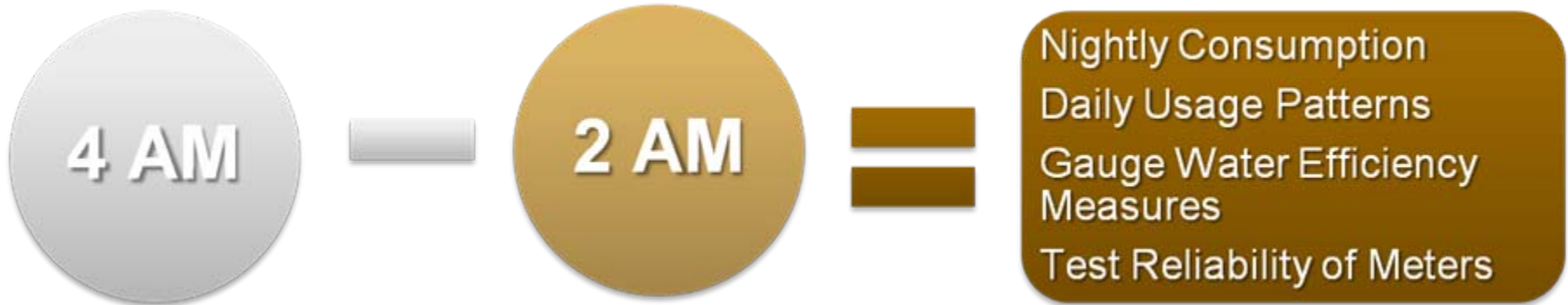
RTC Enabled DMA



Proactive Leak Management with Sync Reads™ & DMA/DMZ

Real Time Clock (RTC)







Definition of DMA

“Discrete area of a distribution system usually created by the closure of valves or complete disconnection of pipe work in which the quantity of water entering and leaving the area are metered”

Night Work?



	Day (lpm)	Night (lpm)
Leakage	100	100
Consumption	1,000	50
Metered Flow	1,100	150
Leak to Consumption Ratio	10%	200%



- * Ratio of leakage to consumption is much greater: easier to identify leakage
- * Zone meter can be much smaller, hence more accurate
- * Zone metering during two hours, with a crew on site, avoids sizing the zone meter to deal with fire flows



3G Interpreter™



This adaptor ring allows the City of Ottawa to cost effectively put RTC & AMR on their existing meters



3G Interpreter™



◀ Register Shroud

◀ Interpreter Register

◀ Bayonet Adaptor Ring

◀ 3rd Party Meter Body



3G Interpreter™



- ✳ Programmable AMR Register with Universal Applicability to; Sensus, Neptune, Badger, Hersey, AMCO/Elster, & Precision Water Meters

- ✳ SYNC READS™ - Dual Real Time Clock (RTC) – multiple synchronous time stamped reads for “Fixed Network” style meter data with 3G Mobile AMR

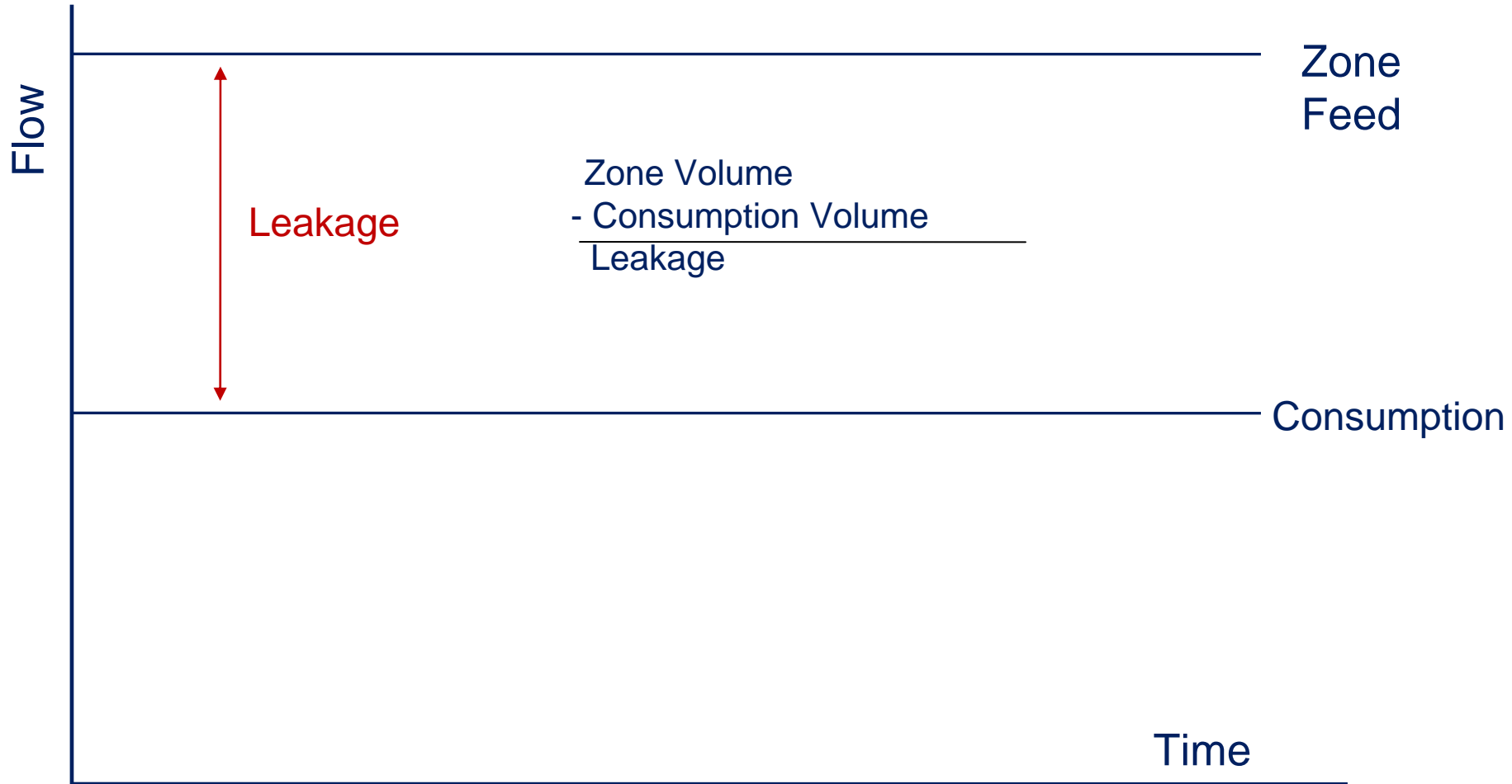
- ✳ LCD Interpreter provides instantaneous Rate-of-Flow indication for improving a customer’s conservation efforts

- ✳ 4,000 Point Data Logging & Revenue Impact Alerts



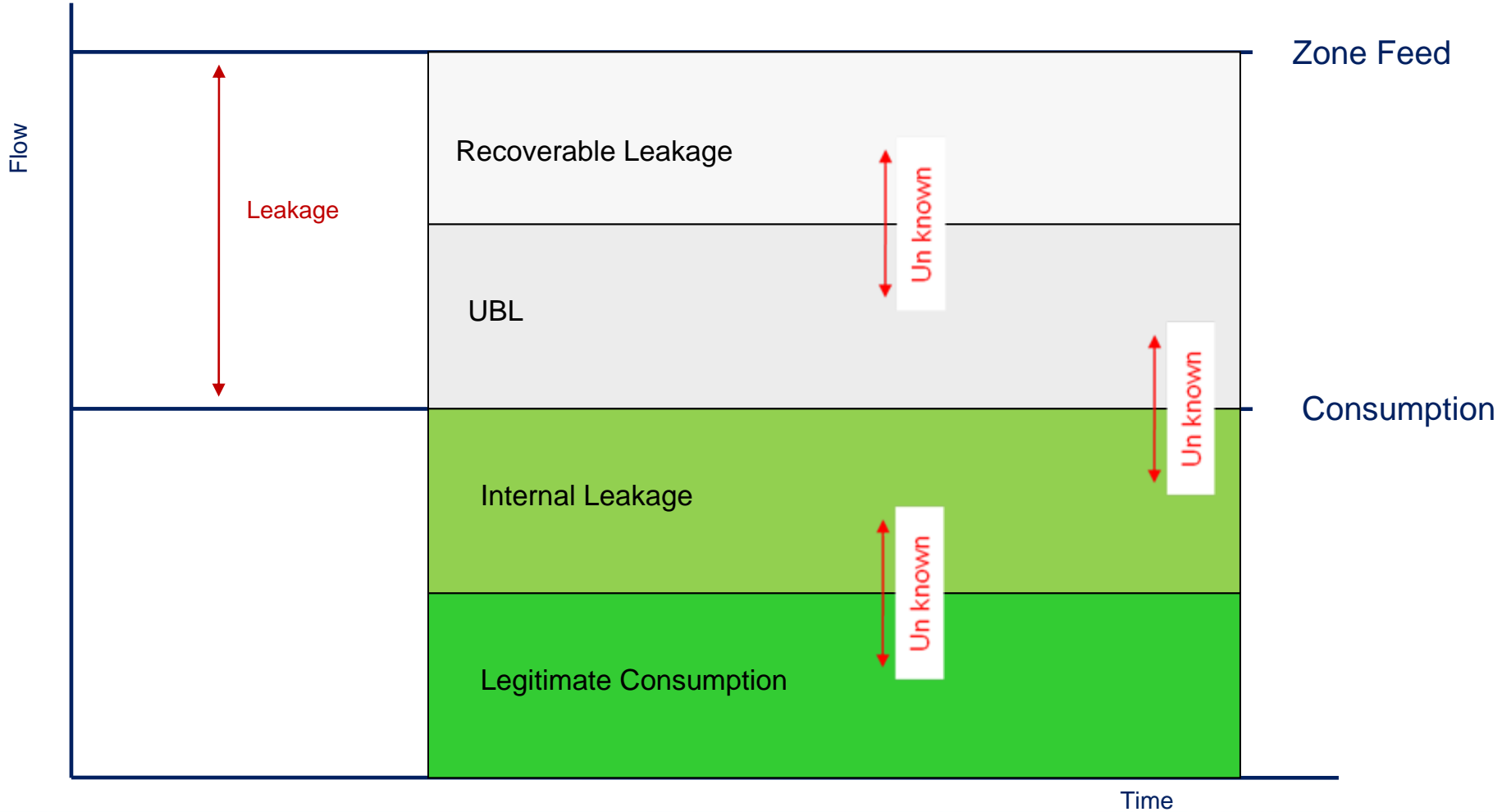


Water Balance in the Zone





Water Balance in the Zone





Unavoidable Background Leakage

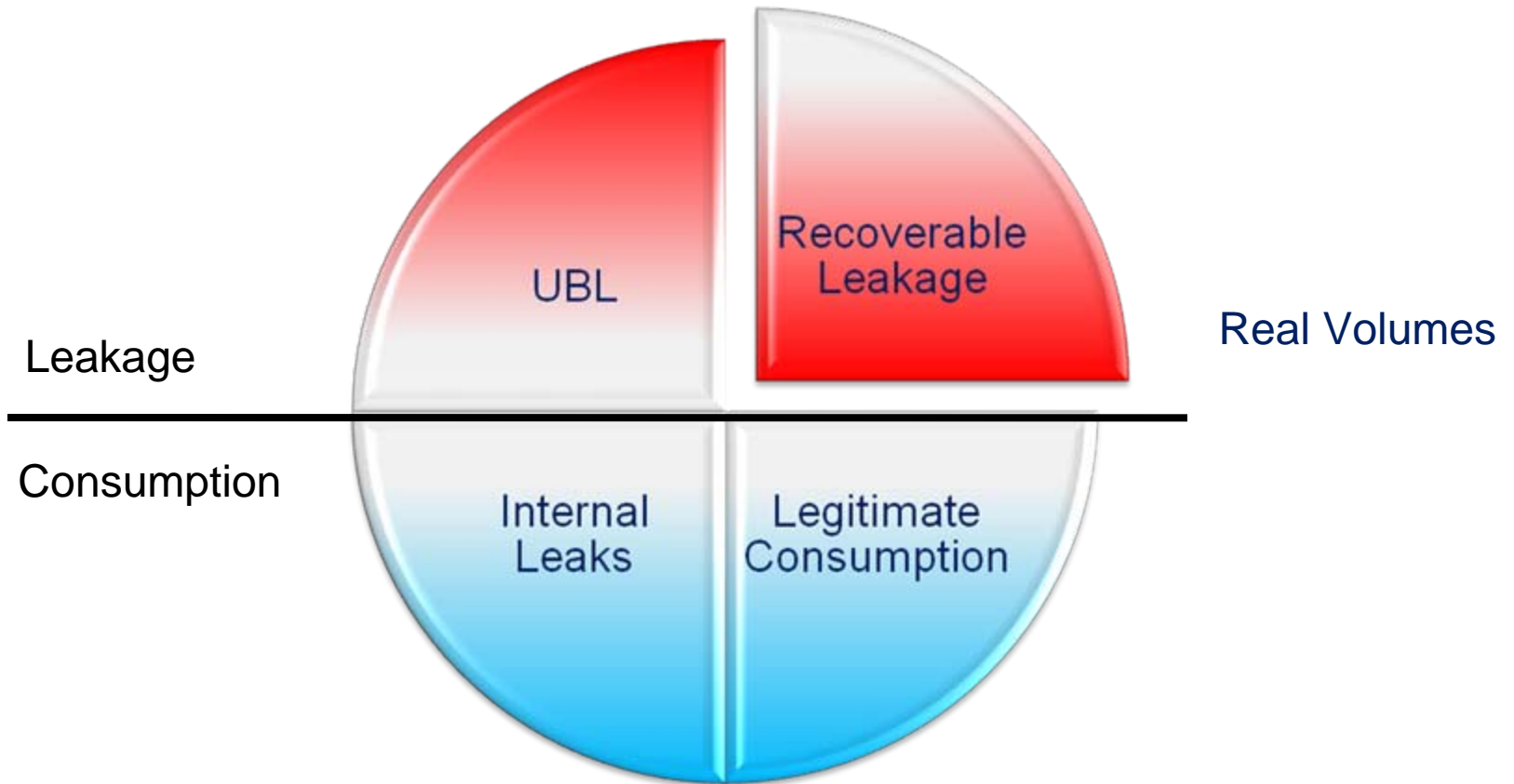
UBL Typically represents the minimum leakage that can realistically be detected with modern detection technologies

Definition:

Aggregation of source of leakage from all fittings on the distribution network that are individually too small to be detected

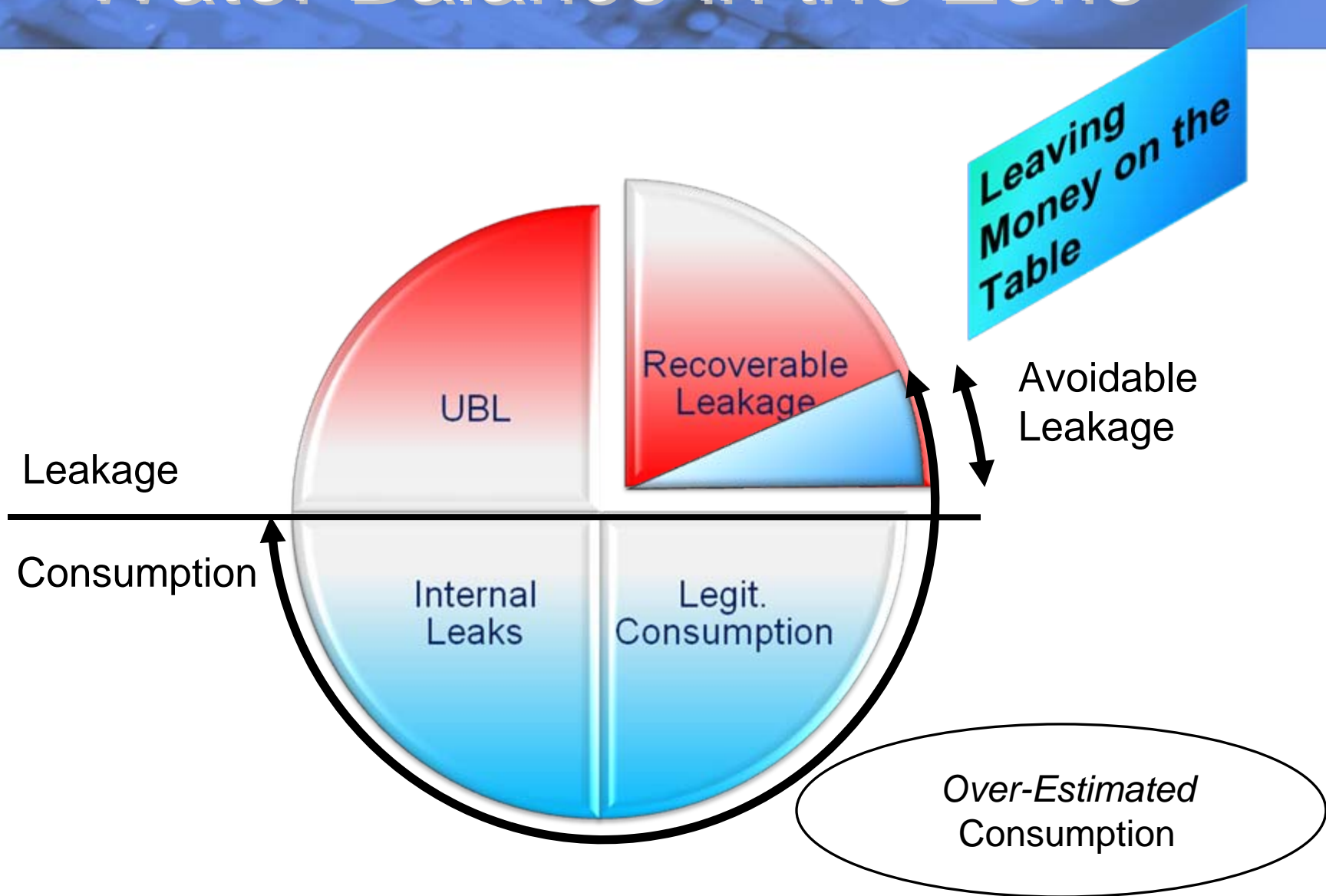


Water Balance in the Zone



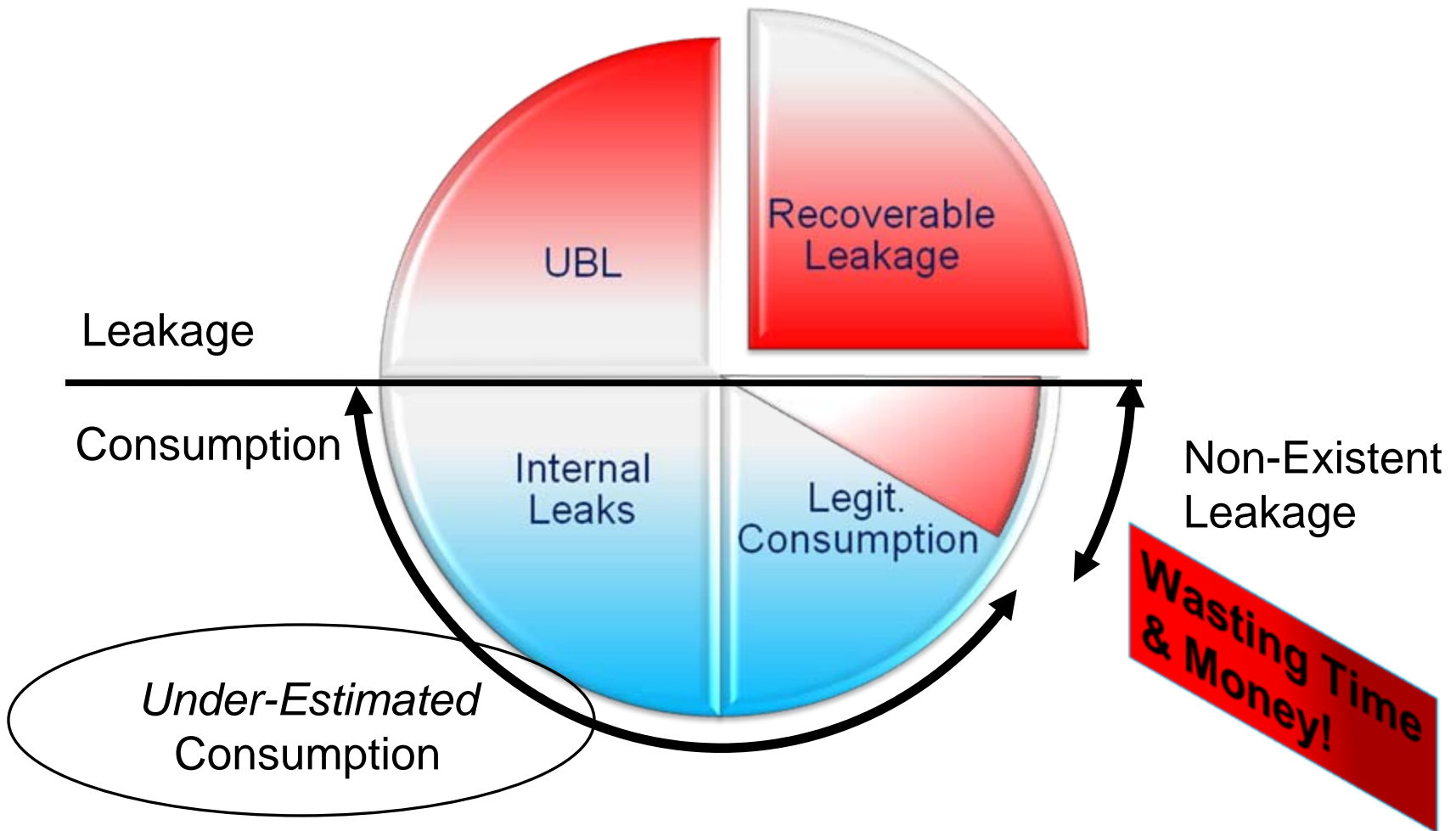


Water Balance in the Zone





Water Balance in the Zone





Why is This Important?

This is about creating value for the AMR system !!

Calculating the consumption too high means sending crews to find non-existent leaks

Calculating the consumption too low means unnecessary leakage

Either way, money is wasted



To Close the Loop...

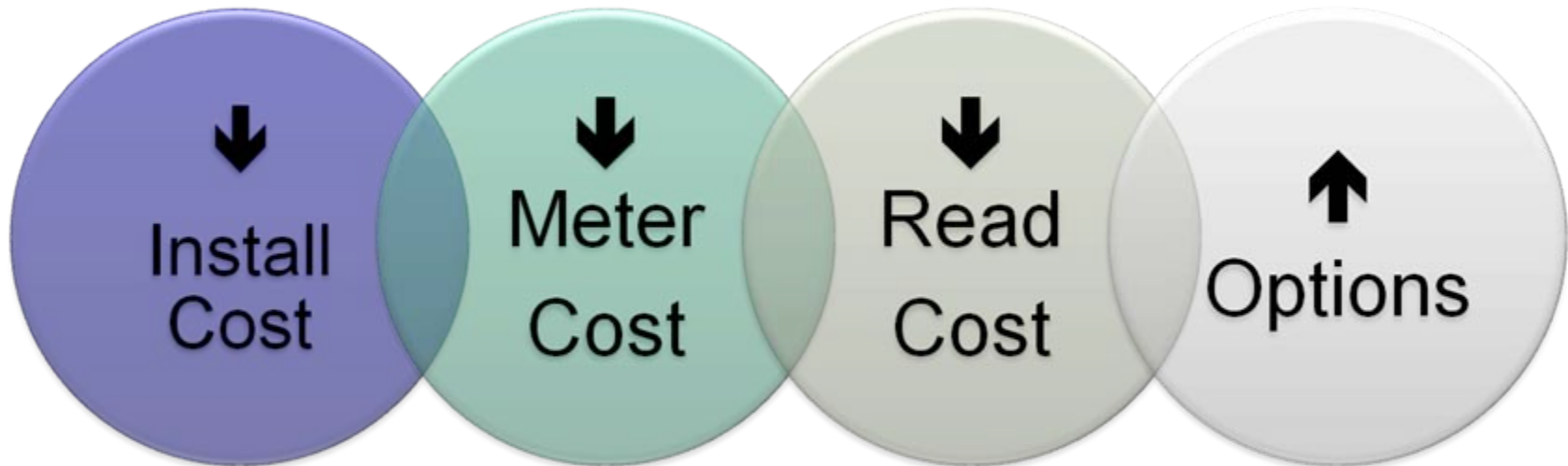
The investment must bring more than one read per month, must be more than a billing tool.

Consider using AMR on the supply management side of the business, i.e. DMAs

Technical requirements are simple:

- * AMR with Real time clock, with dual time-stamped reads
- * Simultaneous reads. Twice per night.
- * Programmable read times

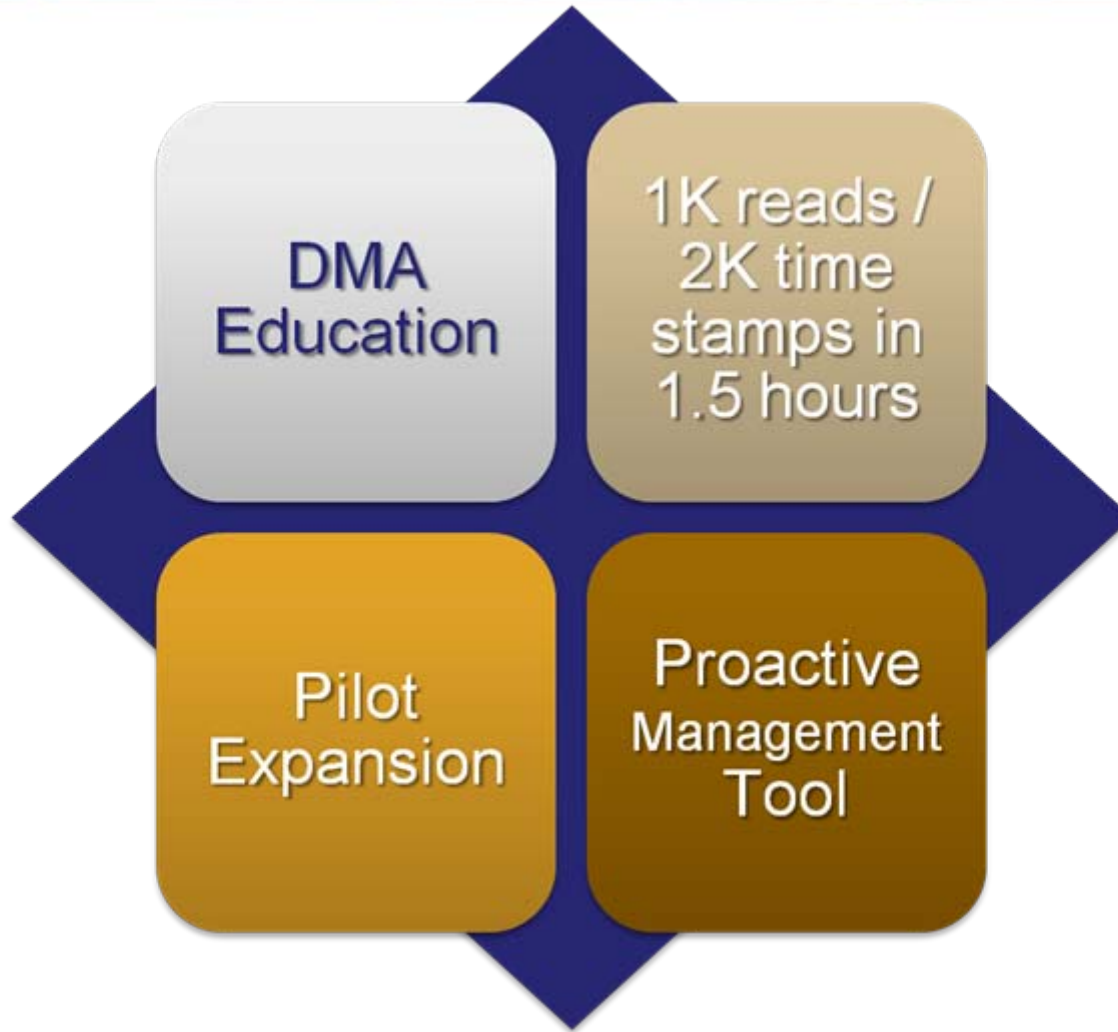
Realized Benefit for Ottawa





RTC: Tiered Billing







For more information:

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