

This presentation premiered at WaterSmart Innovations

watersmartinnovations.com



Abbotsford's Conservation Success Using Advanced Metering Infrastructure

WaterSmart Innovations
Conference & Exposition
October 9, 2014

Regional Water System



- Abbotsford Mission Water & Sewer Commission
- 2 surface sources
- 19 groundwater wells



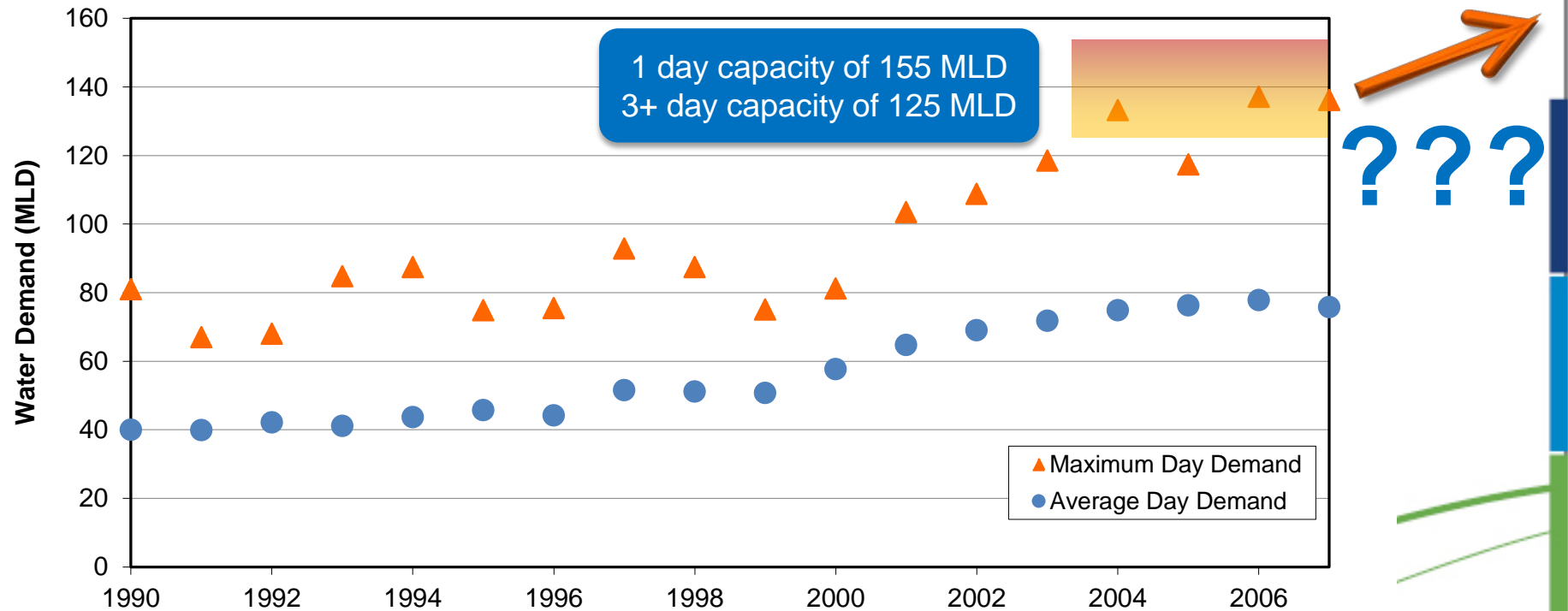
Abbotsford Water System

- Serviced population of 128,000
- 26,000 accounts
- Universal metering



2006/2007 Water Supply Issues

Abbotsford Mission Water Demand



Conservation Programs



rebate program

Low Flow Toilet Replacement

Stop flushing money down the toilet and start conserving water!



ABBOTSFORD Mission ON THE FRIDGE



Garden Hose Timer A Water Saver

Water responsibly during drought conditions. Check local restrictions prior to watering.



our water matters
Conserve & Reserve.

Speed Cleaning

A quick 5 minute shower gets you just as clean and can save an average family up to 256 litres of water per day. That's better for the environment and your water bill. Keep it speedy!

Abbotsford Mission
Water & Sewer Services
www.ourwatermatters.ca

our water matters
Conserve & Reserve.

Don't be a drip

Leaky faucets and pipes and old leaky toilets can waste up to 16 bathtubs of water in just one month. Don't be a drip. Fix leaks around your home.

Abbotsford Mission
Water & Sewer Services
www.ourwatermatters.ca



Advanced Metering Infrastructure

- Meters
- Endpoints
- Collector stations
- Data repository
- Data processing software



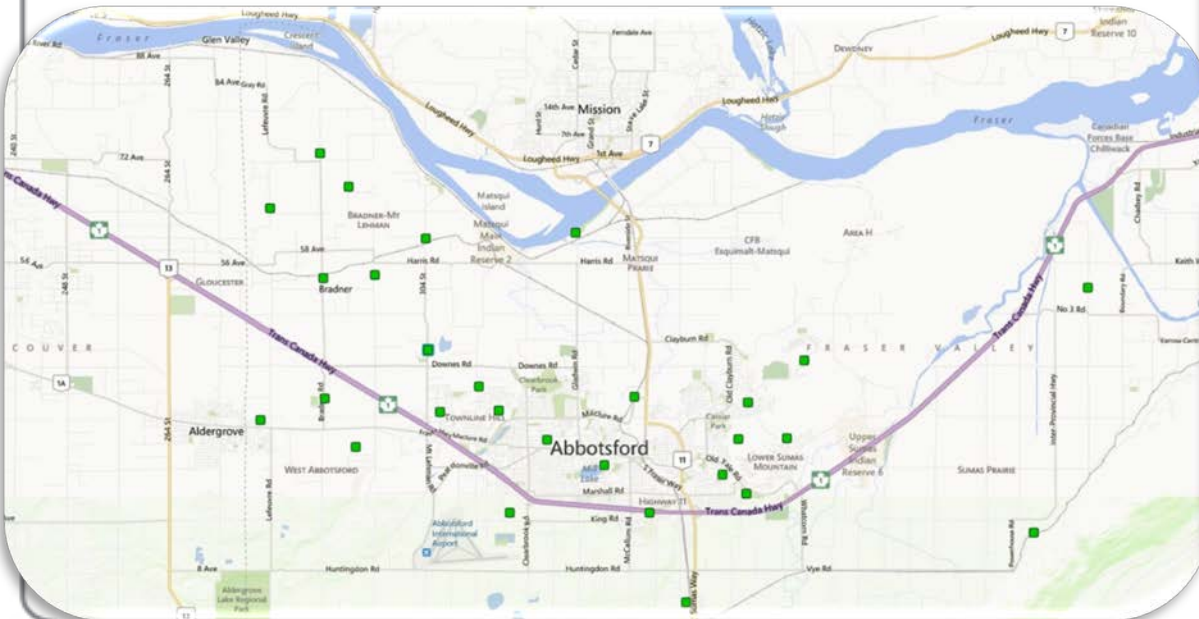
Barriers and Misconceptions

- Funding
- Political support
- Public perceptions



Abbotsford AMI Project

- 19,000 new meters
- 25,000 endpoints (now ~26,000)
- 28 collector stations



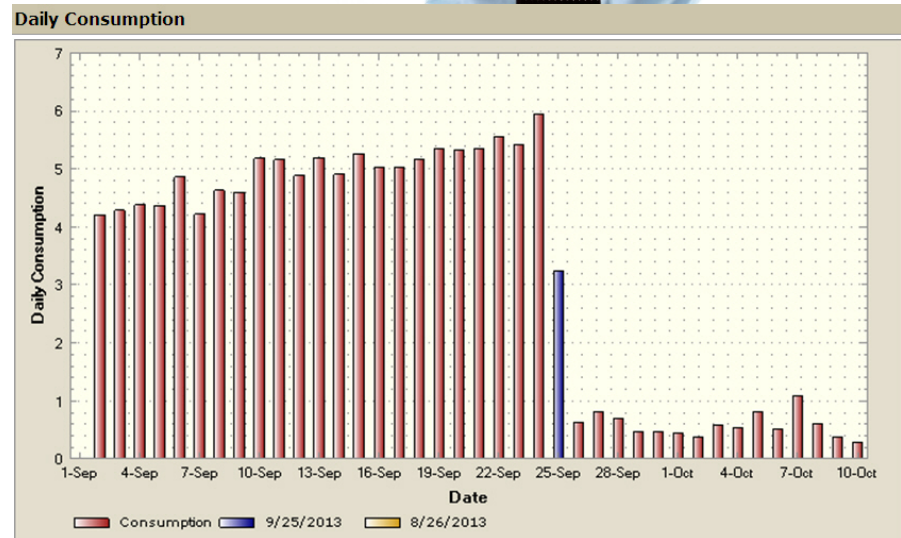
Abbotsford AMI Project

- Installed 2010-2011
- Billing in 2011
- 230 million data points per year (600,000 per day)
- Customer data hourly, weekly, monthly



Benefits of AMI

- Remote and continuous monitoring
- Usage information to customers
- Accurate meter reading data



Benefits of AMI

- Accurate profile classes
- Improved security and tamper detection
- Less financial burden correcting mistakes

Benefits of AMI

- Better manage supply in times of shortages
- Improved billing and tracking of usage for the customer
- Effective conservation programs

UTILITY BILL

ACCT NUMBER: 9000105553 BILLING FROM: Sep 1, 2011
 ACCESS CODE: 700084 BILLING TO: Oct 31, 2011
 DUE DATE: Jan 4, 2012 BILLING DATE: Nov 14, 2011

NAME: ABBOTSFORD (CITY)
 FOR SERVICE AT: 99999 ALTA AVE FOLIO: 3156040851

METER NO.	CURRENT READING	PREV READING	CONSUMPTION
A-00068593865	226279	194458	31821 LITRES / 31.82 CUBIC METERS

DATE	DESCRIPTION	RATE	UNITS	PER UNIT CONSUMPTION	AMOUNT
Nov 14, 2011	RESIDENTIAL WATER	0 - 60 m ³ @ \$1.13/m ³	1	31.82 CUBIC METERS	\$35.96
Nov 14, 2011	RESIDENTIAL SEWER	90% of m ³ @ \$0.84/m ³	1	28.64 CUBIC METERS	\$24.06
AMOUNT NOW DUE:					\$60.02


CONTACT INFORMATION
 For information regarding consumption, please contact the Engineering Department water use line at 604-864-5511 or email wateruse@abbotsford.ca.
 For information regarding billing, please contact the Finance Department at 604-864-5522 or email cash@abbotsford.ca.
 Go to our website at www.abbotsford.ca for more information.

HOLIDAY CLOSURE
 The City of Abbotsford will be closed from Monday December 26, 2011 to Friday December 30, 2011 and will re-open after the holiday on Monday January 2, 2012.
 Regular office hours are Monday to Friday 8:30 am to 4:30 pm.

PAYMENT OPTIONS
 Payable at most Financial Institutions.
 By internet or telephone banking, please update your system with the "ACCT NUMBER" as shown on this bill. Your utility account number is different from your tax account number.
 In person at City Hall by cash, cheque or Interac. Make cheques payable to City of Abbotsford. CREDIT CARDS ARE NOT ACCEPTED.
 By our Auto Debt Program - For more information see our website at www.abbotsford.ca

UTILITY BILL BILLING DATE: Nov 14, 2011 DETACH THIS PORTION AND RETURN WITH YOUR PAYMENT
 CITY OF ABBOTSFORD DUE DATE: Jan 4, 2012 AMOUNT NOW DUE: **\$60.02**
 32315 South Fraser Way ACCT NUMBER: 9000105553
 Abbotsford, BC V2T 1W7

FOR SERVICE AT: 99999 ALTA AVE



How to Read Your Bi-monthly Utility Bill

Your utility account number. Use this number to pay this bill through online or telephone banking and when speaking to City of Abbotsford staff.

Quote this number when speaking to City of Abbotsford staff.

Meter identification number

Due date of bill

Previous meter reading

Actual usage of water in m³

Charge per cubic meter

Meter reading for this invoice

The services you are being charged for

Visit www.ourwatermatters.ca for new programs and ideas that will save you water and money!

www.abbotsford.ca/utilities

UTILITY BILL

ACCT NUMBER: 9000105553 BILLING FROM: Sep 1, 2011
 ACCESS CODE: 700084 BILLING TO: Oct 31, 2011
 DUE DATE: Jan 4, 2012 BILLING DATE: Nov 14, 2011

NAME: ABBOTSFORD (CITY)
 FOR SERVICE AT: 99999 ALTA AVE FOLIO: 3156040851

METER NO.	CURRENT READING	PREV READING	CONSUMPTION
A-00068593865	226279	194458	31821 LITRES / 31.82 CUBIC METERS

DATE	DESCRIPTION	RATE	UNITS	PER UNIT CONSUMPTION	AMOUNT
Nov 14, 2011	RESIDENTIAL WATER	0 - 60 m ³ @ \$1.13/m ³	1	31.82 CUBIC METERS	\$35.96
Nov 14, 2011	RESIDENTIAL SEWER	90% of m ³ @ \$0.84/m ³	1	28.64 CUBIC METERS	\$24.06
AMOUNT NOW DUE:					\$60.02

Dates of billing period

Why AMI Is Important For Conservation

- Customer awareness
 - Bi-monthly billing
 - Usage reminders
 - Audits
 - Leak notification
 - Consumer engagement

Residential Irrigation and Landscape



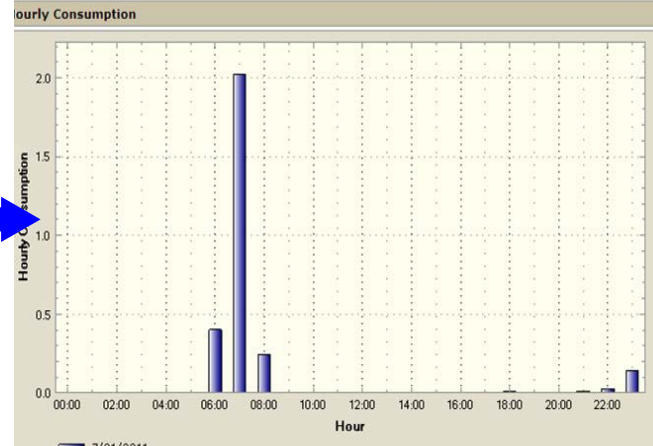
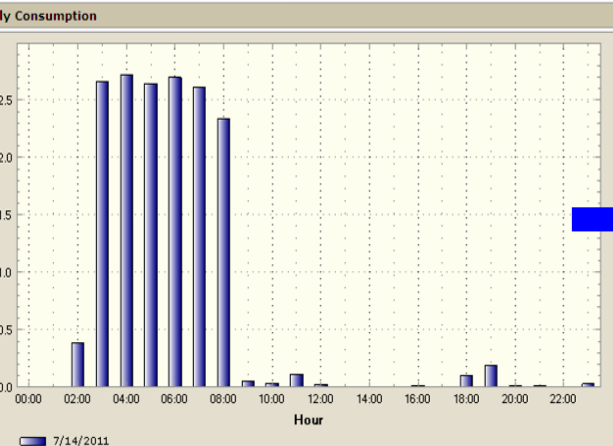
Annual irrigation water use: **117m³**
 Cost of annual irrigation: **\$232.83**
 Potential Water savings per irrigation season:
\$131.34 = 66 m³



Zone	Deficiency	%	Solution	Est. Cost (\$)	m ³ Saving
1	Overpressurized, overspray	30%	Pressure Regulating Stems	180	7.16
2	Overspray, leak	40%	Fix leak	0	6.36
3	Low sprinkler heads, leaks and poor run-times	40%	Raise heads, convert to PRS, and consider rotary nozzles	450	6.36
4	Low heads, overspray, low head drainage, poor layout	40%	Raise heads, fix leak	0	6.36

Top Water Saving Opportunities

1. Convert to drip and PRS heads where possible
2. Fix leaks

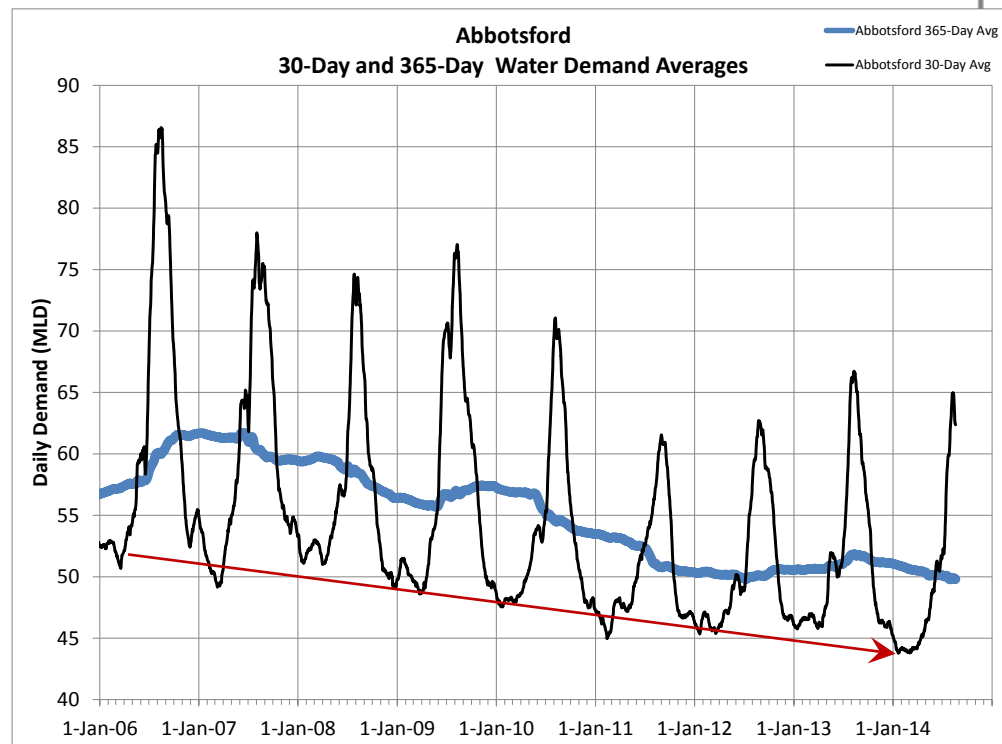


PRS	484	5.72
inside line	0	2.36
Rotary nozzles	425	3.9
low irrigation, principles	0	10.73
use convert	0	0
heads	0	0
rotary nozzles	450	6.36
Total	1,809	56.27



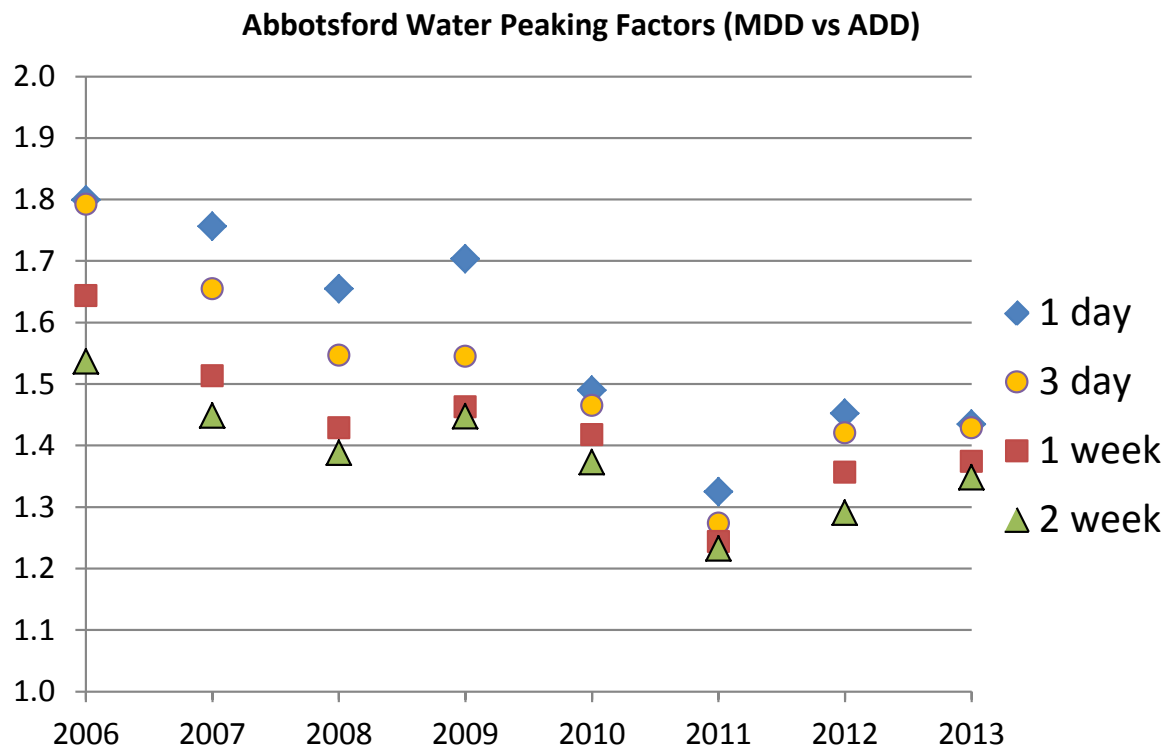
Program Success

- Continued drop in base demand
- Reduced summer demand
- Ongoing leak notifications to customers (prevent large bills)



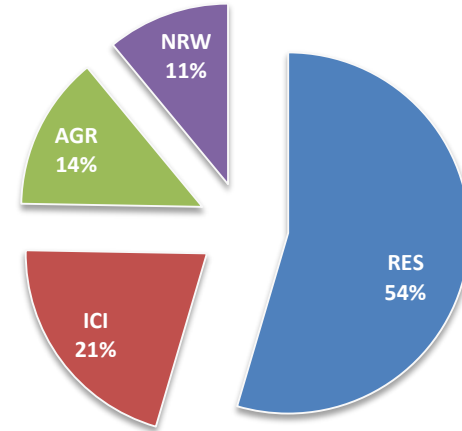
Program Success

- Smaller gap between peak day and summer average
- Reduced stress on Regional System



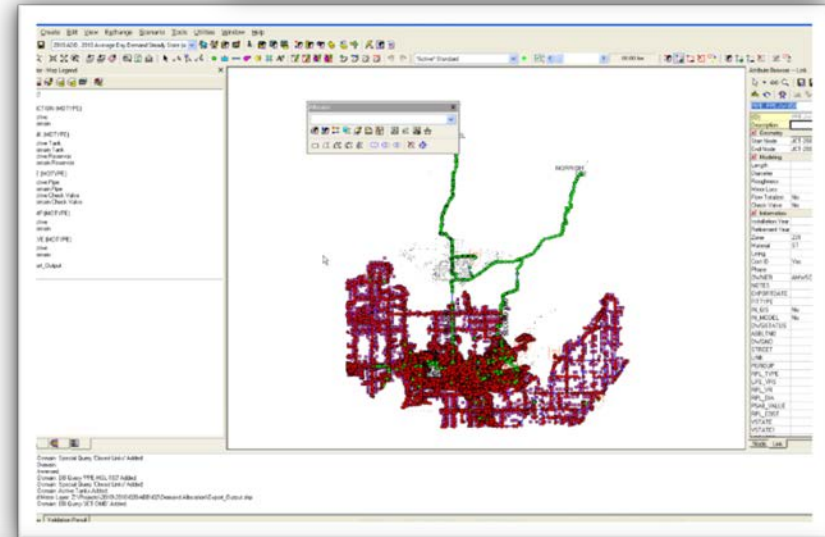
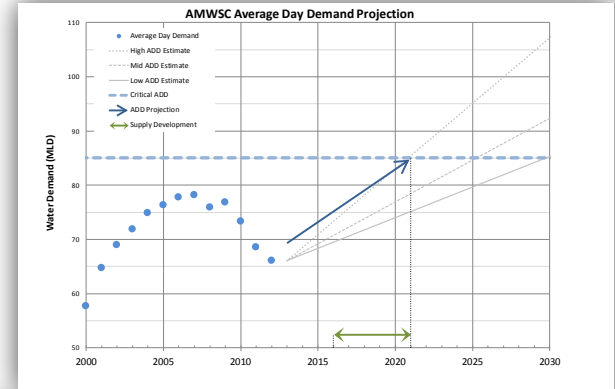
Future Initiatives

- Improved prioritization of capital spending
- Analysis of sector use
- User rate options
- Leak detection
- Real-time analysis of data



Future Initiatives

- Monitor sprinkling infractions
- Accurate growth projections
- Calibration of hydraulic model
- Web portal



Dashboard

Consumption:

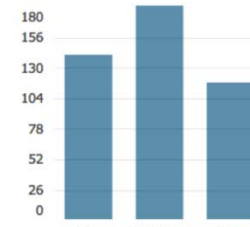
City records show your household averaged

139

gallons of water per day (GPD) over the last billing cycle

Comparisons:

(Lower is better)



Rank vs Neighbors:

(Lower is better)



Your household rank is 34 of 103 in your neighborhood.

Questions?

Brent Schmitt, P.Eng.

City of Abbotsford

bschmitt@abbotsford.ca

604-557-1479