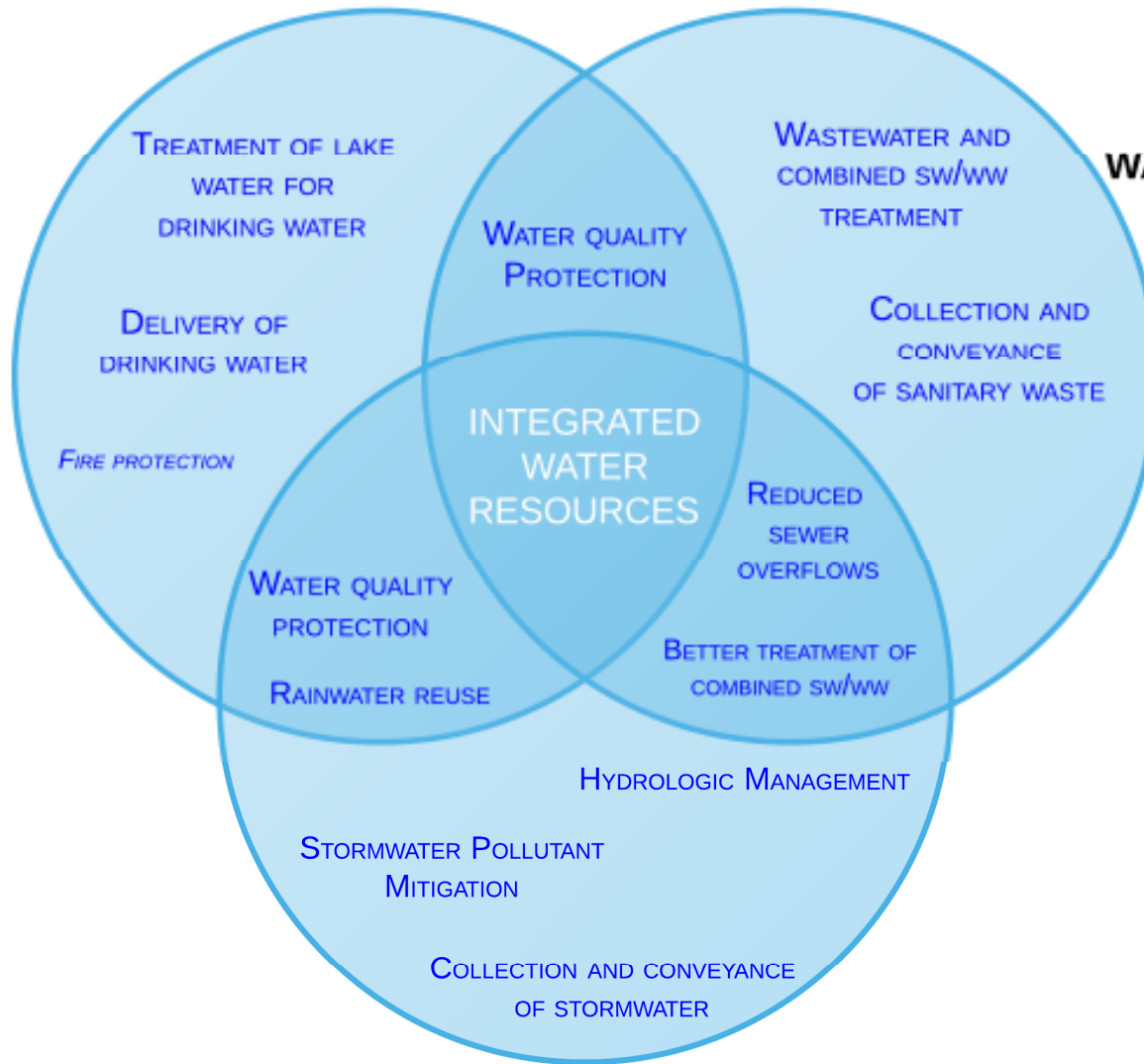


*Water Resources
Staffing Resiliency Plan
Overview*



WATER
\$7 M



WASTEWATER
\$8 M



STORMWATER

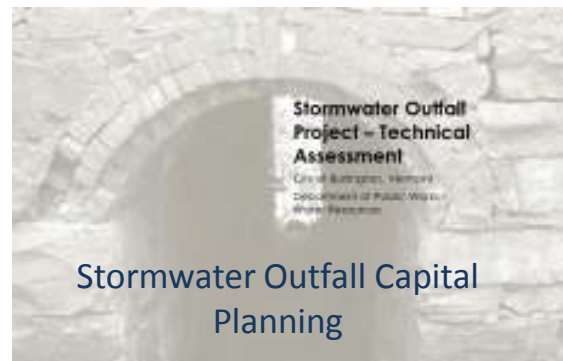
\$1.6 M



Water Resources, by the Numbers

- **1** water plant and finished water pump house
- **2** pump houses (finished water and reservoir)
- **110** miles of water mains
- **2** Reservoirs (7MG storage)
- **2** Water Towers (UVM 500,000 gallons; Redstone 150,000 gallons)
- **10,000+** water meters
- **900** fire hydrants
- **3** Wastewater Treatment Plants
- **49** miles of sanitary sewer
- **45** miles of combined sanitary / storm sewer
- **37** miles of storm sewer
- **25** pump stations
- **102** storm water outfalls
- **3200** catch basins
- **2** post-closure landfills
- **1** methane powered generating station

FY18 Water Resources Work



SEWER RELINING



Water Distribution Reinvestment



- Bond – 88% YES
- \$2M Series 2018A



- \$2M Series 2018B
 - Additional 1.7 miles

Year 2 Streets		
Street	Rehab Work	# of miles
Flynn Avenue - North Main (Pine to Shelburne)	Relining	1.31
Flynn Avenue - South Main (Pine to Shelburne)		
Flynn Avenue - Pine to 255 Flynn Ave		
Charlotte Street		
Hillcrest Drive		
Allen Street		
Maple Street (S. Willard to S. Prospect)		
Church Street (Maple to Adams)	Replace	0.54
Ethan Allen Parkway (N. Ave to Lopes)		
Birch Court		
Cayuga Court Services		

3-1-2018

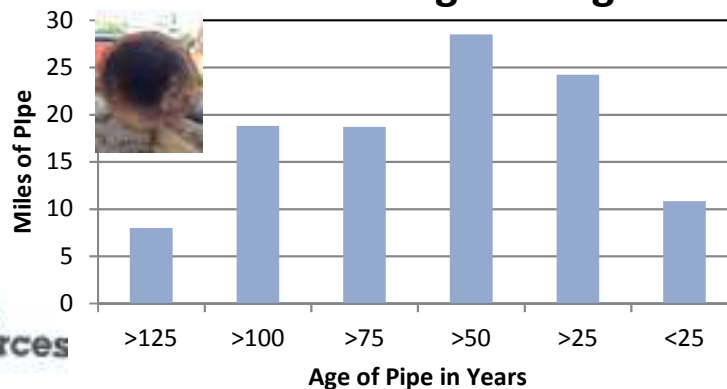
Water Main Break Rates In the USA and Canada: A Comprehensive Study

Steven Folkman
Utah State University

Findings:

- Break Rates Have Increased 27% in the Past 6 Years
- 82% of Cast Iron Pipes are Over 50 Years Old and are Experiencing a 46% Increase in Break Rates
 - 75% of Burlington's Pipes are Cast Iron!

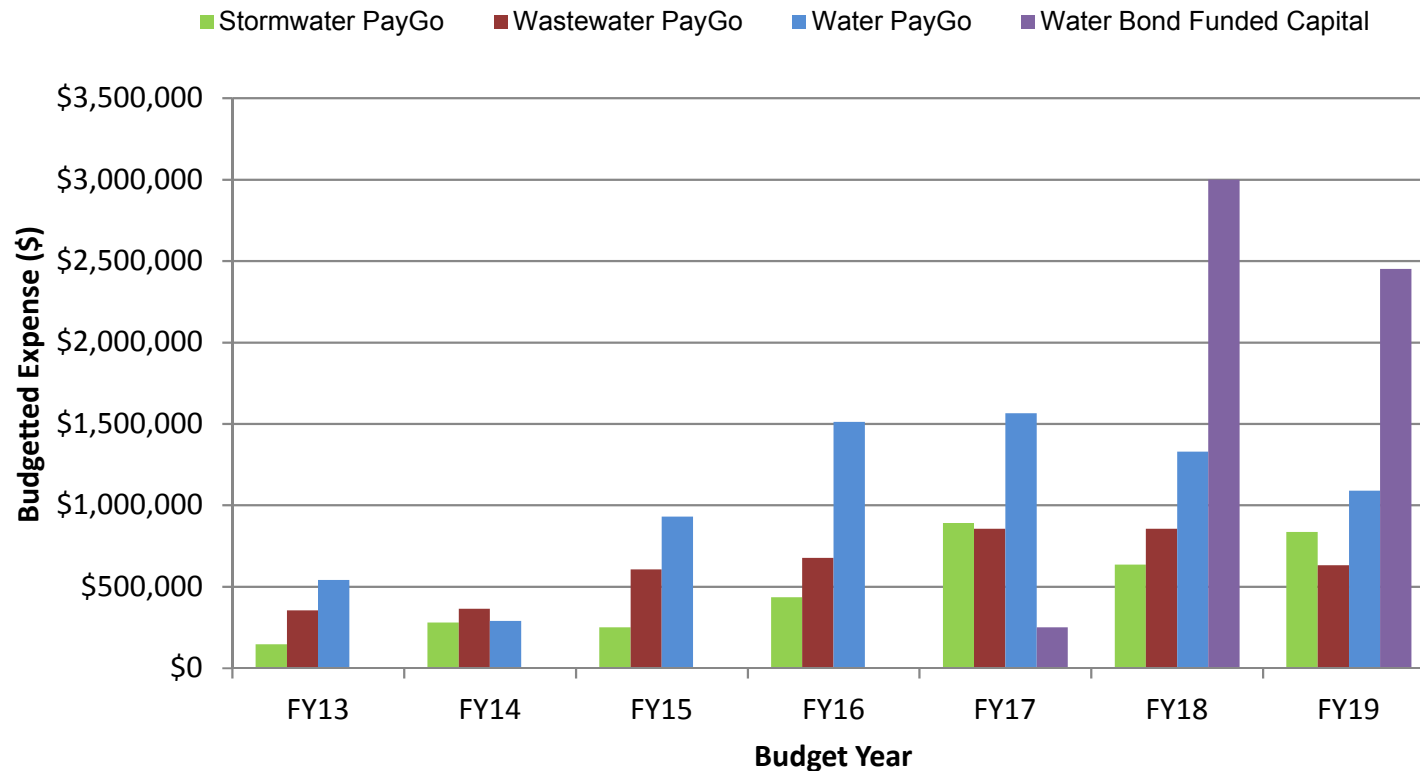
Water Main Length vs Age



Key Drivers (expense side) cont'd.

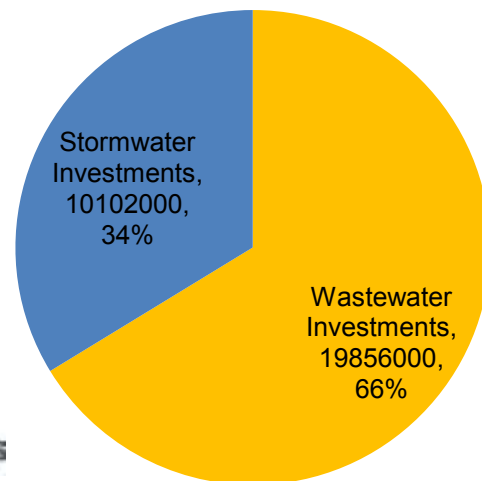
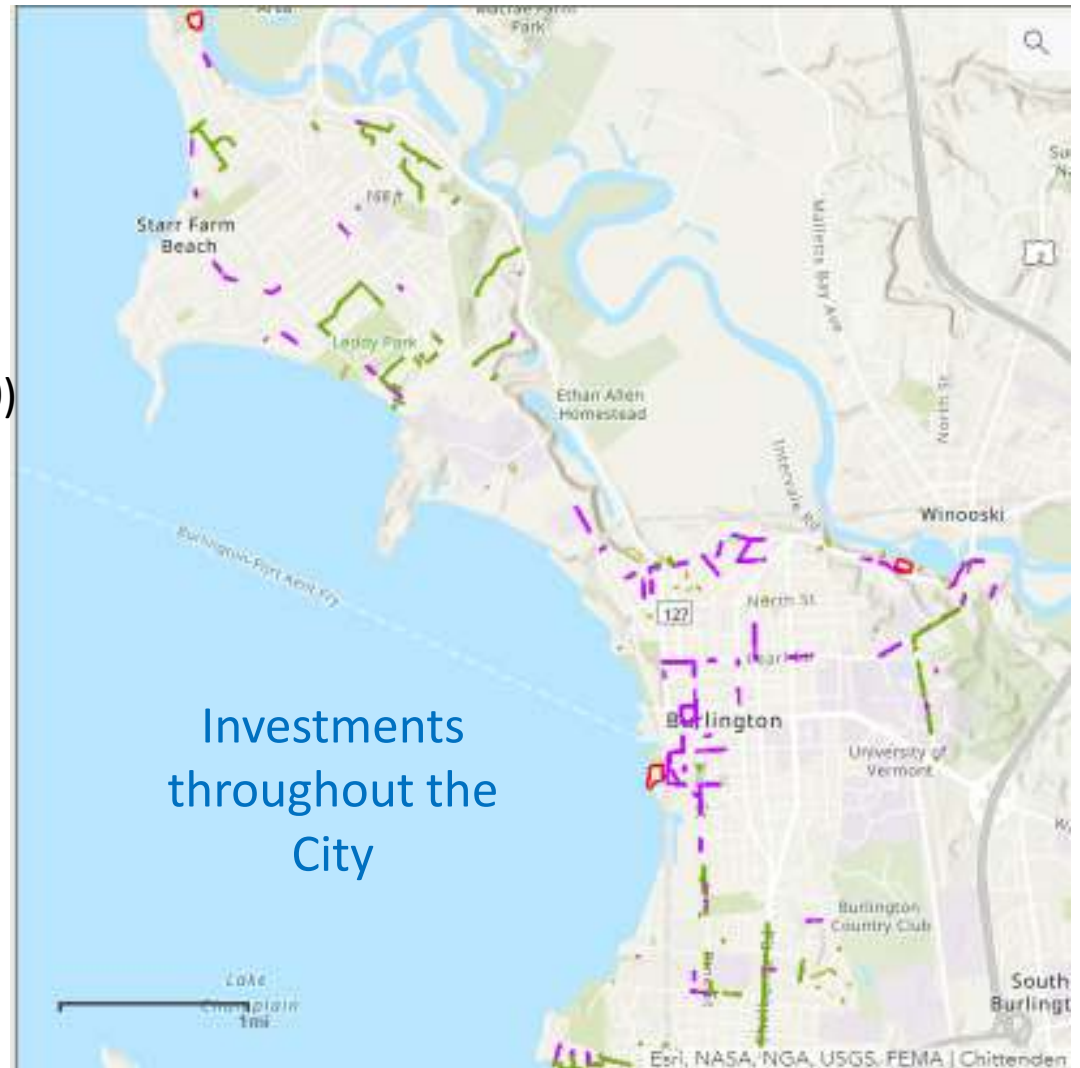
- Continued focus on capital improvements

Water Resources Annual Capital Budget (FY13 - FY19)



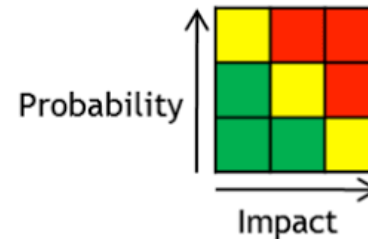
\$30 M OF CLEAN WATER PROJECTS

- November 6, 2018 Bond Vote - **92% Approved**
- Design consultant procurement and CWSRF Loan Acquisition underway and due for completion ~ May 2018
 - SCADA/PLC (Fall 2019)
 - Disinfection System (Winter 19/20)
 - Pump Stations (2020)
 - SW Outfalls (design underway)
- Awarded \$1M in CSO Green Infrastructure Retrofit Grants



Efficiencies/Continuous Improvement

- Enhanced GIS/ field data collection, move towards asset management
- Risk based capital planning



- Water meter reading improvements
- Re-organization of Wastewater work group structure
- Staff development opportunities
- Advancing on-call contracts for excavation services (emergency and routine)
- Contracting with an asset management firm for rehabilitation and long-term maintenance of elevated water storage tanks

RISKS

- Playing catch up on system(s) wide Infrastructure Deficits
- Backlog of preventative maintenance (valves, hydrants) and “housekeeping” maintenance
- Need to update/strengthen operational SOPs
- Need to strengthen compliance/enforcement programs
- New/changing environmental regulations
- Public/Private projects requiring detailed review and coordinated investments
- Decreasing water/wastewater usage per capita while costs increase
- Retirements, Recruitment and Retention cycles
- **Meter billing error discoveries (November 2017)**
- **Wastewater Incidents (Summer 2018)**



Risk Management

- Failure is not an option
- Assess overall organization in forward looking manner vs. piece meal approach - determine how to resource:
 - historical/backlog needs
 - current/immediate pressures
 - near term future needs
- Third Party input, fresh eyes

Strategies to Reduce Risks

- Focus staff on preventative maintenance (PM) not capital work
- Strengthen meter to bill systems
- Renew infrastructure by delivering on greatly expanded capital program
- Develop and/or formalize ordinance compliance **programs**, e.g.
 - high strength industrial waste
 - cross connection/backflow prevention
- Work to make sure staffing is efficiently programmed for safety and productivity
- Where possible, staff should spend majority of time in “zone of genius”
- Ensure organization has sufficient time and staff resources allocated for SOP, work flow and policy development and maintenance (learning organization)
- Develop **more robust leadership team** to allow Assistant Director to focus on vision, strategy and tactics and more complex technical projects that may have a generational impact.

Human Capital Reinvestment

- Restructure meter functions
 - Create two field crew “work groups” – Metering and Distribution
 - Dedicate **3** water field crew staff to metering vs. 2 FTEs
 - Join to “Customer Care/Billing Team” to improve communication and joint accountability
- Add **Customer Care Lead**
 - to allow for enrichment of Utility Billing Administrator position
 - Customer Care and Finance Manager
 - Increase financial management horsepower
 - Focus on revenue assurance processes
 - Provide administrative support to compliance programs
 - Further improve customer care
 - Provide career ladder

Human Capital Reinvestment

- Create Policy and Programs Team (with a Policy and Program Manager)
 - **Water Resources Programs Manager**
 - Coordinate with AD and then lead policy, program, process development for all WR
 - Stormwater Coordinator
 - **Water Resource Technician** (Environmental Compliance and engineering support)
- Engineering
 - Immediately add another **staff engineer** to support existing needs and W/WW/SW capital investments, as well as technical support needed for programmatic development
 - Monitor need for Water Resources Engineering technician
 - Monitor need for limited service project accounting/project management position in FY20 (if reimburseable through SRF)
- Wastewater
 - Add **Wastewater Operator in Training** to create “feeder” position to upcoming WW retirements

Opportunities for Continued Optimization

- Asset Management/Work order software
- Interactive Voice Response telephone
- Working with Water Operators on schedule changes to potentially have more staff on during the day vs. night
- Real-time meter data
- Cross-training between East, North and Pump Station staff

Details: Timing and Cost Impacts

Phase	CC approval Date Target	Staffing Action	Position	Wage Cost Impact to FY20 Annual Budget (at FY20 wages)	Estimated Total Benes Impact to FY20 Budget
I	4/15/2019	Add	Water Resources Policy and Program Manager	\$ 78,972.00	\$ 36,528.28
		Reclass ↓	Stormwater Manager --> Stormwater Coordinator	\$ (3,700.00)	\$ (690.05)
		Reclass ↑	Assistant Director --> Division Director	\$ 4,107.00	\$ 765.96
		Reclass ↑	Utility Billing Manager --> Customer Care and Finance Manager	\$ 5,000.00	\$ 932.50
		Re-org	Move 3 Metering positions to report to Customer Care and Finance Manager	\$ -	\$ -
		Add	Customer Care Associate II	\$ 55,437.00	\$ 32,139.00
		Lim. Serv. to Regular	Water Resources Engineer	\$ -	\$ 7,890.52
		Add	Water Resources Engineer	\$ 77,084.00	\$ 36,176.17
		II	Late June 2019	Add	Water Resources Technician
Add	Wastewater Operator in Training			\$ 48,843.00	\$ 23,909.22
			Totals	\$ 323,707.00	\$ 163,261.88
			Minus FY19 \$85,000 Staffing Placeholder		(\$85,000)
			Total of all FY19/FY20 Staff Impacts		\$401,968.88
			% increase/total WR FY19 expense budget		2.4%



Rate Impacts



- FY19 budget season forecast of FY20 rate impacts (without staff impacts)
 - 4.7% overall Water Resources Rate Impact
- Current FY20 rate impact projection
 - Including all currently known cost drivers: staffing improvements, utility costs, existing staff cost increases, debt service etc.
 - 4.5% overall impact
 - ~\$3.04 increase/month in typical residential customer bill
 - Note: does not yet include potential rate impacts of repayments due to overbilled customers

Timeline

- 3/20 DPW Commission
- 3/21 TEUC
- April – Raftelis report finalized
- 4/8 Council work-session on Organizational Assessment
- 4/15 BOF and Council approval – Phase I recommendations
- June FY'20 budget approval
- July – Phase II recommendations