



City of South Burlington Road Salt Application: Practices and Challenges

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City of South Burlington Public Works

Vermont Senate Committee on Natural Resources and Energy
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Overview

- Chloride Impairment in South Burlington
- South Burlington Public Works Chloride Management Practices
- Challenges and Considerations
 - Financial Investment
 - Public Safety
 - Private Landowners



Chloride Impairments in South Burlington



Chloride Impaired Waterways

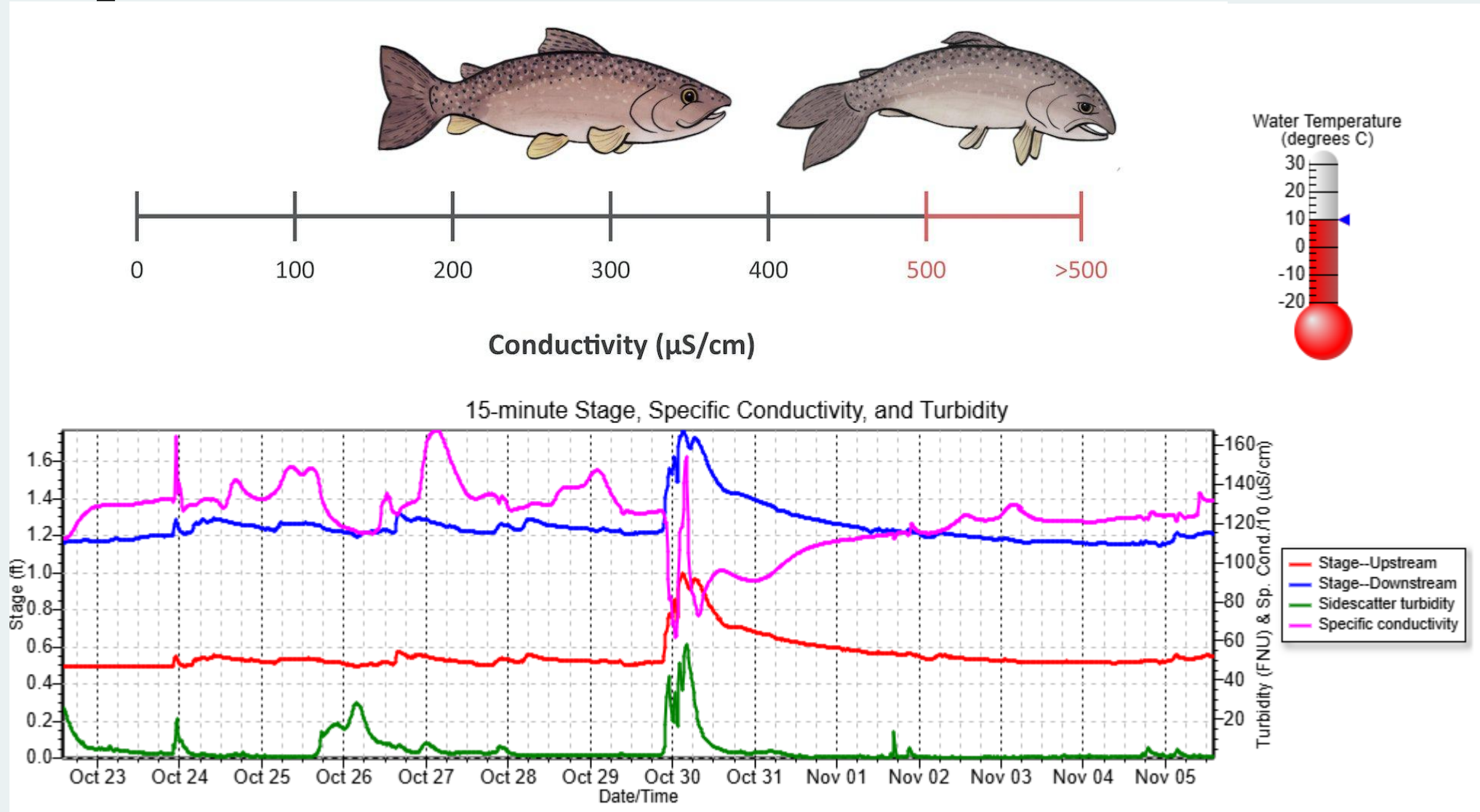
- 4 South Burlington waterways identified as chloride impaired on draft 2024 303(d) List of Impaired Waters
 - Potash Brook
 - Bartlett Brook
 - Centennial Brook
 - Englesby Brook
- All four identified as high priority for TMDL development



Impacts to Infrastructure



Impacts to Stream Health



- http://vt-ms4-flow.stone-env.com/SBurl_Turbidity/index.html



Chloride Management in South Burlington



Snow Management Plan

- Pre-treat the salt pile prior to loading in the trucks
- Deploy ASAP after start of a storm to prevent buildup
- Mechanically remove snow prior to salting
- Goal application rate of 150 lb/mile
- Track application metrics by truck
- Calibrate salt spreaders
- Staff training



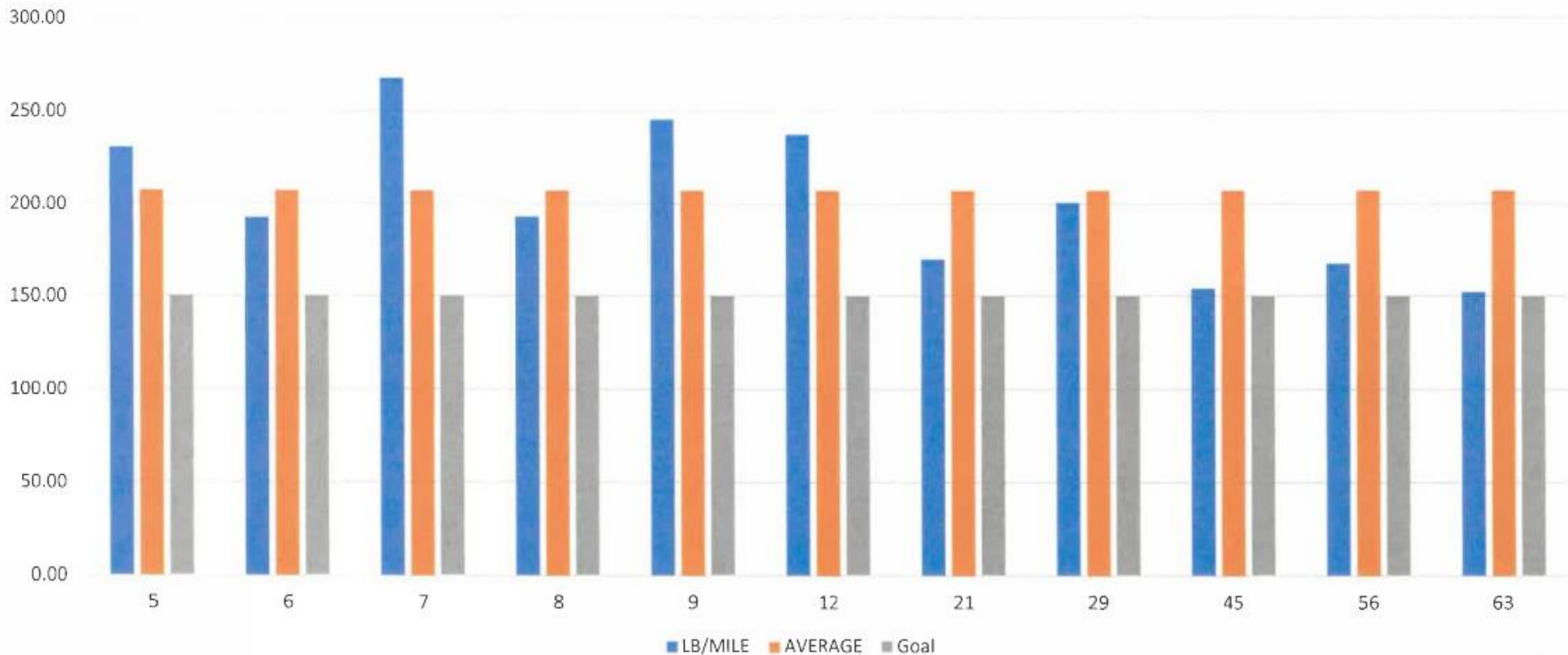
Equipment and Materials

- Eleven (11) full size plow trucks,
- Salt Saver plow blades
- Live Edge plows
- Granular sodium chloride
- Liquid magnesium chloride
- Tracking software

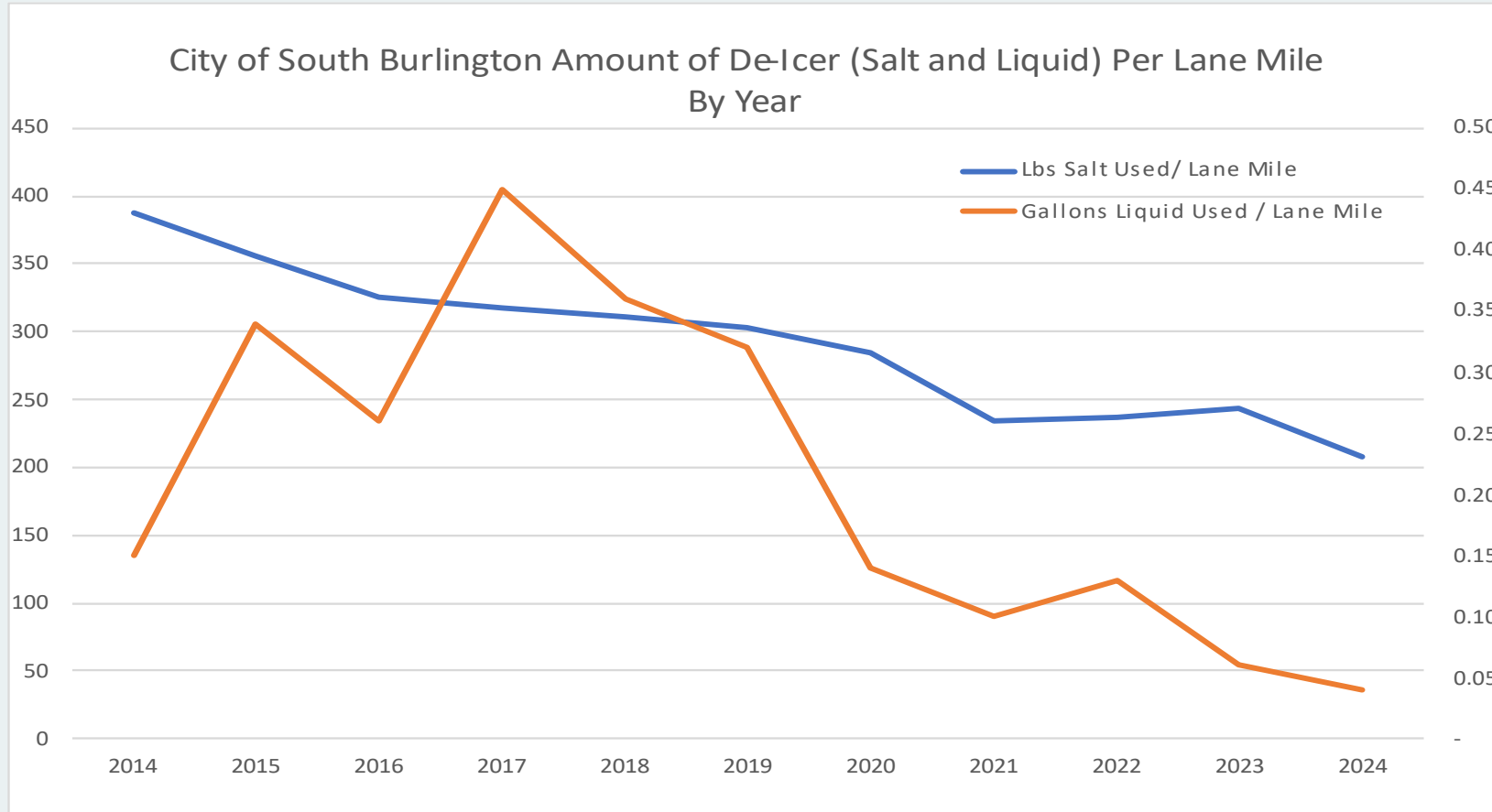


DATE (as of)	SNOW	TRUCK #	2023-24 SALT USE (By Truck)											
			SALT (LB)	CL (LB)	LigGal	CL	TotalCL	SaltHR	Salt Mile	LB/HR	LB/MILE	CL/HR	TOT \$\$	\$\$ / MILE
4/19/2024	25.40	5	82,149.00	49,864.44	0.00	0.00	49,864.44	106.56	356.50	770.92	230.43	467.95	\$3,532.41	\$9.91
		6	149,039.00	90,466.67	28.00	5.63	90,472.30	129.02	773.70	1,155.19	192.63	701.25	\$5,288.62	\$6.84
		7	202,596.00	122,975.77	0.00	0.00	122,975.77	111.27	757.50	1,820.81	267.45	1,105.23	\$7,141.51	\$9.43
		8	107,713.00	65,381.79	3.00	0.60	65,382.39	101.57	557.40	1,060.52	193.24	643.74	\$3,800.63	\$6.82
		9	228,838.00	138,904.67	180.00	36.18	138,940.85	112.57	932.30	2,032.91	245.46	1,234.30	\$8,291.54	\$8.89
		12	175,280.00	106,394.96	68.00	13.67	106,408.63	110.82	737.90	1,581.71	237.54	960.22	\$6,263.62	\$8.49
		21	41,811.00	25,379.28	0.00	0.00	25,379.28	85.15	245.80	491.03	170.10	298.05	\$1,473.84	\$6.00
		29	211,116.00	128,147.41	0.00	0.00	128,147.41	136.97	1,051.50	1,541.37	200.78	935.61	\$7,441.84	\$7.08
		45	105,431.00	63,996.62	23.00	4.62	64,001.24	75.57	683.10	1,395.21	154.34	846.95	\$3,745.19	\$5.48
		56	162,641.00	98,723.09	0.00	0.00	98,723.09	98.77	969.40	1,646.72	167.77	999.56	\$5,733.10	\$5.91
		63	43,718.00	26,536.83	0.00	0.00	26,536.83	69.00	286.70	633.59	152.49	384.59	\$1,541.06	\$5.38
		TOTAL	1,466,614.00	890,234.70	302.00	60.70	890,295.40	1,068.24	7,065.10	1,372.92	207.59	833.42	\$52,075.64	\$7.37

By Truck 2023-4



Salt Use Per Lane Mile



Future Investments

- Upgraded salt tracking software with geo-fencing and remote rate setting capabilities
- Fleet replacement strategy
- Use of brine to pre-wet road surfaces
- Salt shed replacement at end of useful life

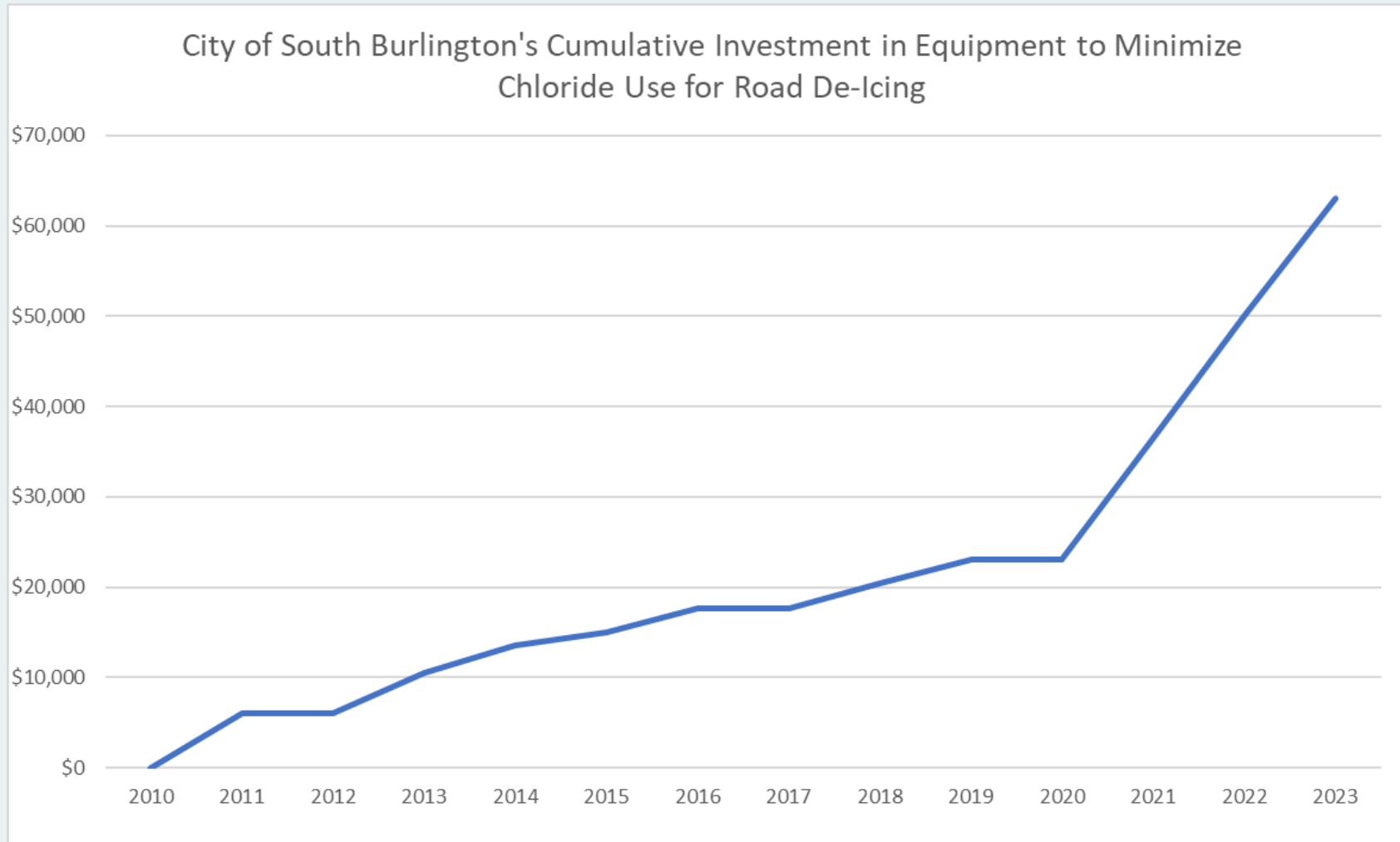




Challenges and Considerations



Financial Investment



Public Safety



Salt Use on Private Property





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Thank
you!

