

*Yours Truly*

# FY24 Snow Program Update

Public Works Committee

October 9, 2023

# Outline

- Snow Predictions
- Snow Plan Goal
- Available Resources
- Equipment Upgrades
- Training
- Helpful Tips
- How City Council Can Help
- Questions

# Farmers Almanac



## 2023-24 WINTER OUTLOOK

*The BRRR is Back!*



FarmersAlmanac.com



# Old Farmers Almanac



# National Weather Service



# Snow Plan Goal

- The goal of the City of Lee's Summit (City) is to provide adequate mobility and safety for properly equipped and prudently operated vehicles within a reasonable time after the end of the storm.
  - Provide a high level of customer service to our citizens
    - Defined Level of Service and completion time
  - Operate within available financial resources
    - Budget using three to five year average of actual expenses
  - Ensure operational balance for the City and employees
    - Continuous 24/7 response as needed

# Snow Plan Goal

- The City's Snow Plan outlines steps for the completion of storm response within **10 - 48 hours after precipitation has ended** provided that required levels of equipment/ people are available.
- Residential routes treated only when  $<2''$  of snow accumulation
- **Level 1 ( $< 1''$  of snow and pre-treatment) 10 hrs.**
- **Level 2 (1 -  $<2''$  of snow) 24 hrs.**
- **Level 3 ( $\geq 2'' - 6''$ ) 32.5 hrs.**
- Level 4 ( $>6'' - 10''$ ) 40 hrs.
- Level 5 ( $>10''$ ) or sustained winds  $>30$  mph) 48 hrs.



# Available Resources

- **Plows**
  - 10 Dump trucks
  - 11 One ton trucks
  - 6  $\frac{3}{4}$  Ton PU trucks (limited use)
  
- **Support Equipment**
  - 2 Backhoes (Level 5 event)
  - 1 Front end loader (Used to load spreaders)
  - 2 Skid Steers (Level 5 event)



# Available Resources

- Staff

- 2 Managers
- 4 Supervisors
- 2 Snow Desk
- 30 PW Operators (4 new expansion employees in FY24)
- Multiple volunteers from WU, PW Engr, DS, Admin, PD, Fire, P&R, etc.

- Infrastructure

- 2 Salt domes (6,000 Ton capacity)
- Conveyor system
- Brine System (40,000 Gallon capacity)
- Calcium Chloride Storage Tank (12,000 Gallons)
- Radio communications
- AVL
- Turn by turn routing
- Public Facing Mapping

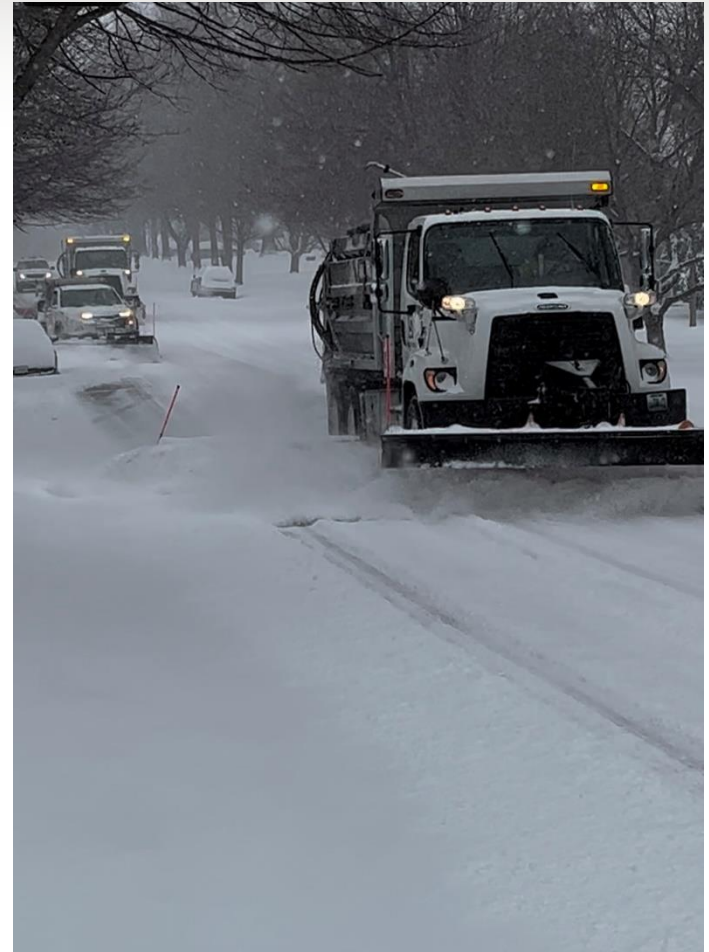
# Equipment Upgrades Complete

- FY15 Public Works began outfitting dump trucks with brine applicators and wing plows.
- Trucks were upgraded as they were replaced.
- Upgraded trucks
  - Increased salt capacity
  - Allows the application of liquids
  - Longer life materials
  - Increased efficiency without adding additional equipment or staff

# Equipment Upgrades Complete

New Trucks have:

- Heavier plow and frame mount
- Larger salt capacity
- Wing plow
- Liquid distribution



# Equipment

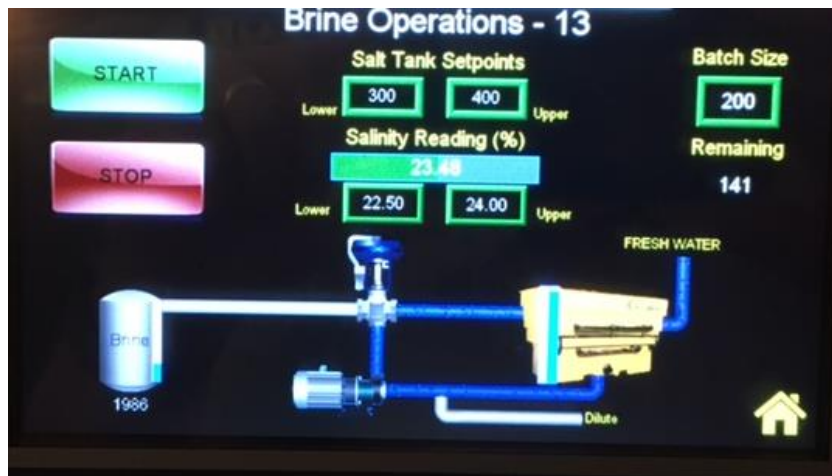


# Salt Dome/Conveyor





# Salt Brine System



# Salt Brine





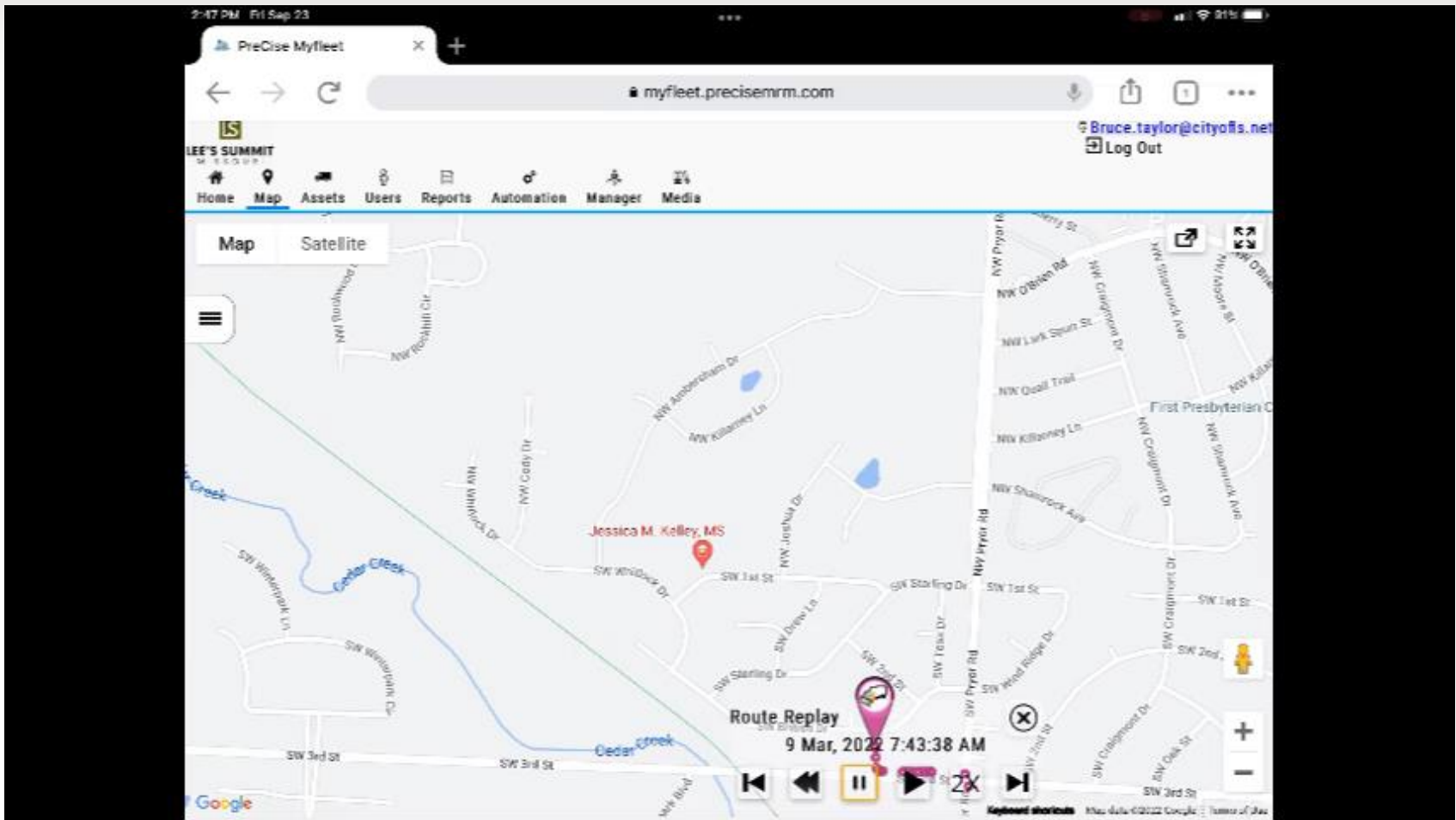
# Salt Brine



# AVL

- Automatic Vehicle Locating
  - Tells us where the snow plows are
  - Tells us what the snow plows are doing
    - Better QA/QC
    - Customizable
    - More Reliable

# AVL



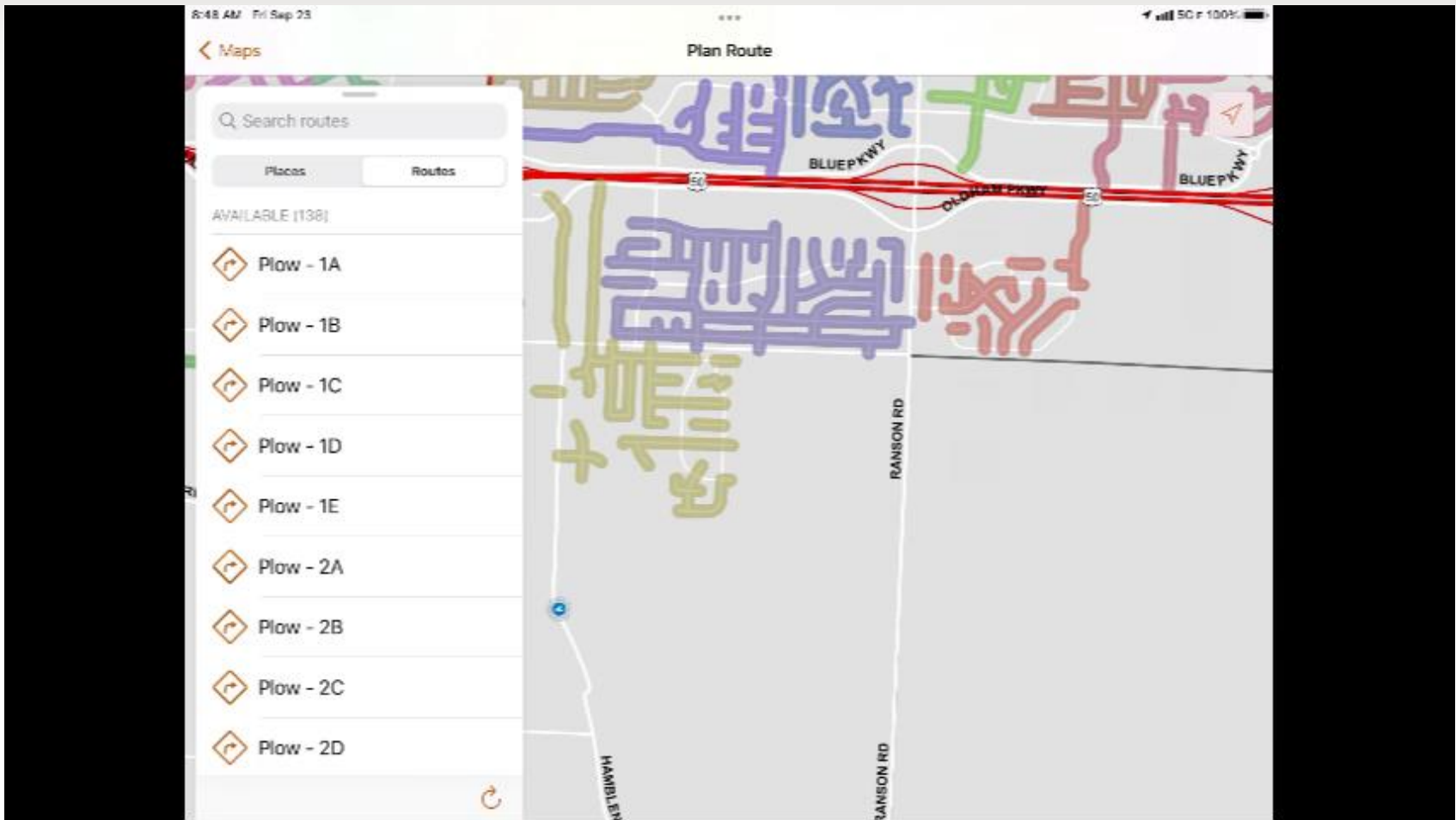
# AVL

738

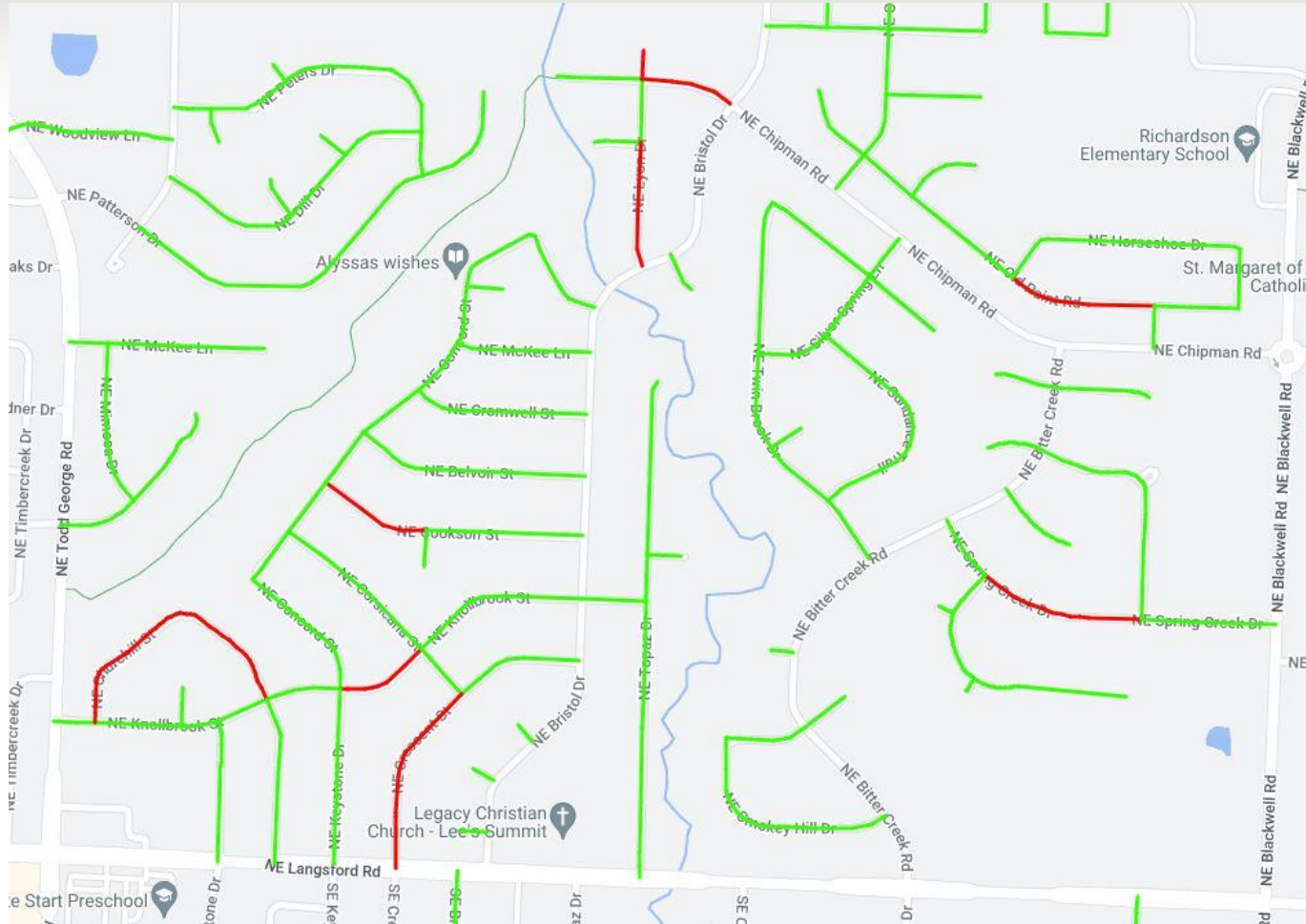
Name:	738
Fleet:	Lee's Summit
Distance From Home:	3.4 Miles
GPS Location:	2/2/2022 5:00:28 AM
Heading:	East
Speed:	2.2 MPH
Ignition:	On
Front Plow:	Up
Wing Plow:	Up
Odometer:	2994.9 miles
Engine Hours:	316.1
Notes:	6100 Gen 5
Address:	2000 SW Walden Dr, Lee's Summit, MO 64081, USA
Coordinates:	[38.90453, -94.41488]
Spreading Status:	S
Granular Material:	SALT
Granular Setting:	300 lb/mi
Granular Spread Rate Index:	3
Granular Mode:	C
Prewet Material:	PWT1
Prewet Setting:	8 gal/ton
Prewet Spread Rate Index:	6
Prewet Mode:	C
Direct Setting:	0 gal/mi
Direct Spread Rate Index:	0
Direct Mode:	C
Road Temperature:	30 °F
Air Temperature:	31 °F
Vehicle ID:	TRUCK 1
Spinner Dial Setting:	0

2 Feb, 2022 5:00:00 AM

# Turn by Turn Routing

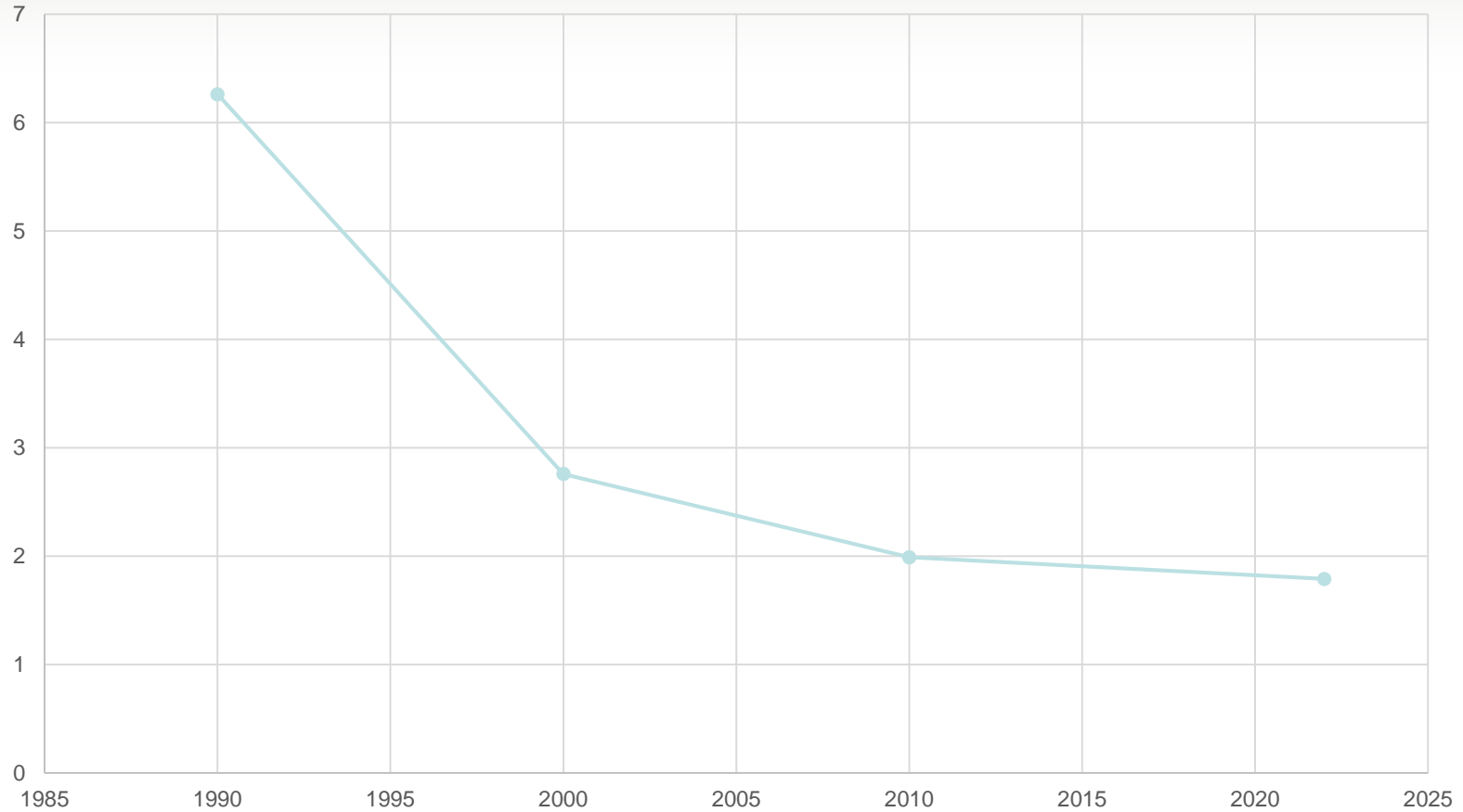


# Public Facing Map



# Efficiency Gains

Minutes per Lane Mile by Year





# Snow Rodeo

- September 11 – 15, 2023
- 83 employees participated in the training
- New rodeo course
  - Loading and unloading materials
  - Following traffic rules
  - Driving skills

# Top 10 Dump truck Drivers



# Top Ten One Ton Drivers





# Snow Rodeo



# Snow Training

- Public Works has scheduled a mock event
  - October 24, 2023
  - Snow plow drivers will drive routes to become familiar with them
  - Test all technology systems – AVL, Turn by Turn Routing, Snow Tracker
  - Public Outreach

# Helpful Tips

- Remove cars from the street
- Keep trashcans and basketball goal out of the street
- Do not build snow forts in the piles of snow in the street
- Do not shovel snow from your driveway into the street
- Shovel downstream of snow plowing to lessen the amount of snow left at your driveway entrance

# How City Council Can Help

- Help managing expectations
- Help rally our troops
- Help educate the public (share our snow goal)
  - Our goal is to provide adequate mobility and safety for properly equipped and prudently operated vehicles within a reasonable time after the end of the storm.
- Help keep the public informed during snow events



# Questions

