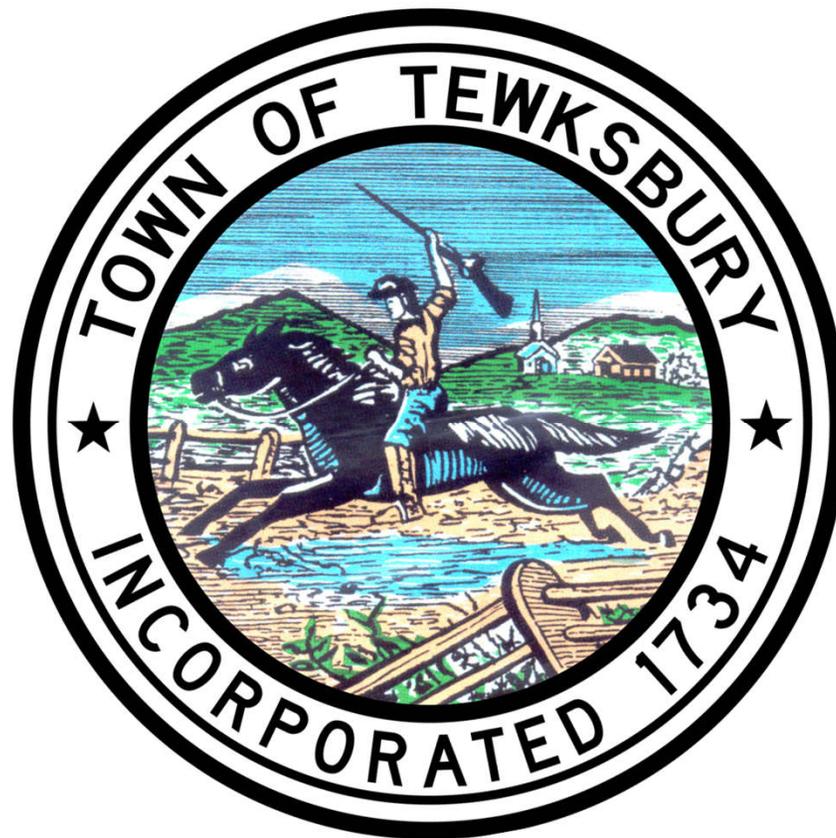


TEWKSBURY DPW  
FY26  
SNOW and ICE  
PROGRAM



Select Board Meeting  
November 18, 2025

# Introduction

- Purpose of the snow and ice program is to maintain emergency services, and to provide routine travel for access to and from homes, businesses, and public buildings;
- Maintain approximately 320 lane miles of roads; 29 acres of parking lots; and over 23 miles of sidewalk;
- Weather conditions are closely monitored on (3) weather forecast services and two real-time weather sensors (North and South);
- Storm variables include:
  - Timing
  - Duration
  - Rate of Snowfall
  - Snow Texture
  - Temperature
  - Pavement Temperature
  - Pre- and Post-Conditions
    - e.g. Back-to-Back Storms

# Frost Solutions Weather Sensing Devices

Weather Sensing Devices located at the Andover Street - North Street intersection and South Street - Salem Road intersection

The screenshot displays the Frost Solutions dashboard interface. At the top, there are navigation tabs for 'DASHBOARD', 'ALERTS', and 'SETTINGS'. Below this, a 'Group' dropdown is set to 'Tewksbury, MA' and a 'Forecast' dropdown shows '72'. The main content area is titled 'North Tewksbury' and shows weather conditions: 'PARTLY CLOUDY', 'DRY', and 'PRECIP: None forecasted'. A 'Photo' section offers a 'REQUEST PHOTO' button. Below that, a 'Burst Photo' section has a 'COMING SOON' button. A 'Defrost' section includes a 'RUN DEFROSTER' button. A 'Proof of Work' section has a 'BEGIN WORK' button. The dashboard also features a 'Mini RWIS (2)' section with a 'North Tewksbury' camera feed showing a street intersection. The camera feed includes a timestamp 'Nov 12, 24 7:35 AM' and weather data: 'Air: 51.3°F Sur: 48.2°F H: 53.7% D: 34.6°F W: 17.6mph NW'. Below the camera feed is a temperature graph showing a daily cycle with peaks around 61°F and troughs around 21°F. At the bottom, there is a 'Time: Nov 12, 24 9:00 AM' section with current weather: 'Air: 51.8°F Sur: 51.2°F H: 65.5% D: 35°F W: 17.6mph COF: 1 Cond: Dry'. A secondary camera feed at the bottom right shows a different view of the intersection with weather data: 'Air: 51.3°F Sur: 48.2°F H: 53.7% D: 34.6°F W: 9.2mph'.

# Frost Solutions Weather Sensing Devices



DASHBOARD ALERTS SETTINGS



At a Glance **0** Frost Vision

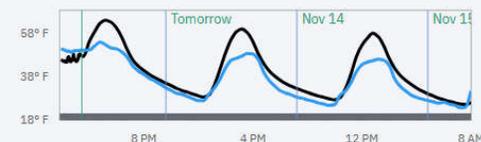


Time: **Nov 12, 24 9:00 AM**  
Air: **51.8°F** Sur: **51.2°F** H: **65.5%** D: **35°F**  
W: **17.6mph** COE: **1** Cond: **Dry**

## South Tewksbury

Partly Cloudy Dry

PRECIP: **None forecasted**



Time: **Nov 12, 24 8:23 AM**  
Air: **50.5°F** Sur: **48.5°F** H: **54.1%** D: **34°F**  
W: **12.2mph** COE: **1** Cond: **Dry**

## South Tewksbury

PARTLY CLOUDY DRY PRECIP: **None forecasted**

### Photo

Request an on-demand photo. Images typically take a few minutes to load.

[REQUEST PHOTO](#)

### Burst Photo

Take multiple photos in short succession to better understand conditions on the ground.

[COMING SOON](#)

### Defrost

The Defroster heats up the camera window and takes a photo after the defroster runs. Caution: Frequent defrosting will impact battery life.

[RUN DEFROSTER](#)

### Proof of Work

Capture readings & photo before you begin work, and then again after for proof of work.

[BEGIN WORK](#)



# Policies

- *Town Bylaw Chapter 8.24, Section 8.24.010, Overnight Parking – Snow and Ice Removal*
  - It shall be unlawful for any vehicle, other than one acting in an emergency to be parked on any street from 12:00 (Midnight) to 6:00 a.m. This shall take effect on November 1st of each year and end on March 31st. (A fine of \$10.00 will be imposed for a violation of this section).
  - It shall be unlawful for any vehicle, other than one acting in an emergency, to be parked on any street, day or night, when it is snowing or when icy conditions exist. (A fine of \$10.00 will be imposed for a violation of this section).
  - Any vehicle, other than one acting in an emergency, parked, day or night, on any street in the Town, so as to interfere with the work of removing or plowing snow, removing ice or sanding the street, may be removed or towed away, at the sole expense of the registered owner of said vehicle, under the authority and direction of the Superintendent of the Department of Public Works to a public garage or any convenient place. The Superintendent of the Department of Public Works, shall within a reasonable time, notify the Chief of Police of the removal of any such vehicle and of the place to which it has been removed, and the Chief of Police shall give like notice to the registered owner of the vehicle. Vehicles so towed away shall be stored in a safe place and restored to the registered owner thereof upon proper identification and full payment, to the Town or to the Keeper of the place of storage, for the expenses incurred in such removal and storage.

## Policies Continued

- *Town Bylaw Chapter 12.0 Section 12.04.050 – Placing Obstruction Prohibited*

“No persons other than an employee in the service of the Town or an employee in the service of an independent contractor acting for the Town shall place or cause to be placed any obstruction which include but not be limited to, the depositing of snow, ice or the pumping of water on any traveled public way or sidewalk so as to impede the flow of traffic; or hinder the snow plowing operation on such public way; or deposit snow near or on any fire hydrant so as to obstruct the access to the fire hydrant; or allow the same to remain there without first obtaining the consent in writing of the Director of Public Works. All basketball hoops or other recreational equipment located on any right of way used by vehicular traffic shall be removed for the time period effective November 1st of each year until April 1st of the following year. Such obstruction shall not include rubbish and recyclable materials put out for collection. The Police Department will be the sole enforcing agency of this By-Law.”

Whoever violates this section shall be punished by a fine:

First Offense:	Written Warning
Second Offense:	\$ 50.00
Third and Subsequent Offenses:	\$100.00

# Operating Procedures

- (3) Major Stages to Winter Snow and Ice operations:
  - Anti-icing
  - Plowing
  - Deicing
- (2) Major Post Storm Winter Snow and Ice operations:
  - Sidewalks
  - Snow Removal/Push-Back

# Anti-icing Operation (Pre-treatment)

- Anti-icing is conducted prior to accumulation of snow to help prevent snow from bonding and compacting on pavement surfaces;
- While salt application typically begins with the onset of snow, a salt brine liquid can be applied days before;
- Anti-icing also helps to reduce accumulation of snow at the beginning of an event.



# Plowing Operation

- Plowing begins when 2-3 inches of snow has accumulated;
- Plowing physically removes snow from the street. The main objective is to keep roads passable;
- At the end of the storm, plows push back windrows and corners to provide maximum clearance and sight distance.



# Deicing Operation

- Once the snowfall has stopped and roads have been cleared deicing operation commences;
- All major and minor arterials (“mains”) and hills are treated with salt to help prevent icing of melted snow.
- Also treat areas know to be problematic due to shade and black ice.



# Sidewalk Operation

- Post-storm operation also includes snow removal from sidewalks;
- Over 23 Miles of sidewalk to clear;
- Town has 3 pieces of equipment with various attachments.
- The goal is to have sidewalks cleared within 48 hours after the end of snowfall.



# Sidewalk Operation (Obstructions)

**Guardrails**



**Utility Poles**



**Offset Obstructions**



# Sidewalk Operation (Damage)

**Grass Damage**



**Private Property Damage**



**Equipment Damage**

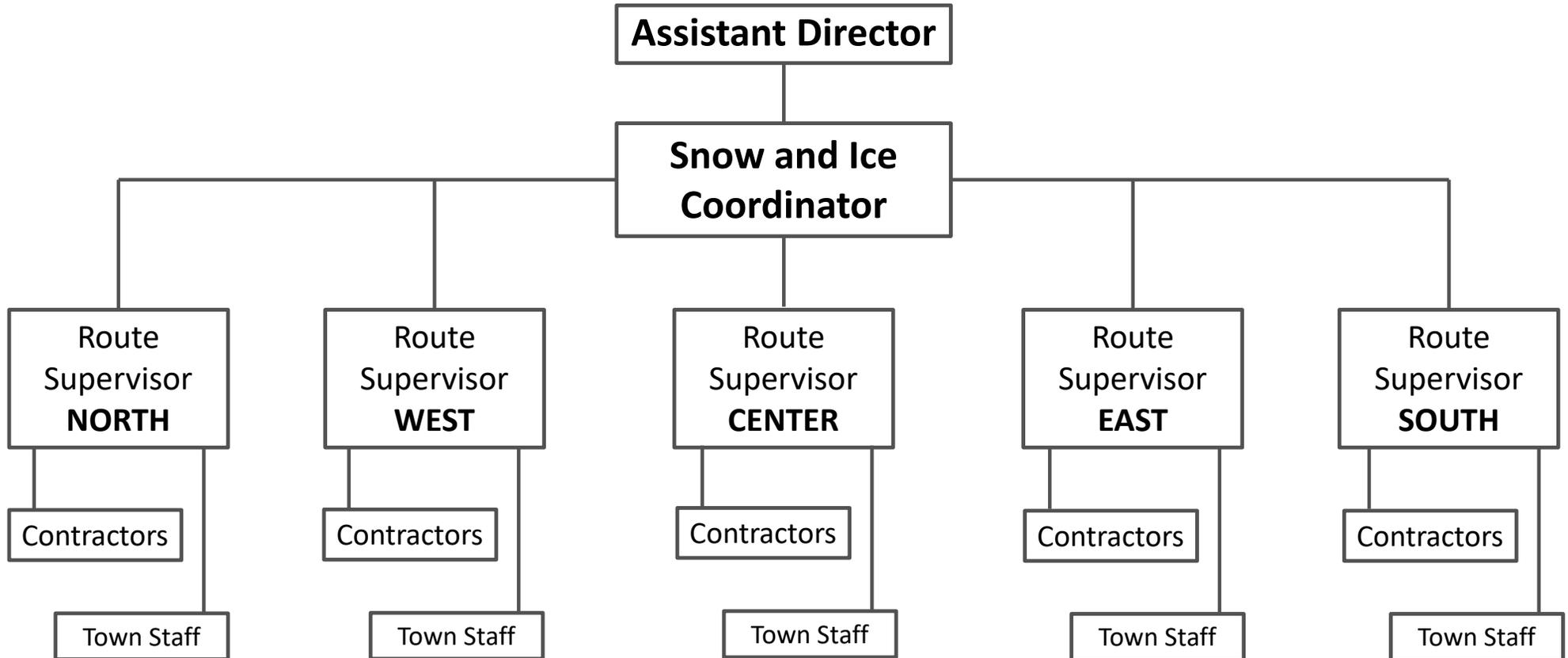


# Snow Removal Operation at Schools

- The DPW anticipates removing and hauling snow at the Ryan/Center School campus;
- The Town will have a dedicated loader and pusherbox to be utilized in the schools



# Organization

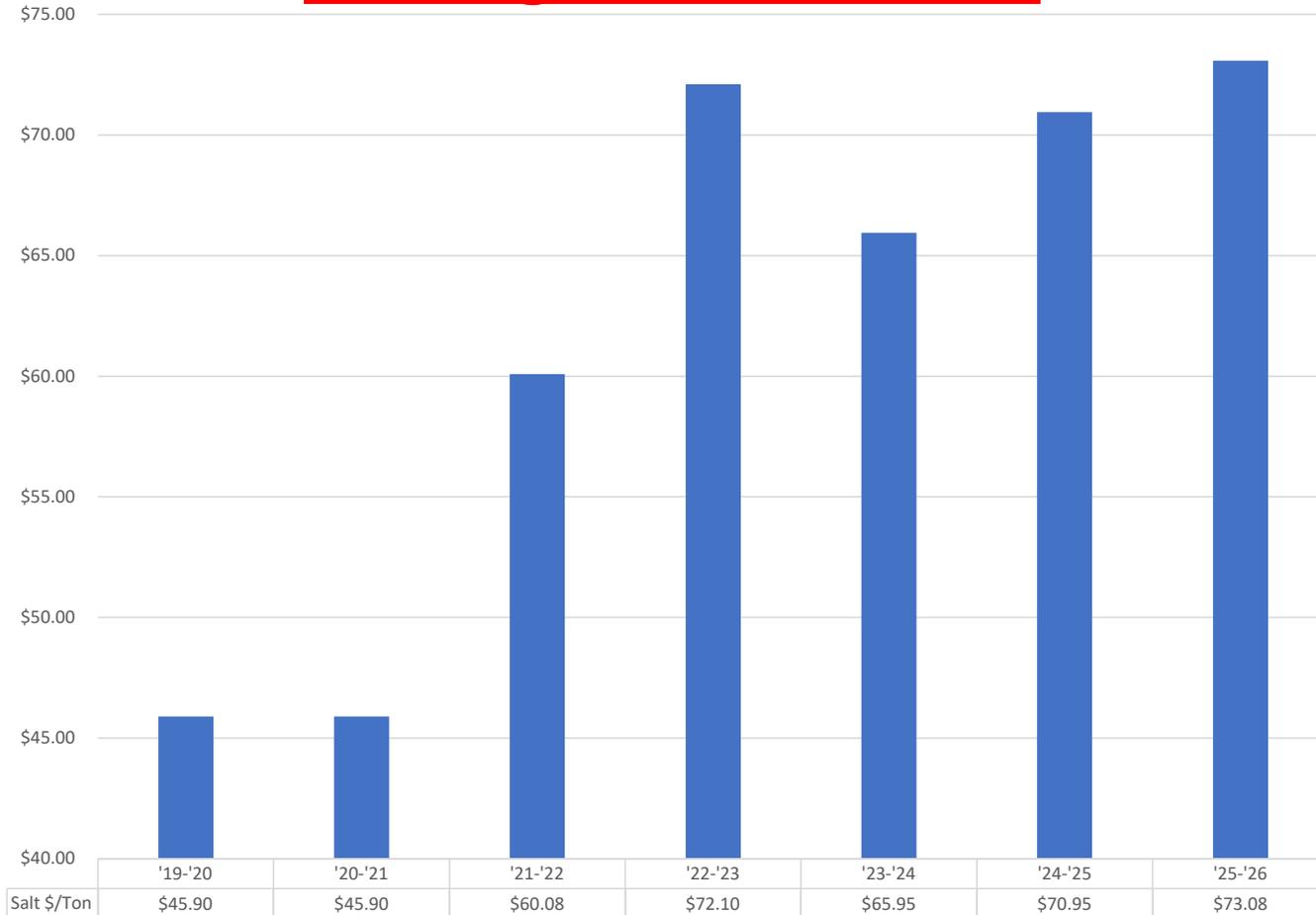


# Operating Procedures

- Equipment
- The DPW utilizes (27) in-house staff and Park Dept. staff (3); In recent years School Dept staff have become more involved and critical to the entire operation;
  - Contracted equipment can vary from year to year, but is approximately 40-55 pieces of equipment, which has been more difficult to enlist in recent years;
  - Equipment ranges from small pickup trucks to large front-end loaders.
- Operational Adjustments
  - Conducted a route assessment and modified route assignments for Liquid applications, salting and plowing;
  - Construction of a Liquid Brine System at the DPW for in-house preparation of the brine;
  - Adjusted Contractor rate structure to meet competitive market pricing;
  - Modified hourly rate for DPW retirees to meet market pricing.



# Salting Cost Per Ton



# Liquid Brine Machine

The DPW has invested in a Liquid Brine Machine. This will allow the DPW to produce liquid brine in-house, which will be a significant cost savings.

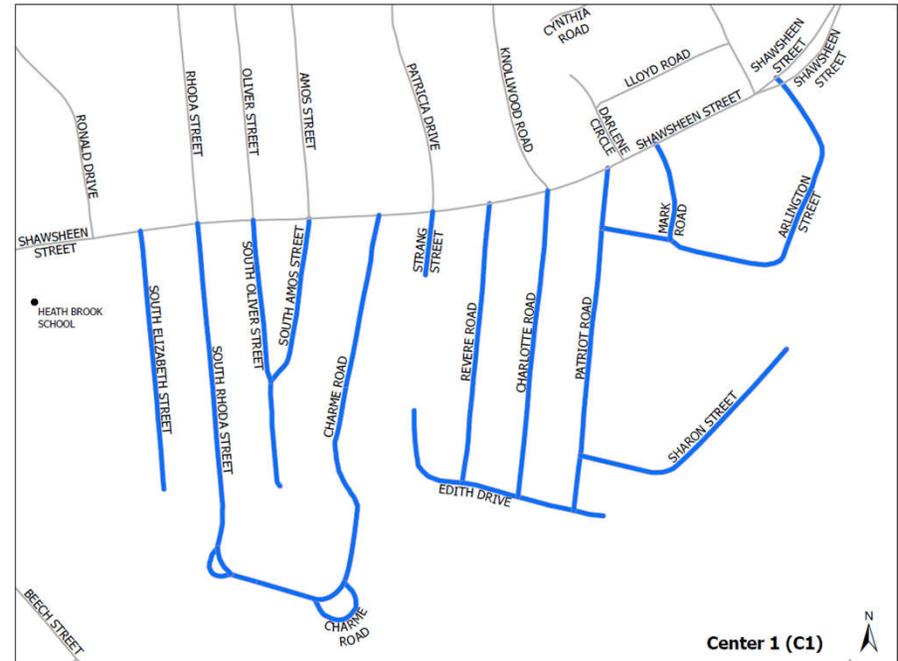
The cost to purchase liquid brine last winter was \$1.73/gallon. The new system will produce brine at a cost of \$0.20/gallon, including all operating and maintenance costs. This cut costs by 88% and generates a ROI of 2 Years\*.

\*(Assumes 5 Full Treatments per Season)



# Plowing Routes

- 5 Major sections in Town
- 48 Plow Routes
  - (Excluding Major Road Network)
- Allows Town to know the exact contractor responsible and ensure proper coverage due to unforeseen circumstances such as breakdowns

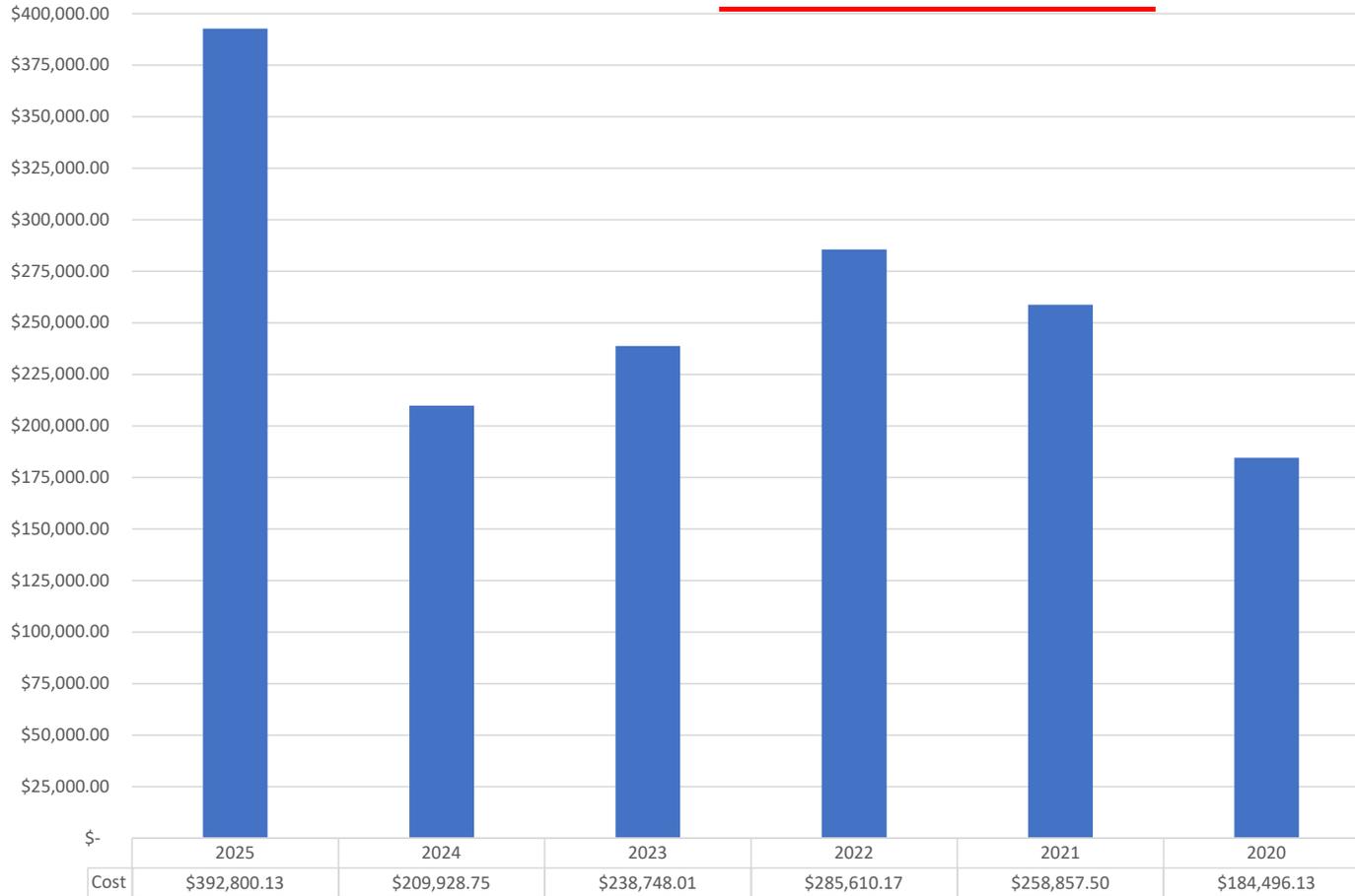


Example Plow Route

# Contractors

- Contractors make up over 60% of our equipment during larger plowing operations
- Contracts are available for pick-up at the DPW
- Rates have remained unchanged this year, but bonuses have been increased along with a \$4,000 guarantee
- Contractor inspection are held at the DPW on the following dates:
  - Saturday November 22<sup>nd</sup>
  - Friday December 5<sup>th</sup>
  - Saturday December 6<sup>th</sup>
- **All dates 7 a.m. – 2 p.m.**
- Deadline for early Sign-On Bonus is December 10<sup>th</sup> at 12:00 pm

# Contractors



## Changes this year:

- Sign-On Bonus of \$500
  - Was \$350 last season
- Attendance Bonus
  - \$500 for 100% attendance
  - \$400 for one missed event
- Added \$4,000 guarantee

# How residents can help

- Observe all winter parking bans and Remove all roadside obstacles;
- Keep trash and recycling containers off the street and interior to the driveway opening;
- Reduce your speed and drive cautiously;
- Clear snow away from hydrants in front of your home or business;
- Shovel to open catch basins that may become covered with snow-pack to allow streets to drain as snow melts;
- Don't plow or blow snow onto the road;
- Understand when the snow stops the plowing operation has not; requiring plows to push back windrows that may fill in and block your driveway
- A mixture of sand and salt is available at the DPW for Residents (NOT Contractors) at a designated area outside the DPW gate
- Please have patience. Snow plowing is a time consuming and arduous job covering approximately 157 miles of roads in Town. Some residents will have their road plowed first and some will be last, but by the end of our operation all town roads will be cleared.